

**INTEGRATED DEVELOPMENT  
OF TEHRI LAKE  
UTTARAKHAND**

**A THESIS SUBMITTED  
IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS  
FOR THE DEGREE OF**

**BACHELOR OF ARCHITECTURE  
IN  
FIELD OF SPECIALIZATION(ARCHITECTURE)**

**BY  
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**UNDER THE GUIDANCE OF  
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**BABU BANARASI DAS UNIVERSITY,  
LUCKNOW**

**JUNE,2020**

## **CERTIFICATE**

I hereby recommend that the thesis entitled “**INTEGRATED DEVELOPMENT OF TEHRI LAKE, UTTARAKHAND**”, prepared by **Ms. AANCHAL BAJPAI** under my supervision, is the bonafide work of the student and can be accepted as a partial fulfillment for the award of Bachelor Degree in Architecture, School of Architecture BBDU, Lucknow.

-----  
**AR. ARVIND SINGH**  
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**Recommendation :**

**Accepted :**

**Not Accepted :**

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**EXAMINER 1**

-----  
**EXAMINER 2**

## **ACKNOWLEDGEMENT**

The journey which started 5 years ago has culminated....as I step into the world a series of people flash in my memory without whose support and good will this journey wouldn't have been easy and free flowing.

To start with. First and foremost gratitude towards almighty GOD for his blessings. Then I would like to thank all my faculty members who have supported and guided me all these memorable 5 years.

I would like to thank my thesis coordinator **AR. URVASHI TIWARI, AR. SHAILESH KUMAR** , who left no stone unturned to shape our thesis in the best possible way and also for his untimely help whenever required. Next in list is my thesis guide **AR. ARVIND SINGH** who has been extremely co-operative since the very beginning and who helped me to utilize my skills and creativity to the utmost.

I would further like to show my gratitude to my family members, for giving full assistance whenever required and being there with me in all ups and downs. Their motivation and support helped me to be more dedicated and inclined towards my goal.

Last but not the least all friends and love one who give their all kind of support and concern .

I have put in my best of efforts and worked day and night to make this project a success .hope u too will appreciate my endeavor.

I wish to dedicate this work to my love ones who are always their in my heart.

THANKING YOU/

AANCHAL BAJPAI

ENROLLMENT NO. : 1150101001

B.B.D. UNIVERSITY,LUCKNOW

**BABU BANARASI DAS UNIVERSITY, LUCKNOW**  
**CERTIFICATE OF THESIS SUBMISSION FOR EVALUATION**

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2. Roll No. : 1150101001
3. Thesis title: INTEGRATED DEVELOPMENT AT TEHRI LAKE,UTTRAKHAND
4. Degree for which the thesis is submitted: BACHELOR OF ARCHITECTURE

5. Faculty of the University to which the thesis is submitted

.....

6. Thesis Preparation Guide was referred to for preparing the thesis.    YES ☐    NO ☐

7. Specifications regarding thesis format have been closely followed.    YES ☐    NO ☐

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

9. The thesis has been prepared without resorting to plagiarism.    YES ☐    NO ☐

10. All sources used have been cited appropriately.    YES ☐    NO ☐

11. The thesis has not been submitted elsewhere for a degree.    YES ☐    NO ☐

12. Submitted 4 spiral bound copies plus one CD.    YES ☐    NO ☐

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**B. Arch Thesis 2019-2020**

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Name of Student: AANCHAL BAJPAI

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Thesis Title (in capital): **INTEGRATED DEVELOPMENT OF  
TEHRI LAKE**

Thesis guide: **AR. ARVIND SINGH**

Remarks: Satisfactory / not Satisfactory (in case of not Satisfactory give comments):

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**Sign of Thesis**

**Guide**

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**Examiner 1**

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**Department**

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# **INTRODUCTION ABOUT CITY AND THE PROJECT**

# INTRODUCTION ABOUT CITY.....



- ▶ Tehri is a spectacular place blessed with uninhibited natural beauty. It provides a stunning view of Tehri Lake.
- ▶ The most important tourist attraction of Tehri is the Tehri Dam, one of the world's largest hydroelectric projects. Government of Uttarakhand, organizes Asia's biggest lake festival at Tehri Lake every year.
- ▶ State Government is in the process to develop a world-class theme based tourism destination around Tehri lake area, spread across 40,000 acres. It is the first ever destination to be developed under tourism plan in Uttarakhand.
- ▶ Tehri lake provides a hundred opportunities to the adventure lovers who love to throw caution to the winds like Boating, Jet-Skiing, Banana Rides, Water Skiing, Surfing, Canoeing, River-Rafting, Paragliding, Kayaking and much more.
- ▶ Adequate Infrastructure, Availability of Land at subsidised rate makes Tehri an ideal place for investment.



## PROXIMITY TO THE TOURIST DESTINATIONS FROM TEHRI LAKE

Chamba	20 Km	Rishikesh	84 Km
Dhanaulti	51 Km	Haridwar	103 Km
Ananda Spa	63 Km	Dehradun	120 Km
Mussoorie	77 Km		

## EXISTING TOURISM INFRASTRUCTURE AT TEHRI LAKE

- Rajiv Gandhi Adventure Academy
- Floating Jetties and Associated Infrastructure including speed boats, parasailing dock, paras-aill and 02 Water Taxis
- Vehicle Barge
- Floating Marina

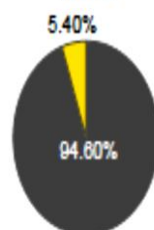
## PROPOSED SPORTS, ADVENTURE, LEISURE & ACTIVITIES TO PROPOTE THE AREA

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Powered Paragliding</li> <li>• Sky Bridge</li> <li>• Jet skiing</li> <li>• Iconic Statues</li> <li>• Cycling on Rough Terrain</li> <li>• Camping along the Lake</li> </ul> | <ul style="list-style-type: none"> <li>• Rejuvenation and Wellness Spas</li> <li>• Nature Parks</li> <li>• Yoga/ Meditation Centers</li> <li>• Home Stays</li> <li>• Nature trails</li> <li>• Art &amp; Craft Haat</li> </ul> |
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## TEHRI FOOTFALL (2017)

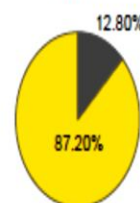
Domestic – 1425732 , Foreign – 37092  
(59% increase in Domestic and 69% Increase in Foreign Tourist from Year 2016)

Leisure vs. Business Spending In 2017



■ Leisure Spending ■ Business Spending

Domestic vs. Foreign Visitor Spending in 2017



■ Foreign visitor spending ■ Business Spending

To create Uttarakhand as a global tourist destination that is safe, sustainable and inclusive by offering world class tourism products and services

### Vision

Favorable location and abundant resources

Close proximity to the national capital of Delhi  
Abundant natural resources due to hills and forests supporting tourism

The state has a stable political environment with successive governments that have been committed towards creating a progressive business environment.

### Stable Political Environment

Adequate labour pool

The average literacy level is high.  
A large pool of talented human resources is available Top-notch Hotel Management institutes, such as IHM, HIT, BFIT, AIHTM

The state offers a wide range of financial assistance in terms of interest incentives, subsidies and concessions

### Policy and Infrastructure

Evolving industrialisation facilitating growth

One of the best performing hill state of India.

## Tehri is well-connected with the major towns



Rail

- Tehri is well connected by motorable roads with major destinations of Uttarakhand and northern states of India. Luxury and normal Buses to Tehri are available from ISBT Kashmiri Gate. Buses and Taxis to Tehri are easily available from major destinations of Uttarakhand like Dehradun, Mussoorie, Rishikesh, Haridwar, Devprayag, Srinagar, Uttarkashi etc.



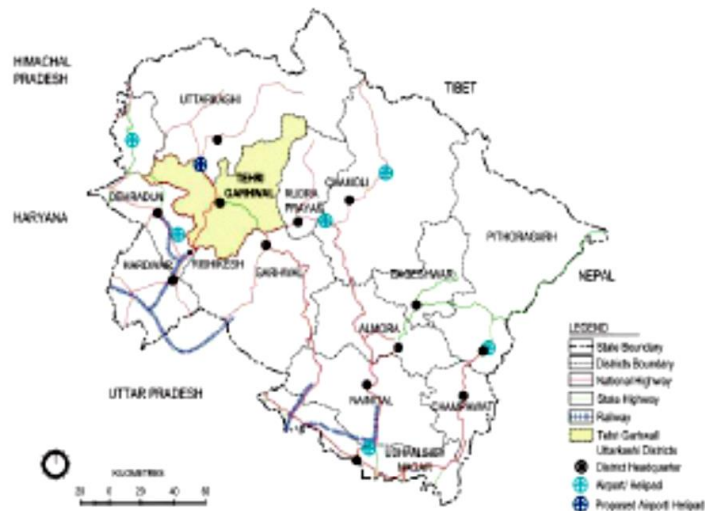
Air

- Jolly Grant Airport at Dehradun is the nearest Airport to Tehri situated at a distance of 91 kms

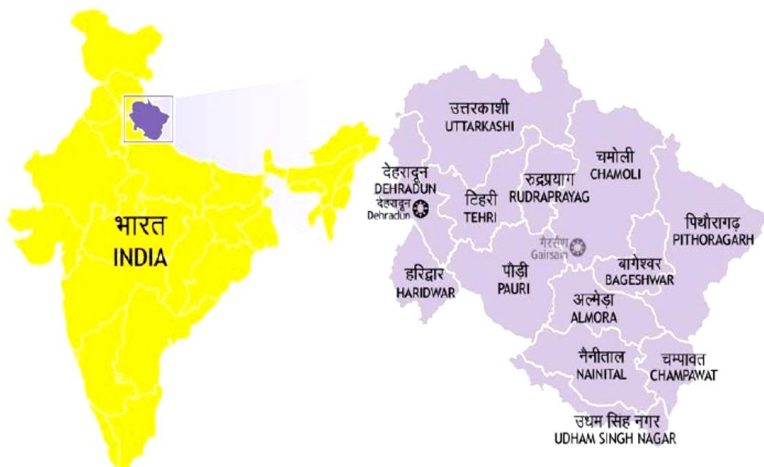


Road

- Tehri is well connected with most of the major cities like Dehradun (110 km), New Delhi (300 Km)



## Uttarakhand Scenario



GSDP:  
INR 217 Bn  
(FY 2017-18)

GSDP Growth Rate:  
11.23% (FY 2017-18)

Literacy rate:  
78.80% (2011)

Per Capita Income:  
INR 1,77,356 (FY  
2017-18)



## Tehri Lake | Snapshot

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# PROJECT BRIEF



## **THE PROJECT INCLUDES:-**

### **Project 1: Development of Hill Side Resort at Tehri**

Land Allotted	7 Acre
Project Timelines	Concession period –30 years (with scope of additional concession period of 30 Years) Construction Period –36 Months

### **Project 2: Development of Theme Restaurant at Tehri**

Land	0.6 Acres
Govt. Land, Available for lease	
Project Timelines	Concession period –30 years Construction Period –18 Months
Total Project Cost	3.7 INR Crore

### **Project 3: Development of Tent City at Tehri**

Location	KotiAthur
Area	2 Acres
Project Timelines	Concession period –15 years (including construction period of 2 years)

## **HISTORY AND BACKGROUND:-**

### **EXISTING TOURISM INFRASTRUCTURE AT TEHRI LAKE**

- RAJIV GANDHI ADVENTURE ACADEMY
- FLOATING JETTIES AND ASSOCIATED INFRASTRUCTURE INCLUDING SPEED BOATS, PARASAILING DOCK, PARAS-AIL AND 02 WATER TAXIES
- VEHICLE BARGE
- FLOATING MARINA

## PROPOSED SPORTS, ADVENTURE, LEISURE & ACTIVITIES TO PROPOTE THEATRE

- Powered Paragliding
- Sky Bridge
- Jet skiing
- Iconic Statues
- Cycling on Rough Terrain
- Camping along the Lake

- Rejuvenation and Wellness Spas
- Nature Parks
- Yoga/ Meditation Centers
- Home Stays
- Nature trails
- Art & Craft Haat

### AIM:-

- TO ENHANCE THE ECONOMY OF THE TOWN AND PROVIDE A SCENIC AND RELAXING VACATION DESTINATION.
- GEOGRAPHIC AND CULTURAL DIVERSITY
- RISE IN DOMESTIC HOUSEHOLD EXPENDITURE ON TOURISM
- IMPROVED INFRASTRUCTURE
- E -FACILITATION FOR TRAVEL AND STAY.

### LIMITATIONS:-

- HEALING CENTER
- TENT CITY
- THEME RESTAURANT

### THESIS OBJECTIVE:-

- THE THESIS EXPLORES THROUGH THE DEVELOPMENT OF A TOWN IN UTTARAKHAND WITH RESPECT TO PROVIDE AN INFRASTRUCTURE BOAST TOWARDS ITS ENHANCEMENT IN TOURISM AND ECONOMY.
- IT DEALS WITH PROVIDING A BLEND OF BOTH THE MODERN FACILITIES AND NATURE IN A REMOTELY LOCATED TOWN IN BETWEEN THE VALLEYS OF MOUNTAINS.
- THE MAIN OBJECTIVE IS TO PROVIDE A FUNCTIONAL AND AESTHETICALLY BLENDED SETUP FOR THE **TEHRI LAKE** AND PROVIDING A CITY OF TENT WITH ALL THE MODERN FACILITIES AND COMFORT.

## **SCOPE OF THE PROJECT:-**

- UTTARAKHAND IS ONE OF THE MOST BEAUTIFUL NORTHERN STATES OF INDIA THAT ENTHRALLS EVERYONE WITH ITS SPECTACULARLY SCENIC LANDSCAPES.
- IT HAS PRESENCE OF EXCEPTIONAL GEOGRAPHICAL FEATURES, RICH IN NATURAL RESOURCES ESPECIALLY WATER AND FORESTS WITH MANY GLACIERS, DENSE FORESTS AND RIVERS.
- THE STATE IS CLOSE TO THE NATIONAL CAPITAL REGION (NCR) AND HAS EXCELLENT CONNECTIVITY WITH ITS NEIGHBORING STATES..
- ABUNDANT NATURAL RESOURCES DUE TO HILLS AND FORESTS SUPPORTING TOURISM, AND VAST WATER RESOURCES FAVORING HYDROPOWER.
- RECENTLY TOURISM SECTOR IS GIVEN INDUSTRY STATUS. TOURISM UNITS ARE ELIGIBLE FOR ELECTRICITY TARIFF ON INDUSTRIAL RATE.
- DIRECT CONTRIBUTION OF TRAVEL & TOURISM TO GDP IS FORECASTED TO BECOME USD194.7BN BY FY2028
- TRAVEL & TOURISM INVESTMENT EXPECTED TO RISE TO USD 85.2BN BY FY 2028
- 58.5% GROWTH FORECAST IN FOREIGN TOURIST ARRIVALS ON E-TOURIST VISA.

## **PROJECT VIABILITY:-**

- ONE OF THE BEST PERFORMING HILL STATE OF INDIA.
- THE AVERAGE LITERACY LEVEL IS HIGH.
- A LARGE POOL OF TALENTED HUMAN RESOURCES IS AVAILABLE TOP-NOTCH HOTEL MANAGEMENT INSTITUTES, SUCH AS IHM, HIT, BFIT, AND AIHTM.
- THE STATE HAS A STABLE POLITICAL ENVIRONMENT WITH SUCCESSIVE GOVERNMENTS THAT HAVE BEEN COMMITTED TOWARDS CREATING A PROGRESSIVE BUSINESS ENVIRONMENT.
- THE STATE OFFERS A WIDE RANGE OF FINANCIAL ASSISTANCE IN TERMS OF INTEREST INCENTIVES, SUBSIDIES AND CONCESSIONS.
- INCREASE IN TOURISM EMPLOYMENT OPPORTUNITIES BY 2.1% PA IN NEXT TEN YEARS.

## **REQUIREMENTS:**

### **☐ FOR RESORT :**

- ☐ VILLAS, RESTAURANT, POOL, LOUNGE, INDOOR GAMING AND RECREATIONAL ZONE.

### **☐ FOR TENT CITY :**

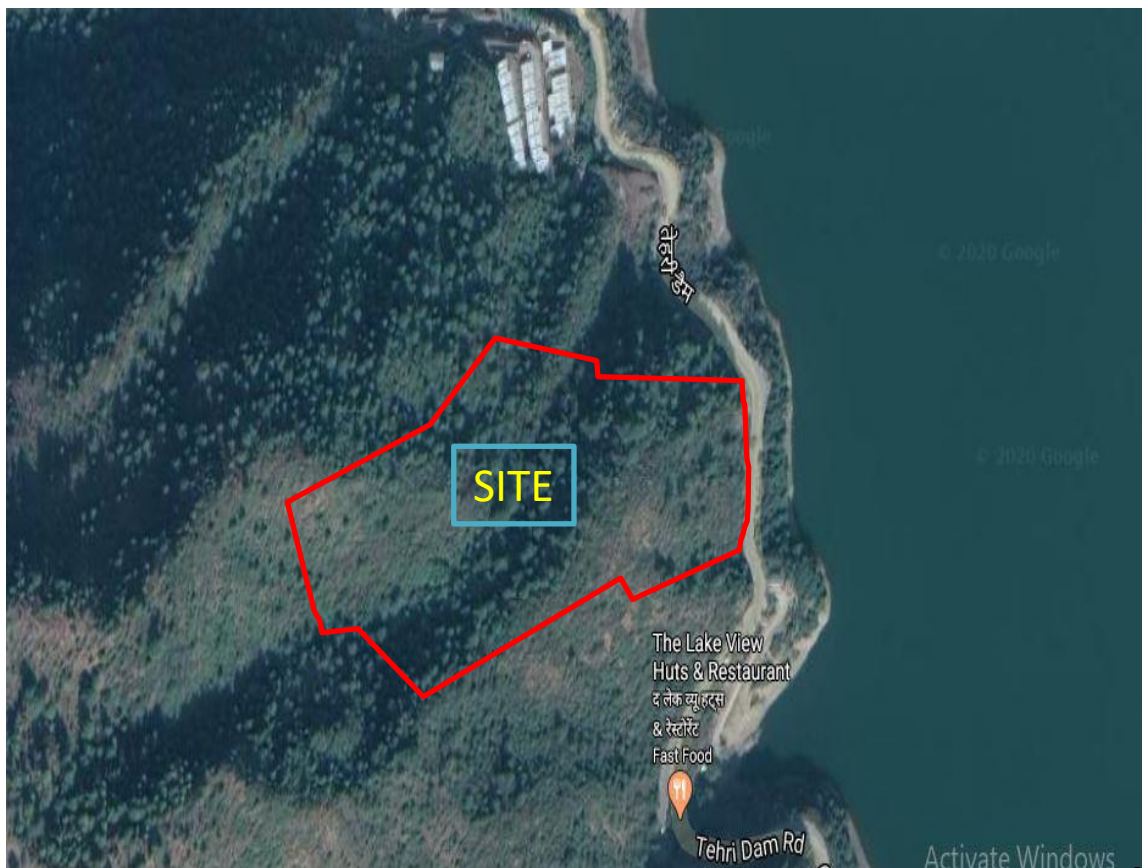
- ☐ TENTS AS SINGLE UNITS, CLUB, LAWNS, FOOD COURT.

