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5 Star Hotel

Bhopal, Madhya Pradesh, India

Dec, 2025

5 Star Hotel

Bhopal, Madhya Pradesh, India

BACHELOR OF ARCHITECTURE

BY

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DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

DEC 2025

ARC 511 – Thesis Project

5 Star Hotel

Bhopal, Madhya Pradesh, India

Submitted by:

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B. ARCH

9th Semester, 5th Year

UNDER THE GUIDANCE OF

Dr. Premjeet Das Gupta



DEPARTMENT OF ARCHITECTURE AND PLANNING

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BHOPAL (MP)-462003

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DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

CANDIDATE DECLARATION

The Thesis Project in the subject ARC 511, entitled "**5 Star Hotel, Bhopal, Madhya Pradesh, India"**, is being submitted in partial fulfilment of the requirement for the award of degree of Bachelor of Architecture by the undersigned for evaluation.
The matter embodied in this project is a record of my own work. If, in future, it is found that the above statement is false, then I have no objection in withdrawal of Bachelor of Architecture Degree awarded to me by the Institute.

Date: 1st – 2nd Dec, 2025

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RECOMMENDATION

Based on the above declaration of the student, the undersigned recommends that the work submitted by the candidate may be considered for the final end term examination of the subject ARC-511, Thesis Project.

Date: 1st – 2nd Dec, 2025

Dr. Premjeet Das Gupta
Thesis Guide

CERTIFICATION OF EXAMINATION

The Bachelor of Architecture Thesis Viva-Voce examination of Mr/Ms Student Name Scholar No.211110035, was held on 1/12/2025 to 2/12/25.

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ABSTRACT

This thesis presents a comprehensive study of site context, literature, and design strategies for developing a **5-star luxury hotel in Bhopal**. The objective is to create a contemporary hospitality destination that seamlessly blends functionality, sustainability, and luxury to deliver an exceptional guest experience.

The report examines key aspects of hotel architecture, including spatial planning, contextual integration, interior design, and green building practices, with an emphasis on harmonizing indoor and outdoor environments. The design proposal focuses on fluid and efficient spatial organization, intuitive circulation, and user-centric spaces. Sustainability and energy efficiency are prioritized through features such as natural ventilation, rainwater harvesting, and green roofs, aimed at minimizing environmental impact.

Smart technologies and automation are thoughtfully integrated to enhance convenience while preserving the warmth and comfort synonymous with luxury hospitality. **Envisioned as a modern landmark in Bhopal , Madhya Pradesh** the project showcases contemporary architecture infused with local cultural influences. Catering to business travelers, tourists, and high-profile guests, it offers premium services, wellness amenities, and fine dining experiences. By providing world-class accommodations and recreational facilities, the hotel aspires to contribute to Hyderabad's tourism sector and strengthen the city's position as a premier destination for luxury travel.

ACKNOWLEDGMENT

I would like to express my deepest gratitude to Dr. Premjeet Das Gupta, my thesis guide, for his unwavering support, patience, and invaluable guidance throughout this journey. His insightful feedback and encouragement, especially during moments of doubt, have been instrumental in shaping this research. His belief in my potential has kept me motivated, and I am truly grateful for his mentorship.

I am also profoundly thankful to my parents, whose unconditional love, encouragement, and sacrifices have been the foundation of my academic and personal growth. Their constant support has given me the strength to pursue my passion and overcome every challenge along the way. A heartfelt thanks to my friends, who have stood by me through every high and low. Their motivation, discussions, and moments of laughter have made this journey both enriching and memorable.

This thesis would not have been possible without the collective support of my guide, parents, and friends, and I am forever grateful for their contributions to my academic and personal growth.

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CHAPTER I

INTRODUCTION

OVERVIEW

A hotel is a purpose-built architectural space designed to provide temporary accommodation, services, and amenities to travelers. Beyond mere lodging, modern hotels serve as social, cultural, and economic integrates functionality, comfort, and experiential value, influenced by factors such as target demographics, location, and cultural context.

Star Classifications:

- 1–2 Star Hotels: Budget-focused, minimal amenities, basic comfort.

- 3 Star Hotels: Mid-range, balanced amenities (e.g., restaurants, Wi-Fi).

- 4 Star Hotels: Upscale, premium services (spa, concierge, refined design).

- 5 Star/Luxury Hotels: Exceptional service, bespoke design, high-end amenities (e.g., pools, fine dining).

- Boutique/Design Hotels: Theme-driven, unique architectural narratives.

1.1 AIM AND OBJECTIVES

Aim:

To explore innovative architectural strategies for hotel design that harmonize functionality, sustainability, and cultural relevance while enhancing user experience.

Objectives:

1. Analyze the impact of star classifications on spatial planning and service integration.
2. Investigate sustainable design practices to reduce environmental footprints.
3. Enhance user-centric design through spatial psychology and accessibility.
4. Study the role of cultural and contextual influences in shaping hotel identity.
5. Propose design solutions for adaptive reuse of heritage structures into modern hotels.

1.2 SCOPE

Architectural Elements: Layouts, circulation, zoning (public vs. private spaces), and materiality.

Sustainability: Energy efficiency, waste management, and green certifications (e.g., LEED).

Cultural Context: Integrating local art, materials, and traditions into design.

Technological Integration: Smart systems for guest experience and operational efficiency.

Urban Impact: Hotels as catalysts for urban regeneration or tourism growth.

1.3 JUSTIFICATION

Justification for Research

- The hospitality industry is rapidly evolving due to globalization, eco-conscious travelers, and post-pandemic demands.

- Hotels are complex typologies requiring interdisciplinary design solutions (engineering, interior design, sociology).

- Limited research on balancing star-rated standards with contextual authenticity in architecture.

- Growing need for adaptive reuse strategies to preserve heritage while meeting modern needs.

Justification of Topic

- Societal Need: Post-pandemic travel resurgence demands reimagined, health-focused spaces.

- Academic Gap: Existing literature often prioritizes operational over architectural innovation.

- Design Innovation: Potential to redefine hotel typologies through technology (e.g., modular construction, AI-driven spaces).

- Economic Impact: Well-designed hotels boost tourism, employment, and urban development.

1.4 LIMITATIONS

1. Budget Constraints:

- High costs of materials, labor, and technology limit design innovation.

- Balancing luxury (e.g., 5-star standards) with affordability.

2. Site Constraints:

- Limited plot size, irregular topography, or urban zoning laws.

- Heritage sites requiring preservation while adapting to modern needs.

3. Regulatory Compliance:

- Building codes (fire safety, accessibility) and hospitality industry standards.
- Sustainability certifications (LEED, BREEAM) adding complexity.

4. Cultural Sensitivity:

- Risk of cultural appropriation vs. authentic integration of local identity.
- Balancing global aesthetics with regional traditions.

5. Operational Efficiency:

- Clash between guest experience (spaciousness) and profit-driven space optimization.
- Back-of-house logistics (kitchens, staff areas) competing with front-of-house design.

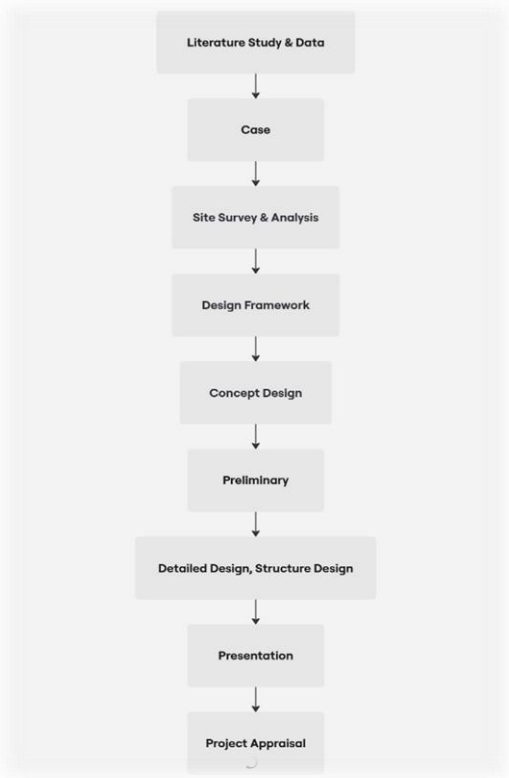
6. Sustainability Challenges:

- High energy/water consumption in hotels (e.g., pools, HVAC systems).
- Sourcing eco-friendly materials without compromising durability.

7. Technological Obsolescence:

- Rapid advancements in smart systems (IoT, automation) requiring future-proof designs.

1.5 METHODOLOGY



1.6 PROJECT DETAIL

- Proposed Development: 5-Star Hotel (minimum 150 rooms), Banquet & Convention facility (1000 pax), restaurants, cultural and tourism facilities.
- Project Description / Scope: Demolition of existing 42-room hotel and facilities; development of new 5-star hotel, banquet, theme restaurants, rooftop dining, spa & pool, cultural promotion zones; landscaping and parking development.
- Estimated Project Cost: INR 150 Crores (Total Project Cost ceiling mentioned)

Sl. No.	Parameters	Details
1.	**Project Title**	**Development, Operation & Maintenance and Management of Lakeview Residency Hotel, Bhopal on Design, Build, Finance, Operate, Transfer (DBFOT) Mode for 60 Years (extendable by a period of 10 years)**
2.	**Project Scope** **(Refer Section 7 for details)**	This RFP is floated for selection of a Concessionaire for **Development, Operation & Maintenance and Management of Lakeview Residency Hotel, Bhopal on Design, Build, Finance, Operate, Transfer (DBFOT) Mode.** The scope of work for the Project entails: ❖ The Concessionaire will be required to undertake demolition of the existing structures/establishment at the Project Site as per Applicable Laws which include all and any environmental laws and regulations, municipal laws, Building Bye Laws and/or Development Control Regulations, as well as any other law applicable or concerning the Project and Project Site. ❖ Development of a minimum 5 star hotel (minimum 150 Rooms), Banquet & Convention facility of 1000 pax and ancillary facilities (only facilities as allowed under the Madhya Pradesh

		Tourism Policy 2025) as per applicable development norms and regulations and in adherence to the standards of Hotel & Restaurant Approval Classification Committee (HRACC), Ministry of Tourism, applicable to a minimum 5 star category hotel facility or above. ❖ Financing for development, operation and maintenance of the Project ❖ Undertake Operation & Maintenance of the Project for the Concession Period and transfer the property on Transfer Date. Transfer Date shall mean the day immediately following the last day of the Concession Period, including any extensions thereto or earlier termination thereof, in accordance with the terms of the Concession Agreement. ❖ Obtaining all requisite approvals as may be required for the demolition, implementation, operation & maintenance of the said Project. ❖ Compliance with all applicable rules, regulations, stipulations and guidelines as applicable and amended from time to time.
3.	**Authority**	**Madhya Pradesh Hotel Corporation Limited (MPHCL)**
4.	**Implementation Format**	Public Private Partnership (PPP)

1.7 SITE DETAIL

- Location: Shyamala Hills, Bhopal, Madhya Pradesh, overlooking Bada Talab (Upper Lake).
- Latitude & Longitude: 23.243043872752793, 77.38768911349595
- Land Area (Site Area): ~7.16 Acres (28,975 sq. m.)
- Existing Built-up Area: ~87,521 sq. ft. (existing structures to be demolished)
- Land Ownership: Madhya Pradesh Tourism (via MPHCL)
- Immediate Surroundings:
  - North: Bada Talab (Ramsar site)
  - South: Jehan Numa Palace Road
  - East: Tribal Museum / Government buildings
  - West: Hotel Jehan Numa Palace and green buffers

- Environment: The site falls within the ecologically sensitive zone of Upper Lake and is subject to Wetlands Rules, 2017.

Built-Up Area (Existing)

- Approx. 87,521 sq. ft. total existing structures (to be demolished)
    - Main Hotel Building: 65,664 sq. ft.
    - MOA Spa: 5,607 sq. ft.
    - Railway Platform & Coach Restaurants: 9,814 sq. ft.
    - Swimming Pool & Services: ~4,767 sq. ft.
    - Other spaces: Hot & Cold restaurant, lawn, service areas.

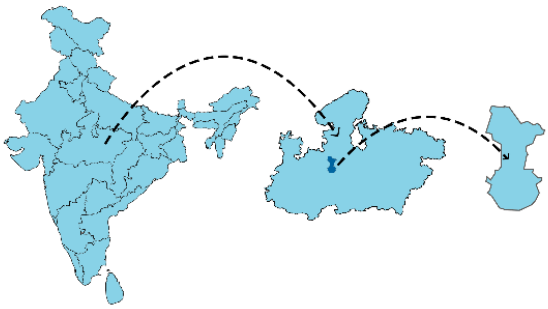


Figure 1 Location



Figure 2 Site Location

SITE PLAN WITH DIMENSION

Land Area (Site Area): ~7.16 Acres (28,975 sq. m.)

Existing Built-up Area: ~87,521 sq. ft. (existing structures to be demolished)

Building Height: 30 m

Front Setback: Minimum 6 m

Rear and Side Setback: Minimum 3 m

Proposing Agency: Madhya Pradesh Hotel Corporation Ltd. (MPHCL)

Legal Status: Incorporated under the Companies Act, 1956 as a government-owned corporation.

Ownership & Control: It is a Government of Madhya Pradesh undertaking, operating under the Department of Tourism (DoT).

Role in the Project: Identified as the "Authority" in the agreement.

Holds the leasehold rights for the MPT Lakeview Residency Hotel land and property. Responsible for granting the concession to the chosen private developer or concessionaire. Ensures compliance with project obligations, development standards, and operational measures during the entire 60-year concession period, which can be extended by 10 years. Facilitates coordination with other government agencies, such as for land use change, AAI height clearance, and environmental approvals.

CONNECTIVITY OF SITE

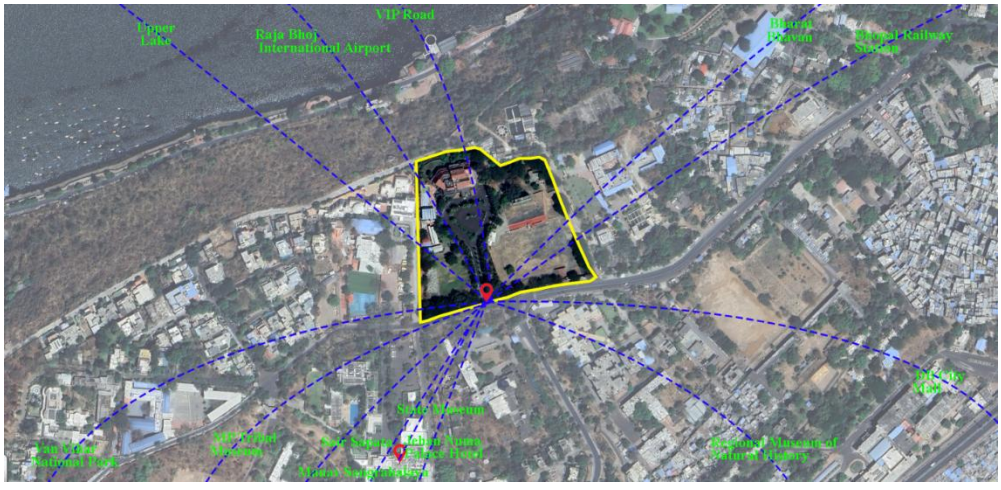


Figure 3 Connectivity of site

1. Jehan Numa Palace Hotel – 150 meters

2. Van Vihar National Park (Main Gate) – 500 meters

3. Upper Lake Boat Club / Lake Promenade – 300 meters

4. MP Tribal Museum – 800 meters

5. Regional Museum of Natural History – 1.5 kilometres

6. Sair Sapata (lakefront recreation area) – 2.5 kilometres

7. VIP Road (Main Arterial) – 600 meters

8. State Museum / Ravindra Bhavan – 2.8 kilometres

9. Bharat Bhavan (Cultural Complex) – 3.2 kilometres

10. Bhopal Railway Station – 7.5 kilometres

11. Raja Bhoj International Airport – 14.5 kilometres

12. DB City Mall (Commercial/Entertainment Hub) – 6.2 kilometres

13. Manav Sangrahalaya (Indira Gandhi Rastriya Manav Sangrahalaya) – 1.2 kilometres

SCOPE

A. To design, finance, construct and develop the Project (inclusive of any demolition activity which may be required to be undertaken on the Project) on the Project Site as set forth in Schedule I, along with the Project Facilities outlined in Schedule II, in adherence with the Specifications and Standards as set forth in Schedule III.

B. Operate and maintain the Project Facilities, within the specified Concession Period and as per the provisions of this Agreement and timely remit the Project Consideration to the Authority.

C. Performance and fulfilment of all other obligations of the Concessionaire in accordance with the Concession Agreement and matters incidental thereto, or necessary for the performance of any or all of the obligations of the Concessionaire under this Concession Agreement.

D. Transfer the Project to the Authority in the ‘as is where is and in good condition’ basis including movable and immovable assets at the time of handover, upon Termination in accordance with the provisions of this Agreement; and

E. Construct a hotel with a minimum 150 rooms and Banquet & Convention facility of 1000 pax with MICE facilities

F. The Concession Period shall start from the Compliance Date

LIMITATIONS

- The study is limited to the conceptual and schematic design stage. It does not include detailed construction drawings or cost estimation.
- The analysis relies on available secondary data and site observations. It does not conduct thorough user surveys or hospitality market feasibility studies.
- The project does not cover operational management, branding, or hotel staffing models. Its main focus is on architectural design.
- While it suggests sustainability features, the technical details of energy simulations and system integrations are only proposed at a conceptual level.
- The project is specific to the climatic, cultural, and economic context of Bhopal. It may not apply directly to other urban areas.

DETAILED LIST OF SPACES

Hotel & Guest Areas

- Minimum 150 guest rooms (standard, premium, suites)
- Reception and lobby lounge
- Guest lounges and waiting areas
- Business centre and meeting rooms
- VIP/Presidential suites
- Guest service rooms and storage

Food & Beverage Facilities

- All-day dining restaurant
- Rooftop restaurant / bar with lake view
- Specialty / theme restaurants (e.g. railway coach-style dining)
- Café and bakery
- Open-air / terrace dining
- Banquet kitchen and F&B prep zones

Convention & Banquet Facilities

- Large banquet hall with capacity of 1,000 pax (column-free preferred)

- Pre-function area
- Conference and meeting rooms
- Convention foyer / break-out space
- Washroom and green rooms for events
- Stage/backstage and A/V control rooms

Retail, Recreation & Cultural Facilities

- Souvenir and handicrafts shops / kiosks
- Cultural promotion spaces for folk performances
- Amphitheatre or open event lawn
- Drive-in or theme event space
- Art display walls / mini gallery

Wellness & Leisure

- Full-service spa and massage rooms
- Gym and fitness centre
- Yoga/meditation room
- Outdoor swimming pool with deck
- Indoor recreation lounge (games/library)

Parking & Service Infrastructure

- Multi-zone parking (surface and underground)
- Separate parking zones for guests, staff, and events
- Entry and exit gates with security booths
- Service yard and staff entry
- Utility block (transformers, DG sets, STP, WTP)

Landscape & Outdoor Spaces

- Landscaped lawns for outdoor dining/events
- Pathways, sitting plazas, fountains
- Open lawns for cultural or tourism activities
- Green buffer near lake (as per Wetlands Rule)

Back-of-House / Staff Areas

- Staff locker and restroom facilities
- Kitchen and F&B prep zones (including cold storage)
- Laundry and housekeeping
- Engineering and maintenance rooms
- Admin offices and security control room
- Garbage collection, segregation & compost area.

CHAPTER II

LITERATURE STUDY

2.1 MINISTRY OF TOURISM GUIDELINES

ANNEXURE – III

CHECKLIST OF FACILITIES FOR CLASSIFICATION / RE-CLASSIFICATION OF OPERATIONAL HOTELS

FACILITIES & SERVICES	1*	2*	3*	4*	5*/ 5*D	Yes/ No	COMMENTS
GENERAL							
Full time operation 7 days a week in season	N	N	N	N	N		
Establishment to have all necessary trading licenses / Permissions	N	N	N	N	N		
Establishment to have public liability insurance	D	D	D	D	D		
24hr. lifts for buildings higher than ground plus two floors	N	N	N	N	N		Mandatory for all hotels. Local laws may require a relaxation of this condition. Easy access for the differently abled guests.
Bedrooms, Bathrooms, Public areas and kitchen fully services daily	N	N	N	N	N		
All floor surfaces clean and in good shape	N	N	N	N	N		Floor may be of any type.
GUEST ROOM							
Minimum 10 lettable rooms, all rooms with outside windows / ventilation.	N	N	N	N	N		
Minimum size of bedroom excluding bathroom in sq.ft.	120	120	130	140	200		Rooms should not be less than the specified size. The area may include the vestibule and other covered area within the room but exclude outdoor verandah/ balcony. Single occupancy rooms may be 20 sq.ft. less.
Air – conditioning - % of Rooms	25%	25%	50%	100%	100%		Air –conditioning / heating depends on climatic conditions and architecture. Room Temperature should be between 20 to 28 degree Celsius.
A clean change of bed and bath linen daily and between check –in	N	N	N	N	N		Definitely required between each check – in. On alternate days for 1 & 2 Star category hotels.
Guest linen							Good quality linen to be provided.
Minimum bed width for single 90 cm and double180 cm.	D	N	N	N	N		
Mattress thickness minimum 10 cm	D	D	N	N	N		Coir, foam or spring foam

Minimum bedding 2 sheets, pillow and case, blanket, mattress protector / bed cover	N	N	N	N	N		Blankets available in air conditioned room as per seasonal requirement in non A/C rooms. Mattress protector is 'desirable' in 1 Star and 2 Star category hotels and 'necessary' for the other categories.
Suite *(2 rooms or 2 room-bays having a bedroom and separate sitting area, having one bathroom and one powder room.)*	D	D	D	N	N		Minimum 1 suite. A suite must be sold as one room.
Hairdryers	D	D	N	N	N		Where not provided in bathroom, must be available on request. 3 Star, 4 Star, 5 Star and 5 Star Deluxe category hotels shall provide hair dryer facility in the room on complimentary basis. In 1 Star and 2 Star hotels, this facility will be made available on request on complimentary basis.
Safe keeping / in room safe	D	D	D	N	N		1,2, and 3 Star hotels to have facilities for safe keeping in the reception. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide a safe in the room.
Mini bar / Fridge All 3 Star hotels shall have facility of a mini fridge and all 4 Star, 5 Star, and 5 Star Deluxe hotels shall have a the facility of mini bar.	D	D	N	N	N		Contents must conform to local laws.
Drinking water with minimum one glass per guest.	N	N	N	N	N		All star category hotels to provide 2 sealed bottles of branded packaged drinking water of minimum 500 ml per person per day on complimentary basis. Ultra violet treated water will not be acceptable.
Guest Linen							Good quality linen to be provided.
Shelves / drawer space	N	N	N	N	N		Necessary for hotels of 1,2 and 3 Star category to have a wardrobe.
Wardrobe with minimum 4 clothes hangers per bedding	N	N	N	N	N		In one star or two star hotels, this may be without doors.
Sufficient lighting (1 lamp per bed)	N	N	N	N	N		

A 5 amp earthed power socket	N	N	N	N	N		
A bedside table and drawer	N	N	N	N	N		1 per twin bed and two for a double bed.
TV Cable if available	D	D	N	N	N		TV must have a remote. Exception: for eco and nature resorts TV cable is not mandatory for 3 Star to 5 Star Deluxe category hotels. However, it is mandatory that they provide a television with cable in the lobby or other common area.
A writing surface with sufficient lighting	D	D	N	N	N		
Chairs	N	N	N	N	N		Preferably one per bed
Waste paper basket	N	N	N	N	N		
Opaque curtains or screening at all windows	N	N	N	N	N		All 4 Star, 5 Star, and 5 Star Deluxe hotels shall have blackout curtains
A mirror at least half length (3 ft.)	N	N	N	N	N		
A stationary folder containing stationary	D	D	N	N	N		
A 'do not disturb' notice	N	N	N	N	N		
Night spread / bed cover	N	N	N	N	N		
Energy saving lighting	N	N	N	N	N		
Linen Room	N	N	N	N	N		Should be well ventilated
BATHROOM							
Number of rooms with attached bathrooms	All	All	All	All	All		All bathrooms to have a sanitary bin with lid.
Minimum size of bathroom in square feet	30	30	36	36	45		25% of bathrooms in 1 &2 Star hotels to have western style WC. For hotels built before 1.1.2012, the Minimum bathroom size may be relaxed by 10% (to be rounded off to the next integer) provided the total size of the room and the bathroom taken together are as follows: 1 Star & 2 Star – 150 sq. ft., 3 Star-166 sq. ft., 4 Star – 176 sq. ft., 5 Star & 5 Star Deluxe – 245 sq. ft.

1 bath towel and 1 hand towel to be provided per guest	N	N	N	N	N		
Bath Mat	D	D	N	N	N		
Guest toiletries to be provided. Minimum 1 new soap per guest.	N	N	N	N	N		Quality products depending on Star category.
Bottled toiletry products to be provided.	D	D	D	N	N		
Clothes – hooks in each bath / shower room	N	N	N	N	N		All star category hotels shall provide two (2) clothes hooks in the bath / shower room
Sanitary bin	N	N	N	N	N		These must be covered
Each western WC toilet to have a seat with lid and toilet paper.	N	N	N	N	N		
All Star hotels shall provide water sprays or bidets or washlets or other modern water based post- toilet – paper hygiene facilities.	N	N	N	N	N		
Floors and walls to have non – porous surfaces	N	N	N	N	N		
Hot and Cold running water available 24 hours	N	N	N	N	N		
Shower cabin	N	N	N	N	N		A shower with shower curtain will suffice where shower cabin is not available.
Bath tubs				D	D		
Water saving taps and showers	N	N	N	N	N		
Energy saving lighting	N	N	N	N	N		
PUBLIC AREA							
Lounge or seating area in the lobby	N	N	N	N	N		Lobby shall have furniture and fixtures which shall include chairs / arm chairs, sofa, tables and fresh floral display. Door man on duty for 4 star categories and below 4 star categories, the presence of a door man on duty in the lounge or sitting area in the lobby shall not be mandatory. However, in such areas, the presence of staff on duty shall be obligatory around the clock 24/7

Reception facility	N	N	N	N	N		Manned minimum 16 hours. Call service 24 hours. Local directions to hotel including city street maps to be available.
Valet (parking) services to be available	D	D	N	N	N		
Availability of Room, F&B and other tariff	N	N	N	N	N		
Heating and cooling to be provided in public areas	-	-	-	N	N		Temperatures to be between 20 degrees Celsius to 28 degrees Celsius. Air – conditioning in common areas like lobby, restaurants, verandahs, bar where they are open to nature on one or more sides, shall not be mandatory for beach, lake, backwater, river, hill, mountain, forest or nature hotels & Resorts.
Public rest rooms for ladies and gents, a wash basin with running hot and cold water, a mirror, a sanitary bin with lid in unisex 7 ladies toilet.	N	N	N	N	N		
ROOM AND FACILITIES FOR THE DIFFERENTLY ABLED GUEST							
At least one room for the differently abled guest	N	N	N	N	N		The room shall have low height furniture, low peep hole, cupboard with low clothe hangers, audible and visible (blinking light) alarm system and doorbell. The almirah / cupboard doors in the differently abled room should be sliding to enable opening the same by the differently abled person. Blinking light in the room and bathroom should also be connected with the door bell for the hearing impaired. Cordless telephone in the room. Direct calling facility to the front desk or operator.
Bathroom	N	N	N	N	N		Door width for room of the differently abled persons and bathroom of such rooms should allow easy accessibility of wheel chair made available by the hotel).

							For new hotels coming up after 01.04.2017, the minimum door width of such rooms and their bathroom shall be minimum 90 cm. The door width of the room and bathroom for differently abled persons in existing hotels shall be 90 cm. with effect from 01.04.2023 Bathroom for the differently abled guest shall have suitable fixtures like low wash basin with wheel chair accessibility, low vanity unit, Wall mounted seat in shower area, hand shower, Grab bars net to the WC and shower area.
Ramps with anti-slip floors at the entrance. Minimum door width should be one meter to allow wheel chair access	N	N	N	N	N		Fixed and anti – slip ramp to be provided in all public areas. Free accessibility in all public areas, and to at least one restaurant in 5 star and 5 star deluxe hotel.
Public Restrooms	N	N	N	N	N		All star category hotels should have a public restroom for differently abled guests (unisex) with minimum door width which allows easy accessibility of wheel chair (made available by the hotel). Low height urinal with grab bars. For new hotels coming up after 01.04.2017, the minimum door width of such public rest room (unisex) shall be minimum 90 cm. For existing hotels, the minimum door width of public restroom (unisex) shall be mandatory after 01.04.2023

FOOD & BEVERAGE OUTLETS							
1 Star & 2 Star							1 & 2 Star categories should have minimum one dining room serving all meals.
3 Star Category							One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm. And 24 hr. Room Service.
4 Star category (with alcohol service or with no alcohol service)							**Grade A cities:** One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm., one specialty Restaurant and 24 hr. Room Service. The specialty Restaurant may either be indoors with air-conditioning, or outdoors. The Specialty Restaurant must serve specific form of cuisine. The Specialty Restaurant may be open for lunch / dinner. **Cities other than grade A cities:** One Multi – cuisine Restaurant cum Coffee Shop open from 07.00 am. To 11.00 pm. and 24 hr. Room Service.
5 Star category (with alcohol service or with no alcohol service) and 5 Star Deluxe							**Grade A cities:** One 24 hour Multi Cuisine Restaurant cum Coffee Shop, one Specialty Restaurant and 24 hr. Room Service. The Specialty Restaurant may either be indoors with air – conditioning, or outdoors. The Specialty restaurant must serve specific form of cuisine. The Specialty Restaurant may be open for lunch / dinner. **Cities other than Grade A cities:** One 24 hour Multi Cuisine Restaurant cum Coffee Shop and 24 hr. Room Service. One Specialty Restaurant would be desirable.

CODE OF CONDUCT FOR SAFE & HONOURABLE TOURISM							
Display of pledge	N	N	N	N	N		Pledge to be displayed prominently in the staff/ back areas / office premises of all the Heads of Departments (HODs)
Training for 'Code of Conduct for safe & Honourable Tourism'	N	N	N	N	N		At time of Joining (orientation programme and subsequent in – house training)
Maintenance of Action Taken Report with regards to compliance of the provisions of the Code.	N	N	N	N	N		Signatories of the 'Code of Conduct' to maintain record of action taken in compliance of the provisions of the code.
Focal points / Nodal officers	N	N	N	N	N		Two nodal officers to be nominated (from HRD and Security side etc.) for hotel with more than 25 personnel and one focal point for hotel with less than 25 personnel.
GUEST SERVICES							
Provision for wheelchair for the differently abled guest	N	N	N	N	N		Wheel chair to be made available on complimentary basis in hotels of all categories.
Valet (parking) services to be available	D	D	N	N	N		
Dry cleaning / laundry	D	D	D	N	N		In house for 5 Star Deluxe hotels. For 5 Star category and below, may be outsourced.
Tea / coffee making facility in the room	D	D	D	N	N		Tea / coffee making facilities in the room to be made available on complimentary basis in all 4 Star, 5 Star and 5 Star Deluxe hotels.
Iron and Iron Board facility	N	N	N	N	N		Each hotel up to the level of 4 star to have a number of irons and ironing board equal to 20% of the number of lettable rooms, to be provided to a resident guest on request. 5 star and 5 star deluxe hotels to have iron and ironing board in every lettable room.
Paid transportation on call	D	D	N	N	N		Guest should be able to travel from hotel
Shoe cleaning shoe horn & slippers	D	D	D	N	N		Free facility to be provided for in house guest
Ice (from drinking water) on demand	D	D	N	N	N		Complimentary on request
Acceptance of common credit cards and facility/ infrastructure for accepting/ making payments by digital transactions	N	N	N	N	N		
Assistance with luggage on request	N	N	N	N	N		

A public telephone on premises. Unit charges made known	D	D	N	N	N		There should be at least one telephone no higher than 24" from floor level in 5 and 5 Star Deluxe (to also cater to differently abled guest)
Wake – up call service on request	N	N	N	N	N		
Messages for guests to be recorded and delivered	N	N	N	N	N		A prominently displayed message board will suffice for 1 & 2 Star Categories
Name address and telephone number of doctors with front desk	N	N	N	N	N		Doctor on call in 3,4,5 & 5 Star Deluxe
Stamps and mailing facilities	D	D	D	D	D		
Newspapers available	D	D	D	N	N		This may be placed in the lounge for 1,2,& 3 Star hotels
Access to travel desk facilities	N	N	N	N	N		This need not be on the premise for 1,2&3 Star categories
Left luggage facilities	D	D	N	N	N		This must be in a well secured room / 24 hours manned area. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide luggage racks, portable or fixed, for two large suitcases. This will be stated on the hotel's website under the head 'Facilities and Amenities provided on complimentary basis' and mentioned to guest while checking in.
Provision for emergency supplies toiletries / first aid kit	D	D	N	N	N		
Health – Fitness and Barber's Shop	D	D	D	D	N		Indian system of treatments should preferably be offered
Beauty Salon and Barber's Shop	D	D	D	D	D		
Florist	D	D	D	D	D		
Utility shop / kiosk	D	D	D	D	D		The presence of a utility kiosk / shop will not be a mandatory condition for classification under 1 to 5 Star Deluxe categories. NO separate book shop shall be necessary.
Money changing facilities	D	D	D	D	D		Money changing facility to be made available.
SAFETY & SECURITY							
Metal detectors (door frame or hand held)	D	D	N	N	N		
CCTV at strategic location	N	N	N	N	N		

X-Ray Machine	D	D	D	D	N		For 5 Star Deluxe category, it would be 'Necessary' to have an x-ray machine at the guest entrance for screening of baggage Manual check may be conducted for staff and suppliers at designated entry points.
Under belly scanners to screen vehicles.	D	D	D	N	N		
Verification	N	N	N	N	N		All hotels should conduct antecedent verification of their staff and suppliers by the Police / private security.
Staff trained in firefighting Drill	N	N	N	N	N		All hotels to conduct periodic fire drills and maintain 'Manuals' for disaster management, First Aid and Fire Safety
Security arrangements for all hotels entrances.	N	N	N	N	N		
Each bedroom door to be fitted with lock and key, viewport / peephole & internal securing device.	D	D	N	N	N		A safety chain / wishbone latch is acceptable in place of viewport / peephole.
Smoke Detectors	N	N	N	N	N		These can be battery operated.
Fire and Emergency alarms should have visual & audible signals.	N	N	N	N	N		
First aid kit with over the counter medicines at the front desk	N	N	N	N	N		
Fire Exit Signs on guest floors with emergency / backup power.	N	N	N	N	N		
COMMUNICATION FACILITIES							
Telephone facility within arm's reach of the toilet seat	D	D	D	N	N		
Provide at least two multi – purpose sockets	N	N	N	N	N		All Star hotels shall provide at least two multi-purpose sockets capable of handling US, European Community and Japanese plugs at or just above the table level. It should be possible for guest to charge a laptop and cell phone simultaneously. This condition shall be applicable to all new hotels that will start operating from 01.04.2016. For the hotels which have come into operation before 31.03.2016 this parameter will be applicable from 01.04.2022. However, till such time as this facility is

							provided on a permanent basis, it will be mandatory for all Star hotels to provide multi-socket adapter plugs on request.
A telephone for incoming & outgoing calls in the room	D	N	N	N	N		4 star and above should have direct dialing and STD / ISD facilities. 1,2 and 3 Star category hotels may go through a telephone exchange.
PC available for guest use with internet access	D	D	N	N	N		This can be a paid service. Upto 3 Star, PC can be in the executive offices, Internet subject to local access being available.
E-mail service	D	D	N	N	N		Subject to local internet access being available.
Fax, photocopy and printing Services.	N	N	N	N	N		
In room Internet / wi-fi connection	D	D	D	N	N		Subject to local internet access being available. Wi-Fi wherever possible.
Business Centre	D	D	D	N	N		This should be a dedicated area. (This provision may be relaxed for resort destinations, tourist and pilgrimage centers).
Swimming Pool	D	D	D	D	N		This can be relaxed for hill destinations. Mandatory to have trained Life Guard, Board containing Do's and Don'ts, No Diving sign, pool depth etc. should be displayed at a strategic location in the pool area. All 4 Star, 5 Star and 5 Star Deluxe hotels shall provide a luminous LED wall clock with numerals of three inches or more on display near their swimming pools
Parking Facilities	D	D	N	N	N		Should be adequate in relation to the number of rooms & banquet / convention hall capacity. Exclusively earmarked accessible parking nearest to the entrance for differently abled guest.
Conference Facilities.	D	D	D	D	N		
ECO FRIENDLY PRACTICES							
Sewage Treatment Plant	N	N	N	N	N		A Sewage Treatment Plant will not be a mandatory condition for hotels which have obtained completion certificate for construction before 01.04.2012.

Rain Water Harvesting	N	N	N	N	N		
Waste management	N	N	N	N	N		
Pollution control methods for air, water and light	N	N	N	N	N		
Introduction of non CFC equipment for refrigeration and air conditioning and other Eco-friendly measures / initiatives.	N	N	N	N	N		

Checklist of Services and Facilities (Annexure III)

D Desirable

N Necessary

There is no relaxation in the **'Necessary'** criteria of the Checklist of Services and Facilities (Annexure II), except as specified in the comments column of said checklist.

Note1.

All hotels should clearly indicate on their websites the facilities and amenities provided to guests "free of cost" like complimentary breakfast (indicating broad classification like Indian breakfast, Continental breakfast or American breakfast), iron and iron board facility, shoe cleaning facility, shoe horn and slippers, other "free" facilities like dental kit, shaving kit etc.

If any facility is provided only 'on request' but is included in the room rent, this should be mentioned on the hotel's website under the head **'Facilities and Amenities Provided on complimentary basis'** and also be mentioned to the guest when the hotel staff introduce the room to him / her on arrival. In case the 'complimentary breakfast' is not a buffet, the guest must be shown a list stating in English the name of all complimentary items.

(All hotels shall submit a compliance of Note 1 in the form of a screen shot of their website showing the "Facilities & Amentias provided on complimentary basis")

Note 2.

It will be mandatory for all the hotels classified under all category to display their classification status prominently on their websites under a separate icon on the opening page, which on the click will display the order of classification issued by the Ministry of Tourism, Government of India, and at the reception.

Note 3.

All the hotels shall be required to submit an affidavit with respect to clearances along with their applications for approval of Hotel at the Project Stage and for Classification / Re-classification of Operational Hotels, as given in **Annexure V and VI respectively**.

Note 4:

a. If any hotel is found to obtain classification on a false pretext or on the basis of misrepresentation of facts, or is found to display wrong classification status, or found to promote / market the hotel on the basis of wrongful claims pertaining to hotel classification, then the unit / hotel will stand declassified with immediate effect and it shall be debarred from applying for classification under any category for a minimum period of two years from the date of debarment by the competent authority i.e. the Chairman, HRACC.

b. If a hotel which has applied for classification under any category to the Ministry of Tourism is found to display false classification status, or found promote / market the hotel on the basis of wrongful claims pertaining to hotel classification, then the application for classification of the unit / hotel will stand summarily rejected and it shall be debarred from applying for classification under any category for a minimum period of two years from the date of debarment by the competent authority i.e. the Chairman, HRACC.

c. In case of debarment, a hotel, which is found to otherwise fulfil to the satisfaction of the inspection committee, all criteria pertaining to the classification parameters of the star / heritage category under which it was found to wrongfully promote itself, will have the one-time opportunity for revocation of the debarment by paying a penalty prescribed below. Such observation of the committee, if any, will

TIME SAVER STANDARDS

- It must be borne in mind that, as far as planned circulation is concerned, there must never be aminglingofthefront-of-the-houseserviceswiththoseofthebackofthehouse.
- The two functions must be kept separate and yet so interrelated that both functions smoothly and efficiently.
- The physical environment becomes an important part of the guest's creature comfort. These factors include color and decor, lighting, proper air temperature, comfortable furnishings and, above all, pleasant and relaxed atmosphere.
- This involves the economics of a new hotel, which will center upon the cost of construction and furnishing. These costs represent, together with the cost of the land, the amount of money that is to be invested.

2.2 BACK OF THE HOUSE:

- Though rarely seen by a guest, the back of the house is the most crucial part of the plan. It must be laid out with two paramount objectives: control and efficiency. Foodstuffs, housekeeping supplies, and a great many other items must be received out of sight of the hotel guests. Such receiving is usually done at a loading dock, which should be covered so that deliveries can be made regardless of the weather.
- This is usually the function of a receiving department that should be located directly on or adjacent to the loading dock. Tight control must be exercised in two directions. In one direction, it is not uncommon for material to be delivered and, within a short time of its having been left on the dock unchecked, for the management to find that this material has disappeared or that some parts of the shipment have gone astray. The second part of the control is to make sure that, once these shipments have arrived, they go directly to their destination without a chance of becoming lost on the way.
- A good back-of the- house plan will be worked out in such a way that the flow of supplies is tightly controlled by the security that the architect works into his plan Tight, well-planned back of the house will have circulation patterns that will provide the utmost in control.
- In the larger hotels, garbage destructors or compressors may be used, in which case tight surveillance is necessary only in the garbage receiving area. Where garbage is shipped out, it is wise to have the garbage rooms so placed (and, incidentally, refrigerated) that the receiving office has this space in full view.
- A tight control at the point of entry and egress of all employees is highly desirable and can easily be accomplished if it is the same point as that at which food and other hotel supplies are brought in. Once again, the architect's careful planning will make it possible for employees to reach their various dressing and locker areas with a minimum of travel time lost. It must be borne in mind that there is class distinction in hotels and, as an example, that dishwashers and porters are not placed in the same locker rooms as head waiters and reception clerks.

- Locker rooms should be provided with ample toilet facilities and showers. Once the personnel have changed into their uniforms, the plan of the back of the house will make it possible for the people to get to their work stations with little time lost.
- Uniform issue is related to the housekeeper, the housekeeper to the laundry room, and the laundry room to the soiled linen room. The soiled linen room connects by vertical linen chute to the service room on every typical floor, and every typical floor is connected by a service elevator that opens to the lower floor service area convenient to the scrutinizing gaze of the steward and the timekeeper. For convenience, a trash chute, going from every typical floor service area, should be located next to the linen chute

LAUNDARY FACILITIES:

- A laundry is a usual adjunct of most good-sized hotels.
- A hotel laundry that does its own uniforms and flatwork (sheets, pillowcases, linens, etc.) requires a good-sized space for washers, dryers, drum ironers, and various pressing machines each suitable for its own type of flatwork, uniforms and guests' laundry, and men's and women's wearing apparel.
- Larger hotels will maintain their own cleaning department for dry cleaning and pressing of woollens and similar garments. Such a cleaning and valet service is usually a part of or close to the laundry area, and it is definitely under the supervision of the laundry manager.

HOUSE KEEPING DEPARTMENT:

- The housekeeping department, having several functions, is the province of the chief housekeeper, who will usually have assistant floor housekeepers. Under the housekeeper's strict control and supervision will be all the maids and porters
- The porters will deliver to the service areas on the guest-room floors all linen and soap as well as facial tissue, toilet paper, matches, room service menus, and ashtrays.
- The housekeeper's area is also a storage area, for here are kept all the supplies that become a part of housekeeping.
- It might be useful for the architect to know how many rooms a maid can make up during her daily tour of duty.
- It rarely goes beyond 15. One porter is usually assigned to each maid. In addition to the regular daytime maid, there will be, in most hotels, a night maid who will make up beds for guests ready to go to sleep.

FOOD AND BEVERAGE SERVICES:

The flow of the raw food from the time it is delivered to the steward until it is finally cooked and ready to be picked up by the waiters or the waitresses.

After the comestibles have been weighed in, checked, and signed for, they are sent to either dry storage or liquor storage (a room with a big lock on it) or to one of the various cold

holding rooms or boxes. Canned food and other bottled or packaged food which does not need refrigeration will be sent to dry-storage rooms. In this storage space will also be kept the various condiments that the chef will need in the preparation of his food. Vegetables will be sent to an area where they will be stored ready for preparation. A refrigerator box of the proper temperature will be needed, as well as work space, sinks, and cutting boards where vegetables will be prepared for the chefs as needed. Vegetable preparation area is needed.

