NAME

5 Star Hotel

Bhopal , Madhya Pradesh, India

BACHELOR OF ARCHITECTURE

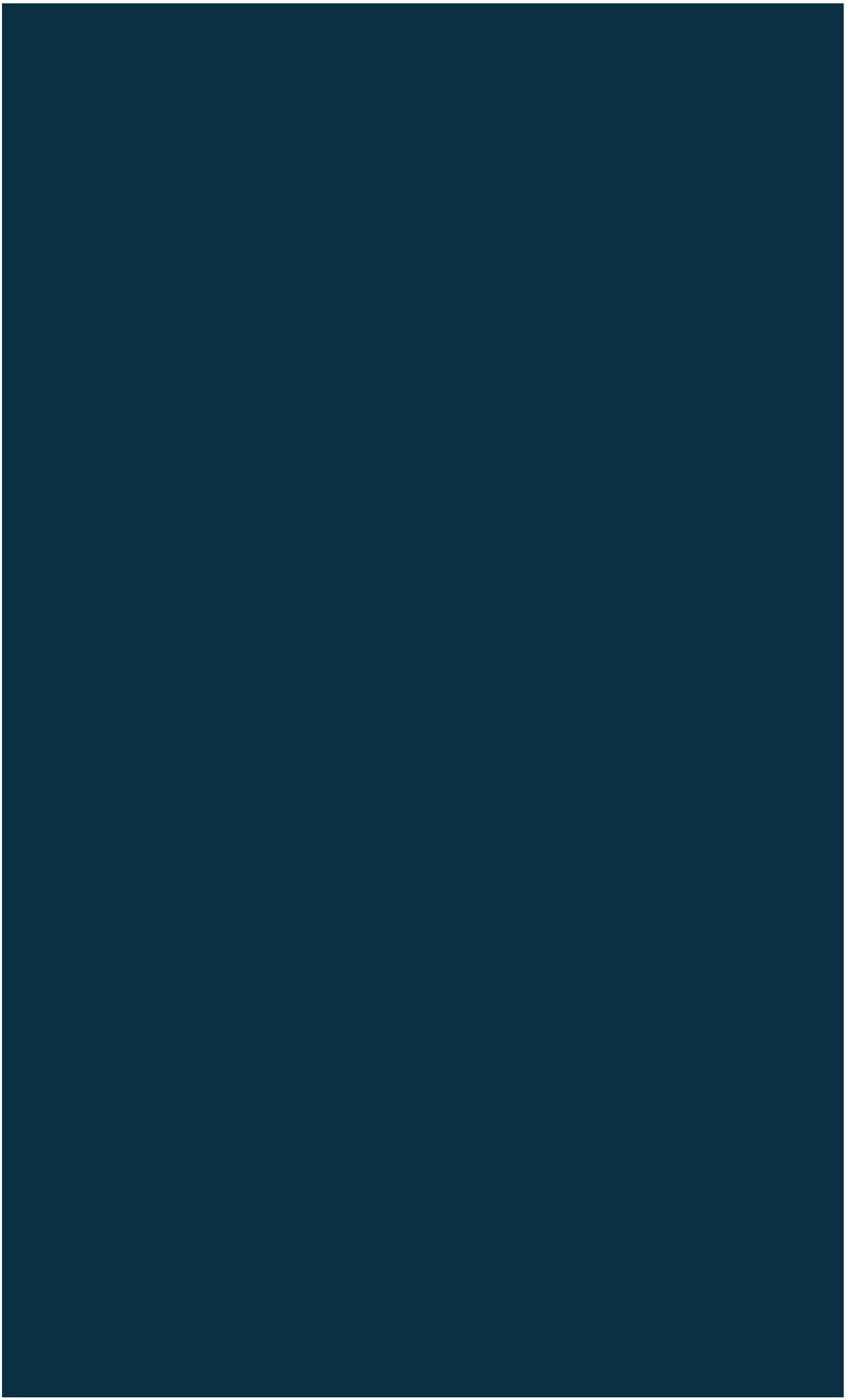
BY

MONISHIKA SINGH NAMDEO

211110207







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DEPARTMENT OF ARCHITECTURE AND PLANNING
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL
DEC 2025

ARC 24511 – Thesis Project

5 Star Hotel

Bhopal , Madhyapradesh , India

Submitted by:

Monishika Singh Namdeo

211110207

B. ARCH

9th Semester, 5th Year

UNDER THE GUIDANCE OF

Dr. Rajshree Kamat



DEPARTMENT OF ARCHITECTURE AND PLANNING

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY

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 **Monishika Singh Namdeo**

211110207

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. Rajshree Kamat**

Thesis Guide

CERTIFICATION OF EXAMINATION

The Bachelor of Architecture Thesis Viva-Voce examination of Ms Monishika Singh Namdeo Scholar No.211110207, was held on 1/12/2025 to 2/12/25.

Dr. Nakul Dhagat **Dr. Vicky Lalramsangi**

Head of Department **Thesis Coordinator**

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

The final year thesis represents the culmination of my undergraduate journey in architecture, embodying the knowledge, skills, and experiences I have gained over the years. I would like to express my heartfelt gratitude to ***my Thesis Guide, Dr. Rajshree Kamat, and Thesis Coordinator, Prof. Vicky Lalramsangi****, for their invaluable guidance and steadfast support throughout this research. Their vision, dedication, and profound knowledge have been a constant source of motivation and inspiration. I am especially grateful for their patience, encouragement, and moral support during challenging phases, which helped me navigate this journey with determination.*

Working under their mentorship has been ***an honour and a privilege****. The* ***freedom they gave me*** *to explore ideas and contribute independently has been instrumental in fostering my* ***growth, individuality, and self-reliance****, for which I am sincerely grateful.*

I would also like to express my heartfelt appreciation to ***my peers and colleagues*** *for* ***their insightful suggestions, constructive feedback****, and unwavering encouragement throughout this process. Their perspectives and discussions have significantly enriched the quality of my work.*

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CHAPTER 1:

INTRODUCTION

OVERVIEW

A design brief is a document that outlines the objectives, requirements, and constraints of a design project. It helps to deal with designers and other stakeholders who engage in that particular project so that they can easily be able to do what is expected of them to achieve the design solution within its performance potential.

1.1 AIM AND OBJECTIVES

The aim of the thesis is to design a 5 Star Hotel that provides luxurious and sustainable environment, by incorporating advanced technologies, design principles and focuses on functionality, aesthetics and excellent services which meets the guests, staff and owner's needs. The land identified for the project measures around 7.16 acres and is located at Shyamla Hills , Bhopal , Madhyapradesh.

1.2 OBJECTIVES

-To Provide a Luxurious and Comfortable Experience by designing spaced that exude elegance, sophistication, and comfort, ensuring an unforgettable stay for guests.

-To ensure efficient space planning and zoning by maintaining a seamless flow between public and private zones for better functionality and privacy.

To integrate green spaces, passive cooling strategies, and renewable energy solutions.

To offer world-class Hospitality Services by creating spaces that cater to diverse guest needs, from business travellers to vacationers.

1.3INTRODUCTION

In today's world, the hospitality industry plays a pivotal role in providing unparalleled experiences and redefining the meaning of luxury. Within this context, the architectural design of a 5-star hotel becomes a crucial element in creating a distinctive environment that combines elegance, functionality, and exceptional guest experiences. This thesis aims to explore the various facets of designing a 5-star hotel, considering the intricate relationship between architecture, interior design, and the overall guest experience.

A hotel is an establishment that provides lodging paid on a short-term basis. A 5-star hotel is at the top of excellence, luxury, and comfort in hotel service. It boasts standards, equipping its client with worldclass standards, premium accommodations, fine dining experiences, and exceptional services that tend to various needs. The construction of a 5-star hotel is designed for an elegant yet welcoming ambiance, while ensuring functionality and convenience for both leisure and business travellers.

Furthermore, this thesis investigates, how the introduction of advanced technologies, sustainable practices, and cultural influences can enhance the architectural design of a 5-star hotel, allowing it to blend harmoniously into its surroundings and the local community.

1.4 SCOPE AND LIMITATIONS

a. Demolition Activities

The Concessionaire will be required to undertake demolition of the entire existing establishment on the project site as per environmental regulations, Building Bye Laws and Development Control Regulations applicable on the site, at its own sole cost and expense. It shall be the sole responsibility of the Concessionaire to either itself or through any Third Party undertake the aforesaid demolition and subsequent construction on the said Project. In the event the Concessionaire opts to contract with a Third Party for any of the aforesaid works, then the Authority shall not have any privity or relationship in the nature of principal – agent etc. with such Third Party. Furthermore, the Authority shall not have any responsibility / liability towards such Third Party in relation to any work which is contracted / sub-contracted / delegated by the Concessionaire to any such Third Party, whether any such claim is made by a Third Party in the nature of damages or of any other nature. Any work (under the instant RFP) which is delegated / given / contracted / sub-contracted by the Concessionaire to a Third Party shall be at the sole cost and responsibility of the Concessionaire. Furthermore, the Concessionaire shall be solely responsible for ensuring that all works, under the instant RFP, which it so contracts / sub-contracts / delegates to any Third Party or undertakes itself confirms to standards of quality under the instant RFP as well as under the applicable laws / regulations / market practices / bye-laws etc. whichever are applicable to the matter. Furthermore, if any such work is subsequently found by the Authority to be short of such aforesaid quality / specifications / terms of this RFP / applicable law / regulations / bye-laws, then the Authority shall intimate the Concessionaire of such shortcomings and the Concessionaire shall be obligated to correct such shortcomings immediately forthwith and without any reservation, at its sole cost and expense. The Concessionaire shall be liable to complete all works under the instant RFP to the complete satisfaction of the Authority.

Additionally, before any demolition is commenced at the subject site the Concessionaire shall also notify all utilities having service connections within the present buildings at the project, such as water, electric, gas, sewer and other connections as well as ensure that all pre-requisite environmental clearances are in place. A permit for demolition shall not be issued until a release is obtained from the utilities stating that their respective service connections and appurtenant equipment, such as, meters and regulators have been removed or sealed and plugged in a safe manner.

The Authority assumes no responsibility for the actual condition of the structures to be demolished or relocated or reconstructed.

It shall be noted that any serviceable/ movable materials including but not limited to electric fixtures, furniture/other fixtures, equipment, Table/ Chairs etc., shall be retained by MPHCL and removed anytime from the date of signing of contract as per Clause 5.10.

The Concessionaire shall be bound to dispose of the waste generated after the demolition. The Concessionaire shall dispose of such waste expeditiously, immediately after such demolition. The disposal of such waste shall be in accordance with applicable laws and in coordination with the appropriate authorities and the Concessionaire shall be solely responsible for the same.

a. Development Activities

The Concessionaire shall develop / construct atleast 150 rooms and Banquet & Convention facility for atleast 1,000 pax under the project. For the objective of Development, Operation & Maintenance and Management of the 5-star development, following development activities may also be incorporated in the site by the Concessionaire:

1. Additional rooms to provide lodging facilities to the guests

2. Theme Restaurants and Food Joints

3. Banquet & Convention centres

4. Facilities in the Hotel for Social and Corporate events including weddings/exhibitions.

5. Facilities in the Hotel to Promote and Market fairs, local cuisine, culture, folk music, dance, costumes, products art, handicraft and heritage tourism.

6. Food & Beverages (Cafes, Retro Lounges Heritage/Luxury Dining etc)

7. Food Courts and/or Rooftop Restaurant

8. Any other projects as defined in Madhya Pradesh Tourism Policy 2025 as amended from time to time

Note: The above-mentioned activities are not comprehensive and only indicative. Bidders are expected to conduct their own due diligence and commercial analysis for the feasibility of activities before Bidding. It may be noted that MPHCL and concerned departments shall have all jurisdiction over alteration/modification/rectification of the activities before and during the Concession Period.

1. Before commencement of any activity, the Concessionaire shall submit the Detailed Project Report (Detailed Layout Plan) of the project for approval from MPHCL within 20 weeks of date of signing of contract. In case the Concessionaire wants to make any new additions or modifications to the project site, they must obtain prior permission/approvals from the Authority
2. The Concessionaire shall also obtain all necessary permissions pertaining to Design, Planning and Implementation of the project, at its sole responsibility, cost and expense. Additionally, all the required Licenses/Permits/Permissions/Approvals for the permitted activities shall be the sole and exclusive responsibility of the Bidder entirely from the Financial, Legal, etc. perspectives.

3. Post completion of the Concession Period, Bidder shall ensure that the Site shall be handed over to the Concerned Authority in the as is Condition at the time of handover.

Besides the above development works the Concessionaire shall have the following O&M and other Obligations as well:

1. The Concessionaire shall be solely responsible for seeking all approvals and licenses for smooth operations of the project facility including, but not limited to, fire safety, bar license, etc. 2. The Concessionaire shall, at its own cost, enter into Annual Maintenance Contracts (AMCs) with the Vendors for various installations. 3. The Concessionaire shall ensure that the Insurances are taken for Fire, STPI, Earthquake for the building, Third Party Liability, Medical Insurance, Workmen Compensation and wherever else necessary or mandated, at its sole cost and expense

4. The Concessionaire shall maintain the entire premises in accordance with Good Industry Practice.

5. The Concessionaire shall solely be responsible for payment of all taxes, duties, levies including stamp duty and any other statutory charges are required to be paid as per statutory requirements from time to time.

6. Project Site clearance and cordoning off; providing and deputing of Security, removal of debris etc. shall be the responsibility of the Concessionaire. In case the Project encompasses demolition of any existing structure to commence the Project, then the Concessionaire shall ensure that all such debris/waste generated from such demolition shall be disposed of expeditiously, immediately after such demolition. The disposal of debris/waste shall be in accordance with applicable laws and in coordination with the competent authorities.

7. Meeting the requirements and norms laid down by the competent authorities regarding Development, Operation & Maintenance and Management of the Project Facilities, if any.

8. Use of premium quality materials for Civil Works, Furniture and Fixtures in accordance with the heritage and culture of the state.

9. Any development activities should ensure that the property's aesthetic relationship with its surrounding are maintained.

10. Maintaining the standards of a minimum 5-star hotel and providing facilities applicable to a minimum 5-star category and above hotels as per guidelines of Ministry of Tourism, Government of India, in terms of offerings, ambience and services as amended from time to time and avail and renew the certification from MoT in this regard, at its option. Additionally the Concessionaire shall ensure the following:

a. Provision of natural greenery and plants in lobby areas and common areas to keep the environment of the concerned area to look fresh and lively.

b. Provision for availability of personnel on 24x7 basis in Reception Area for providing assistance to the guests staying in the Hotel, with an ability to communicate in English, and Hindi or any other Indian regional language or any foreign language.

c. Turndown services and other housekeeping services to be provided on daily basis or on demand.

d. The Concessionaire is required to adhere to the standards of a minimum 5-star hotel as per MoT guidelines, GoI for Development, Operation & Maintenance and Management of the hotel. The Concessionaire is not obligated to receive the minimum 5-star rating certification from the government but shall follow the guidelines in practice.

e. Performance and fulfilment of all obligations of the Concessionaire in accordance with the provisions of the Concession Agreement and Schedules thereof and matters incidental thereto or necessary for the performance of any or all of the obligations of the Concessionaire under the Concession Agreement.

f. All the open spaces in and around the Hotel shall be landscaped and adequately lighted.

g. The Concessionaire shall be responsible for payment of all taxes including GST as per GoI norms issued in this regard from time to time, duties, levies including stamp duty and any other statutory charges are required to be paid as per statutory requirements from time to time.

h. Development and Completion of the remaining works at the Project Site after approval of the design/ concept plan by the Authority pursuant to the terms and conditions of the Concession Agreement and the Schedules hereof, in conformity with Applicable Laws and regulations of the State of Madhya Pradesh.

i. j. Developing the Project consisting of all Facilities as prescribed under FHRAI Guidelines for minimum 5-star category and above facilities mentioned in the Annexure attached with this agreement. Obtaining relevant accreditation from the concerned accreditation agency for the minimum 5-star Hotel Authority Area to be developed, operated, managed and maintained is not mandatory for the concessionaire.

k. O&M of the minimum 5-star Hotel, Concessionaire's Area and Common Area in accordance with the provisions of this Concession Agreement and the Schedules hereof.

l. Right to demand and collect Project Revenues etc. from the sub-contractors/ Users, as per the provisions of the Concession Agreement and the Schedules hereof.

m. Performance and fulfillment of all other obligations of the Concessionaire in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Concessionaire under this Agreement.

n. The MPT Lakeview Residency's total project site area admeasures approximately 28,975 sq. m. (7.16 acres) for MPT Lakeview Residency Hotel covering Spa & Swimming Pool area, Parking – 1 & Parking – 2, Drive in Theatre (Big Event lawn), Event Lawns, Bhopal Express Restaurant, Kinara Restaurant, Rooftop Restaurant, Ripples Bar and Banquet halls at Shyamala Hills, Bhopal. The Site plan , Drawings and Layout plan are provided in Appendix VII of the RFP.

o. The use of standards and specifications for use of material, technology and operations shall adhere to the national and international set of specifications and the best practices in the industry.

. Provide the basic necessities like drinking water, toilets, DG sets, firefighting facility, and security on the Project Site.

1.5PROJECT DETAILS

The Hotel is strategically located in Shyamala Hills which is a prominent residential and commercial area in Bhopal. The area houses upscale neighbourhood, aesthetic landscapes, and convenient proximity to the city center and airport. The hotel site overlooks the Bada Talab, which is the largest lake in Bhopal and is designated as a 'Ramsar' site and is governed by Wetlands (Conservation and Management) Rules, 2017. The site is also in proximity to popular tourist destinations such as Van Vihar, MP Tribal Museum, Sair Sapata, Kerwa Dam, Indira Gandhi Rashtriya Manav Sangrahalaya, etc. It is also surrounded by key hospitality developments including MPT Wind N Waves Cottages

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)
5.	**Concession Format**	Design-Build-Finance-Operate-Transfer (DBFOT)
6.	**Institutional Structure for Implementation**	The Selected Bidder, shall undertake to incorporate a Special Purpose Vehicle (SPV) (the **"Concessionaire"**), a private limited company as per the Companies Act, 2013, prior to execution of the Concession Agreement that shall be exclusively responsible for the demolition, designing, engineering, financing, procurement, construction, marketing, operation, management and maintenance of the Project under and in accordance with the provisions of the Concession Agreement
7.	**Term of the Agreement (Concession Period)**	The Concession Period shall be 60 (Sixty) Years from the Compliance Date which includes Three Years for demolition, construction/development operations on the Project Site. The Concession Period may be extended by a period of 10 years subject to terms and conditions as stipulated in the Concession Agreement and at the sole discretion of the Authority.

8.	**Minimum Development Obligations (MDOs)**	The Minimum Development Obligation shall include development of a Hotel with minimum 150 Rooms (adhering to the minimum standards of atleast a 5 star category hotel) with Banquet & Convention facility of 1000 pax and all ancillary and incidental amenities pertaining to Rooms, Restaurants, Banquet & Convention within 36 (Thirty Six) months from the Compliance Date as per the specifications provided in the Concession Agreement.
9.	**Consortium**	**Maximum 3 entities** (including the Lead Member) (an entity for this purpose shall mean and include, an individual, sole proprietorship, partnership firm, Limited Liability Partnership or a private or public company)
10.	**Compliance Date**	The date of issuance of Certificate of Compliance after fulfilment of Conditions Precedent by both the Parties, i.e. the Authority and the Concessionaire. Compliance Date shall be achieved within 180 (One Hundred and Eighty) days of date of signing of Agreement, subject to extension as per terms of Article 4 of the Draft Concession Agreement.
11.	**Selection Process (Refer Clause 3.2 for details)**	**A "Single-Stage"** Bidding Process is to be followed for determining the Selected Bidder for the Project: **Step 1 – Qualification** The Bidders are required to meet the Minimum Eligibility Criteria, as set out in Section 2.2 of this RFP document. **Step 2 – Technical Evaluation and Shortlisting** The Bidders will be shortlisted who succeed in Step 1 above to qualify for the Project ("Technically Qualified" Bidder). Only those Bidders which achieve 70 Marks out of 100 will shortlist for Financial Evaluation Step 3. **Step 3 – Financial Proposal Evaluation** Final Selection of the Bidders as Selected Bidder would be confirmed basis the Financial Proposal providing the highest Gross Revenue Share Percentage towards the Project. It is clarified that the Financial Bid of only those Bidders would be opened, who are confirmed to be a Technically Qualified Bidder in Step 2.
12.	**Selection Method**	A Technically Qualified Bidder whose Financial Bid has been opened and ascertained to provide the highest Gross Revenue Share would be selected.
13.	**Financial Covenants**	Non-Refundable Bid Document Fee (Payable online): INR 10,000/-+GST Bid / Proposal Security: INR 3 Crore (Three Crore Rupees

		only) **Performance Security:** ❖ The Successful Bidder will mandatorily furnish the Performance Securities before signing the contract in the manner as mentioned below: ❖ From the date of execution of the Contract till Transfer Date: INR 7.50 crores (Rupees Seven Crores Fifty Lakhs Only) with validity of 6 months beyond the Concession Period ❖ Note: Performance Security of Concession Period shall be renewed and escalated every 5 years based on WPI of every fifth year.
14.	**Estimated capital expenditure (Estimated Project Cost)**	Estimated capital expenditure: INR 150 Crore (Rupees One Hundred and Fifty Crores Only)
15.	**Consideration to Authority**	❖ Annual Concession Fee (the "**ACF**") of INR 3 Crores increasing at a compounding rate of 5% p.a. excluding GST and any other taxes applicable from time to time. Please note, all such taxes shall be paid in addition to (i.e. over and above) the ACF by the selected Bidder to the Authority. The first Annual Concession Fee (ACF) will be due and payable before the time of signing of the Concession Agreement. Subsequent ACF payments shall be made annually, on or before the same date each year, payable as a lump sum to the Authority. ❖ Revenue Share – Percentage of Gross Revenue as quoted by selected bidder excluding GST and any other taxes applicable from time to time (subject to a reserve price of 3% of Gross Revenue for each financial year). Please note, all such taxes shall be paid in addition to (i.e. over and above) the quoted Revenue Share by the selected Bidder to the Authority (subject to a reserve price of 3% of Gross Revenue for each financial year). Revenue Share payments shall be made annually, on or before 30th June of each year. It is clarified that the Revenue Share payments shall be ascertained basis the audited financials

<table>
<tr><td></td><td></td><td>certified by a chartered accountant as per the relevant 'Indian Accounting Standard' and be made annually, on or before 30th June of each year.</td></tr>
<tr><td>16.</td><td>Success Fee</td><td>❖ The selected Bidder shall pay the Success Fee as a percentage of the project cost to the consultant/transaction advisor appointed through "RFP for Appointment of State Level Project Monitoring Unit for Providing Transaction Advisory Services for various tourism infrastructure project being planned under PPP mode and other projects being proposed by Madhya Pradesh Tourism Board" NIT No:5409/2023/Planning/MPTB dated 14.08.2023. In line with the RFP, the Transaction Advisor will receive a success fee as stated below;

<table><tr><th>Project Cost</th><th>Percentage</th></tr><tr><td>For the project cost more than or equal to Rs. 100 Crore</td><td>0.5%
(of the total project cost)</td></tr></table>
The selected bidder shall be required to deposit the success fee to the Authority before signing of the Concession Agreement, i.e., within 60 days from date of issue of LOA. The said success fee shall form part of the pre-condition for the signing of the Concession Agreement.
The considered project cost for the purpose of calculation of success fee shall be INR 150 Crores.</td></tr>
</table>

Table: MPT Lake View Residency Details

Area	Shyamala Hills, Bhopal
Site/Location	The subject property is located at Shyamala Hills, Bhopal, towards the eastern side of Upper Lake i.e., central region of Bhopal city. The subject location has many prominent government institutions and building. The prominent hospitality developments in vicinity of the subject site include Jehan Numa Palace, Ivy Suites, The Ten Suites etc. The subject micro-markets enjoys express connectivity via 24 m wide VIP Road (north) to the Bhopal Raja Bhoj Airport and other touristy places like Birla Museum, Sair Sapata, Interpretation Centre - Manav Sangrahalaya via 24 mts. wide Jehan Numa Palace Road.
Location Coordinates	**Latitude:** 23.243043872752793 **Longitude:** 77.38768911349595
Approach Road	24 mts. wide primary access road – Jehan Numa Palace Road
Site Boundaries	The subject property is surrounded by: • North: Green Zone adjacent to Bhopal Upper Lake • South: 24 mts. wide primary access road – Jehan Numah Palace Road • East: Other's property • West: Other's property
Land Area & Built-Up Area	The land area of the subject property admeasures approx. 7.16 acres while the total built-up area of the subject development admeasures approx. 87,521 sq. ft.



1.6 EXISTING FACILITIES AT THE PROJECT SITE AND THE STATUS OF WORK

The MPT Lakeview Residency's total area of the site is approx. 7.16 acres i.e. 28,975 Sqm. including parking lots, Bhopal Express Restaurant, Spa & Pool, and Drive in theatre. The entire area will have to be developed, maintained and landscaped by the Concessionaire at their own cost. The Concessionaire is expected to develop and maintain the subject site in consonance with the regional Building Bye Laws, Regulations and any other rules which are applicable from time to time by the competent authorities on the subject site. Further the said project comprises 42 existing rooms (of deluxe and standard category), multiple restaurants & roof top bar, multiple banquet halls and an open lawn for events with a capacity of 650 pax. to attract domestic as well as international tourists. The Concessionaire will be required to demolish the current development and further, Develop, Operate & Maintain and Manage, the property. All open areas such as gardens, pathways and any other areas used for access covered under thoroughfare will have to be maintained and landscaped by the Concessionaire at their own cost. The breakup of the Built-up Area (Sq. Ft.) is as below:

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)

Sl. No.	Building Description	Built Up Area (Sq. Ft)
1.	Ashoka Hotel Main Building	65,664
2.	MOA Spa	5,607
3.	Swimming Pool	2,236
4.	Railway Platform Restaurant	4,046
5.	Railway Coach Restaurant	5,768
6.	Hot & Cold Restaurant	892
7.	Open Area	777
8.	Services	2,531
	Total	**87,521**

Note: The bidders shall undertake their own due diligence exercise to ascertain the actual built-up area at the subject site.

Figure 2 Existing facilities and status of work at site

1.7PROPOSING AGENCY

The Madhya Pradesh Tourism Board (MPT), operating under the Department of Tourism, Government of Madhya Pradesh, serves as a key proposing and implementing agency for public tourism infrastructure and development projects. Its core responsibility lies in conceptualizing, planning, and executing state-sponsored initiatives such as eco-resorts, wellness centers, heritage restorations, and hospitality ventures. As the proposing agency, MPT prepares detailed project reports (DPRs), secures funding approvals, obtains necessary environmental and statutory clearances, and ensures the project aligns with the state's tourism and economic development goals.

To ensure transparency and competitiveness in project execution, MPT often follows the **National Competitive Bidding (NCB)** process, a formal procurement method recognized across India for public sector projects. Under NCB, tenders are invited from qualified Indian contractors or consultancy firms who meet the technical and financial eligibility criteria. The bidding process typically involves the publication of tender notices, submission of technical and financial bids, and evaluation based on criteria such as experience, capability, and quoted cost. The contract is generally awarded to the lowest technically qualified bidder (L1), ensuring fair competition and cost-effectiveness.

By adopting NCB, MPT guarantees that public funds are utilized efficiently while encouraging participation from reputed national firms. This approach strengthens accountability, promotes standardized practices in tourism development, and ensures timely delivery of quality infrastructure. Whether developing a hotel at Shyamla Hills or a cultural heritage complex elsewhere in the state, MPT's

structured involvement and adherence to NCB protocols help create sustainable tourism assets that benefit both the local economy and visitors.

1.8 PROJECT FACILITIES

Project Facilities: The Concessionaire shall develop atleast 150 rooms and Banquet & Convention facility for atleast 1,000 pax under the project. Additionally, the Concessionaire shall complete the development of all the Project Facilities in accordance with the provisions of this Agreement as defined in Schedule III of this Agreement.

The facilities may include:

1. Additional rooms to provide lodging facilities to the guests.

2. Theme Restaurants and Food Joints

3. Banquet & Convention Centres

4. Facilities in the Hotel for Social and Corporate events including weddings/exhibitions.

5. Facilities in the Hotel to Promote and Market fairs, local cuisine, culture, folk music, dance, costumes, products, art, handicraft and heritage tourism.

6. Food & Beverages (Cafes, Retro Lounges Heritage/Luxury Dining etc.)

7. Food Courts and/or Rooftop Restaurant

8. Any other projects as defined in Madhya Pradesh Tourism Policy 2025 as amended from time to time

1. The Concessionaire shall develop such other facilities as may be necessary and required to establish and operate and the Project in accordance with the specifications and standards.

2. The Concessionaire shall undertake procurement and installation of such equipment and installations that would be necessary for providing clean drinking water, waste treatment, water treatment, power backup, security and surveillance and for other routine upkeep and maintenance activities including BOH equipment and machinery.

3. Before commencement of any activity, the Concessionaire shall submit the detailed layout plan of the project for approval from MPHCL within 2 months of date of signing of contract. In case the Concessionaire wants to make any new additions or modifications to the project site, they must obtain prior permission/approvals from the authority.

4. The Concessionaire shall also obtain all necessary permissions pertaining to Design, Planning and Implementation of the project. Additionally, all the required Licenses/Permits/Permissions/Approvals for the permitted activities shall be the responsibility of the Bidder entirely from the Financial, Legal, etc., perspective.

5. Post completion of the Concession Period, Bidder shall ensure that the Site shall be handed over to the Concerned Authority in the as is Condition at the time of handover.



1.9 SPECIFICATIONS FOR DESIGN AND COMPLETION

MINIMUM BUILDING SPECIFICATIONS

Premium quality building material, sanitary fixtures, electrical fixtures, proper health standards etc. shall be used.

MINIMUM AMENITIES REQUIREMENT

i. Concessionaire shall make provision for separate rest room for men and women in the facility at appropriate location easily accessible to all the Users including disable persons.

ii. The Concessionaire shall make a provision of administrative office for his use during Concession Period.

LIGHTING

i. Lighting shall be designed to provide adequate vision, comfort and safety. It shall be designed to provide for uniform lighting throughout the facility with no dark patches or pockets.

ii. Concessionaire is expected to save energy and should use CFL or LED lamps in order to save energy.
iii. Concessionaire is advised to harness solar energy by installing solar panels.

UTILITIES

i. Standby DG Set of adequate capacity shall be provided to meet the emergency load requirements or for backup during power outages along with the secondary backup for the minimum operation.

ii. Adequate underground/overhead water storage shall be provided to cater for a day's requirement of domestic flushing and firefighting purpose.

iii. The Concessionaire shall ensure the provision of proper fire safety measure conforming to the provisions of National Building Code to the satisfaction of the Fire Department.

1.10 SITE WITH DIMENTIONS AND CONTOURS



1.11 PERFORMANCE SPECIFICATIONS FOR OPERATION, MAINTENANCE AND MANAGEMENT PHASEITE SURROUNDINGS

The Concessionaire shall be committed to continuous improvement and shall implement systems to facilitate this objective.

OPERATION AND MAINTENANCE MANUAL

i. 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) The Concessionaire shall in consultation with the Authority evolve an O&M Manual. ii. The Concessionaire shall maintain the Project Facility in good and usable condition throughout the Concession Period or any extension thereof through regular and preventive maintenance of the Project Facility. iii. The O&M Manual shall include all the activities required for regular and periodic maintenance of the facility during the Operations Period, so that facility is maintained in a manner that at all times it complies with the specifications and standards and at the time of divestment of rights and interest by the Concessionaire in terms of the Agreement in sound, durable and functional condition. iv. The Concessionaire shall adhere to the MOT Guidelines and modified from time to time. v. The Concessionaire shall specify Detailed Performance Standards pertaining to routine maintenance/periodic maintenance/preventive maintenance, operations in the O&M Manual.

1.11.1EQUIPMENT MAINTENANCE

Concessionaire shall undertake planned and reactive maintenance of all equipment's to ensure that equipment's are safe, accurate and working to optimum performance and to achieve maximum availability and continuity of services by maintaining standards set by equipment manufacturer.

1.11.2STAFFING AND PERSONNEL TRAINING

i. Concessionaire shall make provision of adequate staff required for development, operation, maintenance and management of facility as prescribed in the staffing plan. ii. Concessionaire shall ensure that all staff engaged in the delivery of the Services is all times properly adequately notified, trained, and instructed and information records are maintained accordingly. iii. Concessionaire shall ensure that all staff are properly and presentably dressed in appropriate uniforms and work wears and wear identification badges at all times while working in the facility. iv. Concessionaire should properly do verification of the staff hired.

1.11.3SECURITY

i. Concessionaire shall take all reasonable precautions to minimize theft, injury to visitors or their property within confines of the Hotel. ii. Concessionaire shall make a provision of adequate security to prevent any theft and provide a 24-hour surveillance system which continuously monitors and controls entry into and exit from the facility. A closed circuit television (CCTV) network may be provided for security and surveillance as well as for central monitoring purposes. iii. It is the duty of the Concessionaire to do thorough background check and verification of the staff they hire.

1.11.4PREPAREDNESS AND PREVENTION

i. The preparedness and prevention standards are intended to minimize and prevent emergency situations at the Hotel. Concessionaire shall ensure that facility is operated and maintained in a manner that minimizes the possibility of a fire, explosion, and theft. Concessionaire shall provide and maintain requisite equipment including firefighting and adequate water supply, internal communication system and alarms and provisions for contacting local authorities. ii. Concessionaire shall prepare and maintain emergency preparedness plan for facility and train all the personnel working in the facility in order to respond appropriately in such situation and carry out these plans in the event of an actual emergency. iii. Proper fire extinguisher, fire alarms and hydrants need to be installed by the Concessionaire in the facility. Any damage to firefighting equipments installed in the facilities and in public spaces shall be rectified within 2 (two) days of detection. Fire extinguishers shall be replaced before the end of its expiry date. iv. In case of any emergency Concessionaire should report and inform about the incident. v. Concessionaire should remove visitors and provide them with a safe passage in case of any emergency. vi. Co-ordinate with the emergency services such as, trauma centers, hospitals, police stations, fire brigade office, etc. vii. Reorganize the operations with proper information, sufficient number or warning regulatory, information signs, displays or temporary change in visitor's circulation. viii.Attend to the affected area using manpower, machinery at Concessionaire's disposal. ix. Clear the affected site and arrange for repairs and make a report of the incident to the Authority. x. The Concessionaire shall evolve a comprehensive recovery plan for the restoration of the breakdown in the operations. The plan must be documented by record keeping procedures. The recovery plan shall include the following components:

a Identify and prioritize essential facility functions for recovery.

b Procedures for repairs / rebuilding / modifications, if any.

c Contingencies for alternate data processing / protection of vital records.

d Identify possible alternative traffic circulation / parking plans.

e Documentation process for after action reports.

1.11.5PERFORMANCE AND MAINTENANCE STANDARDS/INDICATORS FOR OPERATIONS

The O&M of the Hotel shall be carried out to maintain the performance standards, which shall comprise, but shall not be limited to that described below.

The performance levels define the level at which the Project is to be operated & maintained. Performance standards are defined for both the operation and maintenance.

The obligation of the Concessionaire with respect to Maintenance Requirements shall include the rectification of the defects and deficiencies specified below within the time limit set forth against such deficiency or defect.

Notwithstanding anything contrary to specified in this schedule, if the nature and extent of any defect justifies more time for its repair or rectification as compared to time specified herein, the Concessionaire shall be entitled to additional time in conformity with Good Industry Practice. However, the Concessionaire shall get prior approval from the Authority, for such additional requirement of time.

Notwithstanding anything to the contrary contained in this schedule, if any defect, deficiency or deterioration in the Project poses danger to the life and property of the Users thereof, the Concessionaire

shall promptly take all reasonable measures in consultation with Authority for elimination or minimizing such danger.

1.12 PERFORMANCE INDICTORS AND THEIR PREMISSIBLE TIME LIMITS

S. No.	Parameters	Performance Indicators	Permissible Time Limits For Rectifying Defects
1	Hotel	To remain operational 24 (twenty-four) hours a day throughout the year	———
2	Parking Area	To remain operational 24 (twenty-four) hours a day throughout the year	——
3	Enquiry Office	To remain operational 16 (sixteen) hours a day throughout the year	———
4	Information Systems, Displays, signage and boards	To remain operational 24 (twenty-four) hours a day throughout the year.	All these signage and boards should be clearly visible, legible and functional. Maximum 2% (two percent) number of damaged signage and boards at any given point of time. These shall be cleaned once in a week. Damaged signage and boards replaced, repaired within seven days of their detection.
5	All toilets, urinals, bathrooms shall be clean and functional	To remain operational 24 (twenty-four) hours a day throughout the year.	A minimum of 95% (ninety-five percent) toilets and urinals shall be functional. It should be demarked with suitable sign boards. These should be kept clean and hygienic and cleaning shall be done regularly
6	Natural and Mechanical Ventilation and Illumination	———	Shall meet the required Illumination level as specified in the IS Code and NBC. Shall meet the required Ventilation level as specified in the IS Code and NBC. Any disruption in it shall be rectified within 24 (twenty-four) hours. Arrangement for natural ventilation like skylights ventilators, shafts etc. shall be cleared after every 5 (five) days.

7	Water supply and all drinking water chambers	To remain operational 24 hours a day throughout the year.	95% (ninety-five percent) drinking water chambers shall be functional. These shall be cleaned daily. Drinking water quality in all the seasons shall be as per WHO standards
8	Power Supply, Electrical installations, Electrical Equipment	To remain operational 24 (twenty-four) hours a day throughout the year.	Any disruption in power supply shall be rectified in six hours. Timely intervention with temporary measures within 3 (three) hours, permanent restoration within 3 (three) days, depending on nature and intensity of work required as decided by Authority.
9	Telecommunication and Networking Equipment	To remain operational 24 (twenty-four) hours a day throughout the year.	Temporary measures within an hour and permanent restoration within a day.
10	Standby Diesel Generator Sets	Should be there at the facility.	Standby diesel generator sets to supply power to Project Facility must be available 24 (twenty-four) hours a day throughout the year in case of disruption or breakdown in power supply.
11	Elevators	To remain operational 24 (twenty-four) hours a day throughout the year.	Time to maintenance of elevators shall be done and in case of any faults it should be rectified quickly.
12	Maintenance Office	To remain operational 24 (twenty-four) hours a day throughout the year	———————
13	Security	**To remain operational 24(twenty-four) hours a day throughout the year.**	Proper development and installation of up-to-date security devices and equipments shall installed in the facility and there should be proper weekly check of these equipments and also a proper training should also be there for security personnel present in the site. Any defects in the security devices and equipment should be rectified within a day or two.

14	Dustbins, spittoons etc. shall be clean and functional	**Shouldbe in the facility all the time.**	A minimum of 95% (ninety five percent) Dustbins, Spittoons shall be functional at any given point of time. Dustbins shall be emptied after every 3 (three) hour or earlier if it is full or it creates foul smell in the neighborhood.
15	Staircase Shall be clean and functional	———	The staircase shall be cleaned at least once a day. Damaged handrails, risers or treads shall be repaired within 2 (two) days after detection
16	Boundary Wall shall be without any damage/ breach	. ———	Any damage/breach to the boundary wall shall be rectified within 3 (three) days after their detection
17	There shall be no standing water on pavement surface, no water logging in the centre		**Immediate measures to be taken and water logging should be cleared within two-three hours**
18	Drainage and Sewage	**Shouldbe operational throughout the year**	Timely intervention with temporary measures within 4 (four) hours, permanent restoration within 7 (seven) days, depending on nature and **intensity of work required.**

1.13 PERIODIC MAINTENANCE / RENEWAL ACTIVITIES

S. No.	Periodic Maintenance Activities	Time limit for Maintenance
1	Repainting of furniture, signage delineators, markings etc.	As per requirement
2	Repainting of Buildings and all other structures.	As per requirement

3	Repainting of carpentry work like joinery, doors, windows, ventilators, wooden furniture etc. in the offices, cabins, booths etc.	As per requirement
4	Resurfacing of Pavement	Routine repairs every year and premix carpet every 3rd (third) year. In case the pavement is of rigid type, no periodic renewal would be required except cleaning & filling of joints.
5	Mechanical Equipment	Minimum once in a year as per manufacturer's installation, operation and maintenance instruction manual.
6	Electrical Equipment	Minimum once in a year as per manufacturer's installation, operation and maintenance instruction manual
7	Cleaning and disinfecting of water storage/ distribution tanks, water mains	Once in a month
8	Cleaning of manholes/ gully chambers/ inspection chambers and flushing of building sewers	Once in 6 (six) months
9	Collection of water samples for physical, chemical and bacteriological analysis of water	Once every 15 (fifteen) days
10	Roof Inspection	Once in a year and before monsoon to see and repair whether roof drainage is functioning properly. Also check for presence of leaks and historical information for leaks during long continued rain, leaks occurring every rain etc. Check exposure of bituminous coating due to loose or missing gravel or slag and fix it on an annual basis. Also check all flashing for wind damage, loss of bituminous coating, loose seams and edges, damaged caulking and curling, and exposed edges
11	Water proofing of roofs, terraces, interior/exterior walls, and tanks etc.	Once in 3 (three) years
12	Analogous addressable fire detection, fire alarm and firefighting system	Once in a year including conducting of mock drill.
13	Air Conditioning (HVAC) system	Once in a year with cleaning of filters at regular interval.

1.14 MAJOR MAINTENENCE WORK

The Concessionaire shall be responsible at his own cost, for all maintenance and repairs of the Project and all its components. The work shall conform to norms as laid out in PWD specifications/ MOT Guidelines / BIS codes / IS codes / NBC codes for functional requirements of buildings etc. The

performance standards shall match the service standard of comparable international practice for a minimum 5-star category hotel buildings.

CHAPTER 2: LITERATURE REVIEW

OVERVIEW

The literature review compiles key information essential for designing a 5-star hotel, focusing on standards, regulations, and guidelines from sources like Neufert, NBC, TSS, and T&CP. It ensures the design aligns with site-specific bye-laws, zoning, and environmental regulations in Hyderabad. By analysing case studies and best practices, the review informs the design approach to create a functional, compliant, and innovative luxury hotel.

2.1 INTRODUCTION

5-star hotels hold significant importance in the hospitality industry, symbolizing luxury, sophistication, and world-class service. The concept of luxury hospitality can be traced back to ancient civilizations, such as the Roman Empire, which developed inns and guesthouses for travellers. Over time, the 5-star classification emerged as a standard for premium hotels, reflecting a commitment to excellence in architecture, service, and customer experience.

2.2 MINISTRY OF TOURISM GUIDELINES

With the aim of providing contemporary standards of facilities and services available in the hotels, the Ministry of Tourism has formulated a voluntary scheme for classification of operational hotels which will be applicable to the following categories:

- Star Category Hotels: - 5 Star Deluxe, 5 Star, 4 Star, 3 Star, 2 Star & 1 Star
- Heritage Category Hotels: - Heritage Grand, Heritage Classic & Heritage Basic

FOR APPROVAL-

Application Form should have the following details:

1. Proposed name of the Hotel.
2. Name of the promoters with a note on the business antecedents in not more than 60 words.
3. Complete postal address of the promoter with Telephone, Fax and Email address.
4. Status of the owner/promoter:
    a. If Public/private limited company with copies of Memorandum and Articles of Association.
    b. If Partnership, a copy of Partnership Deed and Certificate of Registration.
    c. If proprietary concern, name and address of proprietor/certificate of Registration.

1. Location of hotel site with postal address.

2. Details of the site.
    a. Area (in sq. meters).
    b. Title – owned / leased with copies of sale / lease deed.
    c. Copy of Land Use Permit to construct Hotel from local authorities.
    d. Distance (in Kms) from (a) Railway station (b) airport (c) main shopping centre.

1. Details of the project:
    a. Copy of Feasibility Report
    b. Star category planned
    c. Number of rooms (with attached bathrooms) and size for each type of room (in sq.ft.) d) Size of bathrooms (in sq.ft)
    d. Details of public areas with size in sq. ft. – Lobby / lounge; restaurants; bar; shopping; banquet/conference halls; business centre; health club; swimming pool; parking facilities (no. of vehicles)
    e. Facilities for the differently abled guests (room with attached bathroom earmarked for this purpose, designated parking, ramps for free accessibility in public areas and to at least one restaurant, designated toilet (unisex) at the lobby level etc.). g) Eco-friendly Practices
        a. Sewage Treatment Plant
        b. rain water harvesting
        c. waste management
        d. pollution control method for air, water and light
        e. introduction of non-CFC equipment for refrigeration and air conditioning.
    f. Energy / water conservation (use of CFL lamps, solar energy, water saving devices / taps)
    g. Details of Fire Fighting Measures/ Hydrants etc.
    h. Date by which project is expected to be completed and become operational
    i. Any other additional facilities
    j. Security related features
    k. The architecture of the hotel building in hilly and ecologically fragile areas should incorporate creative architecture keeping in mind sustainability and energy efficiency and as far as possible in conformity with local art and architecture with use of local materials.

2.3 CLASSIFICATION / RECLASSIFICATION OF OPERATIONAL HOTELS:

- The application should indicate whether a few rooms or all rooms are to be let out on a Time Share basis. Hotels which propose to let out part of or all its rooms on time-share basis will not be eligible for Classification under this scheme.

- The application fees payable for classification/reclassification are as follows. The Demand Draft may be payable to “Pay & Accounts Officer, Department of Tourism, New Delhi”

Star Category Classification/Reclassification fees in Rs.

5- Star 20,000

5- Star Deluxe 25,000

AREA OF HOTELS

Checklist of Facilities for Classification/Re-classification of Hotels:

CHECKLIST FOR 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	N	N	N	N	N		Documents as detailed in General Terms and Conditions.
Establishment to have public liability insurance	D	D	D	D	D		
24 hr. 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, Bathroom, Public areas and kitchen fully serviced daily	N	N	N	N	N		
All floor surfaces clean and in good repair	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	140	140	200		Single occupancy rooms may be 20 sq ft less. Rooms should not be less than the specified size.
Air-conditioning	25%	25%	50%	100%	100 %		Air-conditioning/ heating depends on climatic conditions & architecture. Room temp. should be between 20 & 28 Degrees C. For 4, 5 and 5 Star Deluxe (the percentage is of the total no. of rooms).
A clean change of bed and bath linen daily & between check– in 's	N	N	N	N	N		Definitely required between each Check – In. On alternate days for 1 & 2 Star hotels.
Suites				N	N		2% of room block with a minimum of 1.
Bathroom							
Number of rooms with attached bathrooms	All	All	All	All	All		It will be mandatory w.e.f. 01.09.2010 for all 1 and 2 Star category hotels to have attached bathrooms. All bathrooms to have sanitary bin with lid.

Table 6 Checklist of Facilities for Classification/ Re- Classification of hotels

Linen room	N	N	N	N	N		Well ventilated
Paid transportation on call	D	D	N	N	N		Guest should be able to travel from hotel.
Shoe cleaning service	D	D	D	N	N		Free facility to be provided for in house guests.
Ice (from drinking water) on demand	D	D	N	N	N		Complimentary on request.
Acceptance of common credit cards	D	D	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 guests).
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 numbers 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	N	N	N		
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 hour manned area.
Provision for emergency supplies toiletries / first aid kit	D	D	N	N	N		May be chargeable.
Health / Fitness facilities	D	D	D	D	N		Indian system of treatments should preferably be offered.
Beauty saloon and barber's shop			D	D	D		
Florist				D	D		

Crockery & Glassware	N	N	N	N	N		Plastic ware accepted in pool area.
Cutlery to be at least stainless steel	N	N	N	N	N		All categories should use good quality metal cutlery. Aluminum cutlery prohibited.
Bar			N	N	N		
Kitchens							
Refrigerator with deep freeze	N	N	N	N	N		Capacity based on size of F & B service.
Segregated storage of meat , fish and vegetables	N	N	N	N	N		Meat, fish and vegetables in separate freezers.
Colour coded synthetic chopping boards	N	N	N	N	N		Wooden chopping boards prohibited.
Tiled walls non –slip floors	N	N	N	N	N		
Head covering for production staff	N	N	N	N	N		
Daily germicidal cleaning of floors	N	N	N	N	N		
Good quality cooking vessels / utensils	N	N	N	N	N		Use of aluminum vessels prohibited except for bakery.
All food grade equipment containers	N	N	N	N	N		
Ventilation system	N	N	N	N	N		
Garbage to be segregated – wet and dry	N	N	N	N	N		To encourage recycling.
Wet garbage area to be air-conditioned			N	N	N		
Receiving areas and stores to be clean and distinct from garbage area	N	N	N	N	N		
Six monthly medical checks for production staff	N	N	N	N	N		
First – aid training for all kitchen staff	N	N	N	N	N		
Pest control	N	N	N	N	N		
Staff							
Staff uniforms for front of the house	N	N	N	N	N		Uniforms to be clean and in good condition.