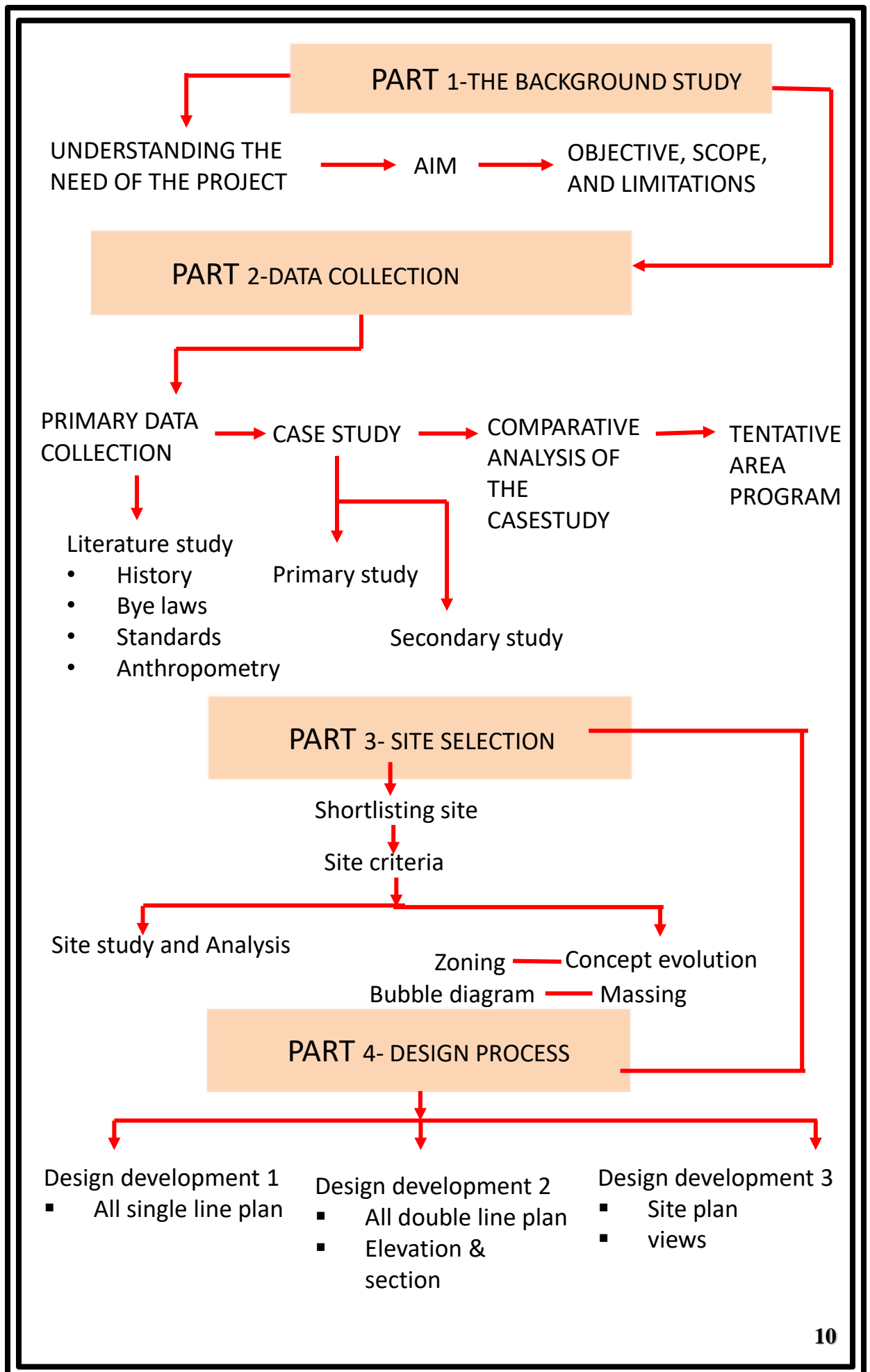
### **☐ FOR HEALING CENTER :**

- ☐ OFFICE, STORE, ROOMS, SPA, WAITING LOUNGE, OPEN LAWN

## **WHY I CHOOSE THIS TOPIC?**

THE SITE PROVIDES A OPPORTUNITY TO DEVELOP THE SITE IN NOT JUST A SINGLE PURPOSE STRUCTURE BUT A GROUP OF INTER-RELATED STRUCTURE THAT CAN CO-EXIST WHILE PERFORMING A DIFFERENT PURPOSE AT THE SAME TIME.





# **SITE ANALYSIS**



## **TEHRI LAKE**

### **SITE ANALYSIS : INTEGRATED DEVELOPMENT OF TEHRI**

THE PROJECT IS A PART OF THE MASTER PLAN PROPOSED FOR THE DISTRICT 'TEHRI' DEVELOPMENT WITH RESPECT TO TOURISM.

IT IS DIVIDED INTO THREE SUB-PROJECTS WHICH ARE AS FOLLOWS :

- ☐ HILL SIDE RESORT
- ☐ THEME RESTAURANT
- ☐ TENT CITY.

#### **DIMENSIONS :**

- ☐ TOTAL AREA : 35000 SQ. M.
- ☐ PERMISSIBLE F.A.R. : 0.9
- ☐ PERMISSIBLE GROUND COVERAGE : 35%
- ☐ SLOPE : 6 DEGREE

#### **SURROUNDINGS :**

- ☐ AS THE SITE IS LOCATED NEAR A DAM RESERVOIR(4 KM) AND ON THE MAIN ROAD TOWARDS THE DAM. THE PROPOSED SITE HAS A LOT OF VEGETATION ON EITHER SIDE OF THE RIDGE AND RESERVOIR.
- ☐ ON THE OPPOSITE SIDE OF THE SITE WE HAVE TEHRI LAKE VIEW RESORT.
- ☐ THEN AT A DISTANCE OF 2 KM WE HAVE TEHRI LAKE ADVENTURE SPORTS COMPLEX.



#### **LOCATION :**

THE SITE IS LOCATED IN KOTI ATHUR 18.6 KM FROM NEW TEHRI TOWN AND 6 KM FROM TEHRI DAM RESERVOIR.

#### **ACCESS :**

- ☐ THE NEAREST RAILWAY STATION FROM THE SITE IS AT HARIDWAR 103 KMS.
- ☐ THE NEAREST BUS STAND IS AT RISHIKESH 90 KMS FROM SITE.
- ☐ THE NEAREST AIRPORT IS AT JOLLY GRANT DEHRADUN 83 KMS FROM THE DAM.





## **SWOT ANALYSIS:**

### **STRENGTH :**

- HIGH ALTITUDE
- PLENTY VEGETATION
- COUNTOUR
- UNINTERRUPT ED VIEW OF THE RESERVOIR
- PEACEFUL ENVIRONMENT

### **WEAKNESS :**

- ACCESSIBILITY NEEDS TO BE DEVELOPED
- NO PROPER AVAILABILITY OF TRANSPORT.
- LACK OF INHABITANTS OR LOCAL SETTLEMENT.

### **OPPURTUNITIES :**

- POSSIBILITY OF CREATION OF NEW TREND IN TOURISM
- GREATLY IN NEED OF A COMFORTABLE STAY
- REDUCE THE TRAVELLING DISTANCE TO THE DAM AND STAY.

### **THREAT:**

- LOSS OF VEGETATION
- ECOLOGICAL BALANCE DISTURBANCE



### **SERVICES :**

- ❑ THE TEHRI DAM WITHHOLDS A RESERVOIR FOR IRRIGATION, MUNICIPAL WATER SUPPLY AND THE GENERATION OF 1,000 MEGAWATTS OF HYDROELECTRICITY.
- ❑ A WIDE RANGE OF STANDARD DISTRIBUTION VOLTAGES ARE USED, FROM 2,400 V TO 34,500 V. PROPER LINES ARE LAID OVER THE SITE THROUGH TOWERS AND UTILITY POLES.





# VIEWS & VISITS



**VIEWS FROM THE SITE**



**11000KVA HIGH TENSION LINES RUNNING ON EXISTING ROAD AND THE WATER PIPE LINES RUNNING ALONG ROAD**



**ELECTICITY DISTRIBUTION OFFICE**

**NEARBY LANDMARKS  
OR INHABITATION  
FROM THE SITE**

## **Contours:**

THE SITE HAS A HEIGHT DIFFERENCE OF APPROX 1500 MM. ALONG THE COMPLETE SITE.  
REST OF THE SITE ALMOST PLAIN.



**NEARBY INHABITATION AND SCHOOL**

## CONDITIONS.....

- The soils of Tehri Garhwal district can be broadly classified into two types, viz. soils of Central/Higher Himalaya and soils of Lesser Himalaya. The soils of Central Himalaya have been broadly classified under
  - Soils of Summits, Ridge Tops and Mountain Glaciers,
  - Soils of Side Slopes,
  - Soils of Upper Glacis-Fluvial Valleys
  - Soils of Cliffs.
- Major part of the district is covered by soils of Lesser Himalaya, which may be broadly subdivided into three soil types. Soils of the first type are moderately shallow, excessively drained, thermic, fine loamy, moderately eroded and slightly stony and are known as Dystric Eutrudepts. The second type, Lithic Udorthents, is characterized by very shallow, excessively drained, severely eroded and strongly stony, thermic loamy soils exposed on steep slopes with loamy and sandy surface. Typical Udorthents, the third major soil type, is moderately shallow, excessively drained, moderately eroded and slightly stony, loamy soils on moderate slopes with loamy surface.

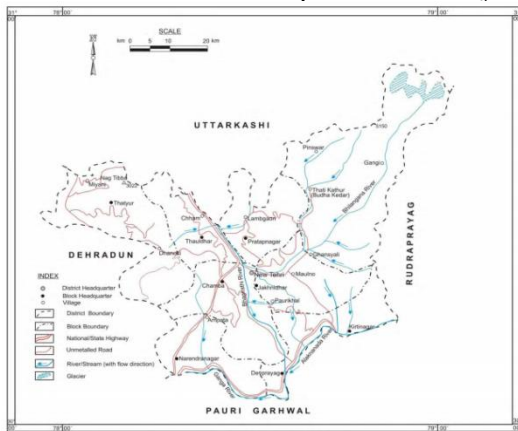
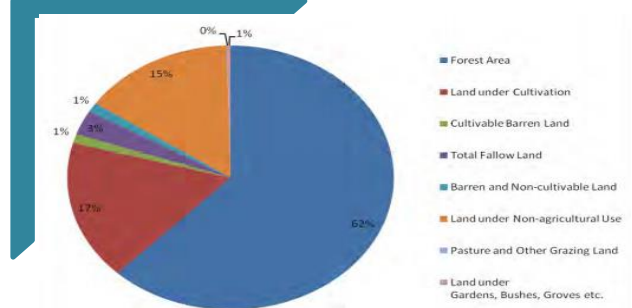


Fig. 1. Base Map of District Tehri Garhwal, Uttarakhand



**LANDUSE DISTRIBUTION OF  
TEHRI**

## BASEMAP

## ZONING AND BUILDING BYE LAWS

### SITE AREA...

ACRES : 9.6 acres

SQ.M : 388450 SQ.M.

➤Footfalls per day : 1,50,000

➤Permissible F.A.R. : 0.9

➤Ground Coverage : 30%

➤ Height Restriction – 10.8 M

### **SETBACKS:**

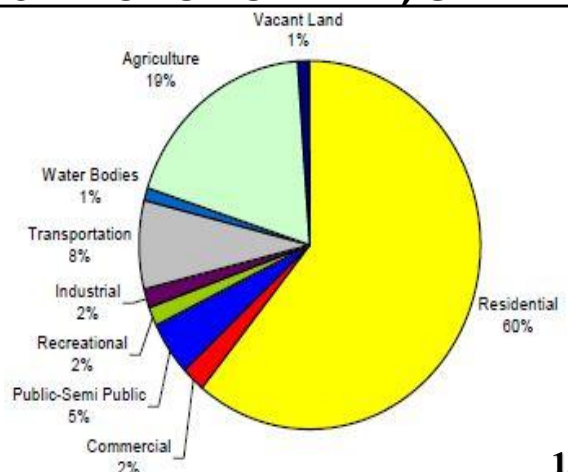
Front set back : 9.0 m

Rear set back : 7 m

Left side set back : 6.5 m

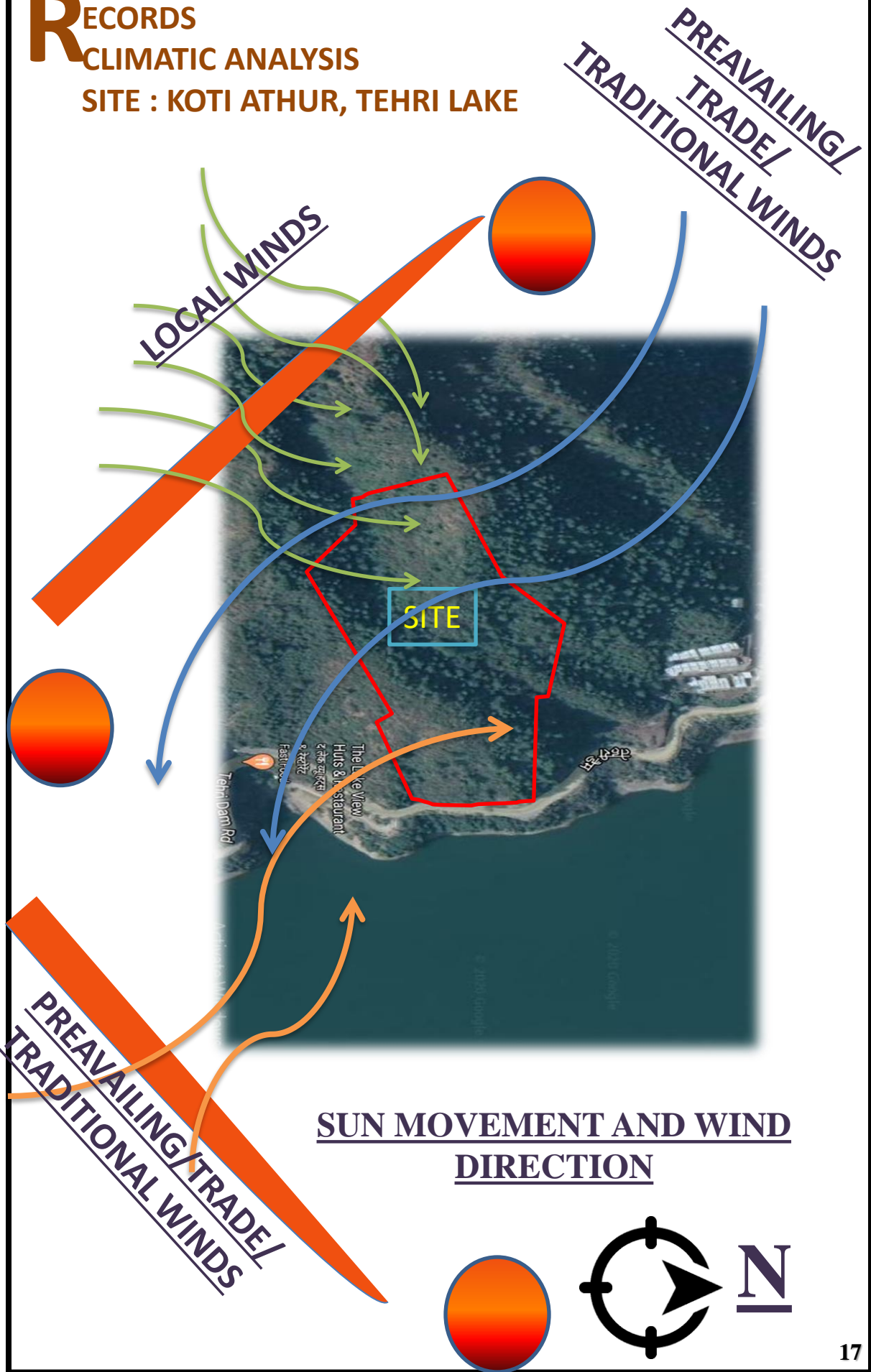
Right side set back : 6.5 m

## EXISTING LAND USE DISTRIBUTION OF TEHRI, GERWAL



# CLIMATIC STUDY

**RECORDS**  
**CLIMATIC ANALYSIS**  
**SITE : KOTI ATHUR, TEHRI LAKE**





# TEHRI:

THE CLIMATE IS WARM AND TEMPERATE.