- Dairy products will go to their own cold-storage boxes. Fish, fowl, and meat will go to a separate area where boxes must be arranged with proper temperatures for their storage.
- Freezer, refrigerator, and cold storage boxes require heavy insulation. Slab sinkage in these areas should be provided for.
- The bakery shop should be a separate entity, having its own refrigerator boxes as well as all the pertinent equipment that a baker will use in his art---and an art it is, indeed.
- Here again, one should be reminded that the bakery should be close to the actual food service area so that not too many of these goodies find their way into the locker rooms or out of the hotel entirely.
- KITCHEN- The food from the prep area is brought to the various points where it is to be used. One of the first areas to which a good part of the prepared food will go is the rough cooking 26 area. Here we find the big soup kettles, the vegetable steamers, the ovens, and the hot tops where most of the bulk foods will be prepared. Pot washing area close to the rough or preliminary food cooking area. Rough cooking is usually backed up to the finished cooking area.
- Between the chefs' ovens, broilers, and fry- errs, which are aligned in a straight line, there will be an aisle for the chefs. On the other side of this aisle will be the serving tables from which the waiters will pick up the finished food. At the bottom of these tables will be plate. warmers which the waiter picks up and sets on the table so the chef can place the order of the specific dish that is required.
- This entire area is for self-service by the waiters, who will pick up the items they need on their way to the guest waiting for the delivery of his food.
- DINING ROOM- The dishwasher is usually placed close to the Dining room area so that the dishes can be disposed of as soon as the waiter or busboy enters the kitchen. The dishwashing area is, of necessity, not only noisy but also a rather untidy operation, SO it must be kept fairly isolated from the actual cooking and serving area.
- Then, before entering tire. dining room, Ire will usually go by a checker's desk where he presents a check indicating the items that he is taking out of the kitchen to the diner.
- One other space will usually occur in our ideal kitchen--a service bar with a bartender who will prepare tire drinks that the waiter has ordered.
- There will be a chef's office, which is set where the chef can observe all the activities in tire kitchen. His office is usually enclosed with glass to give him aural privacy but complete visual control. Here the chef will prepare and plan menus.

- Room-service area- Here there must be sufficient space for a fairly large number of room service rolling tables, which are set and ready to carry the dishes that have been ordered by the guest via telephone.
- The room-service area is always close to tire cooking and garde manger area.
- The room service area should, of necessity, be as close to the service elevators as possible.
- COOKING AREA- The cooking area, consisting mainly of griddles, will be manned by short order chefs who are ready to prepare various hot breakfast dishes, and the garde manger section will be manned by a crew who are expert in the preparation of breakfast menus.
- BANQUET HALLS- In the banquet area there will be mobile cabinets that take trays. These are electrified cabinets arranged to keep dishes either hot or cold. Those banquet cabinets can be stocked before a banquet for certain types of manes.
- A large banquet area in a hotel will require a separate banquet kitchen with its own cooking facilities as well as its own dishwashing area.
- One last observation: it is an excellent idea to have toilets and washrooms for kitchen help, so that it isn't necessary for them to return to their locker rooms, which may be at some distance.
- It is always advisable to keep the kitchen help within the kitchen during their stint of duty. Doors to dining rooms, and there may be several dining rooms serviced by the one kitchen, should be strategically placed and baffled so that the diners do not have a view of what goes on in the kitchen, and, what is more important, do not hear what is going on.
- The ideal plan would be to place the coffee shop backed up to the kitchen, so that certain finished dishes and prepared foods can be delivered to the coffee shop work area directly from the main kitchen under complete control and it passes from prep areas to kitchen to coffee shop.
- At the counter we will usually find a pickup area where the waiters can pick up the food prepared for them without disturbing the diners who are sitting at counters. Dirty dishes will be sent back to the dishwashing area through a pass-through, or they will be carried to the dishwashing area in the main kitchen.
- Employees' cafeteria- This space is usually planned to be close to the help's locker rooms and yet contiguous to the main kitchen.
- Beverage service area- This may be a bar room or a cocktail lounge. In any case, there will be a bar with stools (if local codes permit) and an area for cocktail tables and chairs. A cocktail lounge must be serviced just as the kitchen is serviced. To the bar must be brought not only liquor and bottled goods but also the usual crunchies.
- Ideally, the delivery should be made directly to the back bar through pass-throughs from the kitchen, so that we find once again another unit backed up to the ideal kitchen.

MECHANICAL SERVICES:

- Another area that should be considered in designing the back-of-the-house spaces will be the boiler or mechanical room. In this area will be found the various pieces of equipment for heating and cooling as well as all the tanks and pumps to keep all the mechanical systems in operation.
- In this area will also be found all central switch gear that controls electric current for every purpose in the hotel complex. This domain belongs to the house engineer and, naturally, there should be provision for an engineer's office, with a mechanical repair shop close by.
- These would include a carpentry shop, an upholstery shop, and definitely an area for a locksmith. Somewhere in the area, where they are easily accessible, will be storage rooms in
- which will be kept a multitude of spare parts to service the hotel. be occupied by personnel that very often come in contact with the guests, and the strategic location of these back-of-the-house facilities will be controlled entirely by what happens in the front of the house.
- Included in these areas you will find accounting and bookkeeping offices (which back up the front cashiers); reservations offices (which back up to the front registration desk); and offices for management, which will include a reception area, a manager's office, and an assistant manager's office.
- There is also a mail sorting room.

2.3 FRONT OF THE HOUSE:

- The guest or the paying customer sees only the front of the house, and this must be all that he desires.
- The front of the house comprises every area that the guest will see; lobbies, dining spaces, rest rooms, passenger elevators, corridors, hotel rooms, etc. These spaces must be handled and planned with one thought in mind: the convenience and continued approbation of the guests.
- The registration desk and the elevators should and must be immediately apparent. The registration area consists of a front desk, behind which is a registration clerk, behind whom is the key and mail rack, and behind that the various administration spaces.

GUEST REGISTRATION:

- A hotel registration desk must be located so that it is immediately visible as one enters the hotel lobby. The size of the desk will be determined by the size of the hotel.
- 2,000 rooms might have anywhere from four to six registration clerks, while a hotel of 100 to 200 rooms will have one or at roost two spaces at which guests may register.
- The simplest arrangement will call for a suitable file containing advance reservation cards requesting space, so that the clerk can quickly check what room has been reserved for what particular guest.
- Advance registration counter

MAIL AND KEYS:

There are two other services that the front or registration desk must perform. The first and obvious one is to serve as the place where the room keys are kept. If the registration clerk handles the key, then obviously the key rack is directly behind thedesk, easily accessible to the registration clerk. If the hotel is large enough to require separate area and separate personnel for handling of keys, this function will usually be alongside the actual registration desk

CASHIOR

- The average hotel usually has the cashier's counter located adjacent to the registration desk.
- The larger hotels may place cashiers in the so-called "front desk" area but somewhat remote from the actual registration desk. There are times in large hotels, especially those catering to conventions, where one convention is checking out while another is checking in. This will make for traffic congestion and some confusion. Such a situation can be avoided by planning the registration and cashier facilities so that lines forming in front of the registration desk do not conflict with lines forming at the cashier's counter.
- Larger hotels will have a complete bookkeeping department. This will require more than just the actual cashiers, who remain at their stations, while the bookkeeping department handles all entries and bookkeeping for the guests. It is obvious that this bookkeeping department should be close to if not backed up to tire front desk cashiers, so that any questions of charges can be quickly checked and adjusted by the cashier, who will contact the bookkeeping department for Clarification or corrections in the guests' bills.
- Therefore, a small closed room is normally provided. The guest enters this room and gives the valuables to the cashier through a pass-through window. This pass-through window should have a view of the vault or the safe so that the guest can watch his valuables being deposited properly.
- In large hotels, where there are a number of restaurants and other facilities which entail cash payment, special arrangements should be made for the handling of this cash and, in some instances, safety deposit boxes or vaults are provided so that the money can be stored when it is brought to the cashier space at off hours.

ADMINISTRATIVE AREA:

- The administration of a hotel operation depends entirely upon its size.
- A larger, medium-sized hotel will have a manager and an assistant manager and, as a rule, there will be e reception office where one or two typist receptionists will be acting as a buffer between the public and the manager.

- Aside from the manager and the assistant manager, there may be an office for a food and beverage manager and a banquet manager. A larger hotel, with sizable convention facilities, will also have an office for the convention manager and his assistants.

RESTAURANT FACILITIES:

- Under normal situations there will be a cocktail lounge or beverage bar even in the smallest dining facility. The larger hotel will have a pleasant coffee shop for quick service and for simpler meals, whereas a restaurant, with its appropriate decor for more leisurely dining, will offer a more varied menu with probably higher cost per meal than in the coffee shop. The cocktail lounge will usually be found close to the dining room so that hotel guests can pause for a cocktail before lunch or dinner, or while waiting, before going to the dining room", to meet friends or other guests. Where convention facilities are offered within a hotel, it is wise to have a bar placed close to the convention facilities.
- Large convention and banquet facilities usually provide a fixed or portable bar arrangement in the pre-assembly or foyer areas to take care of pauses between meetings and seminars and to fill those pauses with a facility that will provide a "pause that refresh." There is no special requirement for the design of hotel restaurants, bars, cocktail lounges, and coffee shops which are in any way different from the standard requirements for any such facility.
- Wherever a rooftop restaurant is created, the architect must bear in mind that there will be increased traffic in the elevators taking diners from both in and outside the hotel to this pecialized rooftop facility. And don't forget that, because of public assembly requirements, the stairs must be sized larger. Supper clubs or nightclubs will also be found in the larger hotels with this type of dining and entertainment area along with orchestra dressing rooms.

LOBBIES:

- Every hotel, regardless of its size, must have a public lobby. The size of the lobby is largely determined by the number of guest rooms as well as by the type of hotel that is on the architect's drawing boards.
- Furnishings, color, finishing materials, lighting, and decor must create the proper ambience regardless of whether the hotel is large or small, in a city or a resort, moderately priced or expensive.

ELEVATORS:

- Except for one- and two-story motels, every hotel and motel will use elevators to take guests from the point at which they have checked in up to the floor where the guest's room is located. Elevators should be located so that they are immediately visible, either from the entrance of the hotel or from the check-in or registration area. Another consideration in the planning of elevators is that of their location on the guest-room floors. It is advisable to place them centrally so that the distance walked by a guest in

any direction is reduced to a minimum. The number, size, and speed of the required elevators is best determined by the elevator companies themselves.

- Service elevators are separate and apart.
- Each bank of elevators should be strategically located to best service the front of the house (guests) or the back of the house.
- The bell captain's station should be located so there is a commanding view of the hotel entrance, the registration desk, the cashier, and the elevators.
- Somewhere in the lobby there should be a rather large storage spare for luggage which may be left by guests after checking out but prior to departing.

GUEST FLOOR CORRIDORS:

- It is wise to remember that no guest-room doors should be placed opposite the elevators. Guests coming or going late at night, coming out or getting into the elevators, may talk loudly or may be too noisy, in which case they would be disturbing guests whose doors open off this area. The foyer should be further demarked from the guest-room corridor by its decor and lighting.
- One of these appurtenances would be a small bench or some type of seat for guests who may want to wait in the foyer for the elevator or who may be waiting to meet someone else on the floor. It is also a thoughtful gesture to have a full-length mirror in this area; men as well as women guests appreciate the chance to have a look at themselves before descending to the main lobby floor.
- There should obviously be a good-sized ash receiver for cigarettes, cigars, and other trash nuisances that the guest may want to get rid of before getting into the elevator. Good practice indicates that a corridor should, if at all possible, not be over 100 ft in length.
- There is very little choice in the width of a corridor. Normally, 6 ft is considered an adequate width, although some hotels have made do with only 5 ft.
- Another expedient, which may be used either in a narrow corridor (under 6 ft) or a standard width corridor, would be the device of recessing the bedroom or guest-room doors. Setting doors back from the corridor wall 1 ft or even as much as 2 ft gives an apparent width to the corridor and, what is more important, it gives each room entrance its own sense of privacy and individuality.
- A flush panel door is the least expensive but also the least desirable type of door for a guest room. If only a flush door is used, strong color might be helpful,
- The lower portion of the wall, therefore, might well be designed as a dado made of a bruise and shock-resistant material or merely marked off with a contrasting color or wall covering.

GUESTROOMS:

- The length and width are determined by the amount of furniture that is to go into the room and by the degree of luxury that the hotel operator wishes to achieve.

- The most common room in the hotel field today is the twin-bedded room. Then we have the possibility of a single occupancy room, and, lastly, studio rooms or suites.31
- The next consideration is the size of the beds themselves. There are single beds which are 3 ft 6 in. wide, a full-sized bed which is 4 ft 6 in., a queen-sized bed which is 5 ft wide, end a king sized bed which is 6 ft wide. Presently, all beds are still being made in a 6-ft 6-in. length dimension.
- If at all possible, there should be a3-ft aisle and, if no furniture is placed opposite the bed (a very unlikely arrangement), then the width of the room would be a minimum of 10 ft 6 in.
- Where furniture will be placed on the wall opposite the bed, such furniture will most likely consist of a dresser or cupboard with drawers. Such a piece of furniture requires a minimum of 18 in. in width and most likely an optimum width of 24 in.
- The most common arrangement found in most hotels consists of two comfortable armchairs with a cocktail table between them. A comfortable chair will require a depth of least 30 in. and another 30 in. of leg space in front of it, which means that we need at least 5 ft from the wall before we encounter the first piece of furniture, which will probably be a bed.
- In talking of lighting, we must bear in mind that we want not only a lamp or a ceiling fixture over the sitting area but also adequate reading lights for the beds. The most often used arrangement is a twin-headed lamp sitting on the night table between the two beds.
- Another piece of fixed furniture that is desirable is a luggage stand.
- This could be a straight-backed chair or a stool placed in front of the writing-makeup table.
- Between a pair of twin beds, the ubiquitous nightstand with its small storage space below is standard.
- SUITES: Another popular arrangement in hotels is that of the so-called "studio room." Dual sleep pieces have been developed which are comfortable sofas during the day and perfectly comfortable beds at night.
- furnished as a studio room. Thus, the hotel can provide a two-room suite (obviously, connecting doors must be provided between these two accommodations).
- Every hotel should have arrangements for suites of a permanent nature as opposed to a combination of a studio room with a typical guest room. Suites will be furnished like fine sitting rooms. They are used not only by the affluent traveler because he can afford it but also by travelers who do a good deal of entertaining, especially business travelers who entertain clients and customers on their arrival in any given city.
- These suites are also often used by two couples or by a large family, in which case the sitting room of the suite may be used for sleeping at night. In this case, dual sleep pieces will be required, but they will usually be the type that is referred to as a "davenport," or the type of sofa which opens out to become a comfortable double bed (never as comfortable as a true bed). These suites should have a good-sized dining

table with a sufficient number of chairs, provision for an adequate desk (since some business may be carried on in that room), a sufficient number of comfortable lounge chairs, and an accessory table.

- It is a good practice to arrange the sitting room of a suite so that it connects with at least two bedrooms and, if at all possible, three and sometimes even four bedrooms.
- Suites will usually be found in the corner of a building, which makes it possible for the planner to join up several bedrooms.
- There are times when suites are not used, and the hotel should be able to rent each of the rooms in the suite separately.
- A foyer which connects the bedrooms and the sitting area makes this separate keying of rooms possible.
- A complete bathroom should be planned for each of the sitting rooms of a suite to make it possible to rent the rooms out singly.
- Since this room will be used for entertaining (either business or private), a bar with water connection becomes a pleasant adjunct.
- Obviously, these rooms will be placed on the lowest floors so they can be close to the public spaces for the convenience of those who are going to use them for meetings or seminars in connection with a larger convention or meeting taking place in the hotel.

GUEST BATH ROOMS:

- The minimum bathroom will have a combination tub-shower, a lavatory, and a water closet.
- An innovation devised by the writer's firm was the introduction of two lavatories in the bathroom facilities. These two lavatories may be right in the bathroom itself, they may be pulled out into a dressing area, or one lavatory may be placed in the bathroom and another outside the bathroom.
- Bidet is being introduced. Obviously, this additional feature is found only in the most luxurious hotels.
- A wall-hung unit makes cleaning of hotel bathrooms easier for the maid, but again, its economics will determine whether this fairly expensive type of installation is warranted. The tub in a guest room is normally a 5-ft tub.
- The normal shower head becomes standard in all hotels, although there is a growing tendency to using the so-called "telephone shower head."
- The normal wall shower head, and by using two movable shower-head supports, one at the normal hand level and one at the higher level where a fixed shower head normally would occur, the guest has the option of allowing the hand type shower head to remain in a standard position or to remove it and use it as he pleases.
- It is preferable to have a ledge on which toiletries may be placed, where they are conveniently reached, and where, obviously, they will not be left when the guest checks out.

- If a ledge is used, the toilet tissue holder can be placed within the recess of the ledge, es can be the tumbler holders and the toothbrush holders. Obviously, an electrical convenience outlet must be placed in this area for electric shavers, electric toothbrushes, and other electrical gadgets that today's traveler takes with him. A slot receptacle for used razor blades should not be forgotten. Towel bars must be strategically placed so that the guest can reach for a towel regardless of whether he is stepping out of the tub or whether he is washing or shaving et the lavatory.
- Another nicety which might be provided is some form of clothesline. With today's wash- and wear apparel, many guests, especially women, like to do their washing at night and hang their garments in the bathroom.
- A number of hotels are installing a wall-hung mirror which is an enlarging mirror on one side and a normal mirror on the other, a very nice touch for both men and women guests.

GUEST CLOSETS:

- The size of a closet will be determined by the type of hotel.
- Having the open hanging arrangements obviates this possibility. The longer the guest-room stay that is anticipated, then the larger the closet.
- It should be possible to store the luggage out of sight in the closet without diminishing the available hanging space, the shoe-rack space, or shelf space for hats and other apparel and paraphernalia. Whether the closet is a flat reach-in type or a walk-in type, the door should be such that, when the closet is opened, there are no hidden recesses where clothing may be forgotten because it cannot be readily seen by the departing guest.
- A good closet will have a hang rod with sufficient space to comfortably hold men's and women's clothes, a shelf for packages, hats, etc., and a shoe ledge or rack for placing shoes.

GUEST FLOOR SERVICESPACES:

- Every guest-room floor will have a service area.
- Primarily, it is a place where linen is stored and where the maids' carts are kept. We must bear in mind that each maid will handle anywhere from 12 to 15 rooms and that each maid will need a cart. The number of rooms on the floor will, therefore, determine the number of and, in turn, the number of carts.
- A closed storage area should be provided for the storage of linens. In addition to the maids', porters', and linen supplies, sufficient space should be left for the storage of room-service carts.
- They may have to remain on the floor for some time waiting for the service elevator or elevators. Obviously, the service elevators will open out to this service area, so that all this activity takes place out of the sight and hearing of the hotel guests.

BANQUETING FACILITIES:

- Larger hotels will have a more diversified arrangement for meetings, luncheons, dinners, and banquets. The largest hotels are usually designed with a full banqueting and convention facility.
- The normal meeting room requirements are rather simple. The rooms will vary in size to accommodate anywhere from 10 to as many as 100 people. In most instances, wherever it is feasible, the meeting rooms will be arranged in a straight line, so that the walls separating one room from the other can be made movable.
- Thus, if two meeting rooms which normally might seat 25 people are thrown open to one, we would have a meeting room to take 50 people; and if another wall is opened, we would be able to seat 75 people, and so on.
- In larger rooms, which normally qualify for conventions or large banquets, it is also possible to subdivide the space by the use of movable walls to create smaller rooms when a large room is not required. A large space which might seat 1,000 people when all folding wells have been moved back can be cut up into anywhere from four to six spaces, allowing for meeting rooms that can accommodate 150 to 250 people.
- Of course, in the really large convention halls, it will not be unusual to seat 3,000 or more people in one large convention banquet hell. Realizing that food must be brought to all these rooms, their juxtaposition to serving kitchens is highly important in arranging the plan.
- For the most part, food should be brought directly from banquet kitchens to the banquet spaces. In subdividing these spaces, the subdivision must be so planned that each space is contiguous to the kitchen and has its own doors to enable waiters to come and go between the banquet spaces and the banquet kitchen.
- Sound isolation is of the greatest importance, and this applies not only to the decibel rating of the panels themselves but also the arrangement of the joints between the sections or panels of the movable wall.
- In fairly large meeting, banquet, and convention facilities, space must be provided which is normally called "preconvention assembly space.'
- Since most of the people who are standing are those who will eventually be seated, the proportions of the preconvention foyer space will be determined by the number of people who will be eventually seated. As a rule of thumb, a person standing in fairly close quarters will take up approximately 5 sq ft. A person seated at a table will take up anywhere from 10 to 15 sq ft. A person seated for a seminar or a meeting will require 8 or 9 sq ft. It thus becomes apparent that the ideal preconvention, pre-banquet, or assembly space should be at least one-third of the area of tire actual dining and meeting spaces.
- thus becomes apparent that the ideal preconvention, pre-banquet, or assembly space should be at least one-third of the area of tire actual dining and meeting spaces,

TIME SAVER STANDARDS (BUILDING TYPES)-

RESTAURANTS:

SPACE REQUIREMENTS

- Adequacy of space will influence building and operating costs and efficiency. When space is too small, labor time end effort is likely to increase end the volume and quality of output decrease. When itis too large, building and maintenance costs are excessive.
- Calculate area requirements in terms of: (1) volume and type of service, (2) amount and size of equipment to be used, (3) number of workers required, (4) space for needed supplies, and (5) suitable traffic area. The dining area location and space allowance.

DINING ROOMS:

- Space for dining areas is usually based on the number of square feet per person seated times. Space requirements:
- The patron's size and the type and quality of service should be considered.
- A banquet seating allowance might be as little as 10sqft per seat and that for a deluxe restaurant as much as 20 sqft.
- Table 1 square feet pwe seat used for various types of food operations
- All of the areas in a dining room used for purposes other than seating are a part of square footage allowed for seating.
- Service stations may be estimated in the proportion of one small one for every 20 seats or a large central one for every 50 to 60 places. The advisability of having a central serving station will be influenced by the distance of the dining area from the serving area.
- Small substations for silver, dishes, napery, beverages ice, butter, and condiments may measure20 to 24 in. square and 36 to 38 in. high. The size of central stations varies from that for a small enclosed room to that of a screened section measuring approximately 8 to 10 ft long by 27 to 30 in. wide by 6 to 7 ft. high. Table size will influence patron comfort and efficient utilization of spaces. Smell tables, such as24 or 30in. square, are economical for seating but are uncomfortable for large people.
- The width of booths including seats and table is commonly 5h ft. A lunch counter will have a minimum width of 16 in. and a maximum width of 24 to 30 in. The linear feet are calculated 37 on the basis of 20 to 24 in. per seat. The maximum area best served by one waitress is generally 16 U-shaped counters make maximum use of space and reduce travel. Space in depth of 8'/r to 11 ft will be required for every linear foot of counter. This will provide 3 to 4 ft of public aisle, 2j&ft for aisle space for employees. A width of 41h ft is desirable where employees must pass.

- A minimum passage area is 18 in. between chairs and, including chair area, tables should be spaced 4 to 5 ft apart. Aisles on which bus carts or other mobile equipment is to be moved should be sized according to the width of such equipment.
- Diagonal arrangement of square tables utilizes space better then square arrangement and yields a more trouble-free traffic lane.

NUMBER OF PERSONS ALLOWANCE:

- The number of persons to be seated at one time is the second point of information needed for calculation of the dining room size. The total number of seats required at one time, multiplied by the space required for each seat, will give the total number of square feet needed in the dining area.
- The number of times a seat is occupied during a given period is commonly referred to as "turnover."
- The turnover per hour, times the number of seats available, gives the total number of patrons who can be served in an hour. If peak loads, or number to be served at one time, are known, the number of seats required can be estimated.
- The table sizes used in the dining room will affect occupancy. It is often desirable to provide for groups varying from two to eight, with a predominance in most dining rooms of those for two people.
- Chairs with a "tablet arm" that will fold at ray have been used for fast turnover in crowded areas.
- One cafeteria line can serve four to eight patrons per minute depending on
    - the speed of the servers,
    - the elaborateness of food selection,
    - convenience of the layout,
    - the type of patrons.
- Banquet seating requires planning because maximum seating potential means maximum profits. Folding tables 30 in. wide are popular. These are obtained in varying lengths, but 72 and 96 in. are commonly used. The spacing for the legs should be such as to allow for comfortable seating when the tables are joined end to end and place settings are laid on 24- in.centers.
- Separate rooms, folding doors, screens, or other attractive devices can be used to reduce size of an area during slack periods. Sections left open should be those easiest to serve. Balconies, backrooms, or other less desirable space can often be used for overflow numbers that occasionally require service.

PRODUCTION AREAS:

A frequently used rule for allotting a space for the kitchen is that it should be one-third to one-half the area of the dining room.

An analysis of specific needs is required. Many factors in fluence space requirements, such as:

1. Type of preparation and service

2. Amount of the total production done in the unit

3. Volume in terms of the number of meals serve

4. Variety of foods offered in the menu

5. Elaborateness of preparation and service

6. Amount of individual service given, as in a hospital ltrey service 38

7. Seating and service plan, whether on one floor or many

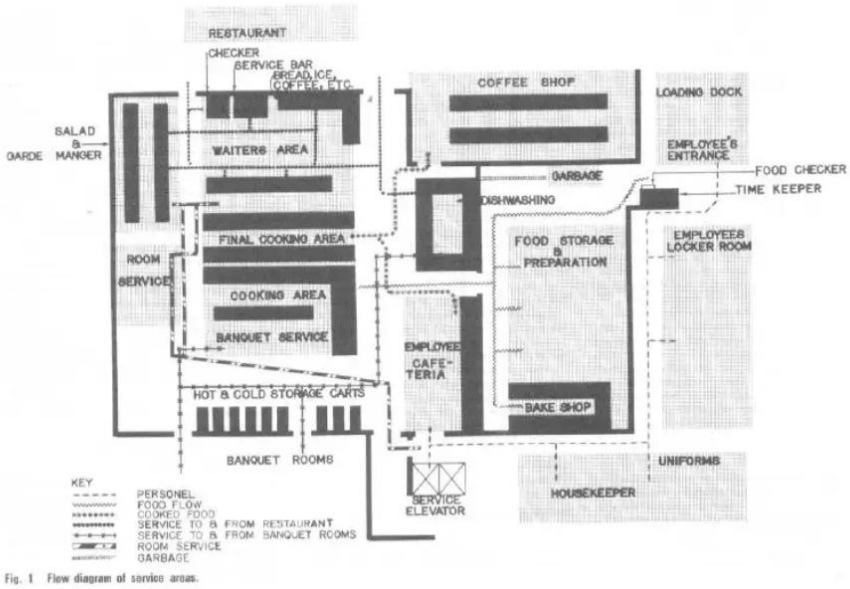


Fig. 1 Flow diagram of service areas.

Figure 4 service Area

2.4 STANDARDS

ENTRANCE

Where traffic heavy with guests carrying own bags, provide automatic doors. Separate door to baggage room in high class hotels.

LOBBY

Visual Impaction - Informal gathering

Function - Control Point

Lobby makes the single impact on the guest, so that the lobby elements and the design details are crucial to making positive and lasting impression on the guests.

Main lobby is the hub of circulation, a place of assembly, waiting, registration, account settling and information services.

Ranging from High grade city center hotel (about 1m sq per room), the lobby includes a front desk, lounge waiting area, public telephone, cloakroom and facilities for luggage handling and safe deposit.

FOOD & BEVERAGE SPACE

This includes all the areas used for receiving, storage, preparation of food & beverages for guests, general public and employees. It includes storage rooms, public dining halls, and banquets, bars, cocktail restaurant, cocktail lounge and garbage room.

The dining an area of about **16 sq ft per seat** and incase of deluxe dining it requires about **18 sq ft per seat.** Typical area of about **16 sq ft guest room** can be provided.

The kitchen can service coffee shop, banquet hall, conference halls & room service. In this case the kitchen should be 33% more than the main dining space.

A bakeshop of one type or other can be provided as **1 sq ft per guest room.**

BAR & BAR LOUNGE

The size of the bar is largely influenced by the no. of areas it serves e.g. lounge, restaurant, coffee shop, banqueting rooms and room service.

SITUATION

Counters with stools less economical of space than closely spaced tables.

Average sitting time **20 min- 3 occupants/hr** compared with perhaps 1/hr in normal restaurant.

FORMAT

The typical U format with 12 seats min length **600/P = 7200.** This length may be served by 1 waiter if meals pre-cooked.

AREAS REQUIRED

- Per seat: 1.48 – 2.15 m2.
- Ratio of service, area to total 25-50%
- Net kitchen area: 15-25%

DINING ROOMS, BUFFET, BARS, COFFEE SHOP

recommended area are

- Dining room (luxury): 1.7m sq – 1.9m sq per seat.
- coffee shops and standards restaurants: 1.3m sq per seat.
- Dance floors should not be less then 6.3m wide in any direction.

FUNCTIONAL ROOMS

Recommended areas:

- Banqueting room average floor space per person 0.80 – 1.0m sq.
- Dancing: 0.93 – 1.45m sq.
- Banquet Storage: 8% of banquet are.
- Kitchen or pantry: 20% of banquet area.

CONFERENCE FACILITIES

Important to establish a satisfactory relationship with the functioning of the hotel.

Attention should be given to circulation pattern with other function with in the hotel in particular vehicular access, parking and section in the hotel.

BANQUET ROOMS & BALLROOMS

Average floor space per person in a banquet room: 0.8 – 1.0m sq.

The rectangular and square shaped of banquets are preffered with high table on the longer side of the room.

Good daylight is not necessary in ballrooms.

Artificial ventilation is essential in all banquets to BANQUET HALL avoid stuffiness

SPACE ALLOWANCES

- Banquet style seating: Banquet style seating: 1.1 - 1.3 m2/P
- Meetings: table groups: 0.9 - 1.1 m2/ P
- Theatre style: 0.6 m2/P.

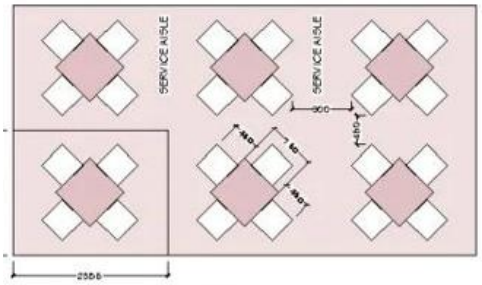
PLANNING OBJECTIVES

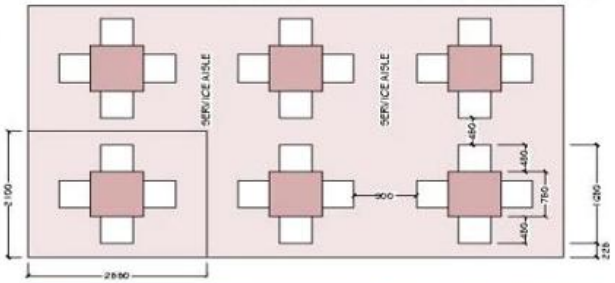
- Group all functions areas together, although in major convention hotels, some separation may be desirable.
- Provide a separate function entrance from the street or parking area.
- Should be close to Lobby.
- Provide direct access form kitchen or banquet pantry.
- Provide sufficient storage

ARCHITECTURAL DESIGN CRITERIA FOR MEETING SPACE

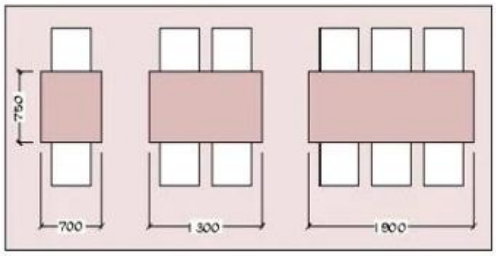
- Divisibility: divisibility: no. Of subdivisions and proportions of each no. Of dividing walls, acoustic rating of dividing storage of dividing walls.
- Proportions: location and views to head table or stage.
- Structure: structure: full span, no columns full span, no columns
- ceiling height: projection booth, use of exhibitions, projection booth, cost of divisible walls.
- Chandeliers, Floor load: Used for displays & exhibits.
- Access: to each subsection, storage, display access, storage, emergency exists.

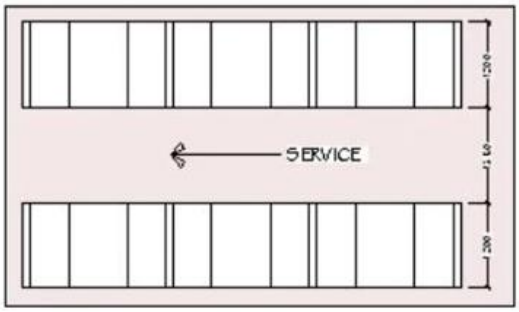
TYPICAL SIZES AND SHAPES OF DINING TABLES			
TYPE	SHAPE	MINIMUM SIZE (IN.)	SPACIOUS (IN.)
TABLES FOR 1'S OR 2'S	SQUARE	24 X 24	30 X 30
	RECTANGLE	24 X 30	30 X 36
	ROUND	30	36
TABLES FOR 3'S OR 4'S	SQUARE	30 X 30	42 X 42
	RECTANGLE	30 X 42	36 X 48
	ROUND	36	48
TABLES FOR 5'S OR 6'S	RECTANGLE	30 X 60	42 X 72
	ROUND		





AREA OF MODULE	5.35SQ.M.
AREA PER SEAT	1.34SQ.M



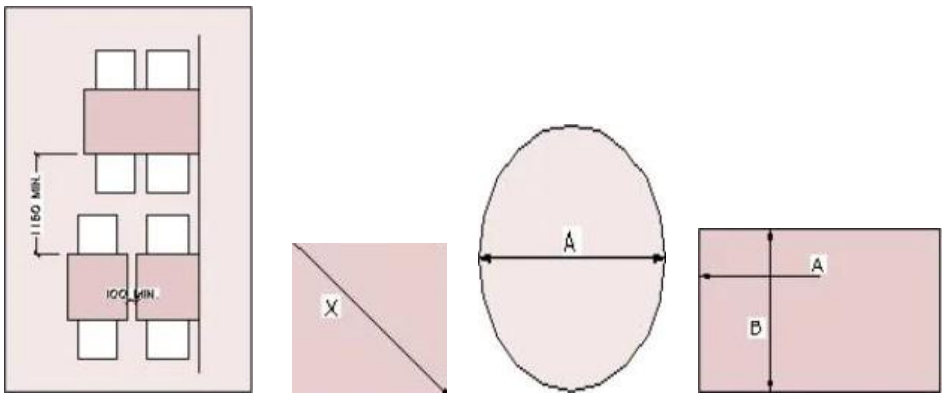


AREA OF MODULE	4.61SQ.M.
AREA PER SEAT	1.15SQ.M.

-

Figure 5 table sizes

EATING SPACE

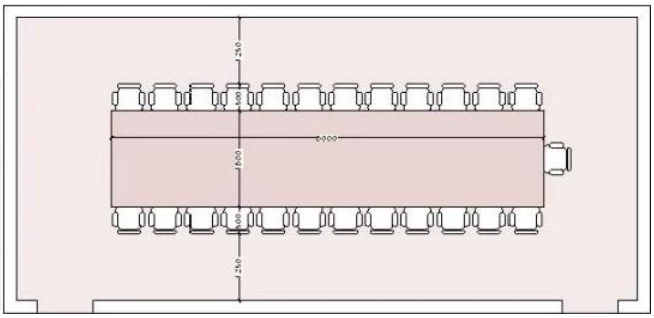


FUNCTION ROOM CHARACTERISTICS

SPACE AND USES	PRINCIPAL PLANNING REQUIREMENTS	CAPACITY FOR HOTEL TYPES	
Ballroom Meetings, banquets, receptions, exhibits	Divisibility, high ceiling, direct food access, no columns	2 x GR	
Ballroom foyer Reception, meeting registration, flow	Access to all ballroom sections and support, functions access to terraces	.2 x BR	
Banquet rooms Banquets, meetings, receptions	Divisibility, direct food access, natural light	.2-.6 x BR	
Meeting rooms Meetings, limited banquets	Built-in-audiovisual, limited divisions	.2-.4 x BR	
Board room High level meeting	Separate from other meeting rooms, built-in audiovisual, superior finishes	12-20 people	

CONFERENCE ROOM

CONFERENCE ROOM FOR 25 PERSONS	
Size Of Room	5.3 m. x 11.5 m.
Area Per Person	2.4 sq.m.



FITNESS FACILITY CHECKLISTS

HOTEL TYPE	NO. OF SPACES/ROOM	COMMENT
Boutique hotel	0.3-0.8	High factor in resort areas
Suburban hotel	1.2-1.4	Heavy local meeting and banquet use
Airport hotel	0.6-1.0	Moderate retail car use
Resort (all types)	0.2-1.4	Varies by market, location, and proximity to urba centers or major attractions
All-suit hotel	0.8-1.2	Limited F&B and function areas
luxury hotel	1.0-1.2	Limited function areas
Mixed-use hotel	0.6-1.2	Highly variable depending on other activities
Casino hotel	0.8-2.0	Varies by location

KITCHENS

The size of the kitchen required is determined by the number of workstations , the space required for equipment the range of meals and extent of food preparation. It can service coffee shop, banquet hall ,conference halls and room service. In this case the kitchen should be 33percent more than the main dining space.

PLANNING OBJECTIVES

- Straight line flow of food from storage serving.
- Eliminate cross-traffic and backtracking.
- Minimize distance between kitchen serving area and restaurant seating.
- Arrange compact work centres.

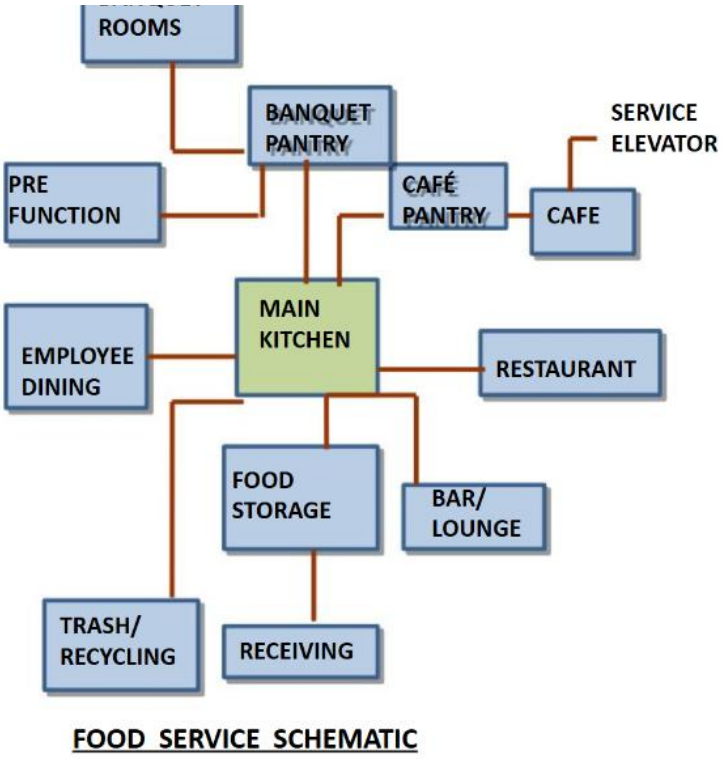
AREA REQUIREMENT

AREAS	%AGE	AREA PER PERSON(SQMTS)
FOR DINING AND COFEE SHOP	60	0.9-1
FOR COFEE SHOP ONLY	40	0.6
FOR BANQUET	8	0.24
FOOD, LIQUOR, CHINA STORAGE	50	0.5

KITCHEN SUPPORT AREAS

Place chief's office with room service area and garde-manager area close to cooking.

Figure 6 Food Service



EMPLOYEE FOOD SERVICE

- Entry from service corridor.
- Provide minimum distance from kitchen serving area and restaurant seating.
- Locate secondary storage near each station.

PROGRAM:

- 6sq ft (0.6 sq m)/ restaurant seat.
- 2 sq ft (0.2 sq m) / banquet seat.
- 1 sq ft (0.1 sq m) /lounge seat.
- 1 sq ft (0.1 sq m) /hotel guestroom.
- 30 -50% of main kitchen area is for food and Beverage storage.

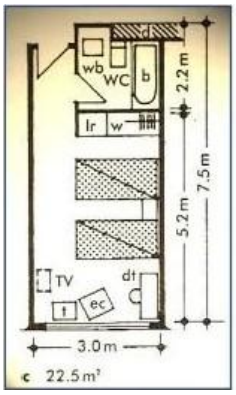
FOOP=SERVICEADJACENCIES

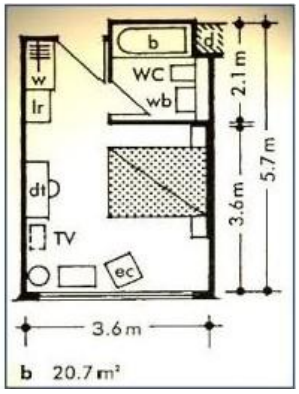
ESSENTIAL:

- Food storage main kitchen.
- Main kitchen to restaurant.
- Room service area to service elevators.
- Banquet pantry to ballroom.
- Desirable: Receiving to food storage.

- Main kitchen to banquet pantry.
- Banquet pantry to smaller banquet rooms and Pre functional area.
- Coffee shop pantry to room service area.
- Kitchen to cocktail lounge, garbage/trash holding.
- And employee dining. O

GUEST ROOMS

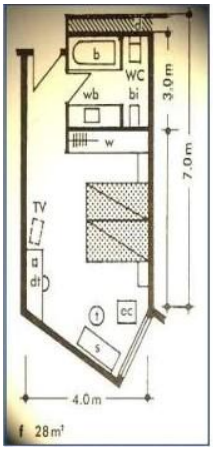


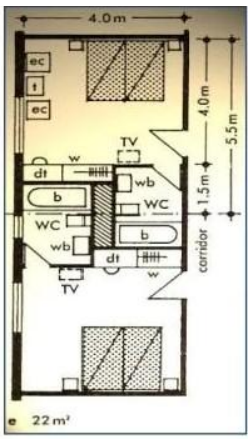


GUEST ROOMS LAYOUT

- Floor to ceiling heights are usually 2.3 - 2.5m.
- Most critical plan dimension is room width: 3.6 m (12ft) is efficient.
- Corridor space should be about 6m sq per room, with minimum width of 1.5 — 1.8 m.

GUEST BATHROOMS LAYOUT

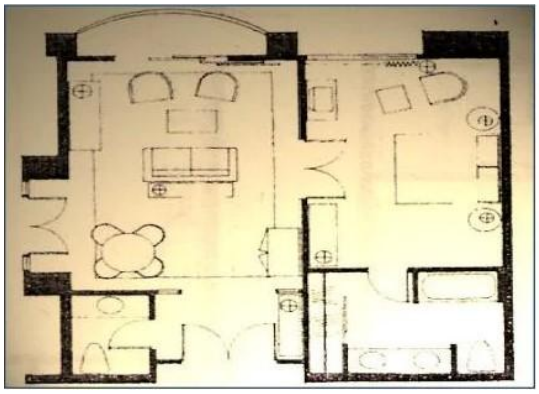


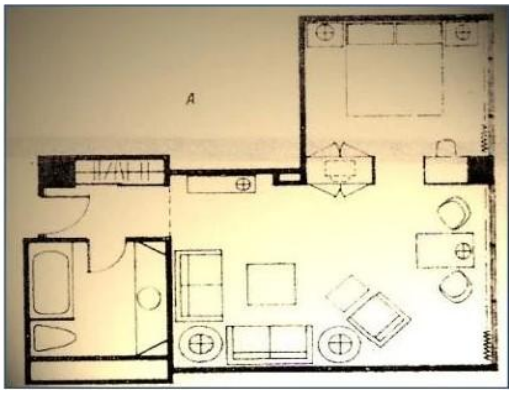


- Bathrooms are mainly sited in the interior walls.
- Adjacent pairs of rooms are arranged mirror image to share common vertical ducts.
- Typical fittings: for high grade hotel 1700mm bath, twin basins, wc, separate dressing area and shower.

GUEST - FLOOR SERVICE SPACE

- It is the place where the linen is stored and where maids' carts are kept.
- Each maid will handle anywhere from 12 to 15 rooms with a cart.
- A close storage area should be provided for the storage of linen. and specially for carts.
- Storage for toilet facilities are also provided.





LUXURY SUITES.