Shelves / drawer space	N	N	N	N	N		Necessary for hotels of 1, 2 & 3 Star category to have a wardrobe.
Room and facilities for the differently abled guests							
At least one room for the differently abled guest	N	N	N	N	N		Minimum door width should be one metre to allow wheelchair access with suitable low height furniture, low peep hole, cupboard to have sliding doors with low clothe hangers etc. Room to have audible and visible (blinking light) alarm system. All hotels should be fully compliant by 01.09.2010.
Ramps with anti-slip floors at the entrance. Minimum door width should be one metre to allow wheelchair access.	N	N	N	N	N		To be provided in all public areas. Free accessibility in all public areas and at least one restaurant in 5 Star and 5 Star Deluxe. All hotels should be fully compliant by 01.09.2010.
Bathroom	N	N	N	N	N		Minimum door width should be one metre. Bathroom to be wheelchair accessible with sliding door, suitable fixtures like low wash basin, low height toilet, grab bars etc. No bath tub required. All hotels should be fully compliant by 01.09.2010.
Public restrooms	N	N	N	N	N		Unisex. To be wheelchair accessible with low height urinal (24" maximum) with grab bars. Minimum door width should be one metre. To be introduced by 01.09.2010 in 1, 2 & 3 Star hotels also.
Public Areas							
Lounge or seating area in the lobby	N	N	N	N	N		Doorman on duty. Lobby shall have furniture and fittings which shall include chairs/arm chairs, sofa, tables and fresh floral display.
Reception facility	N	N	N	N	N		Manned minimum 16 hours a day. Call service 24 hrs. Local directions to hotel including city / street maps to be available.
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 20-28 degrees Celsius.

							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.

English speaking front office staff	D	D	N	N	N		This may be relaxed outside the metros / sub-metros for 1 and 2 Star category hotels.
Percentage of Supervisory staff	20%	20%	40%	40%	80%		Hotels of 4 Star category and above should have formally qualified Heads of Departments. The supervisory or the skilled staff may have training or skill certification as follows: Degree / diploma from Central or state IHM's / FCI's or from NCHMCT affiliated IHM's or from other reputed Hospitality schools.
Percentage of Skilled staff	20%	20%	30%	30%	60%		The supervisory or the skilled staff may have training or skill certification as follows: i. Degree / diploma from Central or state IHM's / FCI's or from NCHMCT affiliated IHM's or from other reputed Hospitality schools. ii. Skill training certificate issued under the guidelines and scheme of the Ministry of Tourism.
Staff welfare / facilities							
Staff rest room	D	D	N	N	N		Separate for male and female employees with bunk beds, well lighted and ventilated.
Staff locker room	D	D	N	N	N		
Toilet facilities	N	N	N	N	N		Full length mirror, hand dryer with liquid soap dispenser.
Dining area	D	D	N	N	N		
Guest Services							
Provision of wheelchair for the differently abled guest	N	N	N	N	N		Wheel chair to be available on a complimentary basis in hotels of all categories
Valet (parking) services to be available	D	D	N	N	N		
Dry- cleaning /laundry	D	D	D	D	N		In house for 5 star Deluxe hotels. For 5 Star category and below, maybe outsourced.
Iron and iron board				N	N		Iron and iron board to made available on request in 1 to 4 Star category hotels on complimentary basis. For 5 and 5 Star Deluxe categories, to be available in the room.

Shop / kiosk	D	D	D	N	N		5 and 5 Star Deluxe category hotels to have one utility and one souvenir shop. 4 Star to have minimum one utility shop.
Money changing facilities	D	D	D	D	D		Money changing facility to be made available.
Bookshop	D	D	D	D	N		
Safety & Security							
Metal detectors (door frame or hand held)			N	N	N		
CCTV at strategic locations	N	N	N	N	N		
X-Ray Machine					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 checks may be conducted for staff and suppliers at designated entry points.
Under belly scanners to screen vehicles				N	N		
Verification	N	N	N	N	N		All hotels should conduct a verification of their staff and suppliers by the Police / private security agencies.
Staff trained in fire fighting drill	N	N	N	N	N		All hotels to conduct periodic fire drills and maintain 'Manuals' for Disaster Management, First Aid and Fire Safety. Quarterly drill or as per law.
Security arrangements for all hotel entrances	N	N	N	N	N		
Each bedroom door fitted with lock and key, viewport / peephole & internal securing device			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 procedure notices displayed in room behind door	N	N	N	N	N		
Fire and emergency alarms should have visual & audible signals	N	N	N	N	N		
First aid kit with over the counter medicines with front desk	N	N	N	N	N		

2.4 EXTERNAL ACCESS OF CONTROL:

1. Limiting Access Points

The number of access points needs to be reduced to a minimum of two or three and entry of persons regulated and monitored through CCTV cameras placed at such points.

1. Perimeter Security System

A three-tier security system should be put in place-

a. At the perimeter, on the outside of the hotel itself, cars must be stopped, boots checked and mirrors put under the car chassis to detect explosives.
b. Vehicles driving up to the hotel door should be discouraged. Vehicles should not be allowed to go right up to the door. Guests must alight at some distance away and walk-up.
c. There should be closed circuit TVs installed in all public areas of the hotel, especially at the alighting point and entrance door for scanning people coming into the hotel.
4. Road Barriers

Premium hotels could consider installing devices like hydraulically operated road barriers or retractable bollards that can stop vehicles coming at high speed. Short humps can be raised from ground level to slow down/stop vehicles.

1. Shrubs and Vines

Heavy shrubs and vines should preferably be kept away from the hotel building and trimmed close to the ground to reduce their potential to conceal criminals or bombs.

1. Patrolling

Increasing the number of Security Guards and stepping up patrolling can be an effective deterrent to criminals.

MATERIAL ACCESS CONTROL:

1. Guest Baggage Check

a. Baggage should be taken to a drop point, away from the lobby and passed through baggage scanners which can detect the shape and density of the objects with a high degree of clarity
b. Handheld bags must be checked at the entry point.

PEOPLE ACCESS CONTROL:

1. Walk-In Guests

Hotels should not entertain Walk-in guests' (without reference or pre-bookings)

1. Guest Profiling

Hotels should put in place a computer linked guest profiling system to zero in on persons of suspicious antecedents whose names figure in the Ministry of Home Affairs' Watch List. The information would include details such as full name of the guest, date of birth; nationality, sex; passport number, country issuing the passport; country of residence; visa number, date and place of issue.

1. Employee Verification

Internal security must be ensured through background checks and antecedent verification of employees and service providers. Temporary staff should be hired from reputed contractors who maintain up-todate database.

1. Visitor Management System

A visitor management system is essential. All visitors must be given a 'Visitor Pass'.

INTERNAL ACCESS CONTROL:

1. Within the hotel there should be restriction on access to different parts of the hotel.
2. Access of staff to various departments in the hotel can also be regulated through proximity cards with magnetic inter locks.
3. Entrances to areas such as Boiler Rooms, Mal Rooms, Computer Rooms, Switch Boards and Control Rooms should remain locked when not in use.
4. It is also necessary to establish a procedure for the accountability of their keys.
5. LIFT USAGE

f. The practice of people entering the lobby and taking the lift to any floor must be stopped.
g. Lifts should be programmed so that Guests staying in hotels are able to go only to the guest floor they are on by swiping their room card in the lift and it should only let them get out on the guest floor they are on.

OTHER SECURITY MEASURES:

1. Room Key Scanners

The US Department of Energy, through its Oak Ridge National Labs, has developed Mass Spectrometry Scanners which can analyse up to 1000 guest room access cards per hour. These can detect even a billionth of a gram of explosives such as Nitroglycerine or TNT. Even if a tinge of explosive has been touched by the guest it would alert the staff immediately and information flashed to security agencies.

1. Snifex

Snifex is a small handheld device with an ariel. The ariel starts V pointing to the direction where explosive is kept from a distance of a few meters.

1. Trash Management

An explosive device can easily be hidden in the trash. Trash cans need to be managed by trustworthy personnel.

CRISIS MANAGEMENT PLAN:

- Hotels must have a plan of action ready in case of an emergency Staff should be trained by mock drills in evacuations to help people in terror situations.
- Hotels need to build strong in-house systems to prevent or deal with a crisis; train and motivate staff to respond to an emergency and evacuate guests if there is shooting or a bomb goes off. There should be a designated nodal executive in-charge of the crisis management team.
- During crisis, calls start pouring from all over the world for news of the welfare and safety of guests and from the media persons who file reports on TV channels and in newspapers. There should be a nodal point and a designated person for information dissemination and to respond to all enquiries during a crisis.

2.5 ITC HOTEL MANUAL:

PARKING AND APPROACH TO BUILDING:

There must be minimally one designated accessible parking space in every 25 parking spaces provided.

a) Location:

- The accessible parking bay should be located closest to the entrance, with an accessible route, that is level or gently sloping and minimally 1200mm wide, leading to the building entrance.
- The route to the entrance from the parking must not require the user to cross any vehicular monument.
- The parking and the route connecting it to the entrance should preferably be covered.
- In case of underground parking, accessible parking bays should be located closest to the elevator leading to the lobby levels.

b) Parking Space

- Accessible parking bay should be 4800mm wide, out of which at least 1200mm, on both the sides, is used as transfer bays. Where there are two accessible parking bays adjoining each other, then the 1200mm transfer bay, on one side, may be shared by the two parking bays in between them.
- Length of the accessible parking bay should preferably be 6000mm, including a 1200mm wide transfer zone at the rear to allow loading of the wheelchair. The transfer zones, both on the sides and the rear should have yellow or white cross-hatch road markings. c) Signage
- There should be the international symbol of accessibility painted on the 2400mm wide area where the car is to be parked. The symbol should be large enough to be easily visible by person looking for the accessible parking. Recommended size being 1000mm x 1000mm but not larger than 1500mm x 1500mm. The sign painted on the floor should contrast with the floor colour (preferred colours, white and blue)
- There should also be a signboard with the international symbol of accessibility at the height of 1200mm from the floor right at the end of the parking.
- The Symbol of Access should be displayed at approaches and entrances to car parks, to indicate the provision of an accessible parking lot, for people with disabilities within the vicinity.
- Directional signs should be displayed at points where there is a change of direction to direct people with disabilities to the accessible parking lot.
- Approach to the Building
- The approach to the building entrance should be clearly defined.
- The surfaces should be firm and even, with a finish which is slip resistant in all weather conditions. The width of paths should be appropriate to meet the needs of all users.
- A recommended clear width of 1800mm will allow two wheelchair users to pass each other on path, however where obstacles are unavoidable and 1800mm width cannot be provided, a clear width of at least 1200mm should be provided throughout the path.
- Any kerbs in the route should have appropriate drop kerbs to allow access to a wheelchair.

MAIN ENTRANCE:

a. Entrance should be easy to locate and adequately signposted
b. Consider installing automatic or semi-automatic doors
c. Avoid thresholds; if unavoidable, they should be no higher than 6mm
d. There should be a landing of at least 1800mm x 1800mm immediately next to the door.

LOBBY, RECEPTION AND HOUSE PHONES:

a. Lobby
    - The lobby should be levelled and split levels should be avoided.
    - It should have adequate circulation space for a guest on a wheelchair, parents with a double pram or a person with heavy luggage.
    - Any centre piece that may be used in the lobby should be such that can be easily detected by a person with vision impairments. This can be achieved by making it contrast in colour with the flooring and detectable by a white cane and by having its lower edge less than 300mm above the ground.
b. Reception
    - Location of the reception should be such that it is easily identifiable from the entrance. The approach to the reception should be obstacle free.
    - The reception should be designed, so as to accommodate both standing and sitting guests. This can be achieved by providing a seated section that is minimally 1500mm wide x 760mm high x 700mm deep with a 750mm high knee recess. The standing section should range from 950mm to 1100mm in height.
    - A minimum clear floor area of 1200mm depth and 1800 mm width is required in front of any reception desk or counter (with a provision of 500mm deep knee recess) to enable sufficient manoeuvring space for wheelchair users. If there is no knee recess provided, then the minimum manoeuvring space required is 1400mm deep and 2200mm wide.

2.6 TIMESAVERS AND ARDS (BUILDING TYPES) HOTEL:

- 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 colour 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 centre 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.

1. 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.

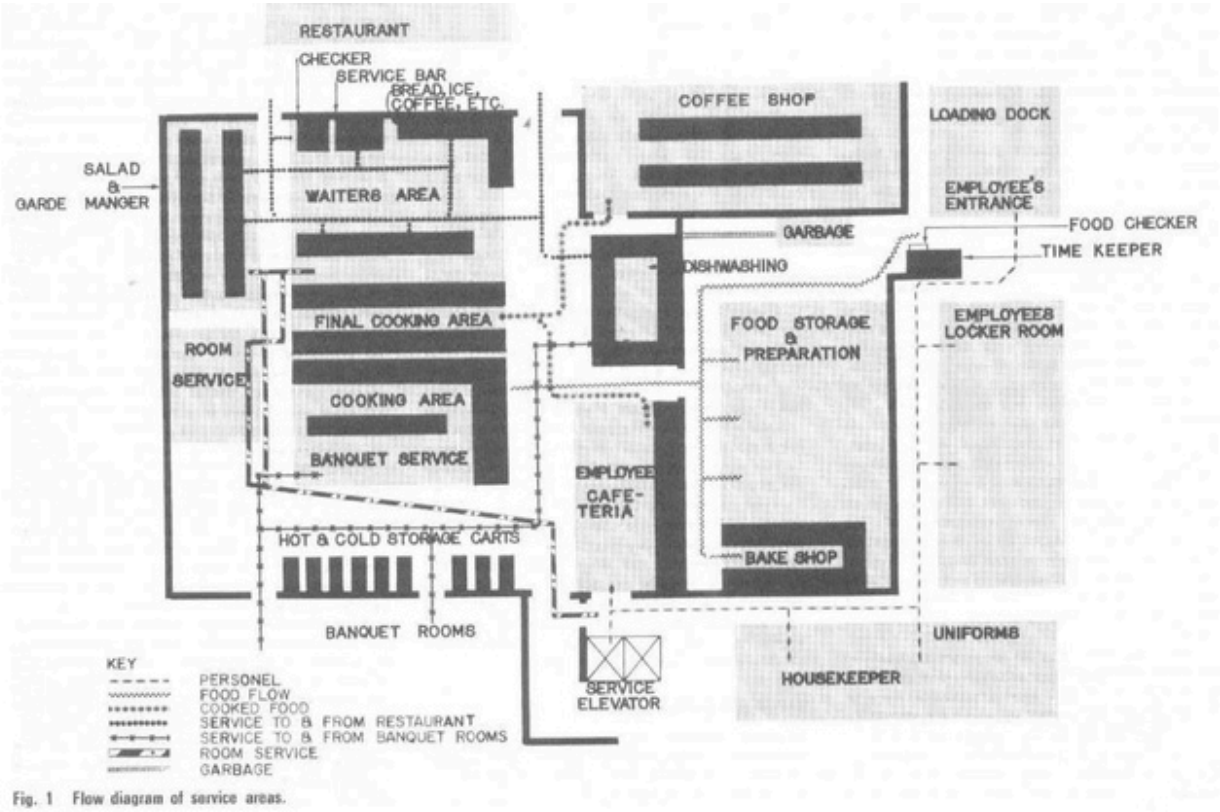
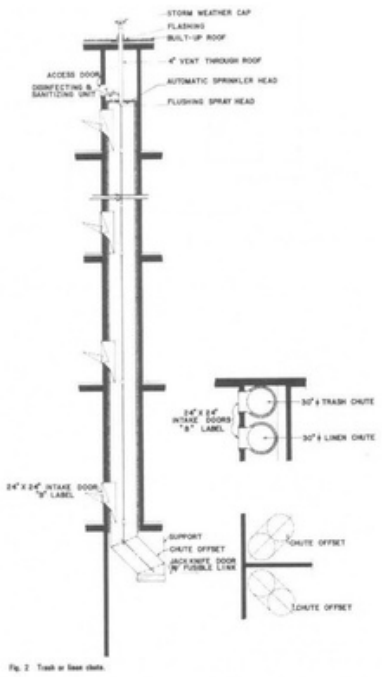


Fig. 1 Flow diagram of service areas.

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 lowerfloor 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



1. 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 machineseach 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.

1. 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.

1. 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 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.



Fig. 3 Main kitchen, Paradise Island, Nassau, B.W.I.

- 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 crunches.

- Ideally, the delivery should be made directly to the back bar through pass-through from the kitchen, so that we find once again another unit backed up to the ideal kitchen.

1. 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.

1. 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.

1. 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

1. MAIL AND KEYS:

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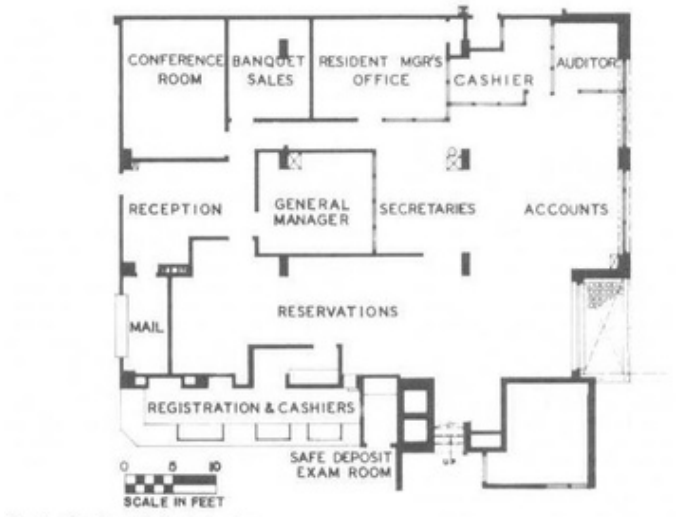

Fig. 4 The Churchill Hotel, London.

- 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 the desk, 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

9. 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.

10. 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.

11. RESTAURANTFACILITIES:

- 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 specialized 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.

12. 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.

13. 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.

14. 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 standardwidth 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.

15. 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.
- 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 kingsized 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 traveller because he can afford it but also by travellers who do a good deal of entertaining, especially business travellers 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.

1. 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-andwear 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.

1. 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.

1. 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 maids 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.

1. 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.
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2.7 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.

<u>DINING ROOMS:</u>

- 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.
- 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

Type of operation	Square feet per seat
Cafeteria, commercial	16-18
Cafeteria, college and industrial	12-15
Cafeteria, school lunchroom	9-12
College residence, table service	12-15
Counter service	18-20
Table service, hotel, club restaurant	15-18
Table service, minimum eating	11-14
Banquet, minimum	10-11

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 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.

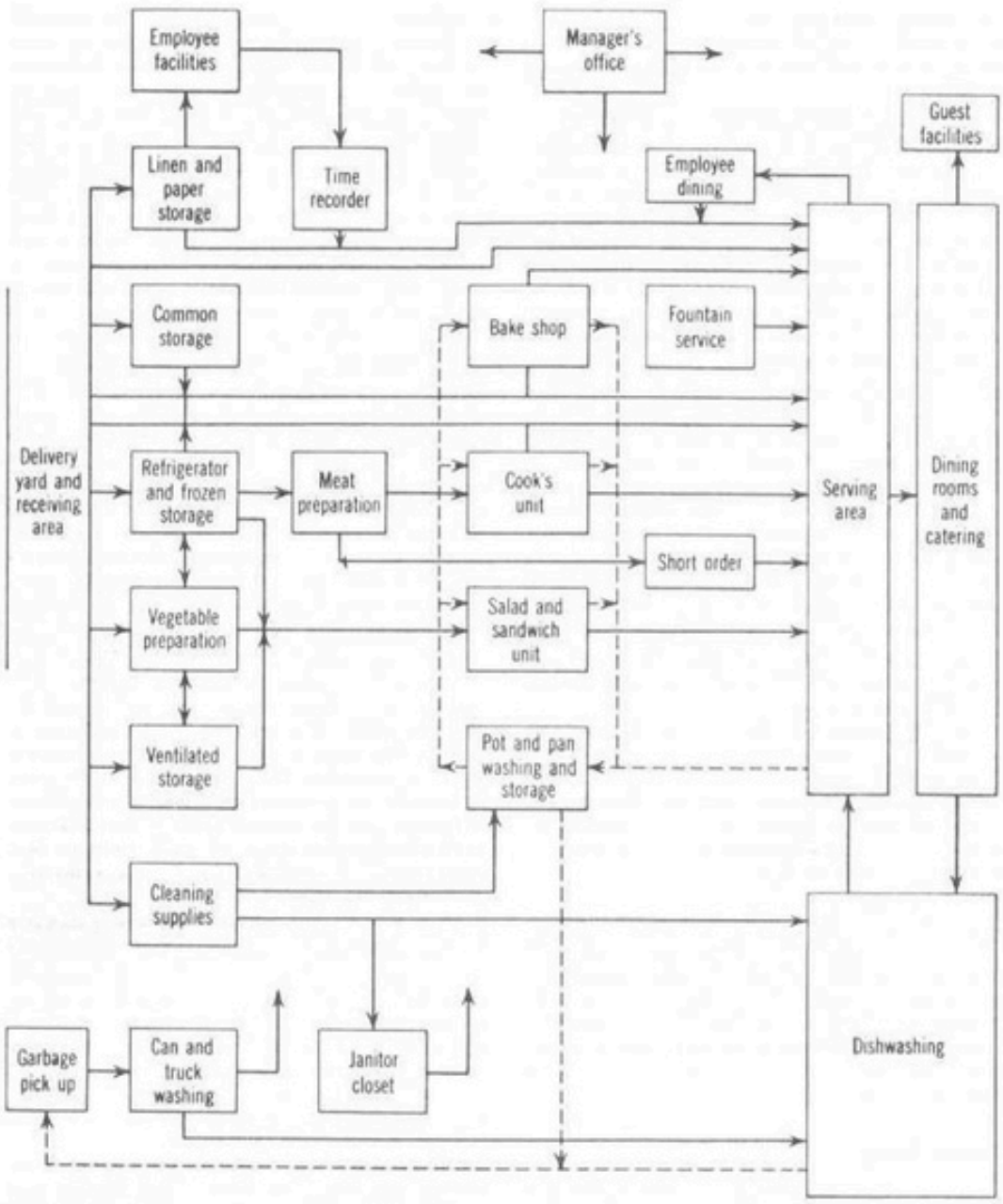
- A minimum passage area is 18 in. between chairs and, including chair area, tables should be spaced 4 to 5 ft apart. Aisles on which bus carts or other mobile equipment is to be moved should be sized according to the width of such equipment.
- Diagonal arrangement of square tables utilizes space better 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 (1) the speed of the servers, (2) the elaborateness of food selection, (3) convenience of the layout, and (4) 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. centres.

- 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 onehalf the area of the dining room.
- An analysis of specific needs is required. Many factors in fluency 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 trey service 7. Seating and service plan, whether on one floor or many

TABLE 2 Variation in Space Needs in Relation to Numbers Served

Meal load	Square feet per meal	Variation in square feet
100-200	5.00	500-1,000
200-400	4.00	800-1,600
400-800	3.50	1,400-2,800
800-1,300	3.00	2,400-3,900
1,300-2,000	2.50	3,250-5,000
2,000-3,000	2.00	4,000-6,000
3,000-5,000	1.85	5,500-9,250

Table 8 Variation in space needs in relation to number served

- The equipment provided will affect the space needs. Garbage and refuse, for example, may require a sizable area for storage awaiting pickup. Disposal units for food garbage, incinerator for burnable refuse, and a crusher for tin cans will greatly reduce the amount to be held. Frequency of garbage collection will minimize the space needs.
- The shape of the kitchen, location of ventilation and elevator shafts, support columns and partitions should be considered in relation to an efficient layout for work. The location of entrances and exits for a good flow of traffic, window placement, suitable space, and relationship of sections need consideration. Eliminate partitions whenever possible; this will reduce space needs and also permit easier supervision of production areas.
- The square footage given is to be multiplied by the maximum number of meals estimated per hour of service.
- The width of the table may be 24 to 30 in. unless dishes or food containers are to rest at the back of the table. Tables 36 in. wide are preferable when the back of the area is used for such storage. Where two workers work opposite each other, a table 42in. wide may be used. A work area of 4 to 6 in ft will be within convenient reach of the average person. Tables 8 to 10 ft. long are used if two people are working side by side. A height of 34 in., commonly used as a working height, be evaluated in terms of specific work done and equipment used.

- The minimum width for a lane between equipment where one person works alone is 36 and 42 in. where more than one is employed and where workers must pass each other in the progress of work. Where mobile equipment is used, 48 to 54 in. are recommended. At least 60 in. are needed for main traffic lanes where workers regularly pass each other with mobile equipment.
- Work centres at right angles to traffic lanes are efficient.

- A satisfactory layout may claim less than 30 percent of total space for equipment while work areas, traffic lanes, and space around equipment for easy operationing.

TABLE 3 Square Feet of Kitchen Space per Meal for Food Facilities of Different Type and Size

Type of facility	Estimated maximum meals per hour				
	200 or less	200–400	400–800	800–1,300	1,300–7,500
Cafeterias	7.5–5.0	5.0–4.0	4.0–3.5	3.5–3.0	3.0–1.8
Hospitals	18.0–4.5	12.0–4.5	11.0–4.5	10.0–4.0	8.0–4.0
Hotels	18.0–4.0	7.5–3.0	6.0–3.0	4.0–3.0	4.0–3.0
Industrial lunchrooms	7.5–5.0	4.0–3.2	3.5–2.0	3.0–2.0	2.5–1.7
Lunch counters	7.5–2.0	2.0–1.5			
Railroad dining car	1.6				
Restaurants (service)	7.0–4.0	5.0–3.6	5.0–3.6	5.0–3.0	5.0–3.0
School lunchrooms	4.0–3.3	3.3–2.2	3.0–2.0	2.5–1.6	2.0–1.6

Table 9 Square feet of kitchen space per meal for food facilities of different type and size Serving areas:

- In cafeterias the counter length should be regulated by the variety and volume.
- An estimate that may be used for allotting width is 14 ft. This allows for 4 ft as patron lane space,1ft treyelide,2ft counter width, 4'/r ft for workers, and 2'/r ft for back bar.
- Some commercial cafeteria counters may be 70 to 80 ft long, but counters over 50 ft long are frequently considered inefficient. Twenty feet is usually thought of as a minimum but, under special conditions and where a limited menuis served,6 to8 ft may be sufficient.
- Some planners use, as a rough guide, one counter or line for every 250 to 300 patrons served, but arrival rate, speed of service, and turnover are more reliable factors to consider in establishing the number of lines required.

Receiving and storage areas:

- Although the average operation may find a dock 8 ft deep and 12 ft long sufficient for receiving items, this would not be sufficient for a large one. The space requirement in square feet for food storage for 30 days has been calculated by some as approximately one half the total served or, if 1,000 are served,500 sq ft may be used as tentative figure for total food storage needs.
- COMMON STORAGE- The volume of canned food needed to serve 100 persona three meals daily for one month is estimated at approximately 45 cases of 6/10's or equivalent. The maximum stack height will be 8 or 9 cases or approximately72 in.
- Store room aisles may be as narrow as 36 in., but 42 or 48 proximal. are preferred. Wider aisles maybe required if trucks are used.
- Allow 1'/ to 2 in. as free space for ease of positioning. Add thickness of shelving to inter space when stating measurements between centres.

Figure 11 Booth seating

Figure 14 table and chair

Refrigerated and low temperature storage:

- Allocation in preliminary planning may be as follows: 20 to 35 percent for meat (portion ready meats require '/ to '/, less space than carcass or wholesale cuts); 30 to 35 percent for fruits and vegetables; 20 to 25 percent for dairy products, including those in serving areas; 10 to 25 percent for frozen foods; and 5 to 10 percent for carry-over foods, salads, sandwich material, and bakery products. A requirement of 15 to 20 cu ft of refrigeration per 100 complete meals has also been used by some planners.
- Approximately 0.25 to 0.50 cu ft of refrigerated walk-in space was provided per meal served, and frozen walk-in space.
- A walk-in becomes feasible for an operation serving 300 to 400 meals per day, and refrigerated pass-through can be added when from 400 to500 meals are served per day
- Aisles of 30 in. are usually too narrow; 42 in. are desirable. If mobile equipment is moved in and out, aisles may have to be wider. Walk-ins that are 8 to 9 ft wide and about 10 ft long are minimum size. This allows for two storages are as30 in wide with a 3 to4 ft aisle.
- Doors should be a minimum of 42 in. wide to admit large crates and containers or be sized to suit mobile equipment.

Sanitation areas:

- Dishwashing areas: The dimensions may be only 30 to 36 in. for a single tank machine, 60 to 72in.for sinks, or7 toover30 ft for a conveyor-type machine.
- Pot and pan section: When allowing space for the pot and pan section, 40 sqft is generally regarded as a minimum for the smallest unit. The free work aisle between the sinks and other equipment should be 4ftwide.The space allowance above the minimum will vary widely depending upon the type equipment used and the volume of pots and pans handled.

Employee facilities:

- Facilities for employees may include locker and lounge area, toilets, showers, time-recording equipment, hand basins near work areas, and dining rooms. An employee entrance should be so located that the employees may go directly to the dressing rooms without passing through the dining room or production area.
- Locker and lounge area: Whether individual lockers or common cupboard, sufficient space should be allowed for personal clothing to hang without crowding or wrinkling.
- The depth from front to back should be a minimum of 20in.
- Suitable size for an employee lounge depends largely on scheduling of workers and the policies of individual establishments.
- A cotor day bed, 36in. by 6ft, should be provided in the women's room.
- Toilets and showers: They should be separated from food areas by a hallway or double entrance. Supply one wash bowl for every 8 to 10 workers, one toilet stool for every 12 to 15 women, and one urinal and one toilet stool for every15men.Toilet compartments measure approximately3by 41/ ,to 5 ft.
- Time recording management: Provide space for a recorder near and within view of the office. Wall hung card racks of sufficient capacity are recommended for the number of workers, both full and part time, who are likely to be employed during an accounting period. Estimated space for a clock recorder is approximately 18in.wideby12y.in. deepand18in.high, and a rack of 50 cards approximately1 1/2, by 2 1/2 by 34 ½ in.

Guest facilities:

- The size of the area should be based on probable need for waiting, type of service, and number of persons likely to congregate at one time. If there is a lounge or hallway adjacent to the dining room, this may provide some waiting space.

Cashier:

- Preferred location for the cashier's desk or counter, is on the right-hand side of the door when leaving, in order to avoid cross-traffic and resulting congestion.

Coat-checking:

- Use of coat trees in dining areas is formed "necessary but never desirable. "These occupy approximately 20 by 20 in., are 72 in. high, and can accommodate 8 garments per costumer.

Overshoe racks are considered undesirable; umbrella racks, desirable in check rooms

TIME SAVER STANDARDS (BUILDING TYPES)-KITCHENS:



Fig. 2 Movement through traffic aisle at the cafe/bar kitchen facilities, Hotel Commodore.

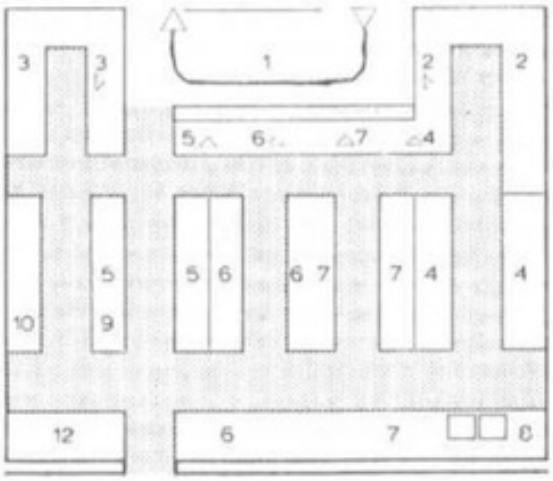


Fig. 1 Hotel or restaurant kitchen or French restaurant of high standard. Capacity for main meals: Hotel—100–200 persons / menu, 100 persons / à la carte. Restaurant—200–300 persons / mealtime from 11:30 to 1:30. Waiters' passageway: tangential. Kitchen: Linear arrangement with large installations in the rear. See Legend for explanation of numbers.

Figure 22 hotel and restaurant kitchen

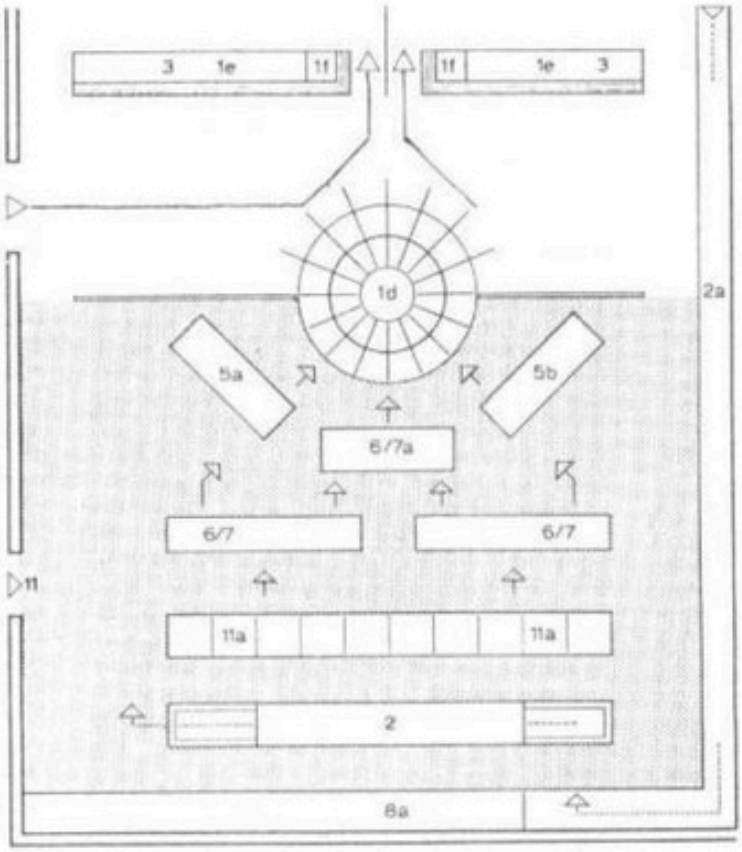


Fig. 15 Student dining hall or cafeteria with self-service carrousel. Capacity: after the initial phase, 1,400 persons per hour. Seating: at least 400 seats. Meal delivery from a central kitchen—deep-freeze, boil-in-the-bag (Nacka), and Régéthermic system.

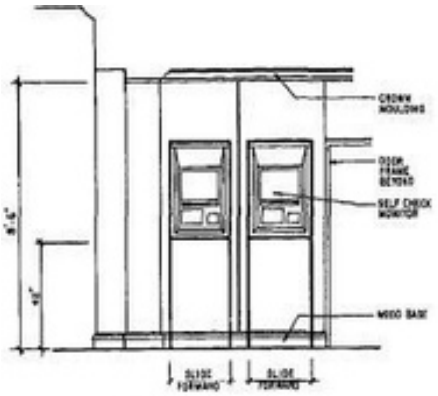
Legend:

17. Linear-arrangement kitchen with automats. For large output, there are appropriate appliances for steaming and baking.
18. Linear-arrangement kitchen with transport-equipment system. In the foreground: dish washing; soup, vegetable, and entrée vats; stove for general purposes and dietary foods; sauces and meats.
19. Three-tier carrousel (Maison Tricault, Paris) of 2-meter diameter, with a tray slide.

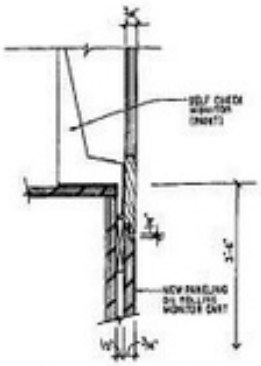
1d. Self-service three-tiered carrousel
  Below: 2 cold dishes, various salads, desserts (partly on ice)
  Center: warm meals, 3 warm dishes, 2 grilled or fried dishes (with warming lamps above)
  Above: sandwiches, pastry, etc.

1e. Salad dressings, condiments, extra cutlery, etc.
1f. Cash register
2. Dishwaster (stacking area, 3 tanks, drying zone)
2a. Soiled-dish conveyor belt
3. Beverage self-service area
5a. Portioning table for cold dishes and salads
5b. Portioning table for desserts, sandwiches, etc.
6/7. Warming and defrosting appliances
6/7a. Portioning table for warm meats
8a. Trolley storage
11. Meal delivery from the central kitchen, access to the supply and auxiliary rooms
11a. Storage cupboards for cold goods and other goods delivered from the central kitchen

2.8 TIME SAVER STANDARDS (INTERIOR DESIGN):



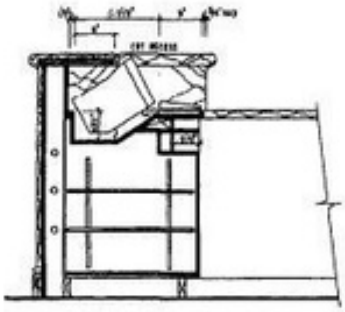
ELEVATION
AT SELF CHECK MONITOR



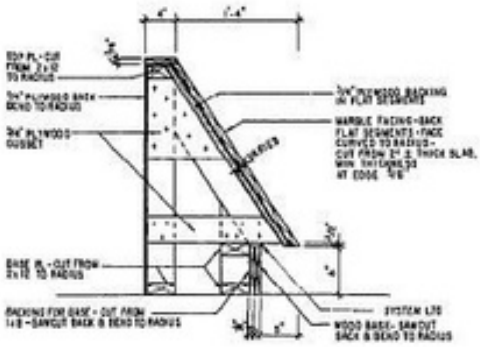
SECTION DETAIL
AT SELF CHECK MONITOR



SECTION DETAIL-
SETTEE



ELEVATION/SECTION-
REGISTRATION COUNTER



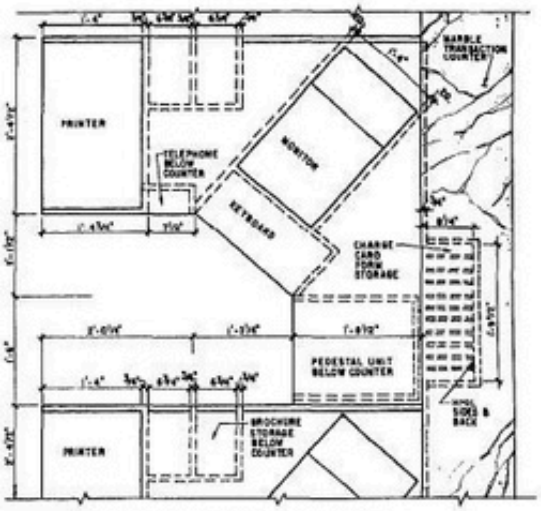
SECTION-CIRCULAR SETTEE BACK

3. Elevators servicing the hotel guest rooms should be readily visible from the front desk. This is not always feasible in extremely large hotels.

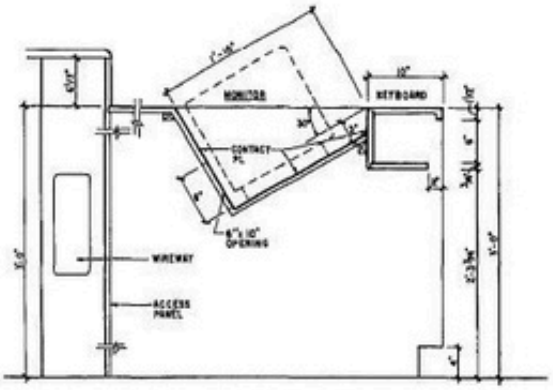
4. The front desk should be designed in such a way as to take into consideration the various users it will accommodate. Special attention should be given to the fact that hotel guests may be physically challenged or chairbound. The overall height, writing surfaces, and overhangs should be designed to accommodate a hotel guest seated in a wheelchair.

5. The basic front desk design should avoid, wherever possible, visual obstructions that block sightlines or create blind spots. Accordingly, columns and high walls should be avoided.

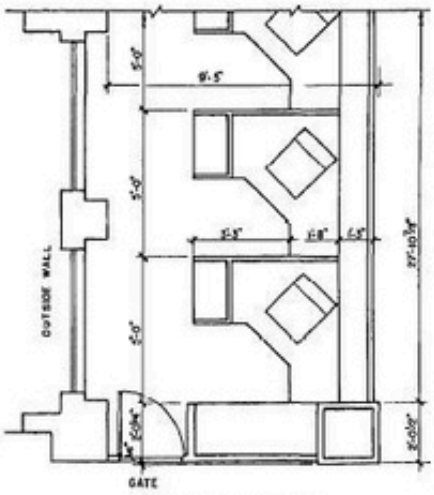
6. Equipment and custom elements that are typically incorporated within the front desk include computer monitors/CRTs with keyboards and printer, room racks, reservation racks, information racks, room status displays, mail drawers, key drawers, alpha guest listings, message-waiting display, credit card imprinters, fax and telex, guest/employee paging system, automatic wake-up system, electric receptacles, cable chases, alarm systems, and file and cash drawers.



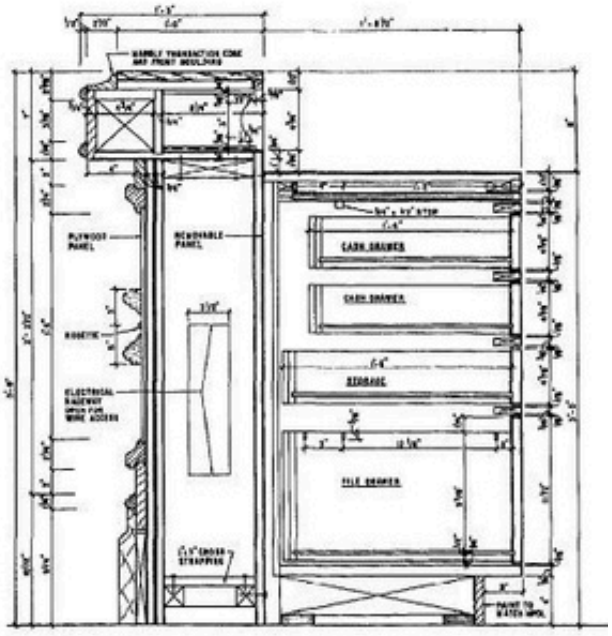
ENLARGED PARTIAL PLAN
REGISTRATION COUNTER
GRAND FLORIDIAN HOTEL



SECTION AT REGISTRATION DESK
GRAND FLORIDIAN HOTEL



PARTIAL PLAN
REGISTRATION COUNTER
GRAND FLORIDIAN HOTEL



SECTION AT COUNTER
GRAND FLORIDIAN HOTEL

Registration Desk

project the appropriate hospitality image while at the same time integrating all of the required technologies. Figures 10 to 13 show examples of architectural working drawings and details that meet many of these requirements.

The design of a front desk or registration desk can take many forms and be constructed with a variety of materials. Regardless of the design vocabulary used or architectural style, certain important design considerations must be observed.

1. The number of persons actively staffing the counterlike facility will dictate both the width and overall depth of the front desk. It is suggested that between 5–7 ft be allocated per staff workstation and that one workstation be allocated for every 125–150 rooms. For every additional 125–150 rooms, an additional workstation should be provided. Peak check-in/check-out loads could require even more staff workstations.
2. The front desk should be easily accessible from and to the main hotel entrance. "Easily accessible" strongly implies clear visibility.

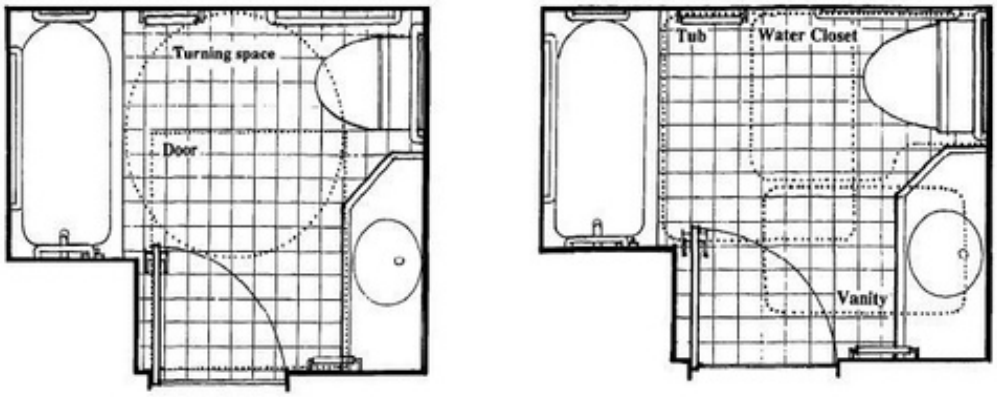


Fig. 9 These two diagrams illustrate the same bathroom plan with the required clearances for door operation and turning space and access to each fixture, including the tub/shower, vanity, and water closet. Clearances for maneuvering space, door operation, and individual fixtures can "overlap." Because of the vertical characteristics of wheelchairs, clearances can include toespace (9" high) below water closet and kneespace (2'3" high) below vanities.

Figure 28 Washroom



Suite with 14' Bay-spacing

Fig. 8 Accessible suites should meet the same requirements for accessible guestrooms and guest baths. Because suites are usually more generous in terms of space, providing accessibility is less difficult. If a small kitchenette is included, a kneespace 2'3" high should be provided below the sink. A countertop height of 2'10" (2" lower than standard) is suitable for both ambulatory guests and guests in wheelchairs. A pull-out lapboard at a height of 2'6" provides a workspace for guests in wheelchairs. The kitchenette should include a 5'0" turning space.

Figure 30 Guest Room planning



Snack Bar

- Corner pub, cafe, restaurant: capacity 55-60 seats (2-4 place turnover at lunch time, 2 in evenings). Between lunch and evening meals: serving coffee, cakes and snacks. Kitchen: supplied predominantly with pre-prepared items. Storeroom need not be particularly large if deliveries are daily.

Cafe-restaurant-

- With tea room. Urban business in heavy traffic location.

Cafe:

- Alcohol-free drinks, except bottled premium beer, liqueurs etc., patisserie and light food-cold and hot.

Tearoom:

- Alcohol-free drinks, patisserie, sandwiches. Capacity approx.150 seats, continuous operation

6.30-24.00. Kitchen: predominantly pre-prepared items, little storage.

Large hotel restaurant kitchen-

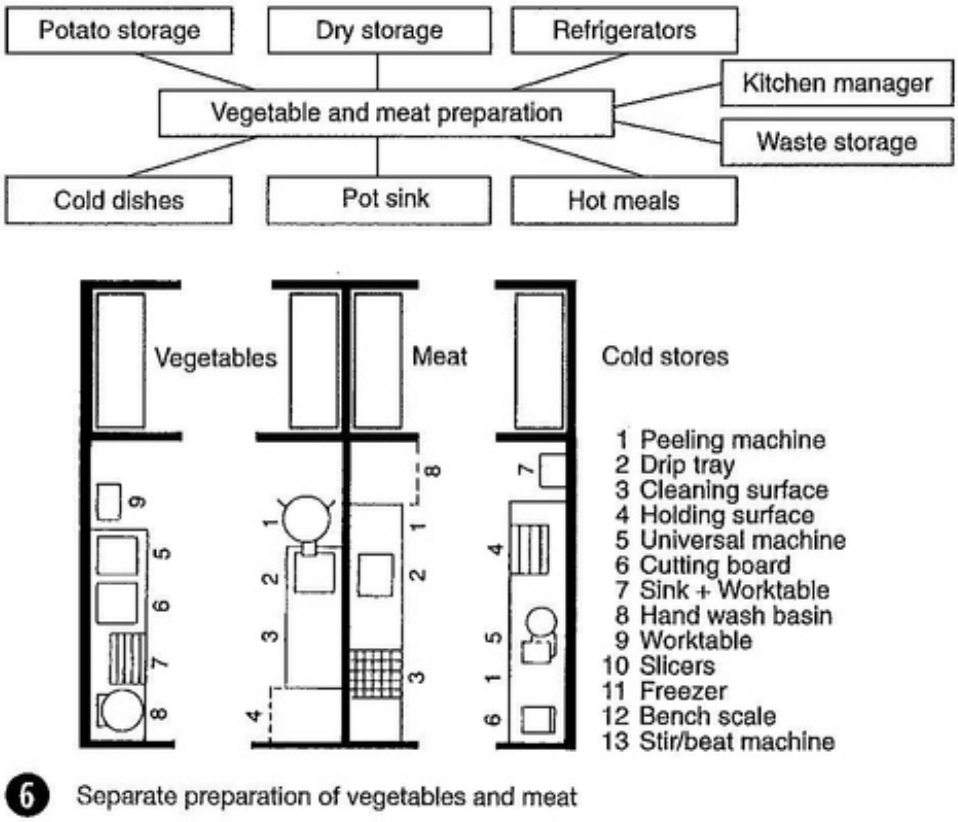
- Also, for large catering establishments with side rooms, external deliveries or production for outside companies. Capacity 800-1000 people. Waiters' walkway: in the center with special service in the garden or also bowling alley and direct access to the side rooms. Kitchen: cell system fronted by the backs of the large appliances.

Restaurant with buffet and vending machines-

- For fast midday meals in canteens, department stores and motorway services. Capacity 500 people/h. Kitchen: only warming of pre prepared food stuffs, except for salad sand soups.

Self-service restaurant-

- Suitable for department stores or attached to offices. Kitchen: no in house production. Outside delivery and preparation using deep frozen process.