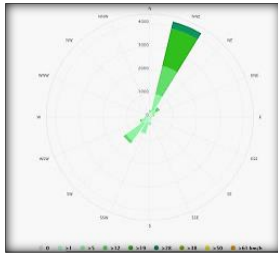
SUMMERS - 25°C TO 37°C.

WINTERS - 3°C TO 10°C.

THE AVERAGE ANNUAL TEMPERATURE IS 15.3°C.

THE RAINFALL HERE IS AROUND 1934 MM

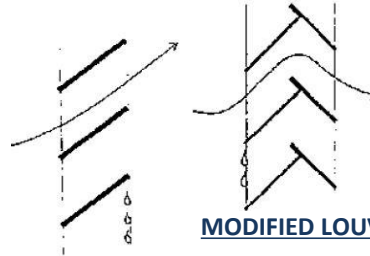
THE AVERAGE ANNUAL HUMIDITY IS AROUND 77%.



## FLORA:

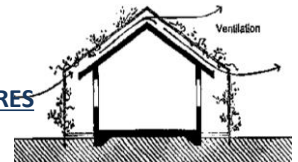
❑ THE SITE IS A HOME OF WILD RANGE OF FLORA AND FAUNA.

❑ IT CAN BE DIVIDED INTO SIX MAIN CATEGORIES OF TROPICAL DRY DECIDUOUS FORESTS, SAL FORESTS, CHIR FORESTS, OAK FORESTS, DEODAR, FIR AND SPRUCE FORESTS, AND FINALLY THE ALPINE PASTURES.

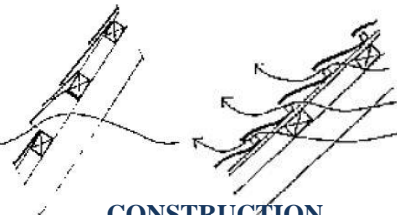


ORDINARY LOUVRES

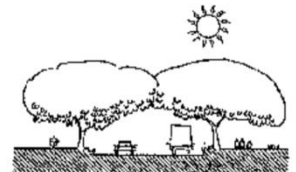
MODIFIED LOUVRES



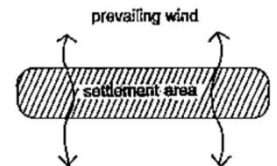
GREEN COVER ON ROOFS AND WALLS



CONSTRUCTION TECHNIQUES

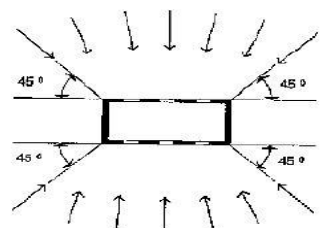
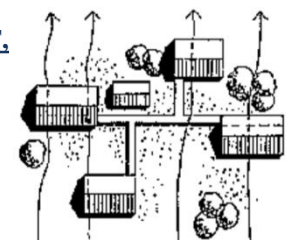
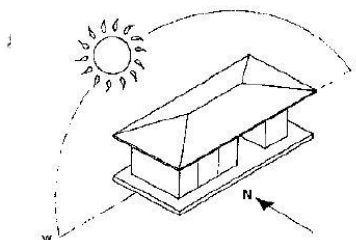
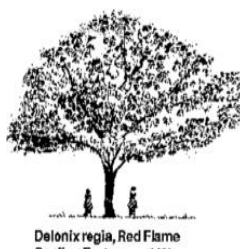


CANOPY EFFECT BY TREES...



## CITY PROFILE....

ROW HOUSE WITH HIPPED ROOF, ELONGATED IN EW DIRECTION, PROVIDE THE BEST SHADING



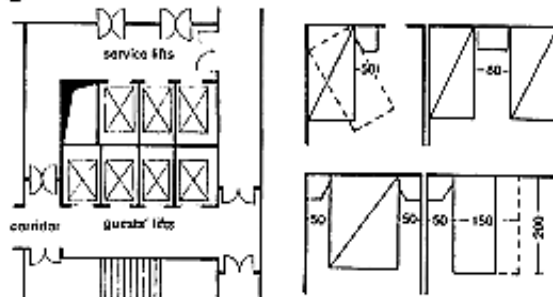
ACCEPTABLE WIND DIRECTIONS FOR THE ORIENTATION THAT IS BEST FOR SUN

## SELECTED TREES AND THEIR COOLING FACTORS....

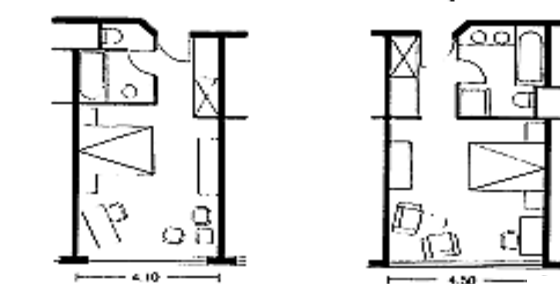
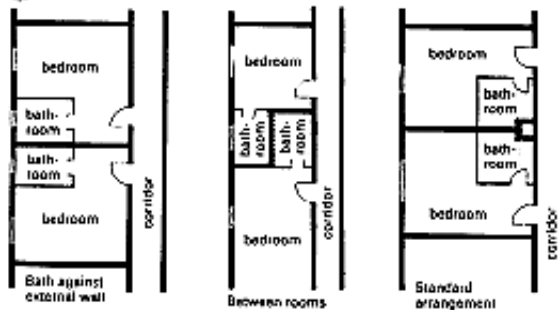
# STANDARDS

# RESORT AND RESTAURANT :

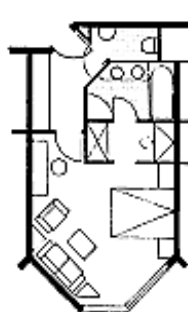
## (2) Plan views of hotels



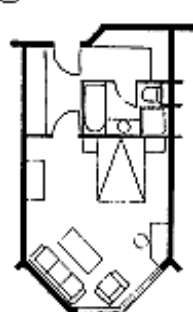
## (3) Vertical circulation in hotel



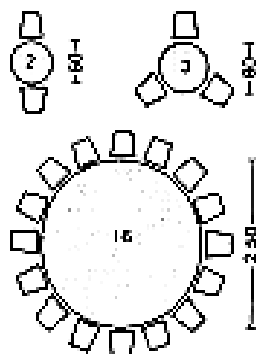
## (8) Standard room



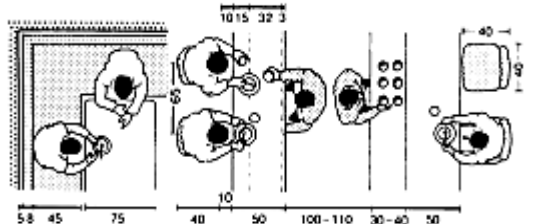
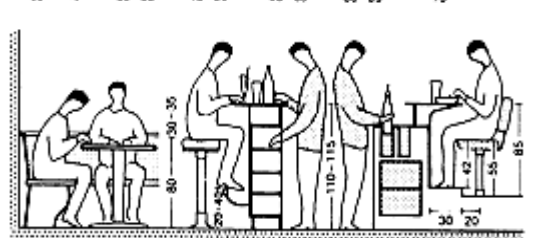
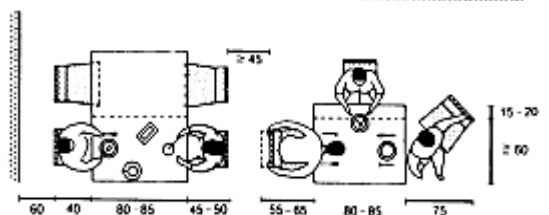
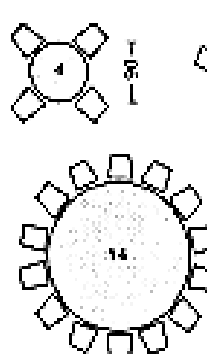
## (9) Executive room



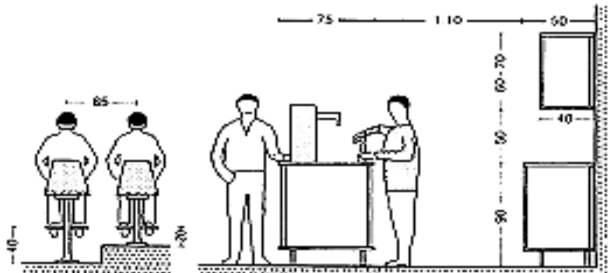
## (10) Luxury room (>5.0 m wide)



## (11) A variant of (10)

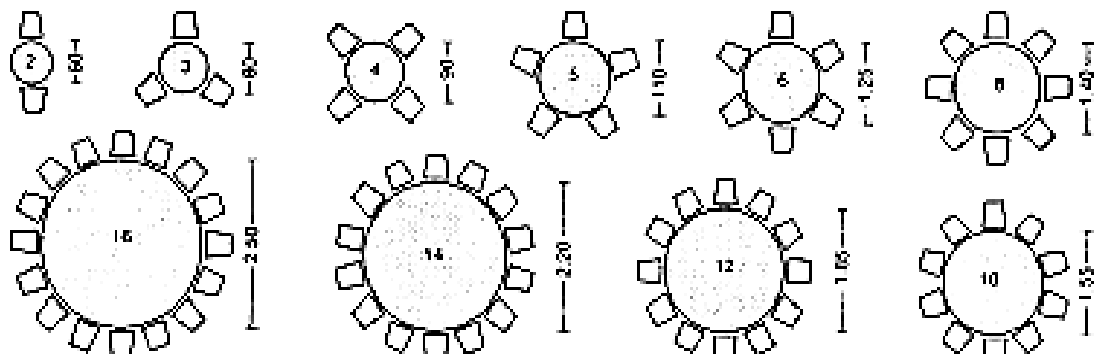


## (1) Space requirements for server and diner



- (2) Breakfast setting: 1: tea or coffee pot; 2: milk jug; 3: jam or butter dish; 4: sugar basin; 5: fork; 6: knife; 7: teaspoon; 8: plate; 9: serviette; 10: saucer; 11: tea or coffee cup
- (3) Simple lunch setting: 1: dinner fork; 2: dinner knife; 3: soup spoon; 4: dessert spoon; 5: tumbler; 6: wine glass; 7: soup dish; 8: dinner plate; 9: serviette
- (4) Banquet setting: 1: entrée fork; 2: fish fork; 3: dinner fork; 4: soup spoon; 5: dessert spoon; 6: dinner knife; 7: fish knife; 8: entrée knife; 9: soup dish; 10: dinner plate; 11: serviette; 12: tumbler; 13: wine glass; 14: liqueurglass

## (5) Tables/seating plans



# **CASE STUDY-1**



# CASE STUDY (1) : KUFRI RESORT SHIMLA,

## HIMANCHAL PRADESH

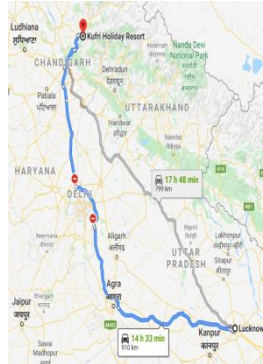
### INTRODUCTION :

KUFRI HOLIDAY RESORT IS PLACED AT STEEP SLOPE TERRAIN IN SHIMLA,MIDST PEACEFUL AND CALM ATMOSPHERE. FACILITY FOR SNOW ADVENTURE SPORTS IS ARRANGED ALONG THIS RESORT. THE BUILDING IS MADE IN VERNACULAR ARCHITECTURAL STYLE IN GRADUAL SYNC WITH THE SLOPING TERRAIN IN GRADUAL LEVELS.THE HOTEL BLOCK IN THE FOREFRONT IS DESIGNED WITH COTTAGES WHILE THE RESTAURANT IS PLANNED IN THE BACKGROUND.



### ORIENTATION:

THE BUILDING IS ORIENTED IN SUCH A WAY THAT MOST ROOMS FACE SOUTH-WEST DIRECTION IN ORDER TO RECEIVE MAXIMUM AMOUNT OF NATURAL LIGHT AND THE CENTRAL COURTYAD PROVIDE DIFFUSED SUNLIGHT FOR THE INTERNAL PORTIONS.



### LOCATION :

THE RESORT IS LOCATED 15 KM FROM SHIMLA AT AN ALTITUDE OF 2,213 M ABOVE SEA LEVEL. AT THE SHIMLA-CHAIL ROAD.

- ❑ ARCHITECT : AR. S.D. SHARMA
- ❑ YEAR OF COMPLETION - 1988
- ❑ SITE AREA : 1,20,000 SQ.M.
- ❑ BUILD UP AREA : 5340 SQ.M.
- ❑ F.A.R. : 0.9
- ❑ GROUND COVERAGE : 35%

### FLORA:-

KUFRI HAS A VARIETY OF TREES INCLUDING SPECIES OF FIR, OAK, SPRUCE, BLUE PINE, DEODAR AND HOLLY. IT ALSO HAS COLORFUL HERBACEOUS PLANTS GROWING ALL AROUND THAT INCLUDE SPECIES OF ORCHID, BALSAM, GERANIUM, POTENTILLA AND PRIMULA.



## SITE ZONING :

THE BUILDING IS MAINLY DIVIDED INTO THREE PARTS THAT ARE AS FOLLOWS:

- ☐ ADMINISTRATIVE AND HOTEL BLOCK
- ☐ RESTAURANT
- ☐ COTTAGES



## TYPES OF ACCOMODATIONS :

- ☐ THE HOTEL ACCOMMODATES 40 ROOMS WHICH ARE ALIGNED TO THE COUNTOURS.
- ☐ THE STEPPED ARRANGEMENTS OF ROOMS SEGREGATES THEM FOR PRIVACY WHICH WOULD HAVE BEEN ACHIEVED INCASE THEY WERE ON THE SAME LEVEL.
- ☐ EACH FLOOR CONSIST OF 12 ROOMS AND ON THE UPPER FLOOR THERE ARE TWO SUITE AT THE EXTREME ENDS.
- ☐ THERE ARE TWO TYPES OF SUITE ON THE FIRST FLOORS, IN THE FORM OF CHAMFERED RECTANGLES, IN THE SUITE. IN THE SUITE THERE IS A LEVEL DIFFERENCE OF 1.025 M TO SEGREGATE LIVING ROOM AND BED ROOM.



## OTHER FACILITIES :

- ☐ THE SERVICE CORE IS LOCATED AT THE BACK OF THE RESORT AWAY FROM THE ACTIVITY ZONE OF THE RESORT.
- ☐ THE AIR CONDITIONING PLANT IS SITUATED ON ONE SIDE AT THE UPPER HILL, FAR AWAY FROM THE ACTIVITY AREA TO AVOID ANY DISTURBANCE.
- ☐ THE RESTAURANT IS ON THE UPPER FLOOR AND CAN BE ACCESSED BY COTTAGE VISITOR ALSO.
- ☐ THE CONFERENCE ROOM CAN ACCOMMODATE 400 PEOPLE.
- ☐ THE BAR IS PLACED NEAR RESTAURANT BUT NOT WITH IT.
- ☐ THERE IS A BILIARDS ROOM PROVIDED WITH THE BAR.
- ☐ A GIFT SHOP IS PROVIDED NEAR ENTRANCE.



## CLIMATOLOGY :

THE CLIMATE IS SUBTROPICAL HIGHLAND CLIMATE IN KUFRI.

**AVG. WINTER TEMPERATURE:** 7 °C

**AVG. SUMMER TEMPERATURE:** 22 °C

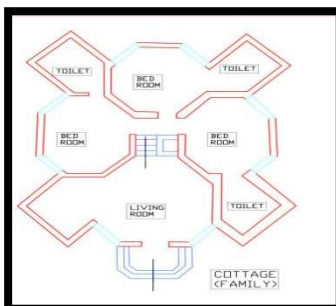
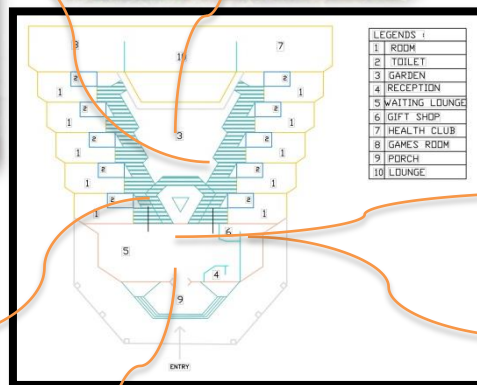
**AVG. ANNUAL TEMPERATURE:** 17 °C

ABOUT 1522 MM OF RAINFALLS ANNUALLY.

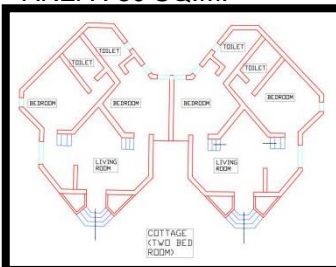
## TOPOLOGY :

THE SOIL TYPE IS GREYWOODED PODZOLIC SOILS.

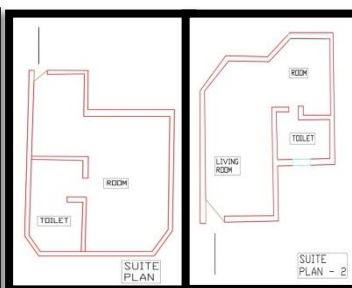
THE MAIN FORESTS IN AND AROUND THE CITY ARE OF PINE, DEODAR, OAK AND RHODODENDRON(SHRUBS).



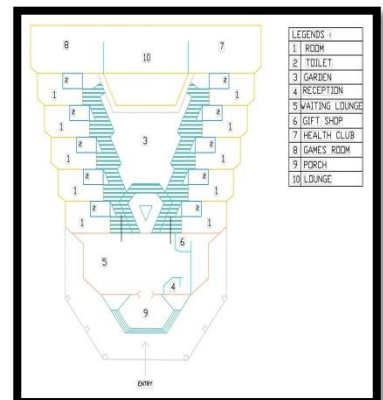
AREA : 80 SQ.M.