DIFFEReNT LAYOUT OF ROOMS

	LIVING AREA		BATHROOM		TOTAL GUESTROOM	
	DIMENSIONS (FT)	AREA (SQ.FT.)	DIMENSIONS (FT)	AREA (SQ.FT.)	DIMENSIONS (FT)	AREA (SQ.FT.)
BUDGET	11.5 x 15	172	5 x 5	25	11.5 x 20.5	236
MID-PRICE	12 x 18	216	5 x 7.5	37	12 x 26	312
UPSCALE	13.5 x 19	256	5.5 x 8.5	47	13.5 x 28.5	378
LUXURY	15 x 20	300	7.5 x 9	71	15 x 30	450

Notes: 1. Living area does not include the bathroom, closet or entry.
2. Budget guestroom bath includes tub/shower and toilet but the washbasin is part of the dressing area.
3.Dimensions & Layout of rooms depend upon the size and Nos. of Beds:

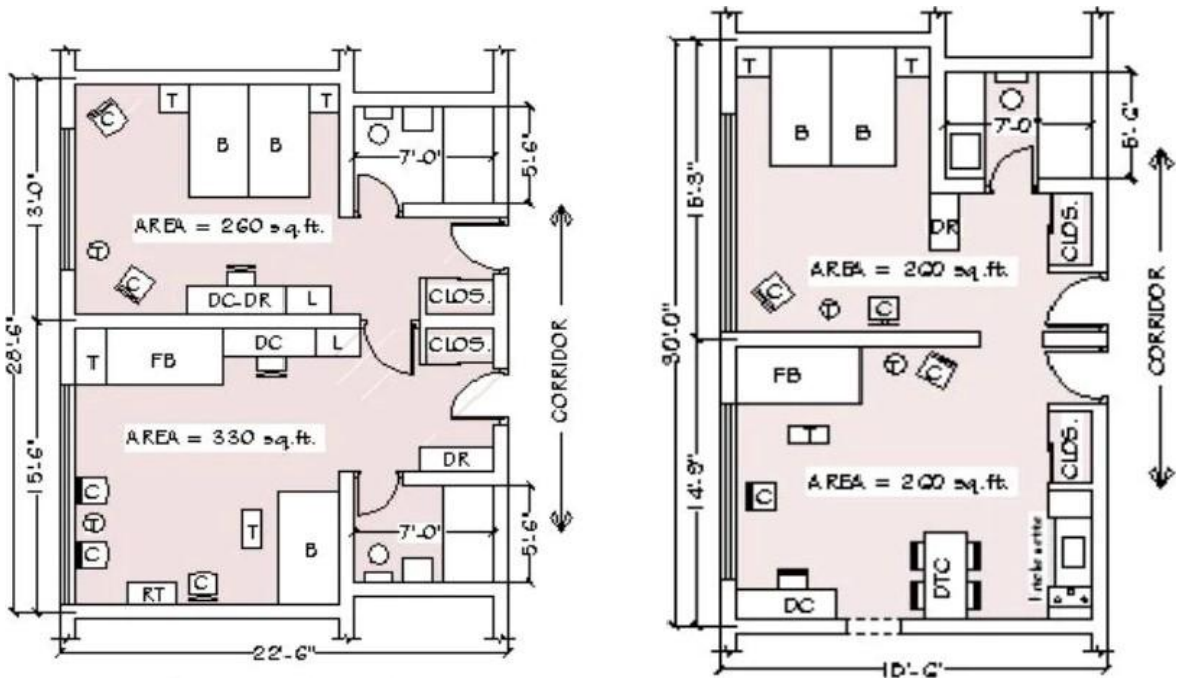


Figure 7 Guest room Layout

ORIENTATION/SITTING

- Consider solar gain, generally N/S preferable to E/W exposures.
- Analyze loading of wind.
- study the potential of guest room views.
- Site the structure to be visible from the road.
- Access the relative impact and construction cost of various guest rooms.

FLOOR LAYOUT:

- Organize plan so that guest rooms occupy at least 70% of GROSS FLOOR AREA. •Locate elevators and stairs at interior locations rather than exterior walls.
- Develop corridor plan to facilitate guest circulation. facilitate guest circulation.
- Linen storage and duties in central location.
- Plan corridor width at 1.5 m (minimum) to1.6 m (minimum).
- Plan guest room distance to exist stairs at 150 exist stairs at 150' (30m) maximum.
- Design guest rooms back to back for planning economics.

ELEMENTS FOR COMPLETE GUEST ROOM DESIGN

- Case pieces - Desk, dresser, tables
- Soft goods -Bedspreads, upholsteries.
- Lighting Lamp at beside desk
- Accessories - Mirrors, art, planters.

GUESTROOOM FINISHES:

- Floor -Generally carpeted
- wall - Vinyl wall covering or paint
- Ceiling —Acoustical treatment
- Doors -Wood, pre-finished

BATHROOM FINISHES:

- Walls Ceramic or marble tile.
- Floor -Ceramic Tiled

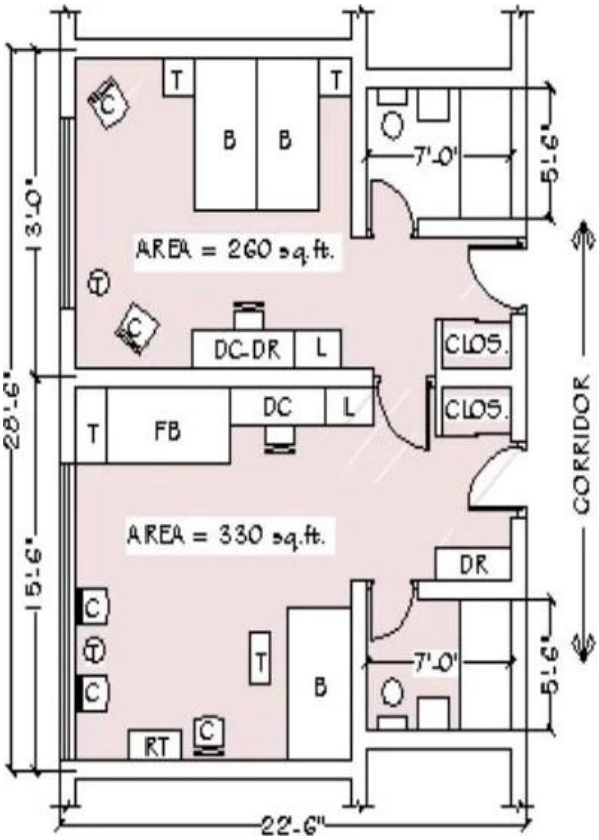
KEY TO FURNITURE	
B	SINGLE BED
FB	FOLDING BED
C	CHAIR
T	TABLE
DTC	-DINING TABLE & CHAIR
DC	DESK & CHAIR
DR	DRESSER
L	LUGGAGE RACK
RT	RADIO-PHONOGRAPH OR TELEVISION

ACOUSTICS

Guest rooms wall should be designed so that it does not transfer sound from one room to another.

MECHANICAL/ ELECTRICAL:

- Cable - TV, Telephone, Fire Alarm, Other communication Systems.
- Mechanical -HVAC integrated with room layout bathroom exhaust.
- Fire protection One smoke detector and sprinkler, furnishings of fire retardant capacity.



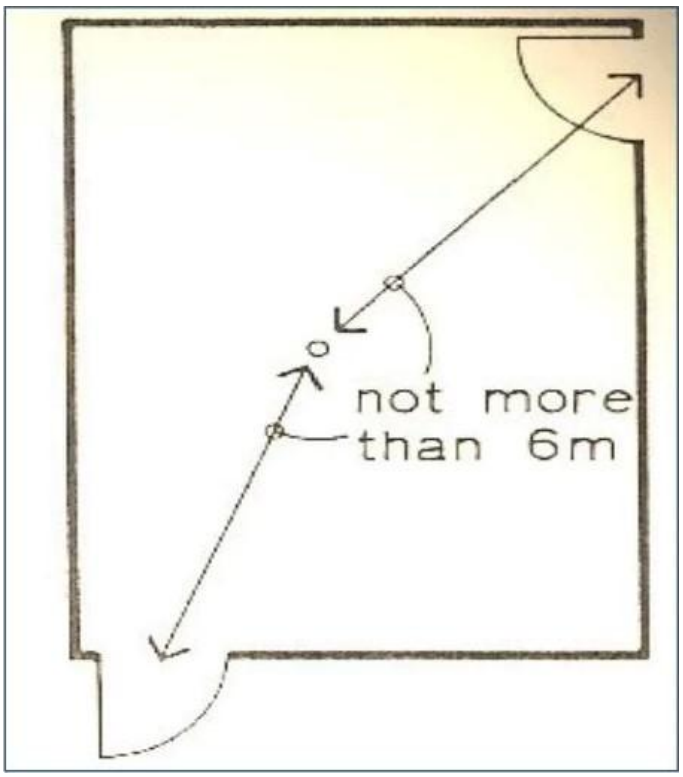
GUEST BATHROOMS

- bathroom of the 5 x 8 ft. dimensions is still used today and accommodates comfortably the standard three fixtures.
- But competitive pressure, and marketing, and guests' eagerness for something better than they have at home, has pushed the first-class and luxury operators to add fixtures and other amenities.

GUEST - ROOM FLOOR PLANNING OBJECTIVES SITTING AND ORIENTATION

- Site the guestroom structure to be visible from the road.
- Orient the guest room to enhance view.

- Position of the guestroom structure to limit its
- structural impact on the ballroom and other major public spaces.
- North south orientation is preferable. economies.



FLOOR LAYOUT

- Outside wall for guestroom.
- Develop the corridor plan to facilitate guest and staff circu lation.
- Place the lobby in the middle-third of the structure.
- Provide the service elevator, linen storage in a central location.
- Design the guest bathroom back to back for plumbing

	LIVING AREA		BATHROOM		TOTAL GUESTROOM	
	Dimensions (ft)	Area (sq.ft.)	Dimensions (ft)	Area (sq.ft.)	Dimensions (ft)	Area (sq.ft.)
BUDGET	11.5 x 15	172	5 x 5	25	11.5 x 20.5	236
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UPSCALE	13.5 x 19	256	5.5 x 8.5	47	13.5 x 28.5	378
LUXURY	15 x 20	300	7.5 x 9	71	15 x 30	450

CIRCULATION:

THERE ARE THREE PATTERNS:

GUEST:

car park / garage — main entrance/ subsidiary entrance — reception — lifts - / staircases — corridors — bedrooms / public rooms. Guest leaving the bedroom must pass through reception before returning to the car park..

STAFF:

Staff accommodation — staff entrance — changing rooms- kitchen/ service rooms — service lifts.

DELIVERIES:

Guest luggage — main entrance — luggage lift — bedrooms — luggage rooms. Food, drink, stores — deliveries entrance — bulk stores — various departments. Rubbish — back entrance — bins / area — chutes for rubbish; linen store — guest room — laundry— linen store

FIRE PRECAUTIONS

TRAVEL WITHIN ROOM:

One exit: no point more than 9m from the exit.

In larger room not more than 18m.

Three exit: 30.4 m

TRAVEL FROM ROOM TO FINAL EXIT:

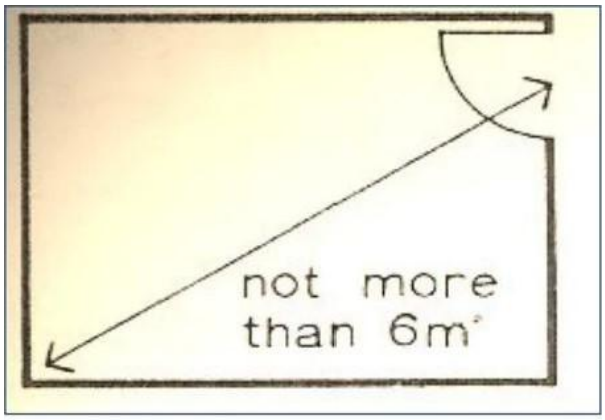
18m from any exit.

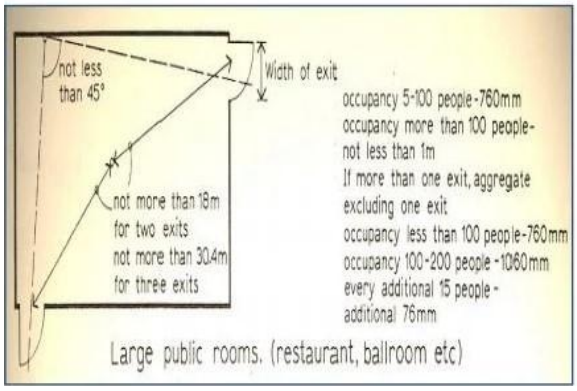
7.6 m with cul-de-sac corridor on ground floor.

EXIT WIDTH:

For 5 people: 760mm.

For 100 people: 1m.





For 200 people: 1.060m.

STAIRWAYS:

Necessary to pass a stairway to reach an alternative escape routes.

Stairway should be enclosed by fire resisting construction.

LAUNDARY & HOUSEKEEPING

The area requirements

Essential:

3 Linen chutes to soiled linen area. Soiled linen area to laundry

Desirable:

Laundry to housekeeping (linen storage)

45 DEGREE PARKING						
	A	B	C	D	E	F
IN OPEN	3390	5500	2400	3890	5500	2800
IN BUILDING	3000	4600	2300	3260	5000	2800

Housekeeping to uniform issue

Uniform issue to employee lockers
Housekeeping to service elevators

LINEN STORE:

- It is a separate closed room provided for storing the linen at various places.
- Space must be allowed for:
- Room attendant carts which is calculated as 1 cart per 12 to 18 rooms and some additional carts in reserve.
- Carts and trolleys typically 24' wide.

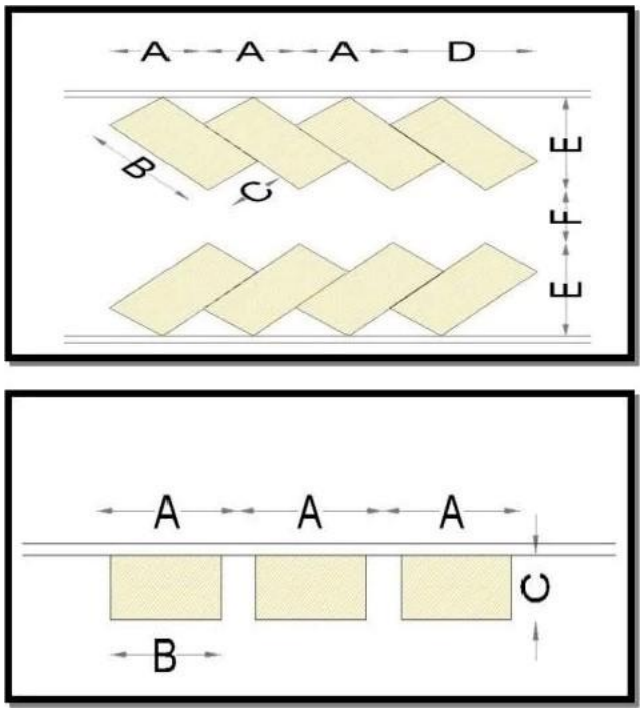
PARKING

- Parking lots „requires 350 sq ft as a rough figure.
- The area per car varies from 280 sq ft to 585 sq ft
- The central drive way with two rows of cars and 90degree parking gives the best economy. But requires more space.
- In Designing parking spaces, end stalls should be about I feet wider than the usual.
- Parking spaces under building, Access drives should be 20 feet wide for one-way traffic.
- If a restricted site frontage requires a right-angle turnoff, the drive way should be 25 ft.

The following steps describe an approach to calculating parking requirements based on the changing needs of the guestrooms and other hotel facilities throughout the day.

PARALLEL PARKING			
	A	B	C
IN OPEN	6100-6700	5500	2400
IN BUILDING	5800	4600	2200-2300

The maximum parking demand in most properties is created not by the rooms but by the meeting & banquet space .the provision of parking must recognize the sum of the various components & the interrelationship of the peaks & valleys over a 24hour period.



PART-I

Determine the components of the parking requirement overnight guests, restaurants & banquet patrons, meeting attendees & other visitors

PART-2

Calculate the maximum numbers of cars that might be reasonably anticipated, planning to accommodate full demand on 80-85 % of all days, but not peak demands for each. The equation of calculating the guest parking is as follow:

SERVICES

ENGINEERING AND MECHANICAL AREAS

The back-of-house final area contains three related functions supervised by the hotel's chief engineer:

$$\frac{\text{(Rooms) X (\% Occupancy) X (People/Room) X (\% By Car)}}{\text{People/Car}}$$

- engineering offices, repair and maintenance shops, and
- mechanical and electrical areas.

The mechanical equipment areas do not need to be immediately adjacent to the other service areas, although they should be close to the laundry, kitchen, and other high-energy use areas for most effective operation.

In fact, the equipment rooms can be organized along a separate service corridor for better control and supervision.

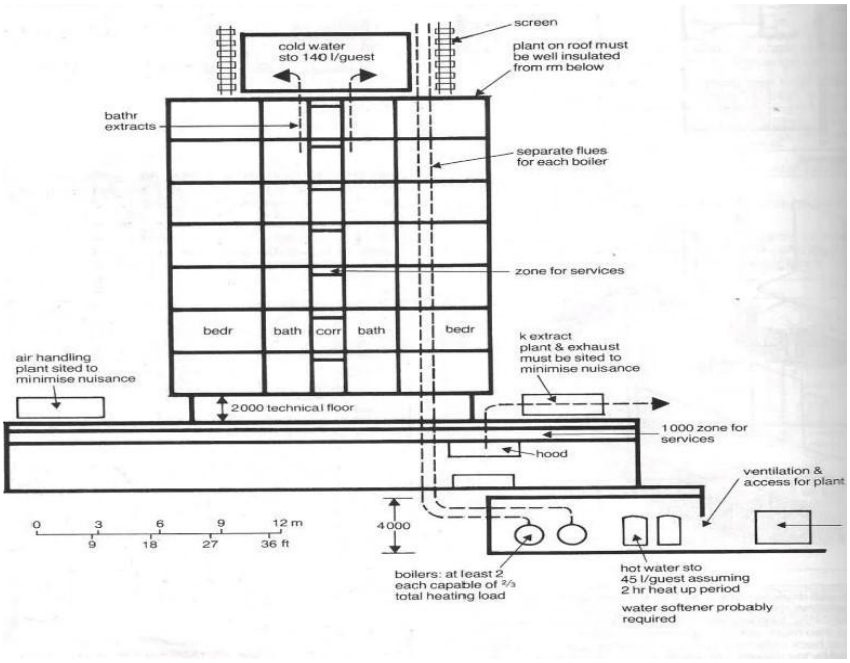
However, the engineering function operates 24 hours a day and thus must be directly connected to back-of-house areas and to the service elevators.

ENGINEERING OFFICES

Location of the secretarial area should be such so as to control all access to the shops and mechanical areas.

•Group engineer, assistant's offices, and record and drawing storage should be around control area.

•Energy management computer room should be provided as required.



ENGINEERING AREAS ADJACENCY DIAGRAM

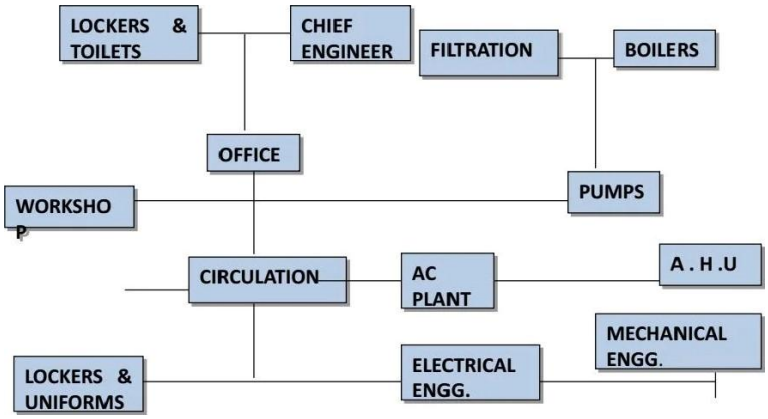


Figure 8 Flowchart

The Mechanical and engineering areas should be located close to each other for better control and supervision.

The area requirements for the mechanical and electrical areas vary considerably, depending on such factors as climate, size of hotel, type of construction, orientation, andoperational objectives. Plans for the engineering spaces should include the following consideration:

MECHANICAL / ELECTRICAL AREAS:

Mechanical areas should be located so that noise and vibration do not affect guests.

The areas should be located in a way such that large equipment can be replaced reasonably easily.

Flow Diagram for Electricity Supply:

In multistory buildings, there is a very large requirement of electricity. To transfer the enormous amount of electricity, vertical bus bars (solid copper rods) are fitted in bus ducts. Some times bus cables are also used. Current at various levels is drawn from these bus bars and sent to the distribution boards.

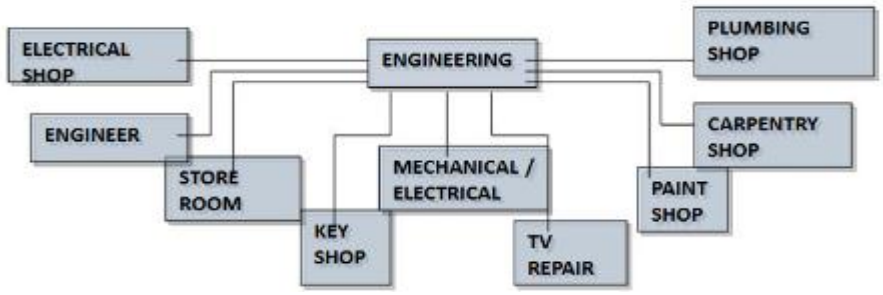


Figure 9 Electricity Supply

ELECTRICAL DISTRIBUTION SYSTEM:

ELECTRICAL SUPPLY

Electrical transmission is at high voltage, i.e. at 66,000 volts. It is stepped down to 33,000 volts; incoming power to substation can be 33,000 volts or 11,000 volts. For lower voltage tariff is higher. User requirement is 440 volts. At the boundary, dropout switch is provided. Armored cable (insulated with steel coil) are linked to substation.

SUBSTATION

Most power authority requires substation on the ground floor level. If there are two basements, substation can be persuaded in the upper basement. It should be accessible directly from ground floor level. Substation houses heat producing and vibration transformers. Intakes requirement if the substation is owned and operated by the local electrical board.

Their major components of the substation are:

High tension room

Transformer

Low tension room

SOIL PIPE SYSTEM

There are two types of soil pipe system generally used for collection and disposal of soil and waste water from various toilet fixture in a building, Each system is adopted in accordance with the local bye-laws, materials available, planning of toilet layout etc.

BASEMENT DRAINAGE:

In basement mere provision of pump is not enough. Suitable drains, drains, either open channels with cast iron grating or pipes with inlets at reasonable intervals have to be provided, the flooring must be sloped towards these drains to avoid stagnation of water in the floors.

DRAINAGE WASTE WATER DISPOSAL:

Hotel buildings have basically five major system of drainage as follows:

- Soil and waste pipes
- Drainage piping at basement ceiling levels from upper floors
- Basement drainage
- External drainage
- Rain water disposal

WATER SUPPLY SYSTEM

Large quantities of water are required in a hotel for personal use, food preparation, cleaning and general domestic purpose and possibly also for cooling and softening plant, boilers and air-conditioning.

AVERAGE QUANTITY REQUIRED PER HEAD PER DAY OF COLD WATER:	
HOTEL GUESTS	135 LITERS

These days there is an increasing trend to adopt Hydro pneumatic Systems and avoid overhead tanks. This system consists of a tank of adequate size with compressed air to maintain the pressure range in the tank. Water is pumped into the tank against the pressure to a predetermined level. The water is then forced out by pneumatic pressure to serve the fixtures connected to the system.

The main advantages of this system are:
Eliminates the O/H tanks
Uses same pipe sizes
Equal pressure at all points

DISCHARGE RATES OF VARIOUS OUTLETS (HOT WATER AND COLD WATER):	
BATH	0.40-0.30 LIT/SEC
LAVATORY BASIN	0.10-0.20 LIT/SEC.
SHOWER SPRAY	0.10 LIT/SEC
DOMESTIC TANK	0.30-0.20 LIT/SEC.
WC FLUSHING CISTERN	0.10 LIT/SEC.

SUPPLY TEMPERATURES:	
GUEST ROOM HOT WATER	50º C
FOR DISHWASHING TEMPERATURES:	60ºC
CHILLED WATER FOR DRINKING	10º C

Constant pressure at all points

Cost of O/H tank is eliminated

Load of O/H tank with water is eliminated thus reducing danger during earthquakes.

The inputs required for designing such a system are:

- Type of Building
- Height of building with no. of utility points
- Pressure required at utility points
- UG Tank capacity and depth
- Distance of UG Tank from the main building, if any.

Large quantities of water are required for personal use, food preparation, cleaning, firefighting, cooling and softening plat, boiler laundry, swimming pool and recreational use.

AIR CONDITIONING

Air conditioning is defined as the simultaneous control of temperature, humidity, cleanliness and air motion within an enclosure. It comprises of AC as well as ventilation inside the whole building.

The services inside the five-star hotels are mainly concentrated in the basement. The air conditioning system generally adopted in a hotel is the —

CENTRAL AIR CONDITIONING - CHILLED WATER SYSTEM.

The whole air conditioning is divided into mainly two parts are: >Air conditioning for guest rooms.

Air conditioning for public spaces like lobby, restaurants, ballrooms, conference

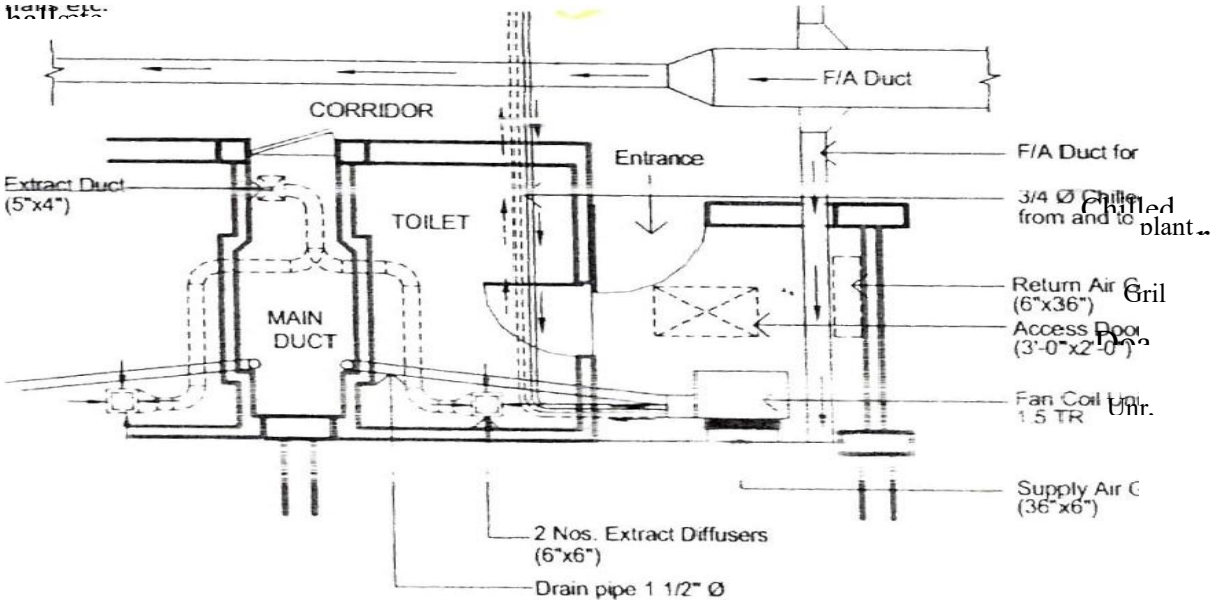
AIR CONDITIONING FOR GUEST ROOMS

Air conditioning is done by Fan Coil Units, which is basically re-circulates air from room, to which fresh air is added over a heating or cooling coil. They may be sited under the window or on the adjacent party wall or in the lowered ceiling space above the bathroom or entrance vestibule (mounted horizontally).

Primary air is supplied from central plant through ducts.

AIR-CONDITIONING SYSTEM SELECTION:

Depending upon the type of the load and use, following are suitable air-conditioning system:



Load	Units Suitable
a. Up to 5 tons	Window units
b. From 5 to 40 tons	Package units
c. From 40 to 100 tons	Direction expansion plant
d. Greater than 100 tons	Central

system in any medium sized hotel, air-conditioning load required is greater than 100 tons, we have to go for chilled water system with air handling units and individual room control with fan coil units of the Central plant, is available in compressor.

MAJOR COMPONENTS OF AIR CONDITIONING SYSTEM ARE

- Air-conditioning plant room
- Air-handling unit room
- Fan coil Unit
- Cooling Tower

AIR- CONDITIONING PLANT ROOM:

- Area requirement 100 tons requirement per about 100 sqm.
- 45% investment goes in plant room.
- Height for air- conditioning system = 4.2m.
- This room should be totally enclosed, should have artificial light and mechanical ventilation.
- Plant rooms should be acoustically treated, the treatment is in form of polythene lining covered with perforated aluminum sheet.

AHU ROOM:

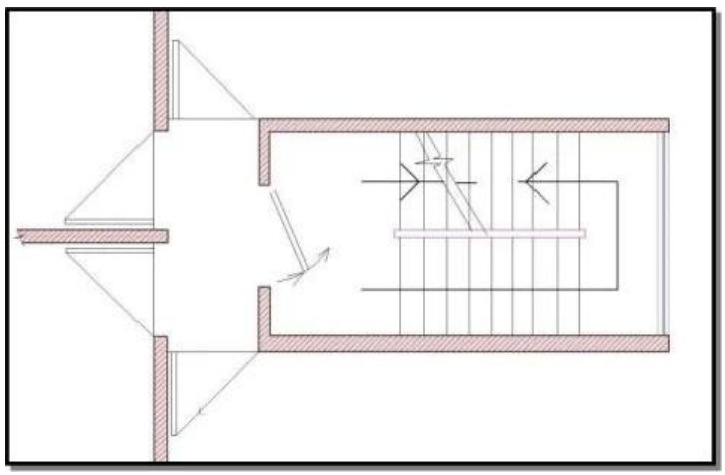
- 4.5sqm or 45sqft approx. for every100sqm or 1000sqft of air-conditioned space.
- building space is valuable, the number of AHUs are less.
- Instead more powerful handlers are used which can serve many floors by means of vertical ducts,

FIRE SAFETY

Fire safety is of prime importance in case of a multi-storey. Some design and construction which have to be kept in mind:

SEPARATION WALLS:

- Fire-resisting separation walls are provided which sub-divide the building.
- They must start at foundation and go up to the roof level through all storey with a thickness of 9"



ENCLOSED STAIRCASE AND LIFT LOBBIES:

- The essential purpose of the really fireproof bldg.is to completely isolate each storey's
- To achieve this all the communication between the floors such as staircase, lift lobby, corridors and all shafts must be properly enclosed

CENTRALISED AIR-CONDITIONING SYSTEM:

- Since a fully air-conditioned building is completely enclosed so chances of fire are more since heat cannot escape. At is advisable to separate air-handling system for each floor.
- The escape routes (stairs, lifts) should be avoided far away.
- The materials used for insulating ducting should have high resistance to smoke and heat
- Fire dampers should be provided within the ducts which can automatically and manually be shut off.
- AII openings around the ducts should be sealed properly.

LIFT ENCLOSURE:

- The walls enclosing the lift shaft should be fire-resistant at least I hour
- At least one lift (preferably fire lift must have a landing door with a fire —resistance of I hour.
- automatic closing device which would ensure smoke tightness is necessary.

BASEMENTS:

- They must be provided with vents having cross-sectional area of not less than 2.5% of floor area
- Basements which cannot be naturally ventilated at all, should be provided with mechanical device to extract air and should be designed to operate effectively in case of fire.

SERVICE SHAFTS:

- The service shaft enclosure must have at least one hour fire-resistance >The shaft for electrical cable must be kept separate and

SPECIAL EQUIPMENT & APPLIANCES:

FIRE ELEVATORS:

- At least one of the lifts should be designed to meet such requirements.
- Independent source of supply of electricity should be there for this lift.
- It should be large enough to carry as many as 10-12 PPI. To expedite the evacuation.
- It should be a high speed elevator to reach the top most floor in one minute.

FIRE FIGHTING PUMP AND EXTRA WATER STORAGE TANKS:

- The capacity of the tank is dependent upon the size of the size of the building and may vary from 45,000 to litres
- The supply can either be stored at ground level or upper level.
- A special pump is provided on the fire tank and a 100 to 150 mm dia pipe serves as a delivery line.
- The capacity of this pump is such that it can supply 1,200 to 2,400 litres of water per minute under a pressure of 1.4 to 3.2 kq/sq.cm on the top.
- The delivery line known as wet or dry riser is usually located in the main staircase lobby of the building with an outlet on each floor known as internal hydrant.

- A hose pipe is provided on each floor in a glass cupboard for spraying water.

FIRE LIFTS:

- For buildings taller than 24 mts atleast one of the lifts should have an independent control system from the ground floor.
- Should be high-speed so as to reach the topmost floor within one minute.

PLACING OF ELEVATORS:

The following arrangement is recommended for elevators:

AUTOMATIC SPRINKLERS:

- This system consists of closely/regularly spaced pipes under the ceiling in all or the most hazardous parts of the building.
- They work in accordance to smoke and heat detectors.
- The sprinkler head has a combustible plug.
- The plug is designed to open at a perdetermined temperature of 70 degreee-75 degree Celsius.

FIRE PROTECTION OF LIFTS

- An order to make the lift shaft fire-proof, the doors of the car should be fully closed type
- They are supposed to have a fire resistance of at least I hour

MACHINE ROOM:

- The clear height from the top floor to the bottom of the machine room should be 3.9 mts

LIFT PIT:

- The depth of the lift pit should be 1.4 mts to 1.5 mts and should be fire-resistant.

Means of Access

For plot development of uses other than residential, the following minimum width corresponding to the length of the means of access shall be followed:

For high rise buildings and buildings other than residential, the following additional provisions shall be ensured:

The width of the abutting main street shall not be less than 12 m and one end of this street shall join another street not less than 12 m in width.

The approach to the building and open spaces on all sides up to 6 m width and the layout shall be done in consultation with Chief Fire Officer of the city.

The main entrance to the plot shall be of minimum 6 m width to allow easy access to fire engine.

Minimum Setbacks

Setbacks based on Plot Sizes

The following table may be referred for deciding the minimum setbacks for different size plots in various use zones. The size of plots should be decided after taking into account the provisions of National Housing Policy and Urban Land (Ceiling and regulation) Act. The setbacks, if necessary, may be changed depending upon the local situations and specified in the Development Plans and Building byelaws.

Sr. No.	Plot Size (in sqm)	Front (m)	Rear (m)		Side (m)	Side (m)
			Plains	Hill Towns	Plains	Hill Towns
1.	Upto 60	0	0	2	0	1.5
2.	Above 60 and upto 150	3	0	2	0	1.5
3.	Above 150 & upto 300	3	3	3	0	1.5
4.	Above 300 & upto 500	3	3	3	3	3
5.	Above 500 & upto 1000	6	3	3	3	3
6.	Above 1000 & upto 2000	9	3	3	3	3
7.	Above 2000 & upto 4000	9	6	6	6	6
8.	Above 4000 & upto 10000	9	6	6	6	6
9.	Above 10000	15	9	9	9	9

Source: UDPFI Guidelines 1996.

Table 1 Minimum Setbacks

Setbacks with respect to Abutting Road Width

- Front Setback

Sr. No.	Front Setback (m)	Width of street fronting the plot (m)	Remarks
1.	1.5	Upto 7.5	For buildings upto a maximum height of 7 m
2.	3.0	7.5 to 18	
3.	4.5	18 to 30	
4.	6.0	Above 30	

Table 2 front setbacks w.r.t. abutting road width

- Rear and Side setback for building heights above 10 m

Sr. No.	Height of Buildings (m)	Side and rear setbacks (m)	Other Controls
1.	10	3	➢ For buildings above 24 m in height, the minimum front setback shall be 6 m. ➢ Where rooms do not derive light and ventilation from the exterior open space, the width of such space shall be reduced by 1 m subject to a minimum of 3 m and maximum of 8m. ➢ Alternative setbacks for tower like structures o Upto height of 24 m with one setback: Minimum 6m o Between 24 m and 37.5 m with one setback: Minimum 9 m o Above 37.5 m with two setbacks: Minimum 12 m
2.	15	5	
3.	18	6	
4.	21	7	
5.	24	8	
6.	27	9	
7.	30	10	
8.	35	11	
9.	40	12	
10.	45	13	
11.	50	14	
12.	55 and above	16	

Source: NBC, 2005.

Table 3 Rear & setback w r t abutting road width

The open areas provided in the buildings can be used for the following permissible activities:

- Garden, rockery, water well and well structures, plant nursery, water pool, swimming pool (if uncovered), platform around a tree, landscaping, tank, fountain, bench, chabutra with open top and unenclosed on sides by walls and the like.
- Drainage culvert, conduit, catch pit, gully pit, chamber, gutter and the like.
- Compound wall, gate, un-storied porch and portico, canopy, slide, swing, uncovered staircase, ramps areas covered by chajja and the like.
- Watchmen's booth, suction tank and pump-house, garbage shaft, sanitary block, parking lock up garages, electric cabin or substations and such other utility structures meant for the services of the building under consideration.

Fire fighting

The CPHEEO Manual recommends fire-fighting water demand as a function of population, i.e. water demand for fire-fighting purpose = $100\sqrt{P}$, where P stands for forecasted population may be adopted for communities larger than 50,000. It is desirable that one-third of fire-fighting requirements from part of the service storage. The balance requirement may be distributed in several static tanks at strategic points. These static tanks may be filled from nearby ponds, streams or canals by water tankers wherever feasible. The pressure required for fire-fighting would have to be boosted by fire engines.

Solid Waste Management

Municipal Solid Waste (MSW) is the trash or garbage that is discarded day to day ina human settlement. According to MSW Rules 2000 MSW includes commercial and residential wastes generated in a municipal or notified areas in either solid or semisolid form excluding industrial

hazardous wastes but including treated bio-medical wastes. Waste generation encompasses activities in which materials are identified as no longer being of value (being in the present form) and are either thrown away or gathered together for disposal. The following table indicates the waste generation per capita per day for estimation and forecast of waste generation for future for planning purposes:

BYELAWS

BUILDING BYELAWS

Zoning

The plot must be in a designated commercial, hospitality, or mixed-use zone as per Jabalpur's development plans.

Land use conversion

If the site was previously agricultural or residential, land-use conversion approvals from local authorities are necessary.

Floor Area Ratio

FAR varies between 1.5 to 3.0 depending on location, plot size, and road width. Approval from Jabalpur Municipal Corporation is mandatory.

Ground coverage

Ground coverage typically ranges from 30% to 40%, ensuring that a portion of the land remains open for landscaping, access, and other services.

Setbacks

• The setback requirements for hotel projects are determined by the size of the plot and the width of the adjacent road:

• Front Setback: Typically ranges between 6 and 9 meters, depending on the road classification (local roads will have smaller setbacks, while highways will require larger ones). • Side and Rear Setbacks: 5 meters on either side of the building to ensure sufficient space for services and access around the structure.

Building Height:

The height of the building is governed by the FAR and local building regulations. Hotels are permitted to rise to 30 to 40 meters (8 to 10 floors).

Parking Regulations

Critical for 5-star hotels. According the Madhya Pradesh Bhumi Vikas Adhiniyam and National Building code:

1. The minimum parking requirement is one parking space for every two guest rooms. This 34 includes parking for guests, visitors, staff, and additional services such as restaurants or banquet halls.

2. A significant portion of parking must be reserved for staff and service vehicles.

3. Hotels must also provide designated parking spaces for the differently abled near the main entrance. These spaces should be at least 5% of the total parking availability.

4. Basement levels are often utilized for parking and service areas, though the basement area should not exceed the ground floor footprint.

Open Spaces and Landscaping

As per the Madhya Pradesh Bhumi Vikas Adhiniyam , a minimum of 10% to 20% of the plot area should be dedicated to open spaces. These open areas are important for landscaping, green spaces, and outdoor amenities such as gardens, courtyards, or water features. Landscaping should complement the natural environment, incorporating trees, shrubs, and water bodies that reflect the local climate and ecological balance. The boundary wall around the hotel plot can be a maximum of 2.4 meters in height. A green buffer zone is usually required around the perimeter of the site to create a natural buffer between the hotel and surrounding areas.

Environmental Clearance and Energy Conservation

For hotels with a built-up area exceeding 20,000 square meters,

1. Environmental Clearance is mandatory, as per the Environmental Impact Assessment (EIA) notification. This clearance is granted by the State Environment Impact Assessment Authority (SEIAA) after assessing the environmental impact of the project.

2. Energy conservation is essential, and hotels must comply with the Energy Conservation Building Code (ECBC). This includes the use of energy-efficient lighting (LEDs), heating, ventilation, and air conditioning (HVAC) systems, as well as insulated glazing and renewable energy solutions like solar water heaters.

Water Supply, Rainwater Harvesting, and Sewage Management

1. The requirement for 5-star hotels may range from 250 to 400 liters of water per guest per day, considering the extensive facilities available. 2. Rainwater Harvesting is mandatory. Hotels must install a rainwater harvesting system that captures rooftop runoff, with the collected water stored for non-potable uses such as irrigation and cooling. This system should cover at least 50% to 70% of the rooftop area. 35 3. A Sewage Treatment Plant (STP) must be installed on-site to treat all wastewater generated by the hotel. The

treated water should be reused for landscaping, toilet flushing, and cooling tower operations, as per the standards set by the local Pollution Control Board.

Fire Safety

Fire safety regulations are governed by Part 4 of the National Building Code (NBC). The following are mandatory for hotels: Fire Exits and Staircases: Every floor must have at least two fire exits, and staircases must be at least 1.5 meters wide. These staircases should be fire-resistant and lead directly to a safe exit. Fire Suppression Systems: Automatic sprinklers, fire hydrants, and extinguishers must be installed throughout the hotel. Public areas, rooms, and corridors must have smoke detectors and manual fire alarms linked to a centralized fire alarm system. Evacuation Plans: Clearly defined and prominently displayed emergency evacuation plans are required on each floor, with regular fire drills conducted to ensure preparedness. Fire Department Clearance: Approval from the local fire department is necessary before the hotel can begin operations. This involves a thorough inspection of all fire safety measures.

Accessibility and Universal Design / Differently abled

friendly Universal access is a legal requirement for all public buildings, including hotels. The following are mandatory for ensuring the hotel is accessible to differently-abled persons:

Ramps and Access Points: Ramps with a gradient of 1:12 should be provided at all major entry points.

Accessible Rooms: At least 5% of the total number of rooms must be fully accessible, including features such as wider doors, accessible bathrooms, and grab bars.

Elevators and Lifts: All lifts must comply with NBC standards. At least one lift must be fire-resistant and sized to accommodate wheelchairs

CHAPTER III

SITE INVENTORY

Bhopal is in the centre of India and is the capital of Madhya Pradesh. The city is approximately 463 square kilometres big. Bhopal is on the Malwa Plateau and is surrounded by hills. It has two big lakes, the Upper Lake and the Lower Lake, which is why it is called the City of Lakes. Because it is in the middle of India, it is a strategic centre for business, transportation, and government.