6 Separate preparation of vegetables and meat

Function and organization of the restaurant kitchen-

- The capacity of the kitchen is primarily dependent on the number of customer seats, customer expectations (type, extent and quality of the meals offered), the proportion of products freshly prepared from raw (in contrast to ready-prepared food) and the rate of customer turnover all day or at meal times (consumer frequency).
- In fast food restaurants the rule of thumb for seat changes is about1-3times per hour, in conventional restaurants about 2. In specialty and evening-based restaurants, the guests stay on average for1.3-2 hours.

Figure 39 Kitchen

Percentage of total kitchen space requirement-

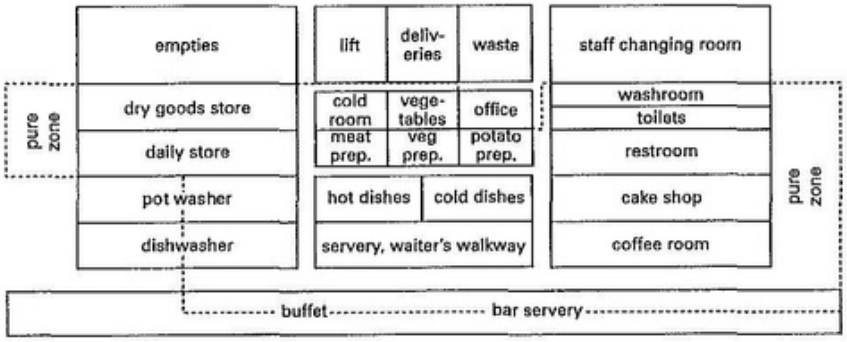
- Differentiated according to small, medium and large kitchens, floor area values for individual functions are be based on.
- Aisle widths in storage, preparation and production areas differ according to whether they are purely traffic routes or also overlap the service area. Working aisle widths should be 0.90-1.20 m, side traffic routes with (temporary) overlapping use 1.50-1.80 m and main traffic routes

(transport and two-way through traffic) 2.10-3.30 m wide. For kitchen areas in small to medium restaurants, aisle widths of 1.00-1.50 m should be sufficient.

- Bistros, snack bars, small cafes - or specialty restaurants with 40-60 seats- are classified as small operations. Small to medium units (70-1 00 places) require on the other hand carefully zoned and fully equipped kitchen facilities. Large businesses (service areas, fast food restaurants, large hotel kitchens) achieve considerably higher place numbers, often with an integrated eating bar or self service areas.

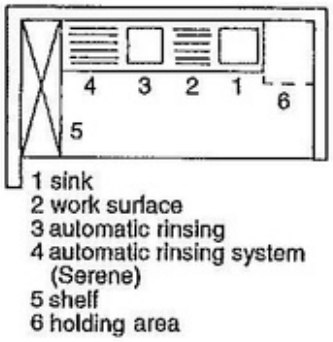
Area	Proportion (%)
goods delivery including inspection and waste storage	10
storage in freezer, cold and dry rooms	20
daily store	
vegetable and salad preparation area	2
cold dishes, desserts	8
patisseries/cakes	8
meat preparation	2
cooking area	8
washing area	10
traffic area	17
staff rooms and office	15
Total	100

4 Basis for dimensions and space requirements



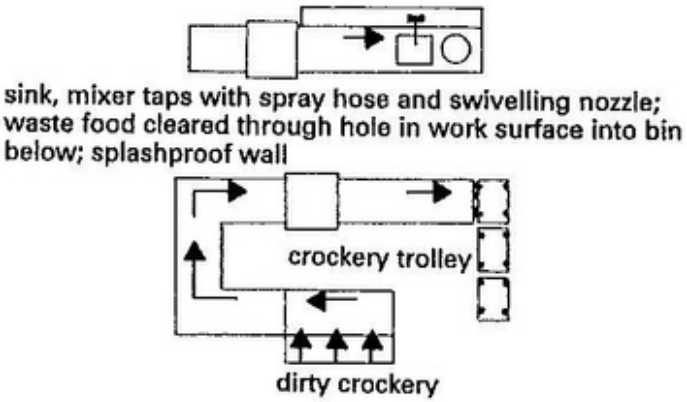
5 Kitchen areas: classification and relationships of functional areas in clean and unclean zones (if earth-covered vegetables are prepared, this must take place in a separate part of the unclean area!)

Figure 41 Washing area



1 sink
2 work surface
3 automatic rinsing
4 automatic rinsing system (Serene)
5 shelf
6 holding area

14 Basic solution: pot washing area



15 Functions and components of the dishwashing area

A scheme of the basic room and route relationships with in a hotel is shown below:

Figure 42 Room and access scheme of a hotel

The percentages of hotels' surface areas required for the various functions are shown below

5 Stars (Luxury): as before, but single room 18m2 , double room 26m2, (minimum size, see above), 2% of the hotel rooms as suites (at least two), each with an armchair/sofa per bed, additional washbasin in double rooms and suites, additional colour television in suites, reception lobby.

To be able to eat in comfort, one person requires a table area around 60 cm wide and 30-40 cm deep This provides sufficient distance between adjacent diners. Although an additional 20 cm space in the centre for dishes and large bowls is sometimes desirable, an overall width of 80-85 cm is suitable for a dining table. If the food is served on plates, then 70 cm is sufficient, and for fast food 60 cm table depth.

Distance between table and wall greater than equal to 75 cm because the chair alone requires a space of 50 cm. If the space between table and wall is also used for access, the distance should be greater than 100cm. Round tables need a little more space, a difference of up to50cm.

Larger dining rooms should be split into zones. Kitchen, side rooms, toilets and sanitary installations should be grouped around the dining room, also in the basement.

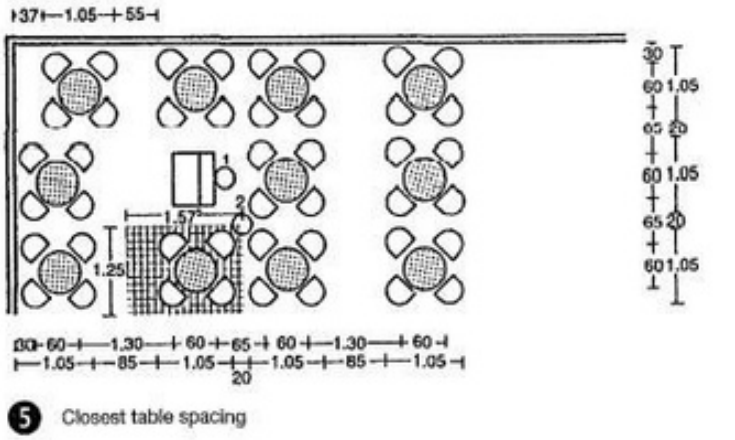
Columns in a dining room are best located in the centre of a group of tables or at the corners of the tables. The ceiling heights of dining areas with a floor area less than equal to 50m2=2.50m, > 50 m2 =

2.75 m and >100m2 greater than equal to 3.00 m; above or below galleries greater than equal to 2.50

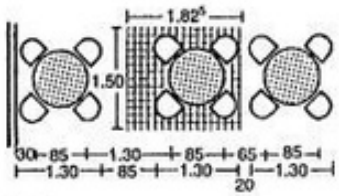
Figure 43 Table/ seating

m.

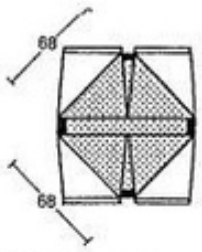
Figure 44 seating arrangement



5 Closest table spacing



6 Tables in a café



7 Zuntz table

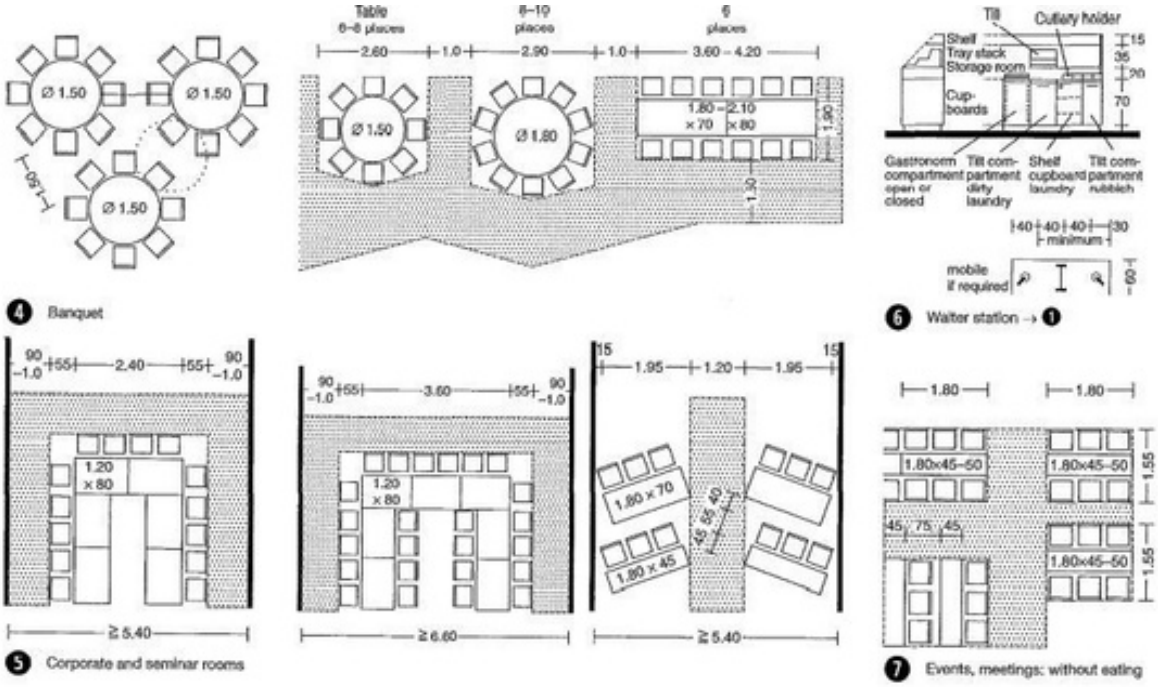
Figure 45 tables in a cafe

Emergency exits1.0m wideper150 people using them. Minimum clear width of aisles in restaurants0.80 m, doors 0.90 m.

Toilets in public houses, bars or restaurants: Stairs to toilets, wash, staff and storage rooms, usable width less than equal to 1.1 0 m. Clear walkthrough height less than equal to 2.10 m measured vertically. Window area less than equal to 1/10 of the floor area of a restaurant.

Table 12 Banquet

Diagonal arrangement of the tables generally takes up less space than an aligned pattern, with a space saving of up to 35%.



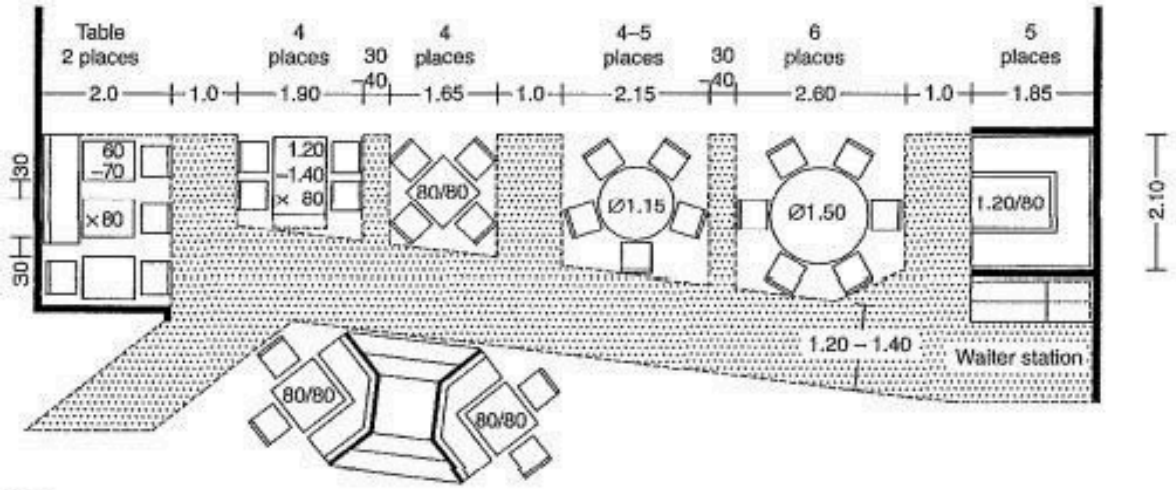
4 Banquet

5 Corporate and seminar rooms

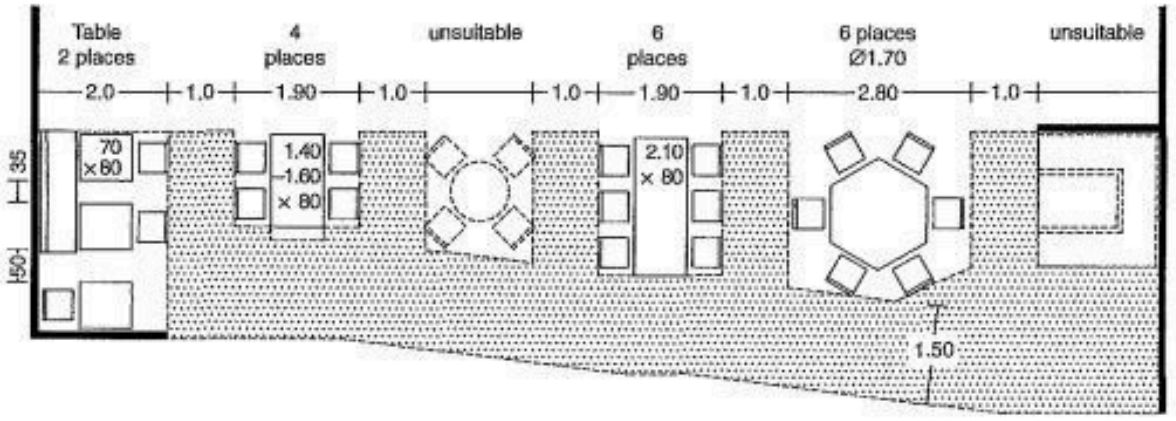
6 Waiter station → 1

7 Events, meetings: without eating

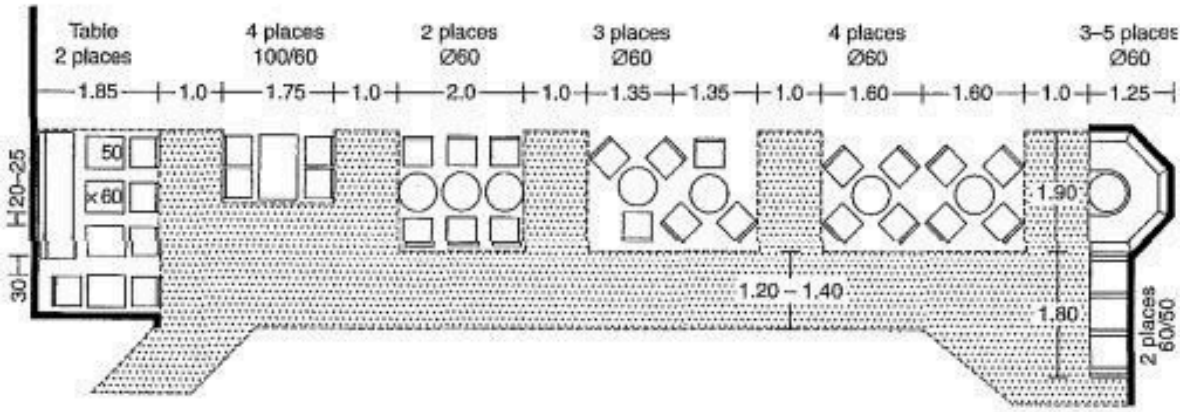
Table 13 table size



1 Table sizes in a restaurant: with predominantly plate service the table depth can be reduced to 70 cm



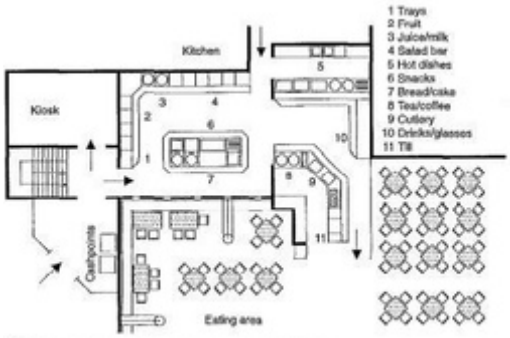
2 In a self-service restaurant



3 Bistro–café–bar

Tables and chairs are kept as small as possible and tightly grouped.

Figure 46 Seating Arrangements Figure 48 horseshoe shaped bar



7 Example of a fast food restaurant, self-service

2.9 URBAN AND REGIONAL DEVELOPMENT PLANS FORMULATION AND IMPLEMENTATION GUIDELINES (URDPFI):

2.10 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:

Sr. No.	Width of Means of Access (m)	Length of Means of Access (m)	Other Controls
1.	12.0	200	➢ The width of the means of access shall not be less than the internal access ways in layouts and subdivision.
2.	15.0	400	
3.	18.0	600	
4.	24.0	above 600	

Source: NBC, 2005.

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.

2.11 PARKING

2	Commercial Centres		
	Convenience Shopping Centre/Local Shopping Centre / Local Level Commercial areas	2 ECS / 100 sqm of floor area	--
	Service Market	2 ECS / 100 sqm of floor area	--
	Community Centre / Non- hierarchical Commercial Centre	3 ECS / 100 sqm of floor area	--
	District Centre/ Sub-Central Business District/Sub-City Level Commercial areas	3 ECS / 100 sqm of floor area	--
	Commercial Plot: Retail & Commerce Metropolitan City Centre	3 ECS / 100 sqm of floor area	--
	Hotel	3 ECS / 100 sqm of floor area	For Population between 2- 10 lakh – 1 car parking space for every 4 guest room. For Population between 10-50 lakh – 1 car parking space for every 3 guest room. For Population more than 50 lakh – 1 car parking space for every 2 guest room[143].

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.

2.12 SETBACKS WITH RESPECT TO ABUTTING ROAD WIDTH

- Front Setback

Note: For streets less than 7.5 m in width, the distance of the building (building line) shall be at least 5m from the centre line of the street.

- Rear and Side setback for building heights above 10m

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 ○ Upto height of 24 m with one setback: Minimum 6m ○ Between 24 m and 37.5 m with one setback: Minimum 9 m ○ 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	

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 un covered), platform around a tree, landscaping, tank, fountain, bench, chabutra with open to pandunen closed 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 are as covered by chajja and the like.
- Watchmen's booth, suction tank and pump-house, garbage shaft, sanitary block, parking lockup garages, electric cabin or substations and such other utility structures meant for the services of the building underconside ratio

2.13 GROUND COVERAGE & FAR WATER SUPPLY

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

2.14 FIRE FIGHTING

The CPHEEO Manual recommends fire-fighting water demand as a function of population, ie. 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.

2.15 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:

2.16 INDIAN STANDARD CODE FOR HOTELS AND RESTAURANTS 2.17 BUILDING

In addition to the recommendations in the code the building in which food service establishment is located shall also conform to the local building byelaws in force. The building should be of a permanent nature and maintained in a proper state of repair and cleanliness.

2.18 FLOORS

The floors of all rooms in which food or drink is stored, prepared or served and of all washing placed shall be of such construction as to be impervious, easily cleansed, smooth and in good repair. All floors shall be kept clean and free from litter. Dustless method of floor cleaning shall be used, ail except emergency floor cleaning shall be done during the period when least amount of food and drink is exposed.

2.19 WALLS

The walls shall have a smooth, non-absorbent surface, free from cracks and crevices to facilitate their efficient cleaning.

The walls of all rooms in which food or drink is prepared or utensils are washed shall have a smooth washable surface up to a minimum height of 2-O m from the floor.

2.20 CEILING

Ceiling shall be clean, leak-proof and have a smooth non-absorbent surface free from cracks and crevices to facilitate their efficient cleaning. These should be such that they do not harbour vermin.

2.21 DOOR AND WINDOWS

In the absence of air-conditioning all openings to the outer air including doors, windows, sky lights shall be effectively screened with tight fitting screens free from holes with wire gauge conforming to IS: 1568-

1960*. The doors when not in use shall be kept in closed position. Self-closing screened doors to the outer air shall open outwards. Other methods approved by the authority shall be employed to ensure the absence of flies

2.22 LIGHTING

TABLE 1 RECOMMENDED VALUES OF ILLUMINATION

The lighting of some of these locations will be determined primarily by aesthetic considerations and the recommended illumination values as given in IS : 3646 (Part II)-1966* may be taken as a guide only.

Sl No.	Areas	Illumination, Lux
(1)	(2)	(3)
i)	Entrance halls	150
ii)	Reception and accounts	300
iii)	Dining rooms (tables)	100
iv)	Lounges	150
v)	Bedrooms:	
	a) General	100
	b) Dressing tables, bed heads, etc	200
vi)	Writing rooms (tables)	300
vii)	Corridors	70
viii)	Stairs	100
ix)	Laundries	200
x)	Kitchens	†200
xi)	Goods and passenger lifts	70
xii)	Clockrooms and toilets	†200
xiii)	Dining rooms:	
	a) Tables	100
	b) Cash desks	300
xiv)	Self service-counters	300

*Code of practice for interior illumination: Part II Schedule for values of illumination and glare index.

†Supplementary local lighting should be provided over kitchen equipment and mirrors.

2.23 VENTILATION

?	In case of ran-air-conditioned buildings the minimum standards of mechanical ventilation shall be maintained as given

TABLE 2 VENTILATION REQUIREMENTS FOR NON-AIRCONDITIONED BUILDINGS

Sl No.	Area	Air Changes per Hour
(1)	(2)	(3)
i)	Living rooms	3
ii)	Dining and lounge	2-3
iii)	Big kitchen	12
iv)	Small kitchen	6
v)	Toilets	6

2.24 WATERSUPPLY

There shall be adequate supply of safe and potable water. Running water shall be easily accessible to all rooms in which food is prepared or utensils are washed. Requirements for water supply for hotels and restaurants shall be as given

TABLE 3 WATER SUPPLY REQUIREMENTS FOR HOTELS AND RESTAURANTS

Sl. No.	Description	Non-Airconditioned (Litres per Day)	Air Conditioned (Litres per Day)
(1)	(2)	(3)	(4)
i)	Hotels (per bed)	180	275
ii)	Restaurants (per seat)	70	97

Note — In hotels where laundry is provided arrangement for an extra quantity of 120 litres per bed should be made.

Storage of Water-

For the storage of water, proper receptacles made of galvanized iron or other suitable material shall be used. Such receptacles shall he kept covered with tight fitting lids and shall have screw caps at the bottom for draining out residual water. The receptacles shall be placed on a stand or a platform rasily accessible for the purpose of maintenance and cleaning, The receptacles shall be examined and cleaned regularly.

2.25 DRAINAGE

Adequate arrangements shall be made for satisfactory drainage of all sewage and waste water. Harmful waste water, such as water containing kitchen waste, &all be saticfactorily disposed of. The drainage shall be so designed as to cause no stagnation at the maximum discharge rate fur which the different units are designed. The requirements for firments for drainage and sanitation shall conform to the requirements given

Septic tanks conforming to IS: 2470 (Part I)- 1963* or IS: 2470 (Part II)-l964 shall be provided if required by the authority. The gradient of the drains should be such that no water stagnates anywhere within the premises. Where no sewerage is provided for the final outfall, soak pits or access pools to the satisfaction of the Authority should be provided

TABLE 5 REQUIREMENTS OF DRAINAGE AND SANITATION FITMENTS IN RESTAURANTS

(*Clause* 14.1.1)

Sl No.	Fitments	For Male Public	For Female Public	For Male Staff	For Female Staff
(1)	(2)	(3)	(4)	(5)	(6)
i)	Water-closets	1 for 50 seats up to 200 seats; and for over 200 seats, add at the rate of 1 per 100 seats or part thereof	1 for 50 seats up to 200 seats; and for over 200 seats, add at the rate of 1 per 100 seats or part thereof	1 for 1-15 persons 2 for 16-35 persons 3 for 36-65 persons 4 for 66-100 persons	1 for 1-12 persons 2 for 13-25 persons 3 for 26-40 persons 4 for 41-57 persons 5 for 58-77 persons 6 for 78-100 persons
ii)	Ablution taps	1 in each water-closet	1 in each water-closet	1 in each water-closet	1 in each water-closet
		1 water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water-closets and urinals.			
iii)	Urinals	1 per 50 seats	—	Nil up to 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons	—
iv)	Wash basins	← 1 for every water-closet provided →			
v)	Kitchen sinks and dish washers	← 1 in each kitchen →			
vi)	Slop or service sinks	← 1 in the restaurant →			

NOTE 1 — Some of the water closets may be of European style, if desired.

NOTE 2 — It may be assumed that two-thirds of the number are males and one-third females.

2.26 KITCHEN

Kitchen shalt be sufficiently spacious and should be of a size in proportion to the average number of diners catered for at one meal, The floor spice in the kitchen shall be calculated at the rate of0.5 me Min per diner. In case of snack bars, soda fountains, etc, the service-cum dispensing area shall be treated as part of the kitchen.

The minimum size of the kitchen should not be less than 10 rnp and none of the sides less than 2.4 meter. Exhaust fans should have provisions of grease filters for collecting grease

2.27 STORAGE AND HANDLING EQUIPMENT

All containers and utensils shall be stored at a height of not less than. 430 mm above the floor in a clean, dry place protected from flies, splash, dust, overhead leakage, and other contamination

2.28 STORAGE OF FOOD STUFF

All perishable food shall be stored at the temperatures as given in

Table 14 Storage of food stuff

TABLE 6 STORAGE TEMPERATURES FOR FOODSTUFF

Sl No.	Names of Articles	Storage Temperature °C
(1)	(2)	(3)
i)	Meat, meat products, poultry	0·00 to 1·50
ii)	Fresh fish and sea food	−2·00 ,, −0·50
iii)	Dairy products and eggs	0·50 ,, 2·50
iv)	Fresh fruit and vegetables	2·00 ,, 4·50
v)	Ice-creams	−14·50 ,, −12·00

Note 1 — Potatoes need no refrigeration, but should be stored away from light.

Note 2 — Fish and sea foods shall be stored in separate compartments so as not to affect other materials.

2.29 ACOUSTICS

Food service establishments (hotels, restaurants, etc) shall adopt suitable noise control measures to provide adequate sound insulation against various noise sources which would cause disturbance to human comfort and efficiency

2.30 FIRE SAFETY REQUIREMENTS

All buildings and particularly buildings having more than one storey shall be provided with liberally demiglace safe-fire-resistant exists or escapes.

The exits shall be so placed that they are always immediately accessible and each is capable of taking all the persons on that floor as alternative escape routes may be rendered unsuitable and/or unsafe due to fire.

Escape route shall be well-ventilated as persons using the escapes are likely to be overcome by smoke and/or fumes which may enter from floor.

Basements- It is essential that the fire resistance of the basement conforms to the highest order and all columns for separating the upper structure shall have grading not less than the standards laid down for Grade 3.

CHAPTER 3:

SITE INVENTORY

OVERVIEW

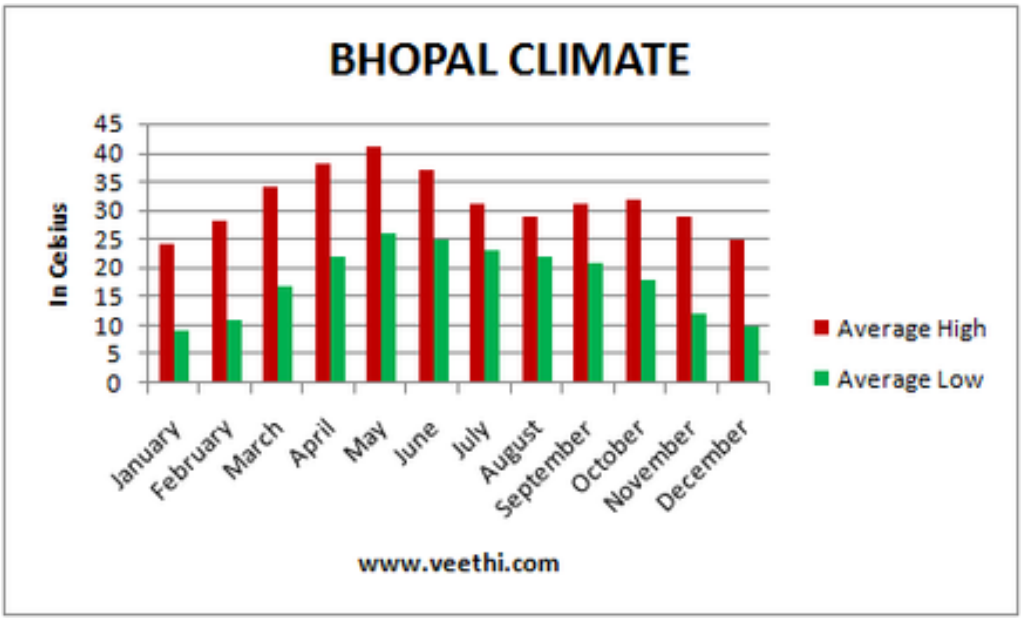
The site inventory focuses on analysing the physical, environmental, and contextual characteristics of the proposed site for the 5-star hotel in Bhopal, Madhyapradesh. The site inventory examines critical aspects such as location, accessibility, topography, climate, and surrounding infrastructure. It includes an evaluation of connectivity to major transportation hubs like airports, railway stations, and highways, as well as proximity to significant landmarks, business centres, and tourist attractions.

3.1 INTRODUCTION

Location: Bhopal, the capital of Madhya Pradesh, is centrally located in India at 23.2599° N and 77.4126° E, with an elevation of 527 meters. Spanning an area of approximately 463 square kilometers, the city has a population of around 2.5 million (as per Census 2011, projected higher in recent years). Its natural lakes, green cover, and central connectivity make it a strategic site for development.

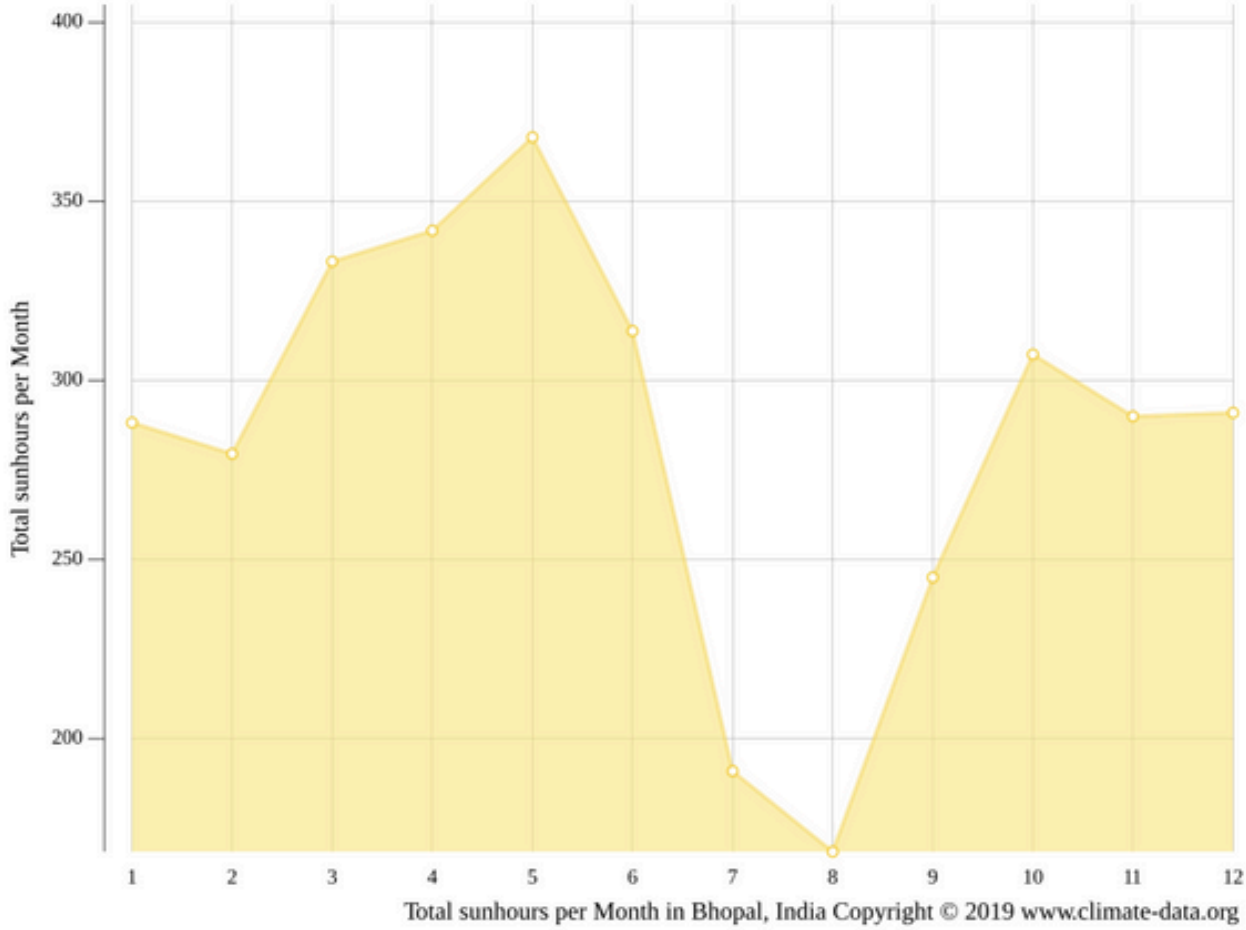
3.2 CLIMATE ANALYSIS

Shyamla Hills in Bhopal, located near the Upper Lake, experiences a tropical wet and dry climate with moderate temperatures due to the lake's cooling effect. Summers are hot (30°C–45°C), but the lake reduces heat intensity. Monsoons bring high rainfall (~1146 mm annually), enhancing local humidity and greenery. Winters are mild and pleasant, with temperatures ranging from 7°C to 15°C. The lake's proximity creates a cooler, more comfortable microclimate year-round.



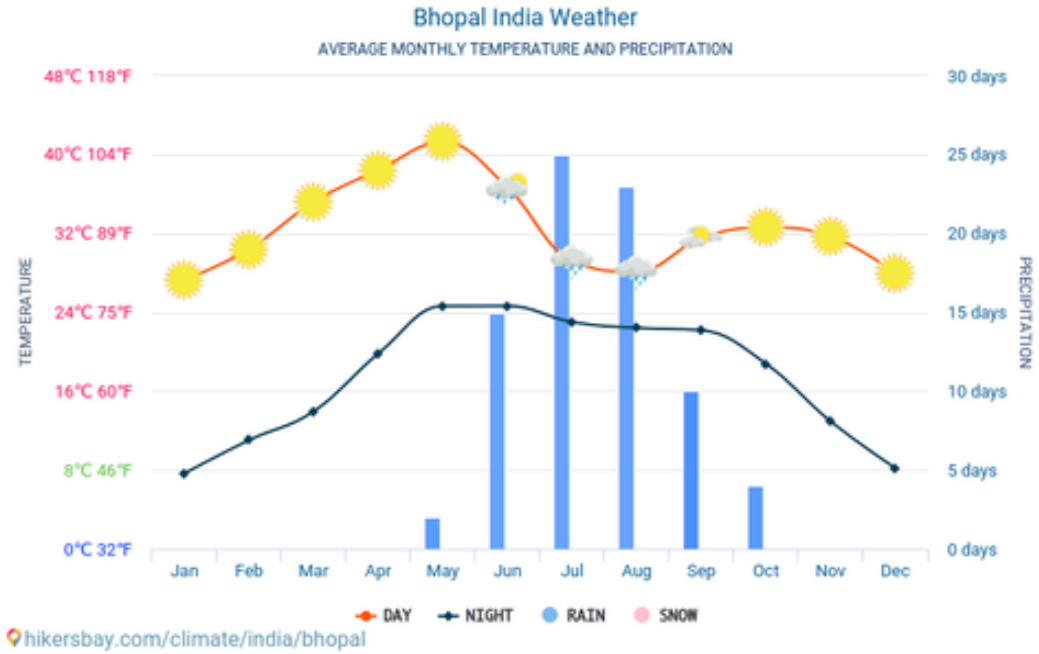
3.3AVERAGE SUNSHINE ANALYSIS

Shyamla Hills, Bhopal receives an average of 2,850 hours of sunshine annually, with daily sunlight averaging around **7.8 to 9.8 hours**. The sunniest months are March to May, with over **10 hours of sunshine per day**, ideal for passive solar design. During the **monsoon season (July–August)**, sunlight reduces to **3.5–4 hours daily** due to heavy cloud cover. Winters remain bright and pleasant, offering clear skies and good solar exposure. The presence of the nearby lake slightly moderates temperature but does not significantly affect overall sunlight availability.



3.4PRECIPITATION ANALYSIS

Bhopal, receives an average **annual precipitation of around 1146 mm**, with the **majority (over 85%) occurring during the monsoon months** of **June to September**. **July** is the wettest month, often recording **300+ mm of rainfall**, while the dry months (November to April) see minimal to no rainfall. The area's proximity to the Upper Lake increases local humidity and can intensify occasional fog or dew in cooler months. Proper drainage and rainwater management are essential due to heavy seasonal downpours.



3.5 TOPOGRAPHY

Bhopal lies on the **Malwa Plateau** with a generally **undulating terrain**, featuring **elevations ranging from 420 to 650 meters above sea level**. Shyamla Hills, one of the city's highest zones, stands at approximately **530–550 meters**, offering a natural gradient sloping toward the **Upper Lake (elevation ~500 m)**. The city's topography includes a mix of **gently rolling hills, isolated ridges, and flat plains**, with slope gradients typically between **2% to 15%** in most areas. This natural variation supports effective drainage but also demands **site-specific contour planning** in hilly zones like Shyamla Hills.

3.6 SOIL

Bhopal predominantly features **black cotton soil (regur)** and **lateritic soil**, typical of the Malwa Plateau. The **black cotton soil** is **clay-rich, deep, and highly moisture-retentive**, but it exhibits significant **shrink-swell behavior**, making it **challenging for foundation design** without proper treatment. In elevated or rocky regions like **Shyamla Hills**, the soil transitions to **shallow, gravelly, and lateritic types** with **moderate bearing capacity**, better suited for construction. Soil depth varies from **0.5 to 2 meters**, and precaution is needed during the monsoon due to high plasticity and waterlogging risks in low-lying zones.

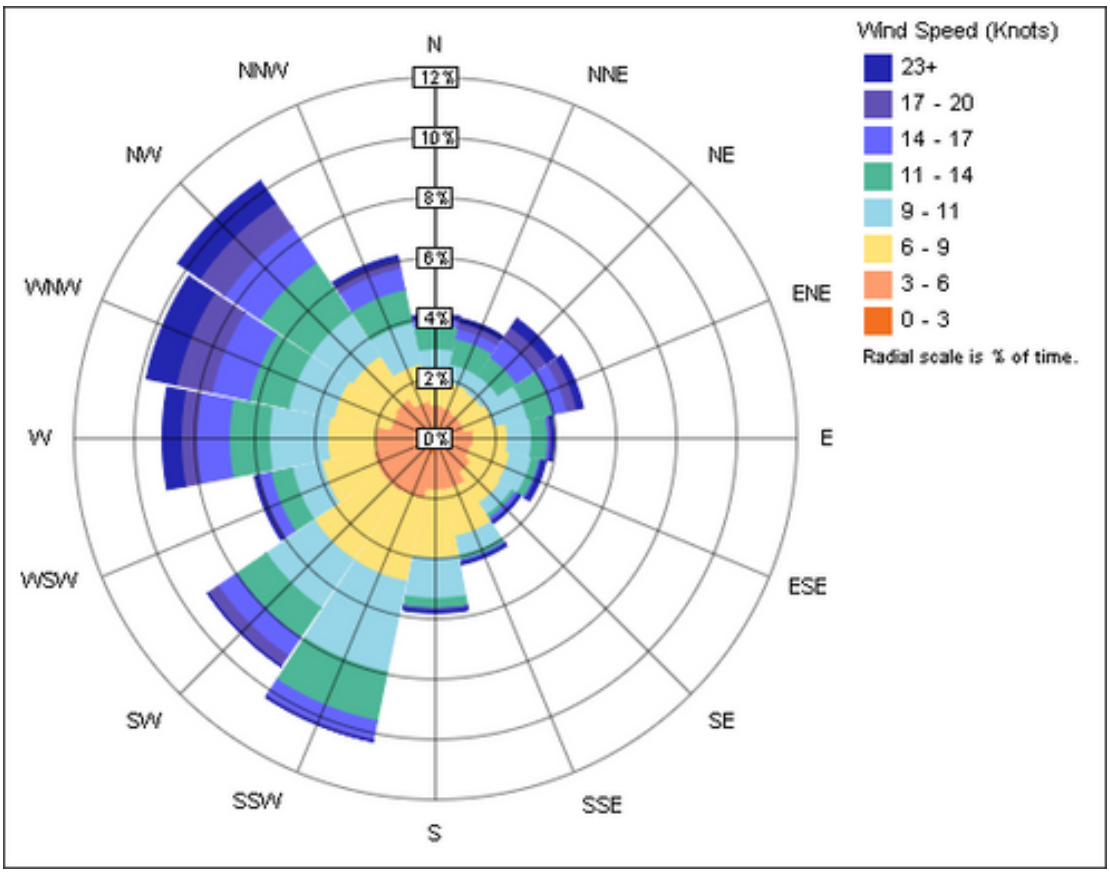
3.7DRAINAGE PATTERN

Bhopal exhibits a **radial and dendritic drainage pattern**, shaped by its **undulating terrain and central hill formations**. Natural slopes direct water flow toward the city's key water bodies, primarily the **Upper Lake (Bhojtal)** and **Lower Lake**, both of which act as major catchment zones. Numerous **seasonal nallahs and streams** originate from higher elevations like **Shyamla Hills** and drain into these lakes, especially during the monsoon. While the natural drainage is effective due to the terrain, **rapid urbanization has disrupted several natural channels**, leading to localized flooding during heavy rains. Therefore, site planning in Bhopal must integrate and preserve natural drainage lines.

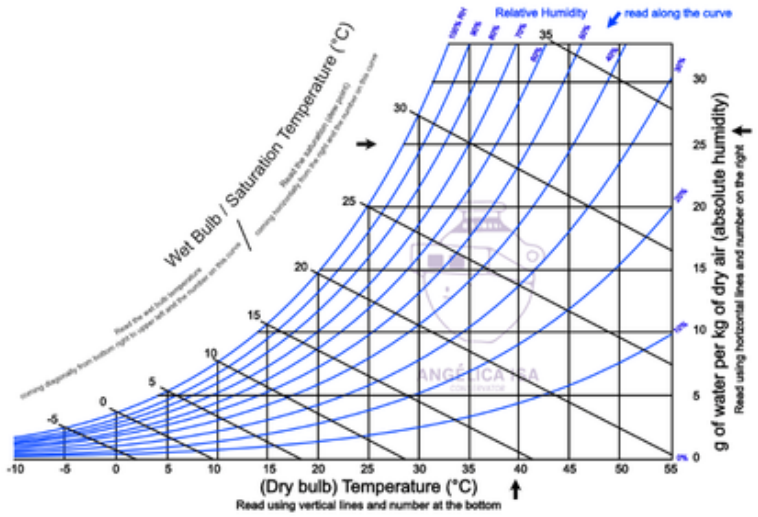
3.8 WATER SUPPLY & SURFACE WATER

Bhopal's primary source of water supply is **surface water**, drawn mainly from the **Upper Lake (Bhojtal)**, which supplies around **40–50% of the city's daily water needs**. Other major sources include the **Kolar Dam** and **Narmada River (via pipeline schemes)**. The **Upper and Lower Lakes**, both man-made, form the city's central surface water system and are supported by seasonal inflows from surrounding catchments, especially during the monsoon. Groundwater is also used in peripheral areas but is less reliable due to seasonal fluctuations. The water supply is managed by the **Bhopal Municipal Corporation (BMC)**, and treatment plants ensure potable distribution across the city.

3.9WIND



3.10 PSYCHOMETRIC CHART



3.11 CLIMATE RESPONSIVE DESIGN CONSIDERATIONS

- Orient buildings along the **north-south axis** to reduce heat gain from east and west sun.
- Use **shading devices** like overhangs, jaalis, verandahs, and pergolas to block harsh sunlight.
- Design for **cross ventilation** through window placement and internal courtyards.
- Use **high thermal mass materials** (e.g., brick, stone) to stabilize indoor temperatures.
- Apply **roof insulation or reflective coatings** to reduce solar heat absorption.
- Integrate **rainwater harvesting systems** and sloped roofs for monsoon water management.
- Use **permeable paving and landscaping** to reduce surface runoff and cool the surroundings.
- Select **local and breathable materials** for better thermal performance and sustainability.
- Introduce **green roofs, terrace gardens, or shaded courtyards** to cool building surfaces.
- Plant **deciduous trees** on the south and west sides to provide seasonal shading.

3.12 CONNECTIVITY TO BHOPAL

3.12.1 ROADWAYS

- **NH-46** – Major highway passing through Bhopal; connects to Indore, Guna, Sagar, and Nagpur.
- **NH-146** – Connects Bhopal to Sehore and Budhni.
- **NH-52** – Indirectly connects Bhopal to Jaipur and Aurangabad via nearby junctions.

 NH-12 (Old Numbering) – Previously the main highway connecting Bhopal to Jaipur and Jabalpur (now merged into NH-46 and NH-52).



3.12.2 RAILWAYS

Bhopal Junction (BPL) is a major station on the **Delhi–Chennai main line**.

It lies on the **West Central Railway zone**, under the **Bhopal railway division**.

Bhopal is well-connected to major cities like **Delhi, Mumbai, Chennai, Kolkata, Hyderabad, and Bangalore**.

The city is served by multiple express and superfast trains, including the **Shatabdi and Rajdhani Express**.

Habibganj (Rani Kamlapati) station, a modern redeveloped terminal, is also a major railway hub.

Bhopal lies between **Itarsi Junction** and **Bina Junction**, two important rail interchange points.

- It lies on the **West Central Railway zone**, under the **Bhopal railway division**.

3.12.3 AIRWAYS

Raja Bhoj Airport (BHO) is the primary airport serving Bhopal.

It is located about **15 km northwest** of the city center.

The airport offers **domestic flights** to major cities like **Delhi, Mumbai, Bangalore, Hyderabad, Pune, and Kolkata**.

It is managed by the **Airports Authority of India (AAI)**.

Runway length is approximately 2,744 meters, suitable for Airbus A320 and Boeing 737 aircraft.

The airport also handles limited **charter and cargo flights**, with plans for international upgrades

3.13 SITE PHOTOS





CHAPTER 4:

CASE STUDY

TAJ LAKEFRONT, BHOPAL

4.1 INTRODUCTION

- The Taj Lakefront, Bhopal epitomizes true luxury. Overlooking the upper lake and just 25 minutes from the international airport, this iconic landmark symbolizes the soul of Bhopal and its vision for tomorrow. The magnificent structure by the lakefront redefines fine living with its modern interiors, ornate and luxurious finishes. The design is intuitive to the region and inspired by the bell metal craft of Tikamgarh, the lakes and Zari work of Bhopal, the paisley prints of Bagh, the Durries of Sironi, and the Terracotta art of the state's tribal areas.

- Ready to be the new landmark of the city, it opens its doors to the world with 152 guest rooms, multi-cuisine and award-winning restaurants, recreation facilities, Jiva spa, modern meeting spaces, well-equipped conference rooms, and the city's largest banqueting facilities.

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

4.2 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.

4.3 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.

4.4 FACILITIES

These are the following facilities and amenities that Hotel Taj is providing to their guests.

Outdoors
- ✓ Outdoor furniture
- ✓ Sun terrace
- ✓ Terrace
- ✓ Garden

Activities
- ✓ Evening entertainment
- ✓ Games room

Food & Drink
- ✓ Bar
- ✓ Restaurant

Internet

WiFi is available in all areas and is free of charge.

Parking

Free private parking is possible on site (reservation is not needed).
- ✓ Electric vehicle charging station

Reception services
- ✓ Invoice provided
- ✓ Concierge service
- ✓ Currency exchange
- ✓ Express check-in/check-out
- ✓ 24-hour front desk

Cleaning services
- ✓ Daily housekeeping
- ✓ Trouser press Additional charge
- ✓ Ironing service Additional charge
- ✓ Dry cleaning Additional charge
- ✓ Laundry Additional charge

Business facilities
- ✓ Business centre
- ✓ Meeting/banquet facilities

Safety & security
- ✓ Fire extinguishers
- ✓ CCTV outside property
- ✓ CCTV in common areas
- ✓ Smoke alarms
- ✓ Security alarm
- ✓ Key card access
- ✓ 24-hour security

General
- ✓ Air conditioning
- ✓ Lift
- ✓ Family rooms
- ✓ Non-smoking rooms
- ✓ Room service

Outdoor swimming pool

Free! All pools are free of charge
- ✓ Open all year
- ✓ Opening times
- ✓ All ages welcome
- ✓ Pool/beach towels
- ✓ Pool bar
- ✓ Infinity pool
- ✓ Pool is on rooftop

Wellness
- ✓ Fitness
- ✓ Full body massage
- ✓ Hand massage
- ✓ Head massage
- ✓ Couples massage
- ✓ Foot massage
- ✓ Neck massage
- ✓ Back massage
- ✓ Spa/wellness packages
- ✓ Spa lounge/relaxation area
- ✓ Spa facilities
- ✓ Pool/beach towels
- ✓ Massage
- ✓ Spa and wellness centre Additional charge
- ✓ Fitness centre

4.5 APPROACH ROAD

- 18 m wide arterial road named Link RD number 3 is connecting the Taj hotel to the various locations of the city.
- 12 m wide service lane is given in the right side of the site.