AREA : 60 SQ.M.



AREA : 45 SQ.M.



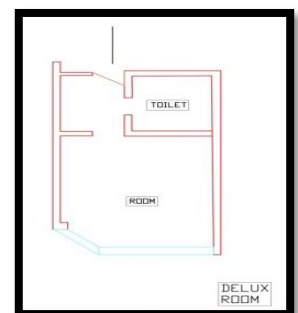
AREA : 3240 SQ.M.

### MERITS :

- ❑ THE LOCATION OF KUFRI IS AWAY FROM HASSLE OF THE CITY.
- ❑ THE USE OF FIBER SHEET AND SKYLIGHTS MAKE CENTRAL COURT ATTRACTIVE.

### DEMERITS :

- ❑ THE PARKING AREA IS INSUFFICIENT.
- ❑ THE RESTAURANT, THE HOTEL BLOCK, AND COTTAGES ARE NOT CONNECTED PROPERLY.



AREA : 25 SQ.M.

# **CASE STUDY-2**

## **CASE STUDY (2) : KUMBH MELA, PRAYAGRAJ (TENT CITY)**

### **INTRODUCTION :**

THE PRAYAG KUMBH MELA IS A HINDU FESTIVAL MELA HELD AT PRAYAG TRIVENI SANGAM – THE MEETING POINTS OF THREE RIVERS: THE GANGA, THE YAMUNA AND THE MYTHICAL SARASVATI – IN ALLAHABAD (OFFICIALLY KNOWN AS PRAYAGRAJ), INDIA. THE FESTIVAL IS MARKED BY A RITUAL DIP IN THE WATERS, BUT IT IS ALSO A CELEBRATION OF COMMUNITY COMMERCE WITH NUMEROUS FAIRS, EDUCATION, RELIGIOUS DISCOURSES BY SAINTS, MASS FEEDINGS OF MONKS OR THE POOR, AND ENTERTAINMENT SPECTACLE.

❑ TENURE – JANUARY TO FEBRUARY

❑ SITE AREA : 32 SQ. KM.

❑ BUILD UP AREA : 14.4 SQ.KM.

❑ GROUND COVERAGE :

### **ORIENTATION:**

THE SITE IS LOCATED IN THE SOUTH-WEST AND NORTH-EAST SIDE OF RIVER GANGA.

### **OTHER FACILITIES :**

- ❑ 3,000 TENTS HAVING THE CAPACITY OF ACCOMMODATING 6,000 PEOPLE,
- ❑ 1.42 LAKH TOILETS,
- ❑ MORE THAN 40,000 LED LIGHTS,
- ❑ MODERN CONTROL AND COMMAND CENTRE AND 1,400 CCTV CAMERAS TO MONITOR THE CROWD,
- ❑ 100-BED MAKESHIFT HOSPITAL, KNOWN AS CENTRAL HOSPITAL IN SECTOR – 2 IS ESTABLISHED

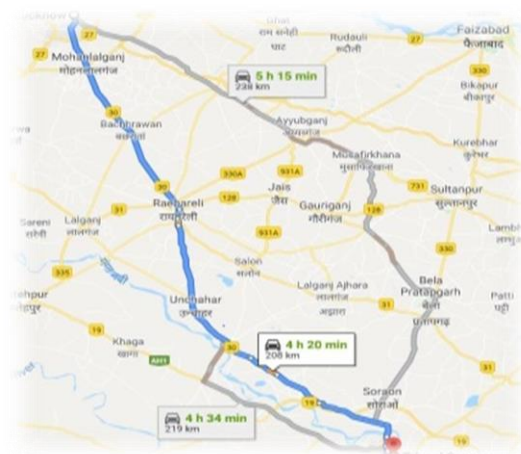
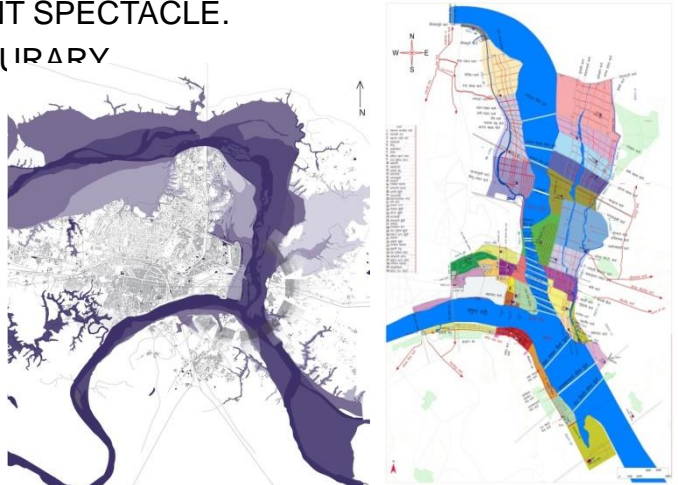
### **ACCESS :**

ACCESS TO THE TENT CITY IS BY THE SUB ROAD BIFURCATING FROM THE MAIN SANGAM ROAD UPTO A DISTANCE OF 500 M, 2 KM FROM CITY CENTER. THE NEAREST AIRPORT IS 20 KM FROM THE TENT CITY. THE NEAREST RAILWAY STATION IS AT A DISTANCE OF 10 KM FROM THE TENT CITY.

### **SITE ZONING :**

THE TENTS ARE MAINLY DIVIDED INTO PARTS THAT ARE AS FOLLOWS :

- ❑ BEDROOM – 9 SQ.M.
  - ❑ TOILET – 4.5 SQ.M.
  - ❑ PORCH – 15 SQ.M.
  - ❑ DRAWING ROOM – 12 SQ.M.
  - ❑ DINING ROOM – 8 SQ.M.
  - ❑ LIVING AREA – 10 SQ.M.
- DEPENDING UPON THE TYPE OF TENT OFFERED BY THE COMMUNITIES OR AKHARAS.

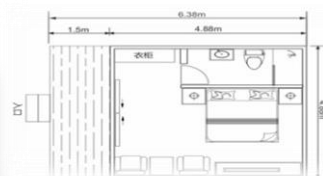
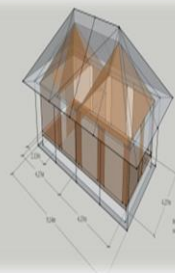




## TYPES OF ACCOMODATIONS :

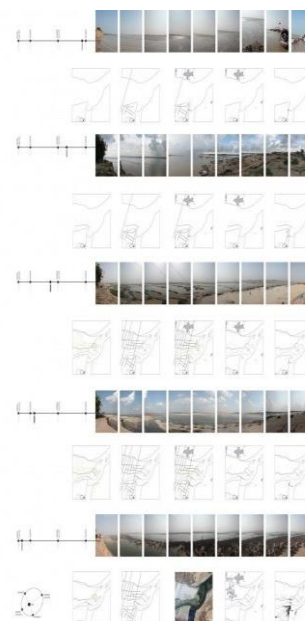
THERE ARE MAINLY FOUR TYPES OF COTTAGES OFFERED BY THE COMMUNITIES :

- ❑ LUXURY COTTAGES - 41 SQ.M.
- ❑ DELUX COTTAGES - 36 SQ.M.
- ❑ SUITE COTTAGES - 29 SQ.M.
- ❑ DORMITORY - 70 SQ.M.



## TENT CITY LAYOUT :

THE CITY IS A TEMPORARY ESTABLISHMENT OF STRUCTURE FOR THE SPAN OF 30 TO 45 DAYS FOR THE GATHERING OF MILLIONS OF PEOPLE FOR AUSPICIOUS BATHING CEREMONY. THE CITY IS LAID IN A GRID PLAN MANNER WITH RECTANGULAR DIVISIONS FOR THE ASSOCIATED AKHARAS.



Name	Feet and Inches	Meter
Carpet Area	32ft x 20 ft (640ft <sup>2</sup> ) 20 ft x 7 ft (140ft <sup>2</sup> ) Total (780 ft <sup>2</sup> )	9.75 m x 6.10 m (59.47m <sup>2</sup> ) 6.09m x 2.15 m (12.78 m <sup>2</sup> ) Total (72.25 m <sup>2</sup> )
Side Height	6 ft 6 inch	2m
Apex	16 ft 4 inch	5 m
Bedroom 1	10 ft x 20 ft (200ft <sup>2</sup> )	3.04m x 6.09m (18.51m <sup>2</sup> )
Bedroom 2	10 ft x 20 ft (200ft <sup>2</sup> )	3.04m x 6.09m (18.51m <sup>2</sup> )
Washroom 1	10 x 6 ft (60ft <sup>2</sup> )	3.04m x 1.82m (5.53m <sup>2</sup> )
Washroom 2	10 x 6 ft (60ft <sup>2</sup> )	3.04m x 1.82m (5.53m <sup>2</sup> )
Living Room	12 ft x 10ft (120ft <sup>2</sup> )	3.65 m x 3.04m (11.09m <sup>2</sup> )
Porch	20 ft x 7 ft (140ft <sup>2</sup> )	6.09m x 2.13m (12.97 m <sup>2</sup> )

## **CLIMATOLOGY :**

- ALLAHABAD'S ELEVATION IS OVER 90 M (295 FT) ABOVE SEA LEVEL.
- THE CITY HAS A HUMID SUBTROPICAL CLIMATE COMMON TO CITIES IN THE PLAINS OF NORTH INDIA.
- THE ANNUAL MEAN TEMPERATURE IS 26.1 °C MONTHLY MEAN TEMPERATURES ARE 18–29 °C
- ALLAHABAD HAS THREE SEASONS
  - A HOT, DRY SUMMER,
  - A COOL, DRY WINTER
  - A HOT, HUMID MONSOON.
- RAIN FROM THE BAY OF BENGAL OR THE ARABIAN SEA BRANCHES OF THE SOUTHWEST MONSOON FALLS ON ALLAHABAD FROM JUNE TO SEPTEMBER, SUPPLYING THE CITY WITH MOST OF ITS ANNUAL RAINFALL OF 1,027 MM (40 IN).

## **TOPOLOGY :**

- ALLAHABAD IS IN THE SOUTHERN PART OF UTTAR PRADESH, AT THE CONFLUENCE OF THE GANGA AND YAMUNA.
- TO THE SOUTHWEST IS BUNDELKHAND, TO THE EAST AND SOUTHEAST IS BAGHELKHAND, TO THE NORTH AND NORTHEAST IS AWADH AND TO THE WEST IS THE LOWER DOAB.
- THE CITY IS DIVIDED BY A RAILWAY LINE RUNNING EAST–WEST. THE INDIAN STANDARD TIME LONGITUDE (25.15°N 82.58°E) IS NEAR THE CITY.
- ACCORDING TO A UNITED NATIONS DEVELOPMENT PROGRAMME REPORT, ALLAHABAD IS IN A "LOW DAMAGE RISK" WIND AND CYCLONE ZONE.
- IN COMMON WITH THE REST OF THE DOAB, ITS SOIL AND WATER ARE PRIMARILY ALLUVIAL.
- PRATAPGARH IS NORTH OF THE CITY, BHADOHI IS EAST, REWA IS SOUTH, CHITRAKOOT (EARLIER BANDA) IS WEST, AND KAUSHAMBI, WHICH WAS TILL RECENTLY A PART OF ALLAHABAD, IS NORTH-WEST. **28**

# LITERATURE STUDY



## **LITREATURE STUDY (1):GMVN SKI RESORT, AULI,**

### **UTTRAKHAND**

GARHWAL HIMALAYAS BECKONS ADVENTURE ENTHUSIASTS FROM ALL THE OVER THE WORLD WITH ITS RIVERS, SNOW-CLAD PEAKS, LAKES, FLORA AND FAUNA. ALL ROUND THE YEAR THE ADVENTURE FREAKS COME HERE TO INDULGE IN WHITE WATER RAFTING, TREKKING, AND WINTER GAMES SUCH AS SKIING, SNOW BOARDING ETC. WITH THE HELP OF GARHWAL MANDAL VIKAS NIGAM, AULI IS GIVEN A CONSTANT EFFORT THE OF DEVELOPMENT AND THE BEST POSSIBLE SERVICE FOR THE SKI TOURISTS.

### **AREAS PROVIDED :**

- ❑ DORMITORIES – 360 SQ.M.
- ❑ HONEYMOON SUITE – 16 SQ.M.
- ❑ FAMILY SUITE – 38 SQ.M.
- ❑ DELUX ROOM – 24 SQ.M.
- ❑ SKI EQUIPMENT ROOM – 40 SQ.M.
- ❑ PARKING – 100 SQ.M .
- ❑ RESTAURANT – 225 SQ.M.
- ❑ KITCHEN – 30 SQ.M.
- ❑ BAR – 50 SQ.M.
- ❑ SOLAR ELECTRICITY ROOM – 10 SQ.M.
- ❑ TRAINEE'S MESS – 40 SQ.M.

### **ATTRIBUTES OF THE SITE :**

- ❑ A MAXIMUM OF 12 CARS CAN BE PARKED WITHIN THE PREMISES.
- ❑ ACCORDING TO THE ACCOMODATION OF 120 PEOPLE THE MINIMUM CAR PARKING SPACE TO BE PROVIDED SHOULD BE ATLEAST 30 CARS.
- ❑ CENTRAL HEATING SYSTEM AND HOT WATER SUPPLY IS MECHANIZED.

### **ORIENTATION:**

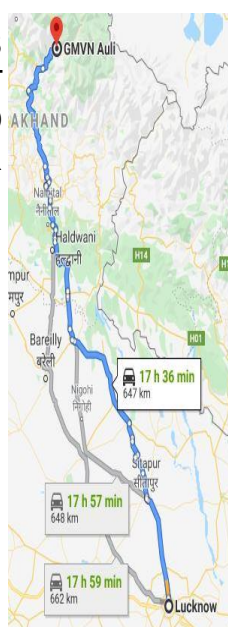
THE BUILDING IS ORIENTED IN SCATTERED MANNER WITH NO UNIFORM INCLINATION EXCEPT BEING ALIGNED ALONG THE CENTRAL STAIRCASE. WITH THE ADMIN BLOCK LOCATED ON THE NORTH EASTERN PART OF THE SITE AND COTTAGES ON THE SOUTHERN SIDE.

### **ACCESS :**

ACCESS TO THE RESORT IS BY THE JOSHIMATH 16 KMS FROM THE ROAD. THE RESORT IS 129 KM FROM THE MAIN DEHRADUN TOWN.

THE NEAREST AIRPORT IS JOLLY GRANT AT DEHRADUN ,273 KM AWAY FROM THE RESORT.

THE NEAREST RAILWAY STATION IS HARIDWAR AT A DISTANCE OF 299 KM FROM THE RESORT.



### **LOCATION :**

THE RESORT IS LOCATED 16 KM FROM JOSHIMATH AT AN ALTITUDE OF 3050 M ABOVE SEA LEVEL. 129 KM FROM THE MAIN DEHRADUN TOWN.







## **OTHER FACILITIES :**

- ❑ THE RESORT IS LOCATED IN THE HEART OF AULI WITH NO SETTLEMENTS NEARBY.
- ❑ THE RESORT RECEIVES A SNOW FALL OF ABOUT 5-6 FT. EACH YEAR.
- ❑ THE SLOPES ARE 5KM AWAY FROM THE SITE AND WELL CONNECTED BY CHAIR CAR FROM THE SITE AND THE TOP OF SKI CLIFF.
- ❑ THE SITE IS A SLOPING ON WHICH THE TERRACES ARE MADE AT DIFFERENT LEVELS FOR DIFFERENT ROOMS.
- ❑ THERE IS A CENTRAL STAIRCASE, WHICH LEADS TO THE DIFFERENT ROOMS AND THE RECEPTION.

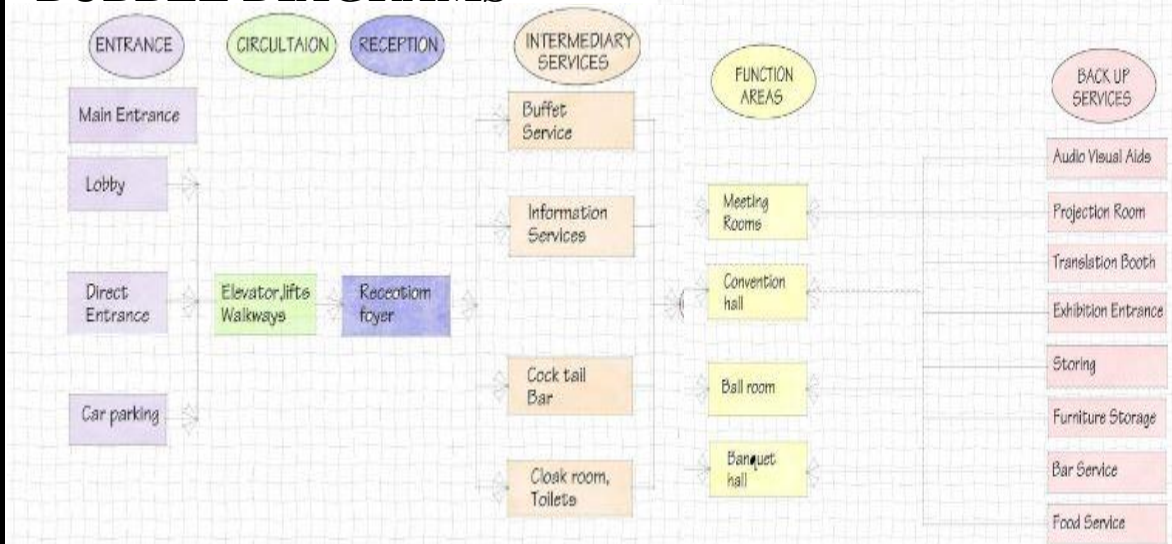


## **TYPES OF ACCOMODATIONS :**

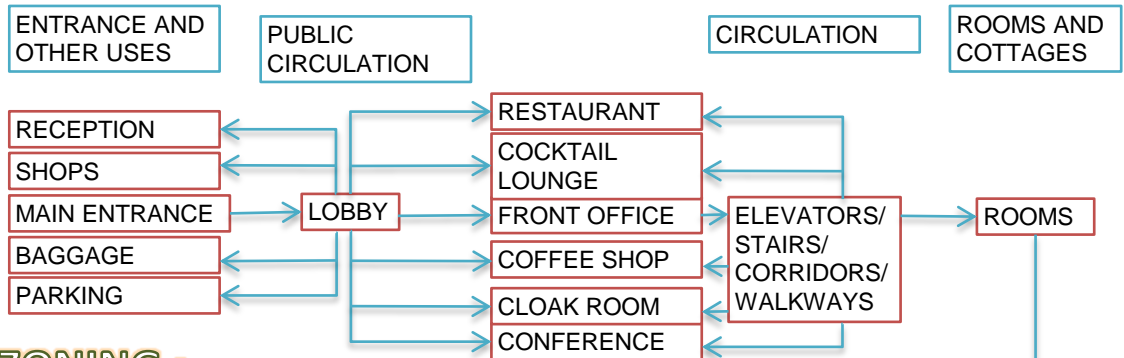
- ❑ THE HOTEL ACCOMMODATES 93 ROOMS WHICH ARE ALIGNED TO THE COUNTOURS.
- ❑ THE SITE IS PLANNED AROUND THE CENTRAL STAIR CASE WHICH LEADS FROM THE PARKING, THE MAIN RESTAURANT AND THE RECEPTION UPTO THE CHAIR CAR TERMINUS.
- ❑ EXECUTIVE SUITES AND DELUX ROOMS,
- ❑ THE HONEYMOON HUTS ARE PLACED ON EITHER SIDE OF THE STAIRCASE.
- ❑ THE DORMITORY AND STAFF QUARTERS ARE PLACED ON THE SOUTH SIDE OF THE SITE.
- ❑ ALL IN ALL IT'S A SCATTERED PLANNING MAKING AND COVERING THE WHOLE SITE.