3.1 SITE DIMENSIONS

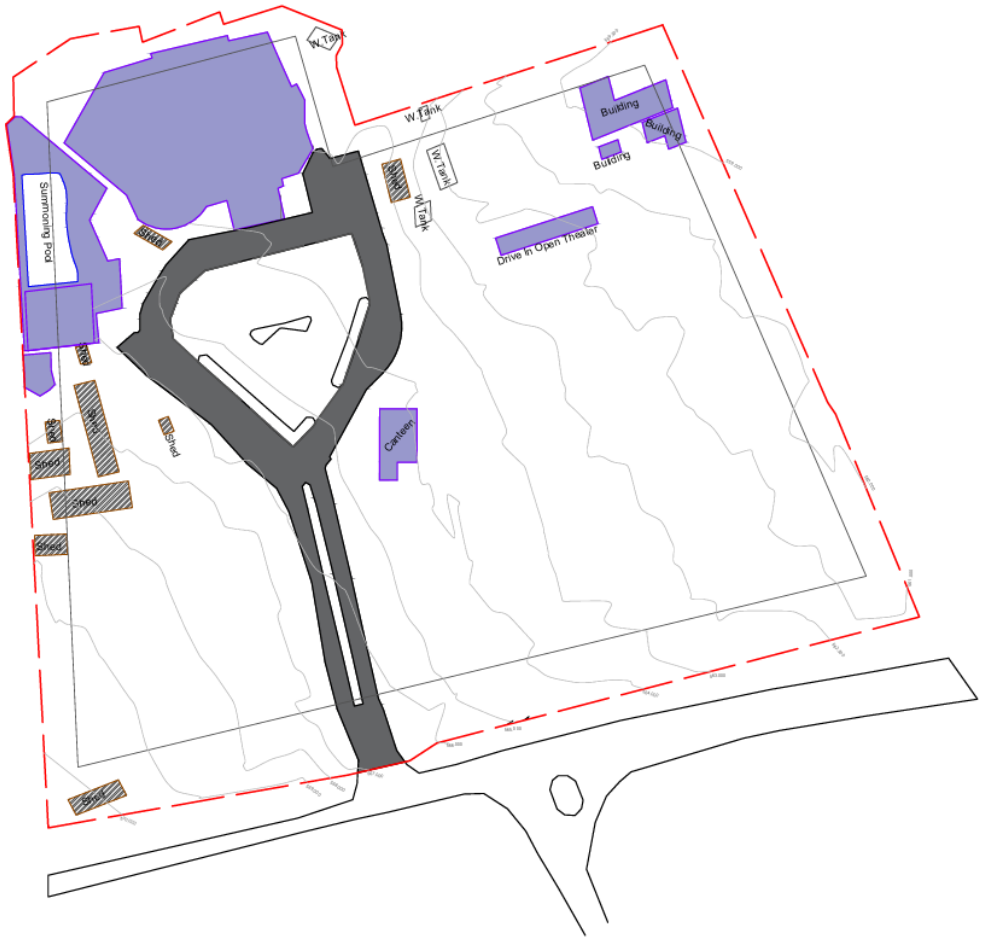


Figure 10 Existibg Site Plan

3.2 CLIMATE ANALYSIS



Peak Summer (Hottest Month)

-Month: May

-Temperature:

- Max: 42–43°C
- Min: 26–28°C

- Humidity: Low (20–30%)

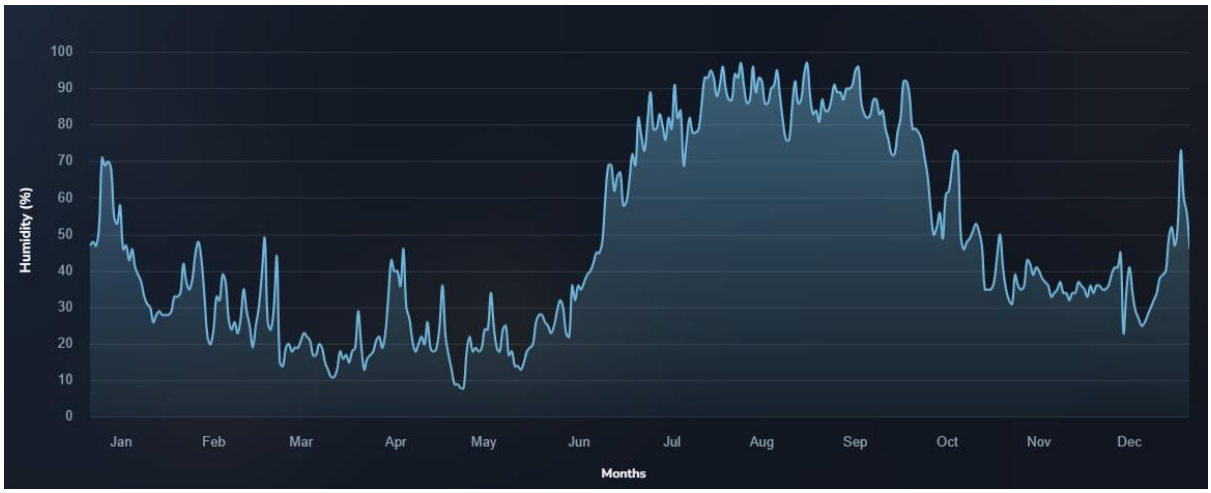
Peak Winter (Coldest Month)

-Month: January

-Temperature:

- Min: 6–8°C
- Max: 22–24°C

- Humidity: Low to moderate (~45–55%)



Maximum Humidity

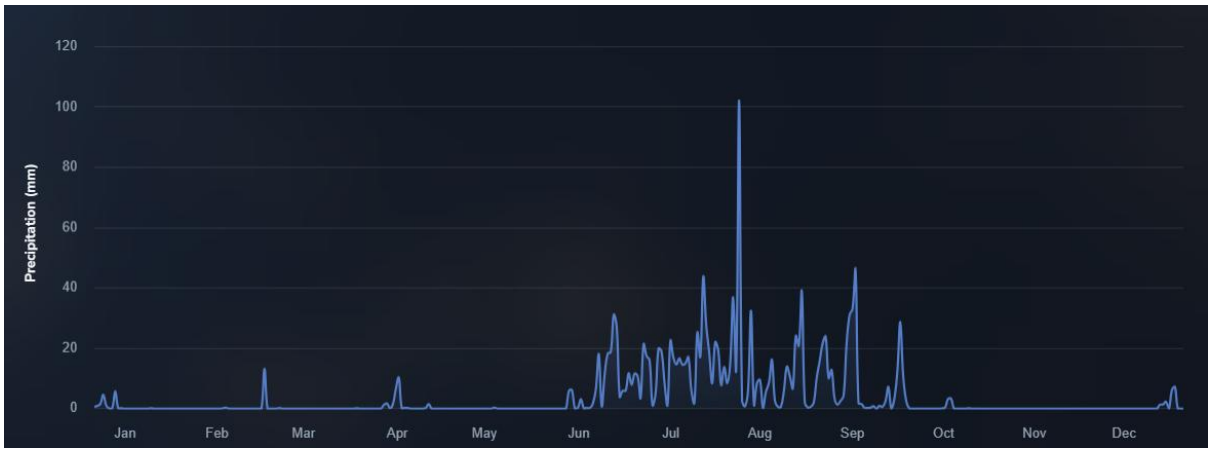
-Month: August (Monsoon Peak)

-Humidity: 85–90% (morning), ~75% (evening)

Minimum Humidity

-Month: May (Pre-Monsoon Summer)

-Humidity: 20–30%



Maximum Rainfall

-Month: August

-Rainfall: 350–400 mm (highest monthly average)

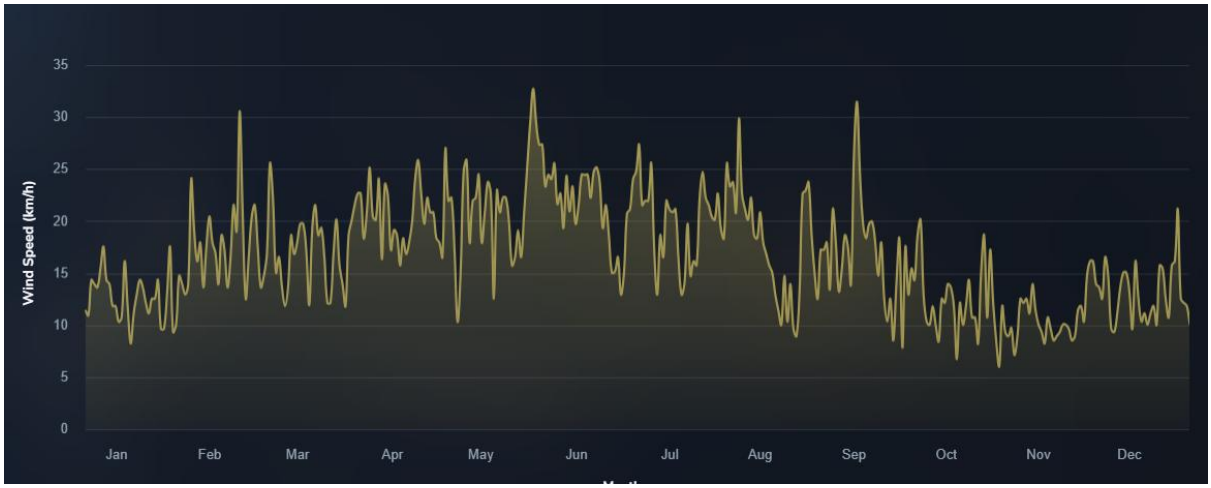
-Conditions: Overcast skies, continuous rainfall, saturated ground, high humidity (~85–90%)

Minimum Rainfall

-Month: December

-Rainfall: 3–5 mm (lowest rainfall)

-Conditions: Clear skies, dry air, pleasant days



Maximum Wind Speed
-Month: June (peak pre-monsoon & early monsoon)
-Average Wind Speed: 15–20 km/h
-Wind Direction: Predominantly South-West (SW)

Minimum Wind Speed
-Month: November–December
-Average Wind Speed: 3–5 km/h
-Wind Direction: North-East (NE) or calm conditions

Shyamla Hills Specific Topography

- Located on the south-western edge of Upper Lake (Bhojtal), on elevated ground.
- Terrain: Gently sloping to moderately steep hilly terrain with natural contours.
- Elevation: ~520–540 meters AMSL.
- View: Offers panoramic views of Upper Lake and the city skyline.
- Vegetation: Sparsely wooded with landscaped urban forest patches nearby.
- Geological composition: Hard rock base (Vindhyan sandstone) with lateritic soil overlay in some parts.
- Drainage: Natural slopes aid surface runoff into Upper Lake, requiring careful stormwater management.

Design Implications Based on Topography

- The mild slope enables the use of split-level architecture and basement parking without excessive excavation.
- The north-facing slope allows optimal placement of guest rooms and public areas for unobstructed lake views.
- Terraced landscaping and rainwater harvesting features can be integrated with natural contours.
- Minimal disruption to the site's slope is advisable due to its proximity to the Ramsar-listed Upper Lake (ecological buffer zone of 50 meters).
- Drainage design must prevent erosion or direct runoff into the lake, maintaining a vegetated buffer and bioswale systems.

3.3 SOIL

Soil Type: Lateritic black soil mixed with clayey and silty loam – typical of the Malwa plateau.

Nature:

• Moderately compact and well-draining at surface

• Strong bearing capacity in deeper layers – favourable for multistorey foundations

• May include weathered basalt and rocky strata at 2–3 m depth

Construction Implications:

• Soil suitable for raft foundations and RCC footings

• Retaining structures may be required along lake-facing slopes

• Soil stabilization needed near existing tree lines and contours

3.4 DRAINAGE

Natural Drainage Pattern

General Slope: South to North, gently sloping toward Upper Lake

Natural Drainage Flow:

• Site allows gravity-based runoff into northern edge

• Low-lying zones near the lake edge may experience minor waterlogging during peak monsoon

Design Implications:

• Stormwater must be captured through swales, drains, and rainwater harvesting pits

• No direct discharge allowed into the lake due to Wetlands Rules 2017

• Buffer landscaping to filter surface runoff naturally Water Supply

Existing Source: Municipal water supply (Bhopal Municipal Corporation) with storage and pumping systems

Project Requirements:

• Domestic water demand for 150+ rooms, banquet, F&B, staff and landscape use

• Water treatment, reuse, and storage (as per MP Tourism & NBC norms)

Design Provision:

• Dual plumbing system (recycled + fresh water) recommended

• Rainwater harvesting system mandatory

• Fire water storage to be integrated separately as per NBC

Surface Water and Environmental Sensitivity

Adjacent Water Body: Upper Lake (Bada Talab) — classified as a Ramsar Site (wetland of international importance) Distance from Lake: The site shares its northern edge with the lake buffer zone

Wetlands Rule 2017 Mandate:

• No construction or permanent structure within 50 meters of the lake edge

• Buffer zone to remain pervious, vegetated, and free of utilities

• Any landscape or softscape in this zone must allow for stormwater percolation Visual and Ecological Significance.

• Lake presence enhances microclimate, reduces temperature, and adds aesthetic value

• Any surface runoff must be treated through bioswales or rain gardens before entering buffer

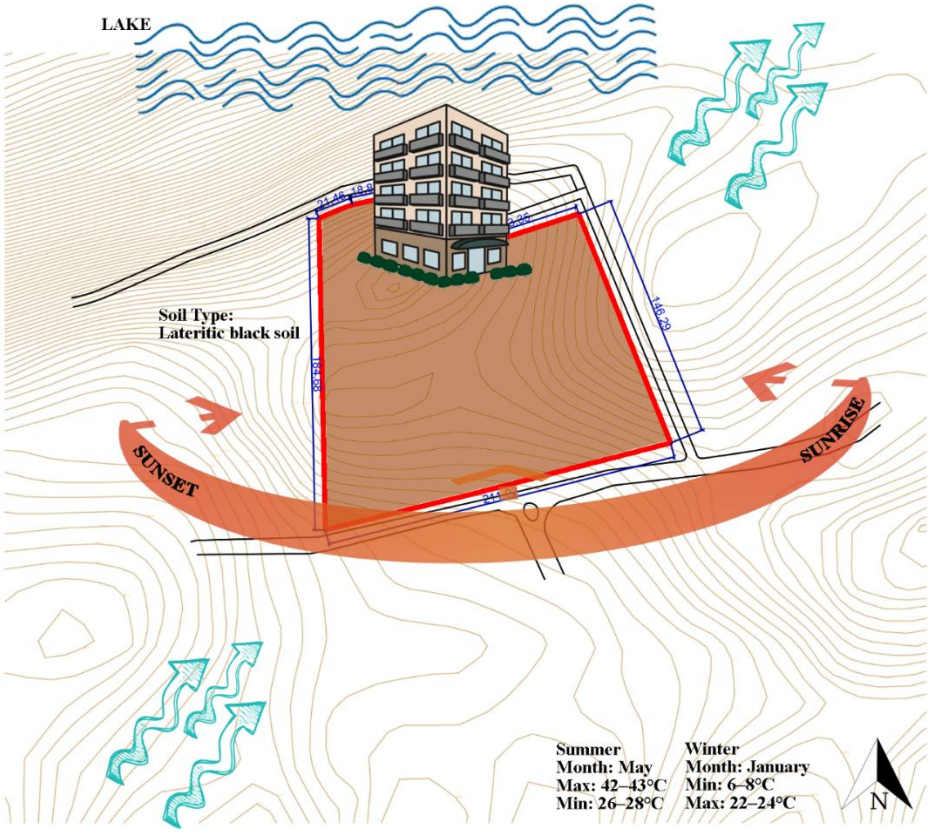


Figure 11 Sun Path

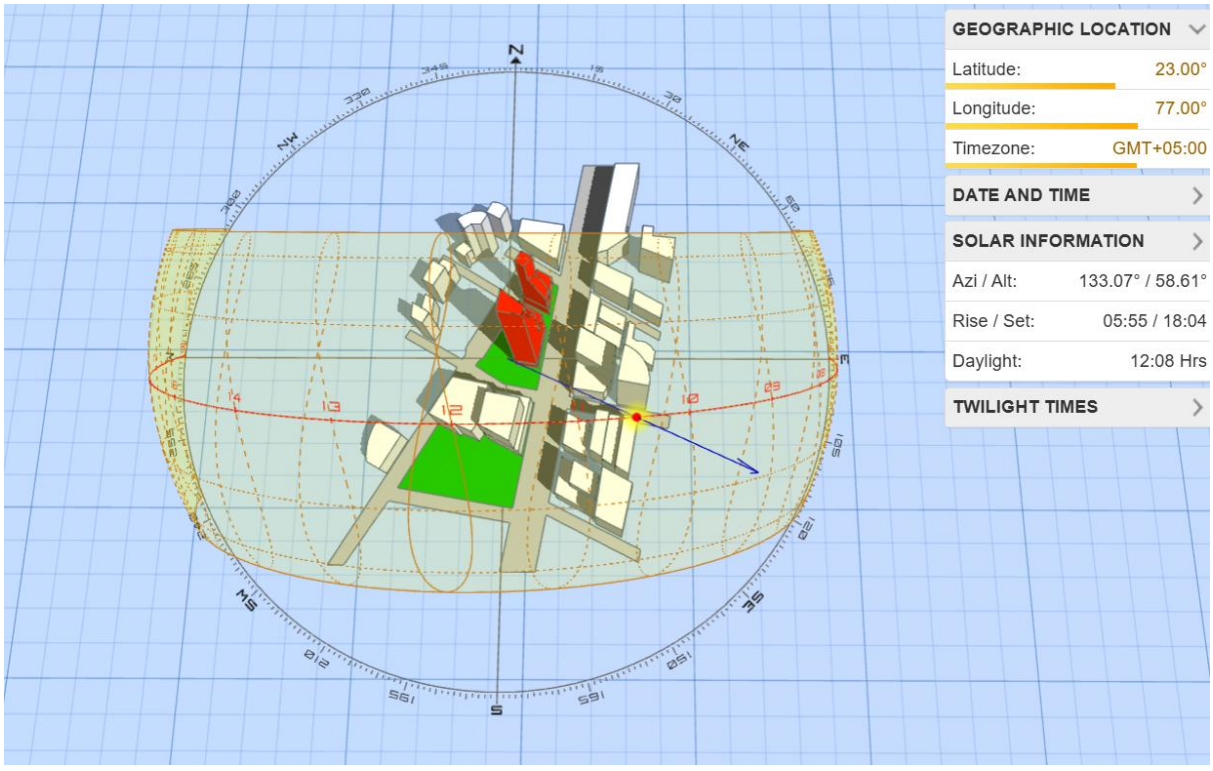


Figure 12 Chart

3.5 VEGETATION

1. Trees (Shade & Aesthetic Value)

- Neem (Azadirachta indica), hardy and drought-resistant
- Gulmohar (Delonix regia), beautiful flowering tree
- Ashoka (Polyalthia longifolia), tall and columnar; great for borders
- Palash (Butea monosperma), has flame-like flowers; local



Figure 14 Ashoka



Figure 13 Neem



Figure 15 Palash



Figure 16 Gulmohar

2. Flowering & Ornamental Plants

- Bougainvillea, hardy climber with vibrant color
- Hibiscus, tolerates varied conditions and is attractive
- Marigold, offers seasonal color and is low maintenance







3. Shrubs & Hedges

- Duranta, a fast-growing hedge plant
- Tecoma, produces bright yellow flowers and grows well
- Acalypha, features decorative leaves





4. Ground Covers

- Wedelia, a creeping plant with yellow flowers that controls erosion
- Carpet grass, low maintenance with a soft cover
- Mondo Grass, ideal for areas around walkways





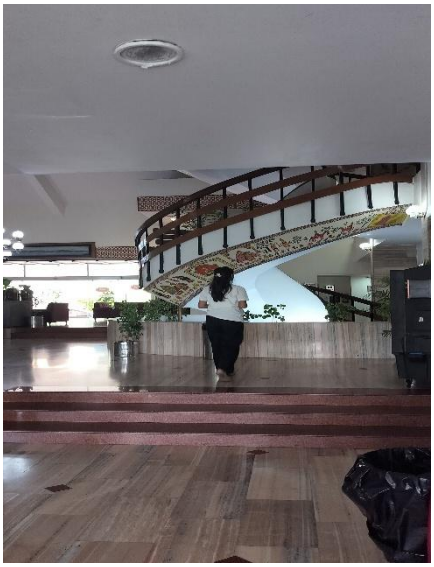
SITE VISIT PHOTOS











CHAPTER IV

CASE STUDY/DESK APPRAISAL

4.1 TAJ HOTEL



Figure 17 Taj Hotel

INTRODUCTION

Indian Hotels Company Limited (IHCL), offers the best of luxury, heritage and finest hospitality at The Taj Hotel, Bhopal, regarded as a flagship property of IHCL, the heart of Madhya Pradesh. Located on the tranquil Upper Lake the 5-star hotel is an amalgamation of Indo-Saracenic architecture combined with modern elegance that a guest seeks leaving a trail of royalties with a unique flavor of culture. The hotel is known to demonstrate the philosophy of Tajness great attention to individual, anticipatory service to those being served who are mostly discerning, high-profile dignitaries and heritage tourism.

DETAILS:

PROJECT	TAJ LAKEFRONT
LOCATION	BHOPAL
CLIMATE	HUMID SUBTROPICAL
TOPOGRAPHY	PLAIN LAND
ARCHITECT	JOI DESIGN
COMPLITION YEAR	2021
NO. OF ROOMS	152

SITE AREA	4.77 ACRE
FAR	2

LOCATION:

It is close to the Van Vihar National Park, Sanchi Stupa, National Museum of Mankind, Taj-ul-Masajid, and many such wonders of the city. Located near Bhadbhada Road Chauraha, Link Rd Number 3, Bhopal, Madhya Pradesh Overlooking the upper lake.

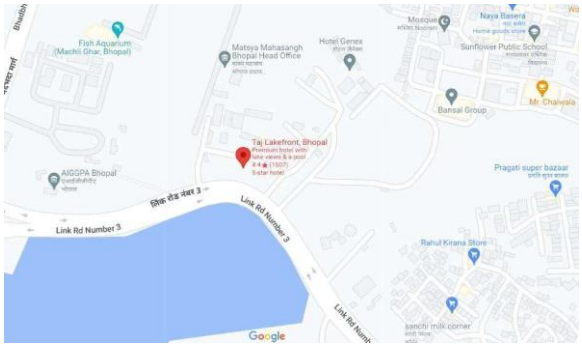


Figure 18 Location

OBJECTIVE

SITE BOUNDARY:



Site Boundary

Circulation within the Site

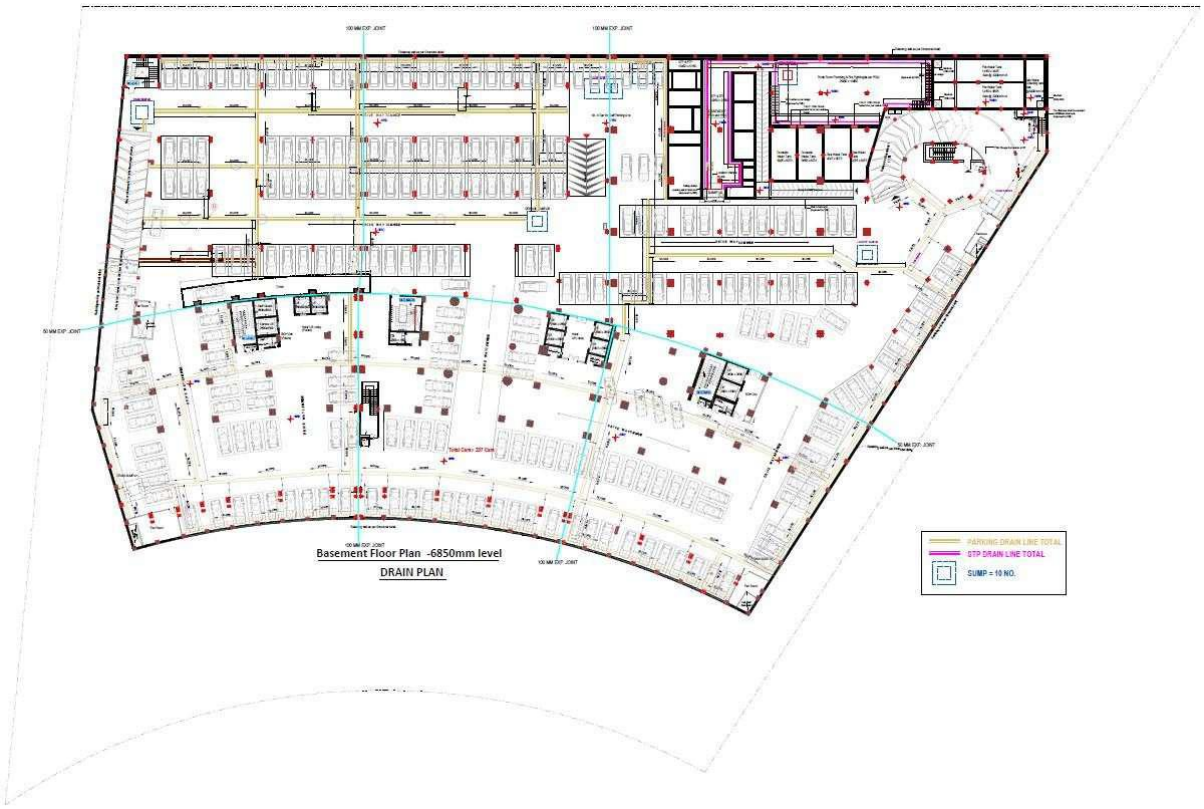
SITE CHARACTERISTICS:

- The site has kind of trapezium shape having curved edge in front.
- As we investigate the site planning of Taj the front part is designed with pleasing landscape by which guests can connect with its lush greenery.
- Back part of the site is used for the services.
- The building shape is evolved by the curved front edge of the site
- Circulation of the site is designed in that way so that no congestion will occur

FLOOR P/*LANS

Basement 2 Plan:

- Basement 2 is comprised with services amenities like STP, ETP WTP, Fire Tank, Domestic Water Tank etc. and parking spaces.



Basement 1 Plan:

- Basement 1 mainly consist of different types of Offices spaces like housekeeping office, Finance Office, Sales office, Eng. office and Canteen, Storage, Laundry spaces etc.

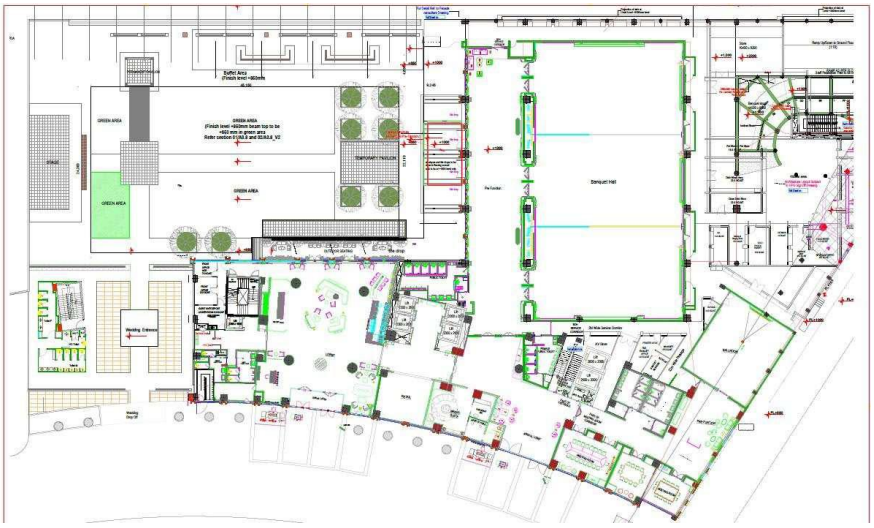
- It also has parking spaces and services outlet.

- All the staff of taj lakefront uses basement 1 as an entrance and parking space respectively.

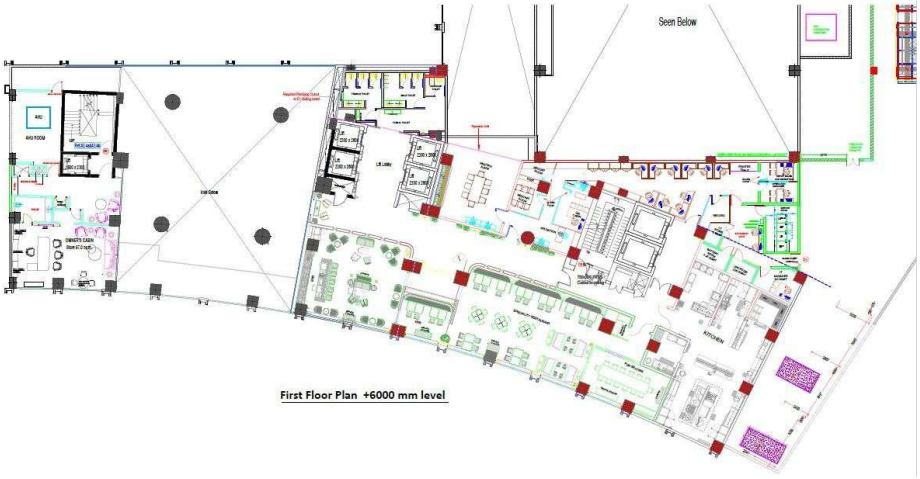


Ground Floor Plan:

- The entrance lobby of the hotel has grand luxury feel as it has triple heighted spaces with very attractive false ceiling consists of cove lighting.
- There is a separate entrance has been provided including Banquet Hall, Meeting room, conference rooms.
- A Banquet Hall can be divided as 3 halls by automatic temporary panels. Washroom for Banquet guests is accessible from Pre-Function Area which act as a buffer space for guest.



First Floor Plan:



Second Floor Plan:

- Restaurant Seating's are provided in this floor. Kitchen including cooking, store, washing space has been provided. Live kitchen is also there.
- Amenities like Gym, Spa & sauna, Saloon etc. are provided with top class facilities.



Typical Floor Plan (3rd to 7th) Floor:

- 24 guest rooms including Executive Suites, Twin Bedrooms are there in this floor.
- Housekeeping Room are also there in this room for room services.
- Specialty of these typical floor is that interior of lobby and corridors are fully different

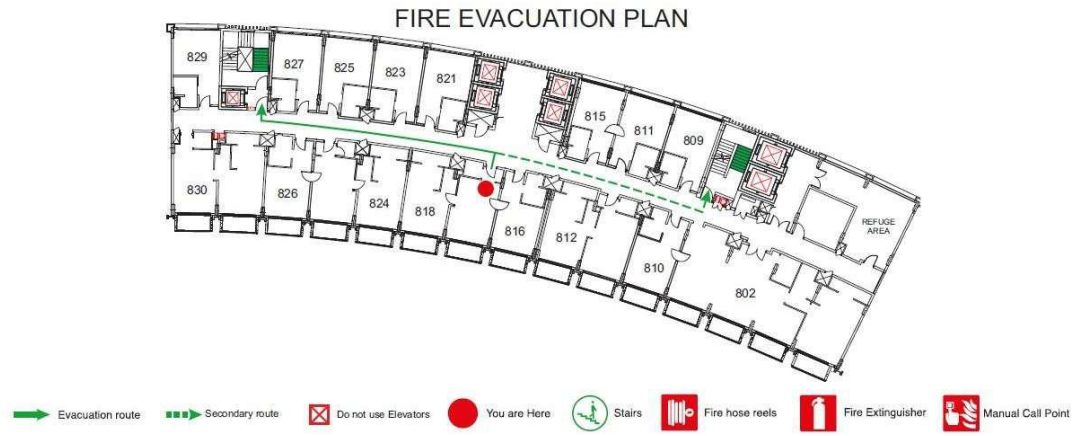
which gives different types of feeling at each different floor.



8th Floor Plan:

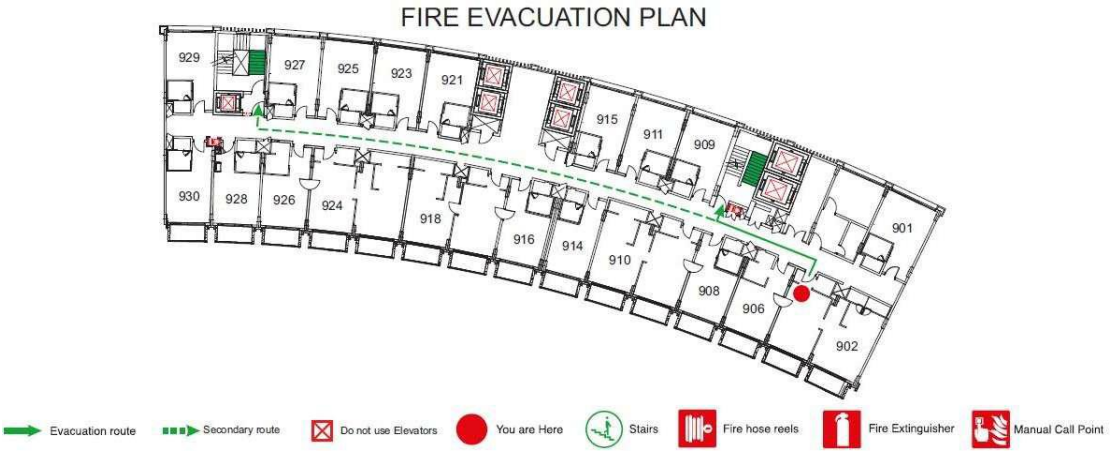
- 15 guest rooms including Executive Suites, King Bedrooms and 1 presidential suite are

there in this floor.



9th Floor Plan:

- 20 guest rooms including Executive Suites, Twin Bedrooms are there in this floor.



10th Floor Plan:

- Open terrace lounge, club area with the view of swimming pool is provided in the top floor of this Hotel.



GUEST ROOM TYPOLOGY

Total there are 152 rooms which are majorly classified into 4 categories:

- Executive Suite
- Twin Room
- King Room
- Presidential Suite

EXECUTIVE SUITE

Tranquillity and luxury unite in the Executive Suites at the Taj Lakefront, Bhopal. Extravagant and spacious, these suites, with the option of interconnecting rooms, are ideal for vacationing with family and friends. The breakfast table, the plush seating, a dressing area and state-of-the- art bathrooms are the perfect setting that your memories deserve. Indulge in the breath-taking views of the lake and Taj's signature service for a truly luxurious retreat.





Size: 66 sq.m

Signature Feature: Spacious two-room suites overlooking the lake

Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

OTHER CONVENIENCES

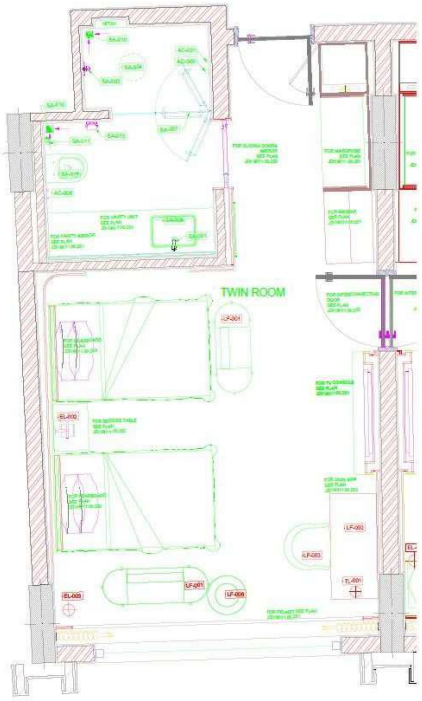
- Tea-coffee maker
- Forest Essentials bath amenities
- Air conditioning
- Separate living area
- Electronic safe.
- Wi-Fi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV



TWIN ROOM

Framed by the picturesque backdrop of the hills, the Deluxe Rooms are the epitome of tranquillity and relaxation. The decor seamlessly merges the aesthetic philosophy of Madhya Pradesh with a European flair. Fully-equipped with quality amenities, including digital connectivity with smart TV and Taj's signature service, the Deluxe Rooms offer an unmatched experience of comfort. Includes complimentary access to the hotel gym and wet areas.





SIZE: 33 sq.m

SIGNATURE FEATURE: Spectacular vistas of the hills

Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

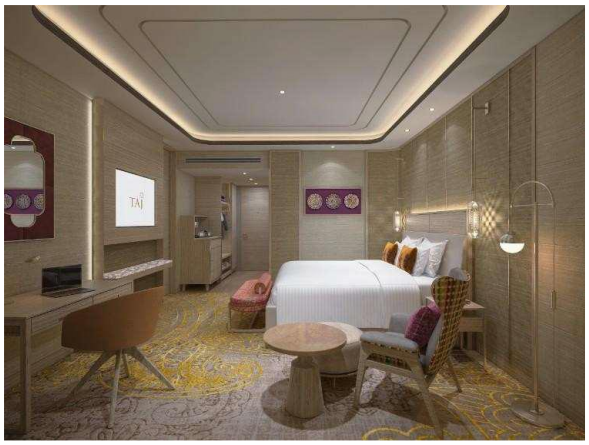
OTHER CONVENIENCES

- Tea-coffee maker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Air conditioning
- Wi-Fi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Shower Cubicle

KING ROOM

Framed by the picturesque backdrop of the hills, the Deluxe Rooms are the epitome of tranquillity and relaxation. The decor seamlessly merges the aesthetic philosophy of Madhya

Pradesh with a European flair. Fully equipped with quality amenities, including digital connectivity with smart TV and Taj's signature service, the Deluxe Rooms offer an unmatched experience of comfort. Includes complimentary access to the hotel gym and wet areas.



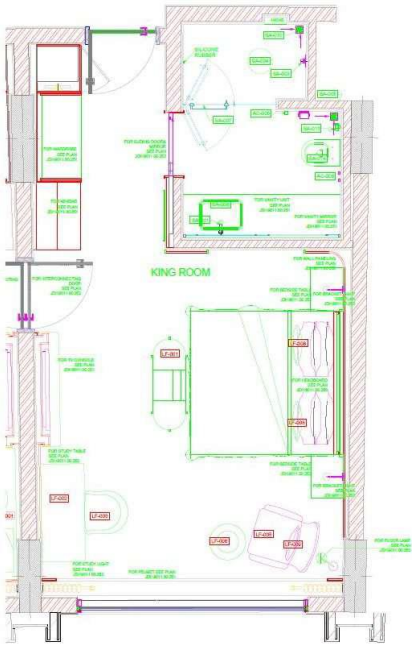
SIZE: 33 sq.m

SIGNATURE FEATURE: Spectacular vistas of the hills

Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

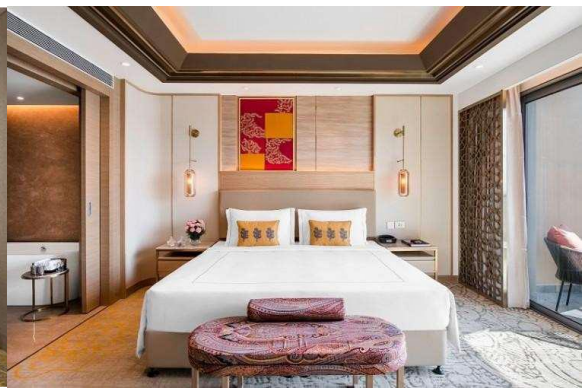
OTHER CONVENIENCES

- Tea-coffee maker
- Forest Essentials bath amenities
- Choice of smoking & non-smoking accommodation
- Air conditioning
- Wi-Fi
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Shower Cubicle



PRESIDENTIAL SUITE

Bhopal is the land of the Nawabs and Begums, and epitomizing this rich culture is the Presidential Suite of the Taj Lakefront, Bhopal. With interiors that give an ethereal glimpse into the bygone era and a private balcony in every room overlooking the glorious city, the Presidential Suite is a perfect union of the multitude of generations. A lavish experience, embodied by an elegant living room, a plush dining area and a palatial master bedroom, await your presence in the opulence of the Presidential Suite at the Taj Lakefront, Bhopal.

SIZE: 152 sq. m.

SIGNATURE FEATURE: A regal experience in the heart of the country

Occupancy Details: Up to 3 guests. Max Adults: 3, Max Children: 2

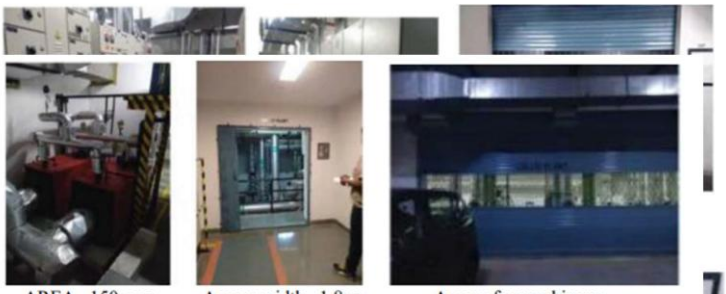



OTHER CONVENIENCE

- Forest Essentials bath amenities
- Air conditioning
- Bedroom with private balcony or veranda & bathroom
- Living room with dining area, bedroom & bathroom
- Electronic safe.
- Tea coffee maker
- WIFI
- Iron & ironing board
- In-room bottled water
- Minibar
- Newspaper
- Full-length mirror, hair dryer, weighing scale
- 49-inch Smart LED TV
- Lake View
- Private Pantry

SERVICES

Electrical Services



AREA –150 sqm Access width –1.8 m Access for machinery Width –6



L.T. and H.T. panel room Height-3.9 m

Fire Fighting



Fire Fighting

Electrical Tray

Chiller Plant

Fire Pump

Water Treatment





Water Storage Tank Raw 90 sqm (area-12 sqm)



Tank for swimming Pool



Control Panel for Fire Room 70 sqm

Tank Volume –72 cum



Water Storage 20,00,000



Boiler room with pump and Heat exchange



Overhead tank

Figure 19 Boiler Room & Overhead Tank





4.2 RADISSON HOTEL BHOPAL



Figure 20 Radisson

INTRODUCTION

Having dots in over 90 countries across the best five-star hotels, the Radisson Hotel Group is a world-renowned headquarter, and the Radisson Hotel Bhopal, also located in the capital of Madhya Pradesh, is an architectural light of modern leisure and functional services. The hotel is strategically located in MP Nagar, the busy commercial area of the city, which makes this hotel one that is concentrated on business travelers, MICE (Meeting, incentive, conference, exhibition) as well as leisure travelers who want to get a streamlined comfort. The adoption of the Yes I Can! as a service ethos, Radisson Bhopal underlines the concept of the visitor-focused consistency with the inclusion of cutting-edge facilities such as smart conferencing and contactless solutions.

DETAILS:

PROJECT	RADISSON HOTEL
LOCATION	BHOPAL
CLIMATE	HUMID SUBTROPICAL
TOPOGRAPHY	PLAIN LAND
ARCHITECT	ARJUN MALIK
COMPLITION YEAR	2021

NO. OF ROOMS	104
SITE AREA	1.1 ACRE

LOCATION

Located in Arera Colony, near 6 No. Stop, Bhopal, Madhya Pradesh, the site enjoys excellent connectivity to major city nodes like Habibganj Railway Station and Raja Bhoj Airport. It is surrounded by upscale residential and institutional developments.

SITE CHARACTERISTICS

Located in Arera Colony, a prime urban area in Bhopal.

- Total site area is approximately 4,500 sq.m. (around 1.1 acres).
- Rectangular plot with efficient geometry for planning.
- Flat to gently sloping terrain, suitable for construction and drainage.
- Well-connected to major roads, Habibganj Railway Station, and Raja Bhoj Airport.
- Surrounded by residential, institutional, and commercial developments.
- Urban context with minimal existing vegetation; landscaping added during development.
- Site orientation supports passive design — access to natural light and ventilation. Ample Road frontage for clear entry/exit and service access.
- Suitable for vertical zoning of hospitality functions (rooms, banquets, dining, services).

APPROACH ROAD



VERTICAL ZONING

1. Basement / Lower Ground Floor

- Parking area

- Services (electrical rooms, AHUs, staff circulation)
- Storage and utility zones

2. Ground Floor / Podium Level

- Entrance lobby with double-height ceiling
- Reception and waiting lounge
- All-day dining restaurant (Fusion Café)
- Café/Patisserie (Just Baked)
- Lounge bar (Urzza)
- Administrative offices
- Concierge and luggage handling
- Public washrooms
- Vertical circulation cores (lifts and staircases)

3. First & Second Floor

- Banquet halls and meeting rooms (e.g., Grand Ballroom, Nurture, Nirvana, etc.)
- Pre-function areas
- Back-of-house service corridors
- Some guest rooms may also start on higher levels depending on layout

4. Upper Floors (Typical Guest Room Levels)

- 104 well-planned rooms across categories (Superior, Executive, Junior Suites, etc.)
- Housekeeping and service shafts at each level
- Access via high-speed lifts and service elevators

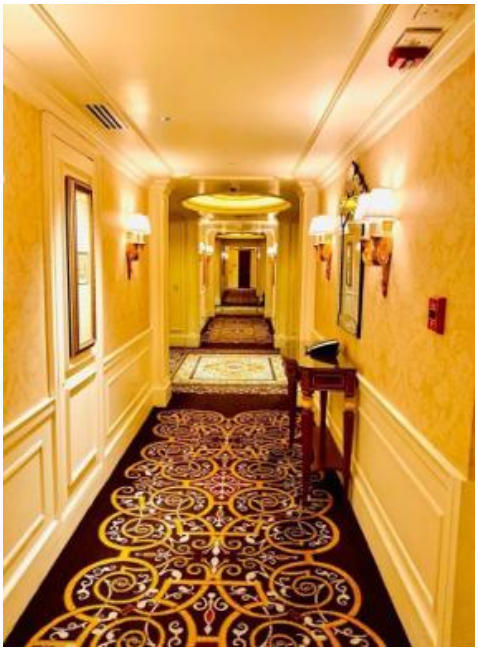
5. Terrace / Rooftop Level

- Rooftop swimming pool with lounging deck
- Outdoor terrace dining/banquet space (Infinity Terrace)
- Fitness center
- Mechanical and plant rooms (discreetly integrated)

4.3 THE LEELA PALACE, NEW DELHI

INTRODUCTION

An Indian luxury hospitality group, the Leela Palaces, Hotels and Resorts was founded back in the year 1987 by Captain C.P Krishnan Nair. The group was named by him after his wife, Leela. The group includes 8 luxury palaces and hotel that are located across India in Goa, Mumbai, Bangalore, Trivandrum, Gurgaon, Udaipur, New Delhi and Chennai. The Leela Palace New Delhi was designed by John Gerondelis and was inaugurated in the year 2011.



Architect: John Gerondelis

Founder: C. P. Krishnan Nair

Type: Hospitality

Use: Hotel

Location: New Delhi, Delhi

Status: operational, inaugrated in year 2011

Site area: 3 acres

Built up area: 42,300 sqm

No. of keys: 211

Year of completion: 2011

It is the majestic Leela Palace where India's rich culture meets Lutyen's architecture. The design of the hotel is reminiscent of the classic refined residential palaces found in North India, as well as the architectural queues found in the work of Sir Edwin Lutyens in the Parliament Building and the Hyderabad House, incorporating colonnades, an interesting intersection of spaces and playful architectural features. The Leela Palace, one of the finest heritage style hotels of India is renowned for its outstanding hospitality and world- class facilities. The hotel has an age-old charm that makes every guest have an insight of India's rich culture and history. Every nook of the hotel makes you feel like royalty and offers and experience like never before.