4.5.1 VERTICAL ZONING



Here is the conceptual section of the taj hotel to explain the vertical zoning.

4.6 AREA STATEMENT

4.7 FLOOR PLANS

Basement 2 Plan:

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

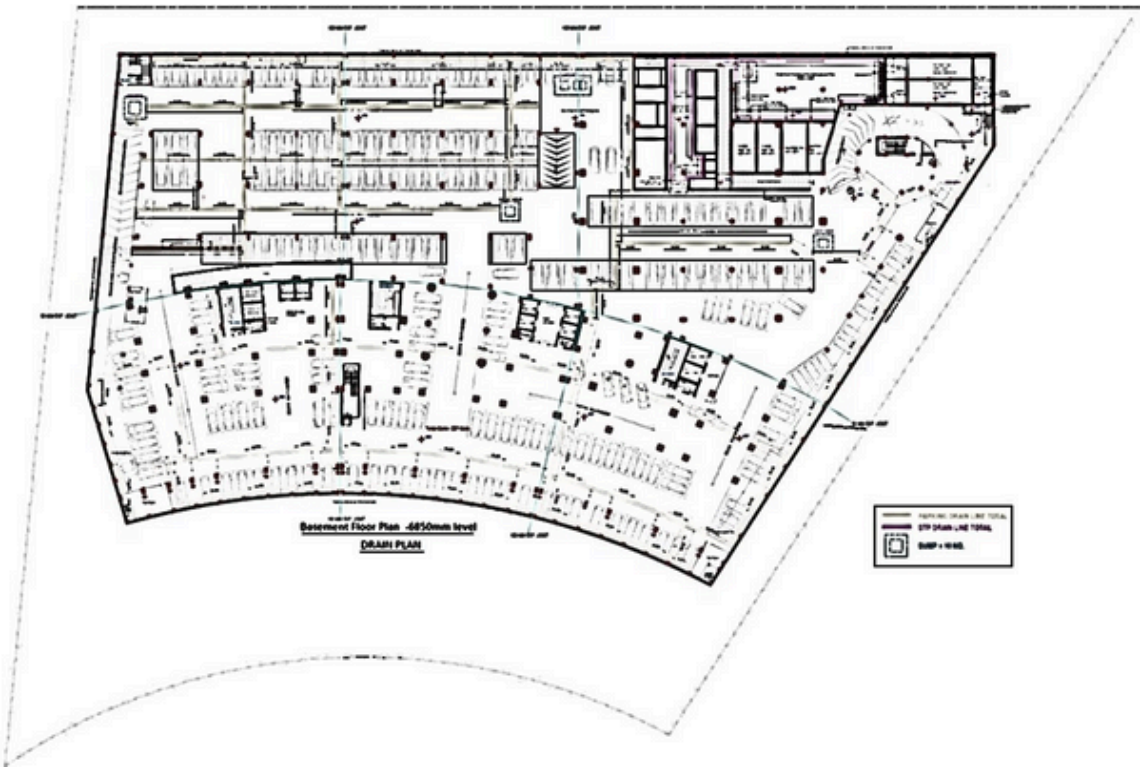


Figure 51 Basement 2 plan

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.

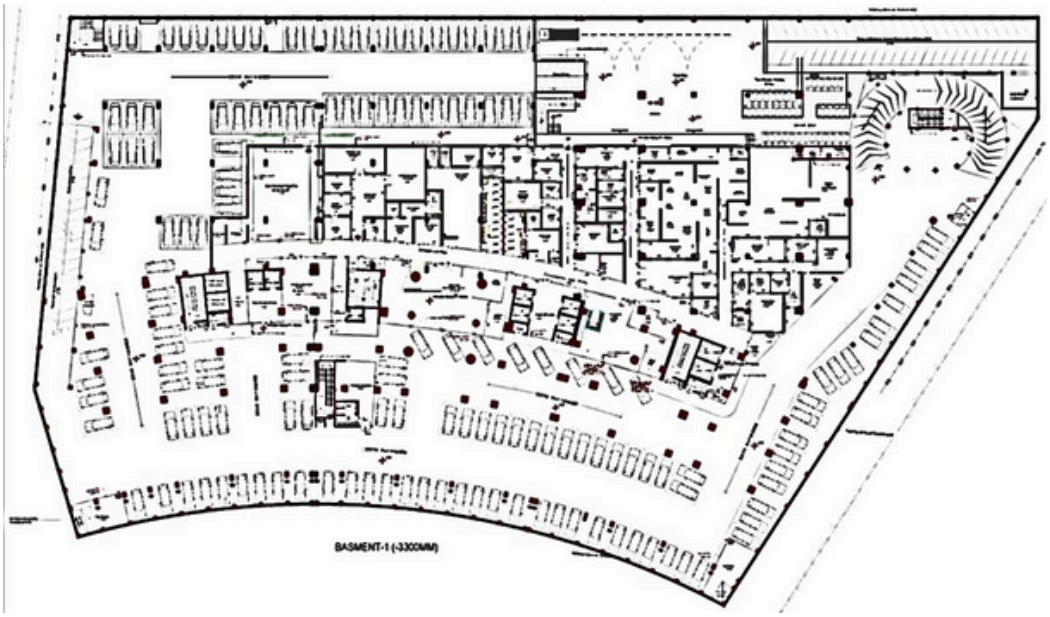


Figure 52basement 1 plan

Ground Floor Plan:

- The entrance lobby of the hotel has grand luxury feel as it has triple heighted spaces with very attractive false ceiling consist 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.

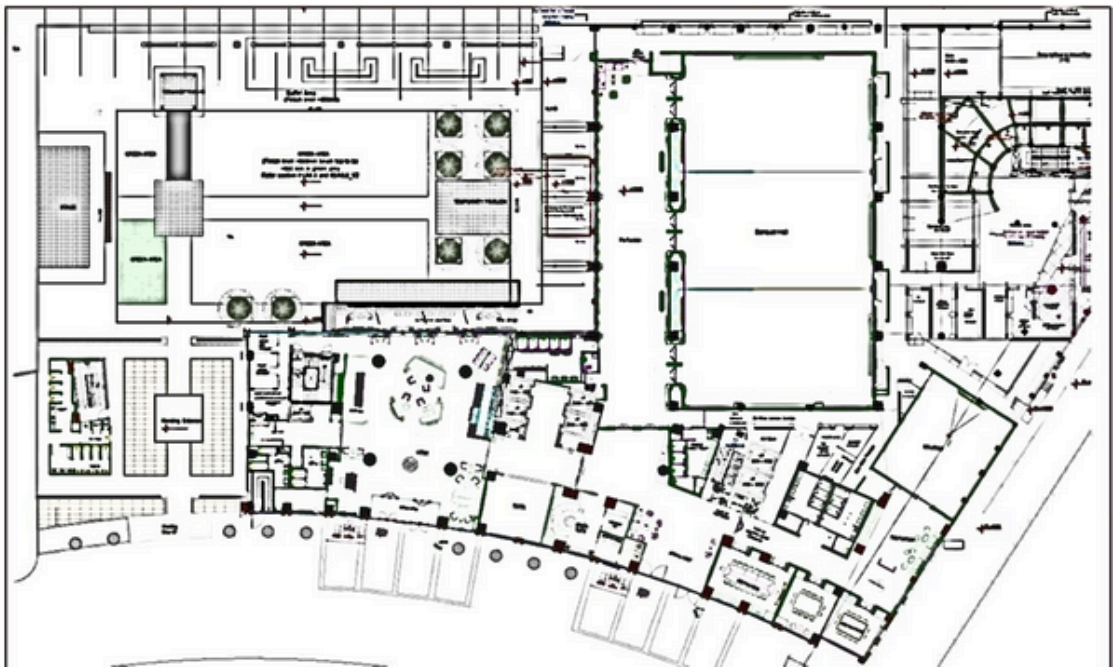


Figure 53 ground floor plan

First Floor Plan:

- This floor has a Chinese Restaurant with a wonderful Chinese theme based interiors.
- Private Dining Restaurants are also provided in this floor.

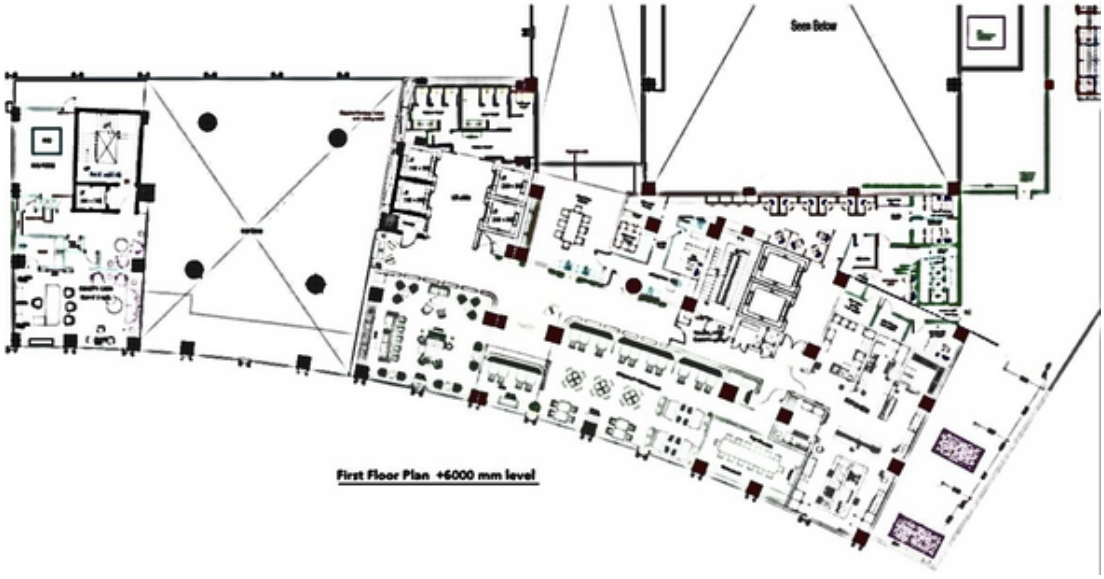


Figure 54 first floor plan

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



Figure 55 second floor plan

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.



Figure 56 typical floor plan 3th to 7 th

8th Floor Plan:

 15 guest rooms including Executive Suites, King Bedrooms and 1 presidential suite are there in this floor.



Figure 57 8th floor plan

9th Floor Plan:

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



Figure 58 9th floor plan

10th Floor Plan:

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

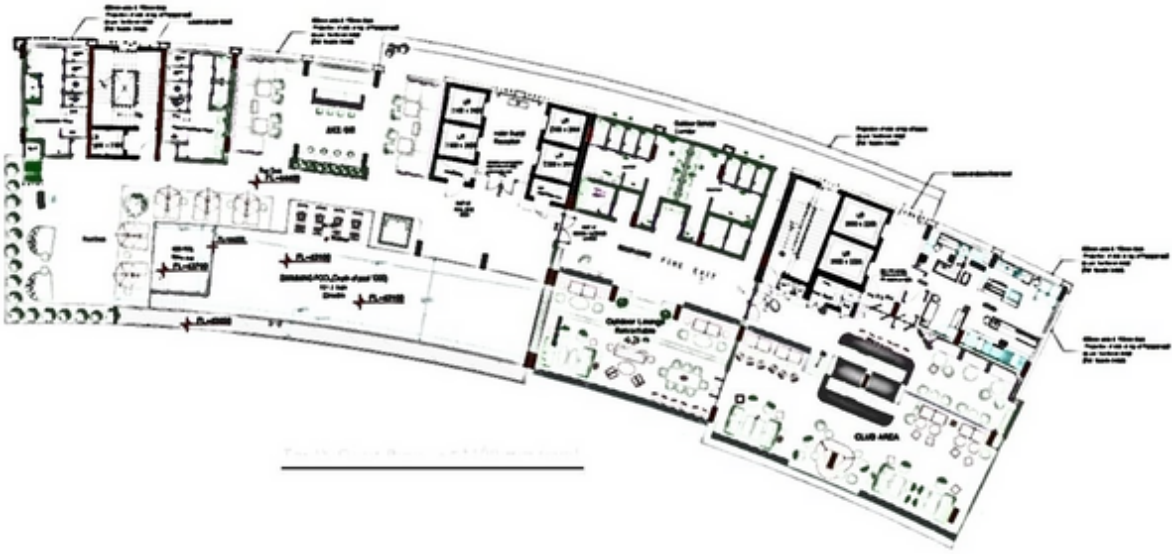


Figure 59 10th floor plan

4.8 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.

Figure 60 guest room

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.

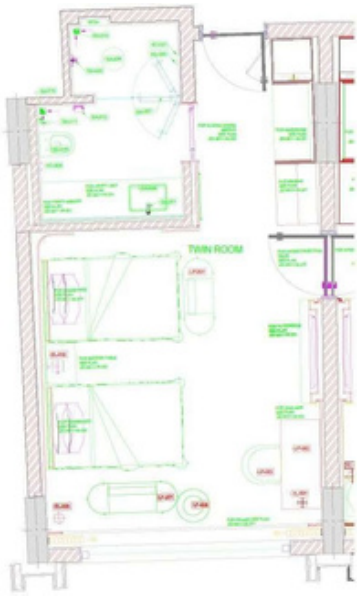




Figure 61 twin room

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 CONVENIENCES

- 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

4.9 4.1.10 VIEW/INTERIOR OF SPACES

4.10 SERVICES

Electrical Services

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

STP





Cooling Tower

CASE STUDY:

RADISSION HOTEL , BHOPAL

4.11 INTRODUCTION

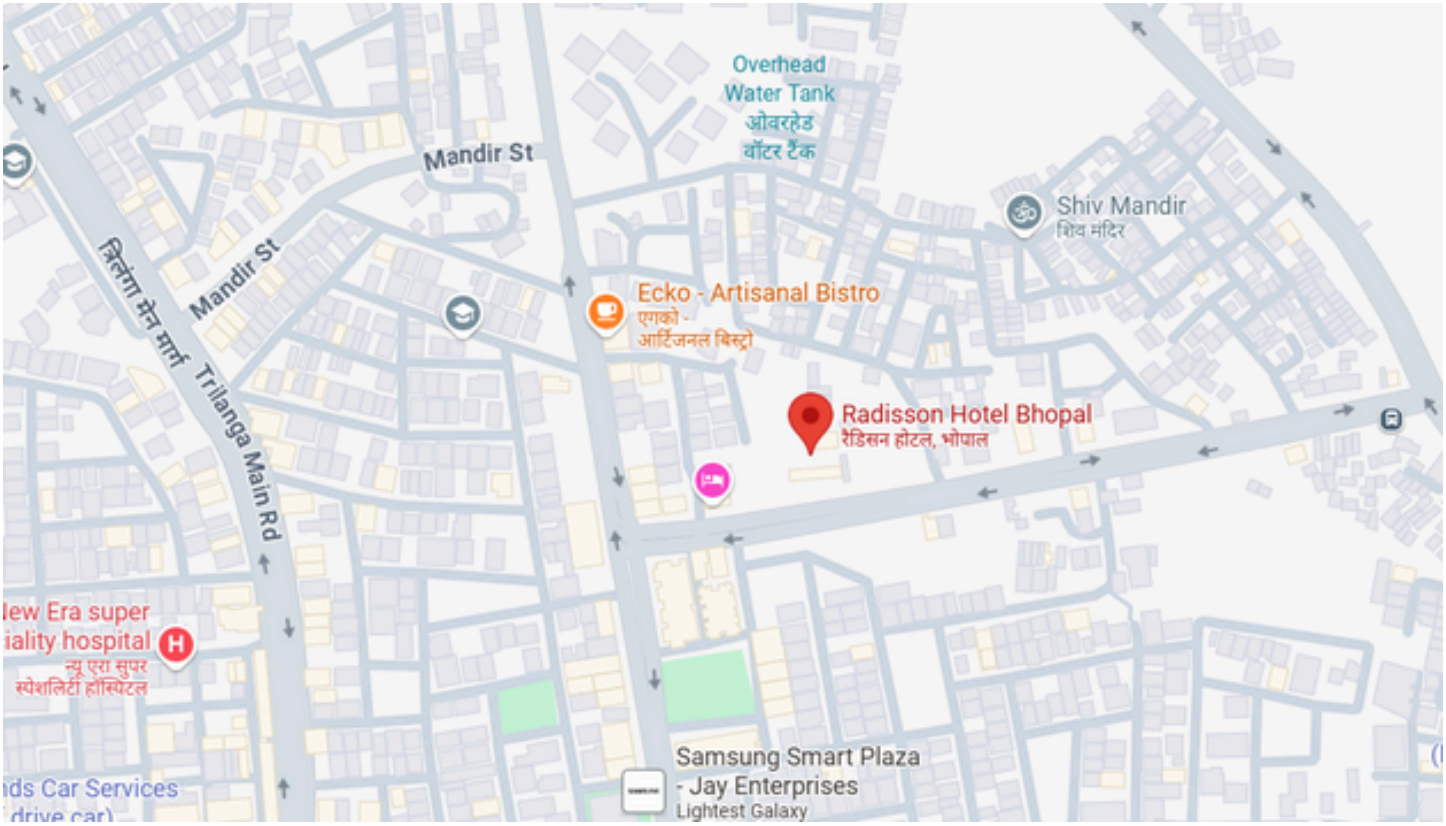
Radisson Hotel Bhopal is a prominent five-star business and leisure hotel located in the upscale area of **Kotra Sultanabad**, Bhopal. Strategically positioned near key landmarks like the **Madhya Pradesh Vidhan Sabha** and **Upper Lake**, the hotel combines modern luxury with efficient functionality. With its contemporary architectural style, state-of-the-art amenities, and sustainable features, the hotel serves as an ideal model for analyzing high-end hospitality design in a tier-2 Indian city. This case study explores the hotel's spatial planning, design strategies, services, and user experience in response to Bhopal's urban and climatic context.





4.12 LOCATION AND CONNECTIVITY

- **8 km** from **Rani Kamalapati Railway Station** (approx. **15-minute drive**)
- **12–13 km** from **Bhopal Junction Railway Station** (approx. **25–30-minute drive**)
- **22 km** from **Raja Bhoj International Airport** (approx. **35–40-minute drive**)
- Easily accessible via taxi, cab services, and hotel-arranged transport



4.13 SURROUNDING LANDUSE AND URBAN CHARACTER

Radisson Hotel Bhopal is located in **Kotra Sultanabad**, a well-developed and centrally positioned area of the city. The surroundings are a blend of **residential zones, institutional buildings, and green spaces**, offering a calm yet connected environment. It is situated close to the **Upper Lake**, providing scenic views and a cooler microclimate. Key landmarks nearby include the **Madhya Pradesh Vidhan Sabha**, **Museum of Man**, and **Shyamla Hills**, making it a culturally rich and strategically accessible location. The area is well-connected via roadways and lies within close proximity to major government offices, tourist attractions, and recreational zones.

As can be seen from the surrounding land use, the location of the hotel is not quite right and it also is in contrast with the surrounding urban character which is predominantly midrise and surrounded by vacant land. Figure above shows the immediate urban land use and thus the context of the building; and it can be seen clearly that it is contrast to its surroundings in one way or another.

4.14 CIRCULATION

The circulation and spatial organization of **Radisson Hotel Bhopal** is designed to provide a seamless and luxurious experience for both guests and staff, with clear vertical zoning for various functions. The **ground floor** acts as the primary public access point and welcome zone, featuring a spacious **lobby** that connects directly to a **multicuisine restaurant**, offering guests their first impression of the hotel's hospitality. This floor also provides access to the elevators and stairs that connect all other levels, ensuring smooth vertical movement throughout the property. Adjacent to the lobby are drop-off points and **surface parking space for 70 cars**, allowing for convenient vehicle access, while the **basement parking** supports a larger volume with space for **150 vehicles**, primarily catering to banquets and events.

Moving up, the **first floor** offers a mix of accommodation and dining experiences. It hosts a **pure vegetarian restaurant** that features a **live kitchen**, offering guests a unique and interactive dining setup. Alongside this, the floor includes a **grand terrace and bar**, ideal for evening dining or casual gatherings

with a view. Several **guest rooms** are also located on this level, offering convenience to those who wish to stay near the dining and social zones. This arrangement ensures that guests have quick access to food and entertainment without compromising privacy or comfort. The circulation here is both guest- and service-friendly, allowing for smooth operation and access to amenities.

The **second floor** is dedicated largely to **banqueting and events**, making it a key zone for large gatherings and formal functions. It features a **grand banquet hall with a capacity of 680 people**, suitable for weddings, conferences, and large corporate events. Additionally, there is a **secondary banquet space** accommodating up to **155 guests**, ideal for medium-sized functions. For more intimate gatherings or business meetings, the floor also includes several **meeting rooms** ranging from **30 to 70 seat capacities**, equipped with modern facilities. This floor is designed for high footfall and heavy circulation, with sufficient back-of-house access for catering and event staff to function independently of guest pathways.

Dedicated staff and service zones are placed thoughtfully on the **fourth floor**, ensuring that hotel operations remain efficient and unobtrusive. This level includes **employee lockers**, a **staff cafeteria**, **executive rooms**, **laundry areas**, and **office spaces** for administrative tasks. Guest accommodations continue on the **sixth, seventh, and eighth floors**, with the sixth floor hosting **36 smoking-allowed rooms**, while the seventh and eighth floors offer **34 non-smoking rooms**, catering to varied preferences. Crowning the hotel, the **rooftop terrace** features a **fully equipped gymnasium**, an **outdoor swimming pool**, and a **party space** that can accommodate up to **250 people**, offering panoramic views and a luxurious recreational atmosphere. This top-floor zone ensures that leisure and fitness are elevated both literally and experientially, completing the hotel's vertically integrated and efficiently circulated design.

4.15 INTERNAL PLANNING

The internal planning of Radisson Hotel Bhopal is thoughtfully designed to ensure smooth functionality, guest comfort, and efficient service operations. The layout separates public, semi-public, and private spaces to enhance the overall user experience. Key public areas such as the lobby, restaurants, and event venues are positioned for easy accessibility, while maintaining clear visual and spatial distinctions between each function. Dining spaces include both a multicuisine restaurant and a dedicated vegetarian restaurant with a live kitchen, each planned with distinct identities and access routes. Open-air elements like the grand terrace, rooftop bar, and pool area are integrated into the design to create dynamic social zones, offering visual openness and natural ventilation. These entertainment and leisure areas are planned to host both casual visitors and large gatherings, with a rooftop party area accommodating up to 250 people.

Guest rooms are arranged in a manner that prioritizes privacy, noise control, and comfort, with clear zoning for smoking and non-smoking accommodations. Circulation within the hotel is streamlined, with elevators and service corridors allowing staff to operate efficiently without disrupting guest activities. Back-of-house planning is robust, with well-defined spaces for staff amenities such as lockers, a cafeteria, laundry areas, and administrative offices, all separated from guest pathways. Banquet halls and meeting rooms are laid out to handle a range of event sizes—from intimate meetings to large-scale gatherings—supported by adjacent service areas for catering and logistics. Parking is addressed with designated surface and basement zones, holding a combined capacity of 220 vehicles, and designed to keep vehicular flow organized and separate from pedestrian entries. Overall, the hotel's internal planning ensures that luxury, service efficiency, and spatial harmony coexist throughout the property.

4.16 INTERIORS

The top floor of Radisson Hotel Bhopal is a premium leisure and event space that seamlessly blends wellness, relaxation, and celebration. It features a state-of-the-art 24×7 gymnasium equipped with modern cardio and strength-training equipment, an elegant rooftop outdoor swimming pool surrounded by a sun terrace offering panoramic views of the Bhopal skyline, and a sophisticated rooftop party area with a maximum capacity of 250 guests. This rooftop venue is ideal for private gatherings, cocktail

parties, and social events, offering ambient lighting, flexible seating arrangements, and an open-air setting that creates a memorable experience. Together, these amenities make the top floor a standout feature of the hotel, catering to both individual guests and event organizers seeking luxury, comfort, and scenic beauty in one integrated space.



The **guest rooms on the 6th, 7th, and 8th floors** of Radisson Hotel Bhopal are designed to reflect a premium blend of comfort, elegance, and modern functionality, catering to both business and leisure travelers. The **6th floor houses 36 rooms** where **smoking is permitted**, thoughtfully planned with enhanced ventilation and air purification systems to maintain air quality without compromising guest comfort. The design palette across all rooms emphasizes warm neutrals and soft lighting, creating a serene and welcoming ambiance. High-quality materials such as laminated wooden flooring, textured wall finishes, and upholstered headboards add a layer of sophistication. Each room is equipped with **king or twin beds**, a **work desk with ergonomic seating**, **lounge chair**, and **smart ambient lighting**, making the space equally suitable for relaxation and productivity.

The **7th and 8th floors feature 34 non-smoking rooms**, designed with similar spatial layouts but tailored to ensure a fresher, cleaner environment with no exposure to smoke. Interior elements like **large floor-to-ceiling windows** allow for ample natural light and panoramic city views, while blackout curtains and acoustic insulation enhance privacy and rest. Rooms are outfitted with modern conveniences including **flat-screen TVs, high-speed Wi-Fi, tea/coffee stations, mini-bars, electronic safes, and fully automated lighting and climate control systems**. The bathrooms are elegantly designed with **glass shower enclosures, marble countertops, premium fixtures, and vanity mirrors**, offering a luxury hotel experience. Artwork, decorative mirrors, and subtle lighting elements are carefully curated to reflect a contemporary, upscale aesthetic throughout. Overall, the interior planning of these floors ensures a balance of elegance, comfort, and smart living for every guest.





The **interiors of the café, bar, and restaurants at Radisson Hotel Bhopal** are thoughtfully designed to offer distinct atmospheres while maintaining a cohesive sense of luxury and style throughout the property. The **multicuisine restaurant**, located near the lobby, features a refined and elegant interior concept with a neutral color palette enhanced by accents of warm wood, soft beige tones, and ambient lighting. The space is laid out with a combination of **booth seating, round tables, and open dining zones**, offering flexibility for families, business guests, and solo diners. Decorative ceiling elements, curated wall art, and patterned flooring add visual texture, while large windows allow ample natural light during the day and a cozy glow during evening service. The open display kitchen adds an element of interactivity, allowing guests to engage visually with the culinary experience.

The **pure vegetarian restaurant with a live kitchen** adopts a more vibrant and contemporary interior theme. With a focus on freshness and authenticity, the space features **earthy tones, green accents, natural materials**, and open-plan cooking counters where chefs prepare dishes live in front of guests. The layout supports a smooth flow of guests around the live stations while maintaining a comfortable

dining environment with well-spaced seating. Decorative lighting, suspended planters, and locally inspired design motifs contribute to a warm and organic dining experience.

The **bar and terrace lounge** area offers a more dynamic and sophisticated setting, ideal for evening relaxation and social gatherings. The bar interior is defined by **moody lighting, plush lounge seating, dark wood finishes, and metallic accents** that give it an upscale yet inviting feel. The bar counter features a backlit display of premium spirits and wines, and the seating arrangements range from intimate high stools at the bar to cushioned outdoor lounge sofas on the terrace. The terrace itself is designed with **open-air cabana-style seating, ambient string lights, and subtle landscaping**, creating a breezy and atmospheric space that transitions beautifully from sunset to night. Altogether, these F&B spaces combine modern design, cultural warmth, and hospitality-driven functionality to elevate the dining and social experience for all guests.







The **banquet halls and meeting rooms at Radisson Hotel Bhopal** are designed with a focus on versatility, sophistication, and comfort, making them suitable for a wide range of events—from grand weddings and corporate conferences to intimate business meetings and private gatherings. The **main banquet hall**, with a capacity of up to **680 guests**, features a **column-free layout** that allows for flexible seating arrangements such as theatre, round-table, or cluster setups. The interiors are marked by **elegant ceiling designs with recessed lighting and modern chandeliers**, creating a balanced mix of formality and grandeur. The walls are finished with **acoustic paneling in neutral tones**, enhancing both the aesthetics and sound quality of the space. High-end **carpet flooring**, subtle decorative moldings, and integrated projection systems contribute to a luxurious and fully functional event environment.

The **smaller banquet hall**, which can accommodate up to **155 guests**, follows a similar design language but with a more intimate scale. It is ideal for mid-sized events such as receptions, seminars, or social gatherings. Both banquet halls include **pre-function areas** with stylish console furniture, statement lighting, and decorative wall art, allowing guests to socialize before the main event. These transitional zones are thoughtfully designed with **marble flooring and soft seating arrangements**, adding a touch of class and comfort.

The **meeting rooms**, with capacities ranging from **30 to 70 people**, are designed with a clean and professional aesthetic. Interiors feature **wooden or textured wall panels**, modern **conference tables with ergonomic chairs**, and built-in **audio-visual systems**, including screens, projectors, and sound equipment. Ambient lighting can be adjusted based on the type of meeting, while natural light is introduced through large windows with blackout options for presentations. Each meeting space includes **dedicated service counters, refreshment stations**, and access to high-speed internet, ensuring productivity without compromising on style or convenience. Altogether, the interior planning of the banqueting and meeting facilities reflects a harmonious blend of elegance, acoustics, technology, and comfort, catering to both celebratory and corporate functions with equal attention to detail.







4.17SERVICES

The **service floors of Radisson Hotel Bhopal**, primarily located on the **second and third floors**, are carefully planned to support the smooth and efficient operation of the entire hotel without interfering with guest areas. These service levels house essential back-of-house functions such as **housekeeping zones, linen storage, maintenance rooms, service corridors, pantry support areas, HVAC systems, and utility shafts**. These spaces are strategically aligned with vertical service cores, allowing staff to access guest floors discreetly via **separate service elevators and staircases**, ensuring guest privacy and uninterrupted experiences. The service floors also provide staging areas for banquet and room service operations, allowing staff to coordinate food, laundry, and supplies effectively between the kitchens, meeting rooms, and guest accommodations.

In terms of infrastructure and safety, the hotel is well-equipped with **dedicated fire escape staircases** on every floor, compliant with building safety codes and emergency evacuation requirements. These fire escapes are clearly marked, connected to all guest and service areas, and constructed with fire-resistant materials to ensure safe egress during emergencies. Additionally, the hotel is supported by an on-site **Sewage Treatment Plant (STP)**, an essential component of its sustainable operations. The STP is designed to treat wastewater generated from the hotel's daily operations, including kitchens, laundries, and guest rooms. The treated water is reused for landscape irrigation, flushing systems, and other non-potable needs, helping reduce the hotel’s environmental footprint and ensuring compliance with local environmental regulations. Together, the well-integrated service floors and essential infrastructure demonstrate the hotel's commitment to operational efficiency, guest safety, and sustainability.

4.18 CONCLUSION

The overall planning of Radisson Hotel Bhopal reflects a balanced integration of luxury, functionality, and operational efficiency, catering to both business and leisure travelers.

The zoning of spaces is thoughtfully executed, with clear separation between public areas, guest accommodations, event spaces, and service zones to ensure smooth circulation and privacy.

Interior detailing in restaurants, rooms, and banquets emphasizes comfort and elegance, using quality materials, soft lighting, and modern furnishings.

Back-of-house planning, including service floors, fire escapes, and a sewage treatment plant, highlights the hotel’s commitment to safety, sustainability, and uninterrupted operations.

The hotel successfully combines aesthetic appeal with practical design, offering a holistic hospitality experience for guests, event organizers, and staff alike.

4.19 INFRENCE

The case study of **Radisson Hotel Bhopal** reveals a comprehensive approach to five-star hospitality through both architectural design and service integration. Architecturally, the hotel demonstrates a well-structured vertical zoning system where different functions are efficiently layered—from public interaction zones like the lobby and restaurants to private areas such as guest rooms, event spaces, and rooftop amenities. The spatial layout ensures seamless movement between zones while maintaining visual clarity and functional hierarchy. Attention to natural light, ventilation, and high-quality materials in the interiors reflects the standards expected of a luxury hotel, with design elements carefully curated to provide both aesthetic appeal and guest comfort.

From a service perspective, the hotel embodies the operational depth required of a five-star property. Dedicated service floors, concealed service corridors, staff facilities, and technical support areas like HVAC zones and laundry are strategically placed to support daily operations without disrupting the guest experience. The inclusion of fire escape staircases on each floor and an on-site sewage treatment plant

showcases a thoughtful commitment to safety, sustainability, and compliance with high-end hospitality standards. Guest-focused services such as banquet coordination, rooftop leisure zones, smoke/non-smoking room preferences, and diverse dining options all highlight the hotel's ability to cater to a wide range of needs efficiently.

Overall, the Radisson Hotel Bhopal stands as an example of how architectural planning and service design work in harmony in a five-star hotel. It not only fulfills the functional and aesthetic expectations of a luxury space but also integrates essential back-end operations, ensuring uninterrupted service delivery. The thoughtful separation of guest and service zones, the focus on comfort and elegance in interiors, and a strong infrastructure backbone make it a benchmark for contemporary hospitality architecture.



CASE STUDY:

WESTIN, GURGAON

4.19 INTRODUCTION

The Westin Gurgaon, New Delhi, a sprawling 313 room hotel, is strategically located in the heart of the millennium city – MG Road, Gurgaon. It is located just 25 minutes from the New Delhi Indira Gandhi International Airport. The hotel brings a fresh, new lifestyle experience to the city, surrounded by upscale shopping malls, entertainment hubs, multiplexes and commercial offices making it an ideal choice for both business and leisure travellers. Its distinct architectural design reflects clutter free spaces laying strong emphasis on openness, natural lighting; reinforcing environmentally friendly practices. While retaining its impeccable services, it offers an array of eclectic and exciting food & beverage options at the onsite world-class restaurants. Embrace wellness at The Heavenly Spa by Westin known for its rejuvenating treatments and

therapies or re-gear energy at the signature Westin WORKOUT® Fitness Studio. Westin emphasizes on personal renewal and innovative signature services worldwide.



Figure 73 Westin, Gurgaon

Details:

PROJECT	WESTIN HOTEL
LOCATION	GURGAO
CLIMATE	SUBTROPICAL CLIMATE
TOPOGRAPHY	PLAIN LAND
ARCHITECT	STUDIO U+A NEW YORK/GURGAO
COMPLITION YEAR	2010
NO. OF ROOMS	310
SITE AREA	4.39 acre
FAR	1.5

4.20 LOCATION AND CONNECTIVITY

Westin is located 17 km South-West of IGI Airport - T3.

Situated in the IT hub of Gurgaon sector 29, it is well connected with all the modes of transportation.

COMMUNITY

-Medanta Medicity - 2.0 km

–Lotus Temple (Bahai Temple) - 25.8 km

RECREATION

-Kingdom of Dreams - 0.5 km

-Tennis Court - 3.2 km -Sultanpur Bird Sanctuary - 16.0 km

SHOPPING

-Dilli Haat - 22.5 km

-Connaught Place - 27.4 km

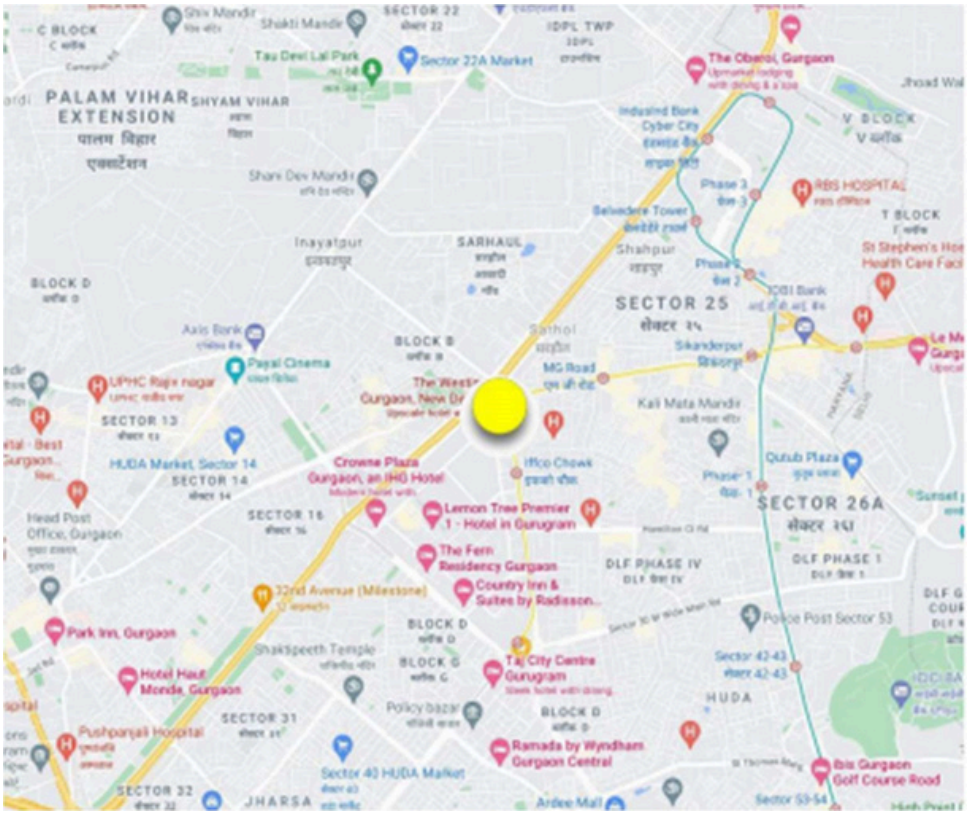


Figure 74 location on map

4.21 SURROUNDING LANDUSE AND URBAN CHARACTER

-

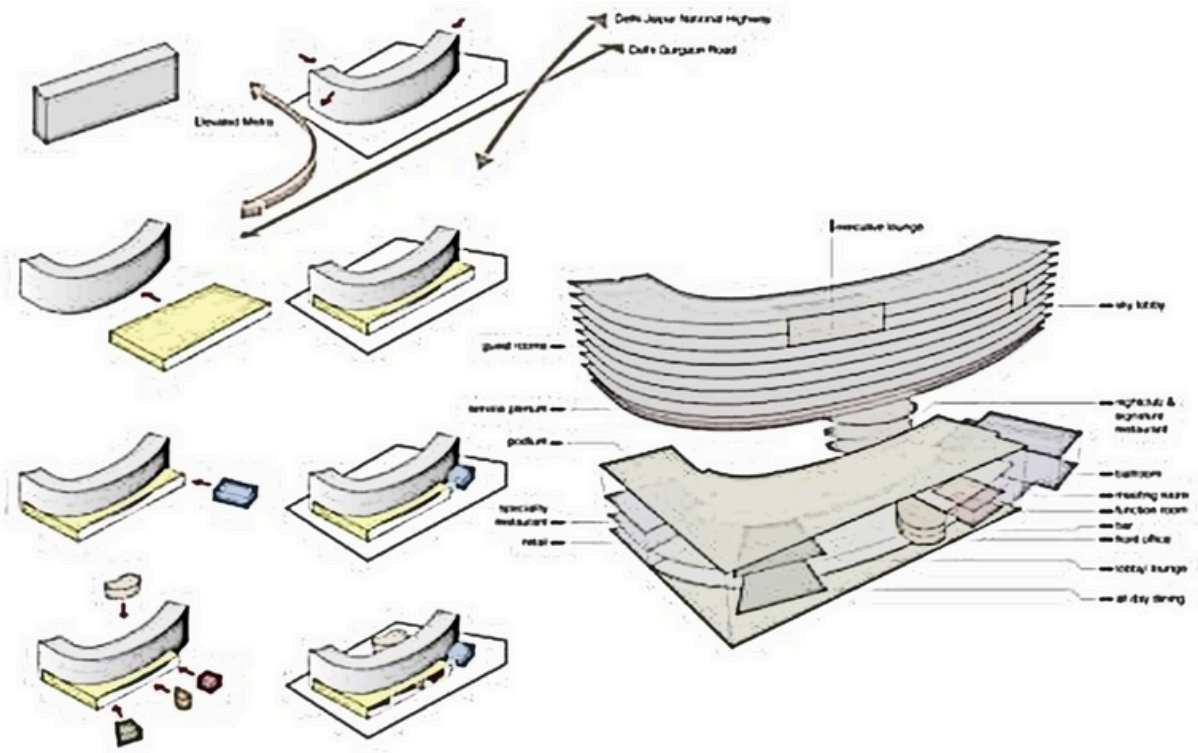


- Materials used in skin cladding are different for all buildings.
- The colour beige or earthen yellow can be seen in predominant use.

- Also, the vertical expanses of the buildings are similar, i.e. Eight to ten floors, which is well within the mandatory height restriction of 30 meters as mentioned in the bye laws.

4.22 DEVELOPMENT OF FORM

The shape of the building is governed by two major factors, i.e. the site constraints and form of public spaces creating a rather eclectic mix of contemporary and minimalistic design.



4.23 TRANVERSE SECTION

The north-south transverse section showing the vertical placement of services in the basements and the guest rooms in the curved mass in five.



4.24 DISTRIBUTION OF FUNTIONAL SPACE

When we go inside the hotel, the first thing that comes into view is the quite spacious lobby. The lobby here overlooks the central water feature. The lobby is connected to the brasserie and the coffee shop.

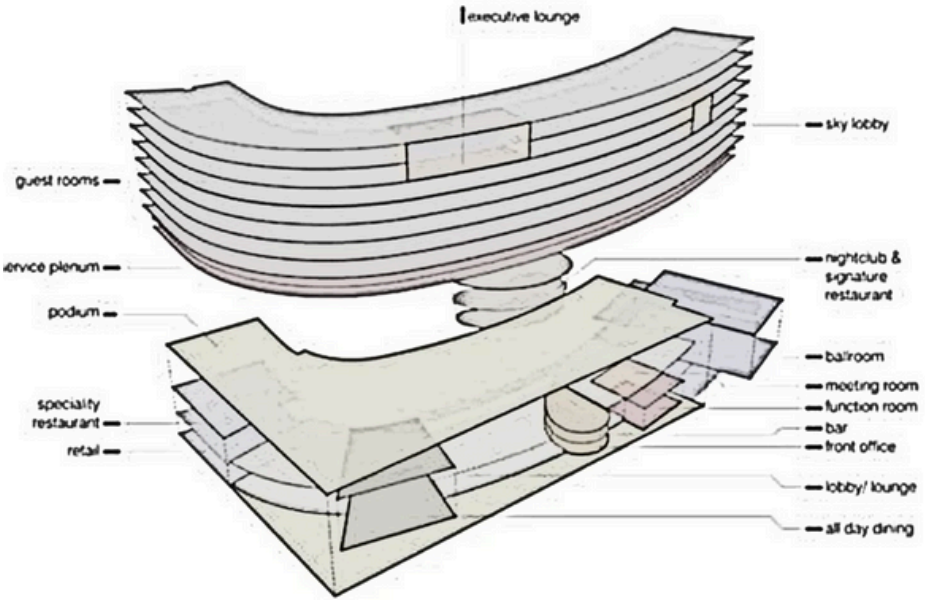


Figure 78 distribution of functional space

The materials used in the interior complement the exterior environment and create a sense of expanse; the materials being white and beige Italian marbles for flooring, and textured white paint for wall coating.

4.25 CIRCULATION

The circulation network revolves around the main lobby of the hotel, as can be seen from the given plan of the ground floor (Fig. 36). The lobby space connects several spaces, such as, the front office, banquet entrance, coffee shop and brasserie.