# **CONCEPT AND BUBBLE DIAGRAMS**

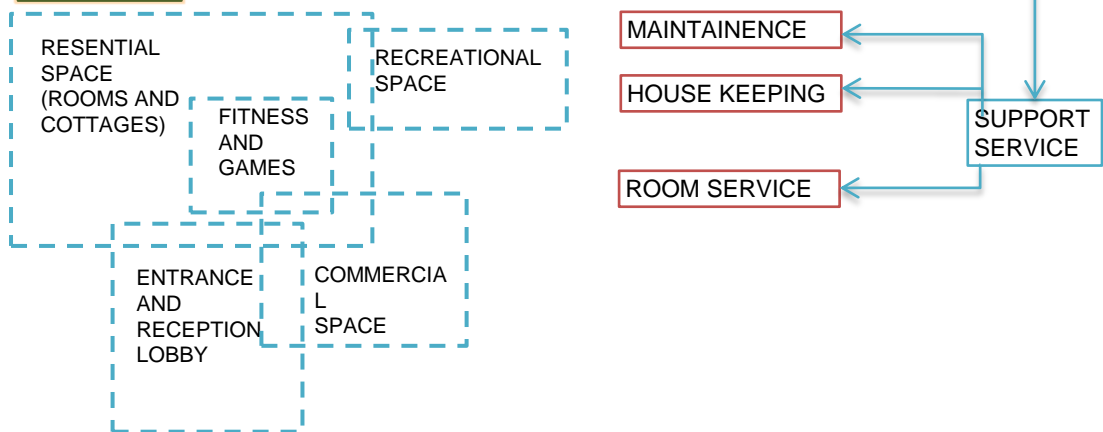
# BUBBLE DIAGRAMS



## FUNCTIONAL RELATIONSHIP FLOW :



## ZONING :

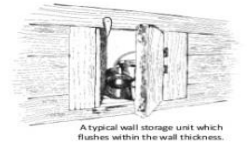
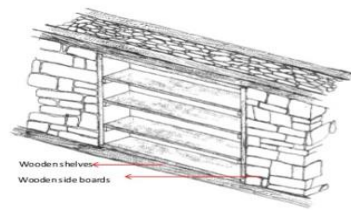
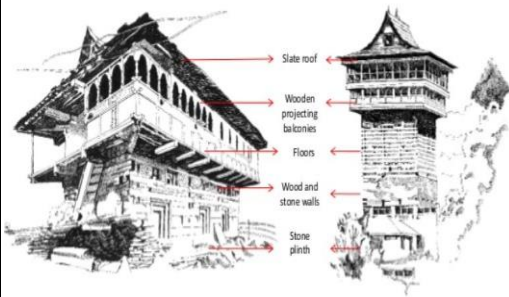


## SITE ZONING:

THE SITE IS MAINLY DIVIDED INTO THREE ZONES :-

- ❑ PUBLIC ZONE – IT INCLUDES THE MAIN ENTRANCE, LOBBY, RESTAURANT, LOUNGE AND FRONT DESK.
- ❑ SEMI – PUBLIC – SHOPS, SPA, CONFERENCE, CORRIDORS, MULTI-PURPOSE HALL AND GYM.
- ❑ PRIVATE ZONE – ROOMS, COTTAGES AND SERVICES





A typical wall storage unit which flushes within the wall thickness.

### INTRODUCTION:

- IT IS A TRADITIONAL TECHNIQUE, IN WHICH A TYPICAL HOUSE IS USALLY TWO OR THREE STOREY HIGH.
- CANTILVERED BALCONIES OVER WOODEN OVER HANGING BEAMS IS A SPECIALITY OF THIS FORM.
- KATH-KHUNI IS A TYPE OF CATOR-AND-CRIBBAGE BUILDING WHICH EMPLOYS LOCALLY AVAILABLE WOOD AND STONE AS PRIME MATERIALS FOR CONSTRUCTION.

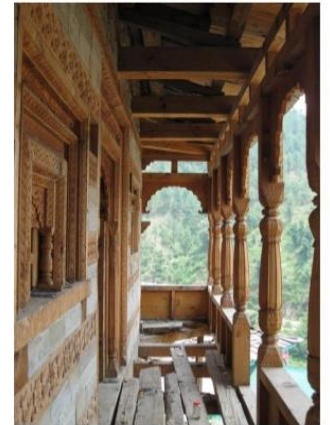
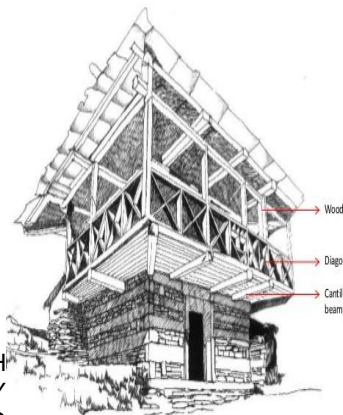
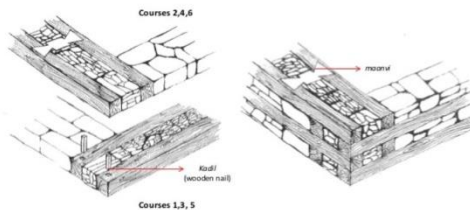
### CONSTRUCTION TECHNIQUES :

#### WALL :-

THE WALLS ARE CONSTRUCTED WITH ALTERNATE COURSES OF DRY MASONARY AND WOOD WITHOUT AND CEMENTING MORTAR.

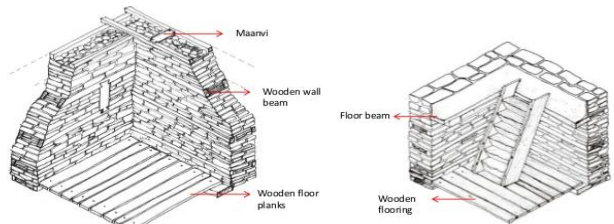
#### WALL COURSES :-

THIS TYPE OF WALL CONSTRUCTION INVOLVES LAYING TWO WOODEN WALL BEAMS LONGITUDINALLY PARALLEL TO EACH OTHER WITH A GAP IN BETWEEN THE TWO MEMBERED IS FILLED WITH RUBLE STONE AND THE EDGE IS SECURED WITH A WOODEN NAIL.



#### PROJECTING WOODEN BALCONIES:-

A TYPICAL WOODEN BALCONY APPEARS ON THE SECOND FLOOR OF THE STRUCTURE CANTILVERED ON THE BEAM SUPPORTED BY THE WALL. ALL VERTICAL POSTS ARE CONNECTED THROUGH A HORIZONTAL MEMBER ON TOP, ON WHICH SITS THE PERPENDICULAR MEMBER.

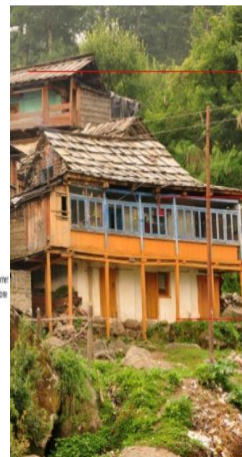
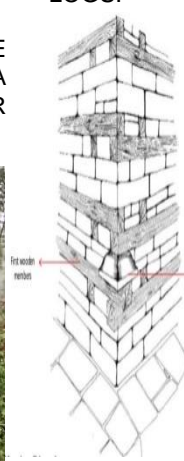


#### WALL AND FLOOR :-

THE WALL BEAMS ARE SHEAR PINNED TO THE WALL LOGS.

#### WALL JUNCTION :-

THE WOOD AND STONE ARE ALTERNATIVELY LAYERED INCLUDING A TRUNCATED PYRAMID SHAPED CORNER STONE TO PROTECT THE WOOD.

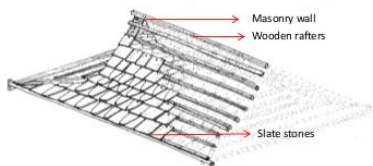


### ROOF:-

THE ROOF STRUCTURE ARE CONSTRUCTED OUT OF WOODEN BEAMS FOLLOWED BY PURLINS AND RAFTER, TOPPED WITH SLATES AND WOODEN SHINGLES.



THE SLATE STONES ALSO WEIGHS DOWN THE STRUCTURE AGAINST STRONG WINDS.



### MATERIALS :

THE PRIMARY MATERIALS OF CONSTRUCTION ARE WOOD AND STONE FOR WALL AND PLINTH, TOPPED BY SLATE SHINGLES. WOOD IS PREDOMINANTLY FROM THE CEDRUS DEODARA AN ENDEMIC SPECIES TO WESTERN HIMALAYAS AND ONE OF THE STRONGEST OF INDIAN CONIFERS. IT HAS STRAIGHT VEINS AND GROWS UPTO 50 METRES.

FOR ROOFING WATER-RESISTANT SHINGLES AND SLATE TILES CAN BE USED BECAUSE OF ITS PROVEN AS A ROOFING MATERIAL.

### WHY KATH KUNI:-

- NO EXTERNAL HELP REQUIRED FOR CONSTRUCTION LOCALS CAN EASILY WORK ACCORDING TO MATERIAL AVAILABILITY.
- TIME AND RESOURCE EFFICIENT.
- LOW MAINTAINENCE.
- NON-RIGID CONSTRUCTION HELPS TO DISSIPATE THE STRESSES DEVELOPED IN THIS REGION.
- INFILLS TRAPS AIR WITHIN WALLS CREATING INSULATION.

## FORM EVOLUTION:

THE SITE HAS BEEN DIVIDED INTO COMPONENTS BASED ON THE TYPE OF ITS USE AND TRAFFIC. HENCE, THE BLOCKS ARE DESIGNED INDIVIDUALLY WITH A UNIQUE INSPIRATION AND INCLINATION FOR INDIVIDUAL BLOCK. WE WILL DISCUSS EACH COMPONENT SEPARATELY FOR ITS CONCEPT AND FORM.

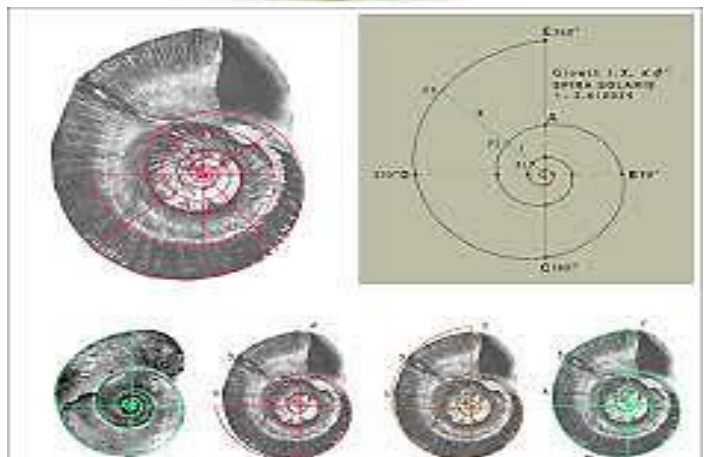
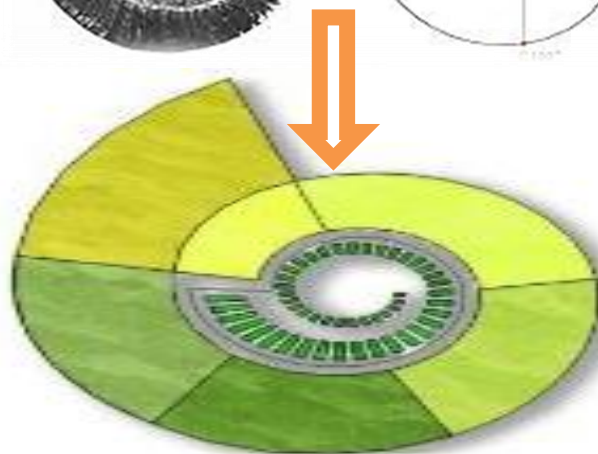
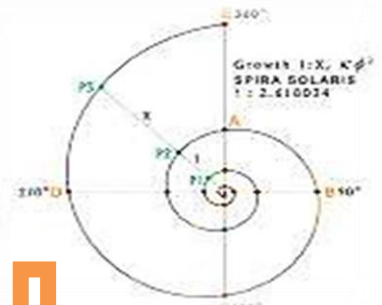


GARDEN SNAIL



## SITE FLOW:

THE FORM OF THE FLOW OR CIRCULATION HAS BEEN INSPIRED BY THE SPIRA SOLARIS, AN ICON WHICH HAS INSPIRED MATHEMATICIANS AND ARTIST SINCE ANCIENT TIMES. THE FORM REPRESENTS "SNAIL" A SLOW MOVING CREATURE WHICH LIVES NEAR WATER HENCE, THE DESIGN IS INSPIRED BY ITS SLOW PACE OF LIVING FOR RELATION AND THE CLOSENESS TO WATER.





# **AREA STATEMENT & COMPARATIVE CHART**

## AREA STATEMENT

### BYLAWS:

TOTAL SITE AREA:	= 9.6 ACRES = 38850 M <sup>2</sup>
PERMISSIBLE F.A.R.	= 0.9,
NO. OF FLOORS PERMISSIBLE	=2.9
GROUND COVERAGE	=30% = 11655 M <sup>2</sup>
TOTAL PERMISSIBLE BUILT-UP AREA	= TOTAL SITE AREA * F.A.R. =34965 M <sup>2</sup>
TOTAL BUILD UP AREA	= 21256 M <sup>2</sup> + 25% CIRCULATION + 10% WALLS = 21256 M <sup>2</sup> + 8741 M <sup>2</sup> + 3496.5 M <sup>2</sup> = 33493.5 M <sup>2</sup> (FIRST FLOOR AREA= 10628M <sup>2</sup> SECOND FLOOR AREA= 10628M <sup>2</sup> )
ARCHIVED F.A.R.	= 0.86
NO. OF CAR PARK	= 2E.C.S. PER 100M <sup>2</sup> =33493.5 X 2/100 =669.8 CARS
SET BACKS :	
FRONT	= 9.0M
REAR	=7.0M
SIDE	=6.5M
FOOTFALLS PER YEAR	=1425732 PEOPLE

<u>REQUIREMENT</u>	<u>NO. OF PERSON</u>	<u>AREA PER PERSON</u>	<u>TOTAL AREA</u>	<u>NORMS</u>
<b><u>ENTRANCE &amp; OTHER USES:</u></b>				
1.PORCH-PODIUM WITH SECURITY CABINS, BAR CHECKING AREA, LOCKAGE DRAWERS & STORAGE	60	1	60M <sup>2</sup>	2 SQ.M. P/P
2.RECEPTION COUNTER	15	1	15M <sup>2</sup>	15 SQ.M. (MIN.)
3.GUEST RELATIONS DESK/ LOBBY MANAGER	10	1	10M <sup>2</sup>	0.8 SQ.M. P/P
4.GUEST SEATING & TOILET	180	1	180M <sup>2</sup>	
5.TRAVEL DESK	9	1	9M <sup>2</sup>	-
6.BAGGAGE ROOM	18	1	18M <sup>2</sup>	12 SQ.M . (MIN.)
7.FIRST AID ROOM/ MEDICAL CARE (INFIRMARY)	28	1	28M <sup>2</sup>	20 SQ. M.
8.RECORD ROOM	15	1	15M <sup>2</sup>	-
9.MANAGER CABIN	8	1	8M <sup>2</sup>	-
10.RESERVATION COUNTER	8	1	8M <sup>2</sup>	0.2 SQ.M. P/P
11.CCTV ROOM	6	1	6M <sup>2</sup>	-
12.STAFF ROOM(3 MEMBERS)	15	1	15M <sup>2</sup>	3 SQ.M. P/P
10.STAFF TOILET	15	1	15M <sup>2</sup>	NORMS
TOTAL AREA:			387M <sup>2</sup>	
<b><u>EXECUTIVE OFFICE:</u></b>				
1.GENERAL MANAGER	15	1	15M <sup>2</sup>	-
2.PA TO GENERAL MANAGER	8	1	8M <sup>2</sup>	-
3.ASSOCIATE MANAGERS	9	1	9M <sup>2</sup>	-
4.OFFICE AREA WITH TOILET	45	1	45M <sup>2</sup>	2.4 SQ.M. P/P
TOTAL AREA:			78M <sup>2</sup>	
<b><u>CENTER ZONE:</u></b>				
SHOPPING FACADE				
1.SHOPS & BOUTIQUES	30	8	180M <sup>2</sup>	2 SQ. M. P/P
2.SKI SHOP BOUTIQUE	38	3	108M <sup>2</sup>	2 SQ. M. P/P
3.SKI HIRE & SALES	30	1	30M <sup>2</sup>	2 SQ. M. P/P
TOTAL AREA:			318M <sup>2</sup>	
<b><u>RECREATIONAL ZONE:</u></b>				
1.INDOOR/ OUTDOOR HEATED SWIMMING POOL	20X 40M <sup>2</sup>		200 SQ.M.	
2.ICE STACKING	115X 300M <sup>2</sup>		100 SQ.M.	
3.TENNIS COURT	125X 400M <sup>2</sup>		595 SQ.M.	