LOCATION



ACCESSIBILITY



This South Delhi hotel is located on three prime acres adjacent to the Safdarjung Railway Station in New Delhi, India. This 211-key luxury hotel contains oversized guestrooms and service apartments. The seven-story building is organized around a 1,000 SM function lawn, supported by an additional 585 SM of banquet facilities and five food and beverage outlets, a rooftop infinity- edge swimming pool and a 549 SM spa and fitness center. The property includes spa suites including whirlpool balconies, as well as a well-appointed Maharaja Suite. The luxury hotel property consists of a 42,300 SM development including a 24,810 SM hotel and 17,490 SM of parking for 547 automobiles in three basements.





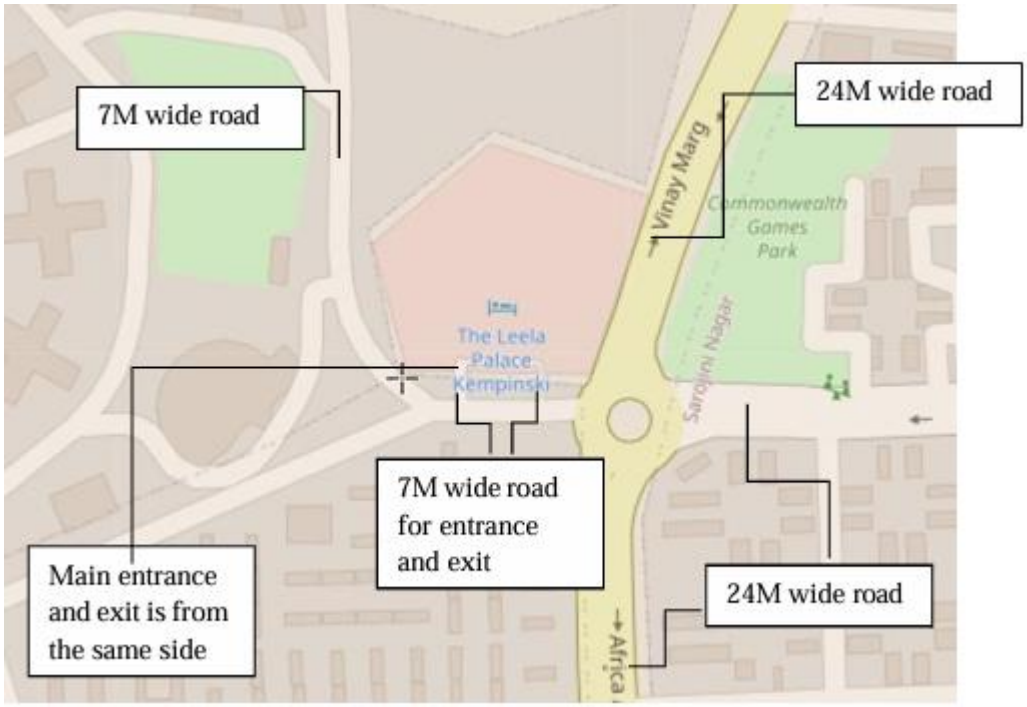


DESIGN PHILOSOPHY

The Leela Palace exemplifies the magnificent architecture, grace and elegance of Lutyen's delhi. Every inch of this opulent and overstated, magpie's nest is decorated in something shiny. An enormous Persian rug covers the entire lobby, with separate sitting areas defined by mirrored Venetian screens and plenty of shimmering silk sofas. Simple cream walls are offset by color from plush rugs, classic Indian embroideries, and Regency furniture. Every empty space is filled with cut glass vases with fresh flowers (over 15,000) delivered daily. The entire property is designed according to Vastu principles (Indian Feng Shui) and is filled with

bespoke commissions by acclaimed modern Indian artists. Its 260 rooms and suites combine traditional Indian opulence with sleek contemporary decor and amenities in typical Leela luxury. The rooms and suites are painstakingly decorated to stunning effect, with elements spanning from handcrafted tapestries to the Presidential Suite's gold leaf ceilings. Dining options include the striking glass-house Qube, offering an eclectic global menu and show kitchens, overlooking the Leela's gardens; Jamavar for traditional Rajasthani and north Indian cuisine; and new outposts of the acclaimed restaurants Le Cirque (French and Italian) and Megu (Japanese).

ROAD NETWORK



SITE PLANNING



Site character:

- The site is in irregular shape having 3 entry and exit points.
- The site area is very less, therefore planning is also very compact
- Efficient landscaping measures have been taken in site planning
- The design and envelope of the building is in harmony with the site surroundings.
- It stands out in the middle of the surroundings and at the same time merges with it due to its Lutyens's Delhi architectural style and Mughal appearance.

Site orientation:

- The orientation of this building is North- east which is most suitable according to the conditions.

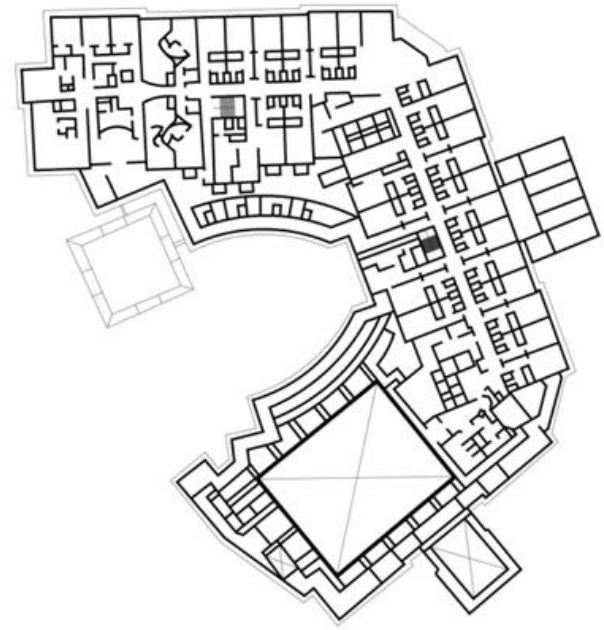


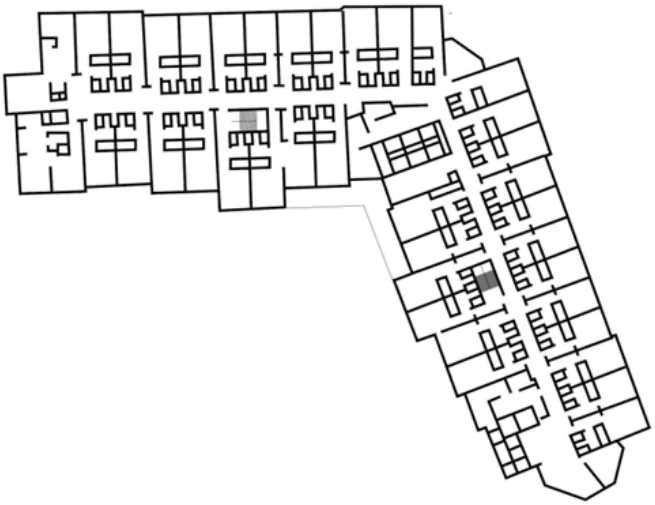
FLOOR PLANS

Floors-

- Tower A and B
- A has 11 floors, while B has 10 floors

- At the convergence of two towers, the core area has 4 lifts
- Core- lift landing- Butler pantry and electrical room
- LV room (low voltage)- communication lines





Service floor

- 10 and 11th floor
- Height is less so inaccessible

Fire safety

- Fire separation system (operates on 80°C)
- Fire cylinders of 5 types- A, B, C, CO2, K (Kitchen in silver color)

Terrace floor(10th)

Air handling unit

- Cooling towers
- Solar water heater
- Solar panels on facade and floor

HR unit (Heat recovery) Full heighted walls on terrace

Solar Panels-

- Used for water heating Swimming pool plant

Temperature maintenance

- Water supply tank on the top of machine room of lift (40KLD)

INTERIORS

Philosophy- Blend of aesthetic sensibility, modern amenities and reflecting the essence of India

Main idea was taken from Lutyens's Delhi and colonial past which pictured in the interiors:

- Serenaded domes and columns imitating Lutyens' could be identified with elegant round arches
- European charm with Mughal magnificence
- Gold gilded furniture and Murano chandeliers
- Mother-of-pearl inlay work
- Large Venetian glass mirrors
- Bidri artwork from Uttar Pradesh on the walls and ceiling
- Warm and cozy lighting






SPACE MODULES:

LOBBY:

- Connected with reception, waiting area, help desk, banquet halls, lifts, stairs and washrooms.
- Seating and fire equipment were provided at adequate distances
- Indoor plantation with mother- of pearl flooring
- Intricate carving on walls and fine sculptures of Indian art




LOBBY LOUNGE:

- Edwardian elegance with classical European style

- Waiting area for the visitors to enjoy the introducing culinary of the hotel with gold-lined furniture.

RECEPTION AREA

- Spacious and efficiently planned to reduce traffic during busy hours
- Turkish carpets are used which adds royal look

ROOMS AND SUITES

There are in total 11 type of rooms and suites available for an unforgettable experience

- GRAND DELUXE ROOM:
    - The spaces are well defined in these rooms
    - They are the smallest type of room on the basis of area i.e., around 552 sq ft (51sq.m.)
    - They are spread across the second to seventh floor of the hotel



- PREMIERE ROOM:
    - Gives homely feeling to the guests due to its vibrant colors with regal ambience
    - Garden majestic view from the windows with 'Devi' statue.
    - These are also located on the second to seventh floors of the hotel.
    - Rooms are quite spacious with area around 592 sq FT (55 sqm)



- ROYAL PREMIERE ROOM:
    - The brightest and well-ventilated rooms that let in sunshine and natural light with most serene views of the greenery.
    - The size is same as premiere rooms i.e., 592 sq ft (55 sqm)
    - Stylized marble finished bathrooms with soaking bath tubs



- ROYAL CLUB ROOM:
    - 24-hour personal butler services are provided along with complimentary limousine service.
    - Club lounge facilities along with use of meeting rooms.
    - The size is same as premiere rooms i.e., 592 sq ft (55 sqm)



- ROYAL CLUB PARLOUR:
    - These suites exude the charm of Lutyens's architecture and Indian royal interiors adorned with exquisite art work.
    - The suites are available with city skyline views and area of around 700 sq ft (65 sqm)
    - Spacious bathroom with rain shower head and oversized bedrooms that include lounge area, round the clock Butler service
    - In- built Ad Nortam mirror screen and spa mood lighting



- EXECUTIVE SUITE:
    - Spacious and elegant two bay suite with living room, bedroom and a bathroom
    - Warm and rich accented décor with colorful brocade and exquisite handcrafted tapestries on the walls
    - Wooden flooring with contemporary art blend



- LUXURY SUITE:
  - Plush, royal and opulent spacious suite with size 970 sq.ft. (90 sq.m.)
  - Includes lounge area, separate bedroom and oversized luxurious bathroom



- GRAND SUITE WITH PLUNGE POOL:
  - Indian theme of floor-to-ceiling columns and regal arches
  - Two bay suites located on the ninth floor with size 1090 sq.ft. (101 sq.m.)
  - Open to sky private pool with temperature controlled jacuzzi - Casual seating around the pool



- ROYAL SUITE WITH PLUNGE POOL:
  - Largest open- to sky plunge pool with temperature controlled jacuzzi



- Royal in look

- MAHARAJA SUITE:
  - Two bay suites with floor-to-ceiling ornate doors with area around 1520 sq ft (141 sqm)
  - Grand living room with temperature-controlled plunge pool area with jacuzzi overlooking city skyline.



- PRESIDENTIAL SUITE:
  - Epitome of uber luxury spanning around 4800 sq. ft (446 sq.m.)
  - Resembles the palatial grandeur of the royal heritage of India. - Opulence of gold leaf ceilings, intricate woodwork, pure silver and semi- precious stone art pieces and deep-toned tapestries are some of the striking features
  - An eight-bay suite comes with private gymnasium, two separate living rooms with powder room, private study room, private dining room that seat around 12 people, 24- hour in room dining, fully functional butler's pantry, separate bedroom with a walk- in wardrobe and sprawling bathroom, Jacuzzi, a rain shower head and a couple spa suite.

- Comes with an additional bedroom to accommodate more guests.







RESTAURANTS

- JAMAVAR- Indian specialty restaurant
  - Signature fine dining restaurant of Leela
  - Based on the 16th century Jamavar shawls of Kashmir, semblances of the 'paisley' pattern of these shawls can be found in the interiors of this restaurant.



- LE CIRQUE- Franco- Italian Restaurant
  - French and Italian cuisine with the grand landmark restaurant of New York
  - Avant- Garde bar with walk- in wine cellar, an interactive chef's table and Delhi's most prestigious show kitchen and exclusive private dining rooms

- MEGU- Japanese specialty restaurant
    - Multi dining rooms along with spectacular Buddha Hall
    - Private dining room, Kimono which serves up to eight guests



    - Sushi bar is also present

- BANQUET HALLS and BALLROOMS
    - 2 inside Banquet halls- Diya and Maya, while on the terrace of the hotel and Megu lower deck.
    - 2 Ballrooms- Grand and Royal
- MEETING ROOMS and BOARD ROOMS
    - Meeting room- 4 in nos.



    - Chairman's Boardroom and Le Cirque Boardroom
- WELLNESS
    - Spa facilities are provided
    - Yoga and meditation
- SWIMMING POOL
    - Pool is on the terrace of the tenth floor
    - Seating and sunlounges are provided

BACK OF THE HOUSE SERVICES (FLOORWISE)

Fire safety

- 4 types of pumps are used- Jockey pump, Hydrant, sprinkler and design engine pump which work in the same hierarchy as mentioned
- Fire supply tank- 2 tanks of capacity 125 KLD
- Water supply tank- 40 KLD on roof

Electrical

- LT Panel room- Connects to all the spaces and rooms in the hotel
- HT Panel room- NDMC lines(11000Kv) These lines goes to the transformers (Step down transformer- 2 nos. of 2000KV)- converts to 400/415 KV
- RTCC room- Changes ratio

BMS Control Room

- BMS control room- Building management system- Smart systems to control all activities using sensors and currently aim to control the lift and the pump as well. Had approach to the 3 chiller plants (2 nos. of 600 TR/ 1 no. of 400 TR)
- Generator (DG set) room- Consists of 2 diesel and 1 PNG based generators of capacity 2000 KV each Has diesel backup of 34000 liters The time lapse was of only 7 sec. and it hardly takes 15 sec. delay to get electricity back Automatic operated

UPS room

- Also known as server room.
- It provides emergency light in all high risk service areas (generally two lights)
- It has no link to the main supply. So even in case of no light, there will be no blackout
- Servers available at the time of crisis
- EPABX room- IT rooms with system managers

Receiving Area

- Connected to the exit
- Only accessible by the staff

Back-end service circulation

- 3 lifts with alarm for front office in case of emergency (ERD)
- Fire staircase
- Fire safety precautions like fire extinguisher and fire hydrant are placed near the lifts.

Laundry (Guest/ Staff)

- The laundry is equipped with washing machines, dryer machines, iron machine, marking machine as well as hanging area.
- Dry cleaning (Buzel Rossaire)- 3 machines
- 4-5 driers

- Office of Controller
- Linen and Uniform Room
- Solid linen room

Housekeeping control room

Lost/ found

Basement B2 level

RO plant

- 6000 liters/ hr.
- Laundry fed
- It has two tanks. One is the main tank and the other one is the storage tank.

Compressor unit-

- Centralized for all cold rooms
- Found in fewer projects.
- The entire system is imported.

Oil and grease tank (separating for water Storage for diesel/ petrol Water body tank (on G-floor)

IVS system (controls Vodafone/Jio networks)

STP plant-

- Divided on two floors
- Capacity- 400 KLD
- STP recycled water used in cooling towers.

Variable frequency drive (VFD)- LEED measure

- Helps in less power consumption
- Brizansia technologies

Basement B4 level

STP plant- (MBR based)

- Sludge holding area
- Live monitoring

Boilers

- 3 in nos.- 2 PNG based and 1 for backup
- Only one is used per month

- Jali is provided in floor to evaporate the residue of fuel gases

LEED MEASURES

RATING: LEED Platinum NC Category rating

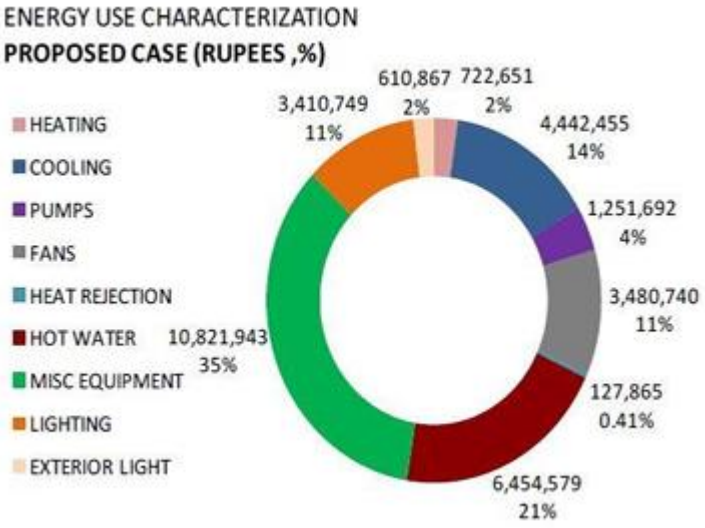
Hotel Leela Palace followed green building practices to substantially reduce or eliminate negative environmental impacts and designed to reduce operating costs, to contribute health and wellbeing of the occupant and reduce potential liability resulting from indoor air quality problems. Project team has considered several environment friendly design and measures which led to meet 'LEED India Platinum Rating' requirements.

Project is rated under five environmental categories:

Sustainable Sites, Water Efficiency, Energy & Atmosphere, Material & Resources and Indoor Environmental Quality. An additional category, Innovation & Design Process, addressed for sustainable building expertise as well as design measures which are not covered under the five environmental categories.

Integrated with Green Building Design and Features to meet LEED Platinum standards:

- Energy Efficient Glass with a U Value of 0.077 btu/h ft 2.
- Insulated roof with reflective Stone finish and terrace gardens.
- Use of Combined Cooling Heating and Power (CCHP) System.
- More than 50% energy savings over ASHRAE 90.1-2004 baseline.
- 100% waste water treatment on site.
- Reuse of Waste water in irrigation, Flushing and Cooling Towers.
- 30% fresh air for spaces over ASHARE 62.1with Heat recovery system\
- Thermal comfort as per ASHARE 55.1-2004
- Low approach cooling towers
- CO sensors for Basement car parking



Measures:

- Optimized orientation
- Optimum Window to Wall Ratio
- Rooms are design to get glare free daylight
- Double glazed windows to reduce heat gain
- High visible light transmittance for glazing
- 90% areas are direct line of site to outside to get natural views as per LEED requirement
- High performance building envelope
- Roof garden and high SRI tiles
- Energy management system for rooms
- Efficient air distribution system
- Demand control ventilation
- Premium efficiency pumps
- Efficient sensor-based elevator system
- Vertical Green Walls
- Electricity generation at site from Natural gas
- Waste Heat Recovery for cooling and Heating
- Vapor absorption machine (VAM) for chilled water generation
- Condenser heat recovery for laundry and kitchen
- Chilled water for kitchen refrigeration

Hotel Leela Palace site is well located with pedestrian access to ample number of basic services and public transportation services like bus and rail to reduce pollution from private automobile use.

Designed, implemented erosion & sedimentation control measures during construction and post occupancy by retaining top fertile soil for landscaping within site, reduction in air pollution and water pollution through efficient storm water management and dense landscaping.

Project parking is designed as per Delhi Development authority. Parking is facilitated with electrical charging stations so as to encourage usage alternative fuel vehicles and also considered exclusive parking spaces for car pool services to reduce environmental impacts.

4.4 AVASA HOTEL, HYDERABAD



INTRODUCTION

- As you drive towards Hi tech city, looking at block after block of built FAR, there is a break from the concrete
- boxes of commercial and apartment buildings.
- You see the 9 floor frame with stepped terrace gardens, 'The Avasa'.
- The irregular shaped site was the biggest design challenge.
- The site is wide towards the road and narrows down towards the back.
- The building follows the site and looks like the letter 'A' in plan.

DETAILS:

PROJECT	AVASA
LOCATION	HYDERABAD
CLIMATE	TOPICAL WET & DRY
TOPOGRAPHY	DECCAN PLATEAU
ARCHITECT	B. NANDU KUMAR
COMPLITION YEAR	2012
NO. OF ROOMS	250
SITE AREA	1.1 ACRE

DESIGN PARAMETERS

FORM AND STRUCTURE

- Modern, Minimalist Facade:
    - The Hotel Avasa's external design is modern and minimalist, with a focus on horizontal components and clean lines. The building has a clean and elegant appearance thanks to this architectural decision, which suits the preferences of modern business travellers.
    - The facade's modest elegance is maintained but it stands out thanks to thoughtful detailing that counterbalances its simplicity.

- Blend of Local and International Aesthetics:
    - International design standards are blended with regional cultural features in the architecture of Hotel Avasa. The use of materials and design elements that speak to a worldwide audience while also fitting into the local setting is indicative of this blending.
    - The hotel's shape and design were carefully considered in order to combine Hyderabad's rich cultural legacy with a contemporary style, producing a setting that is both distinctive and aesthetically pleasing to all.

- Use of Reinforced Concrete, Glass, and Steel:
    - The reinforced concrete used in the building's structure offers stability and longevity. The hotel's modernist façade is enhanced by the wide use of glass and steel, which results in a sleek, reflective exterior that changes colour throughout the day.
    - The use of glass encourages transparency and openness while providing views of the city and enabling the building to interact with its surroundings.

SPATIAL LAYOUT

Efficient Layout with Central Core:

- The lifts and service facilities are located in a central core of the Hotel Avasa, whose spatial arrangement is optimized for maximum efficiency. Easy access to various hotel areas is made possible by this architecture, guaranteeing efficient operations and visitor convenience. The hotel's central core design also reduces the distances between various regions, enhancing traffic flow and lessening congestion.

Strategically Positioned Public and Private Spaces:

- To provide simple access for both guests and visitors, public spaces including the lobby, restaurants, and conference areas are arranged on the lower floors in a deliberate manner. These spaces are intended to be friendly, open, and suitable for both business meetings and social contact.
- The higher floors are occupied by guest rooms, which offer seclusion and peace of mind away from the busy public areas. These rooms' layout guarantees that visitors will have a peaceful, comfortable stay with few interruptions.

Promotion of Natural Light and Ventilation:

- The building's design encourages the utilization of natural light and ventilation. A bright and open atmosphere is created in public spaces and guest rooms thanks to large windows that let in plenty of sunlight.
- Another important component is natural ventilation, which improves the general quality of indoor air while lowering the need for artificial air conditioning.

INTERIOR DESIGN

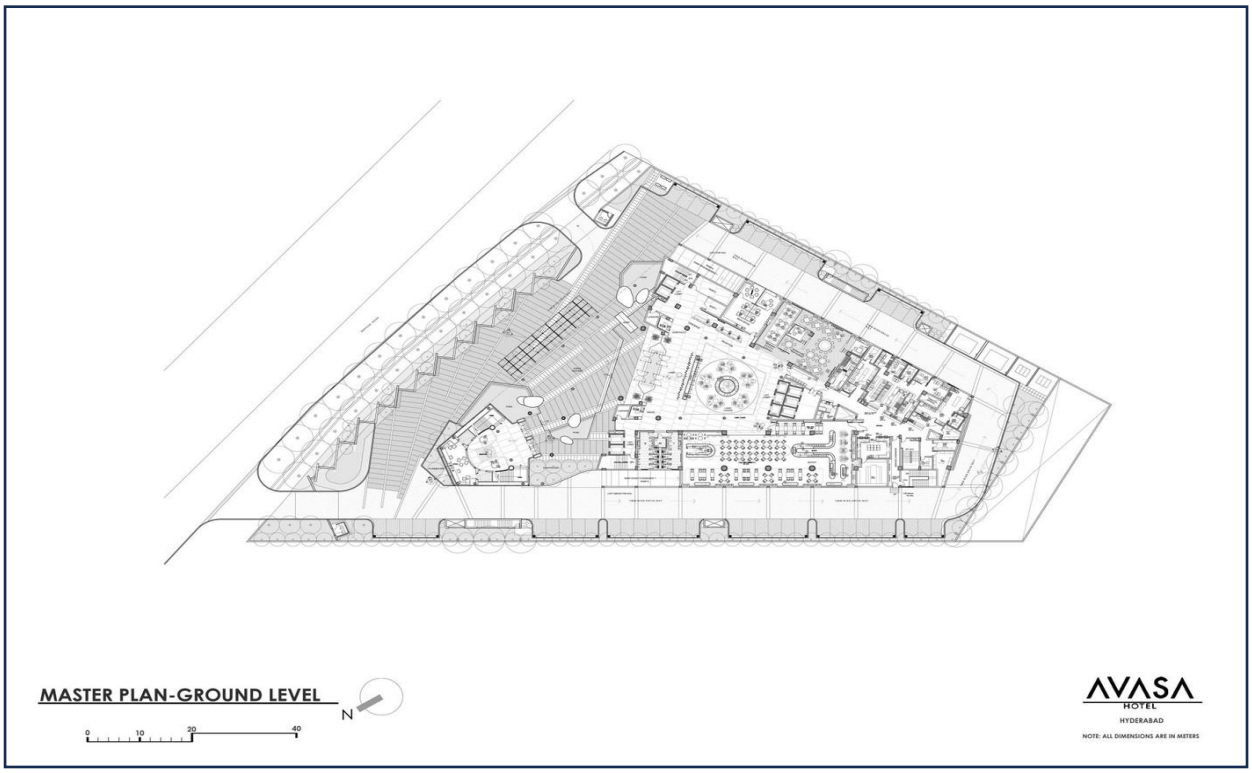
Contemporary Aesthetic with Neutral Tones:

- Hotel Avasa's interior design is distinguished by a modern style that priorities elegance and simplicity. Neutral colors like white, grey, and earth tones are used to create a refined and peaceful ambiance.
- Sleek lines and minimalistic forms of modern furniture suit this style and add to the overall air of refinement and elegance.

Seamless Indoor-Outdoor Experience:

- The hotel's common areas are made to be airy and welcoming, with a focus on achieving a seamless indoor-outdoor experience. This is accomplished by blending the lines between indoor and outdoor areas with the use of expansive glass panels, terraces, and courtyards.
- Local décor and artwork are thoughtfully positioned around the hotel to preserve the modern design language while incorporating a hint of regional flair.

FLOOR PLANS


MASTER PLAN-GROUND LEVEL
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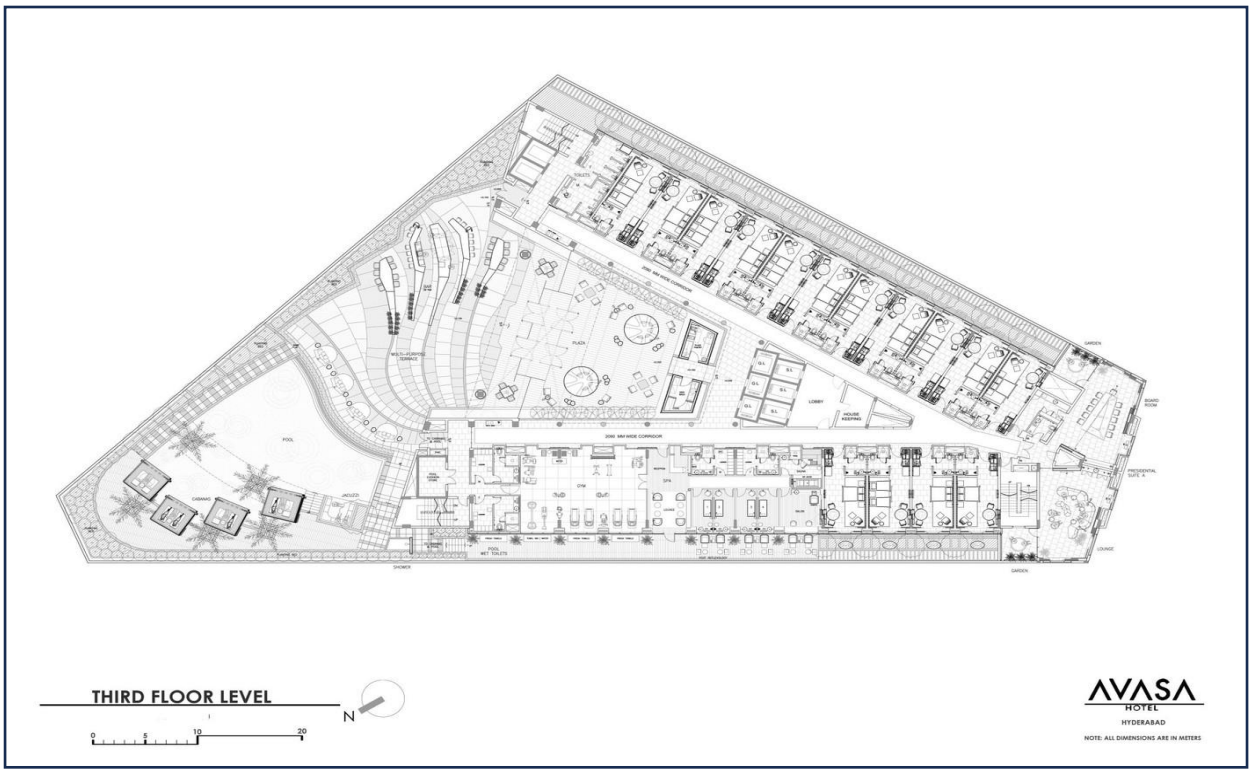
AVASA
HOTEL
HYDERABAD
NOTE: ALL DIMENSIONS ARE IN METERS


THIRD FLOOR LEVEL
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HOTEL
HYDERABAD
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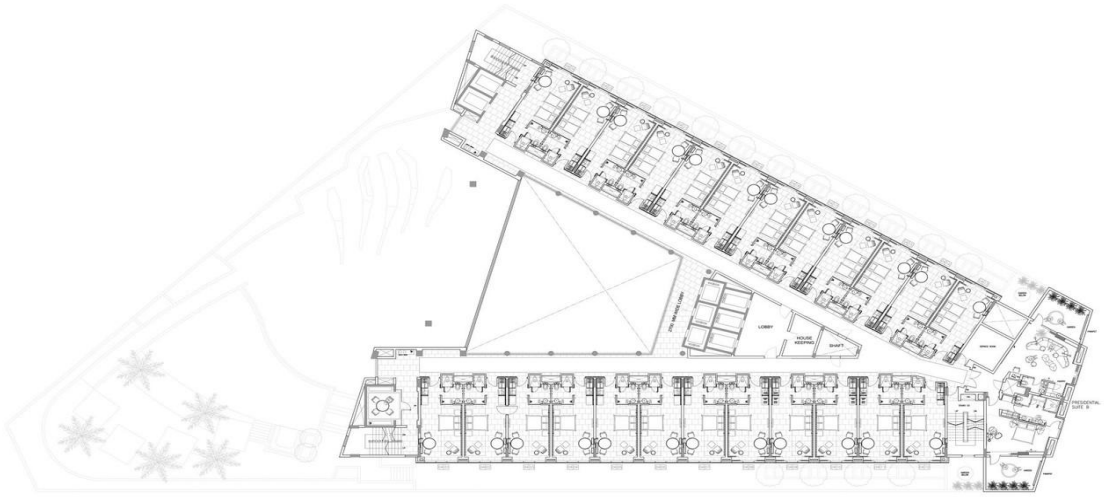

FOURTH FLOOR LEVEL

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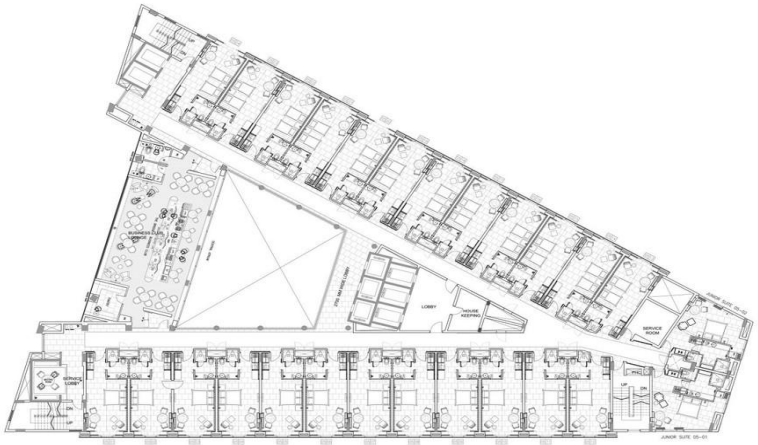
AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



FIFTH FLOOR LEVEL

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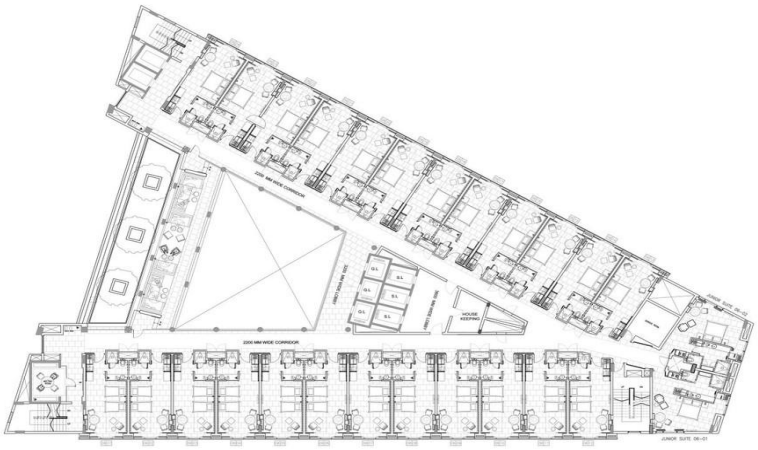
AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



SIXTH FLOOR LEVEL

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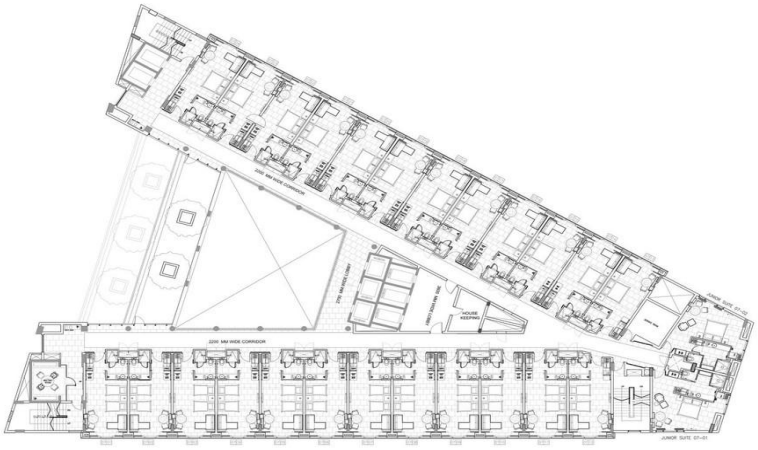
AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



SEVENTH FLOOR LEVEL

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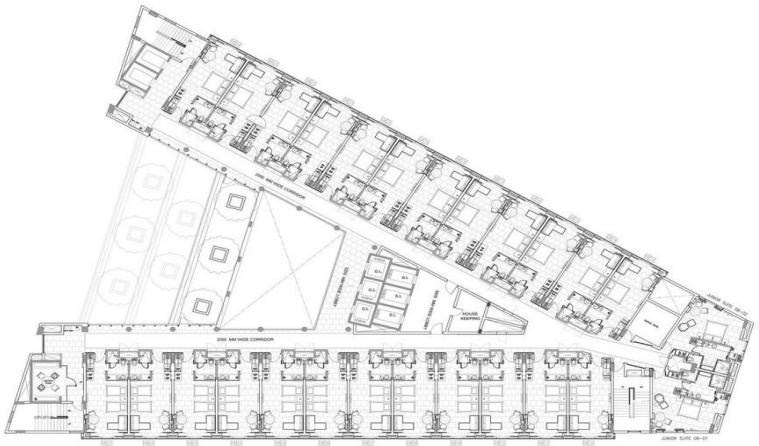
0 5 10 20

AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



EIGHTH FLOOR LEVEL

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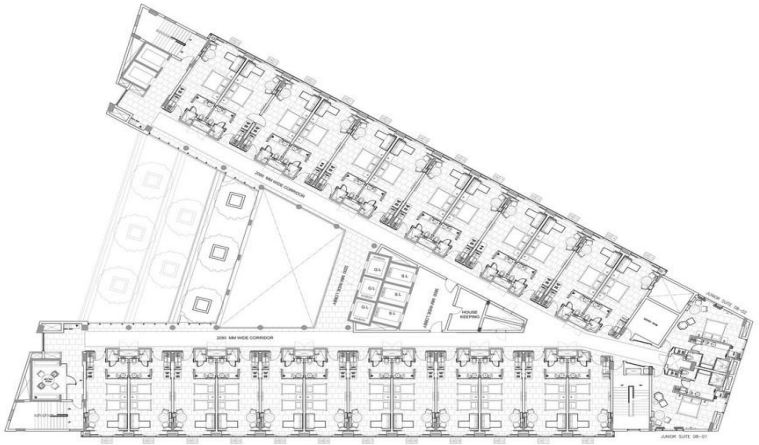
0 5 10 20

AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



NINTH FLOOR LEVEL

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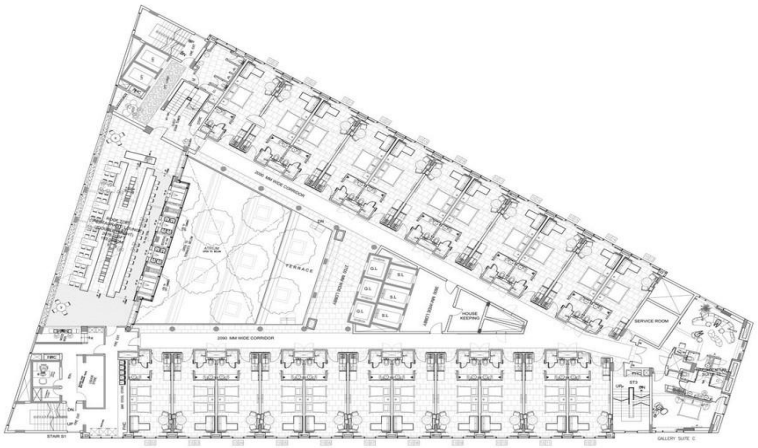
AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



TENTH FLOOR LEVEL

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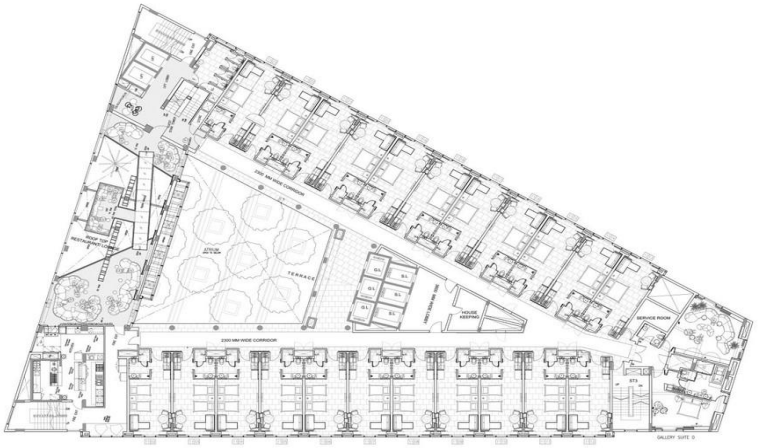
AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



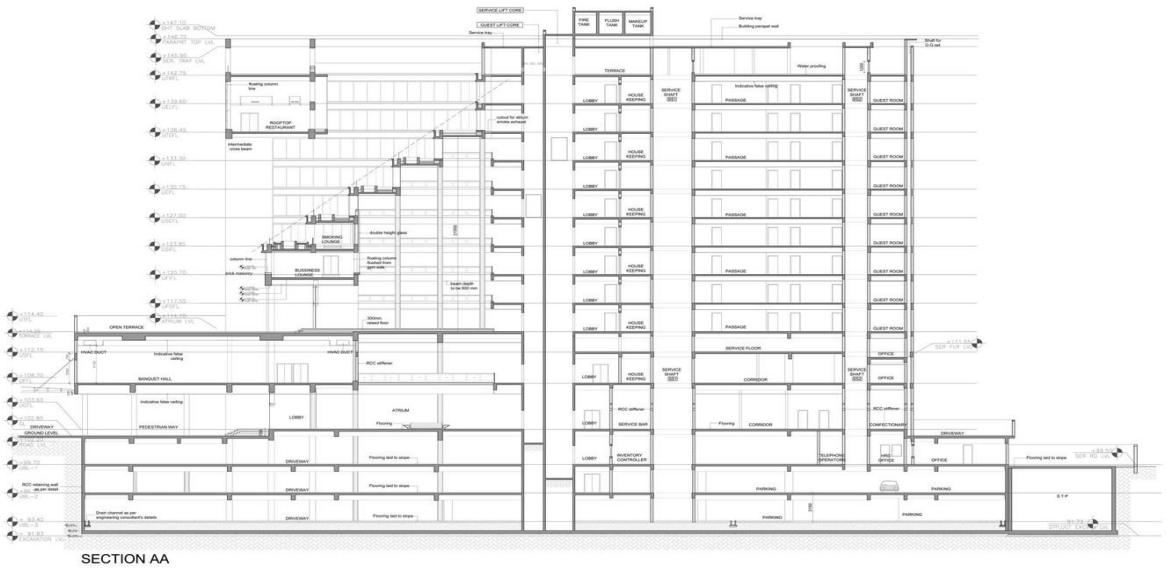
ELEVENTH FLOOR LEVEL

N

0 5 10 20

AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



SECTION AA

SECTION AA

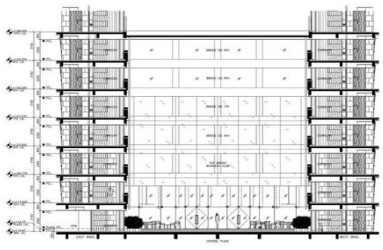
0 5 10 20

AVASA HOTEL
HYDERABAD

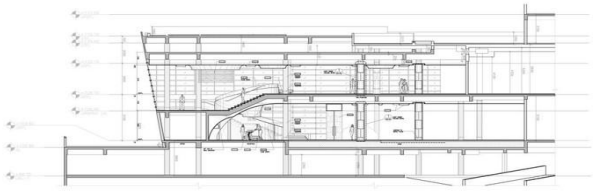
NOTE: ALL DIMENSIONS ARE IN METERS



SECTION 1-SECTION THROUGH TERRACE AND CENTRAL PLAZA



SECTION 2-SECTION THROUGH CENTRAL PLAZA FACING TERRACE



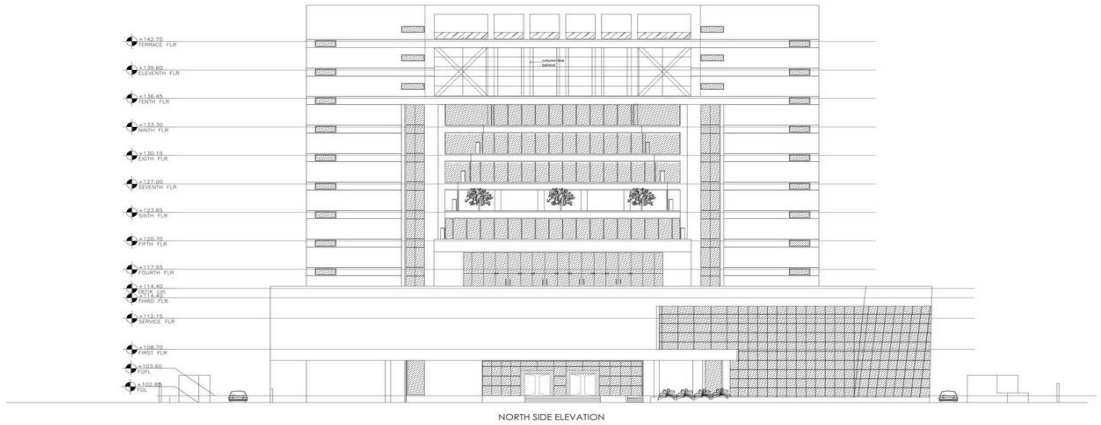
SECTION 3-SECTION THROUGH GRAND STAIR-CASE

SECTIONAL DETAILS

0 5 10 20

AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



NORTH SIDE ELEVATION

ELEVATION

0 5 10 20

AVASA HOTEL
HYDERABAD

NOTE: ALL DIMENSIONS ARE IN METERS



WEST SIDE ELEVATION

ELEVATION

0 5 10 20

AVASA HOTEL
HYDERABAD

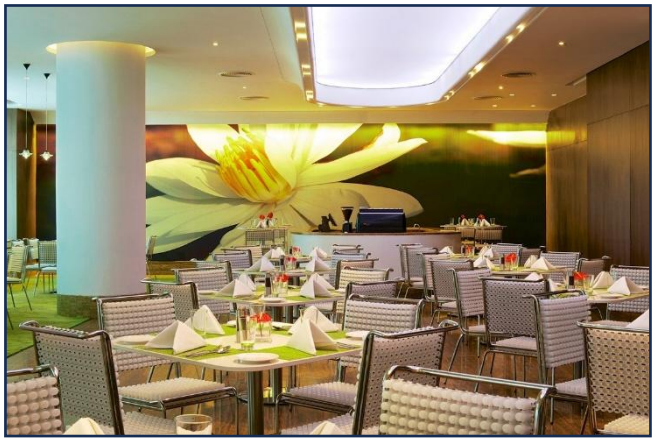
NOTE: ALL DIMENSIONS ARE IN METERS

INTERIORS



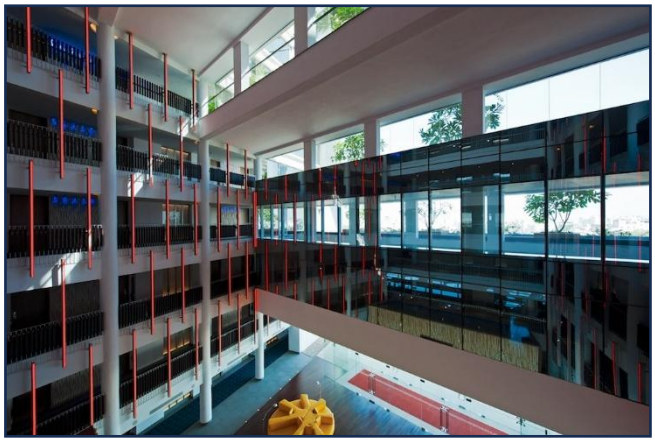


BANQUET HALL





RESTAURENT





4.5 COMPARATIVE ANALYSIS

Space Type	Taj Hotel	Radisson Bhopal	Leela Palace Delhi	Avasa Hotel	Literature Insights	Design Inferences
Guest Rooms	Luxury suites, premium rooms, heritage + modern blend	Standard + deluxe rooms, business-focused	Ultra-luxury suites, palace-inspired rooms	Compact stylish rooms, modern interiors	MoT: minimum room sizes, accessibility; TSS: comfort, privacy	Provide diverse room categories with universal access
Banquet / Convention Halls	Large luxury banquets, wedding-centric	Multiple banquet halls, social-event focus	Grand royal banquet halls, large conventions	Medium-sized banquets + sky lounge	NBC + MoT: capacity norms; URDPFI: multipurpose halls	Design modular halls for 1000+ pax
Restaurants & Dining	Fine dining, iconic specialty restaurants	Multi-cuisine restaurants + rooftop bar	Multiple high-end specialty restaurants	Fusion restaurants, rooftop dining	ITC Manuals: kitchen adjacency, guest-service separation	Include multiple F&B outlets with efficient kitchens
Lobby & Reception	Grand, culturally themed luxurious lobby	Contemporary business-style lobby	Opulent palace-style lobby with luxury detailing	Boutique-style bold lobby	TSS: first impressions, accessibility, visual axis	Create a grand cultural lobby with smooth circulation
Wellness & Leisure	Spa, pool, gardens, wellness facilities	Pool + gym, compact wellness	Premium spa, wellness retreats, luxury pool decks	Sky lounge, gym, minimalist wellness	MoT: spa mandatory for 5-star; NBC: wellness safety	Include spa, gym, pool, and sustainable wellness
Circulation & Vertical Zoning	Guest-first flow, concealed service corridors	Clear service/guest separation, efficient vertical zoning	Strict guest-service separation, multiple elevator banks	Compact efficient zoning	TSS: guest/service separation; NBC: fire norms	Ensure strict zoning + separate guest/service cores

Back of House (BOH)	Extensive BOH for large-scale operations	Well-planned BOH with service floors	Large kitchens, laundry, staff blocks for luxury ops	Compact BOH with strong circulation	TSS: critical BOH planning	Provide dedicated BOH cores for large operations
Special Features	Cultural motifs, luxury branding, iconic identity	Event-centric design focus	Palace architecture, luxury materials, cultural grandeur	Tech-driven boutique identity	Identity through culture, sustainability emphasized	Add cultural/local identity features + rooftops

CHAPTER V

DESIGN

5.1 CONCEPT

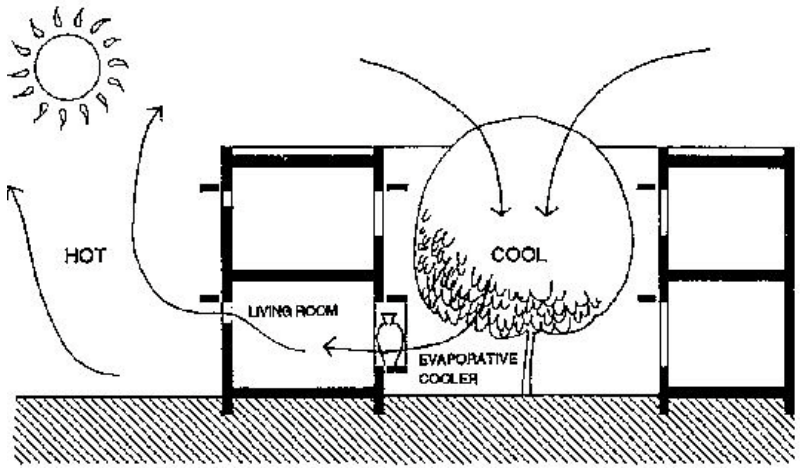
The aim of this project was to design a service oriented building which offers hospitality as a luxury hotel. The chosen site is located in the capital region of Madhya Pradesh, Bhopal.