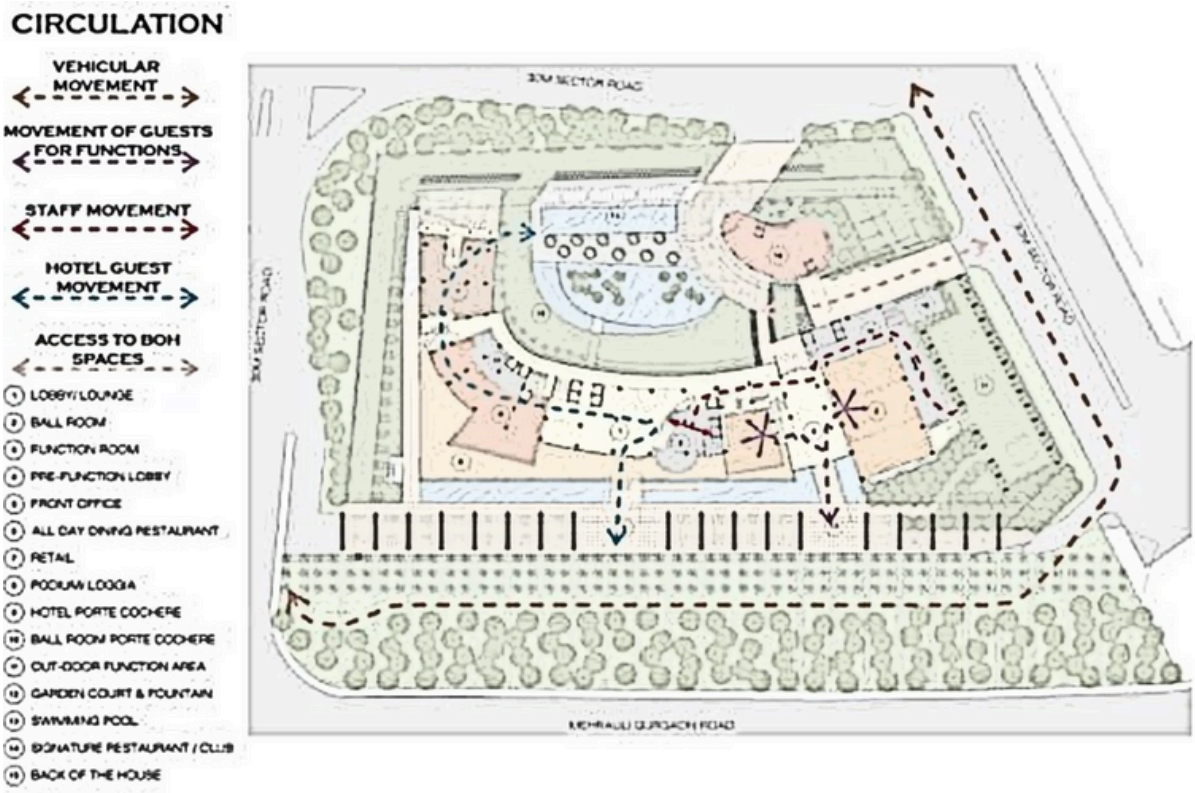
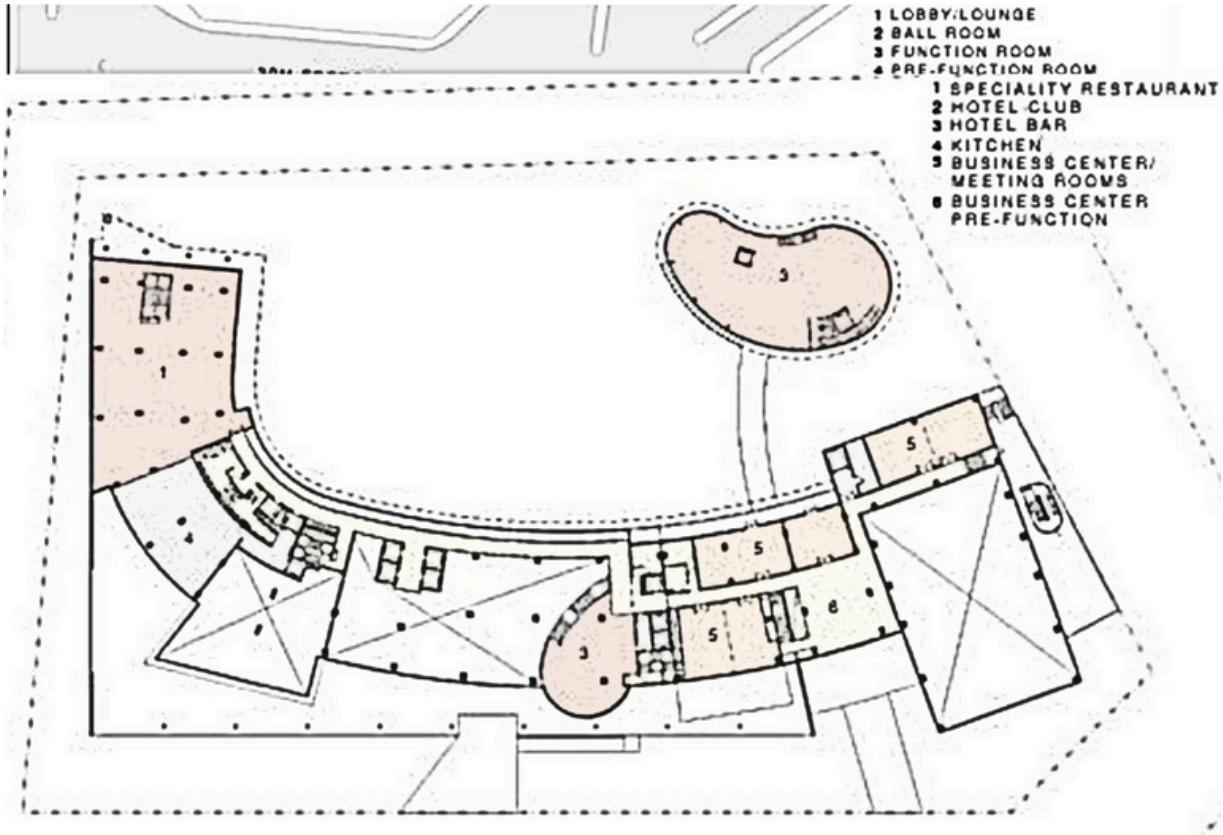


Figure 80 Circulation area

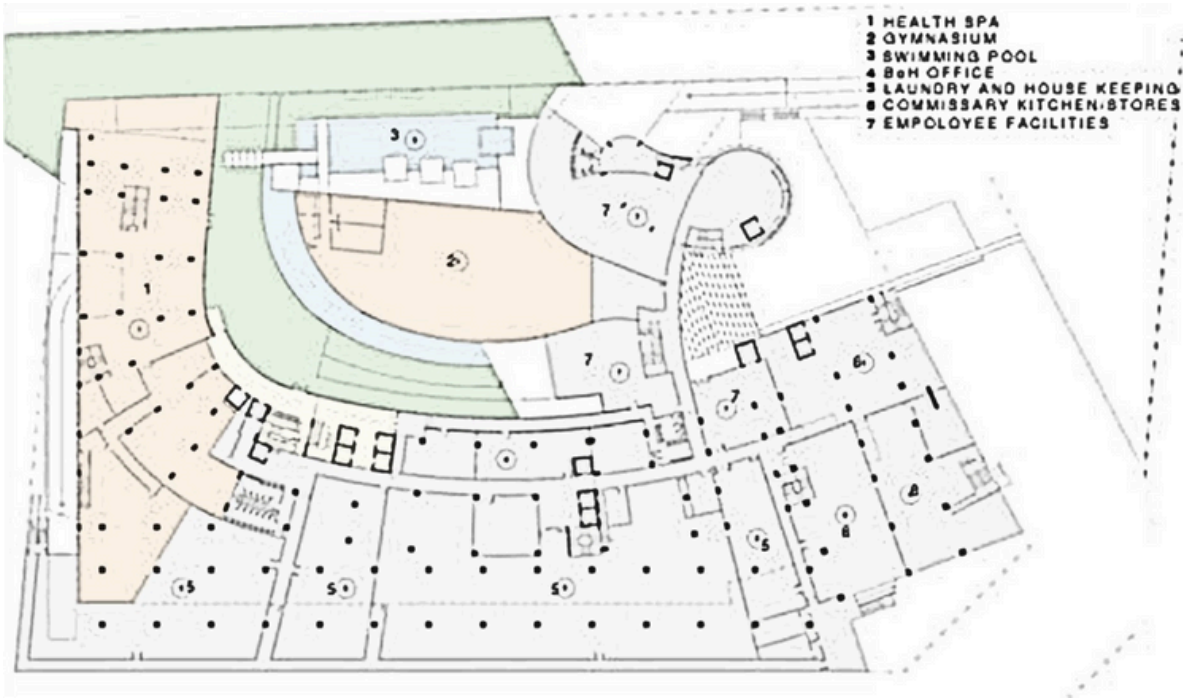


4.26 FLOOR PLANS

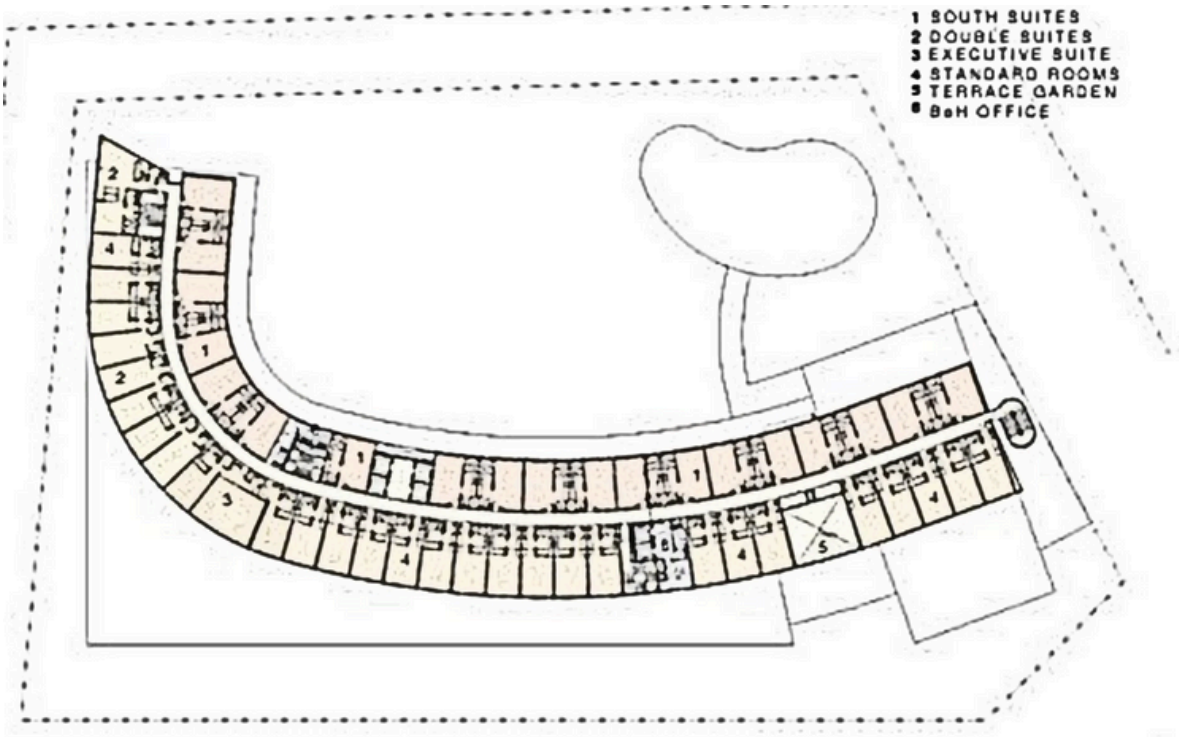
Ground Floor Plan:



First Floor Plan:



Typical Floor Plan:



4.27 SERVICES

1. Air conditioning - Central A.C plant located in basement with AHUs for guest rooms on the respective floors and in plenum for banquet halls
2. Electrical layout - Transformer is located beside Prego. Main panels are located in the basement with shafts running to serve all the floors.
3. Fire protection - There is a fire escape staircase on the western corner of the hotel with every floor provided with four fire hydrant closets.

4.28 INTERIORS





- The corridors are constricted according to standards but, the quality of the space is improved by cladding the walls with wooden panels.
- Art installations are placed everywhere a corridor terminates. The sense of expanse is enhanced by providing both sides of the lobby with floor-to-floor curtain glazing.
- The lobby is flooded with diffused sunlight in the day and in the night the artificial lighting is done by hanging fixtures from the double heighted ceiling.
- It is made sure that the intensity of the lighting is kept at an optimal level to give a serene environment to the guests.

VERTICAL ZONING

The north elevation, the public face of the hotel, is an arrangement of distinct architectural elements, which have been layered both horizontally and vertically. An elevated two story open faced granite Loggia affords views from the street and from within, and contains a set of object buildings, housing the rhomboid All Day Restaurant in travertine, a cylindrical Front Office in hammered bronze, and rectilinear Function Room in green marble.

CASE STUDY:

HOTEL AVASA, HYDERABAD

4.30 INTRODUCTION

Architects: Nandu Associates

Location: Madhapur, Hyderabad, India

Team: B. Nanda Kumar, Ankita Gupta, B.H.Ravi Shankar, B.Naveen Reddy

Area: 8179.0 sqm • Project Year: 2012

Location – International/Domestic Airport, Hyderabad: 35 kms

Hyderabad International Convention Centre: 03Kms

Railway Station, Secunderabad: 20 kms

217 Rooms, 5 Banquet Halls, 3 F&B Restaurants, Sky Lounge, Business Lounge, SPA, Swimming Pool and Gym

Site Area: 2.02 Acres



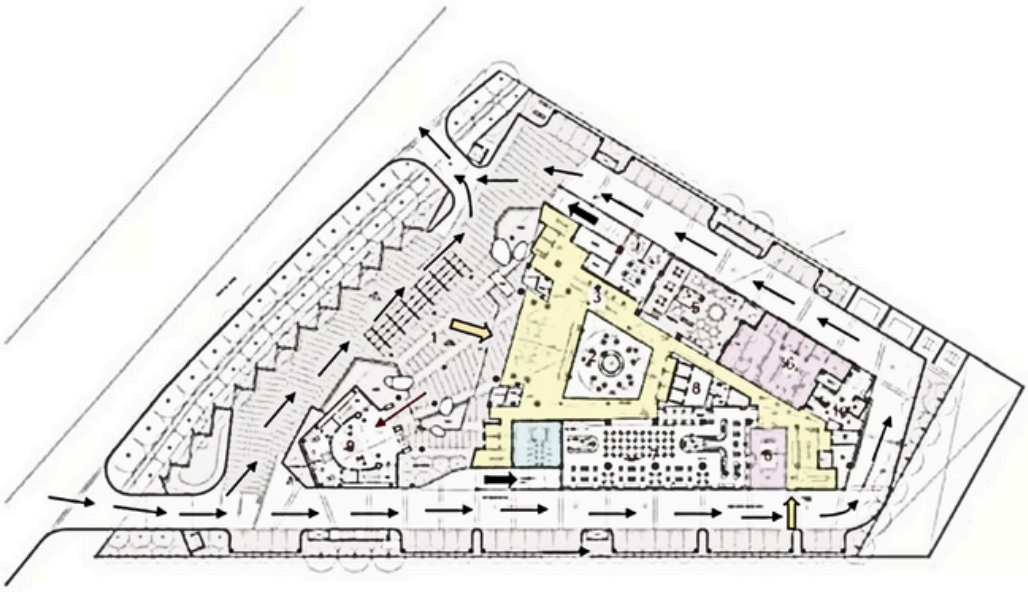
4.31 DESIGN CONCEPT

It was designed with STEPPED TERRACE GARDENS with respect to the site. It intimate interlude for relaxation, business & convention. With 98% of the lighting being led, Avasa is a highly environment friendly. The site is wide towards the front road and narrows down towards the back. Due to limited open space on site, continuous green space has been conceived in the form of stepped terraces - third level to the top floor.

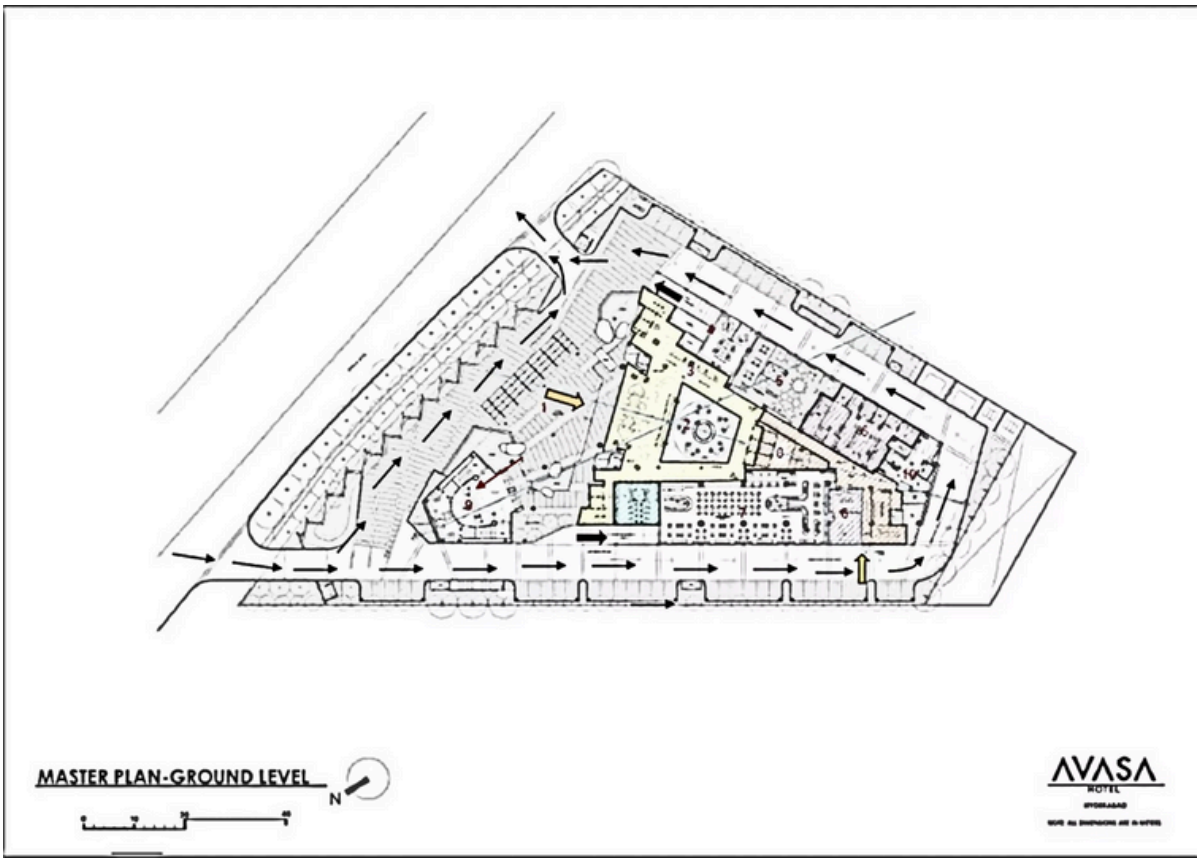


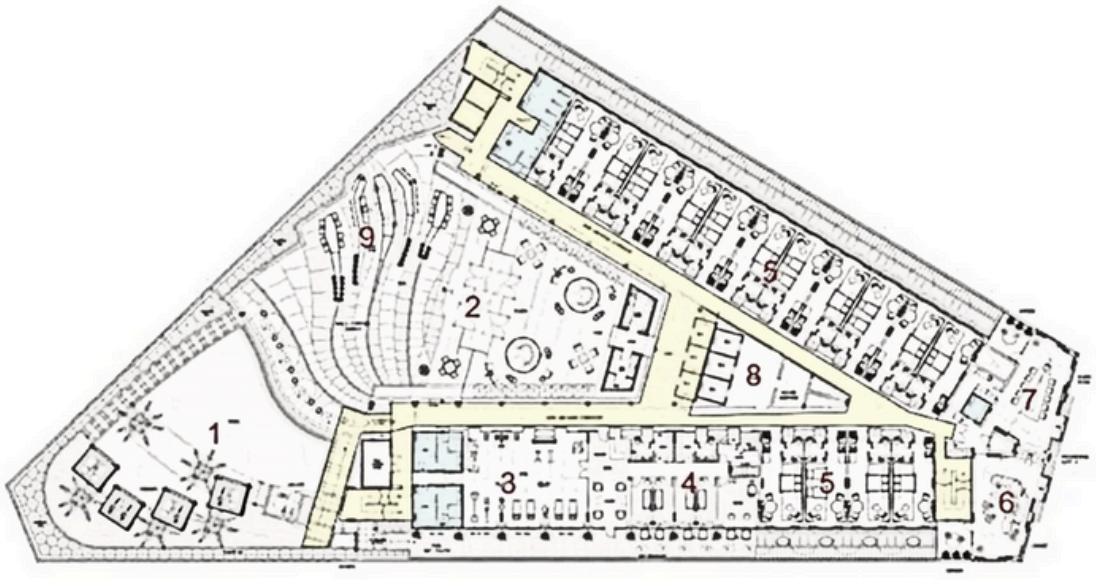
4.32 SITE PLAN

The nine room floors sit on a podium containing the arrival porte-cochere, the reception lobby, a specialty restaurant and all-day dining. The first level contains the banqueting facilities including the Grand Ballroom which is connected directly to the ground level porte-cochere by a grand staircase. The second level is the service floor over the banquet corridors. The third level has the first room floor with spa and gym. The central atrium space opens out to the pool deck and terrace function space with alfresco bar. The stepped terraces at each higher floor have been given a different character - experience the naturally lit corridors and the lush cascading gardens.



4.33 FLOOR PLANS

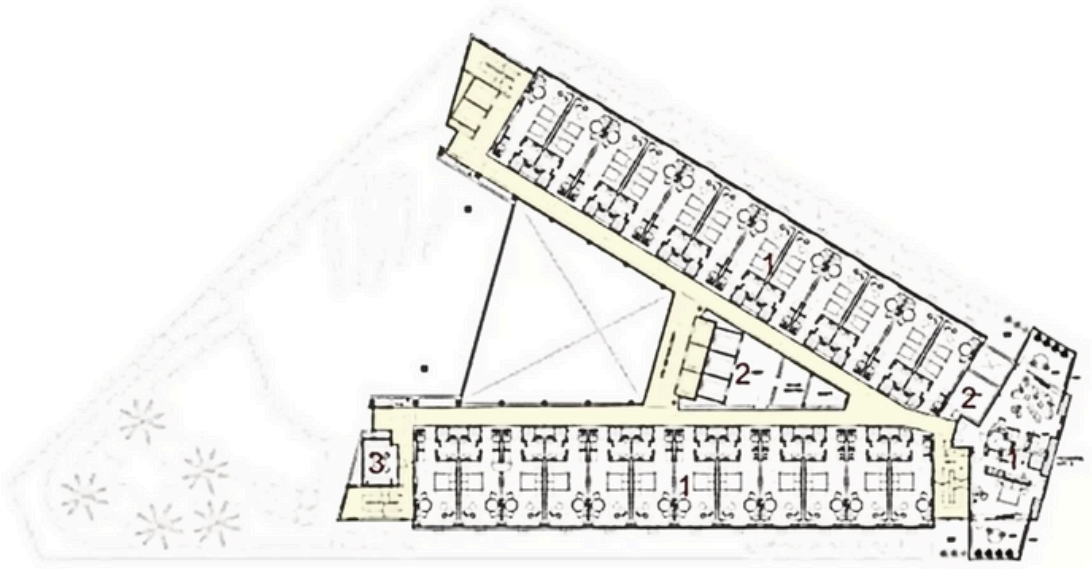




THIRD FLOOR LEVEL

N

AVASA



FOURTH FLOOR LEVEL

N

AVASA



FIFTH FLOOR LEVEL

N

AVASA
HOTEL
HYDERABAD



SIXTH FLOOR LEVEL

N

AVASA
HOTEL
HYDERABAD

4.34 GUEST ROOMS

4.35 CONFERENCE HALL



4.36 SKY LOUNGE



SPACE	AREA (sqm)	CAPACITY
Entrance Lobby	270.423	25
Back Office	83.18	12
Service Area	210	30
Restaurant 1 Kitchen 1	468.8 210.2	100
Restaurant 2 Kitchen 2	240 175.8	70
Servicing Area	96.08	
Administrative	125.8	
Ballroom 1	532.3	550
Ballroom 2	186.27	140
Conference Hall	145.8	100
Boardroom 1	74	25
Boardroom 2	70	20
Gym	166.8	20
Spa	161.1	20

SPACE	AREA (sqm)	CAPACITY
Swimming Pool	500.45	
Room 1	35	2
Room 2	40	2
Room 3	70	2
Business Lounge	180	45
Sky Bar + Lounge	208.6	70
Shops	30	

5 INFERENCES

The case study conducted on a 5-star hotel provides valuable insights into various aspects, including architecture and service. The hotel's architecture plays a significant role in creating a luxurious and visually appealing environment for guests. The case study reveals that the hotel's architecture is carefully designed to exude elegance and sophistication. The exterior facade is likely to be grand and imposing, with architectural elements that reflect the hotel's unique style and identity. The interior spaces are

thoughtfully designed to create a sense of opulence, with spacious lobbies, high ceilings, and tasteful decor that seamlessly blend modern and traditional elements. Here are some inferences that can be drawn from such a case study:

Premium location: 5-star hotels are often located in prime areas such as city centres, beachfronts, or other prestigious locations. This suggests that the hotel may enjoy convenient access to attractions, business centers, or scenic views, adding value to the overall guest experience.

High-quality service: Being a 5-star hotel, it can be inferred that the hotel places a strong emphasis on providing exceptional customer service. They likely have well-trained staff members who are attentive to guests' needs and strive to create a positive experience.

Luxurious amenities: A 5-star hotel typically offers a range of luxurious amenities to cater to its guests. This may include features such as a spa, fitness center, swimming pool, fine dining restaurants, room service, concierge service, and high-end furnishings and decor throughout the hotel.

Exquisite room design: Given the hotel's high rating, it can be inferred that the rooms are designed with elegance and attention to detail. This may include spacious layouts, comfortable beds, high-quality linens, modern technology, well-appointed bathrooms, and attractive interior design.

Personalized experiences: 5-star hotels often aim to provide personalized experiences tailored to individual guests. Inference can be made that the hotel may offer personalized greetings, special amenities or services, and the ability to cater to specific preferences or requirements of guests.

Attention to cleanliness and hygiene: A 5-star hotel is expected to maintain high standards of cleanliness and hygiene. Inference can be drawn that the hotel likely implements rigorous cleaning protocols, regular maintenance, and ensures that all areas of the hotel, including rooms, common areas, and dining establishments, are well-maintained and sanitized.

Focus on security and privacy: It can be inferred that the hotel places importance on guest security and privacy. This may include measures such as key card access to rooms, security personnel, CCTV surveillance, and discreet handling of guest information.

SPECIFIC FEATURES LEARNING FEATURES FROM CASE STUDY

1. Hotel Taj Lakefront, Bhopal:

Designing spaces that maximize natural vistas and integrate the surrounding environment to enhance the guest experience.

Using regional architectural motifs like jharokhas, domes, arches, and intricate carvings to blend tradition with contemporary aesthetics.

1. Radisson Hotel ,Bhopal:

Use canopies, water features, and warm lighting to create a stunning first impression. Implementing soundproofing, ergonomic furniture, and customizable lighting to create luxurious and restful accommodations.

1. Westin , Gurgaon

Designing the hotel's layout to ensure simple and efficient circulation, making it easy for guests to navigate between different areas.

Incorporate 'jaali' (lattice) screens in the facade to filter sunlight and add a distinctive aesthetic that reflects local architectural motifs.

1. The Hotel Avasa, Hyderabad:

Incorporate green spaces, enhancing aesthetics and providing guests with accessible outdoor areas. Design the building to align with the site’s unique shape, optimizing space and functionality.

1.Guest Rooms and Suites

• Room Types and Sizes: 5-star hotels generally offer a mix of standard rooms, deluxe rooms, junior suites, executive suites, and presidential suites, with sizes varying accordingly.

o Standard Room: Typically 35-40 square meters, offering basic amenities, including a bed, desk, seating area, and bathroom.

o Deluxe Room: Around 40-45 square meters, with enhanced furnishings and sometimes a view.

o Suites: Junior suites might be 60-70 square meters, while executive suites range from 80-100 square meters or more, often featuring separate living, sleeping, and dining areas.

o Presidential Suites: Can exceed 150 square meters and often include multiple rooms, a kitchenette, premium amenities, and exclusive design elements.

• Bathroom Standards: Luxury hotel bathrooms should be spacious and feature high-quality materials (e.g., marble, granite), with elements such as rain showers, standalone bathtubs, and double vanities. For standard rooms, bathrooms usually occupy 7-10 square meters, while suite bathrooms may be 15-20 square meters, often including amenities like a bidet, TV, and dressing area.

• Furniture and Layout: Each room should be equipped with high-quality furniture, including a comfortable bed, bedside tables, a desk, and a seating area. Thoughtful layout planning ensures ease of movement, privacy, and access to amenities like power outlets, lighting controls, and window views.

• Technological Integrations: Advanced technological features are expected, such as smart lighting, temperature control systems, soundproofing, and Wi-Fi connectivity. High-end hotels often provide room automation controls, allowing guests to adjust settings for lights, curtains, and climate.

Lobby and Reception Area

• Entrance Design: A grand entrance with a porte-cochère is a common feature, providing sheltered access for guests arriving by vehicle. This space requires careful attention to landscaping, lighting, and aesthetics to create a memorable first impression.

• Lobby Size and Layout: The lobby is often the focal point of a luxury hotel, combining aesthetic appeal with functional requirements. Depending on the hotel size, lobbies can range from 300 to over 1000 square meters. Spacious seating areas with diverse seating arrangements, artwork, and statement pieces (such as sculptures or chandeliers) contribute to a luxurious ambiance.

• Reception and Concierge Desks: These should be prominently positioned and accessible, with enough space to accommodate multiple staff members and guests without crowding. Standards recommend that each check-in station have at least 2.5-3 square meters of working space, including back-office facilities nearby.

• Waiting Area and Lounge: Comfortable seating areas with tables and complimentary amenities like Wi-Fi, power outlets, and refreshments enhance guest comfort. Lounges, often semi-private, may occupy 50-200 square meters depending on the lobby size and hotel capacity.

1. Dining and Food Service Facilities

• Restaurant Types and Sizes: A 5-star hotel typically includes multiple dining options.

o All-Day Dining Restaurant: Often the largest, accommodating breakfast, lunch, and dinner services. Seating capacities range from 150-300 guests, with an area of around 150-300 square meters.

o Fine Dining Restaurant: Focused on upscale, intimate dining experiences, these restaurants usually seat 50-100 guests, covering 80-150 square meters.

o Casual Dining and Cafés: For quick meals or snacks, with flexible layouts that cover 60-120 square meters.

• Bar and Lounge: Bars, often integrated within lobby lounges or near dining areas, require around 40-80 square meters and feature high-end seating and bar counters. Lounge bars may offer dedicated spaces for live music or small events.

• Kitchen and Back-of-House Areas: Kitchens and food preparation areas occupy roughly 40% of the total dining area to ensure efficiency and compliance with hygiene standards. For large dining facilities, central kitchens may span over 200 square meters, segmented by function (e.g., hot kitchen, cold kitchen, pastry, and storage).

4. Conference and Banquet Facilities

• Banquet Halls: Large hotels often have banquet spaces for hosting events, weddings, and conferences. These spaces are typically 400-1000 square meters, accommodating up to 500 guests in a theater or banquet setup.

• Meeting Rooms: For smaller gatherings, hotels provide meeting rooms of varying sizes, often between 30-100 square meters, equipped with projectors, sound systems, and adaptable seating layouts. Ideally, these are located near the business center or in dedicated conference areas.

• Pre-Function Space: A pre-function or reception area for mingling is a common feature, often 100-200 square meters in size, providing guests with waiting and networking space before events.

1. Recreational and Wellness Areas

• Swimming Pool: A key attraction in 5-star hotels, pools typically range from 200-300 square meters. Rooftop or infinity pools are particularly popular, requiring structural reinforcement and safety features like non-slip flooring.

• Fitness Center: Fitness centers should span at least 80-150 square meters and feature a range of high-quality equipment, including cardio machines, weights, and space for classes.

• Spa and Wellness Center: Spas often include treatment rooms, sauna, steam rooms, and lounges, totaling around 150-300 square meters. Each treatment room usually occupies 15-20 square meters, ensuring privacy and comfort.

• Outdoor and Green Spaces: Outdoor seating areas, gardens, and walking paths add value to the guest experience. These spaces often cover an additional 10-20% of the total site area, especially in resorts or urban hotels with limited outdoor access.

• Housekeeping and Laundry: Centralized areas for housekeeping are necessary for efficient operation. Laundry facilities often occupy 50-100 square meters, providing space for sorting, washing, and folding.

6. Service and Back-of-House Areas Staff Facilities:

Staff locker rooms, rest areas, and dining facilities are essential to meet regulatory requirements and ensure staff well-being. These areas typically cover around 10-15% of the total floor area.

• Storage Rooms and Loading Bay: Ample storage for cleaning supplies, linens, food, and beverages is required. Loading docks for receiving goods and waste management are typically positioned out of guest view, and waste management areas are around 30-50 square meters.

7.Safety and Accessibility Standards

• Fire Safety and Evacuation Routes: Compliance with fire safety standards requires designated evacuation routes, fire exits, and fireproof materials. Smoke detectors, sprinklers, and extinguishers are strategically placed throughout.

• Accessibility Compliance: ADA or equivalent standards mandate ramps, accessible rooms, braille signage, and other provisions to ensure all areas are accessible to guests with disabilities.

• Other Details

Major traffic /circulation-convention + hotel + retail + banquet (entry and exit of hotel and other components should be separate)

Separate banquet from hotel to avoid crowd during functions.

Staircase at every 45 m Doors should be 200-150mm inside from corridor (not to be seen from corridor)

Corridor-carpeted floor-l.5-1.9m wide Shafts for toilets (shared by 2)- 1.35xO.75m

Air Conditioned Rooms

Furniture- Toilet fixtures- Table -750mm 4 fixture toilet-w.c,

wash basin, shower, bathtub Bed -550 mm 5 fixture toilet-w.c , 2 washbasins, shower , bathtub

COMPARATIVE ANALYSIS BETWEEN CASE STUDIES AND LITERATURE REVIEW

Space Type	Taj Lakefront, Bhopal	Radisson Hotel, Bhopal	Westin, Gurgaon	Hotel Avasa, Hyderabad	Literature Review Insights	Inferences for Design
1. Guest Rooms	Luxury suites, lake-view rooms, varied typologies.	Standard + deluxe rooms, business-oriented.	Large inventory, executive suites, international standards.	Compact, stylish rooms, focus on modern interiors.	MoT guidelines: minimum room sizes, attached baths, facilities for differently-abled; Time Saver Standards stress privacy & comfort.	Provide **diverse room categories** (standard, deluxe, suites, premium view) with universal accessibility and luxury finishes.
1. Banquet / Convention Halls	Large halls for weddings & social events.	Multiple banquet halls + big event spaces.	International-scale convention & conference halls.	Medium-sized conference halls, sky lounge doubles as event space.	NBC + MoT: minimum floor area, circulation for 1000+ pax; URDPFI emphasizes multipurpose community use.	Design **flexible banquet + convention halls** with modular layouts for 1000+ pax.
1. Restaurants & Dining	Lake-view fine dining, rooftop restaurant, specialty cuisine.	Multiple restaurants + rooftop bar.	Coffee shops, specialty restaurants, cocktail lounges.	Fusion restaurants, rooftop dining, lounges.	ITC Hotel Manual: accessible dining, kitchen adjacency, circulation; TSS: separation of service & guest dining.	Include **multiple F&B outlets** (fine dining + café + rooftop) with efficient kitchen/service access.
1. Lobby & Reception	Spacious, grand, overlooking lake.	Contemporary, functional, business-focused.	Large, luxurious lobby for international clientele.	Bold, modern boutique-style interiors.	TC Manual: accessible design, split-level avoidance, reception at visual axis; TSS: guest comfort & first impressions.	Create a **grand lobby as identity space** with accessibility, cultural cues, and comfortable circulation.
1. Wellness & Leisure	Spa, pool, landscaped lawns.	Pool + gym, basic wellness.	Full spa, wellness retreats, leisure decks.	Sky lounge, gym, urban relaxation spaces.	MoT: spa/health club mandatory for 5-star; NBC: safety & accessibility; sustainable practices suggested.	Provide **spa, gym, landscaped pool, wellness areas** for leisure + sustainability.
		Clear separation, service floors (2 &	Efficient for events, multiple	Compact & efficient vertical	TSS: strict separation of guest & BOH	Ensure **clear zoning & separate**

1. Circulation & Vertical Zoning	Guest-oriented, service concealed.	3).	elevator banks.	zoning.	routes; NBC: fire exits, safety.	**circulation** for guest and service flows.
Back of House (BOH)	Service access hidden, integrated in landscape.	Strong BOH planning with service floors.	Large kitchens, laundry, staff support areas.	Compact but efficient BOH circulation.	TSS: BOH is critical, requires efficient delivery, laundry, staff circulation, waste management.	Design **dedicated BOH cores** (kitchen, laundry, staff areas) to support large operations.
Special Features	Lakefront integration, cultural motifs.	Banquet & event-centric.	International convention scale.	Bold interiors, tech-driven boutique identity.	Literature highlights cultural integration + sustainability for identity and branding.	Add **unique features**: lake-view decks, rooftop event areas, cultural/local design integration

6 BIBLIOGRAPH

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A SITE PLAN
SCALE 1 : 500

KEY PLAN:-

SHCEDULES

SITE AREA AND BUILDING CALCULATION	

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SHEET TITLE : SITE PLAN

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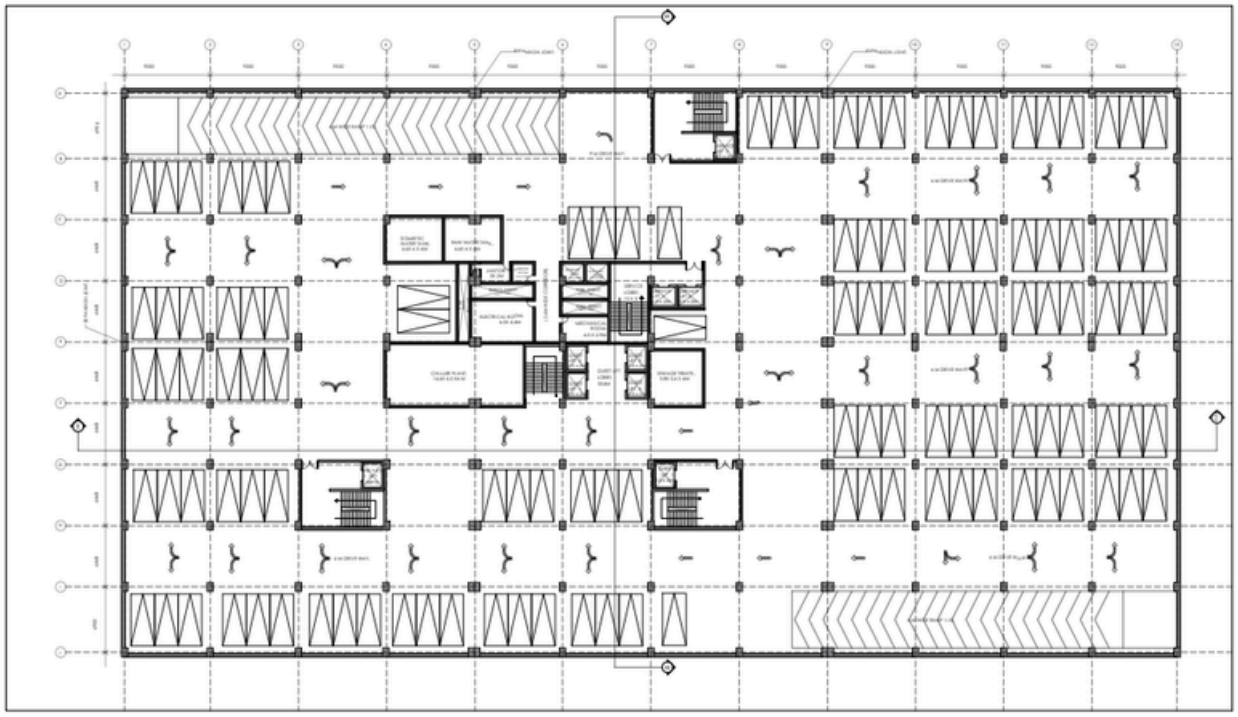

A BASEMENT 2
SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL

KEY PLAN:-

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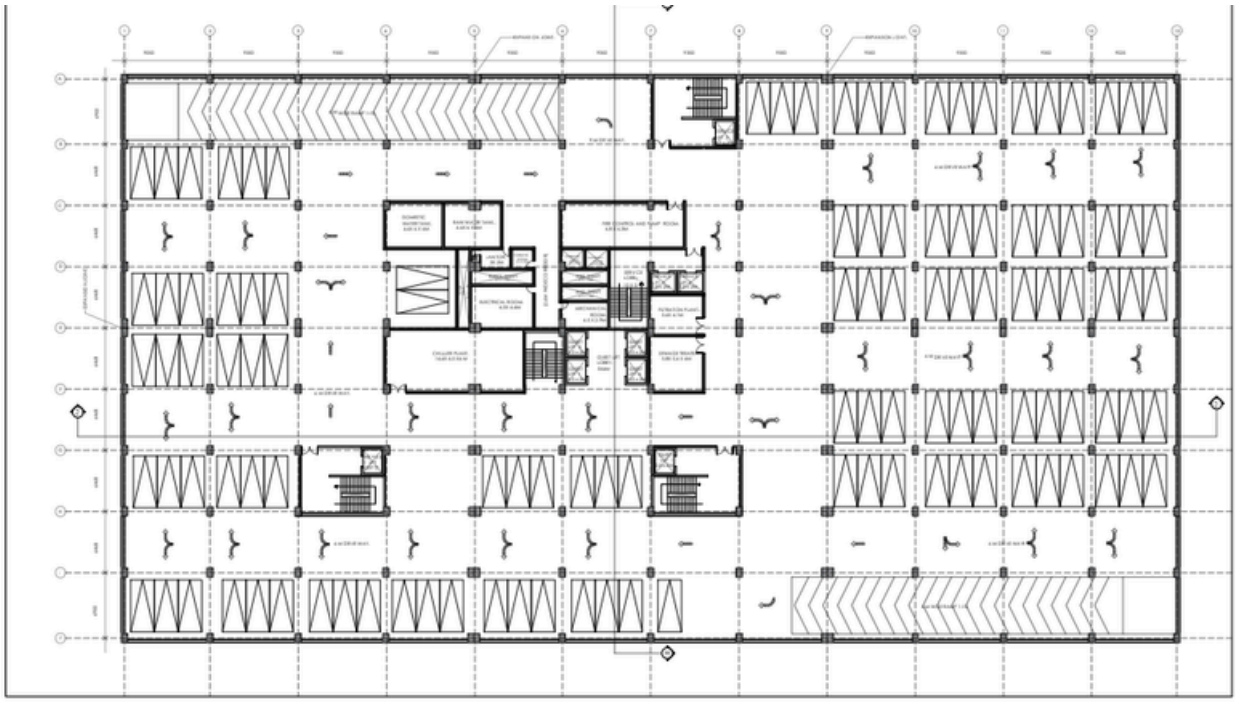

A BASEMENT 3
SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL
BASEMENT 3	143	341
BASEMENT 2	100	
BASEMENT 1	100	

KEY PLAN:- SCALE-1:1000

SHCEDULES

REVISIONS :-

Rev.	Date	Description	Appr'd

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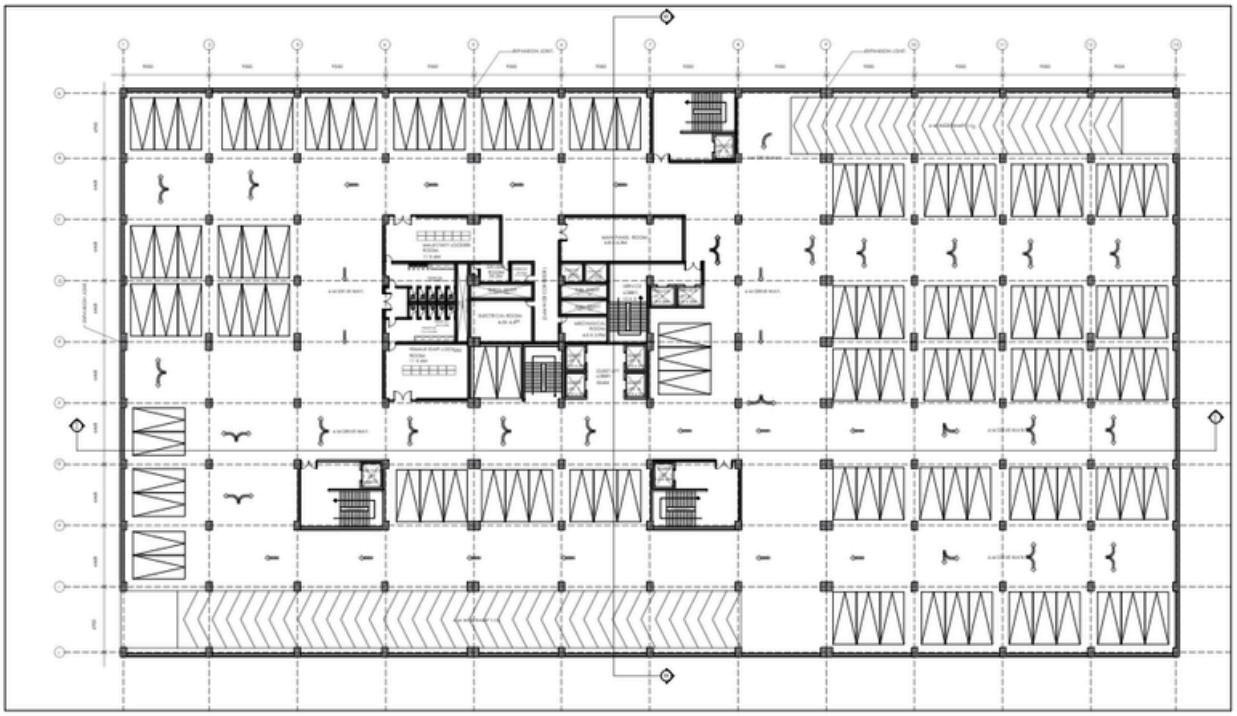

A BASEMENT 1
SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL
BASEMENT 3	143	341
BASEMENT 2	100	
BASEMENT 1	100	

KEY PLAN:- SCALE-1:1000

SHCEDULES

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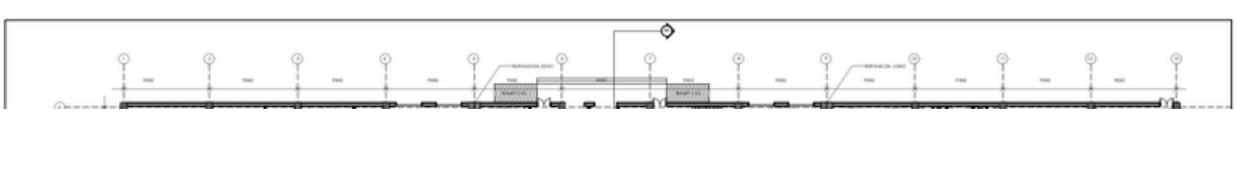

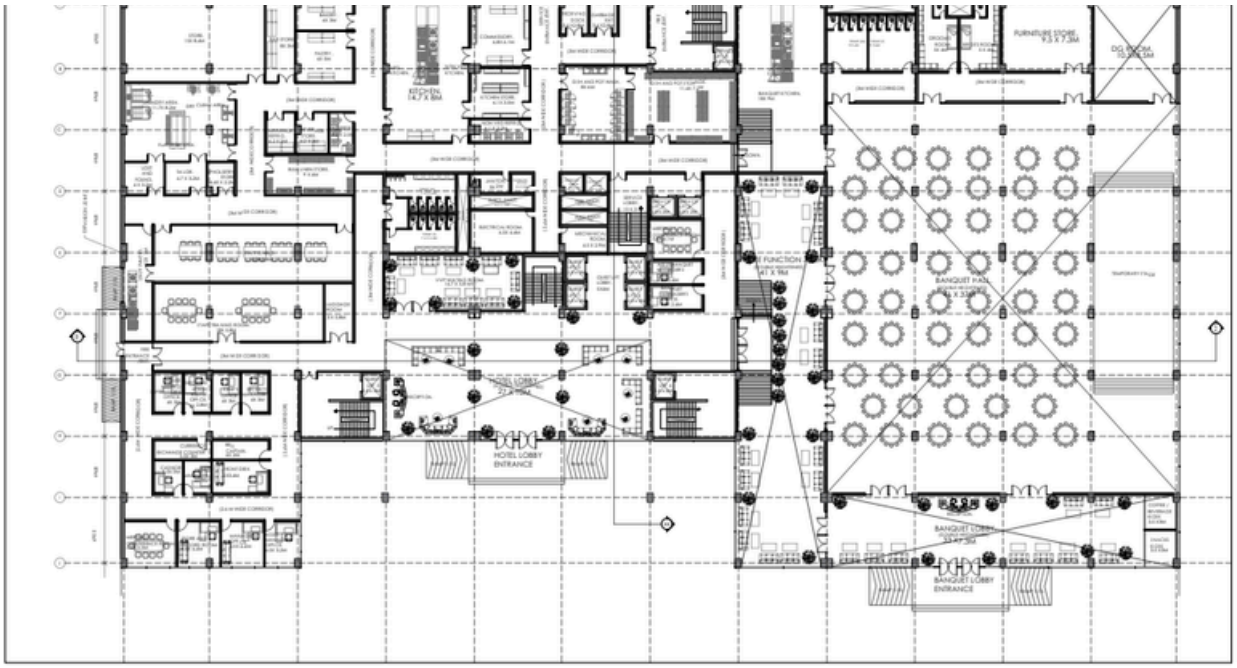

A GROUND FLOOR PLAN
SCALE 1 : 200

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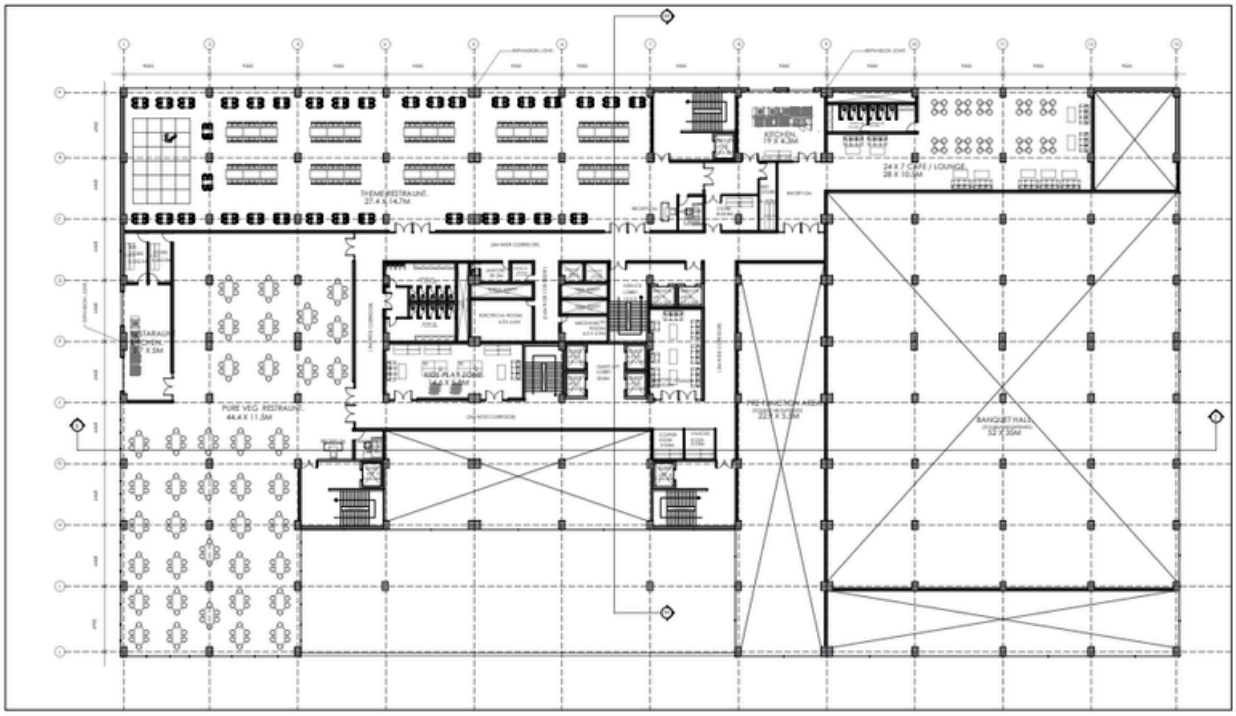

A RECREATIONAL FIRST FLOOR PLAN 1st
SCALE 1 : 200

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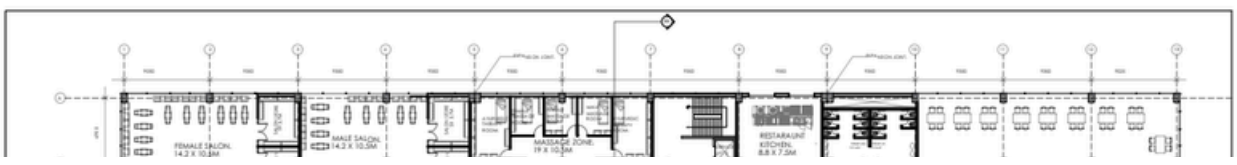