**SERVICES:**

1.TRANSFORMER	75	1	75M <sup>2</sup>	15 SQ.M. P/MACHINE
2.ELECTRIC ROOM	60	1	60M <sup>2</sup>	10 SQ.M. P/MACHINE
3.GENERATOR	60	1	60M <sup>2</sup>	8 SQ.M. P/MACHINE
4.WATER STORAGE	75	1	75M <sup>2</sup>	-
5.PLANT ROOM	120	1	120M <sup>2</sup>	-
6.AHU ROOMS	80	1	80M <sup>2</sup>	1.2 SQ.M. (3-TON)
7.CHIEF ENGINEER'S CABIN	12	1	12M <sup>2</sup>	-
8.WORKSHOP	60	1	60M <sup>2</sup>	2.8 SQ.M. P/P
TOTAL AREA:			542M <sup>2</sup>	

**MULTI-PURPOSE HALL:**

1.LOBBY	60	1	60M <sup>2</sup>	2.3 SQ.M. P/P
2.PRE-FUNCTION AREA	200	1	200M <sup>2</sup>	-
3.MULTI PURPOSE HALL FOR 400 PERSONS	600	1	600M <sup>2</sup>	2 SQ. M. P/P
4.2 DIVISIONS EACH INDEPENDENTLY SERVICEABLE @1.5 M <sup>2</sup> PER COVER	125	1	125M <sup>2</sup>	1.5 SQ. M. P/P
5.KITCHEN	100	1	100M <sup>2</sup>	2.4 SQ. M. P/P
6.TOILETS FOR MALE & FEMALE	60	1	60M <sup>2</sup>	ACC. TO BYELAW
7.STORES FOR FURNITURE, CARPETS ETC.	20	1	20M <sup>2</sup>	-
TOTAL AREA:			1147M <sup>2</sup>	

**SPA & WELLNESS ZONE:**

1.RECEPTION, WELCOME AREA COMMON LOBBY & SEATING, RESERVATION AREA	60	1	60M <sup>2</sup>	2 SQ.M. P/P
2.GYM-EXERCISE STUDIO	100	1	100M <sup>2</sup>	2.9 SQ.M. P/P
3.TREATMENT ROOMS WITH SHOWER & BATH	30	2	60M <sup>2</sup>	2.5 SQ.M. P/P
4.SAUNA STEAM ROOMS	80	2	160M <sup>2</sup>	2 SQ.M. P/P
5.PRIVATE RELAXATION & MEDITATION AREA	28	4	112M <sup>2</sup>	-
6.SPA CAFE & JUICE BAR	75	1	75M <sup>2</sup>	1.2 SQ.M. P/P
7.REST ROOMS & LOCKERS	60	1	60M <sup>2</sup>	ACC. TO BYELAWS
8.STAFF LOUNGE & ADMINISTRATIONS AREA	40	1	40M <sup>2</sup>	1.6 SQ.M. P/P
9.STORAGE ROOM	30	1	30M <sup>2</sup>	-
10.LAUNDRY ROOM	60	1	60M <sup>2</sup>	-
TOTAL AREA:			757M <sup>2</sup>	

**HOSPITALITY:**

1.ALL DAY DINING/ MULTI CUISINE RESTAURANT  
FOR 50 PERSON WITH A LA CARTE SERVICE  
& BUFFET COUNTER & LIVE COUNTERS,  
SERVICES PANTRY @2.25 M<sup>2</sup> PER COVER

THE RESTAURANT SHALL HAVE OPEN  
DINING SPACE

115 1 115M<sup>2</sup> 2.25 SQ.M. P/P

2.24X7 COFFEE SHOP WITH A LA CARTE  
SERVICE @2.25 M<sup>2</sup> PER COVER FOR 30  
PERSONS

75 1 75M<sup>2</sup> 2.25 SQ.M. P/P

3.BAR @2.25 M<sup>2</sup> PER COVER FOR 30  
PERSONS

85 1 85M<sup>2</sup> 2.25 SQ.M. P/P

4.BAKERY & MINI COFFEE BAR

45 1 45M<sup>2</sup> 2.25 SQ.M. P/P

TOTAL AREA:

320M<sup>2</sup>

**KITCHEN:**

1.BAKERY & CONFECTIONERY

20 1 20M<sup>2</sup> -

2.COLD ROOM WITH FREEZER

15 1 15M<sup>2</sup> 900 M3/

3.PANTRY

15 1 15M<sup>2</sup> -

4.MULTI PURPOSE HALL

30 1 30M<sup>2</sup> -

5.TANDOOR

15 1 15M<sup>2</sup> 15 SQ.M.

6.PREPARATION AREA

30 1 30M<sup>2</sup> 1.4 SQ.M. P/P

7.WET GROUTING

10 1 10M<sup>2</sup> -

8.STORE ROOM

40 1 40M<sup>2</sup> 30 SQ.M. (MIN.)

9.OPEN WASH

18 1 18M<sup>2</sup> -

10.STEWARDING STORE

20 1 20M<sup>2</sup> -

11.OFFICE

15 1 15M<sup>2</sup> 1.5 SQ.M. P/P

TOTAL AREA:

228M<sup>2</sup>

## **CONCLUSION**

**I HEREBY DECLARE THAT THE WORK DONE IN THIS THESIS PROJECT IS MY OWN WORK AND I HAVE COLLECTED THE DATA FROM VARIOUS SOURCES, WHICH I HAVE DULY ACKNOWLEDGED IN MY REPORT.**

**Date:**

**Place: Lucknow**

**AANCHAL BAJPAI**

**B. Arch (ARCHITECTURE)  
Final year (2019-2020)  
ROLL NO.-1150101001  
SCHOOL OF ARCHITECTURE  
BBDU  
Lucknow.**

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- **[www.scribd .com](http://www.scribd.com)**
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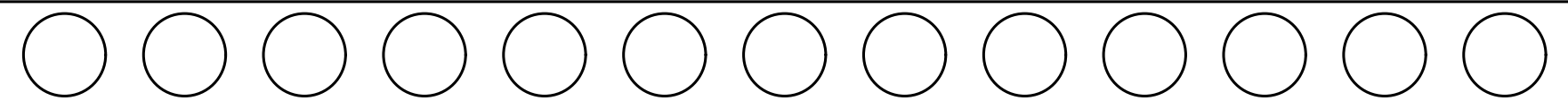
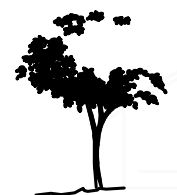
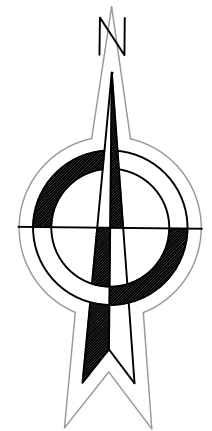
# **DRAWINGS**

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RESERVOIR



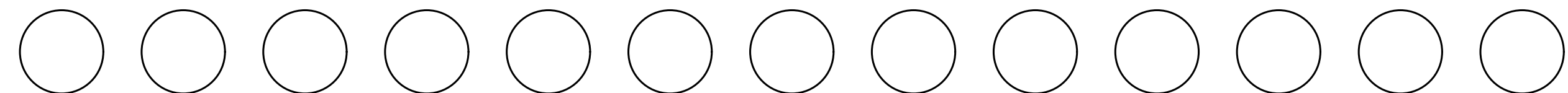
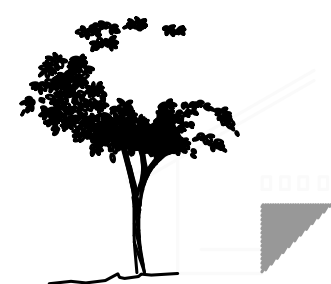
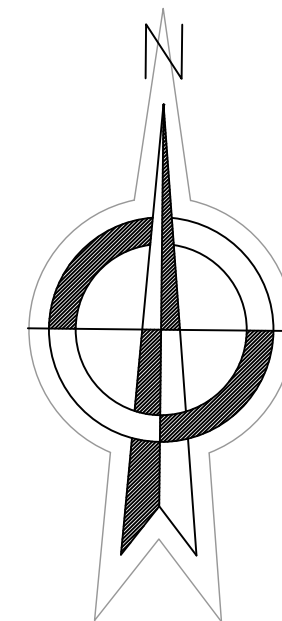


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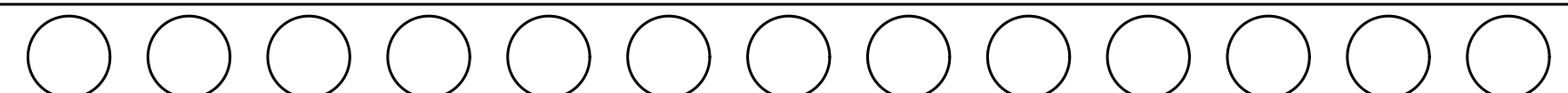
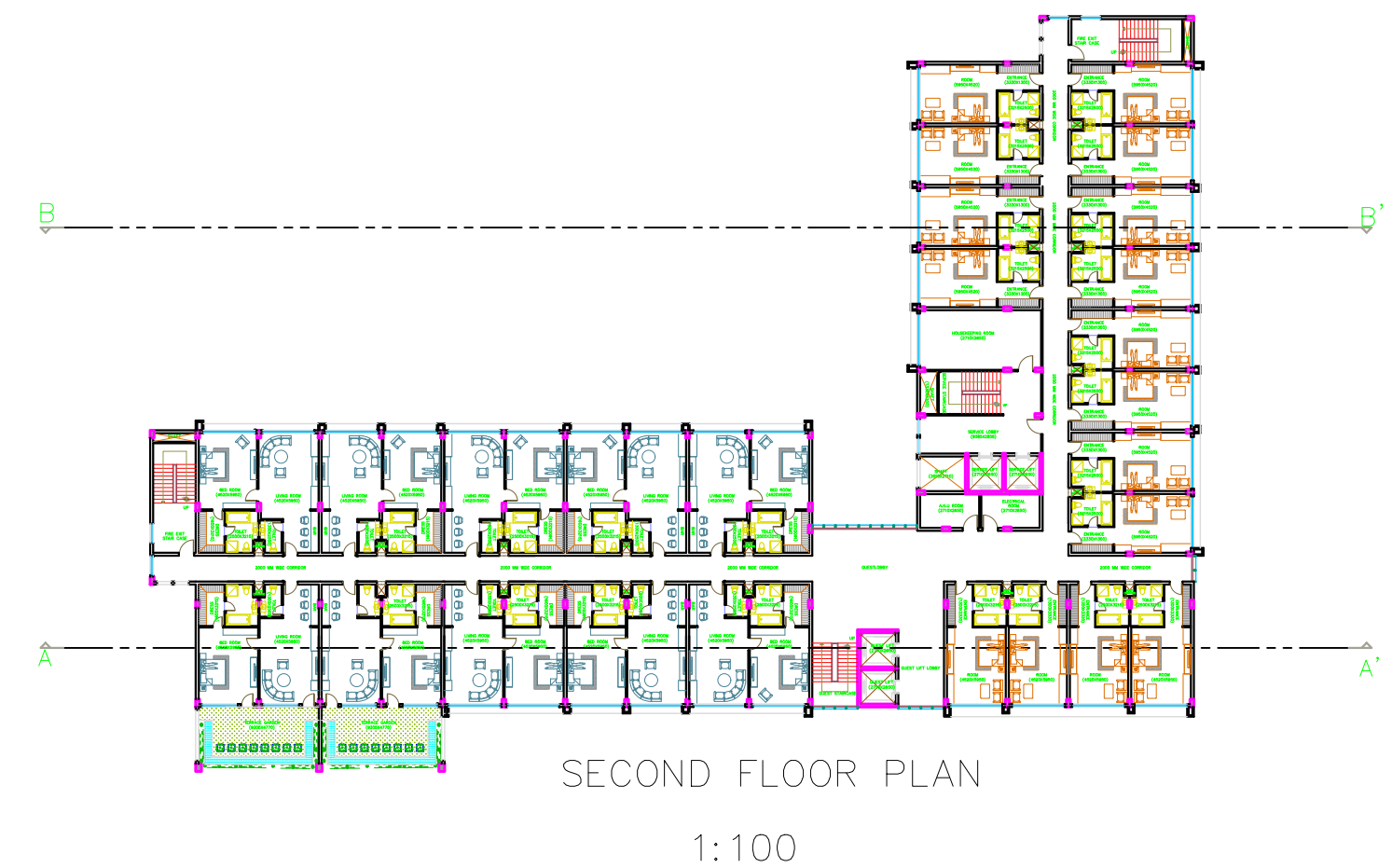
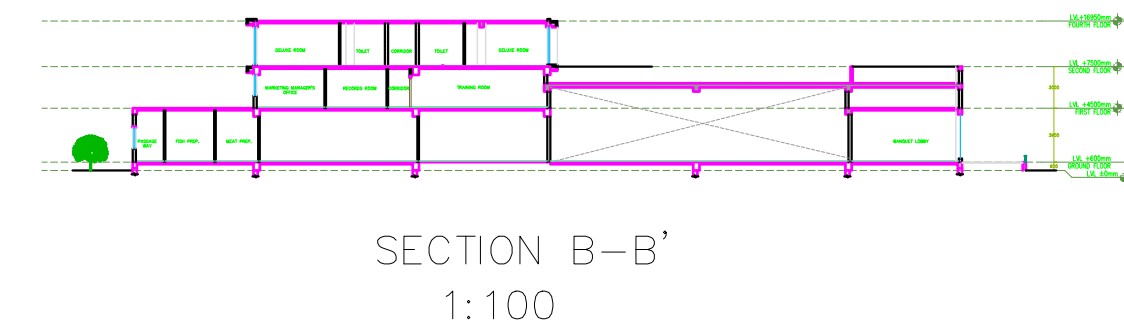
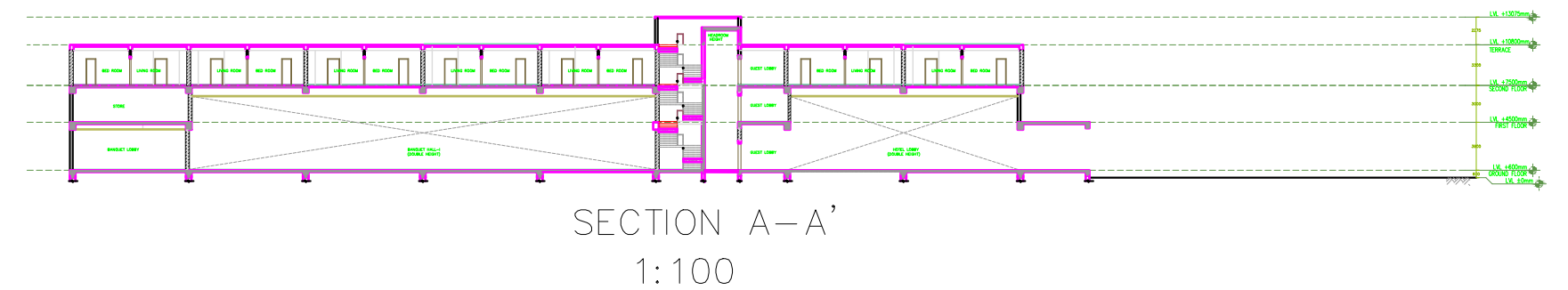
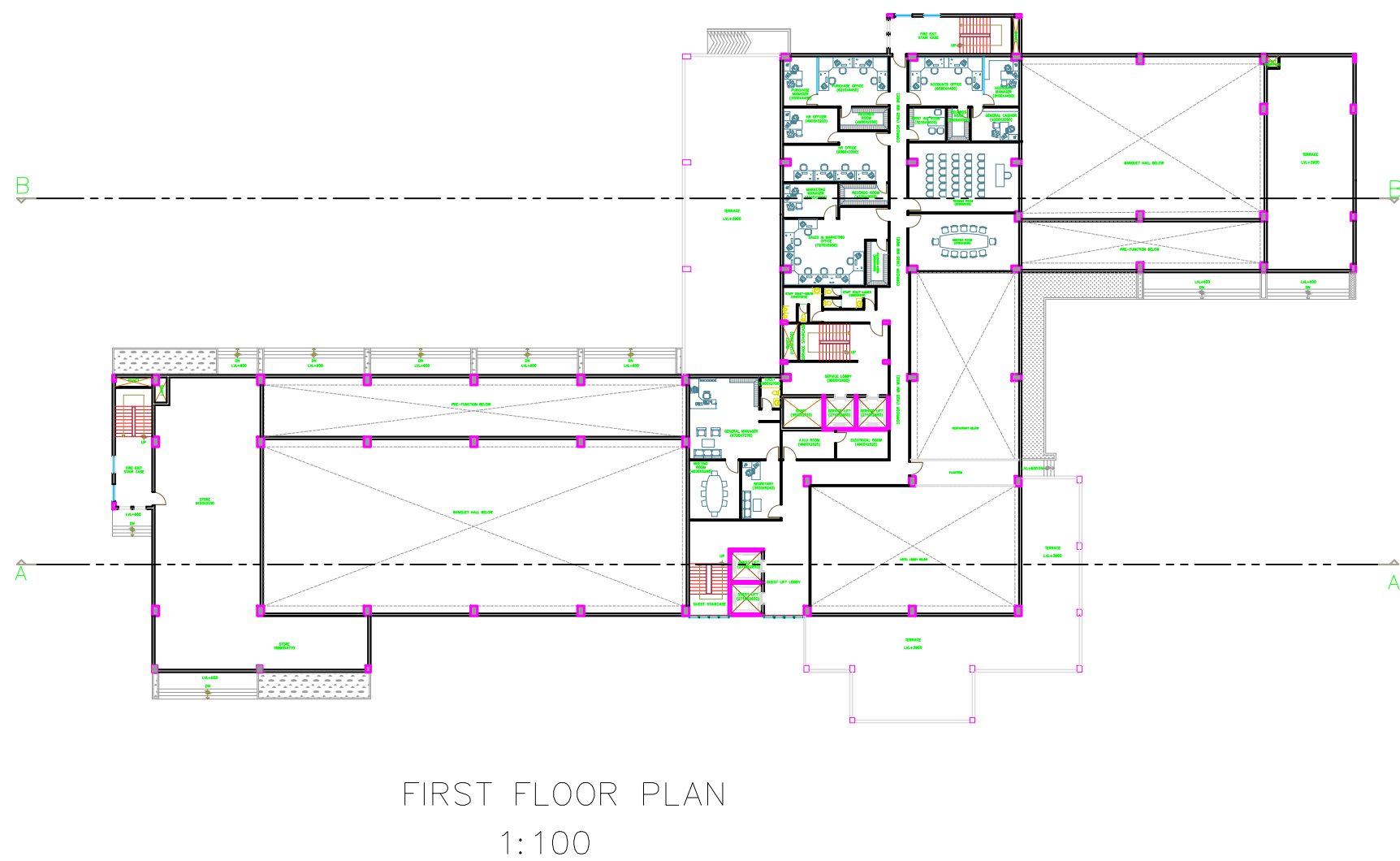
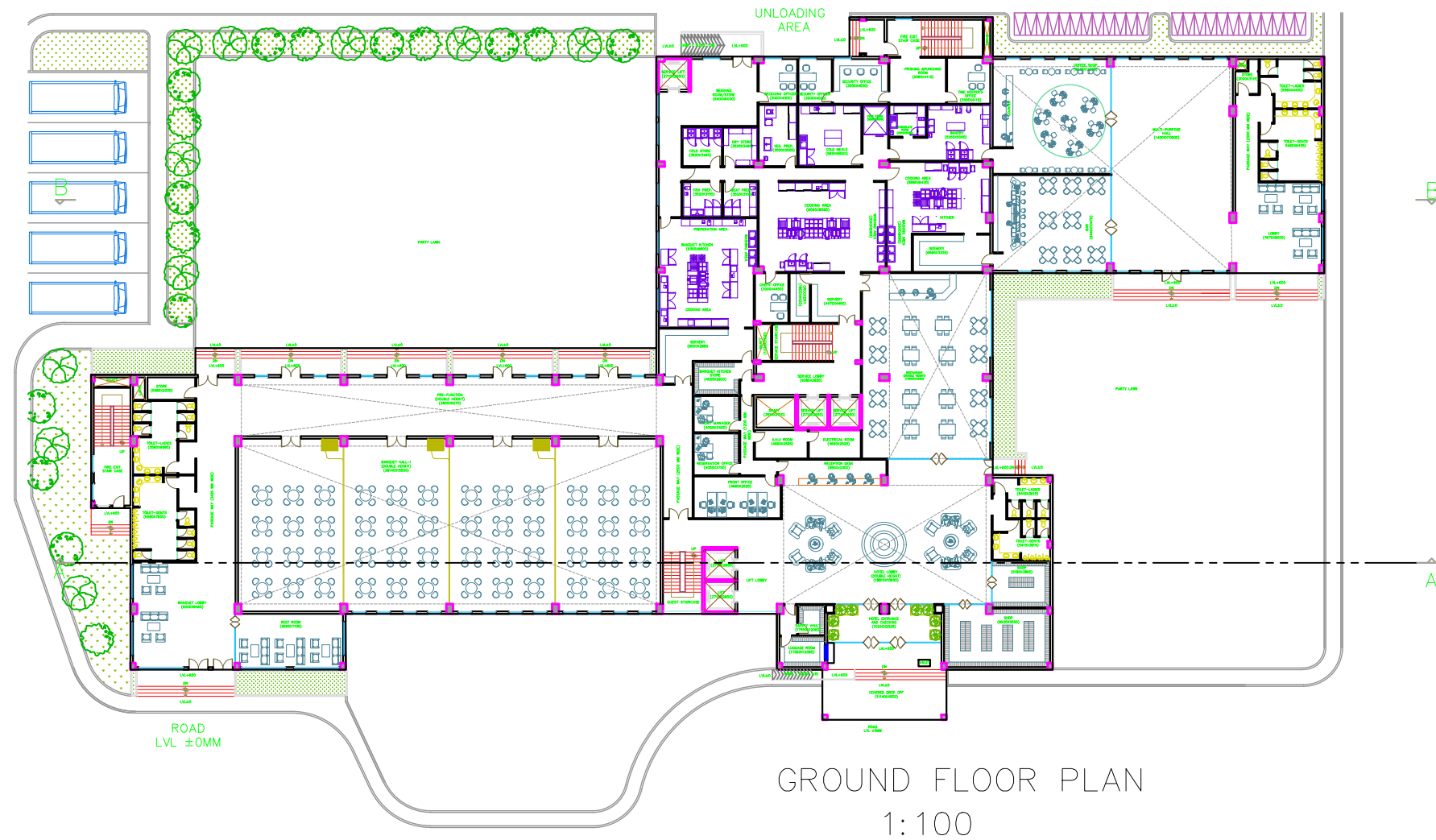
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SET BACKS :		
FRONT	= 9.0M	
REAR	=7.0M	
SIDE	=6.5M	
FOOTFALLS PER YEAR	=1425732 PEOPLE	
PATHWAYS		
OUTER(MAIN ENTRANCE)	=8000 MM	
INNER(PRIMARY)	=3000 MM	
INNER(SECONDARY)	=2000 MM	