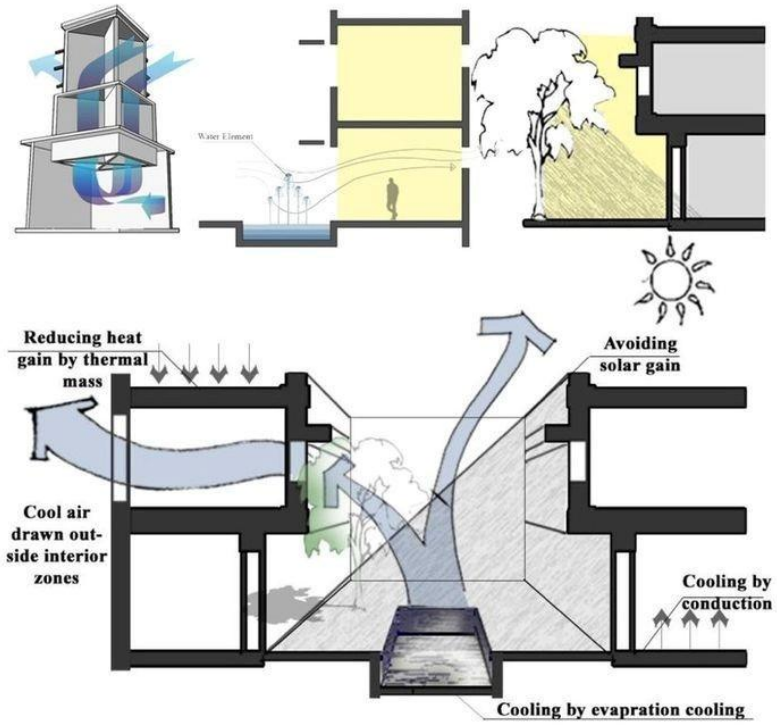
Location :- MPT Lake View Residency

Site Area :- 7.16 Acres (28,975.5 sqmt)

Courtyard design is a way to make an open central space entirely surrounded by structures or walls and is mostly used in residential, institutional, or cultural architecture.It maximizes natural daylight, natural air circulation, and access to the outdoors being a privacy-

aivina and communal space.





The lungs play a very important role in the respiratory system as they serve the purpose of exchanging oxygen and carbon dioxide. When breathing in, they arrange air with a rich oxygen content through small air passages known as alveoli which permit entry of oxygen into the bloodstream. At the same time the carbon dioxide, a waste product is emitted out of the blood and exhalation occurs.

Design Concept

The 5-stars have a lung-inspired courtyard that enhances air purification and ventilation in the central core. With a posh lush garden with trees and shrubbery, in the center of the building surrounded by the guest rooms and facilities, the courtyard brings a sense of elite environment by promoting air quality and energy savings as well as becoming quiet and relaxing. Smart sensors also can manage the airflow in a way that resembles the process that takes place in the lungs, and the resulting space provides the guests with a peaceful, communal environment that incorporates luxury with sustainability.

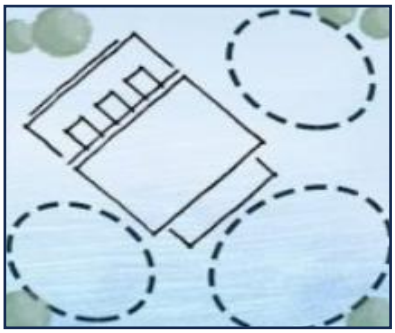


Figure 22 Tilting the building

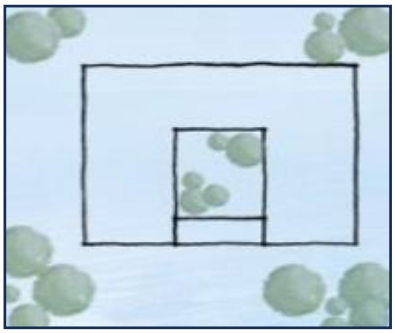


Figure 21 bringing in green zone

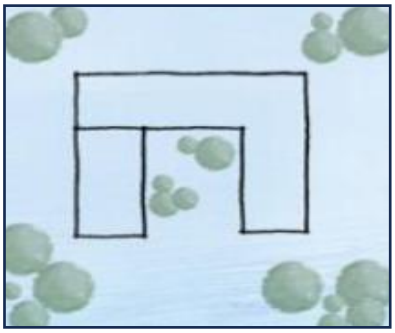


Figure 23 Divide the blocks

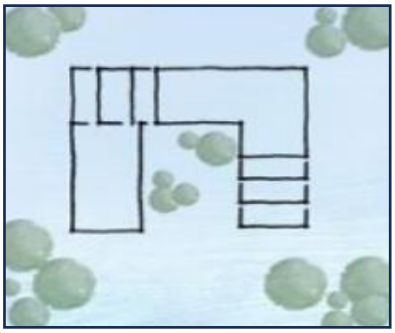
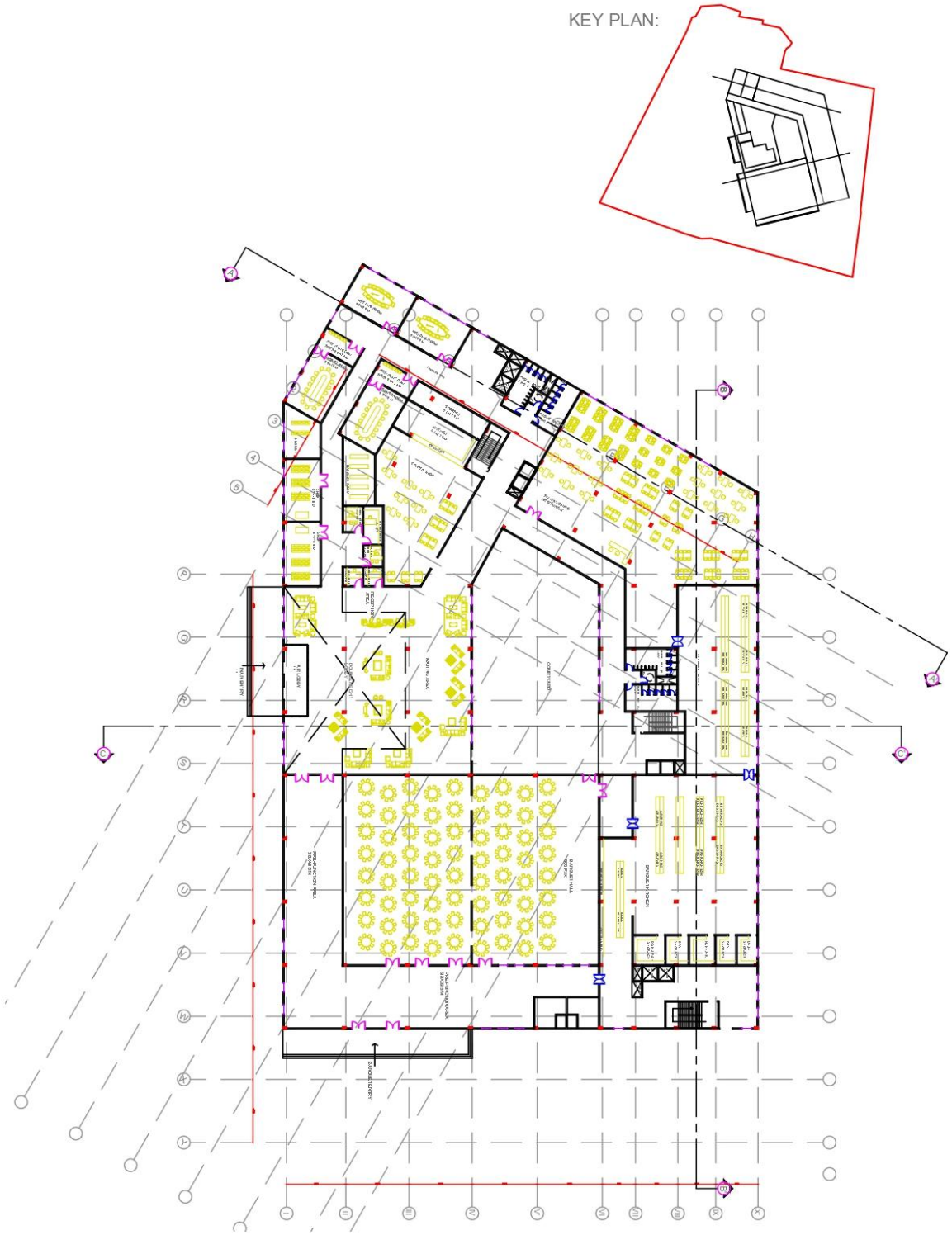
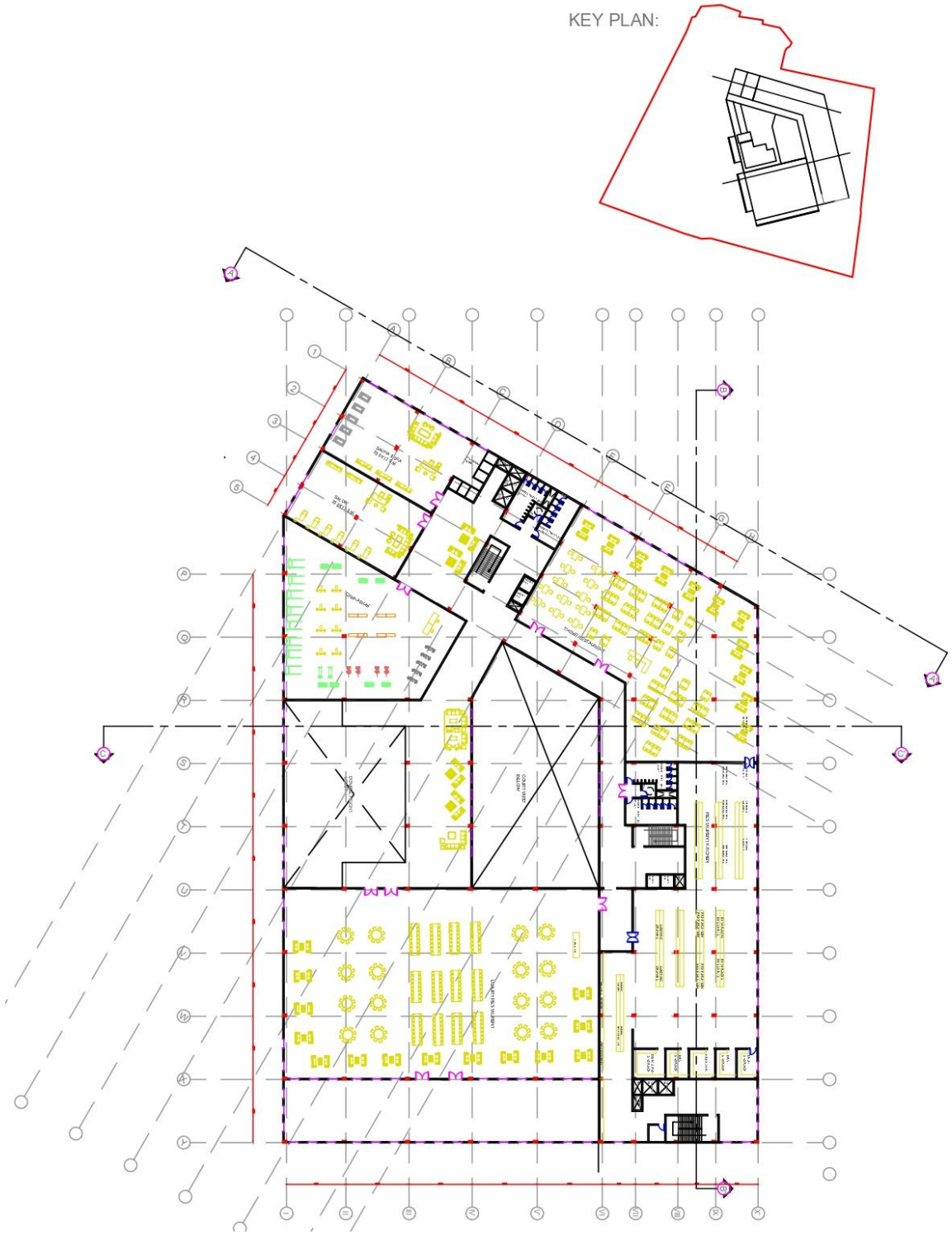


Figure 24 Green Terraces

FLOOR PLANS


KEY PLAN: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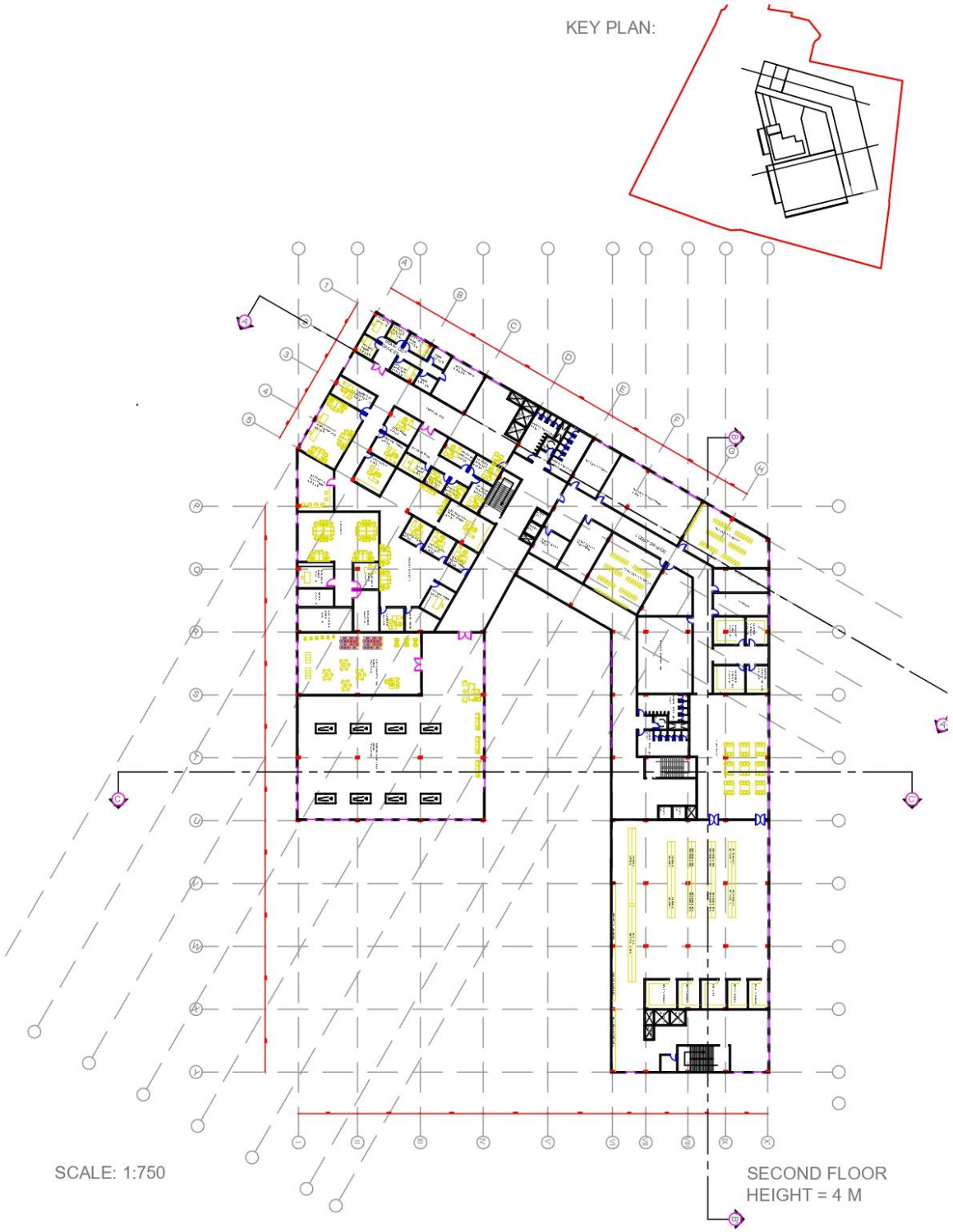
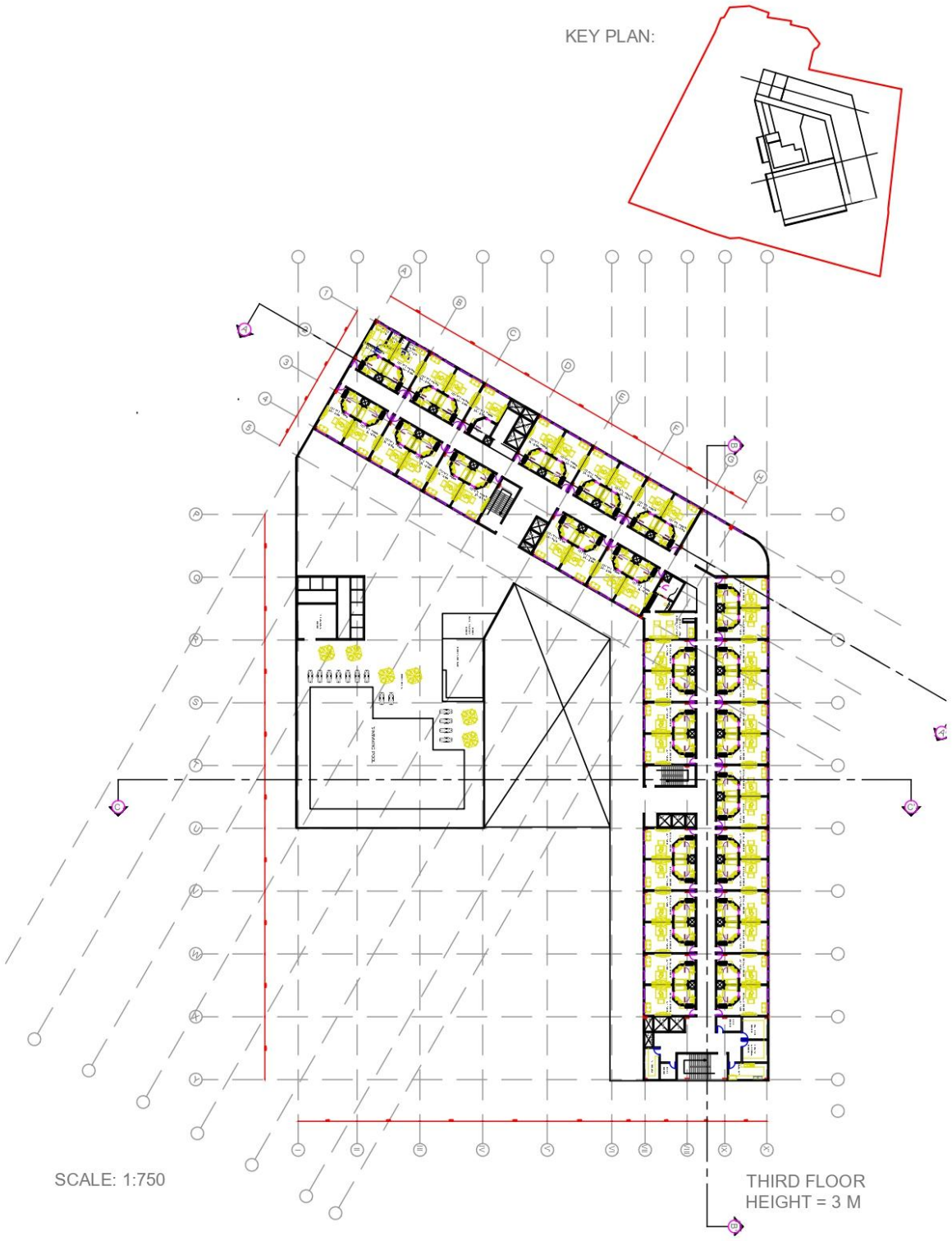
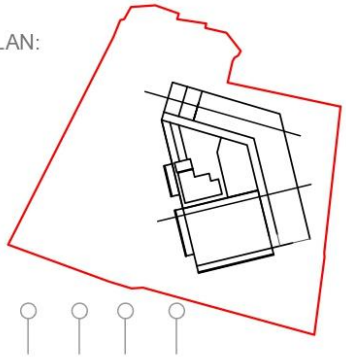
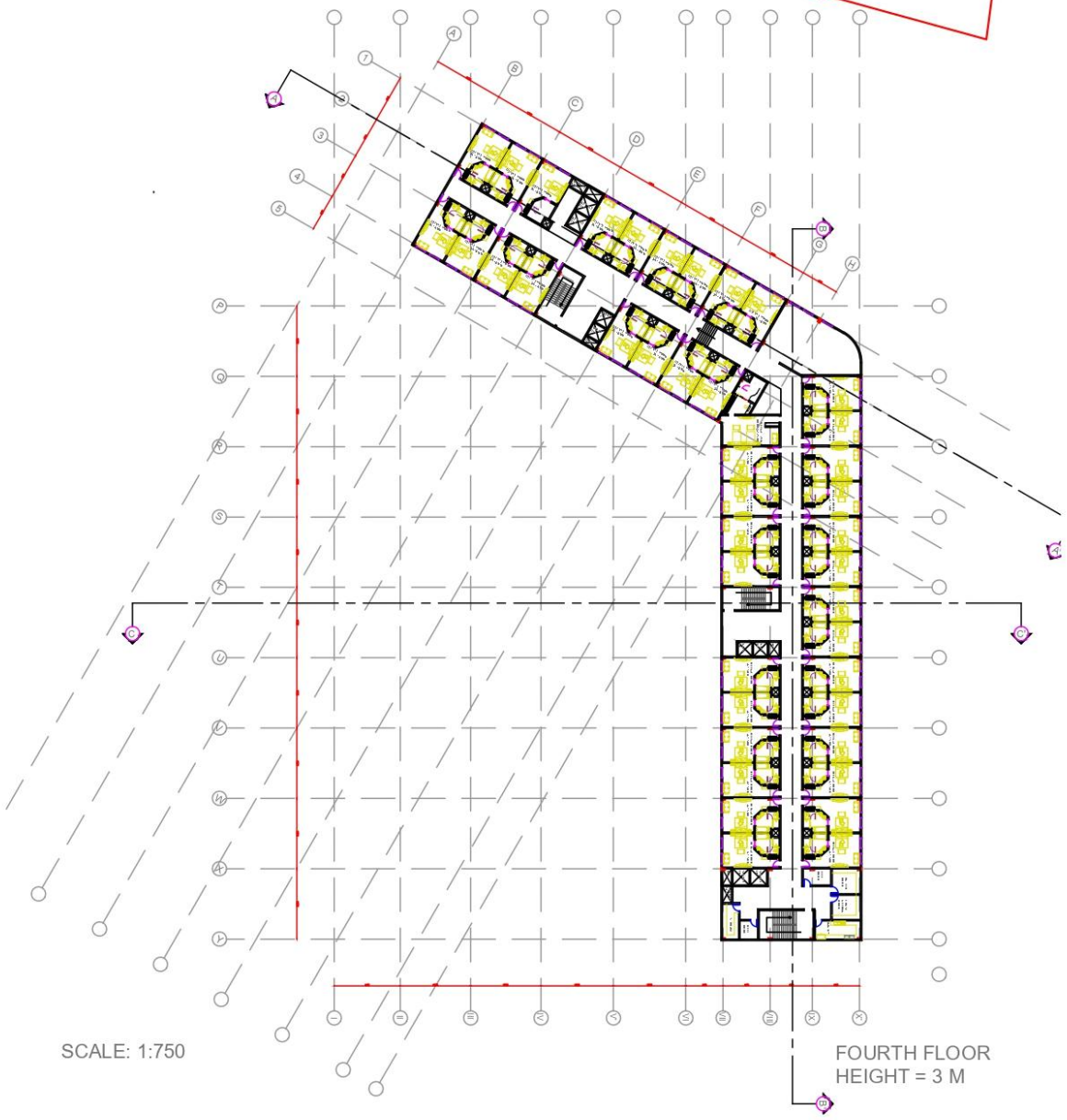

KEY PLAN:
SCALE: 1:750
SECOND FLOOR
HEIGHT = 4 M


KEY PLAN:
SCALE: 1:750
THIRD FLOOR
HEIGHT = 3 M

GUEST FLOOR
41 DELUXE ROOMS+ 1 DELUXE TWIN ROOM
TOTAL= 41+1= 42

KEY PLAN:



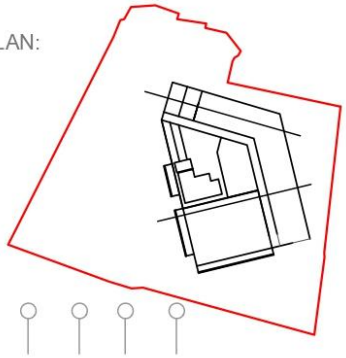


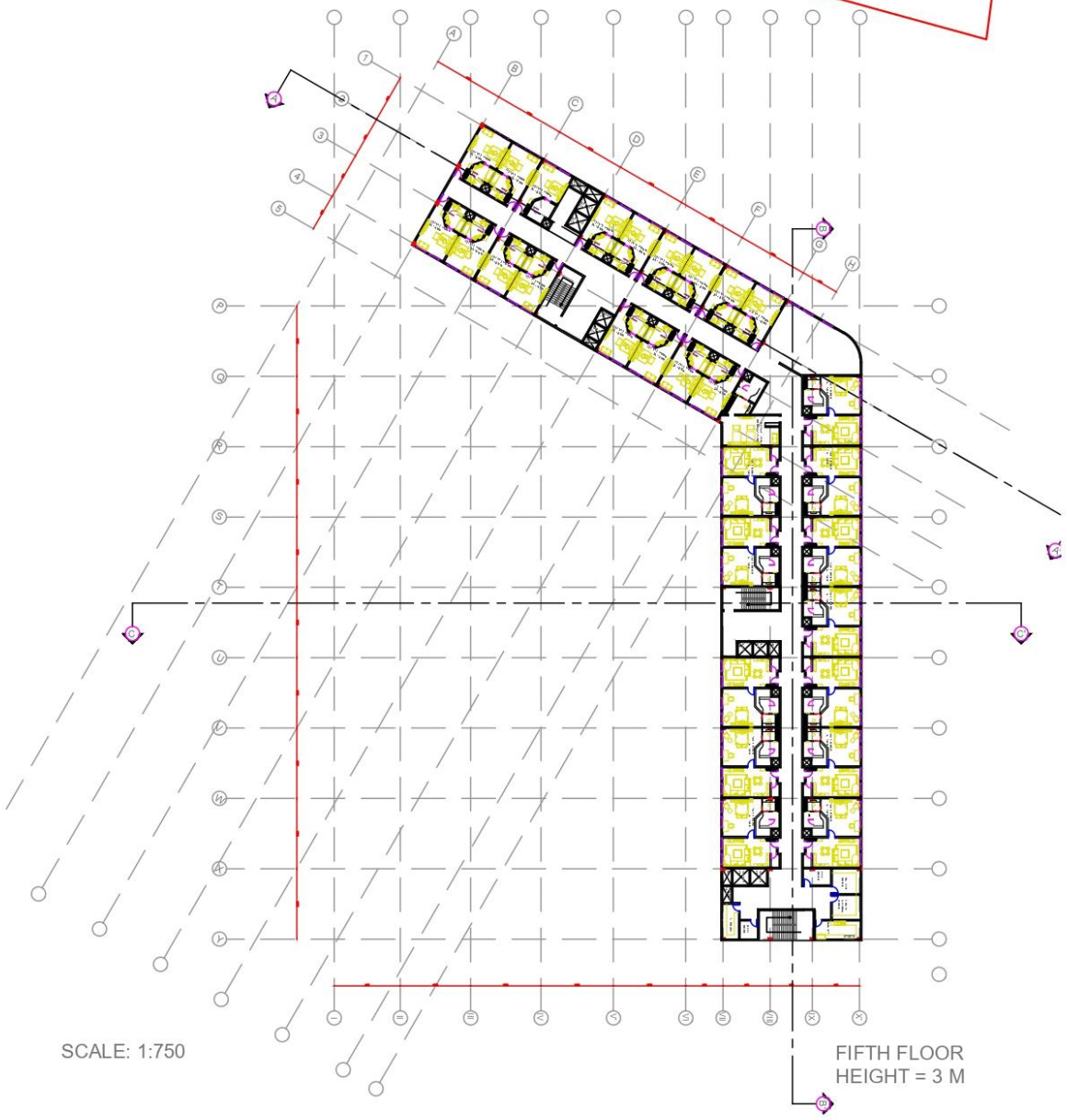
SCALE: 1:750

FOURTH FLOOR
HEIGHT = 3 M

17 DELUXE ROOM+ 1 DELUXE TWIN
ROOM+ 12 SUITE ROOMS
TOTAL= 17+1+12=30

KEY PLAN:



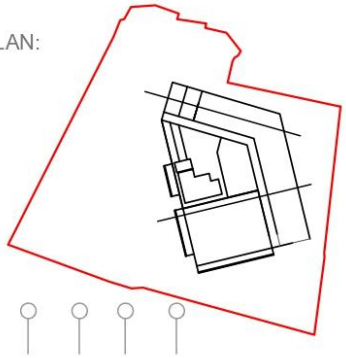


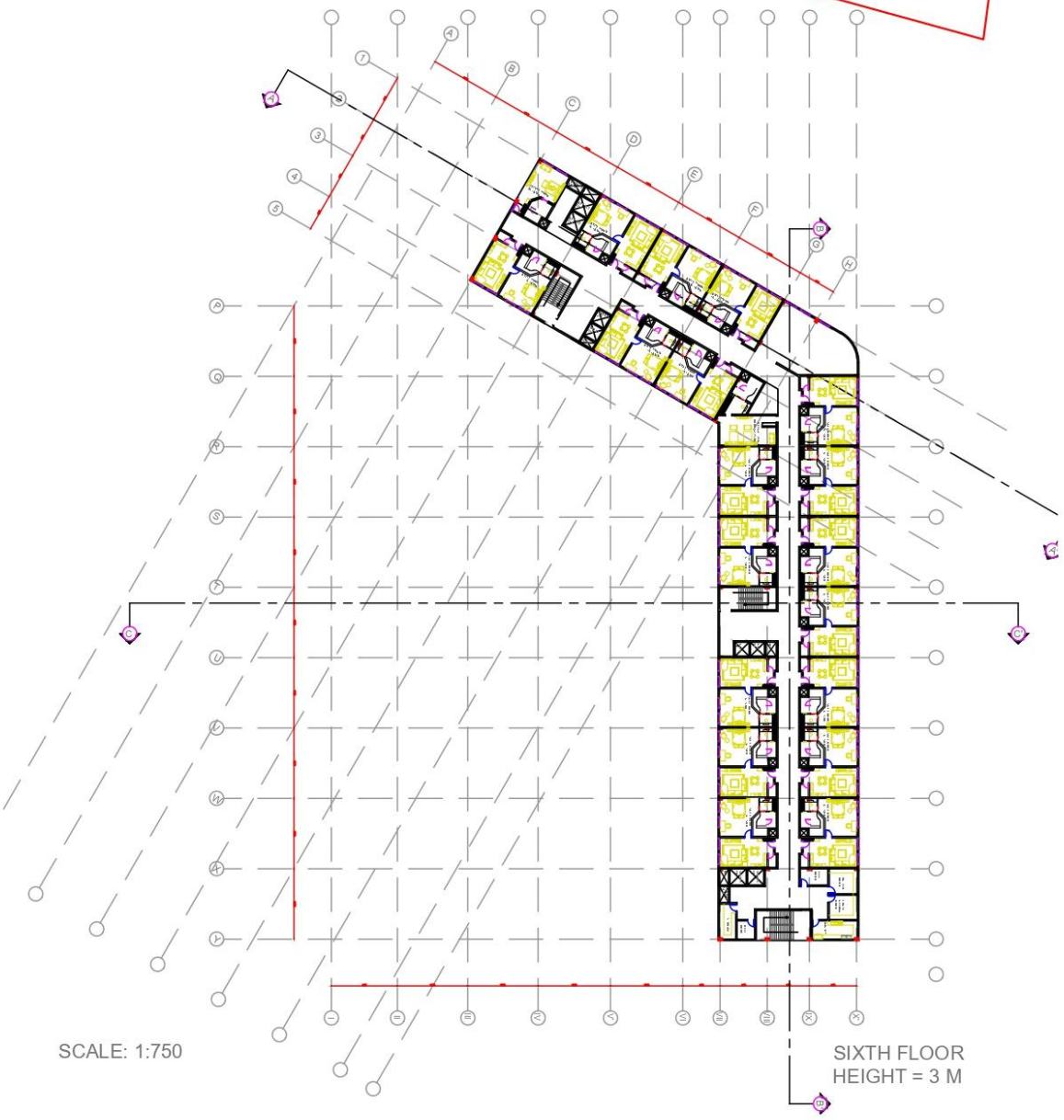
SCALE: 1:750

FIFTH FLOOR
HEIGHT = 3 M

1 DELUXE ROOM+ 1 DELUXE TWIN
ROOM+ 18 SUITE ROOMS
TOTAL= 1+1+18=20

KEY PLAN:



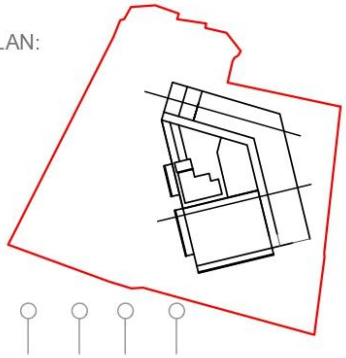


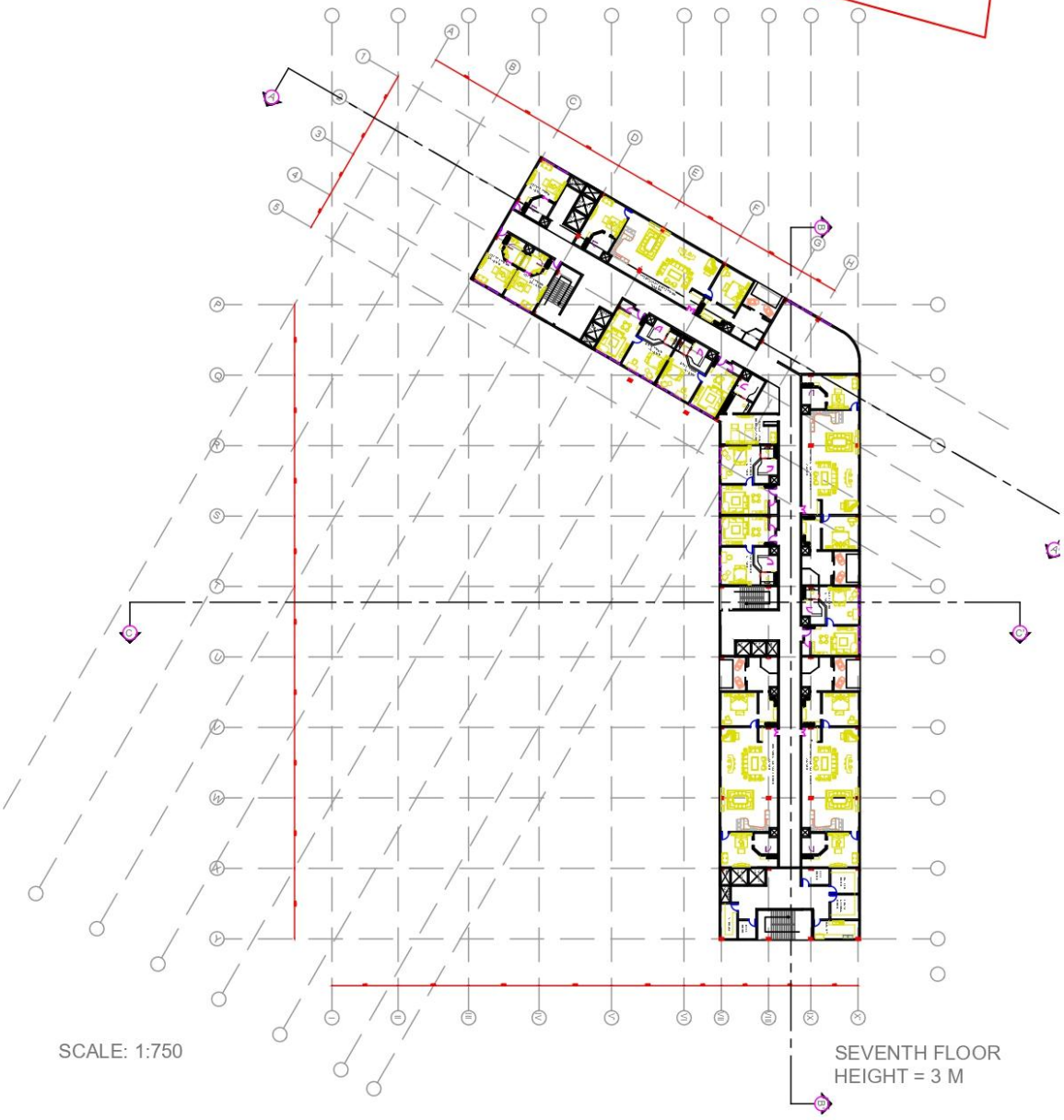
SCALE: 1:750

SIXTH FLOOR
HEIGHT = 3 M

3 DELUXE ROOM+ 1 DELUXE TWIN ROOM+ 3 SUITE ROOMS+ 4 PRESIDENTIAL SUITE ROOMS
TOTAL= 3+1+3+4=12

KEY PLAN:



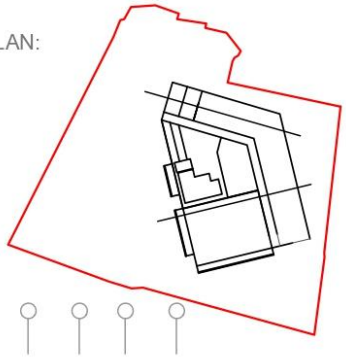


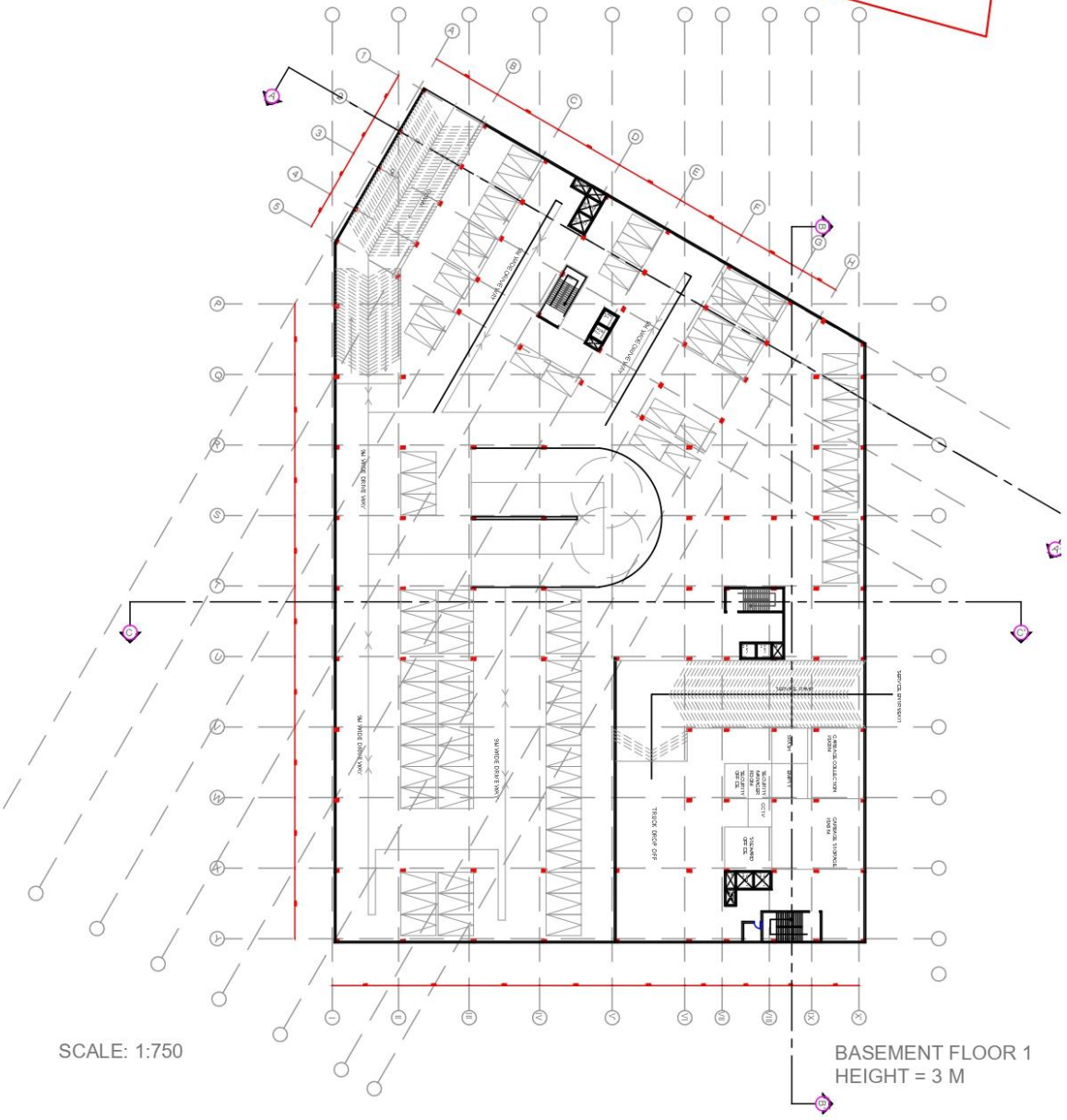
SCALE: 1:750

SEVENTH FLOOR
HEIGHT = 3 M

CAR PARKING= 81

KEY PLAN:



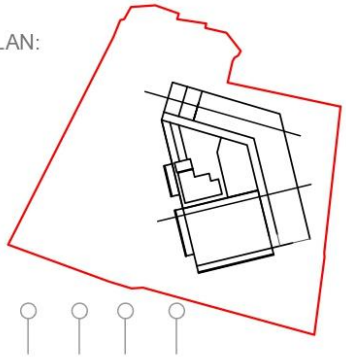


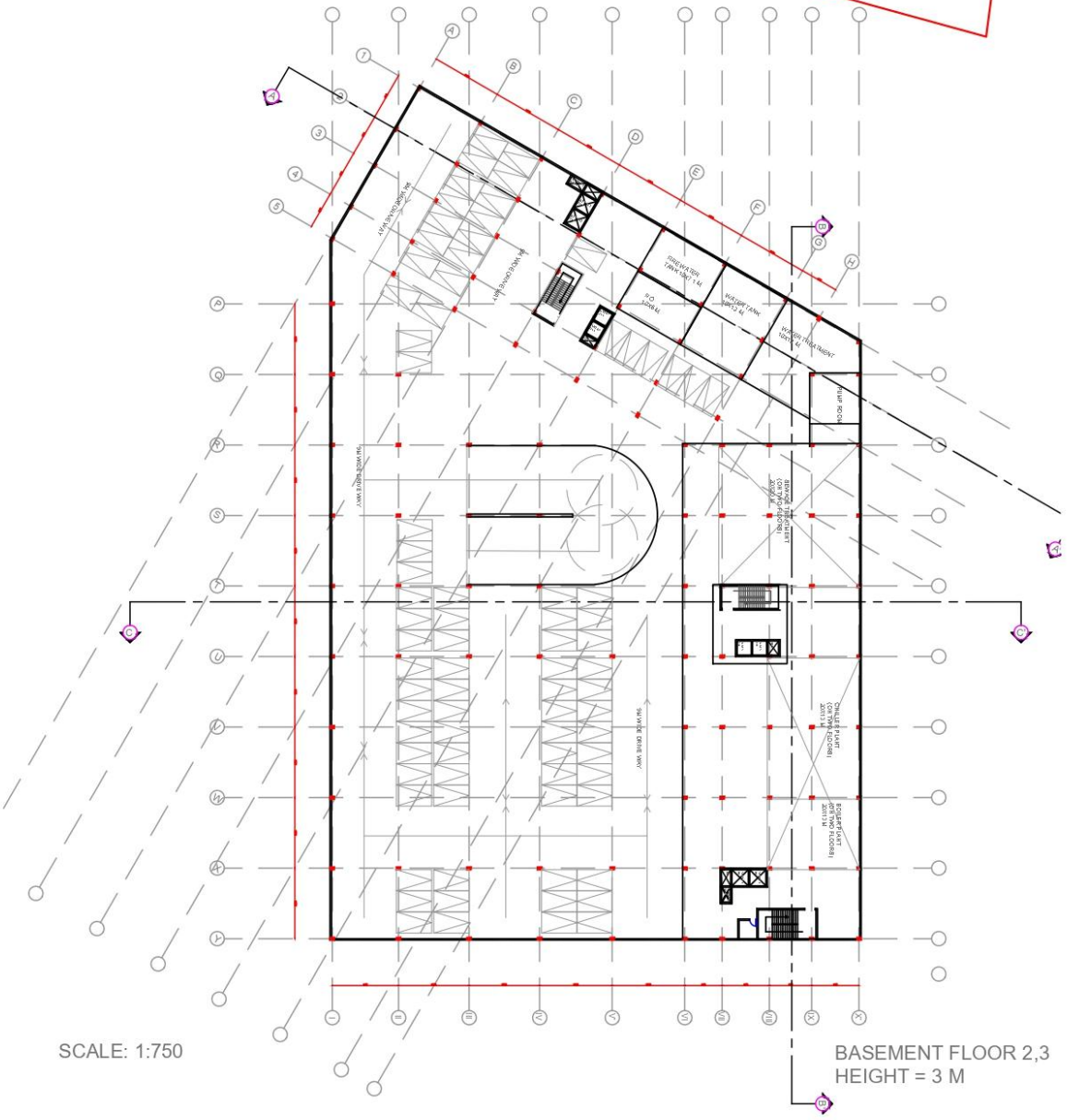
SCALE: 1:750

BASEMENT FLOOR 1
HEIGHT = 3 M

CAR PARKING= 80+80

KEY PLAN:



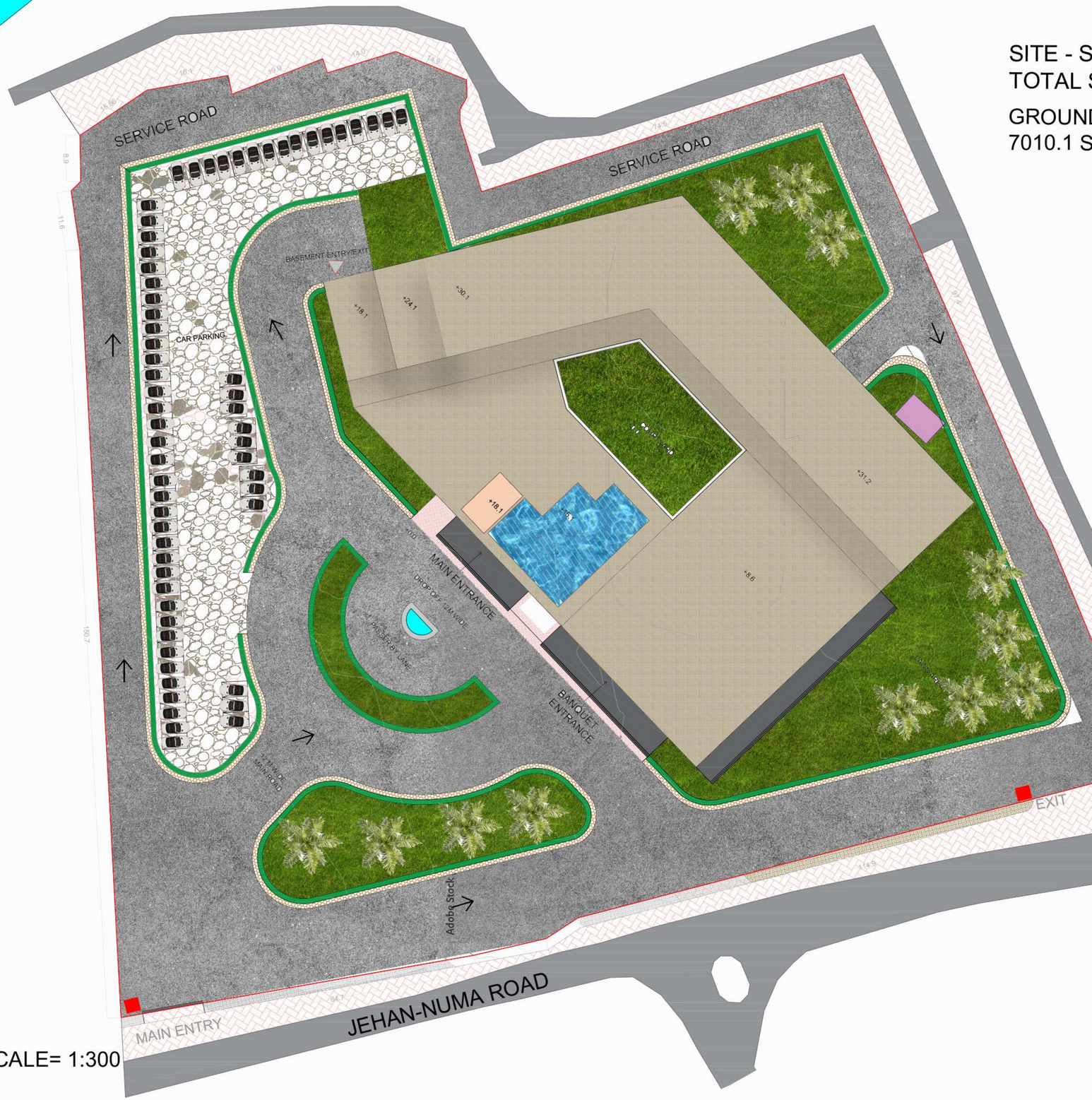


SCALE: 1:750

BASEMENT FLOOR 2,3
HEIGHT = 3 M

REFERENCES

- Hotel Design, Planning and Development Book by Lawrence Adams, Richard H. Penner, and Walter A. Rutes
- HRACC Guidelines for hotel, Ministry of Tourism
- Neufert 4th edition Architect's data https://byarchlens.com/wp-content/uploads/2020/11/Neufert-4th-edition.pdf
- http://environmentclearance.nic.in/writereaddata/formB/MODIEC/20112018DTYL5GRFfinalEIA.pdf
- Neufert, P. and Neufert, E. (n.d) Architect's Data, 3rd edition, Oxford: Blackwell Science https://crda.ap.gov.in/crda_norifications/NOT12085176/01~APCRDA%20Project%20status%20Report%20Edition3.pdf.
- https://tourism.mp.gov.in/Uploaded%20Document/Tenders/25032025075006FinalRFPMPTLakeview.pdf
- https://tourism.mp.gov.in/Uploaded%20Document/Tenders/25032025075229FinalDCAMPTLakeview.pdfhttps://www.marriott.com/hotels/travel/delwi-the-westin-gurgaon-new-delhi/
- https://www.researchgate.net/profile/Triveni-
- Nanda/publication/323253186_5_Star_Business_Hotel_at_Bhopal_A_Design_Proposal/links/
- 5a892ff2458515b8af9273a6/5-Star-Business-Hotel-at-Bhopal-A-Design-Proposal.pdf
- Hotel Design, Planning and development, by Richard Penner, Lawrence Adams, Stephani K. A. Robson
- HRACC (2011) Guidelines for Star Rating of Hotels, New Delhi: Ministry of Tourism



SCALE= 1:300

SITE - SHYAMLA HILLS, BHOPAL
TOTAL SITE SITE AREA= 7.16 ACRE

GROUND COVERAGE= 24% ,
7010.1 SQM

- MAIN ROAD
- SERVICE ROAD
- HOTEL BUILDING
- VEGETATION
- COURTYARD
- SWIMMING POOL
- WATER BODY

PROJECT: PROPOSED 5-STAR HOTEL

PROJECT DEVELOPERS:

TITLE: SITE PLAN

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:500	A-004	AKANKSHA SINGH

REMARKS:

KEY PLAN

NOTES

1. ALL DIMENSIONS ARE IN MM & ALL LEVEL'S IN MM
2. DO NOT SCALE THE DRAWING.
3. ONLY WRITTEN DIMENSIONS AND LEVELS MARKED SHALL BE FOLLOWED.
4. ANY DISCREPANCY SHALL BE BROUGHT TO ARCHITECT'S NOTICE IN WRITTEN BEFORE EXECUTION.
5. THIS DRAWING SHALL BE READ IN CUNJUNCTION WITH RELEVANT STRUCTURAL AND PLUMBING/ SANITATION DRAWING.

SIGNATURE OF THESIS GUIDE

NAME: AKANKSHA SINGH
SCHOLAR NO: 211110035
SEMESTER: 9TH
BATCH: 2021-2026
GUIDED BY: Dr.PREMJEET D. GUPTA

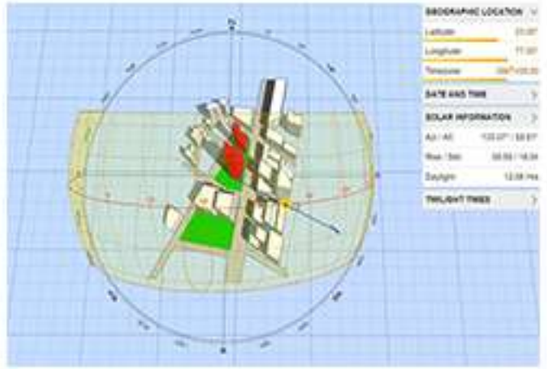
SITE ANALYSIS 5 Star Hotel Design

MPT Lake View Residency, Bhopal, MP

Bhopal is in the centre of India and is the capital of Madhya Pradesh. The city is approximately 463 square kilometres big. Bhopal is on the Malwa Plateau and is surrounded by hills. It has two big lakes, the Upper Lake and the Lower Lake, which is why it is called the City of Lakes. Because it is in the middle of India, it is a strategic centre for business, transportation, and government.









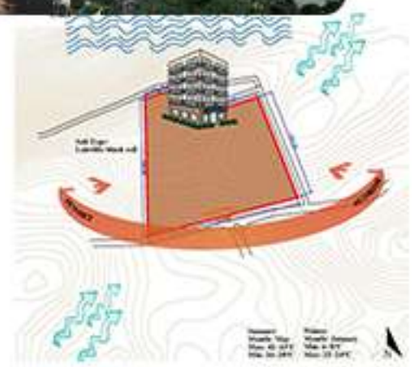


Site Location & Details

Location: Shyamala Hills, Bhopal, Madhya Pradesh, overlooking Bada Talab (Upper Lake).
• Latitude & Longitude: 23.243043872752793, 77.38768911349595
• Land Area (Site Area): ~7.16 Acres (28,975 sq. m.)
• Existing Built-up Area: ~87,521 sq. ft. (existing structures to be demolished)
• Land Ownership: Madhya Pradesh Tourism (via MPHCL)
• Immediate Surroundings:
• North: Bada Talab (Ramsar site)
• South: Jehan Numa Palace Road
• East: Tribal Museum / Government buildings
• West: Hotel Jehan Numa Palace and green buffers

Connectivity

1. Jehan Numa Palace Hotel – 150 meters
2. Van Vihar National Park (Main Gate) – 500 meters
3. Upper Lake Boat Club / Lake Promenade – 300 meters
4. MP Tribal Museum – 800 meters
5. Regional Museum of Natural History – 1.5 kilometres
6. Sair Sapata (lakefront recreation area) – 2.5 kilometres
7. VIP Road (Main Arterial) – 600 meters
8. State Museum / Ravindra Bhavan – 2.8 kilometres
9. Bharat Bhavan (Cultural Complex) – 3.2 kilometres
10. Bhopal Railway Station – 7.5 kilometres
11. Raja Bhoj International Airport – 14.5 kilometres
12. DB City Mall (Commercial/Entertainment Hub) – 6.2 kilometres
13. Manav Sangrahalaya (Indira Gandhi Rastriya Manav Sangrahalaya) – 1.2 kilometres



Temprature

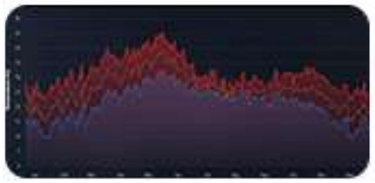
Peak Summer (Hottest Month)
-Month: May -Temperature:
• Max: 42–43°C
• Min: 26–28°C -
Peak Winter (Coldest Month)
-Month: January -Temperature:
• Min: 6–8°C
• Max: 22–24°C

Humidity

Maximum Humidity -
Month: August (Monsoon Peak) -
Humidity: 85–90% (morning), 75% (evening)
Minimum Humidity
-Month: May (Pre-Monsoon Summer)
-Humidity: 20–30%

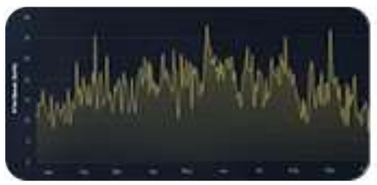
Rainfall
Maximum Rainfall -
Month: August -
Rainfall: 350–400 mm
-Conditions: Overcast skies, continuous rainfall,
Minimum Rainfall
-Month: December -
Rainfall: 3–5 mm (lowest rainfall)
-Conditions: Clear skies, dry air, pleasant days

Wind Speed
Maximum Wind Speed
-Month: June (peak pre-monsoon & early monsoon)
-Average Wind Speed: 15–20 km/h
-Wind Direction: Predominantly South West (SW)
Minimum Wind Speed
-Month: November–December
-Average Wind Speed: 3–5 km/h
-Wind Direction: North-East (NE) or calm conditions







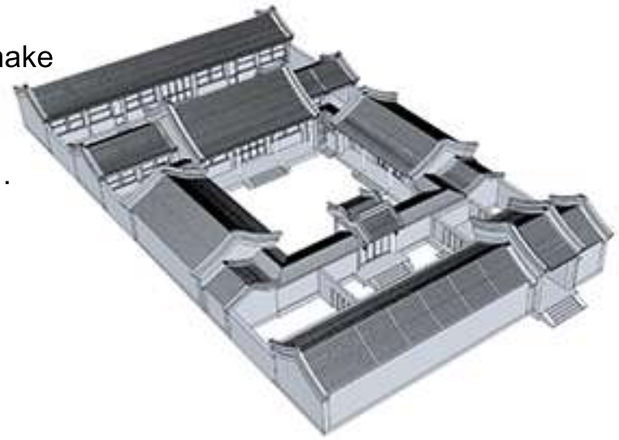


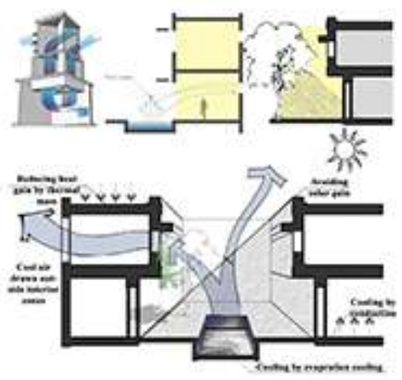
CONCEPT

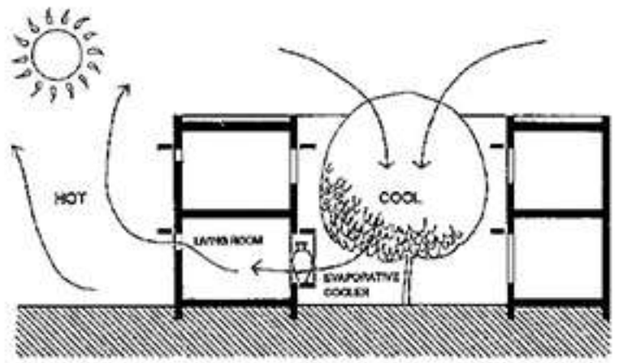
The aim of this project was to design a service oriented building which offers hospitality as a luxury hotel. The chosen site is located in the capital region of Madhya Pradesh, Bhopal.

Location :- MPT Lake View Residency
Site Area :- 7.16 Acres (28,975.5 sqmt)

COURTYARD- Courtyard design is a way to make an open central space entirely surrounded by structures or walls and is mostly used in residential,institutional, or cultural architecture . It maximizes natural daylight,natural air circulation, and access to the outdoors being a privacy- aivina and communal space.

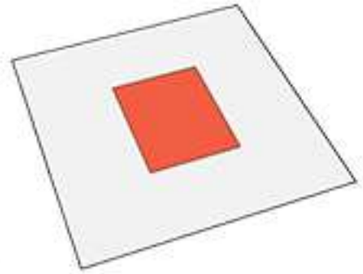






DESIIGN CONCEPT-
The 5-stars have a lung-inspired courtyard that enhances air purification and ventilation in the central core. With a posh lush garden with trees and shrubbery, in the center of the building surrounded by the guest rooms and facilities, the courtyard brings a sense of elite environment by promoting air quality and energy savings as well as becoming quiet and relaxing. Smart sensors also can manage the airflow in a way that resembles the process that takes place in the lungs, and the resulting space provides the guests with a peaceful, communal environment that incorporates luxury with sustainability.

FORM EVOLUTION



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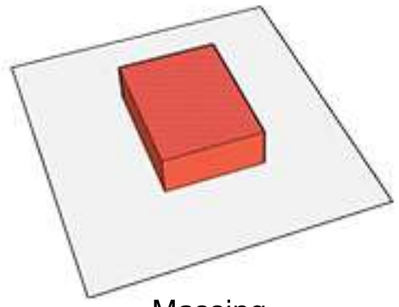
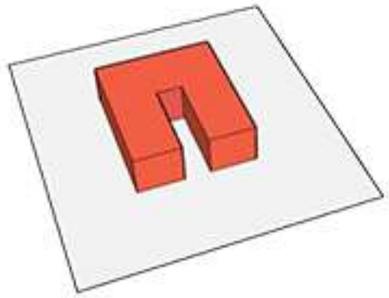
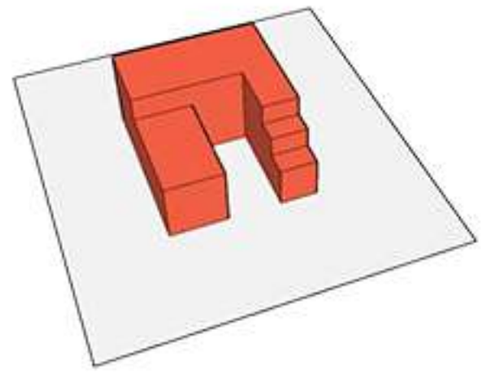


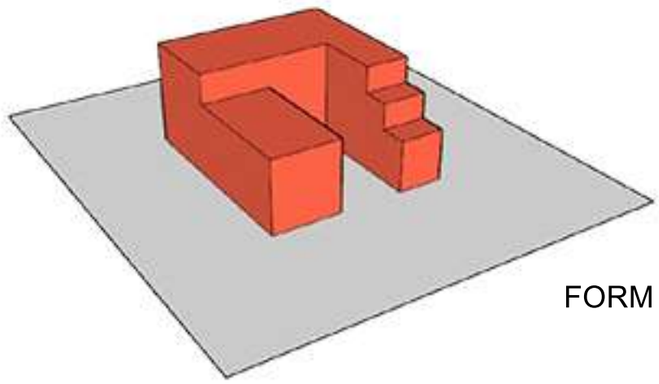
Massing



Bringing the green zones as courtyard



Bringing the green stepped terrace



FORM

COMPARATIVE ANALYSIS

Space Type	Taj Hotel	Radisson Bhopal	Leela Palace Delhi	Avasa Hotel	Literature Insights	Design Inferences
Guest Rooms	Luxury suites, premium rooms, heritage + modern blend	Standard + deluxe rooms, business-focused	Ultra-luxury suites, palace-inspired rooms	Compact stylish rooms, modern interiors	MoT: minimum room sizes, accessibility; TSS: comfort, privacy	Provide diverse room categories with universal access
Banquet / Convention Halls	Large luxury banquets, wedding-centric	Multiple banquet halls, social-event focus	Grand royal banquet halls, large conventions	Medium-sized banquets + sky lounge	NBC + MoT: capacity norms; URDPFI: multipurpose halls	Design modular halls for 1000+ pax
Restaurants & Dining	Fine dining, iconic specialty restaurants	Multi-cuisine restaurants + rooftop bar	Multiple high-end specialty restaurants	Fusion restaurants, rooftop dining	ITC Manuals: kitchen adjacency, guest-service separation	Include multiple F&B outlets with efficient kitchens
Lobby & Reception	Grand, culturally themed luxurious lobby	Contemporary business-style lobby	Opulent palace-style lobby with luxury detailing	Boutique-style bold lobby	TSS: first impressions, accessibility, visual axis	Create a grand cultural lobby with smooth circulation
Wellness & Leisure	Spa, pool, gardens, wellness facilities	Pool + gym, compact wellness	Premium spa, wellness retreats, luxury pool decks	Sky lounge, gym, minimalist wellness	MoT: spa mandatory for 5-star; NBC: wellness safety	Include spa, gym, pool, and sustainable wellness
Circulation & Vertical Zoning	Guest-first flow, concealed service corridors	Clear service/guest separation, efficient vertical zoning	Strict guest-service separation, multiple elevator banks	Compact efficient zoning	TSS: guest/service separation; NBC: fire norms	Ensure strict zoning + separate guest/service cores
Back of House (BOH)	Extensive BOH for large-scale operations	Well-planned BOH with service floors	Large kitchens, laundry, staff blocks for luxury ops	Compact BOH with strong circulation	TSS: critical BOH planning	Provide dedicated BOH cores for large operations
Special Features	Cultural motifs, luxury branding, iconic identity	Event-centric design focus	Palace architecture, luxury materials, cultural grandeur	Tech-driven boutique identity	Identity through culture, sustainability emphasized	Add cultural/local identity features + rooftops

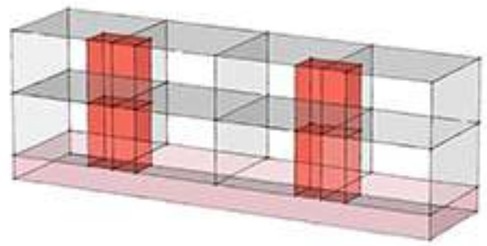




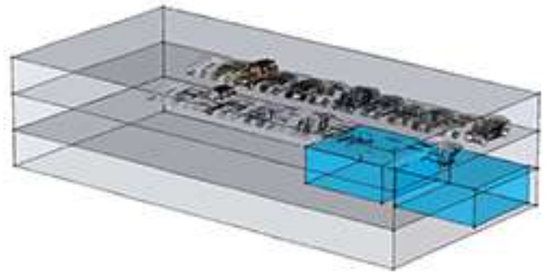




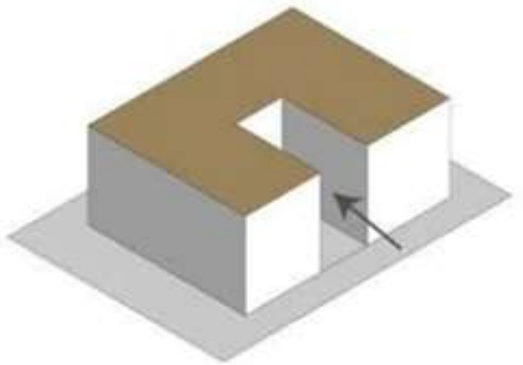
INFERENCES



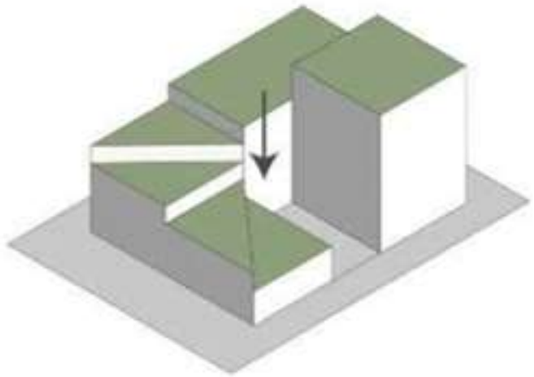
Plumbing Shaft Should be common between two guest rooms



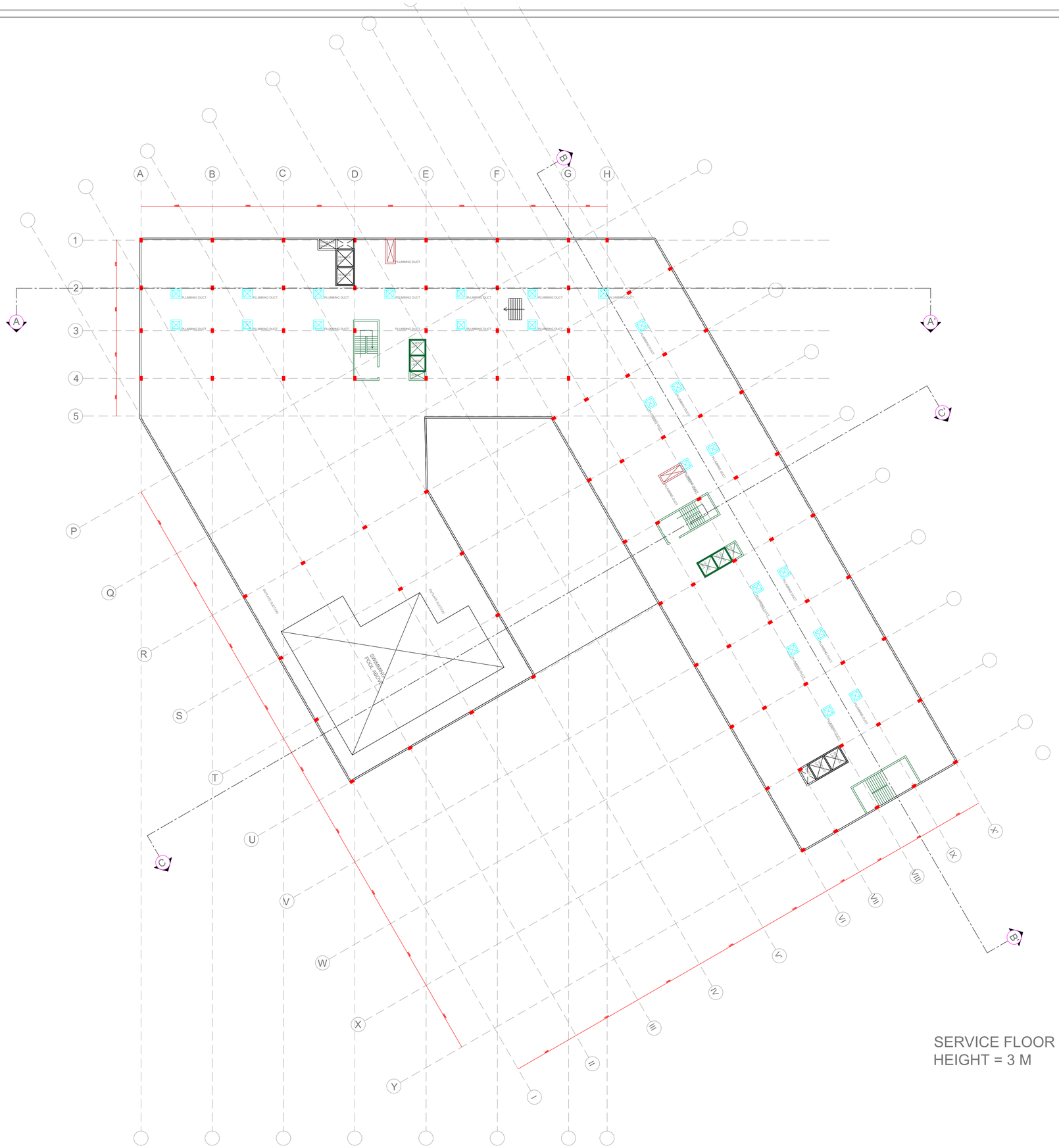
Services like STP, WTP should be in basement 3 or more.



Atrium or Courtyard for better light and ventilation



Steps in Building form



SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

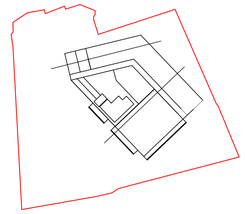
TITLE:
SERVICE FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-000	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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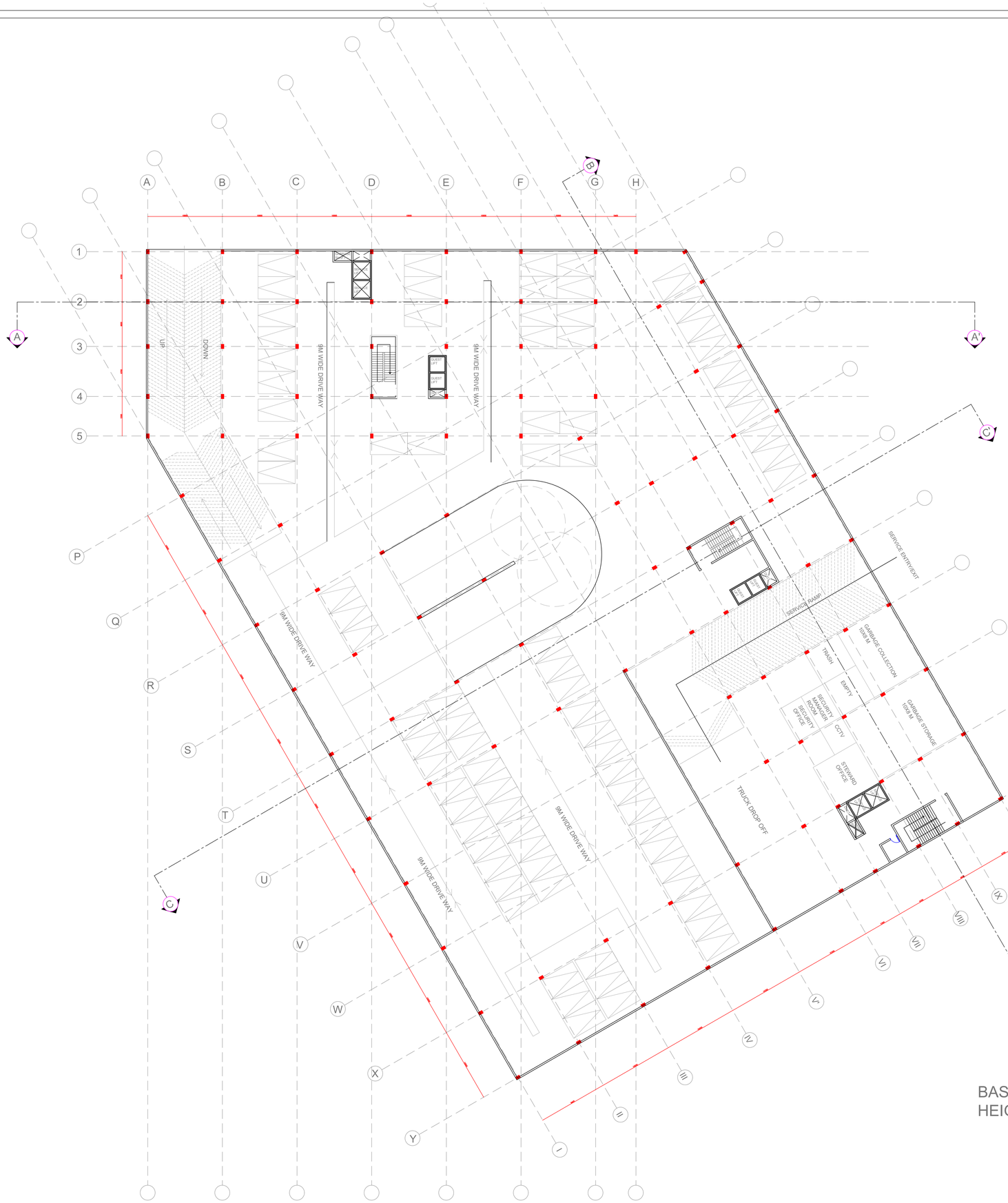
SCHOLAR NO: 211110035
SEMESTER: 9TH
UNDER GUIDENCE OF:DR. PREMJEET DAS GUPTA



BASEMENT FLOOR 1
HEIGHT = 3 M

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

TITLE:
BASEMENT FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-005	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750

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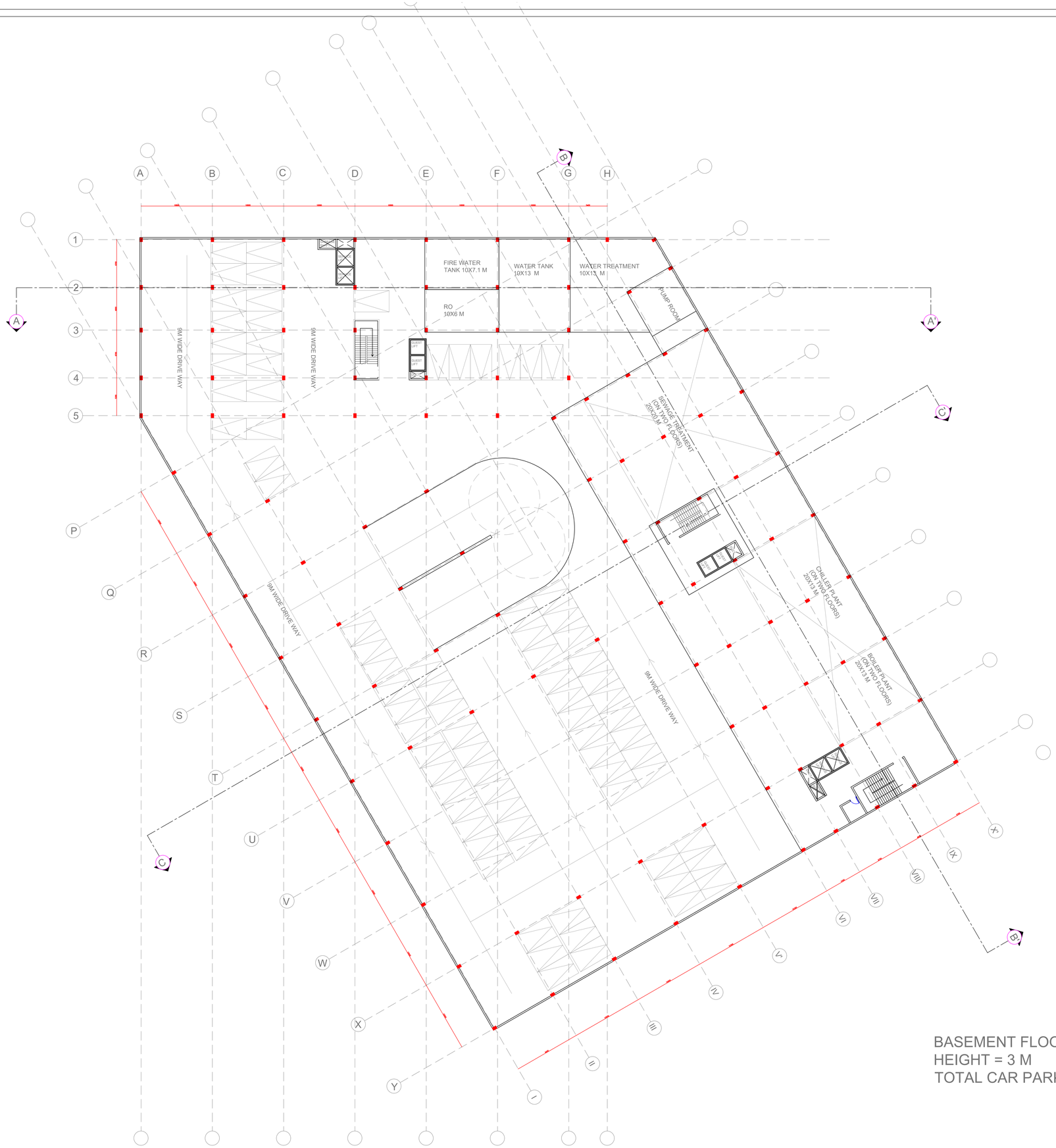


BASEMENT FLOOR 2,3
HEIGHT = 3 M
TOTAL CAR PARKING = 80 + 80= 160

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

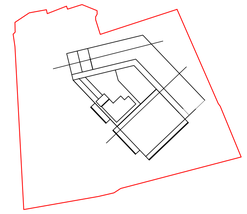
TITLE:
BASEMENT FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-005	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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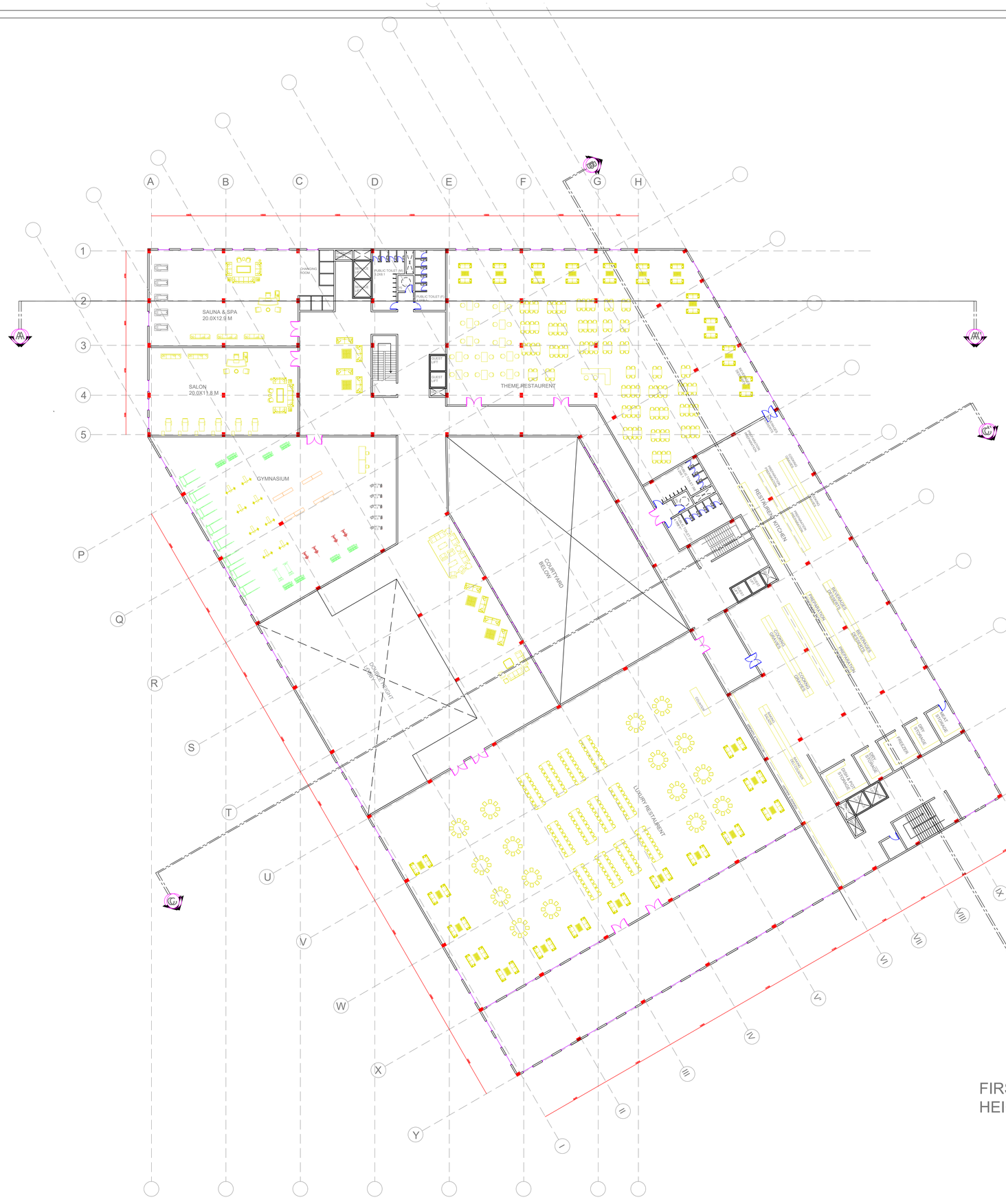
MEETING ROOM 9.8X6.9 M
MEETING ROOM 9.8X6.9 M
PUBLIC TOILET 3.2X8.1
PUBLIC TOILET 3.2X8.1
LOBBY 4M WIDE
PRE- FUNCTION AREA 6.6X3.2 M
PRE- FUNCTION AREA 6.6X3.2 M
BOARD ROOM 6.6X10 M
BOARD ROOM 6.6X10 M
STORAGE 8.1X13.0 M
KITCHEN 8.1X13.0 M
COUNTER
COFFEE SHOP
ALL-DAY DINING RESTAURENT
FLORIST
LUGGAGE ROOM
SECURITY 3.7X5.8 M
STORE 3.7X5.8 M
TOILET
TOILET
LIFT
LIFT
RECEPTION AREA
SOUVENIR SHOP 12.0X6.0 M
WAITING AREA
COURTYARD
ATR LOBBY
MAIN ENTRY
BANQUET HALL 600 PAX
PRE-FUNCTION AREA 9.8X9.8 M
PRE-FUNCTION AREA 9.8X9.8 M
BANQUET ENTRY
BANQUET KITCHEN
COOKING RANGES
PREPARATION COUNTERS
BEVERAGE COUNTERS
SERVICE COUNTER
DRY STORAGE
FREEZER
MEAT STORAGE
DRY STORAGE
DRY STORAGE
DRY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CHANGING ROOM
PUBLIC TOILET (M)
4.2X8.1
PUBLIC TOILET (F)
4.4X8.1
SALON
20.0X11.8 M
GUEST LIFT
GUEST LIFT
THEME RESTAURENT
GYMNASIUM
COURTYARD BELOW
COURTYARD BELOW
RESTAURENT KITCHEN
PREPARATION TABLE
COOKING COUNTER
BEVERAGES DISPENSER
DISH WASHER
DRY STORAGE
WET STORAGE
FREEZER
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SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