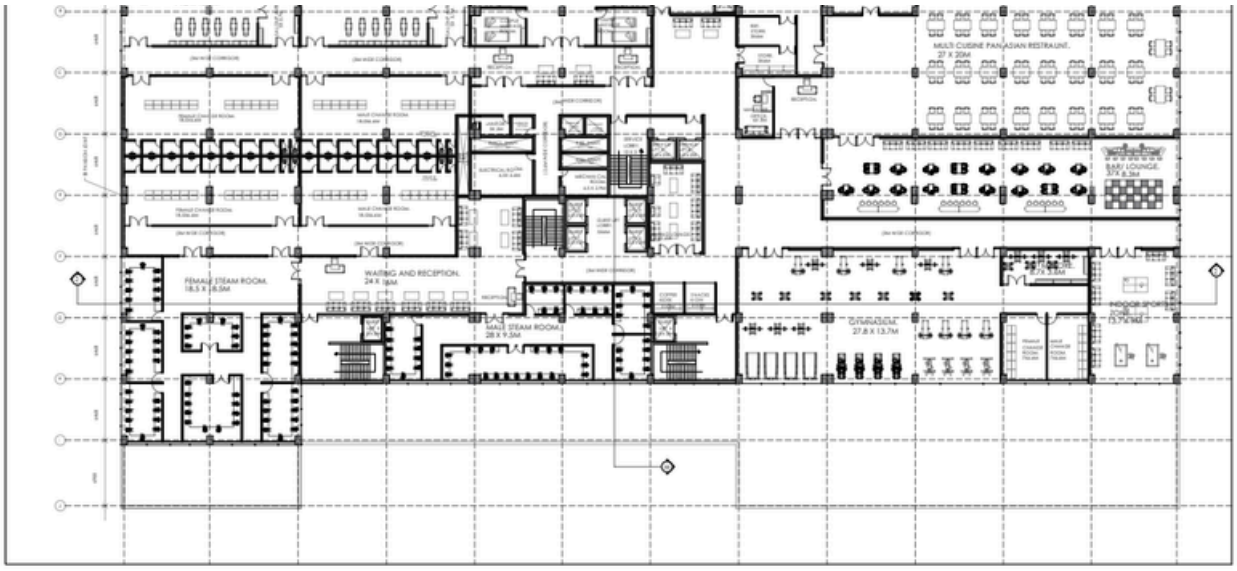

A RECREATIONAL SECOND FLOOR PLAN 2nd
SCALE 1 : 200

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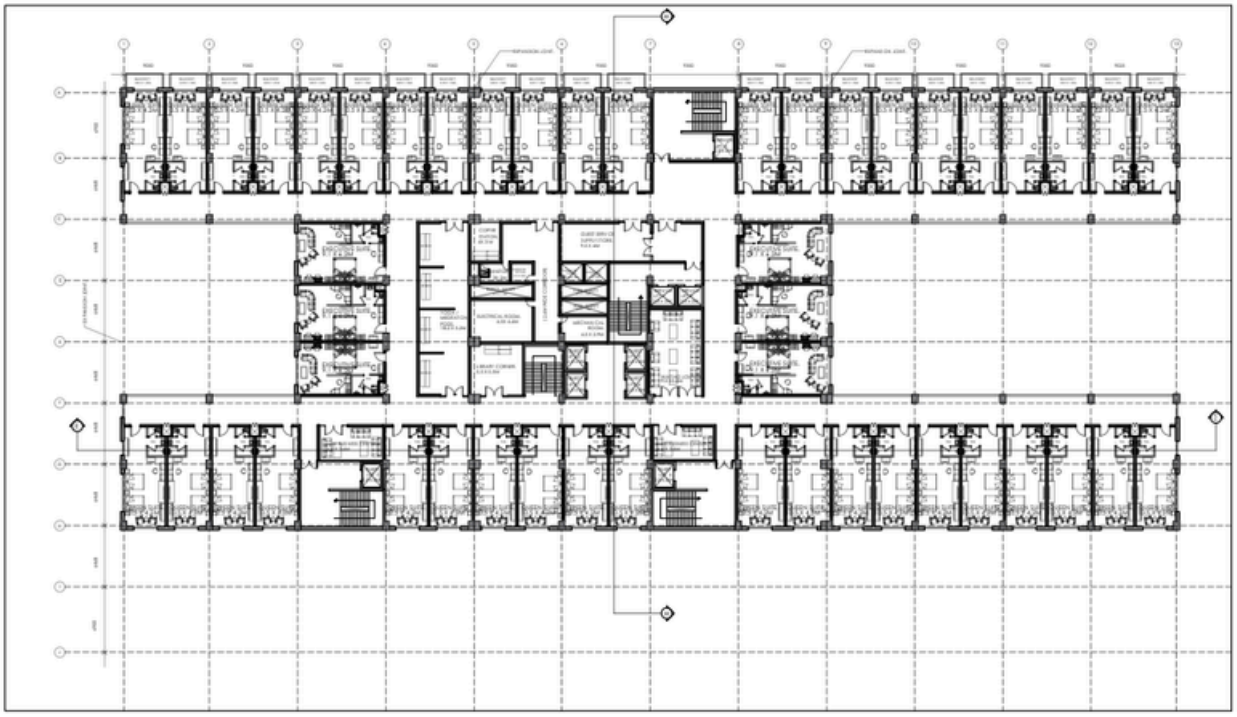

SUITES	NO. OF ROOMS	TOTAL

A TYPICAL GUEST FLOOR PLAN 3rd - 4th
SCALE 1 : 200

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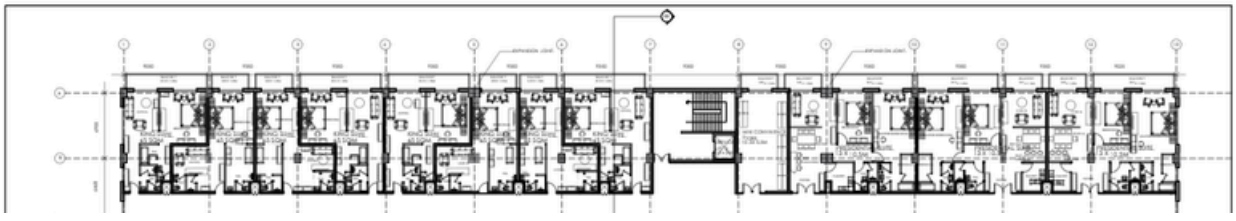



A TYPICAL GUEST FLOOR PLAN 5th
SCALE 1 : 200

SUITES	NO. OF ROOMS	TOTAL
QUEEN SUITES	20	47
EXECUTIVE SUITES	6	
KING SUITES	19	
PRESIDENTIAL SUITES	2	

KEY PLAN:- SCALE 1:1000

SHCEDULES

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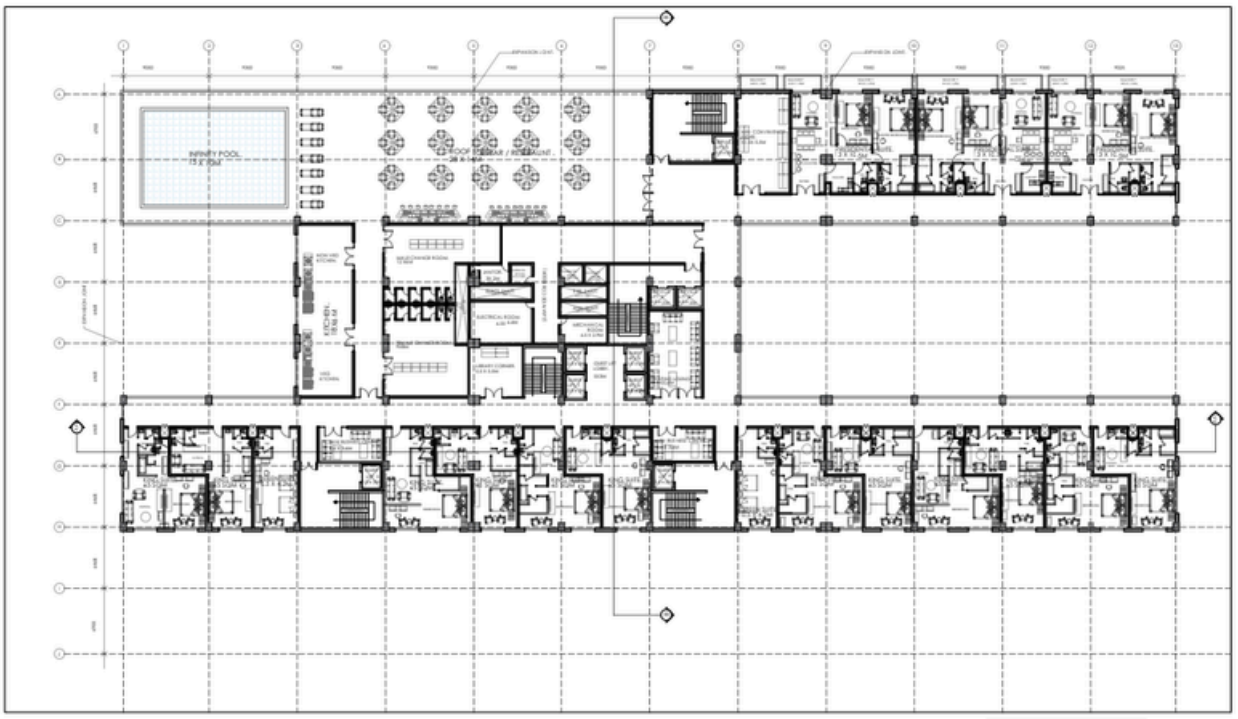

A TYPICAL GUEST FLOOR PLAN 6th
SCALE 1 : 200

SUITES	NO. OF ROOMS	TOTAL
QUEEN SUITES	2	47
EXECUTIVE SUITES	19	
KING SUITES	19	
PRESIDENTIAL SUITES	7	

KEY PLAN:- SCALE 1:1000

SHCEDULES

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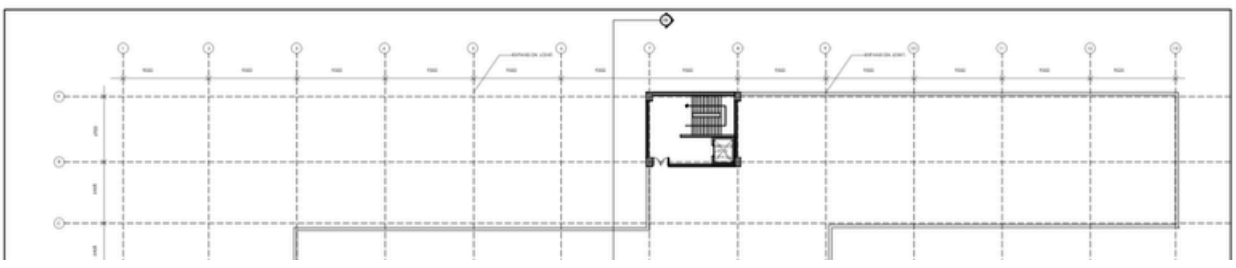



A TERRACE FLOOR PLAN
SCALE 1" = 200'

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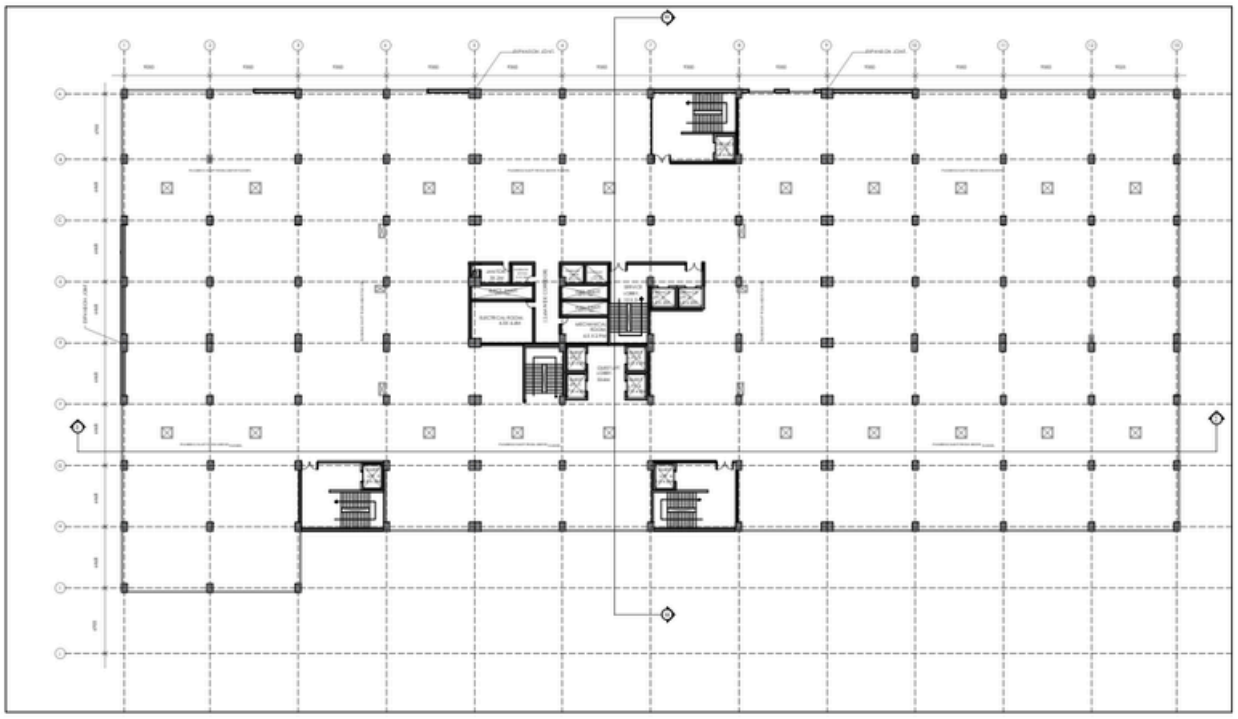

A SERVICE FLOOR 2.5 (ABOVE RECREATIONAL AND BELOW GUEST FLOORS)
SCALE 1" = 200'

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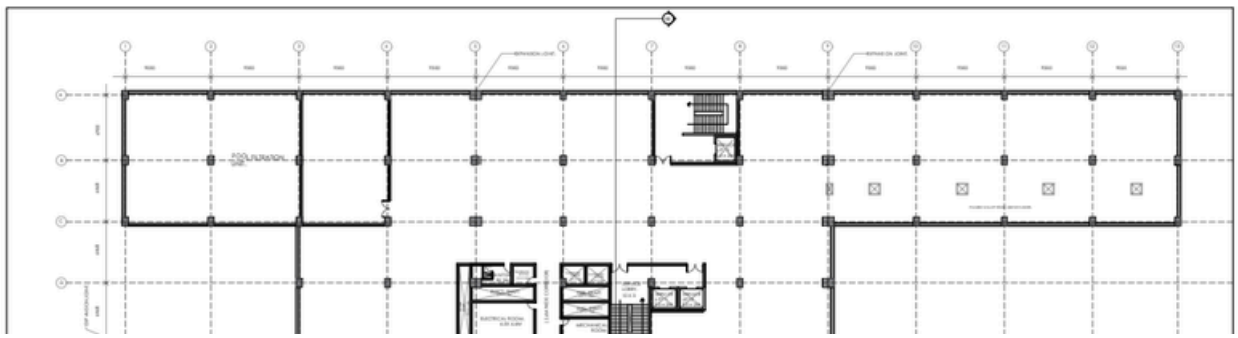
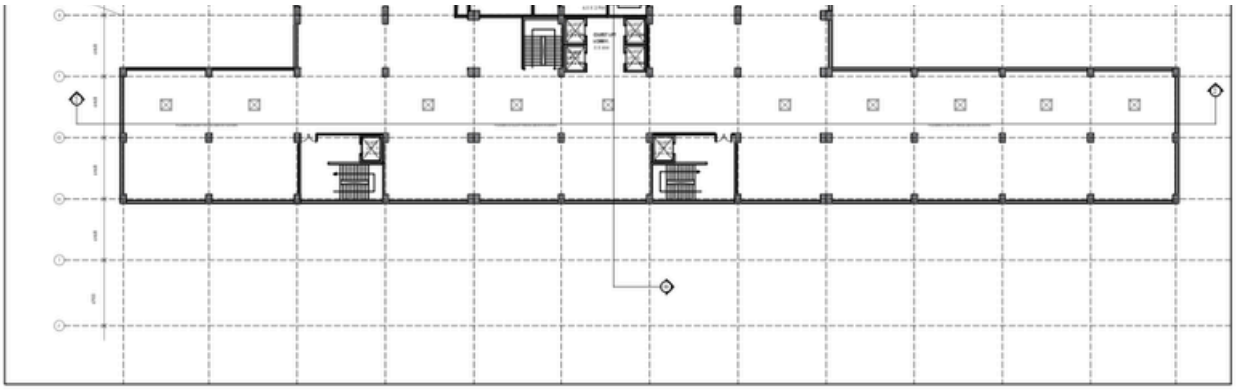
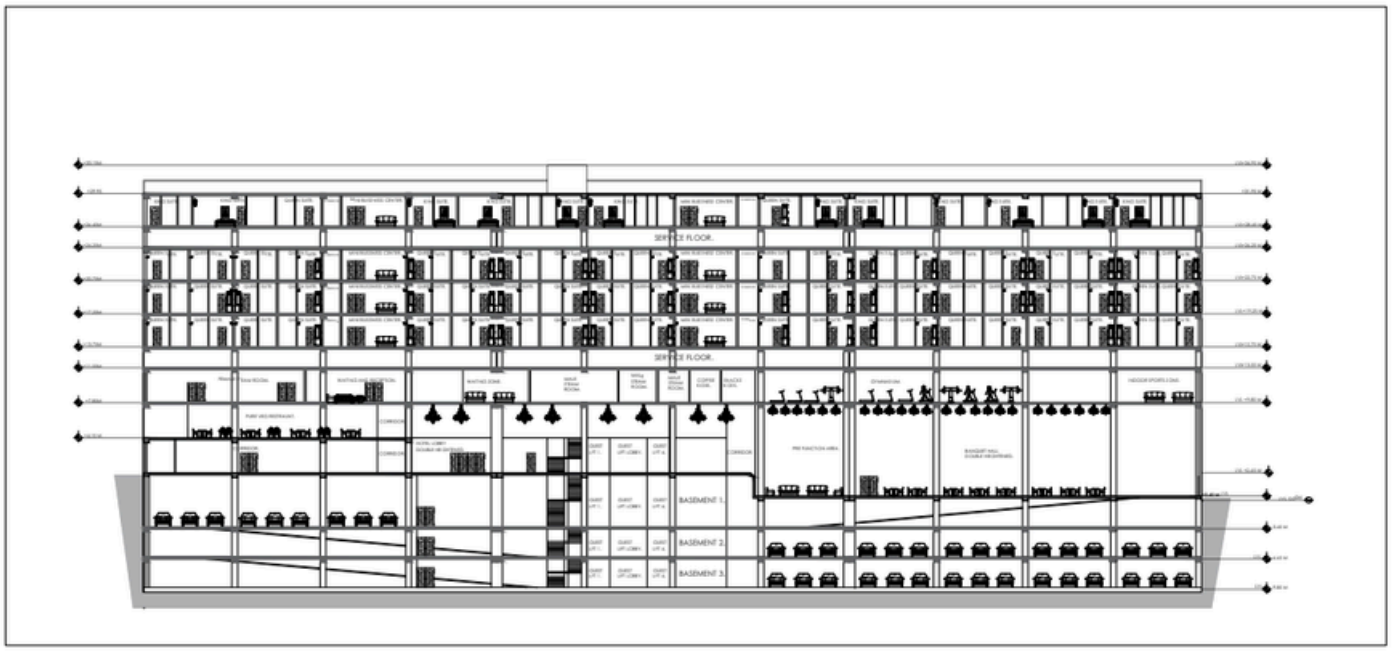




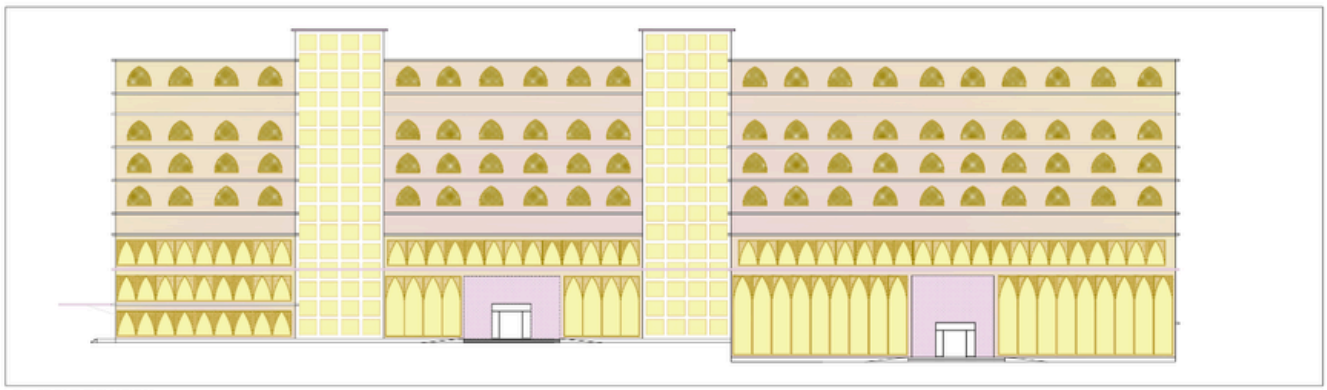
A SERVICE FLOOR 5.5 (ABOVE 5th GUEST FLOOR AND BELOW 6th GUEST FLOOR)
SCALE 1 : 200

KEY PLAN:-	SHCEDULES	REVISIONS : --	NOTES :-	N	GRID : 0000 MM X 0000 MM	PROJECT : 5 STAR HOTEL, BHOPAL	
		Rev. Date Description App'd	ALL DIMENSIONS ARE IN mm UNLESS NOTED. DRAWING SHALL NOT BE SCALED AND ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. IN CASE OF ANY DISCREPANCY FOUND IN DRAWINGS AND DETAILS, IT SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT AND RECTIFIED, PRIOR TO ITS EXECUTION. THIS DRAWING IS ISSUED STRICTLY WITH AN UNDERSTANDING THAT IT WILL BE USED ONLY FOR THE PURPOSE MENTIONED AND SHALL BE RETURNED AFTER COMPLETION. THIS DRAWING IN ALL RE REFERED ONLY FOR THE PURPOSE MENTIONED IN ITS TITLE (FLOORING PATTERN, FALSE CEILING, SHUTTERING PATTERN, ELECTRICAL, PLUMBING, ETC.)	THIS D.DCUMENT IS THE PROPERTY OF STUDIO 78 AND SHALL NOT BE REPRINTED, REPRODUCED, COPIED, ETC. WITH OUT THE EXPLICIT PERMISSION IN WRITING FROM STUDIO 78 OF MANIT BHOPAL	DATE 17/04/2025	SHEET TITLE : FLOOR PLANS
					DRAWN BY MONISHIKA SINGH NAMDEO		MAULANA AZAD NATIONAL INSTITUTE OF TEHCNOLOGY, BHOPAL (MP) INDIA - 462003
					GUIDED BY DR. RAJSHREE KAMATH		
					PROJ. CODE		
					DRG.NO. AR-01		
					SCALE		

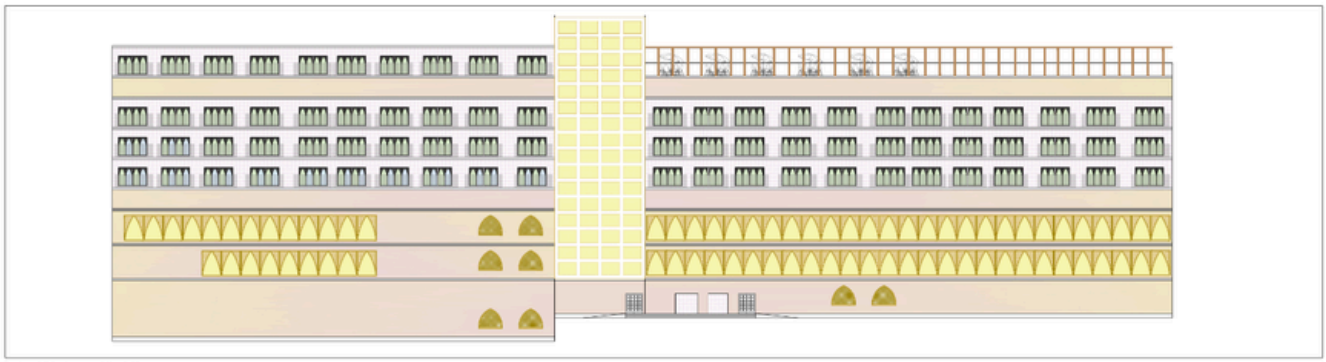


A SECTION AA
SCALE 1 : 200

KEY PLAN:-	SHCEDULES	REVISIONS : --	NOTES :-	N	GRID : 0000 MM X 0000 MM	PROJECT : 5 STAR HOTEL, BHOPAL	
		Rev. Date Description App'd	ALL DIMENSIONS ARE IN mm UNLESS NOTED. DRAWING SHALL NOT BE SCALED AND ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. IN CASE OF ANY DISCREPANCY FOUND IN DRAWINGS AND DETAILS, IT SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT AND RECTIFIED, PRIOR TO ITS EXECUTION. THIS DRAWING IS ISSUED STRICTLY WITH AN UNDERSTANDING THAT IT WILL BE USED ONLY FOR THE PURPOSE MENTIONED AND SHALL BE RETURNED AFTER COMPLETION. THIS DRAWING IN ALL RE REFERED ONLY FOR THE PURPOSE MENTIONED IN ITS TITLE (FLOORING PATTERN, FALSE CEILING, SHUTTERING PATTERN, ELECTRICAL, PLUMBING, ETC.)	THIS D.DCUMENT IS THE PROPERTY OF STUDIO 78 AND SHALL NOT BE REPRINTED, REPRODUCED, COPIED, ETC. WITH OUT THE EXPLICIT PERMISSION IN WRITING FROM STUDIO 78 OF MANIT BHOPAL	DATE 01/12/2025	SHEET TITLE : SECTIONS
					DRAWN BY MONISHIKA SINGH NAMDEO		MAULANA AZAD NATIONAL INSTITUTE OF TEHCNOLOGY, BHOPAL (MP) INDIA - 462003
					GUIDED BY DR. RAJSHREE KAMATH		
					PROJ. CODE		
					DRG.NO. AR-01		
					SCALE		



A FRONT ELEVATION
SCALE 1 : 200



A BACK ELEVATION
SCALE 1 : 200

KEY PLAN:- SCALE 1:1000

SHCEDULES

REVISIONS :-

Rev.	Date	Description	Appr'd

NOTES :-

GRID : 0000 MM X 0000 MM

DATE	01/12/2025
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CHECKED BY	DR. RAJSHREE KAMATH
PROJ. CODE	
DRG.NO.	AR-01
SCALE	

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : ELEVATIONS

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OF TEHCNOLOGY,
BHOPAL (MP)
INDIA - 462003

CASE STUDIES AND INFERENCES






Spaces	Case Study 1 (Taj Lakefront, Bhopal)	Desk Appraisal 1 (Avasa, Hyderabad)	Desk Appraisal 2 (Westin Gurgaon)	Case Study 2 (Radisson hotel ,Bhopal)	Inferences
Front desk	40	32	35	30	Front desk 40
Lounges	140	76.6	74.6	60	Lounges 140
Bell area	16	18	18	14	Bell area 16
Business centre	26.5	36	30	25	Business centre 36
Retail shop	30	40	40	30	Retail shop 40
Pre-function	80	60	60	50	Pre-function 80
Ballroom	560	840	840	560	Ballroom 840
Swimming pool	35	560	50	140	Swimming pool 560
Gym	30	40	40	50	Gym 50
Spa	40	50	55	55	Spa 55
Salon	15	16.1	20	20	Salon 20
Double bed rooms	33	35	30	30	Double bed rooms 35
Twin bed rooms	31	30	35	27	Twin bed rooms 35
Suites	70	75	75	70	Suites 75
Main kitchen	115	115	115	115	Main kitchen 115
Pantry	20	20	20	20	Pantry 20
Dishwash	30	30	30	28	Dishwash 30
Cold kitchen	20	20	20	20	Cold kitchen 20
Hot kitchen	40	40	40	40	Hot kitchen 40
Bakery	30	30	30	30	Bakery 30
Bar counter	64.3	64.3	64.3	64.3	Bar counter 64.3
Housekeeper office	15	15	15	15	Housekeeper office 15
Linen room	20	20	20	20	Linen room 20
Bulk store	30	30	30	30	Bulk store 30

INFERENCES

1. Basement 1 & 2 can be used for parking whereas basement 3 can completely be used for services like water tanks etc.
2. If big banquet hall is provided then it can also be convertible into 3 parts for various different events.
3. Kitchen should be provided into 4 zones yellow preparation , green storage, blue cleaning , red cooking.
4. Plumbing shafts should be coomon in guest rooms and terminate inservice floor.
5. Guest floor can be different in each floor to have different identity inspite of being idedentical.
6. Guest rooms should be smoking or non smoking sprinklers will only be present on smoking rooms.

CONCEPT AND ZONING

THE BEGUM'S MODERNITY

Minimalist Modern Luxury Rooted in the Progressive Feminine Legacy of the Begums of Bhopal

"The Begum's Modernity" is a design concept that merges clean contemporary minimalism with the refined elegance, strength, and progressive vision of the Begums who ruled Bhopal. The concept draws inspiration from how the Begums balanced tradition with advancement, becoming some of India's earliest female leaders who modernized the city while preserving its cultural identity.
This duality—heritage and modernity, softness and power—forms the core of the hotel's architectural and interior language.

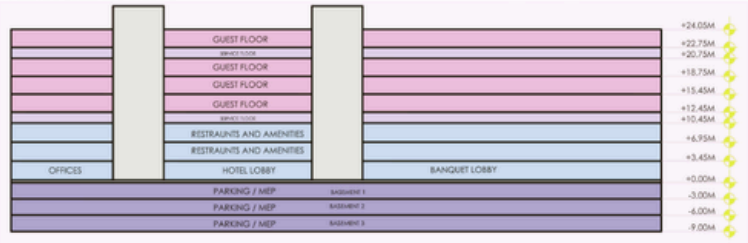
Concept Essence

- Minimalism = Modern Progressiveness
- Reflects the forward-thinking governance of the Begums, who introduced reforms, education, infrastructure, and modern planning to Bhopal.
- Vintage Elegance = Feminine Royalty
- Expressed through soft curves, subtle ornamentation, and delicate elements inspired by the Begums' palaces, textiles, and personal artefacts.
- Balance of Strength & Grace
- Modern straight lines softened by gentle curves represent the Begums' poised authority.

SHAPES , PATTERNS AND TEXTURES



VERTICAL ZONING

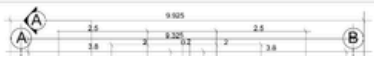
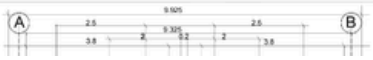


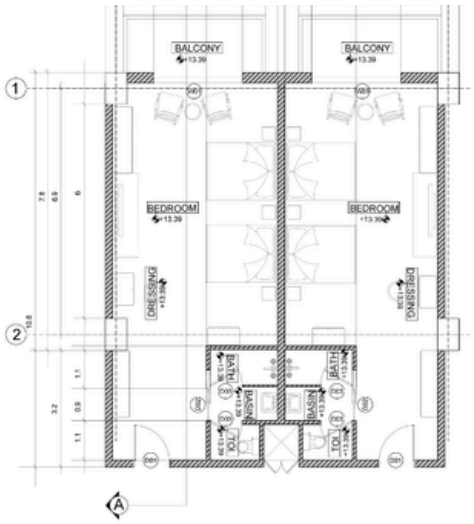
FIVE STAR HOTEL

Bhopal, Madhya Pradesh

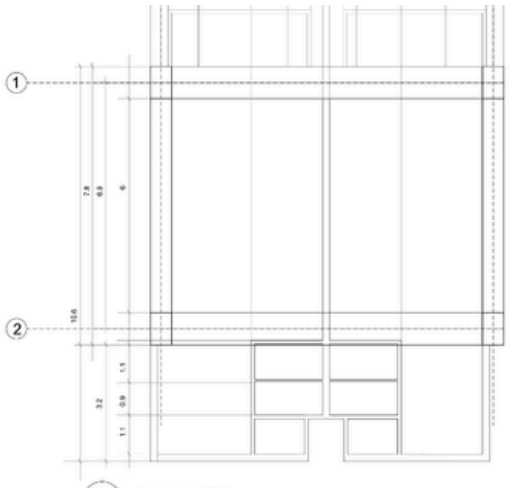
GUIDED BY : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207

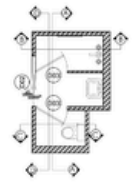





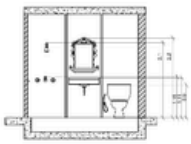
A QUEEN SUITE WORKING DRAWING PLAN
SCALE 1 : 50



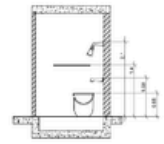
B BEAM LAYOUT
SCALE 1 : 50



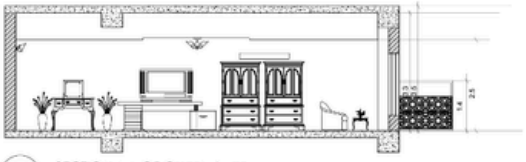
D WASHROOM DETAIL PLAN
SCALE 1 : 50



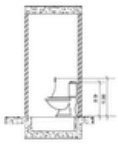
E SECTION AA
SCALE 1 : 50



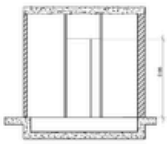
F SECTION BB
SCALE 1 : 50



C SECTION AA OF QUEEN SUITE
SCALE 1 : 50



G SECTION CC
SCALE 1 : 50



H SECTION DD
SCALE 1 : 50

KEY PLAN:-

SHCEDULES

REVISIONS : -

Rev	Date	Description	Appr'd

NOTES :-

GRID : 0000 MM X 0000 MM	
DATE	01/12/2025
DRAWN BY	MONISHIKA SINGH NAMDEO
CHECKED BY	DR. RAGHREE KAMATH
PROJ. CODE	
DRG.NO.	AR-01
SCALE	

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : WORKING DRAWING

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INDIA - 462003

SITE ANALYSIS

Name of the Project : Proposed 5 star hotel.

Location : Shyamla Hills, Bhopal, towards eastern side of Upper lake Madhyapradesh

Site Coordinates: 23°14'35.36"N 77°23'16.11"E



Bhopal, Madhyapradesh



Existing MPT Lakeview residency hotel
Shyamla Hills



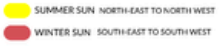
Proposing Agency: Madhya Pradesh Tourism Board (MPT), operating under the Department of Tourism

Project Details: The site is strategically located in Shyamala Hills which is a prominent residential and commercial area in Bhopal. The area houses upscale neighbourhood, aesthetic landscapes, and convenient proximity to the city center and airport.

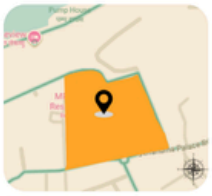
Approach Road: 24 mts wide , primary access road , Jehan Numa Palace Road

Site Boundaries: North - Green zone adjacent to Bhopal Upper lake.
South-Aadjacent24 mts wide , primary access road , Jehan Numa Palace Road.
East - Others property.
West - Others property.

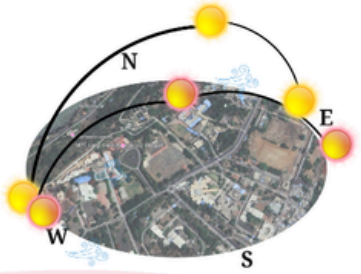
S.NO.	DESCRIPTION	PROPOSED
1.	Site Area(in acres)	7.16
2.	Site Area(in sqmt)	28975.5
3.	FAR	2
4.	Maximum Permissible Height(in meters)	30
5.	Offsets (if not mentioned in meters	12
6.	Offsets (other sides)in meters	7.5
7.	Basements	3 floors
8.	Podium	3 floors



SUMMER SUN NORTH-EAST TO NORTH WEST
WINTER SUN SOUTH-EAST TO SOUTH WEST
WIND



SITE LAKE
ROADWAYS OTHERS PROPERTY



CONECTIVITY TO THE SITE

Bhopal Junction Railway Station : 5.2km
Rani Kamalapati Railway Station : 6.9km

Ravindra Bhawan Bus Stop: 0.3km
ISBT Bus stand :7 km

Aarogya Hospital : less than 1km

Raja Bhoj International Airport : 13km

MPT Lake View Residency in Bhopal receives its power supply from Madhya Pradesh Madhya Kshetra Vidyut Vitaran Co. Ltd

TOURIST ATTRACTIONS

1. Upper Lake (Bhojtal) : 0.6 km
2. Indira Gandhi Rashtriya Manav Sangrahalaya : 0.9 km
3. State Museum, Bhopal : 0.75km
4. Gohar Mahal : 1.5km
5. Shaukat Mahal : 5.1km
6. Van Vihar National Park
7. Madhya Pradesh Tribal Museum : 1.1km
8. Sadar Manzil : 4.8km
9. Taj-ul-Masjid : 3km
10. Bharat Bhavan : 0.6 miles

CLIMATE ANALYSIS

Shyamla Hills in Bhopal, located near the Upper Lake, experiences a tropical wet and dry climate with moderate temperatures due to the lake's cooling effect. Summers are hot (30°C–45°C), but the lake reduces heat intensity. Monsoons bring high rainfall (~1146 mm annually), enhancing local humidity and greenery. Winters are mild and pleasant, with temperatures ranging from 7°C to 15°C. The lake's proximity creates a cooler, more comfortable microclimate year-round.

RAINFALL
Bhopal receives an average annual rainfall of around 1123mm to 1146mm. August is the wettest month with an average rainfall of 363.3mm.April is the driest month, with an average rainfall of only 4.3mm

TEMPERATURE
Temperature ranges from hot summers (up to 40°C) to mild winters (around 10°C), with significant seasonal variations. The city's average temperature varies from 20-30°C throughout the year, with May being the hottest month

HUMIDITY
The relative humidity often exceeding 70-80%. The humidity levels vary throughout the year, with the driest months (April-May) having relatively lower humidity

WIND
Bhopal's wind patterns vary, with gentle breezes in winters and stronger winds during monsoons. Wind direction and speed change seasonally

TOPOGRAPHY AND SOIL TYPE

TOPOGRAPHY
The site has contour diffrence of 11 meters from lowest point in north east to the highest point in southwest.

SOIL TYPE
Bhopal's soil type is predominantly black cotton soil, which is rich in clay and has high water retention capacity. This type of soil is suitable for crops like cotton, wheat, and soybeans

FERTILITY - Bhopal's black cotton soil is fertile, with high nutrient content, making it suitable for agriculture. The soil's fertility is influenced by its clay content, organic matter, and nutrient-rich composition.

DRAINAGE - The black cotton soil in Bhopal has poor drainage due to its high clay content, which can lead to waterlogging. This can affect crop growth and infrastructure development.

BEARING CAPACITY - The bearing capacity of Bhopal's soil varies, but black cotton soil generally has a moderate to low bearing capacity due to its clay content. This can impact construction and infrastructure projects.

VEGETATION - The vegetation in Bhopal is diverse, with crops like cotton, wheat, soybeans, and pulses being commonly grown. The city's green cover also includes trees like teak, bamboo, and mango, which thrive in the local soil and climate conditions.

INFRENCES FROM THE SITE ANALYSIS

ORIENTATION AND VENTILATION
Orientation of the building facing towards North-East and completely covering the south west and using perforated jali patterns to filter the air flow and block summer, afternoon sun rays.

LANDSCAPING
Use of neem tree and tall trees like bamboo on the South -West of the site to cover the heat spot during summers and keep the temperature cool.

SHADING AND INSULATION
use of canopy and louvres for shading and blocking direct sunlight and incorporating green roofs , vertical gardening in the building.

FIVE STAR HOTEL

Bhopal, Madhya Pradesh

GUIDED BY : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207

ELECTIVE LANDSCAPE



SHAHDED PATHWAY
aded pathways with creepers provide comfortable, climate-responsive circulation by naturally cooling the walkway while adding visual softness, greenery, and an immersive user experience.



CURVED SITTING
The curved wooden seating creates a warm, inviting social feature that supports flexible, informal gathering and enhances the lawn's visual character through its organic, user-friendly form.



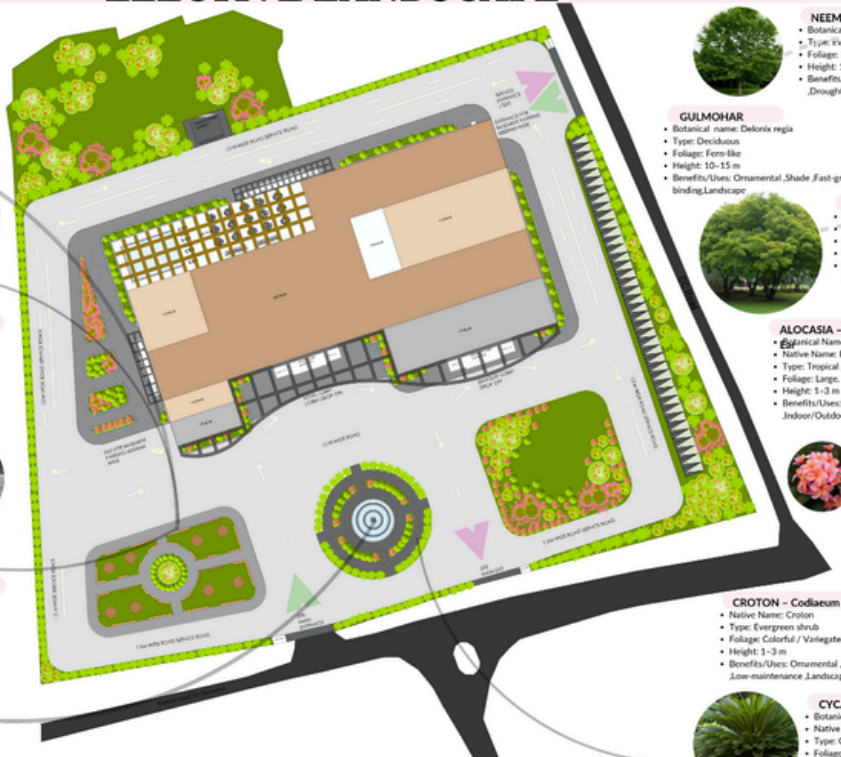
GAZEBO
Gazebos offer shaded, intimate seating zones that encourage relaxation, social interaction, and recreational use while enriching the landscape with attractive architectural elements.



PAVEMENTS
Well-designed pavements create clean, safe, and structured pedestrian movement across the site, improving accessibility, reducing dust and erosion, and enhancing the overall landscape aesthetics.



FOUNTAIN
The fountains act as major visual focal points that elevate the site's identity, enhance the arrival experience, provide cooling through evaporative effect, and create a calming ambience with the sound of water.



NEEM
- Botanical name: Azadirachta indica
- Type: Evergreen
- Foliage: Feathery
- Height: 15–20 m
- Benefits/Uses: Medicinal ,Air-purifying ,Insect-repellent ,Drought-tolerant ,Shade ,Ayurvedic, Eco-friendly



GULMOHAR
- Botanical name: Delonix regia
- Type: Deciduous
- Foliage: Fern-like
- Height: 10–15 m
- Benefits/Uses: Ornamental ,Shade ,Fast-growing ,Aesthetic, Soil-binding,Landscape

SHISHAM
- Botanical name: Dalbergia sissoo
- Type: Deciduous
- Foliage: Compound
- Height: 15–25 m
- Benefits/Uses: Timber ,Durable ,Shade ,Drought-tolerant ,Soil-stabilizing ,Medicinal ,Fast-growing



ALOCASIA – Elephant
- Botanical Name: Alocasia spp.
- Native Name: Elephant Ear
- Type: Tropical perennial
- Foliage: Large, heart-shaped
- Height: 1–3 m (depending on species)
- Benefits/Uses: Ornamental ,Tropical look ,Indoor/Outdoor ,Air-purifying ,Statement plant

PLUMERIA – Champa
- Botanical Name: Plumeria spp.
- Native Name: Champa / Frangipani
- Type: Deciduous ornamental tree
- Foliage: Thick, leathery
- Height: 5–10 m
- Benefits/Uses: Fragrant ,Ornamental ,Sacred ,Low maintenance ,Drought-tolerant ,Tropical appeal



CROTON – Codiaeum variegatum
- Native Name: Croton
- Type: Evergreen shrub
- Foliage: Colorful / Variegated
- Height: 1–3 m
- Benefits/Uses: Ornamental ,Colourful foliage ,Indoor/Outdoor ,Low-maintenance ,Landscape-friendly

CYCAS – Sago Palm
- Botanical Name: Cycas revoluta
- Native Name: Sago Palm
- Type: Gymnosperm / Ornamental palm-like
- Foliage: Stiff, feathery
- Height: 1–3 m
- Benefits/Uses: Ornamental ,Low-maintenance ,Evergreen ,Drought-tolerant ,Structural form



HIGHEST CONTOUR

LOWEST CONTOUR

FIVE STAR HOTEL

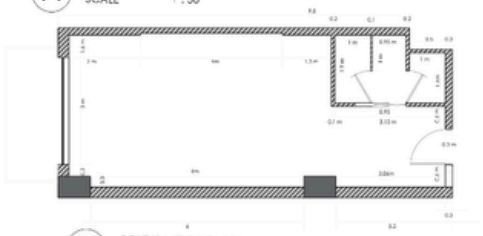
Bhopal, Madhya Pradesh

Guided By : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207



A PRESENTATION PLAN (QUEEN SUITE)
SCALE 1 : 50



D BRICKWORK PLAN
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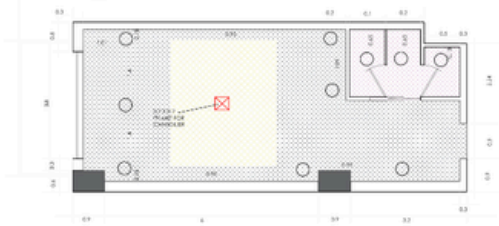

G FALSE CEILING LAYOUT
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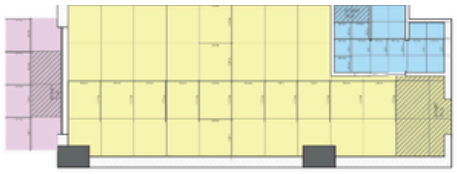

E FLOORING LAYOUT
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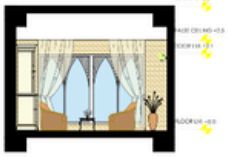

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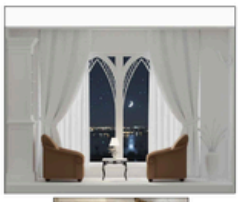







B SECTION AA
SCALE 1 : 50



C SECTION BB
SCALE 1 : 50

MATERIAL USED :

1. PLYWOOD
2. ALUMINIUM
3. CERAMIC TILES
4. PU FURNITURE FINISH
5. FABRIC CURTAINS
6. GLASS
7. LEATHER
8. WALLPAPER

KEY PLAN:-

SHCEDULES

REVISIONS : --

Rev	Date	Description	Appr'd

NOTES :-

GRID : 0000 MM X 0000 MM	
DATE	01/12/2025
DRAWN BY	MONISHKA SINGH NAMDEO
CHECKED BY	DR. RAGHREE KAMATH
PROJ. CODE	
DRG.NO.	AR-01
SCALE	

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : ELECTIVE 2 (INTERIOR DESIGN)

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INDIA - 462003

SITE ANALYSIS

Name of the Project : Proposed 5 star hotel.

Location : Shyamla Hills, Bhopal, towards eastern side of Upper lake Madhyapradesh

Site Coordinates: 23°14'35.36"N 77°23'16.11"E





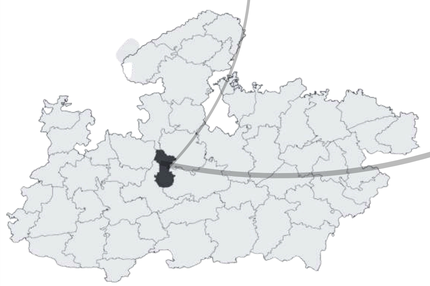
Bhopal,
Madhyapradesh



Existing MPT Lakeview residency hotel

Shyamla Hills

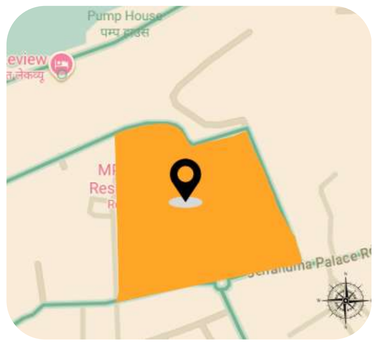




SUMMER SUN NORTH-EAST TO NORTH WEST

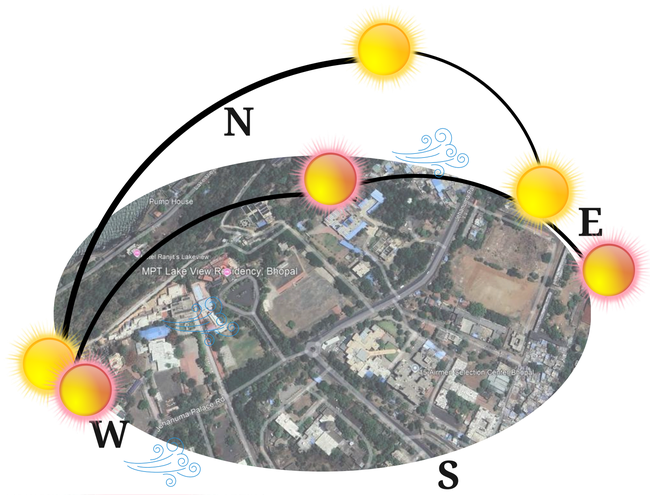
WINTER SUN SOUTH-EAST TO SOUTH WEST

WIND



SITE LAKE

ROADWAYS OTHERS PROPERTY



Proposing Agency: Madhya Pradesh Tourism Board (MPT), operating under the Department of Tourism

Project Details: The site is strategically located in Shyamala Hills which is a prominent residential and commercial area in Bhopal. The area houses upscale neighbourhood, aesthetic landscapes, and convenient proximity to the city center and airport.