RESERVOIR

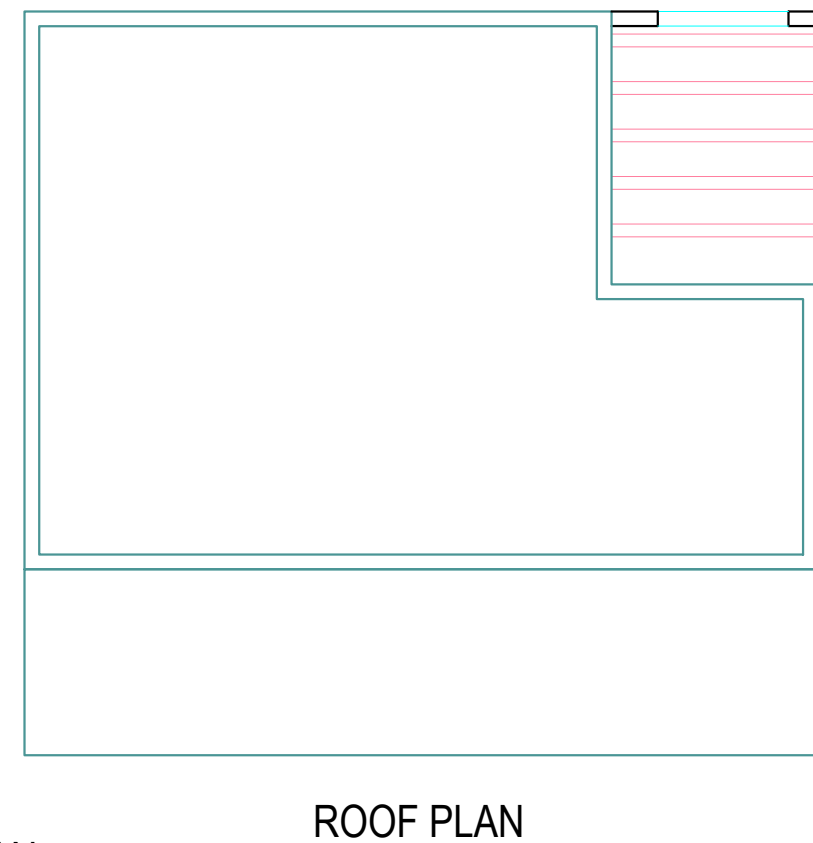
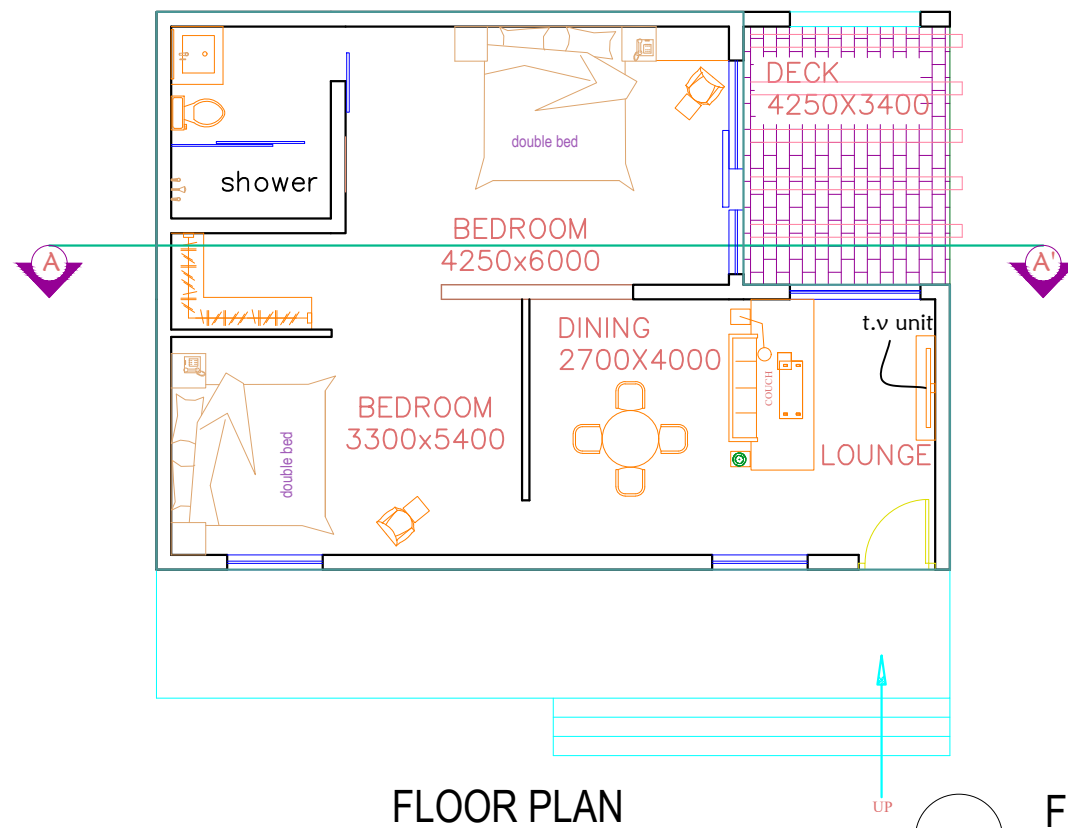
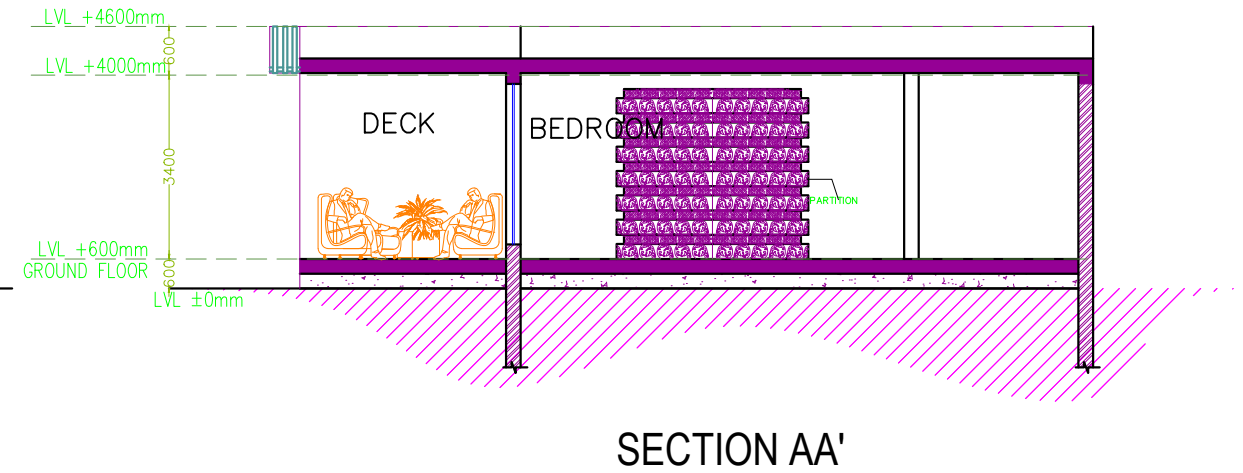
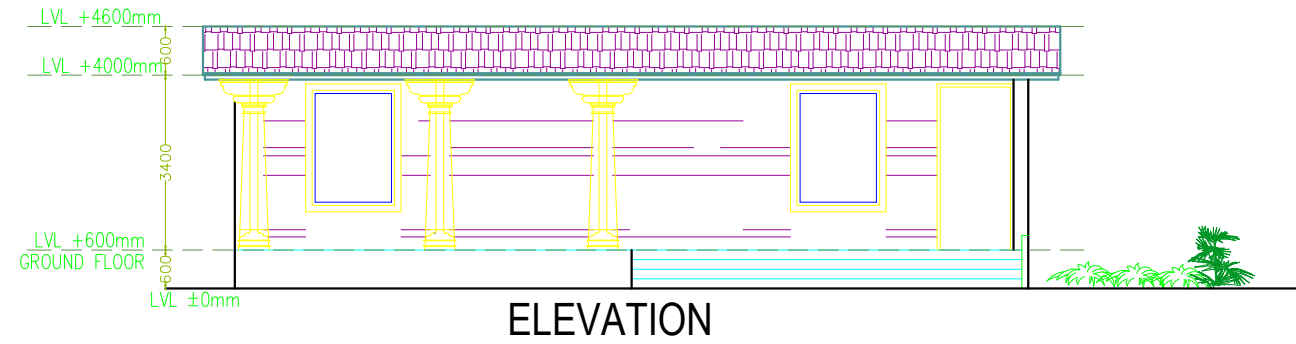




# ADMIN & BANQUET



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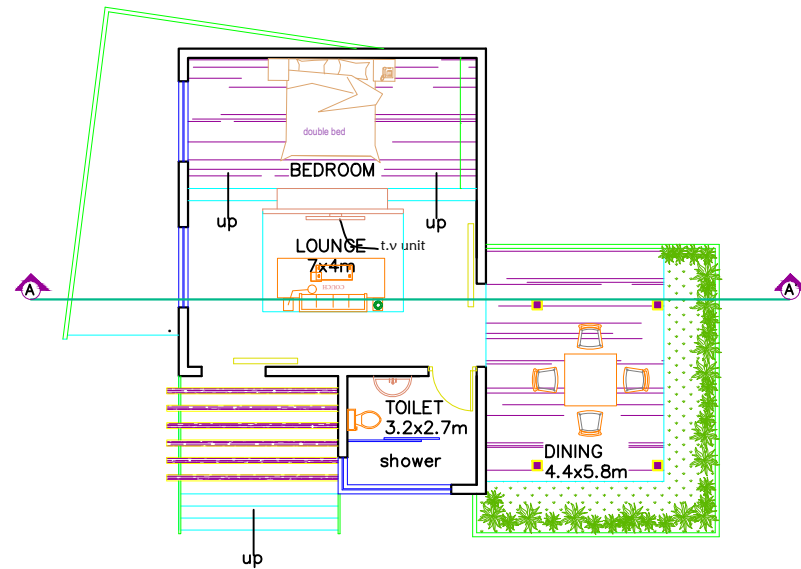


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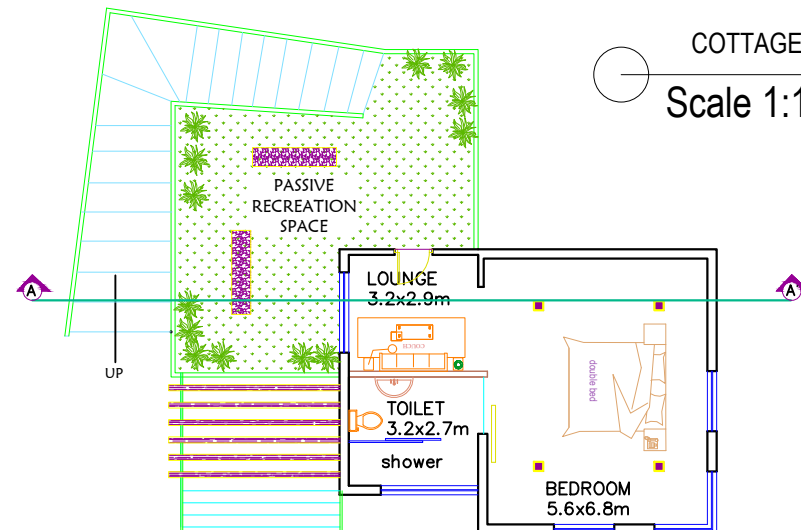