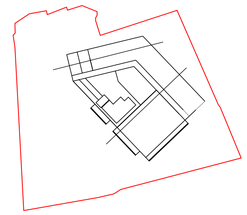
TITLE:
SECOND FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-009	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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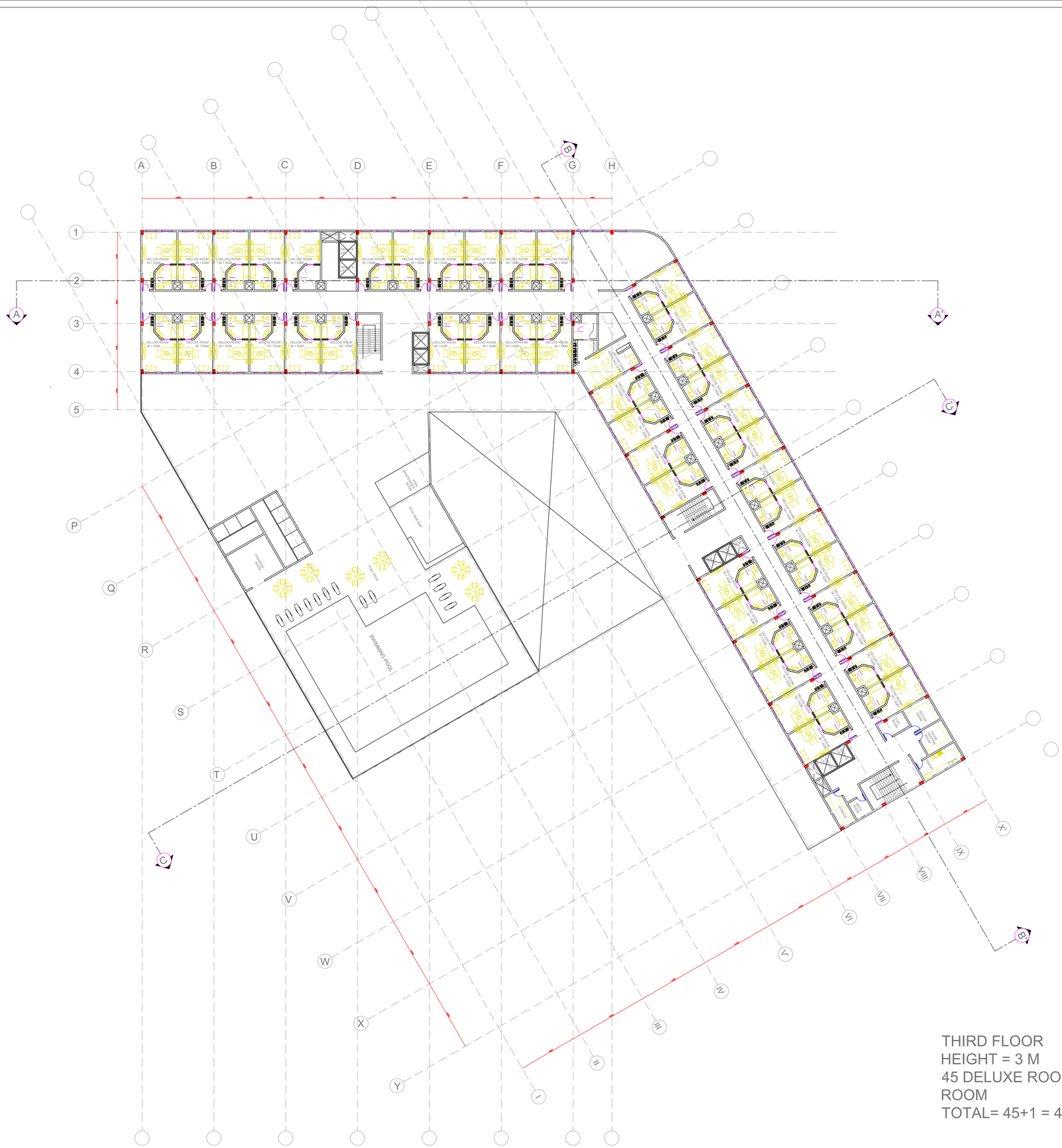


THIRD FLOOR
HEIGHT = 3 M
45 DELUXE ROOMS + 1 DELUXE TWIN ROOM
TOTAL= 45+1 = 46

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

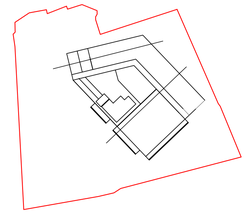
TITLE:
THIRD FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-010	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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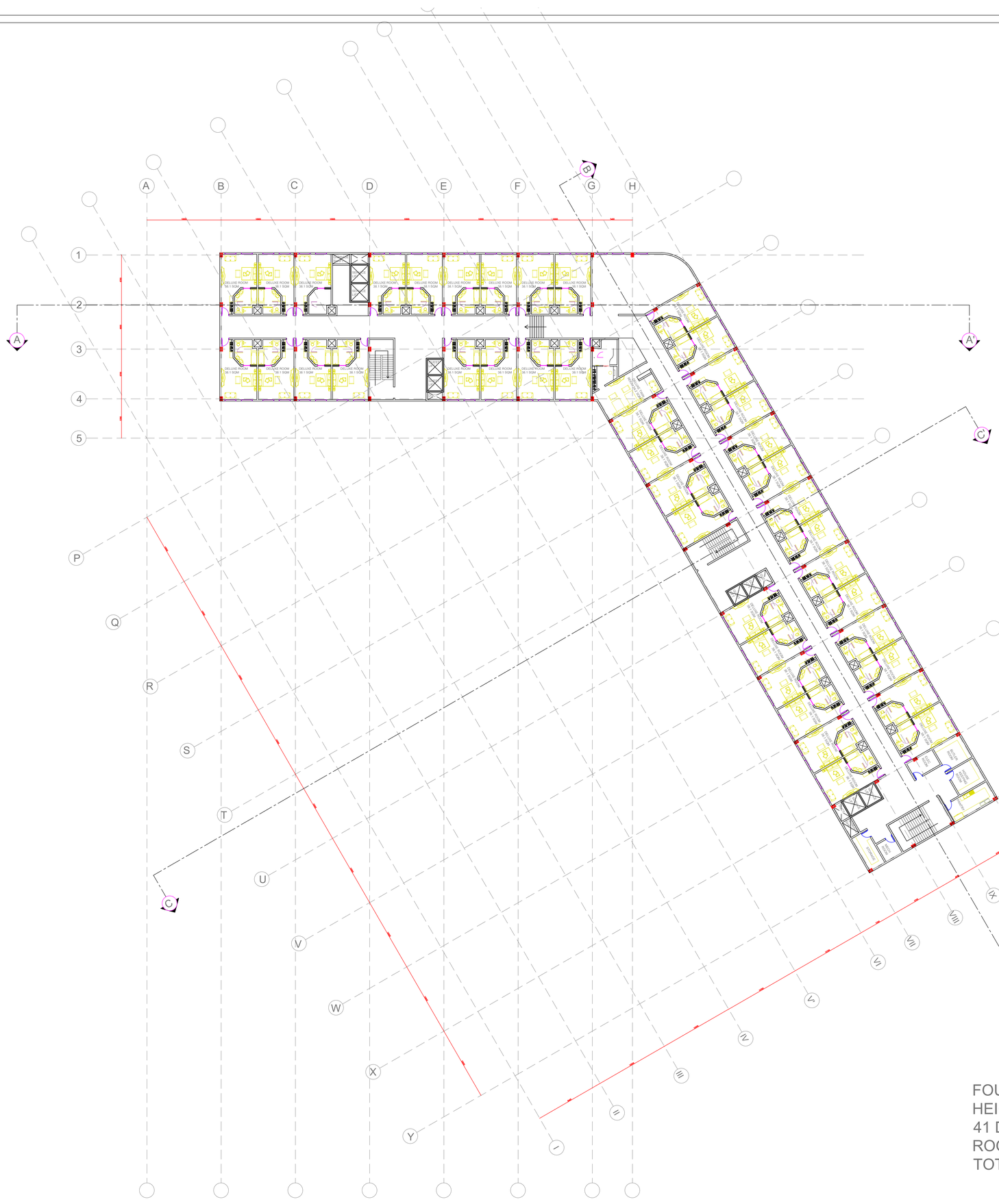


FOURTH FLOOR
HEIGHT = 3 M
41 DELUXE ROOMS + 1 DELUXE TWIN ROOM
TOTAL= 41+1 = 42

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

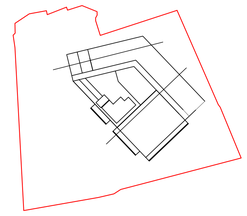
TITLE:
FOURTH FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-011	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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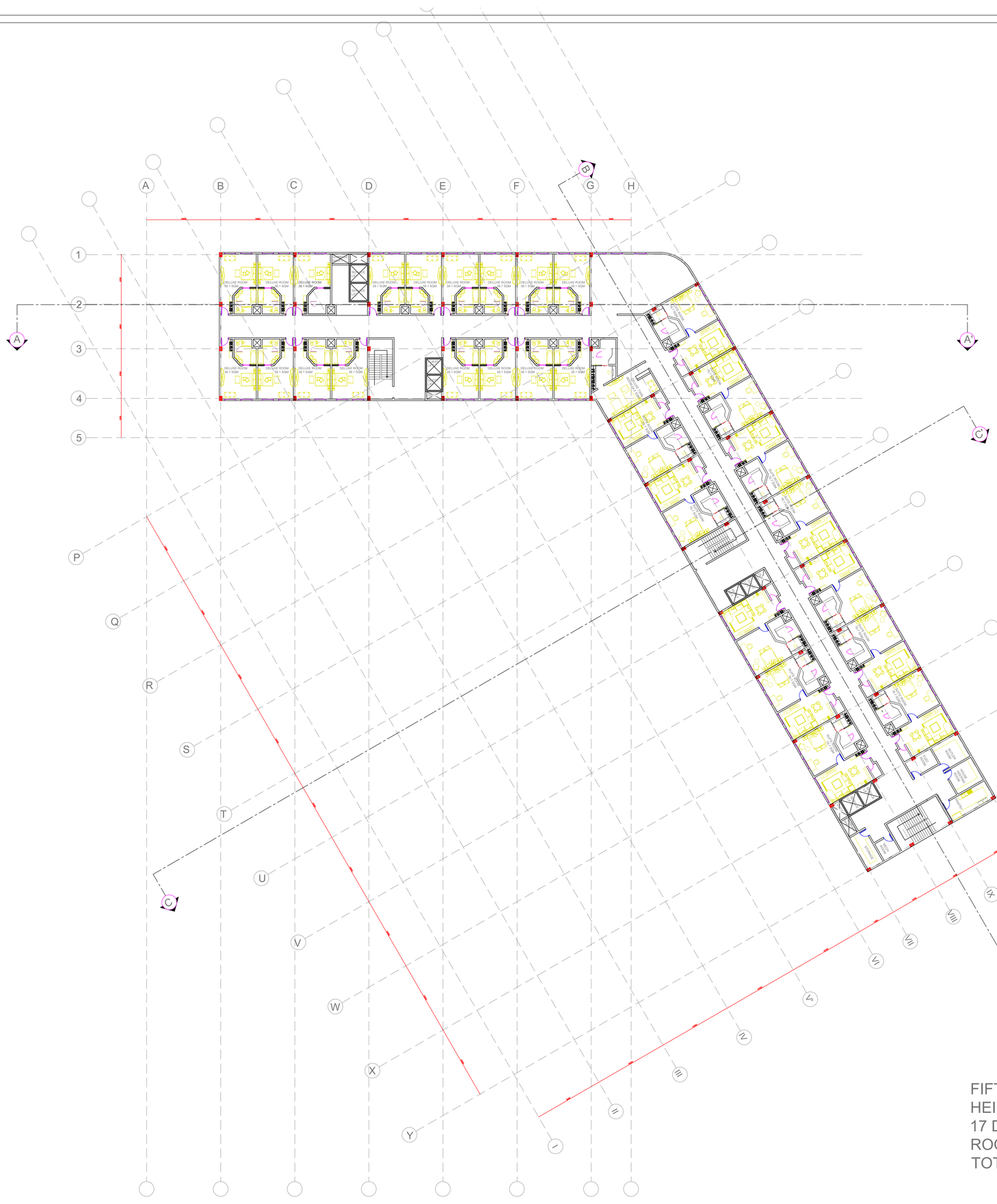
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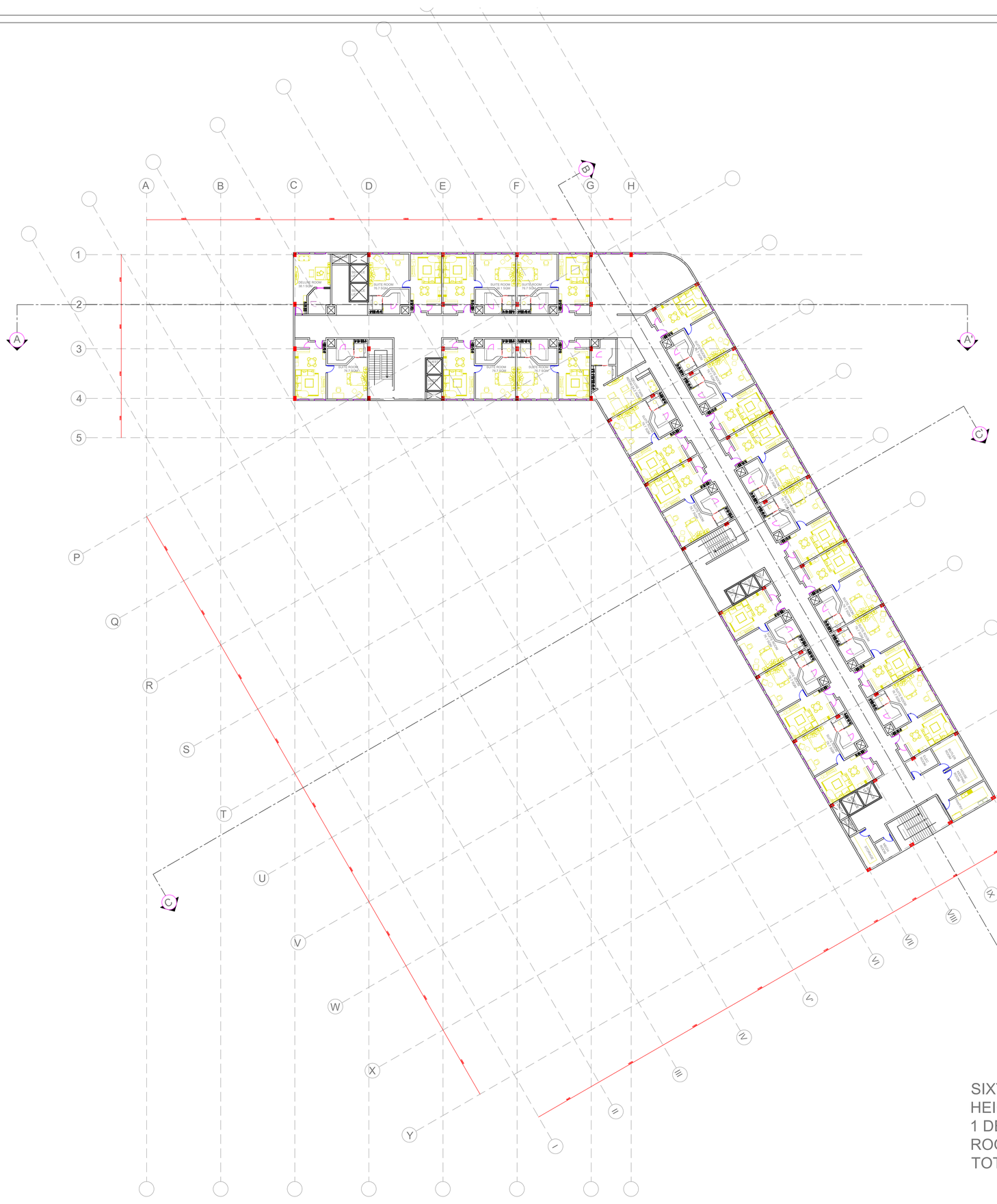
DELUXE ROOM
38.1 SQM
DELUXE ROOM
39.1 SQM
DELUXE ROOM
38.1 SQM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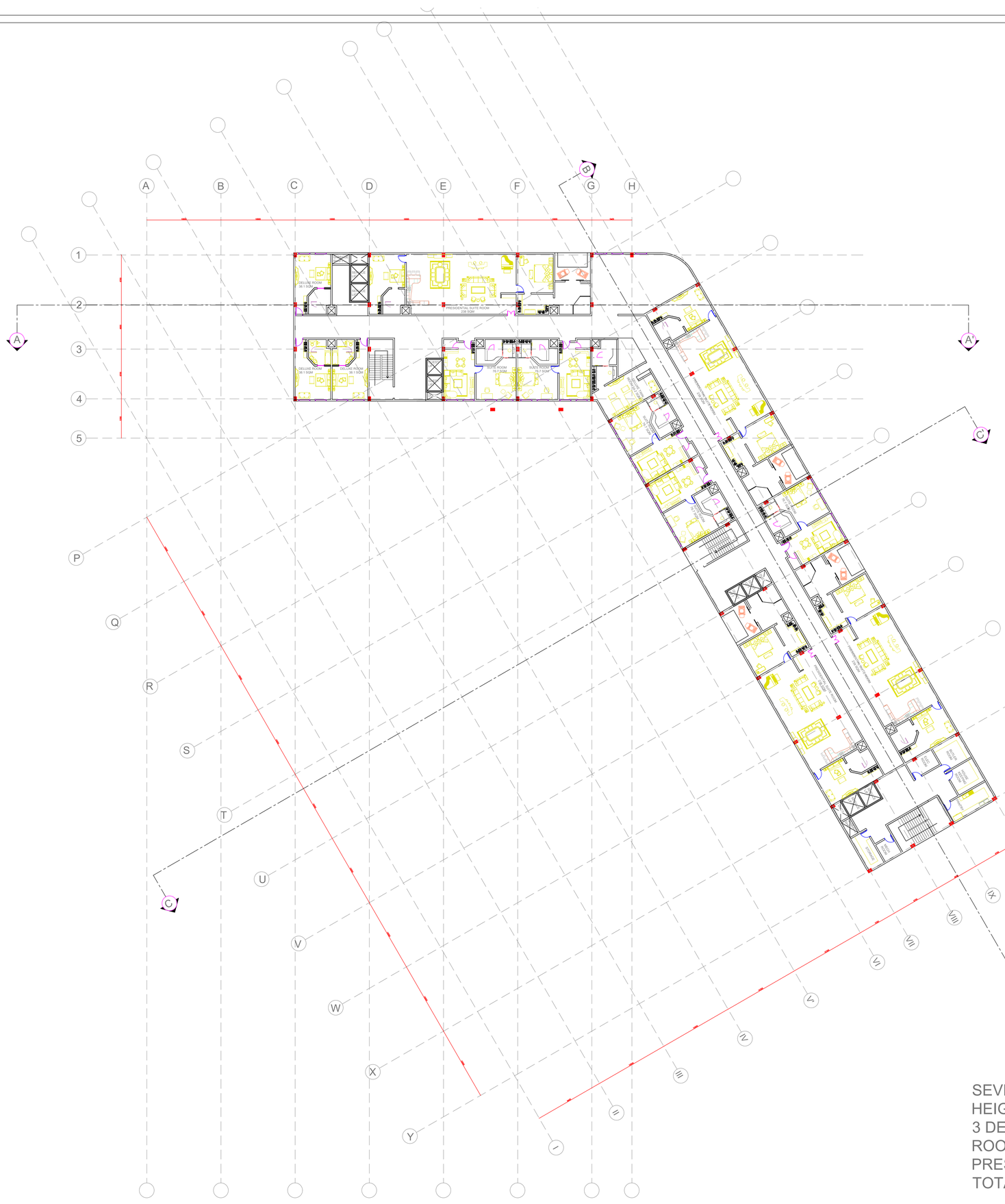
XI
XII
DELUXE ROOM
SUITE ROOM
SUITE ROOM
SUIT



SEVENTH FLOOR
HEIGHT = 3 M
3 DELUXE ROOMS + 1 DELUXE TWIN ROOM + 5 SUITE ROOMS+ 3 PRESIDENTIAL ROOM
TOTAL= 3+1+5+3 = 12

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

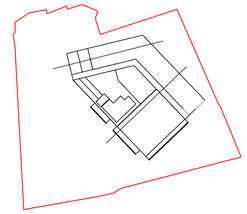
TITLE:
SEVENTH FLOOR

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-014	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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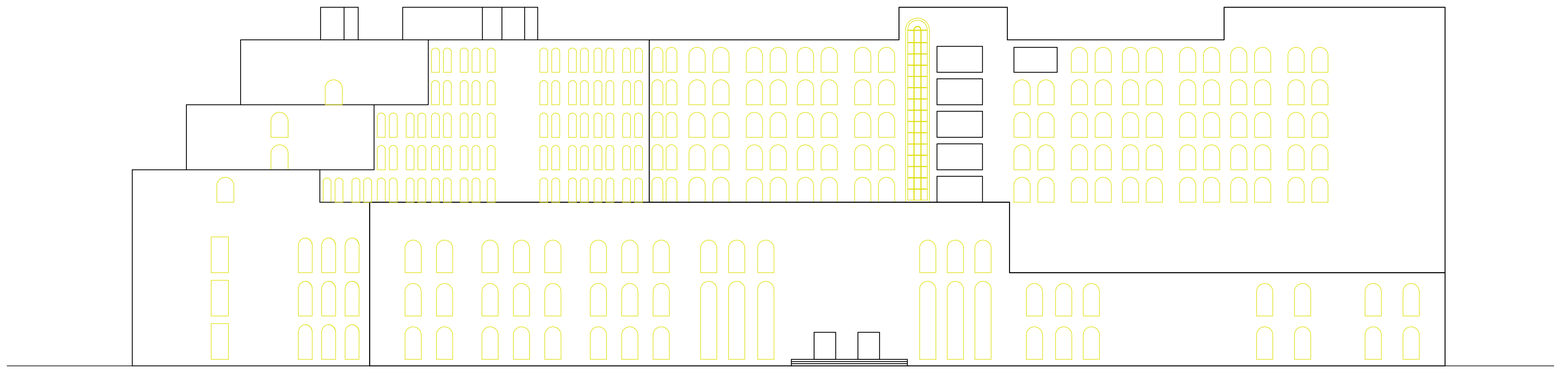
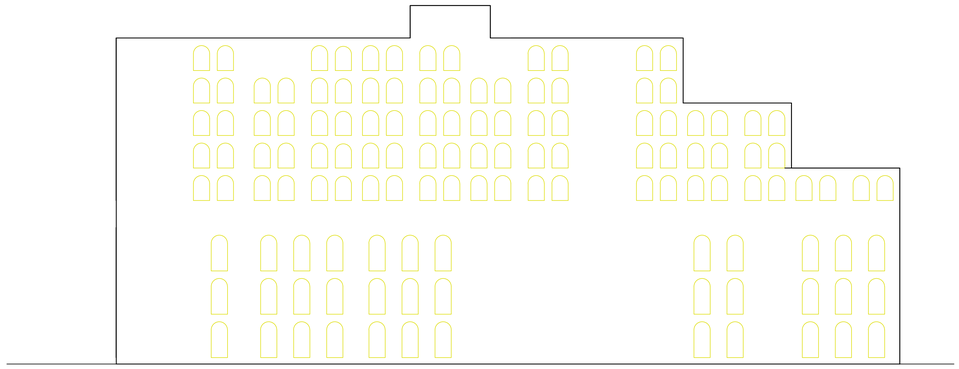
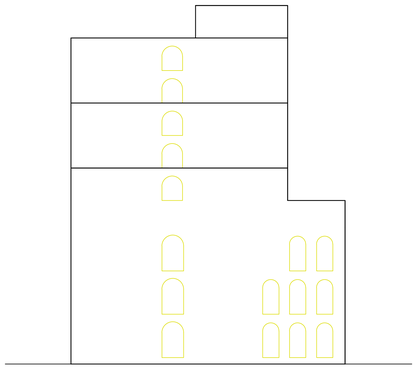


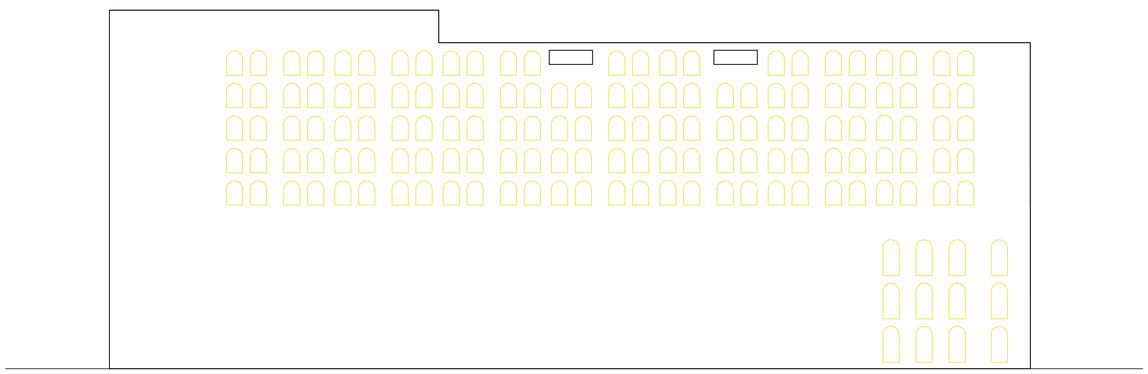
FRONT ELEVATION



BACK ELEVATION



SIDE ELEVATION



SIDE ELEVATION

SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

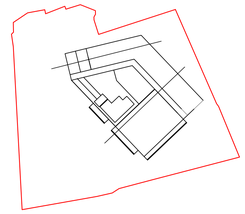
TITLE:
ELEVATION

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-009	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



NOTES

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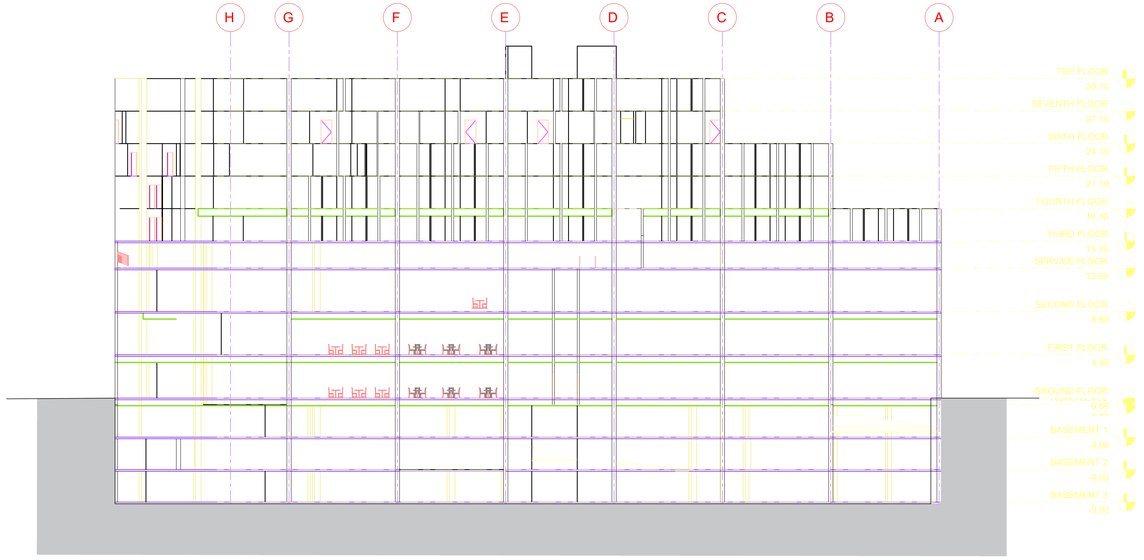
SIGNATURE OF THESIS GUIDE

NAME: AKANKSHA SINGH
SCHOLAR NO: 211110035
SEMESTER: 9TH
UNDER GUIDENCE OF:DR. PREMJEET DAS GUPTA

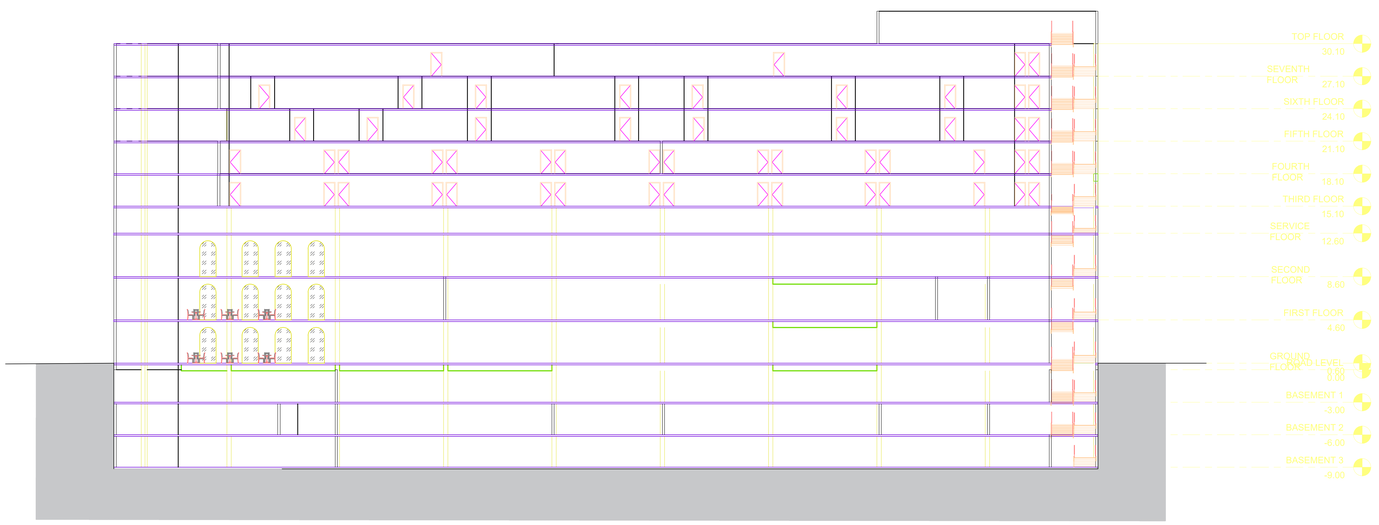
SECTION C-C'



SECTION C-C'



SECTION B-B'



SCALE: 1:200

PROJECT: PROPOSED 5-STAR HOTEL
BHOPAL, MP

PROJECT DEVELOPERS:

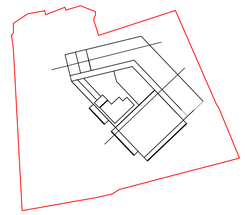
TITLE:
SECTION

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:200	A-016	AKANKSHA SINGH

REMARKS:

KEY PLAN: 1:750



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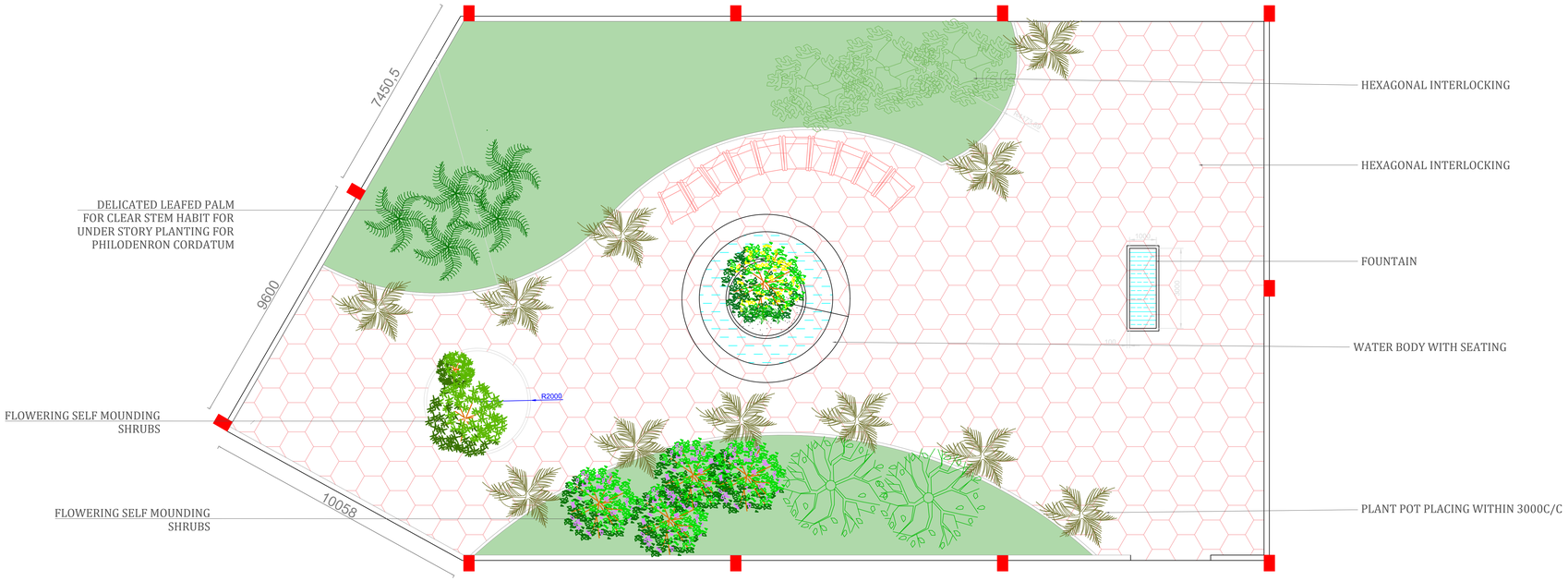
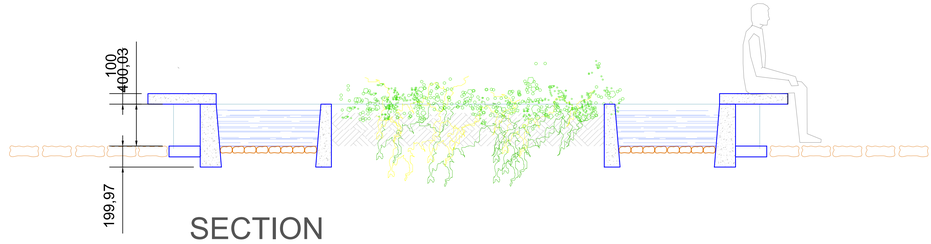


COURTYARD PLAN

SYMBOL	NAME
	PHILODENRON CORDATUM
	BAUHINIA PURPUREA
	PLANTER
	FLOWERING SHRUBS
	FLOWERING SHRUBS
	BOUGAINVILLEA
	GRASS



SECTION



PHILODENRON CORDATUM



BOUGAINVILLEA





FLOWERING SHRUBS



GRASS

PROJECT: PROPOSED 5-STAR HOTEL

PROJECT DEVELOPERS:

TITLE:
LANDSCAPE PLAN

NORTH

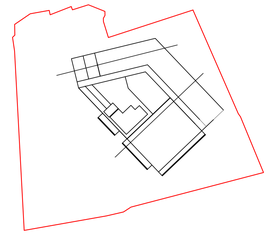
SCALE: 1:75

DRAWING NO.: A-017

DEALT BY: AKANKSHA SINGH

REMARKS:

KEY PLAN



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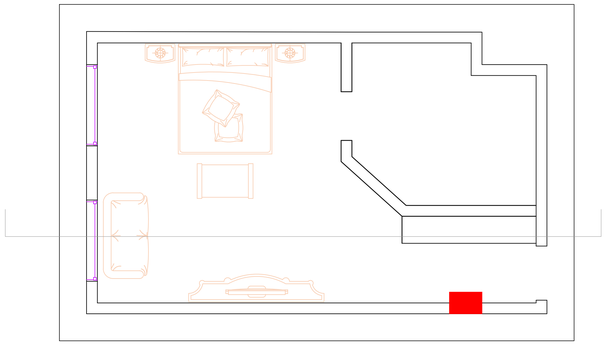
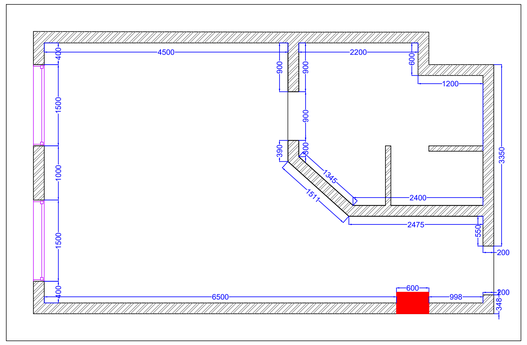
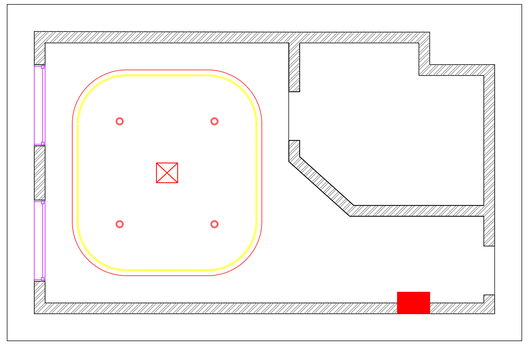
SCHOLAR NO: 211110035
SEMESTER: 9TH
BATCH: 2021-2026
GUIDED BY: Dr.PREMJEET D. GUPTA



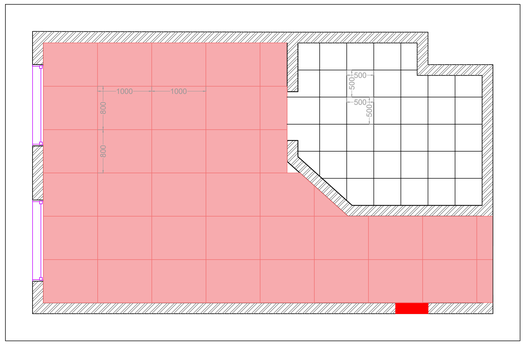
PRESENTATION PLAN



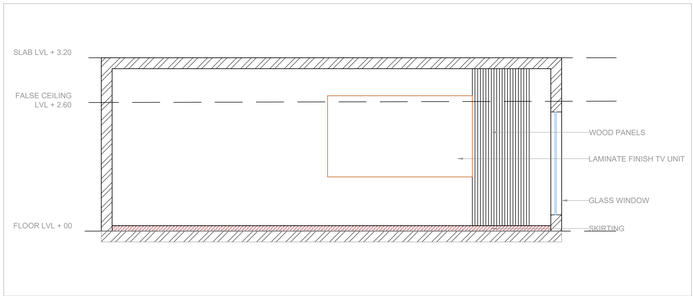
BRICKWORK PLAN



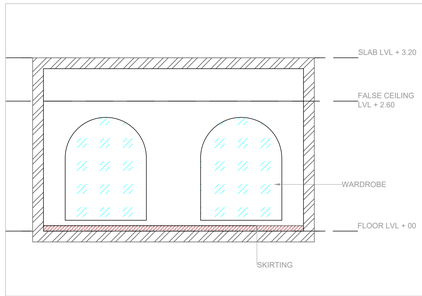
FALSE CEILING LAYOUT PLAN



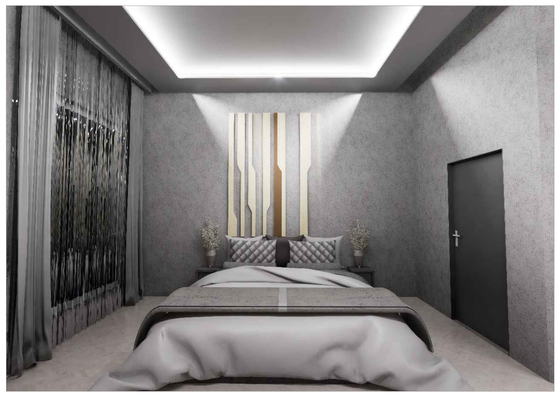
FLOORING LAYOUT PLAN

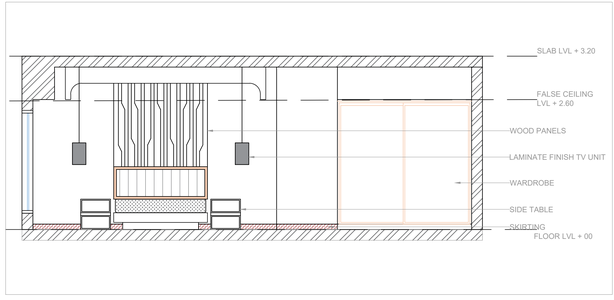


SECTION AA

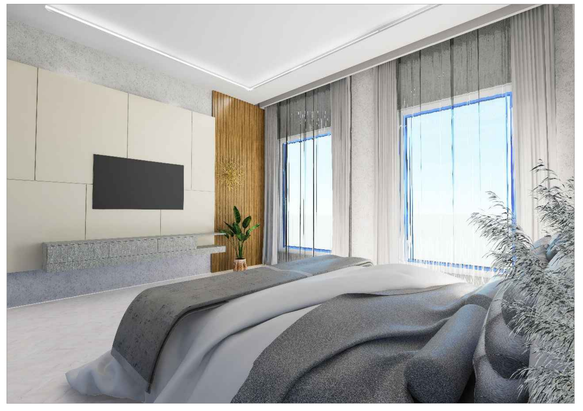


SECTION BB





SECTION CC



PROJECT:
PROPOSED 5-STAR HOTEL, BHOPAL

PROJECT DEVELOPERS:

TITLE:
GUEST ROOM DETAILS

NORTH

SCALE:	DRAWING NO.:	DEALT BY:
1:40	A-016	AKANKSHA SINGH

REMARKS:

KEY PLAN

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NAME: AKANKSHA SINGH
SCHOLAR NO: 211110035
SEMESTER: 9TH
BATCH: 2021-2026
GUIDED BY: Dr. PREMJEET D GUPTA

SITE - SHYAMALA HILLS,
TOTAL SITE AREA
GROUND COVERAGE
7010.1 SQM
MAIN ROAD
SERVICE ROAD
HOTEL BUILDING
VEGETATION
COURTYARD
SWIMMING POOL
WATER BODY
SERVICE ROAD
JEHAN-NUMA ROAD
MAIN ENTRANCE
DROP OFF-12M WIDE
BANQUET ENTRANCE
PASSER BY LANE
CAR PARKING
12 M WIDE MAIN ROAD
BASEMENT ENTRY
EXIT


POOL
WATER
BANQUET
ENTRANCE
MAIN ENTRANCE
DROP OFF 12M WIDE
PASSER BY LANE
CAR PARKING
12 M WIDE
MAIN ROAD