Approach Road: 24 mts wide , primary access road , Jehan Numa Palace Road

Site Boundaries: North - Green zone adjacent to Bhopal Upper lake.
South-Aadjacent24 mts wide , primary access road , Jehan Numa Palace Road.
East - Others property.
West - Others property.

S.NO.	DESCRIPTION	PROPOSED
1.	Site Area(in acres)	7.16
2.	Site Area(in sqmt)	28975.5
3.	FAR	2
4.	Maximum Permissible Height(in meters)	30
5.	Offsets (Front margin)in meters	12
6.	Offsets (other sides)in meters	7.5
7.	Basements	3 floors
8.	Podium	3 floors

CONECTIVITY TO THE SITE

Bhopal Junction Railway Station : 5.2km
Rani Kamalapati Railway Station : 6.9km

Ravindra Bhawan Bus Stop: 0.3km
ISBT Bus stand :7 km

Aarogya Hospital : less than 1km

Raja Bhoj International Airport : 13km

MPT Lake View Residency in Bhopal receives its power supply from Madhya Pradesh Madhya Kshetra Vidyut Vitaran Co. Ltd

TOURIST ATTRACTIONS

1. Upper Lake (Bhojtal) : 0.6 km
2. Indira Gandhi Rashtriya Manav Sangrahalaya : 0.9 km
3. State Museum, Bhopal : 0.75km
4. Gohar Mahal : 1.5km
5. Shaukat Mahal : 5.1km
6. Van Vihar National Park
7. Madhya Pradesh Tribal Museum : 1.1km
8. Sadar Manzil : 4.8km
9. Taj-ul-Masjid ; 3km
10. Bharat Bhavan : 0.6 miles

CLIMATE ANALYSIS

Shyamla Hills in Bhopal, located near the Upper Lake, experiences a tropical wet and dry climate with moderate temperatures due to the lake's cooling effect. Summers are hot (30°C–45°C), but the lake reduces heat intensity. Monsoons bring high rainfall (~1146 mm annually), enhancing local humidity and greenery. Winters are mild and pleasant, with temperatures ranging from 7°C to 15°C. The lake's proximity creates a cooler, more comfortable microclimate year-round.

RAINFALL
Bhopal receives an average annual rainfall of around 1123mm to 1146mm. August is the wettest month with an average rainfall of 363.3mm.April is the driest month, with an average rainfall of only 4.3mm

TEMPERATURE
Temperature ranges from hot summers (up to 40°C) to mild winters (around 10°C), with significant seasonal variations. The city's average temperature varies from 20-30°C throughout the year, with May being the hottest month

HUMIDITY
The relative humidity often exceeding 70-80%. The humidity levels vary throughout the year, with the driest months (April-May) having relatively lower humidity

WIND
Bhopal's wind patterns vary, with gentle breezes in winters and stronger winds during monsoons. Wind direction and speed change seasonally

TOPOGRAPHY AND SOIL TYPE

TOPOGRAPHY
The site has contour diffrence of 11 meters from lowest point in north east to the highest point in southwest.

SOIL TYPE
Bhopal's soil type is predominantly black cotton soil, which is rich in clay and has high water retention capacity. This type of soil is suitable for crops like cotton, wheat, and soybeans

FERTILITY - Bhopal's black cotton soil is fertile, with high nutrient content, making it suitable for agriculture. The soil's fertility is influenced by its clay content, organic matter, and nutrient-rich composition.

DRAINAGE - The black cotton soil in Bhopal has poor drainage due to its high clay content, which can lead to waterlogging. This can affect crop growth and infrastructure development.

BEARING CAPACITY - The bearing capacity of Bhopal's soil varies, but black cotton soil generally has a moderate to low bearing capacity due to its clay content. This can impact construction and infrastructure projects.

VEGETATION - The vegetation in Bhopal is diverse, with crops like cotton, wheat, soybeans, and pulses being commonly grown. The city's green cover also includes trees like teak, bamboo, and mango, which thrive in the local soil and climate conditions.

INFRENCES FROM THE SITE ANALYSIS

ORIENTATION AND VENTILATION
Orientation of the building facing towards North-East and completely covering the south west and using perforated jali patterns to filter the air flow and block summer, afternoon sun rays.

LANDSCAPING
Use of neem tree and tall trees like bamboo on the South -West of the site to cover the heat spot during summers and keep the temperature cool.

SHADING AND INSULATION
use of canopy and louvres for shading and blocking direct sunlight and incorporating green roofs , vertical gardening in the building.

FIVE STAR HOTEL

Bhopal, Madhya Pradesh

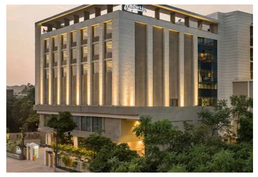
GUIDED BY : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207

CASE STUDIES AND INFERENCES







Spaces	Case Study 1 (Taj Lakefront, Bhopal)	Desk Appraisal 1 (Avasa, Hyderabad)	Desk Appraisal 2 (Westin Gurgaon)	Case Study 2 (Radisson hotel ,Bhopal)	Inferences
Front desk	40	32	35	30	Front desk 40
Lounges	140	76.6	74.6	60	Lounges 140
Bell area	16	18	18	14	Bell area 16
Business centre	26.5	36	30	25	Business centre 36
Retail shop	30	40	40	30	Retail shop 40
Pre-function	80	60	60	50	Pre-function 80
Ballroom	560	840	840	560	Ballroom 840
Swimming pool	35	560	50	140	Swimming pool 560
Gym	30	40	40	50	Gym 50
Spa	40	50	55	55	Spa 55
Salon	15	16.1	20	20	Salon 20
Double bed rooms	33	35	30	30	Double bed rooms 35
Twin bed rooms	31	30	35	27	Twin bed rooms 35
Suites	70	75	75	70	Suites 75
Main kitchen	115	115	115	115	Main kitchen 115
Pantry	20	20	20	20	Pantry 20
Dishwash	30	30	30	28	Dishwash 30
Cold kitchen	20	20	20	20	Cold kitchen 20
Hot kitchen	40	40	40	40	Hot kitchen 40
Bakery	30	30	30	30	Bakery 30
Bar counter	64.3	64.3	64.3	64.3	Bar counter 64.3
Housekeeper office	15	15	15	15	Housekeeper office 15
Linen room	20	20	20	20	Linen room 20
Bulk store	30	30	30	30	Bulk store 30

INFERENCES

1. Basement 1 & 2 can be used for parking whereas basement 3 can completely be used for services like water tanks etc.
2. If big banquet hall is provided then it can also be convertible into 3 parts for various different events.
3. Kitchen should be provided into 4 zones yellow preparation , green storage, blue cleaning , red cooking.
4. Plumbing shafts should be coomon in guest rooms and terminate inservice floor.
5. Guest floor can be different in each floor to have different identity inspite of being idedentical.
6. Guest rooms should be smoking or non smoking sprinklers will only be present on smoking rooms.

CONCEPT AND ZONING

THE BEGUM'S MODERNITY

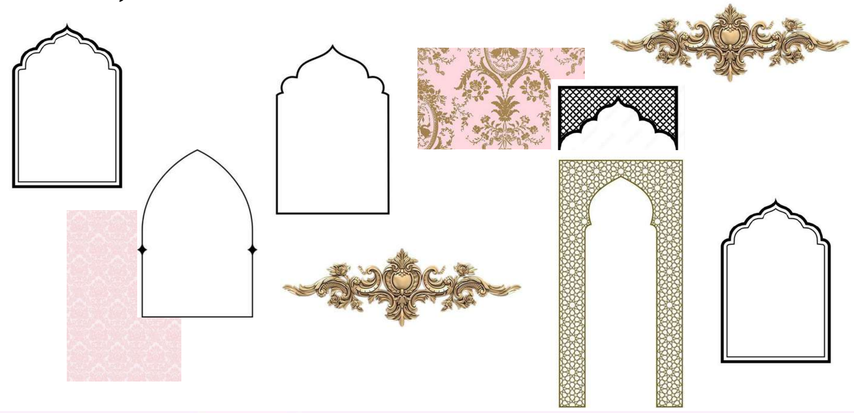
Minimalist Modern Luxury Rooted in the Progressive Feminine Legacy of the Begums of Bhopal

"The Begum's Modernity" is a design concept that merges clean contemporary minimalism with the refined elegance, strength, and progressive vision of the Begums who ruled Bhopal. The concept draws inspiration from how the Begums balanced tradition with advancement, becoming some of India's earliest female leaders who modernized the city while preserving its cultural identity.
This duality—heritage and modernity, softness and power—forms the core of the hotel's architectural and interior language.

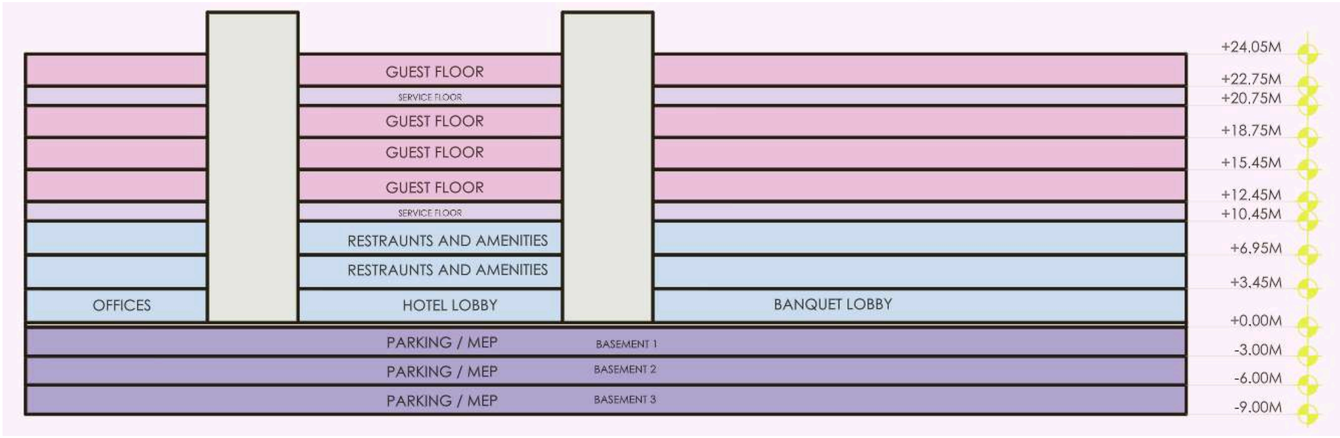
Concept Essence

- Minimalism = Modern Progressiveness
- Reflects the forward-thinking governance of the Begums, who introduced reforms, education, infrastructure, and modern planning to Bhopal.
- Vintage Elegance = Feminine Royalty
- Expressed through soft curves, subtle ornamentation, and delicate elements inspired by the Begums' palaces, textiles, and personal artefacts.
- Balance of Strength & Grace
- Modern straight lines softened by gentle curves represent the Begums' poised authority.

SHAPES , PATTERNS AND TEXTURES



VERTICAL ZONING

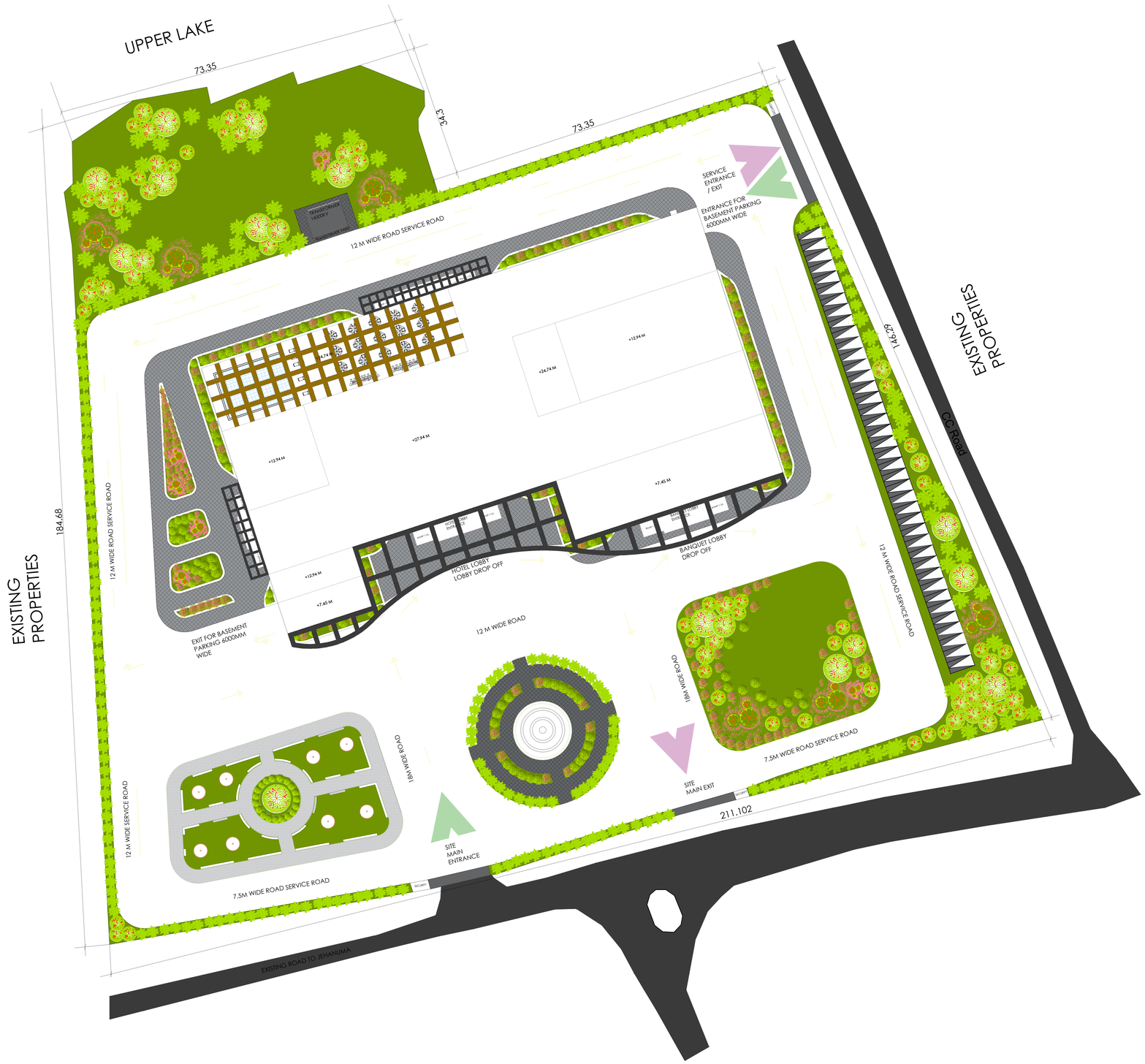


FIVE STAR HOTEL

Bhopal, Madhya Pradesh

GUIDED BY : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207



A SITE PLAN
SCALE 1 : 500

KEY PLAN:- SCALE-1:1000

SHCEDULES

SITE AREA AND BUILDING CALCULATION	
SITE LOCATION	MPT LAKEVIEW RESIDENCY , SHYAMALA HILLS , BHOPAL
SITE COORDINATES	23°14'35.36"N 77°23'16.11"E
SITE AREA	7. 16 ACRES , 28975.5 SQ M
MAX.GROUND COVERAGE	30% 8792.65 SQ M
FAR	2
BUILT UP AREA	
MAX HEIGHT	30 M
MAX. BASEMENT	3
HOTEL GROUND COVER	6103 SQ M
TRANFORMER YARD	12 X 8 M

REVISIONS :–

Rev.	Date	Description	Appr'd

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SITE PLAN

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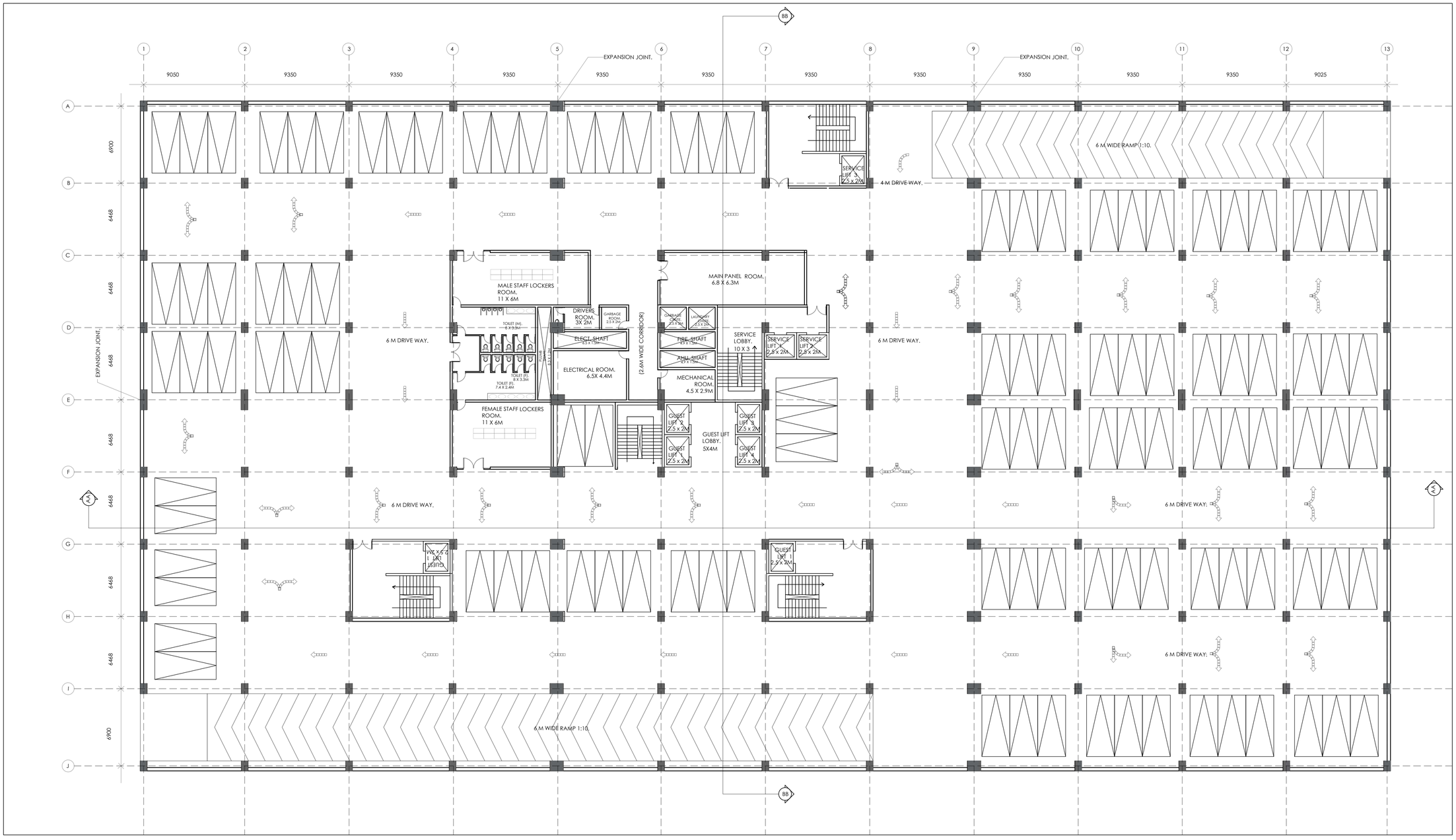

A BASEMENT 1

SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL
BASEMENT 1	111	345
BASEMENT 1	115	
BASEMENT 1	119	

KEY PLAN:- SCALE-1:1000

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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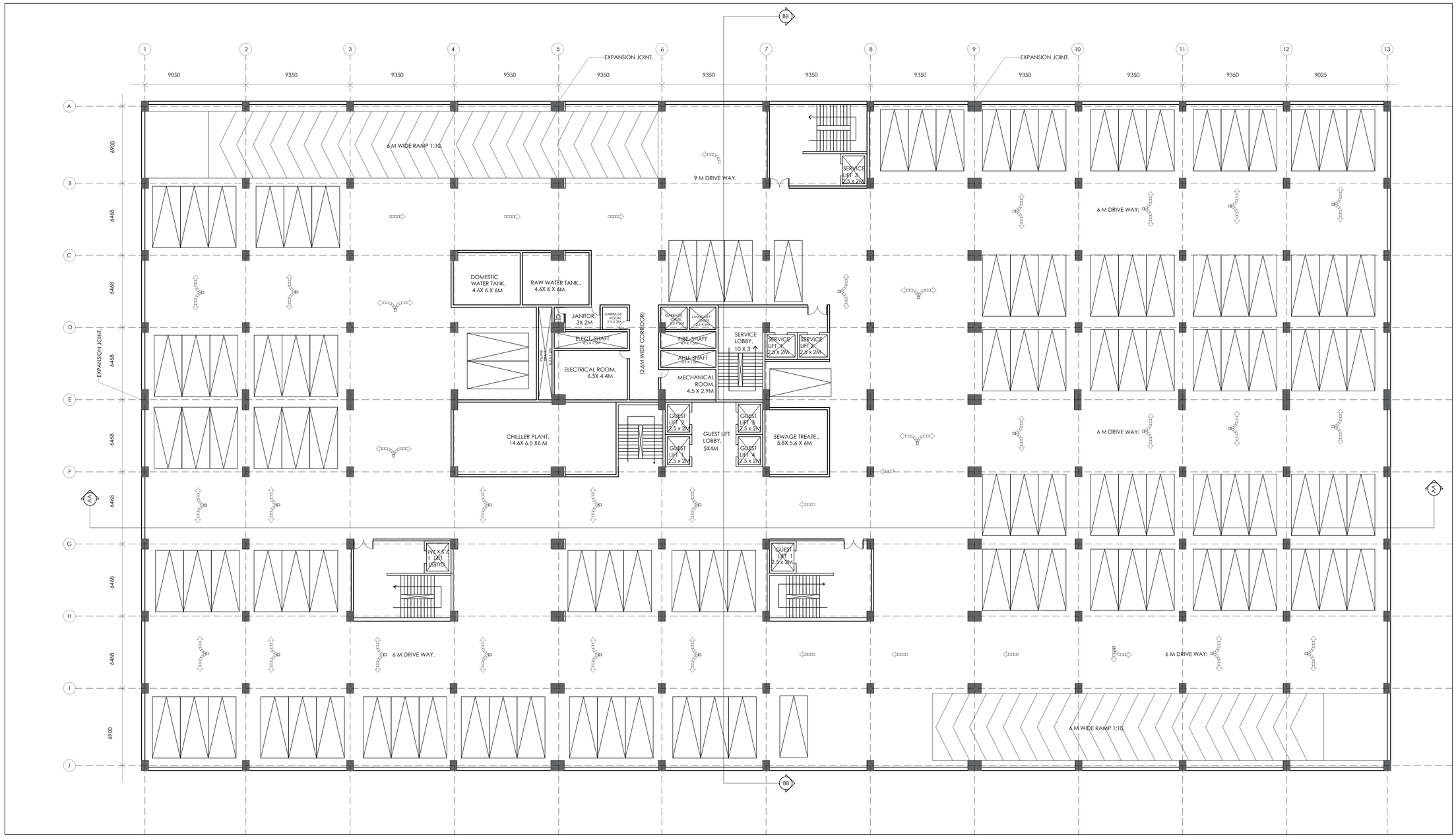

A BASEMENT 2
SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL
BASEMENT 1	111	345
BASEMENT 1	115	
BASEMENT 1	119	

KEY PLAN:- SCALE-1:1000

SHCEDULES

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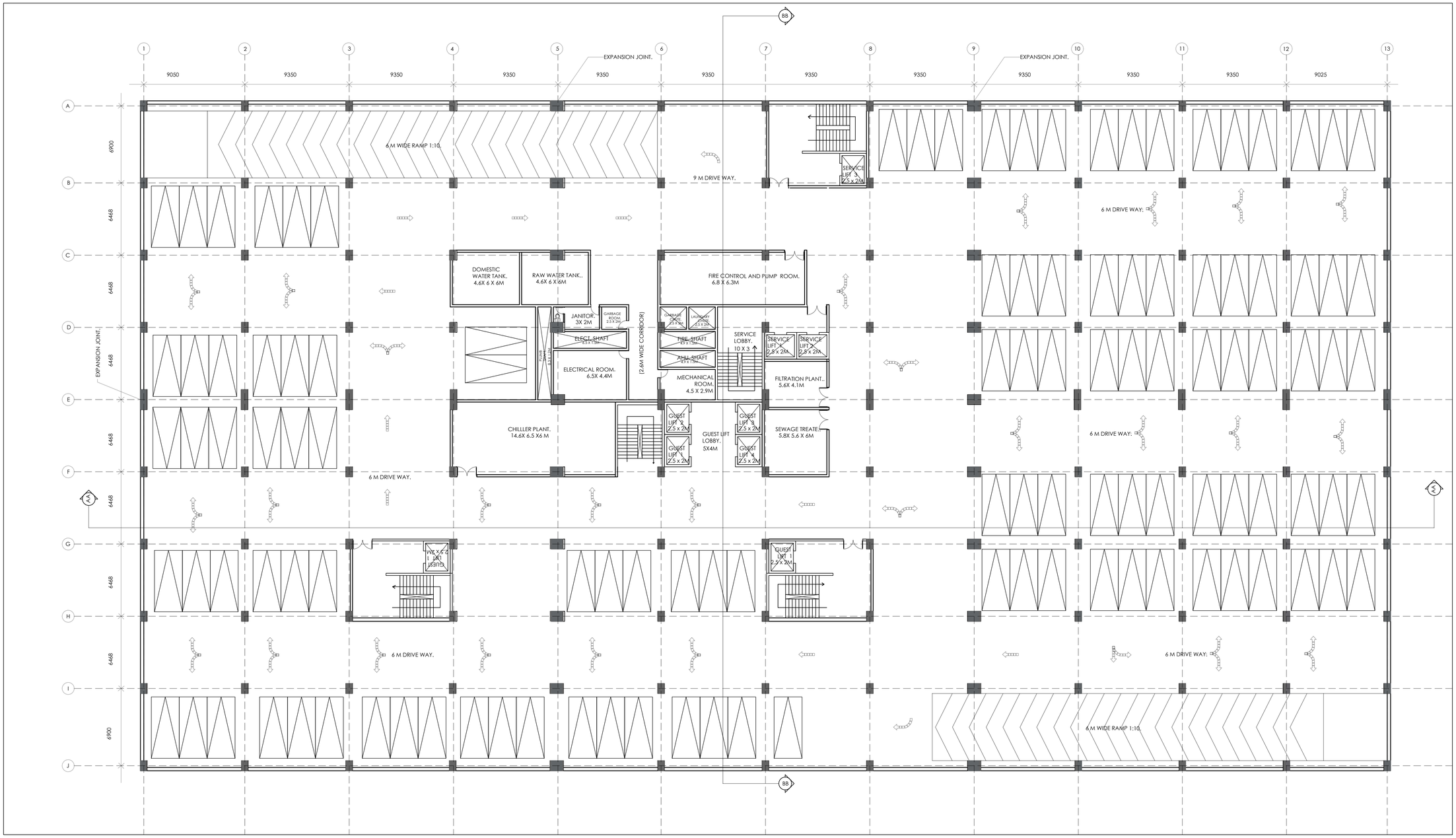

A BASEMENT 3
SCALE 1 : 200

BASEMENT	TOTAL NO. OF PARKING	TOTAL
BASEMENT 1	111	345
BASEMENT 1	115	
BASEMENT 1	119	

KEY PLAN:- SCALE-1:1000

SHCEDULES

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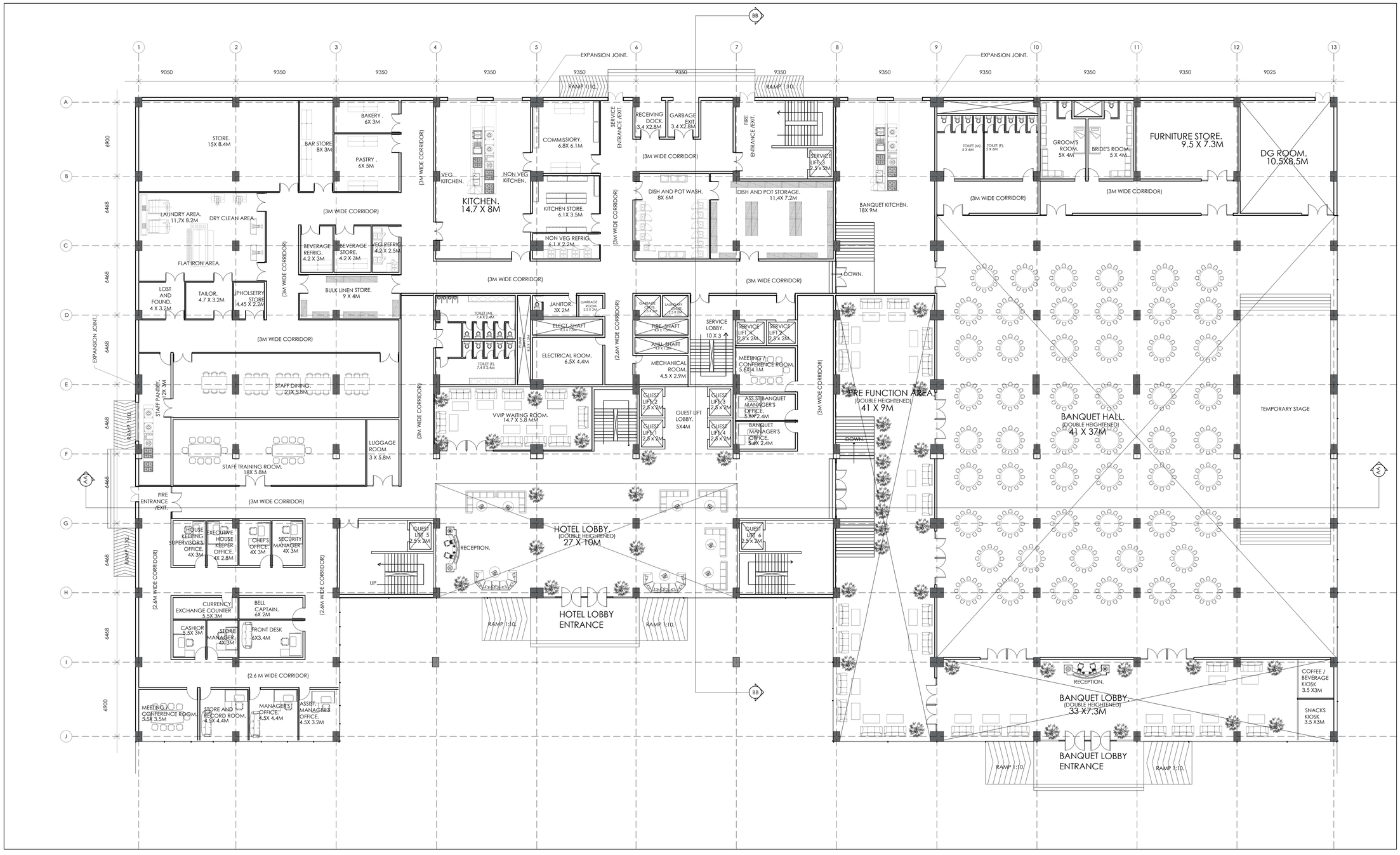

A GROUND FLOOR PLAN

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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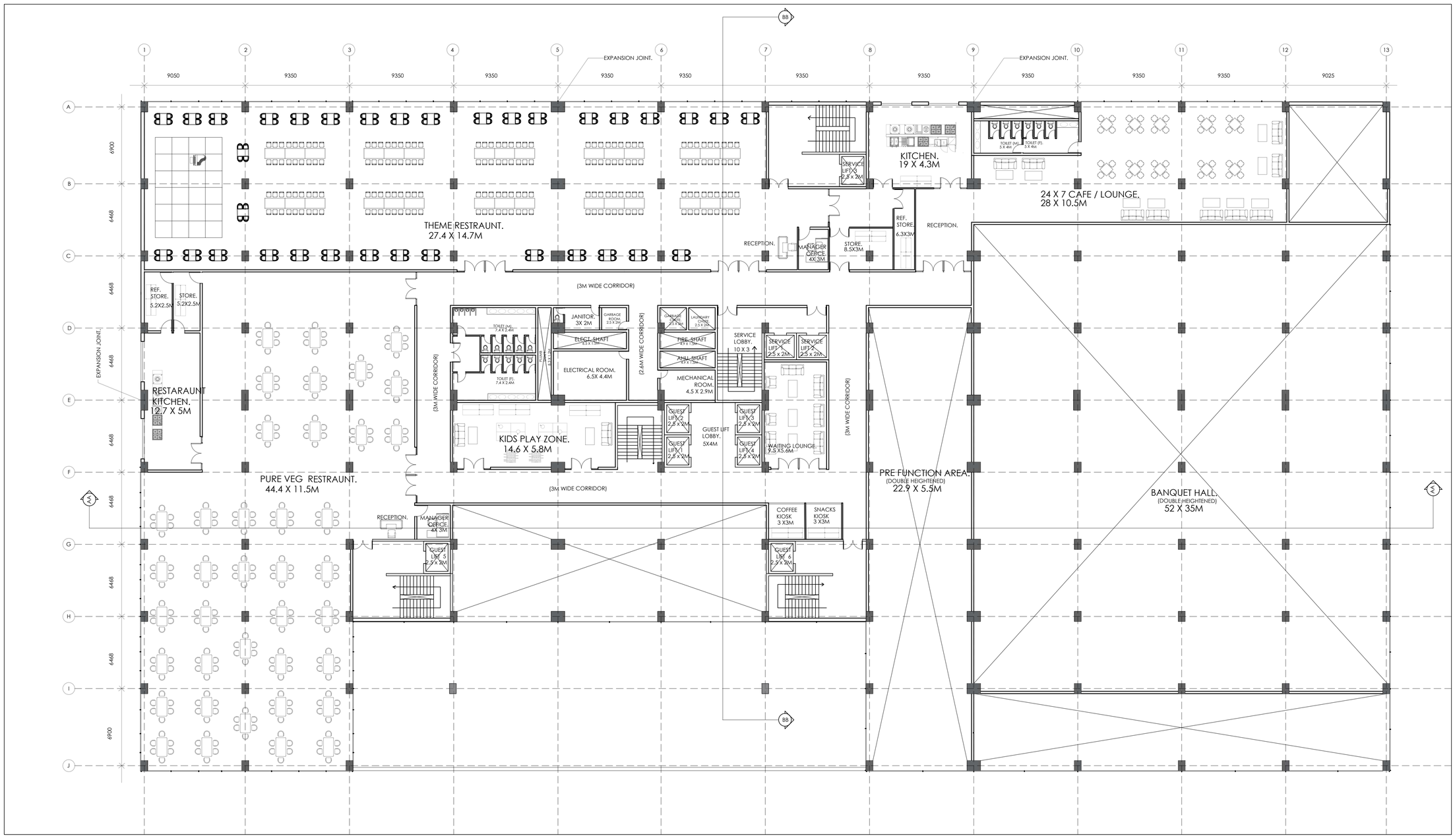

A RECREATIONAL FIRST FLOOR PLAN 1st

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

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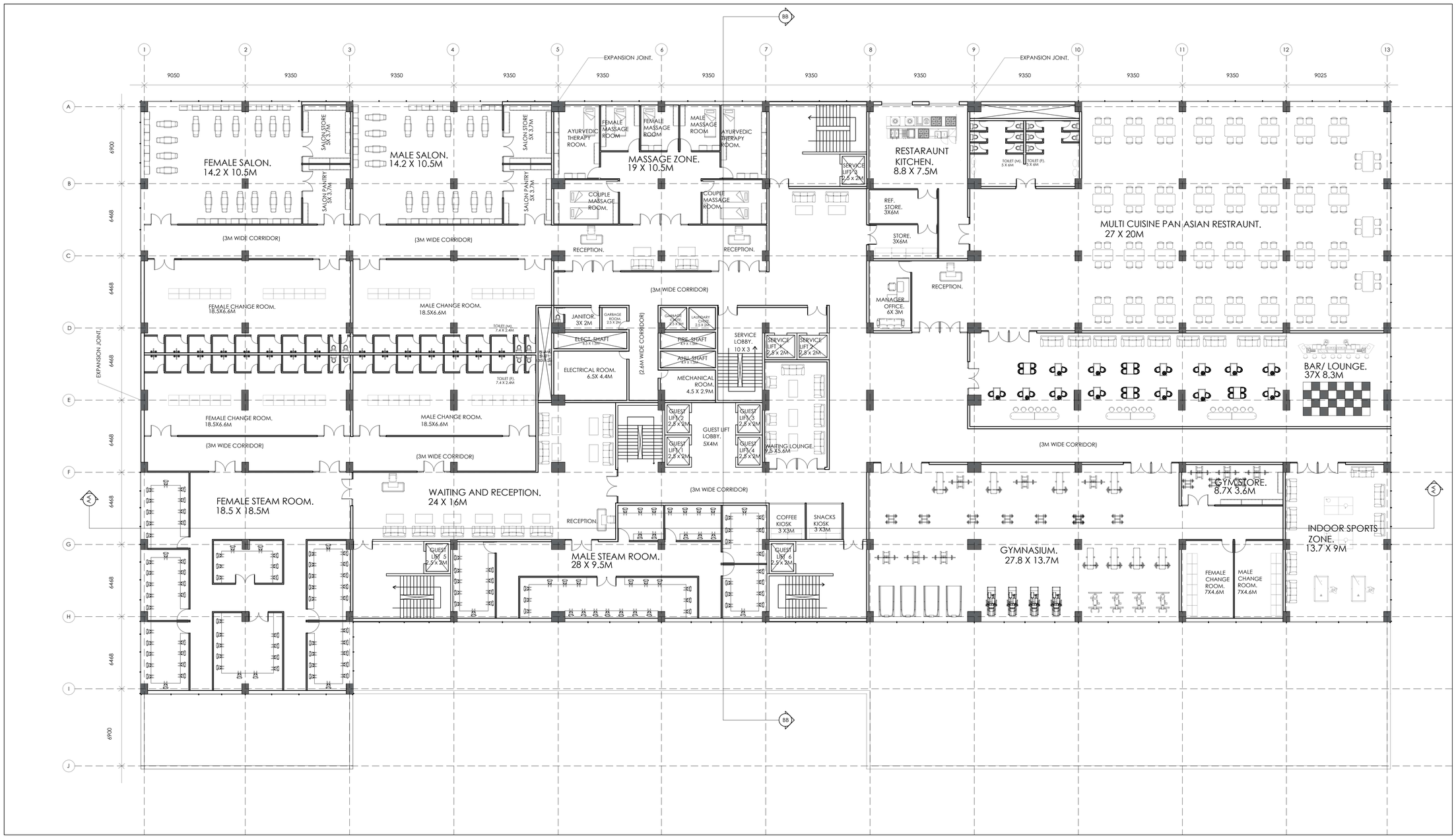

A RECREATIONAL SECOND FLOOR PLAN 2nd

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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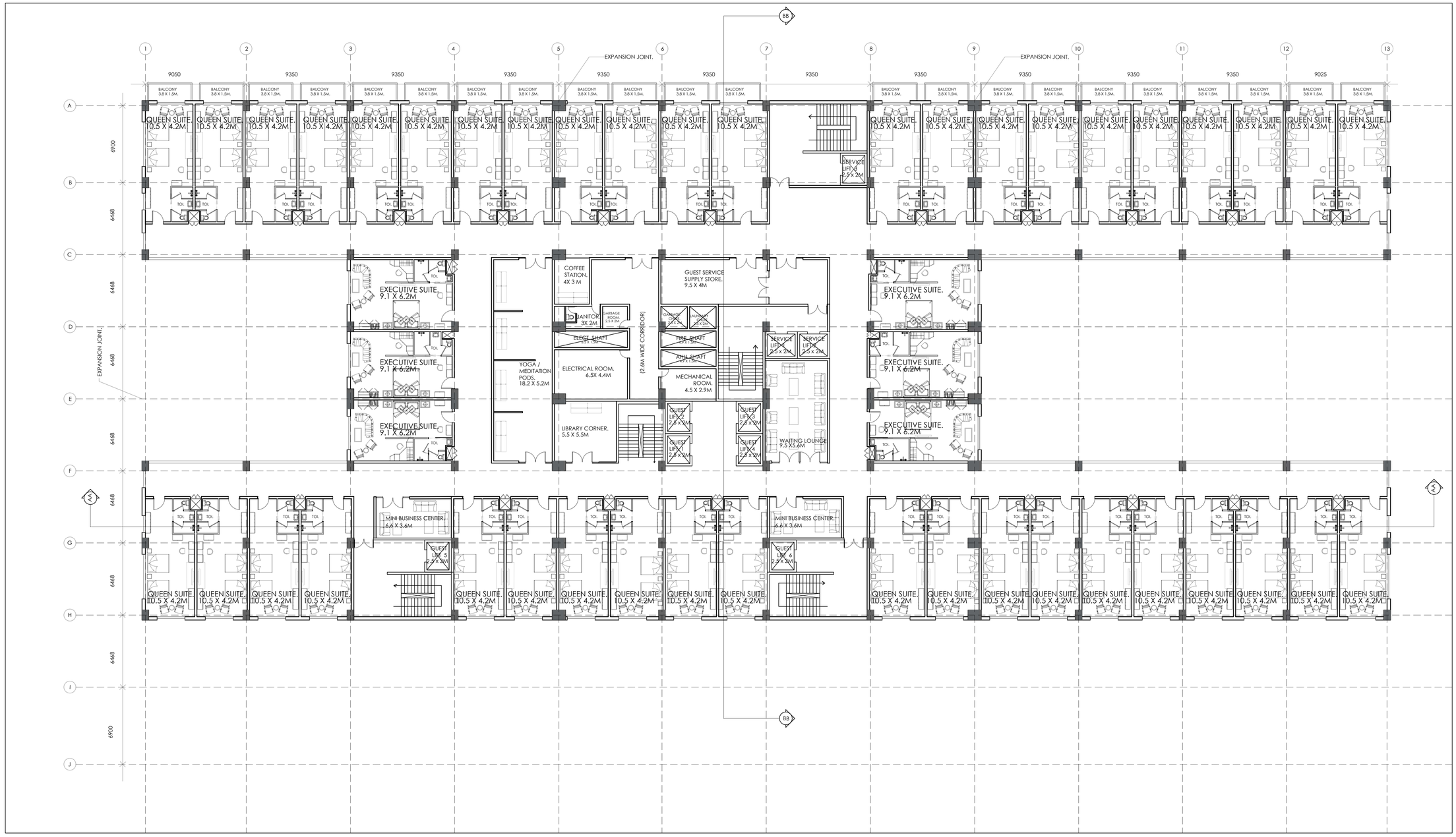

SUITES	NO. OF ROOMS	TOTAL
QUEEN SUITES	42	48
EXECUTIVE SUITES	6	
KING SUITES	0	
PRESIDENTIAL SUITES	0	96

A TYPICAL GUEST FLOOR PLAN 3rd - 4th

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

REVISIONS :–

Rev.	Date	Description	Appr'd

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GUIDED BY	DR. RAJSHREE KAMATH
PROJ. CODE.	
DRG.NO.	AR-01
SCALE	

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : FLOOR PLANS

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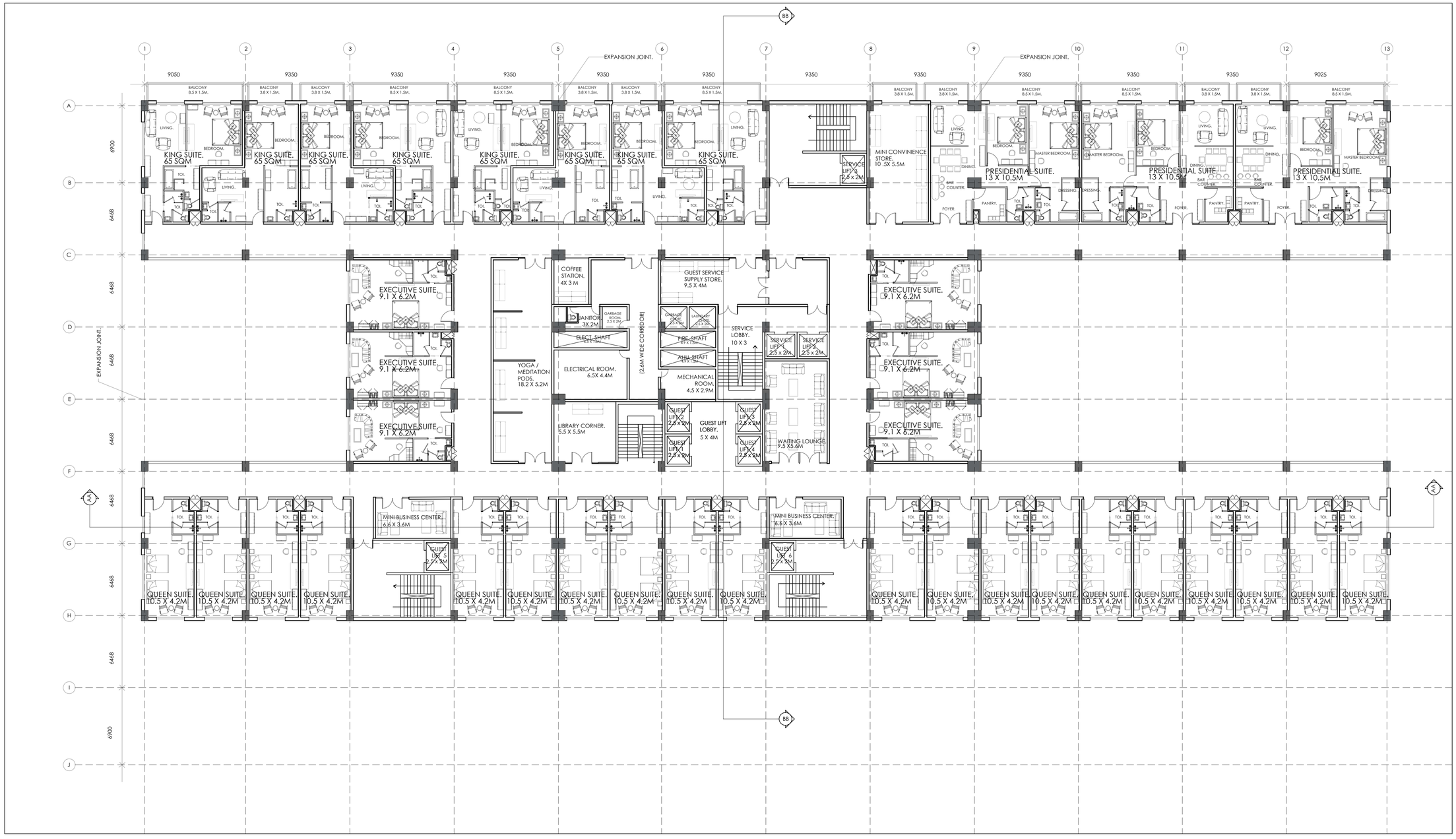
INDIA - 462003



SUITES	NO. OF ROOMS	TOTAL
QUEEN SUITES	20	37
EXECUTIVE SUITES	6	
KING SUITES	8	
PRESIDENTIAL SUITES	3	

A TYPICAL GUEST FLOOR PLAN 5th

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

REVISIONS :—

Rev.	Date	Description	Appr'd

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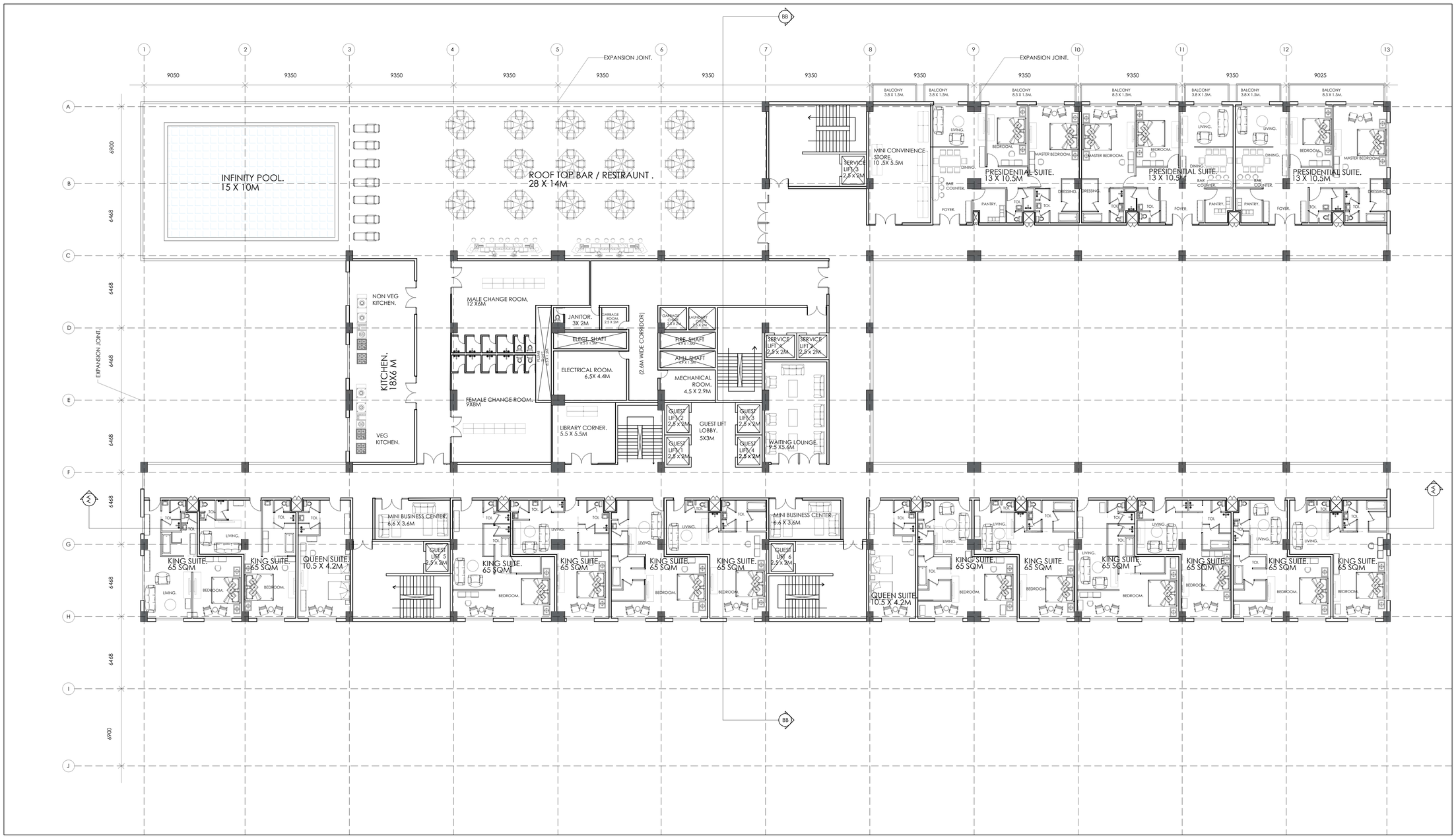

A TYPICAL GUEST FLOOR PLAN 6th

SCALE 1 : 200

SUITES	NO. OF ROOMS	TOTAL
QUEEN SUITES	2	17
EXECUTIVE SUITES	0	
KING SUITES	12	
PRESIDENTIAL SUITES	3	

KEY PLAN:- SCALE-1:1000

SHCEDULES

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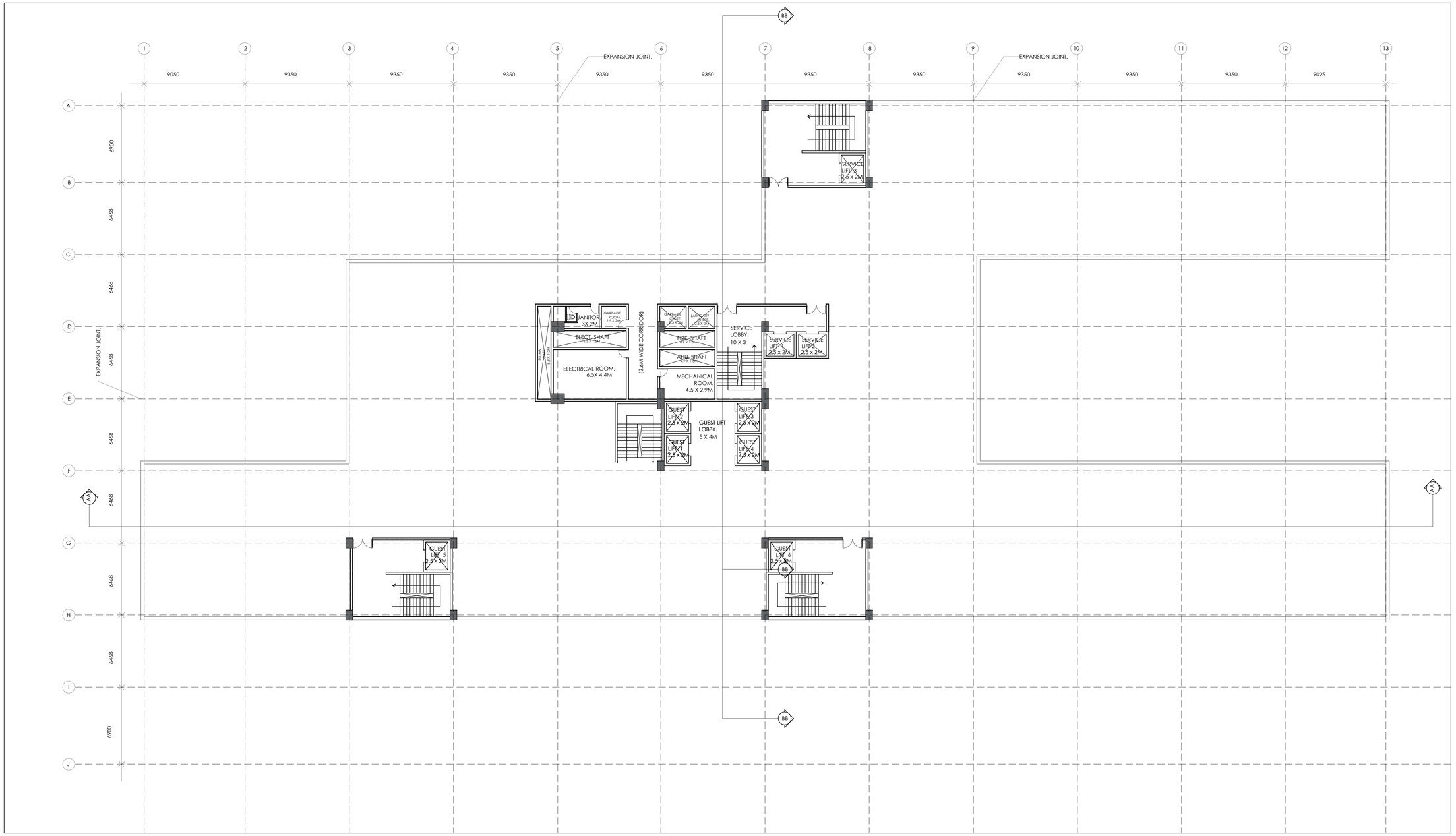

A TERRACE FLOOR PLAN

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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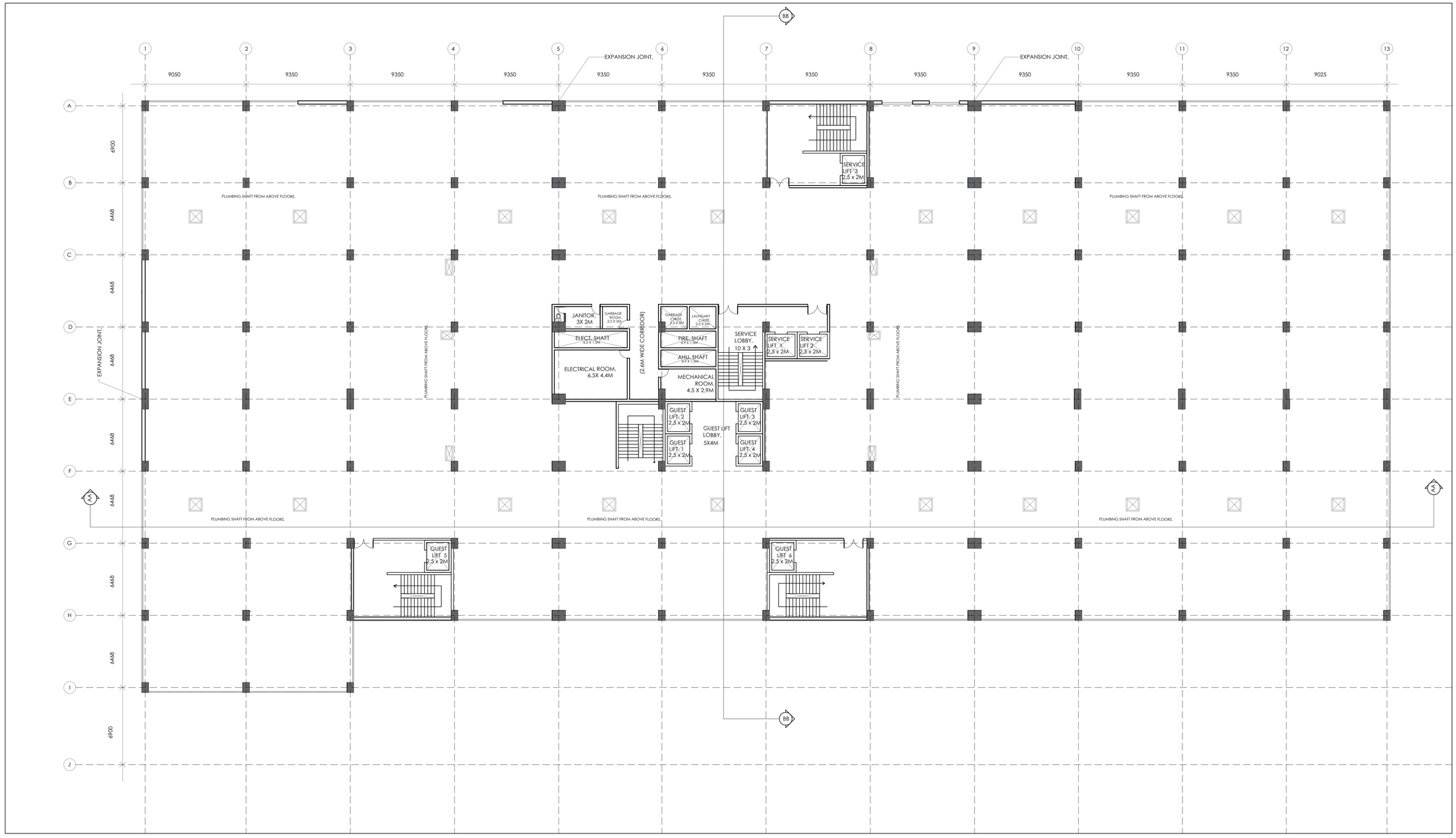

A SERVICE FLOOR 2.5 (ABOVE RECREATIONAL AND BELOW GUEST FLOORS)

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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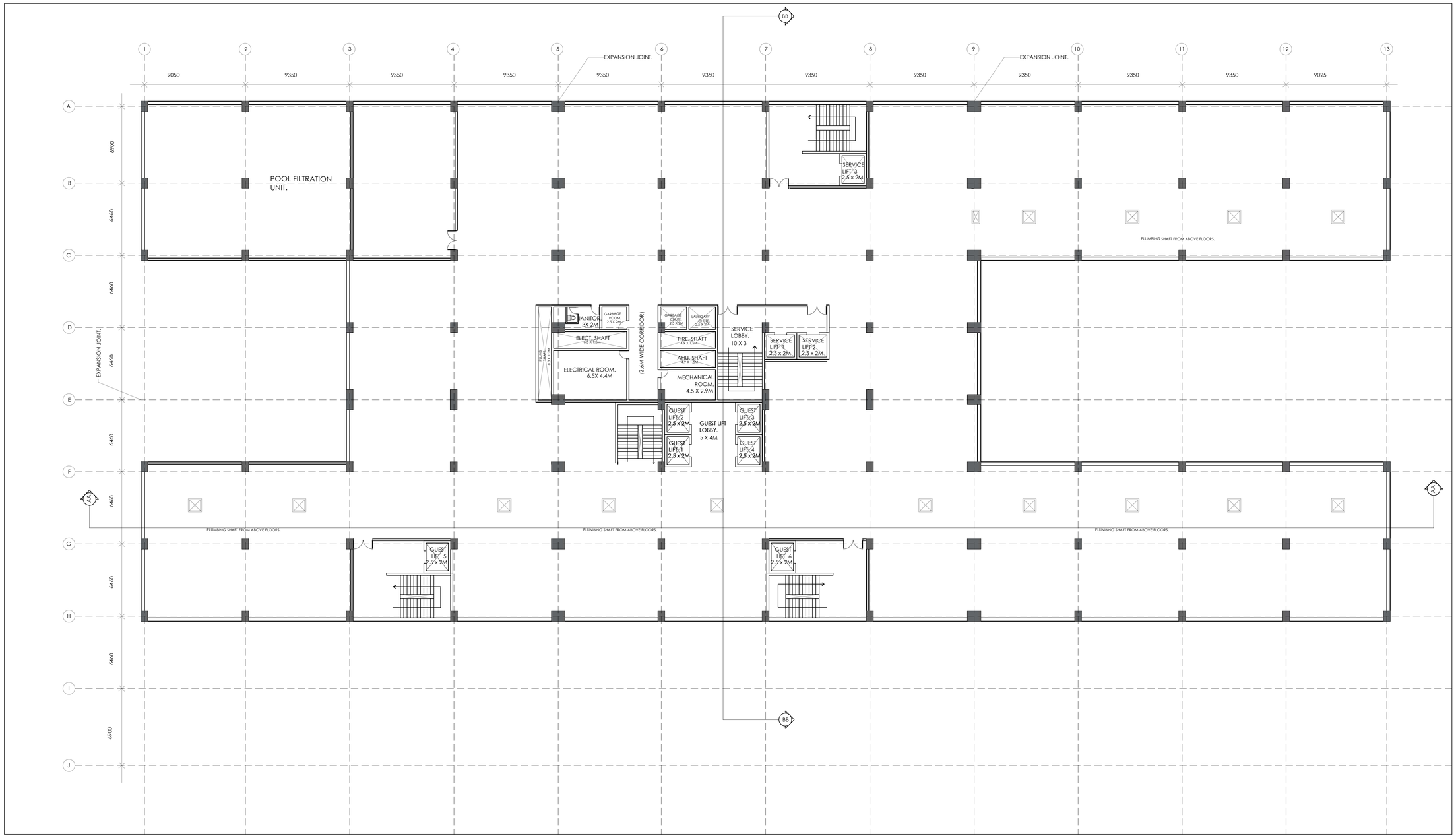

A SERVICE FLOOR 5.5 (ABOVE 5th GUEST FLOOR AND BELOW 6th GUEST FLOOR)

SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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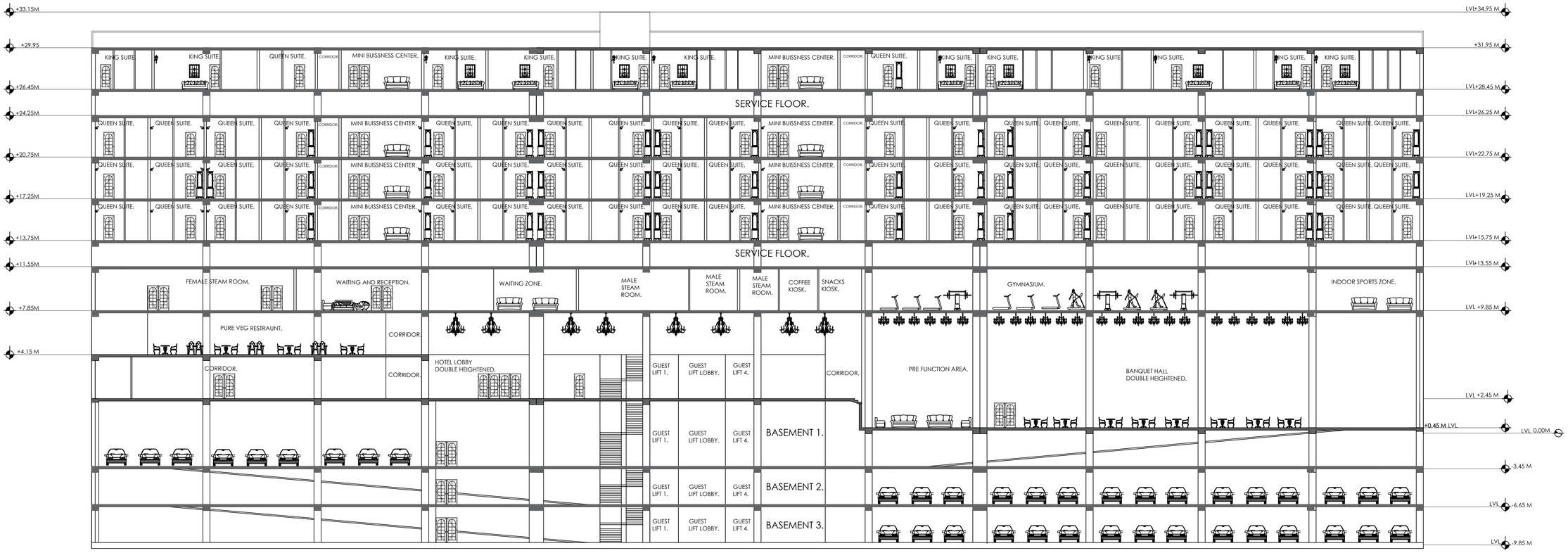

A SECTION AA
SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : SECTIONS

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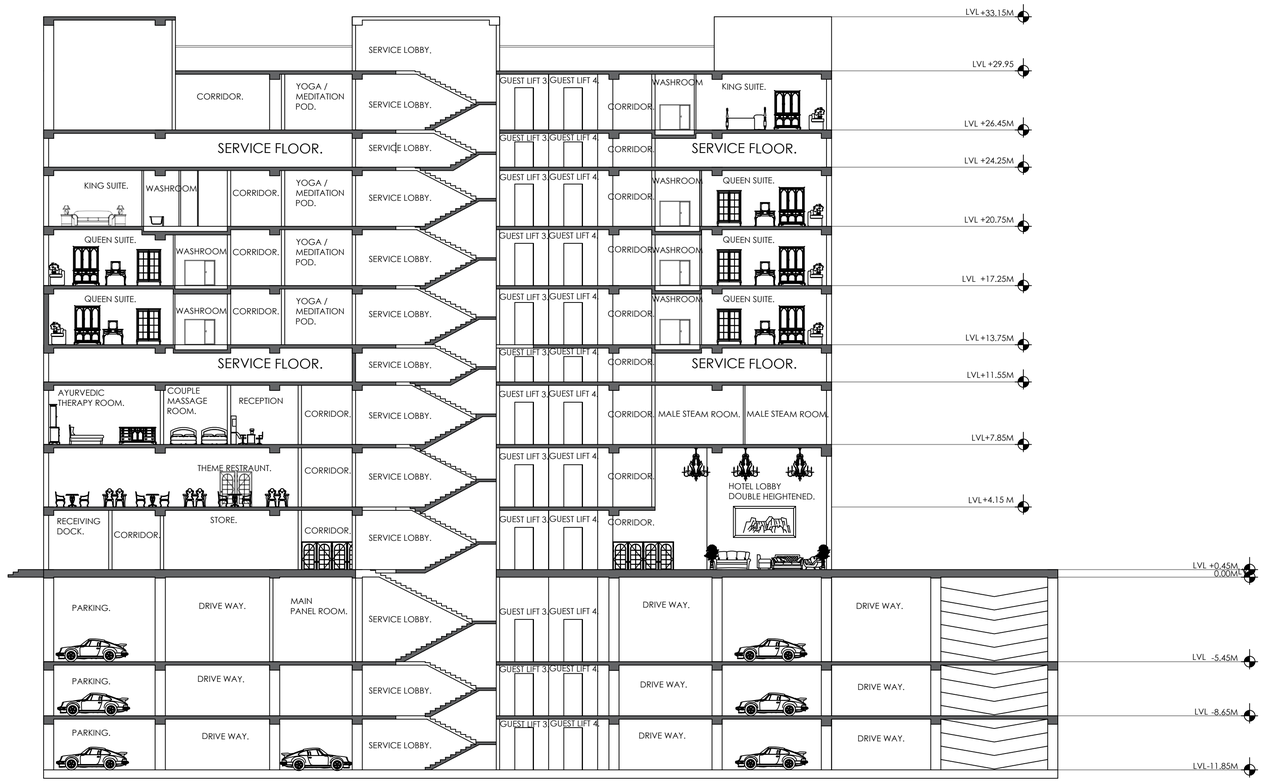

A SECTION BB
SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

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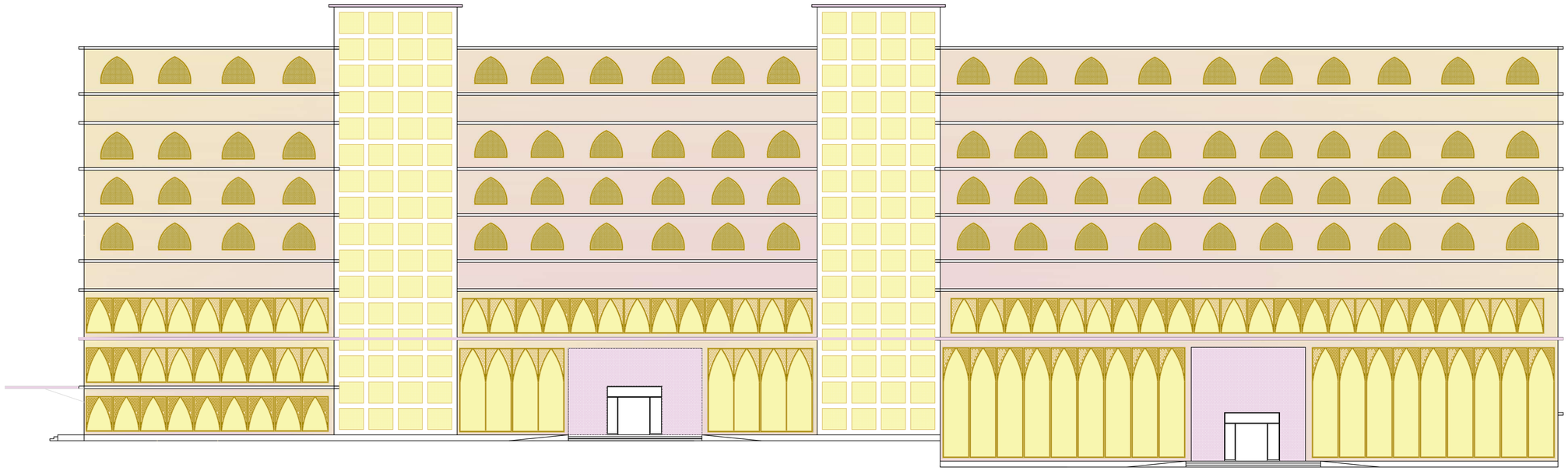
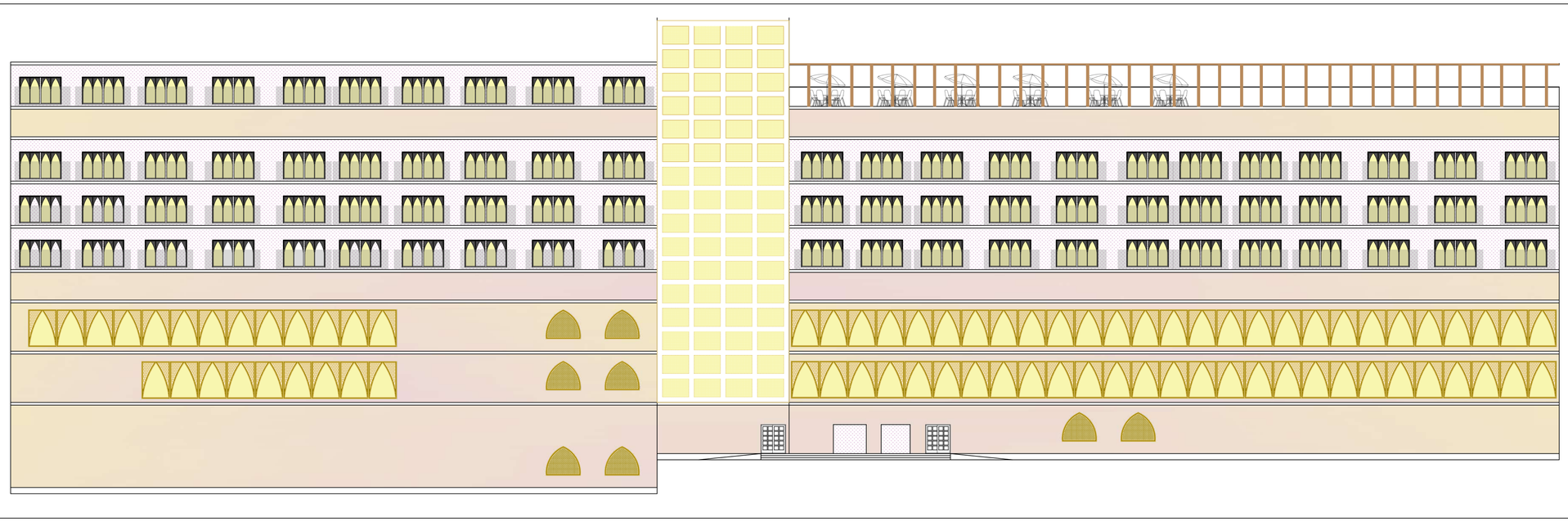


A FRONT ELEVATION
SCALE 1 : 200



A BACK ELEVATION
SCALE 1 : 200

KEY PLAN:- SCALE-1:1000

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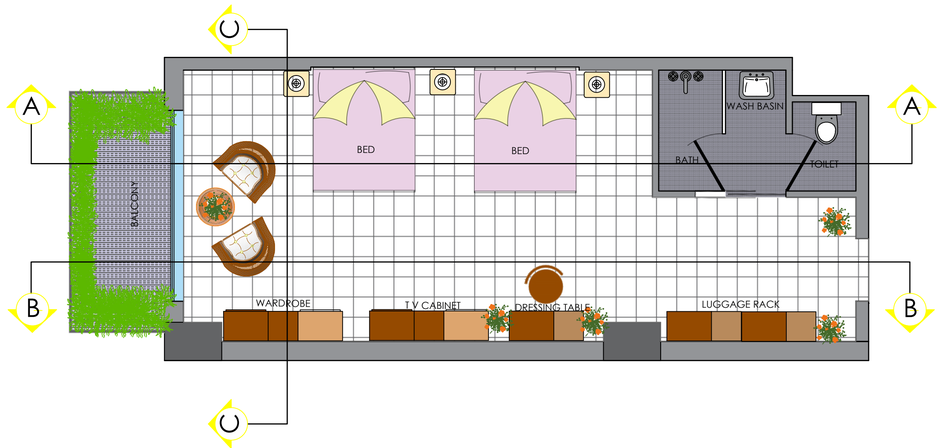
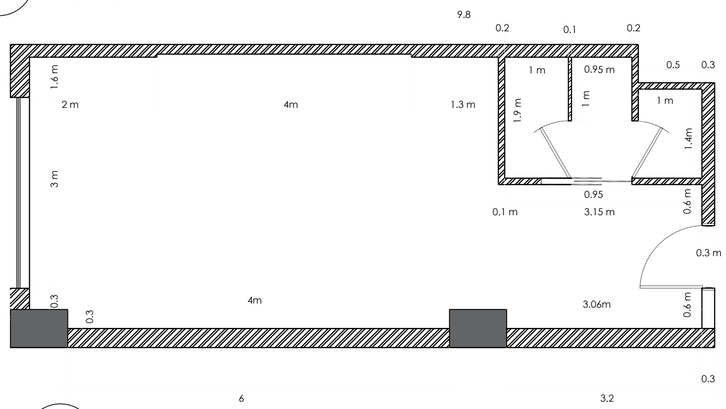
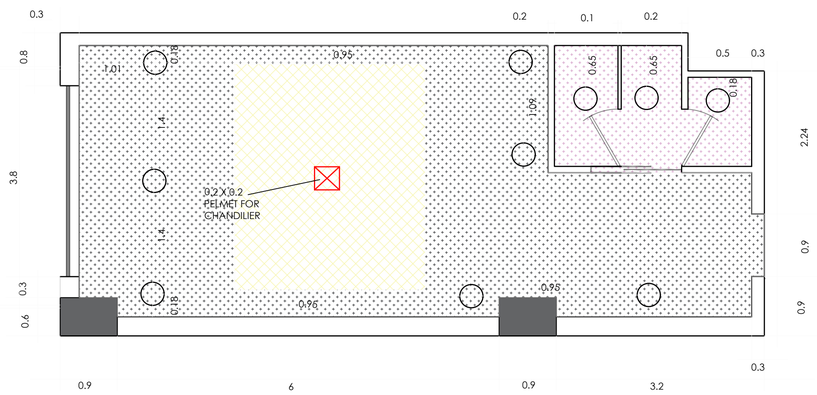


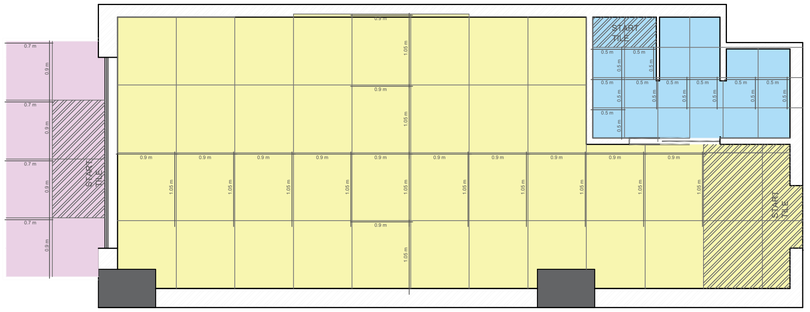
A PRESENTATION PLAN (QUEEN SUITE)
SCALE 1 : 50



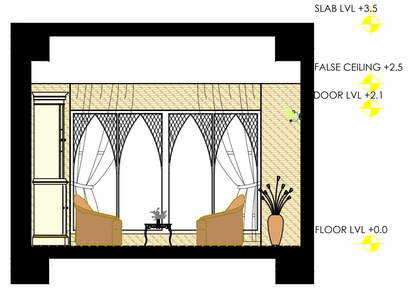
D BRICKWORK PLAN
SCALE 1 : 50



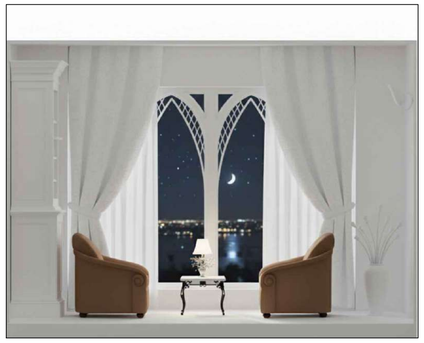
G FALSE CEILING LAYOUT
SCALE 1 : 50



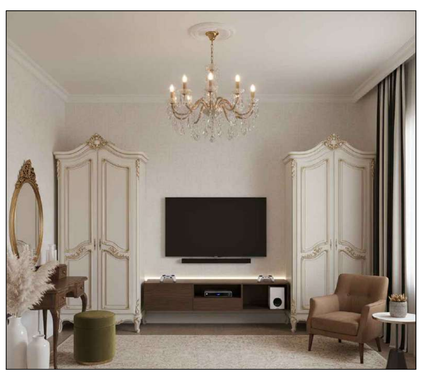
E FLOORING LAYOUT
SCALE 1 : 50

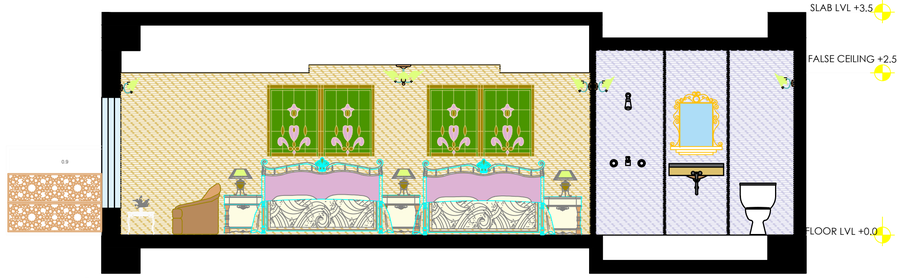


F SECTION CC
SCALE 1 : 50









B SECTION AA
SCALE 1 : 50



C SECTION BB
SCALE 1 : 50

MATERIAL USED :

1. PLYWOOD
2. ALUMINIUM
3. CERAMIC TILES
4. PU FURNITURE FINISH
5. FABRIC CURTAINS
6. GLASS
7. LEATHER
8. WALLPAPER

KEY PLAN:- SCALE-1:1000

SHCEDULES

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PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : ELECTIVE 2 (INTERIOR DESIGN)

MAULANA AZAD
NATIONAL INSTITUTE OF TEHCNOLOGY,
BHOPAL (MP)
INDIA - 462003

ELECTIVE LANDSCAPE



SHAHDED PATHWAY

aded pathways with creepers provide comfortable, climate-responsive circulation by naturally cooling the walkway while adding visual softness, greenery, and an immersive user experience.



CURVED SITTING

The curved wooden seating creates a warm, inviting social feature that supports flexible, informal gathering and enhances the lawn's visual character through its organic, user-friendly form.



GAZEBO

Gazebos offer shaded, intimate seating zones that encourage relaxation, social interaction, and recreational use while enriching the landscape with attractive architectural elements.



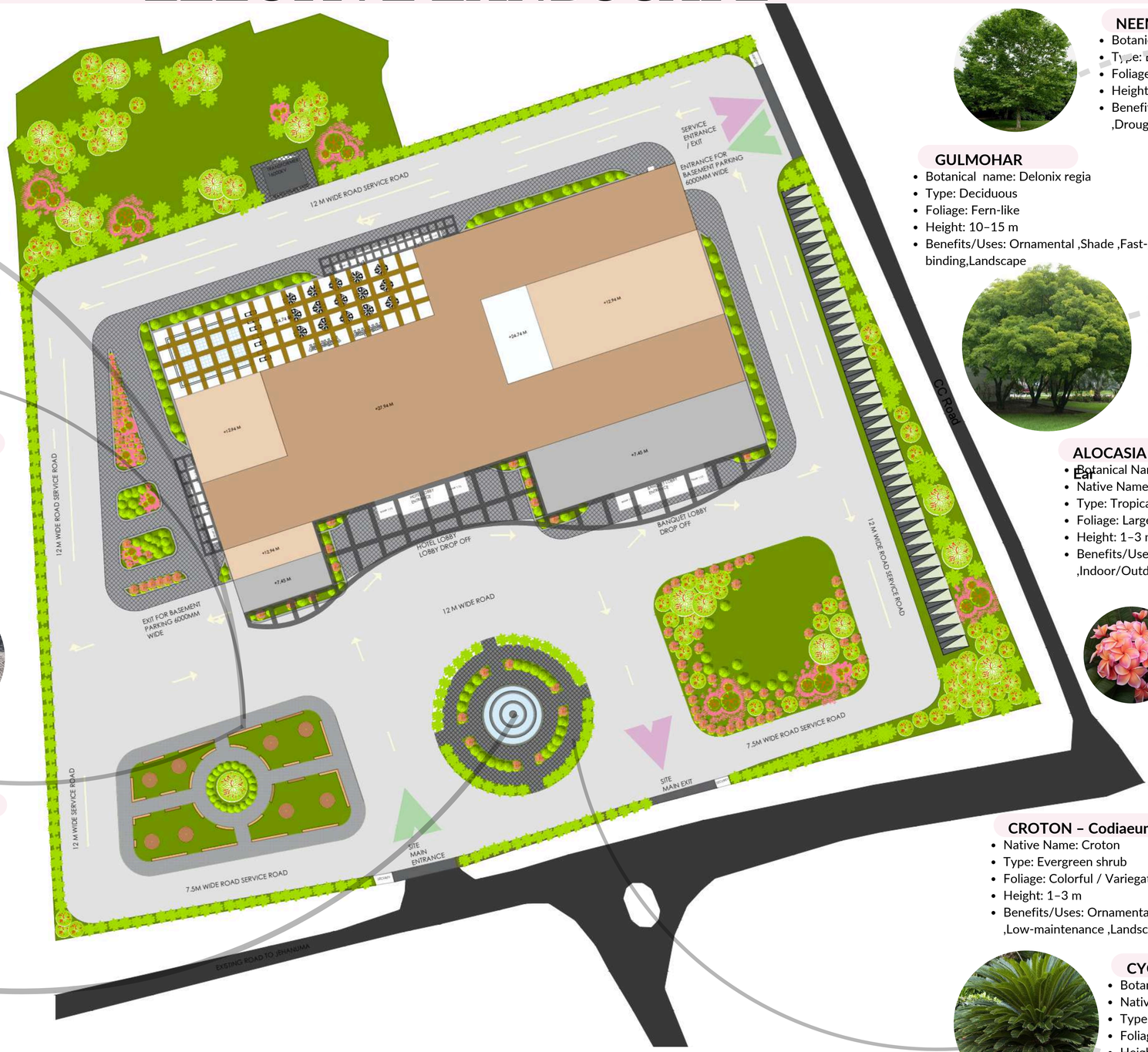
PAVEMENTS

Well-designed pavements create clean, safe, and structured pedestrian movement across the site, improving accessibility, reducing dust and erosion, and enhancing the overall landscape aesthetics.



FOUNTAIN

The fountains act as major visual focal points that elevate the site's identity, enhance the arrival experience, provide cooling through evaporative effect, and create a calming ambience with the sound of water.



NEEM

- Botanical name: Azadirachta indica
- Type: Evergreen
- Foliage: Feathery
- Height: 15–20 m
- Benefits/Uses: Medicinal ,Air-purifying ,Insect-repellent ,Drought-tolerant ,Shade ,Ayurvedic, Eco-friendly



GULMOHAR

- Botanical name: Delonix regia
- Type: Deciduous
- Foliage: Fern-like
- Height: 10–15 m
- Benefits/Uses: Ornamental ,Shade ,Fast-growing ,Aesthetic, Soil-binding,Landscape

SHISHAM

- Botanical name: Dalbergia sissoo
- Type: Deciduous
- Foliage: Compound
- Height: 15–25 m
- Benefits/Uses: Timber ,Durable ,Shade ,Drought-tolerant ,Soil-stabilizing ,Medicinal ,Fast-growing



ALOCASIA – Elephant Ear

- Botanical Name: Alocasia spp.
- Native Name: Elephant Ear
- Type: Tropical perennial
- Foliage: Large, heart-shaped
- Height: 1–3 m (depending on species)
- Benefits/Uses: Ornamental ,Tropical look ,Indoor/Outdoor ,Air-purifying ,Statement plant

PLUMERIA – Champa

- Botanical Name: Plumeria spp.
- Native Name: Champa / Frangipani
- Type: Deciduous ornamental tree
- Foliage: Thick, leathery
- Height: 5–10 m
- Benefits/Uses: Fragrant ,Ornamental ,Sacred ,Low-maintenance ,Drought-tolerant ,Tropical appeal

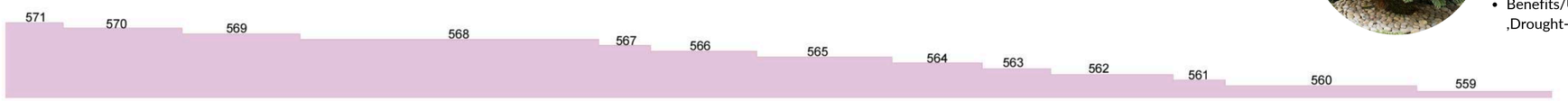


CROTON – Codiaeum variegatum

- Native Name: Croton
- Type: Evergreen shrub
- Foliage: Colorful / Variegated
- Height: 1–3 m
- Benefits/Uses: Ornamental ,Colourful foliage ,Indoor/Outdoor ,Low-maintenance ,Landscape-friendly

CYCAS – Sago Palm

- Botanical Name: Cycas revoluta
- Native Name: Sago Palm
- Type: Gymnosperm / Ornamental palm-like
- Foliage: Stiff, feathery
- Height: 1–3 m
- Benefits/Uses: Ornamental ,Low-maintenance ,Evergreen ,Drought-tolerant ,Structural form

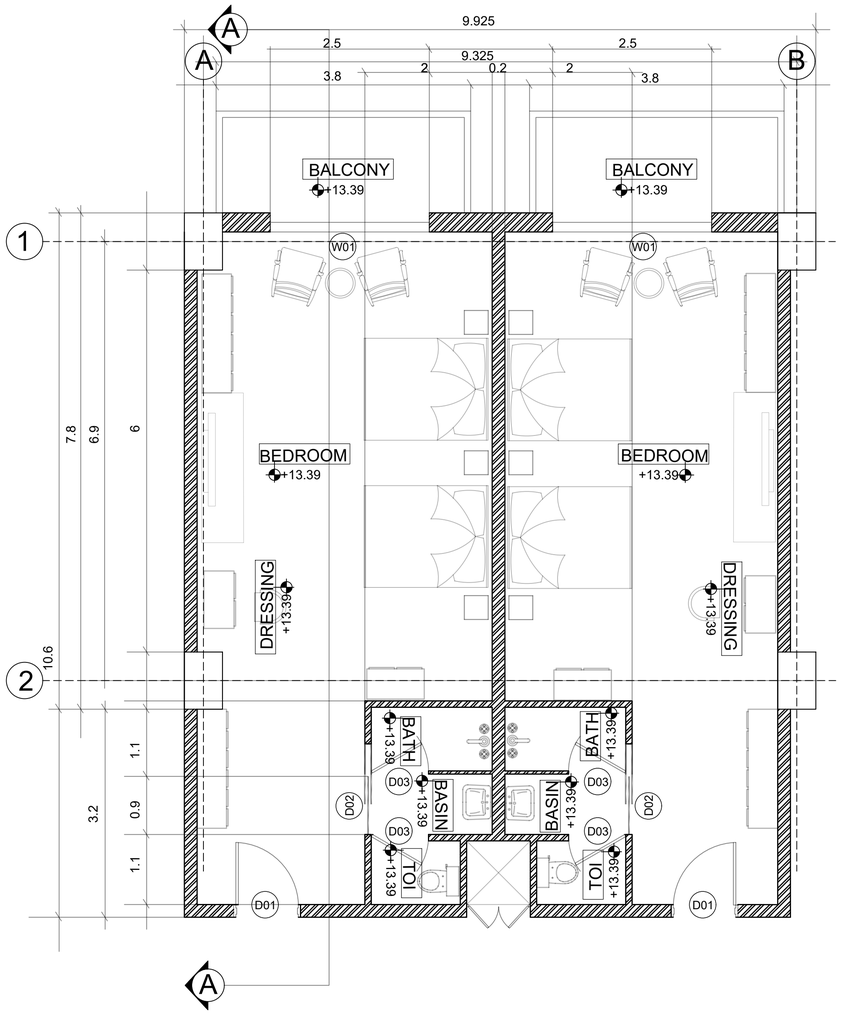


FIVE STAR HOTEL

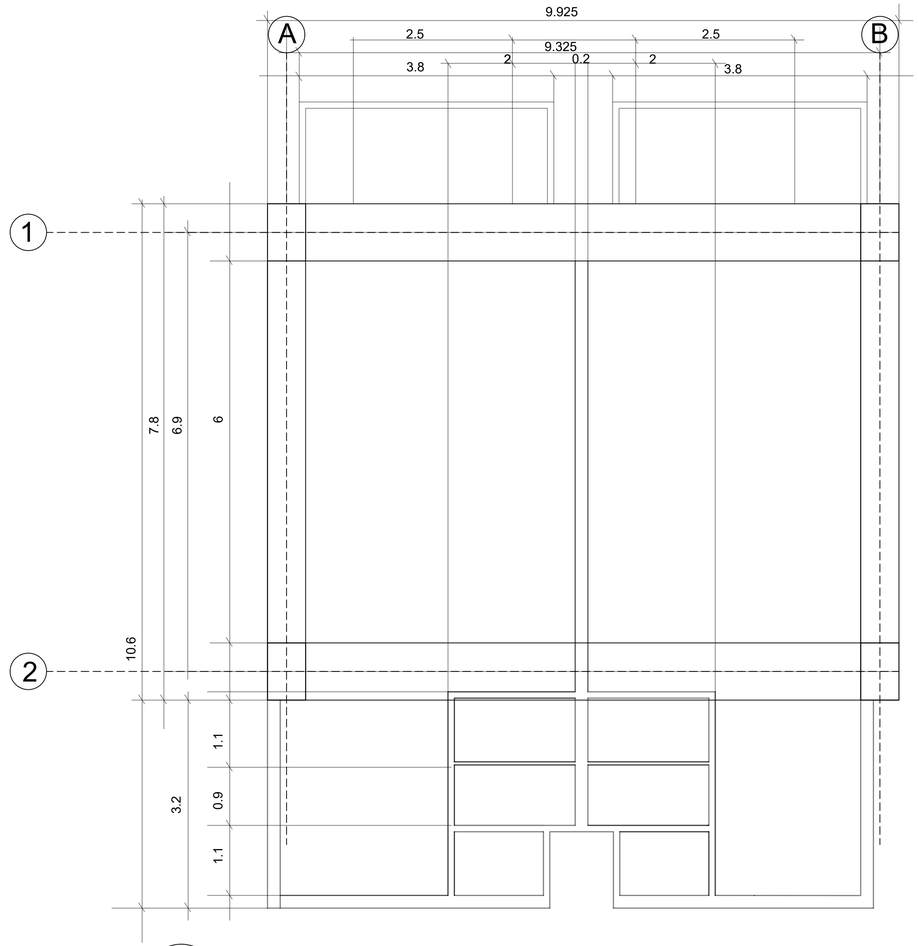
Bhopal, Madhya Pradesh

Guided By : Dr. Rajshree Kamat

MONISHIKA SINGH NAMDEO 211110207



A QUEEN SUITE WORKING DRAWING PLAN
SCALE 1 : 50



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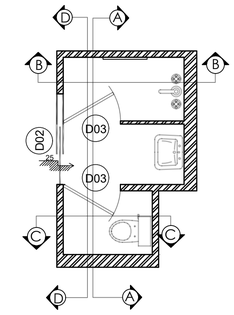

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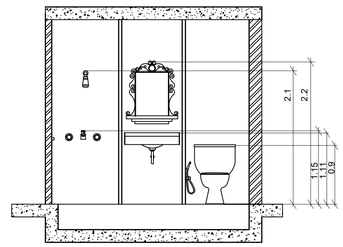

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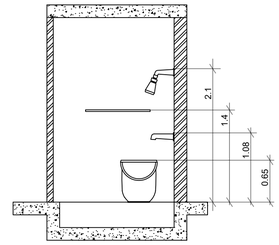

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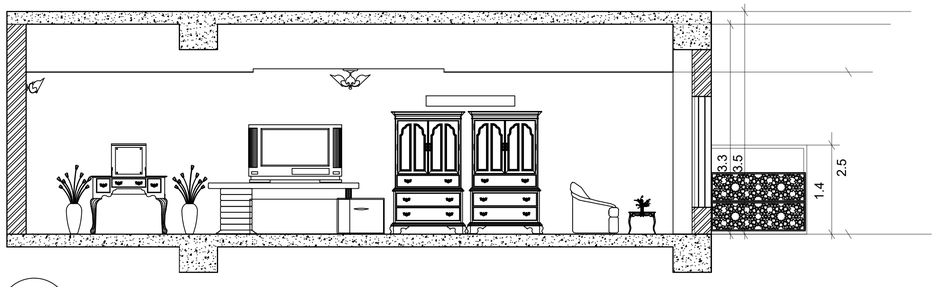

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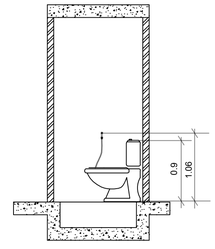

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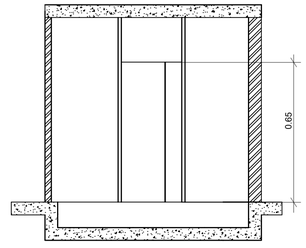

H SECTION DD
SCALE 1 : 50

KEY PLAN:- SCALE-1:1000

SHCEDULES

REVISIONS :-

Rev.	Date	Description	Appr'd

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DATE	01/12/2025
DRAWN BY	MONISHIKA SINGH NAMDEO
GUIDED BY	DR. RAJSHREE KAMATH
PROJ. CODE.	
DRG.NO.	AR-01
SCALE	

PROJECT : 5 STAR HOTEL, BHOPAL

SHEET TITLE : WORKING DRAWING

MAULANA AZAD
NATIONAL INSTITUTE OF TEHCNOLOGY,
BHOPAL (MP)
INDIA - 462003

SCALE - 1:300
5-STAR HOTEL, GHARI (JAIP)
MONISH KA SINGH NAHORIA
2111182 07.
ENTRANCE


EXIT

N
SCALE 1:300
5 STAR HOTEL, BHOPAL (MP)
MONISH K
SINGH NAINDER
ENTRANCE
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ON SITE PARKING