COTTAGE PLAN

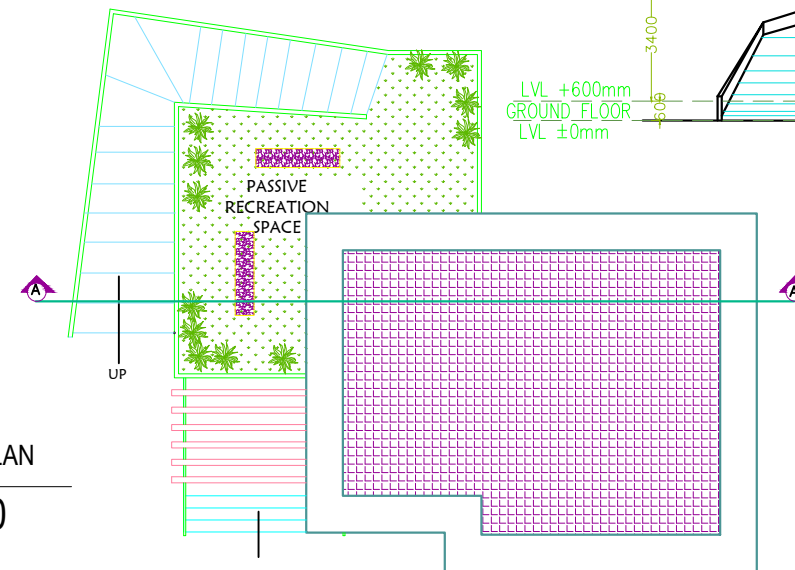


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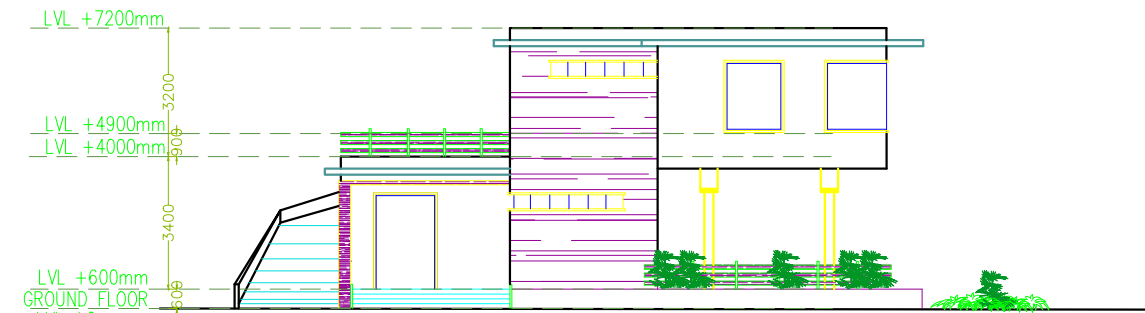


FIRST FLOOR PLAN

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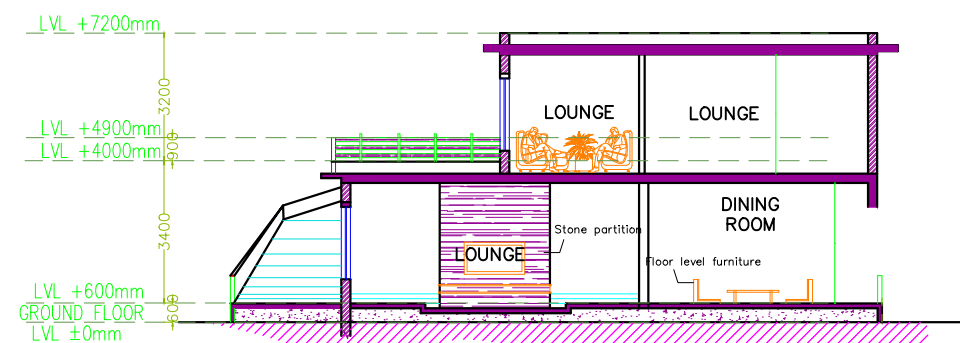
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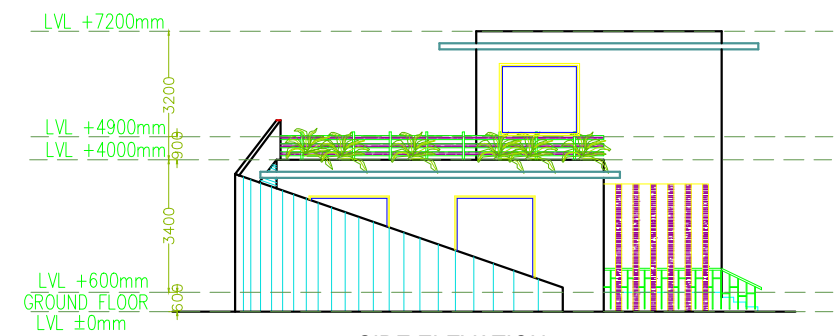
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SIDE ELEVATION

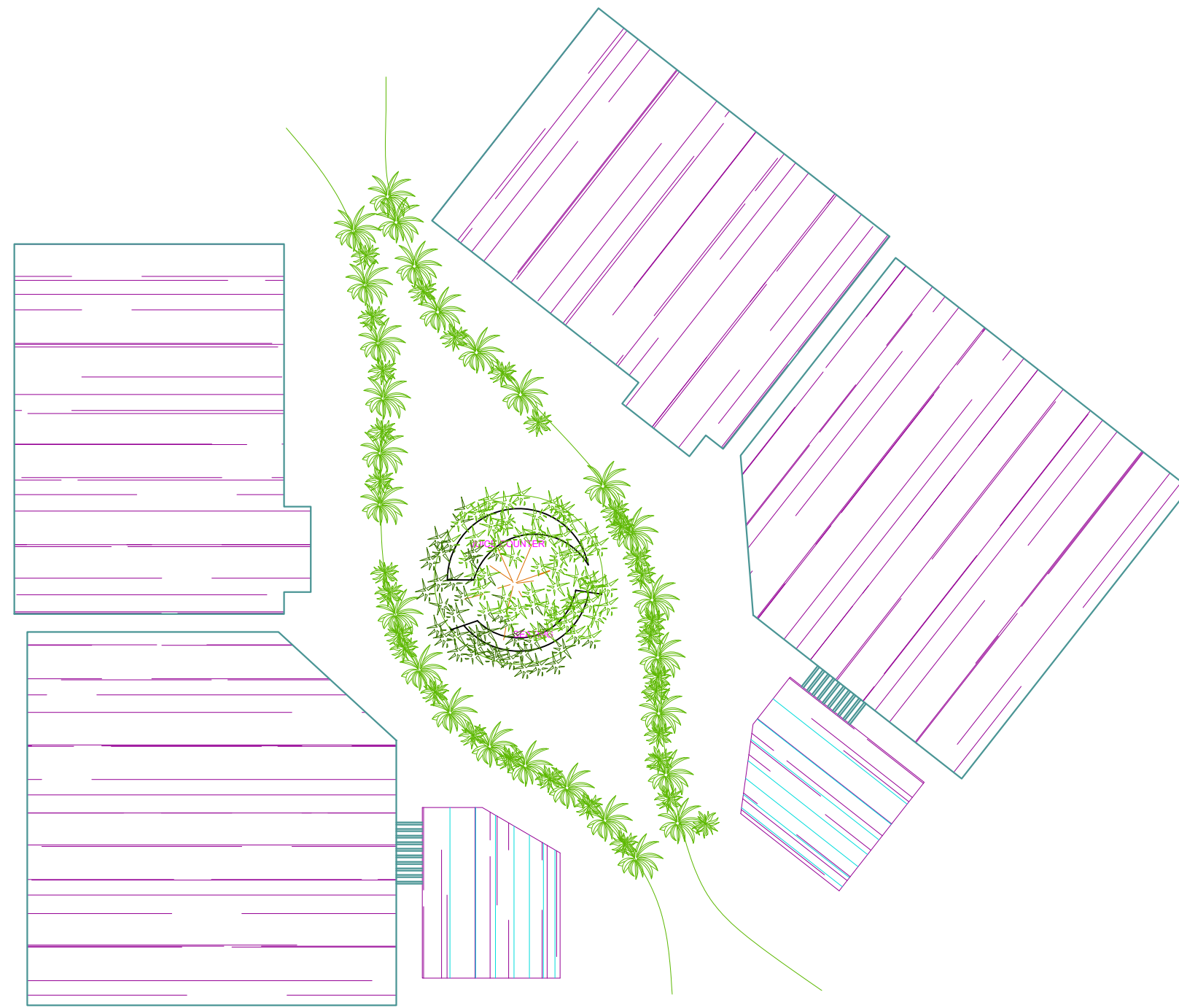


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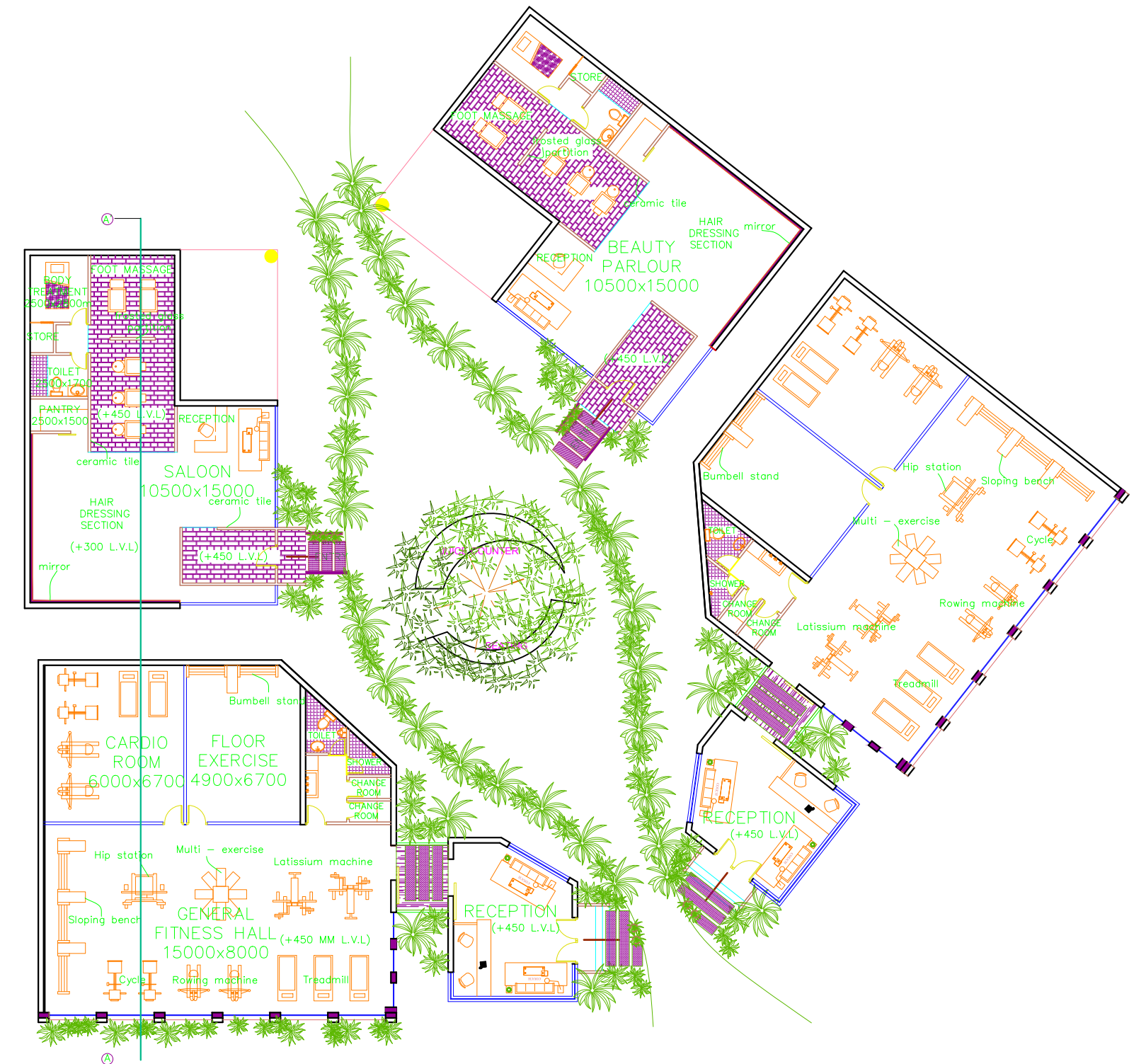


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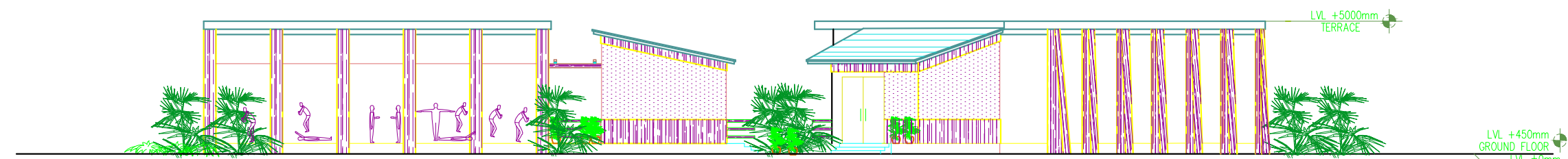


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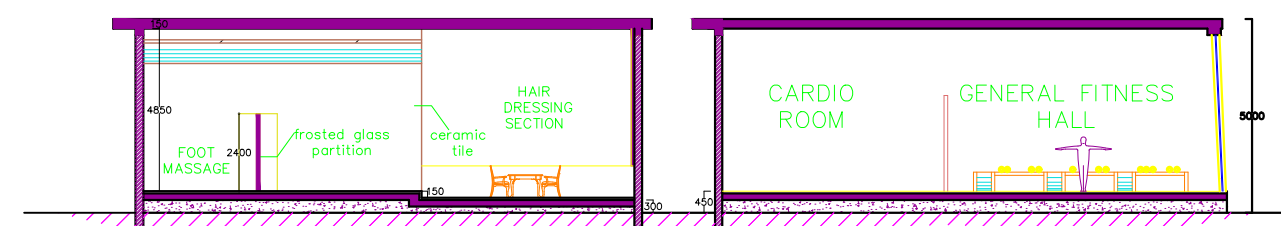


FLOOR PLAN

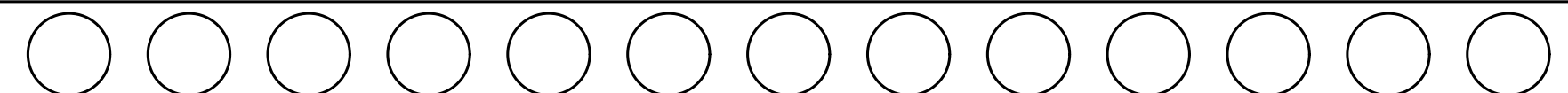
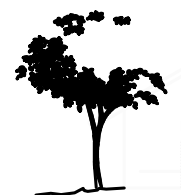
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ELEVATION



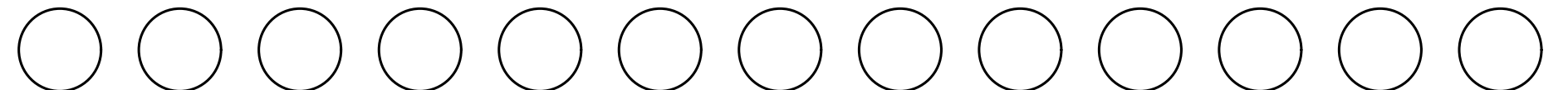
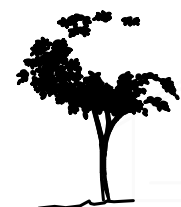
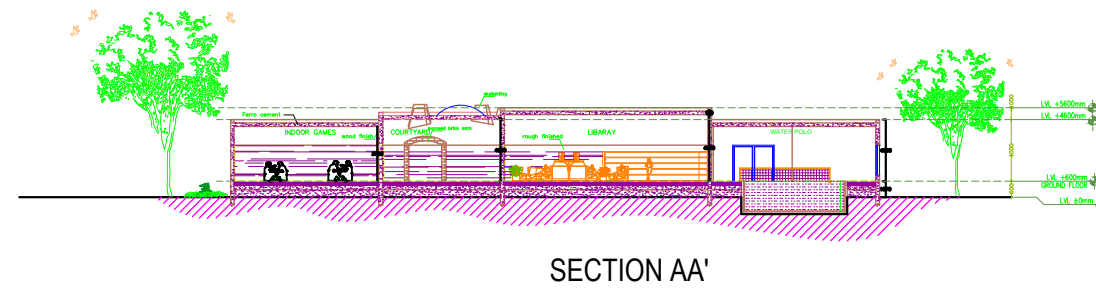
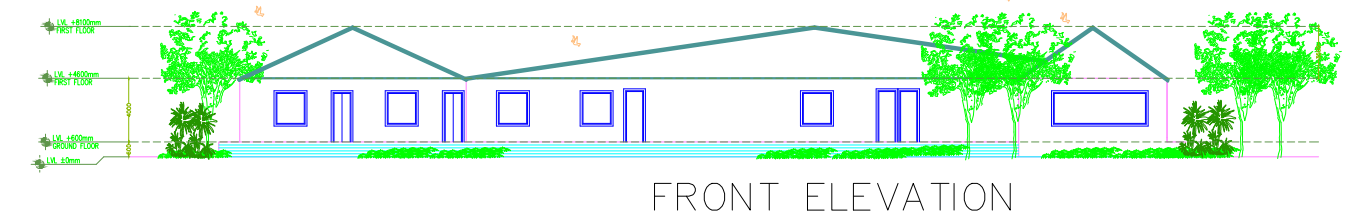
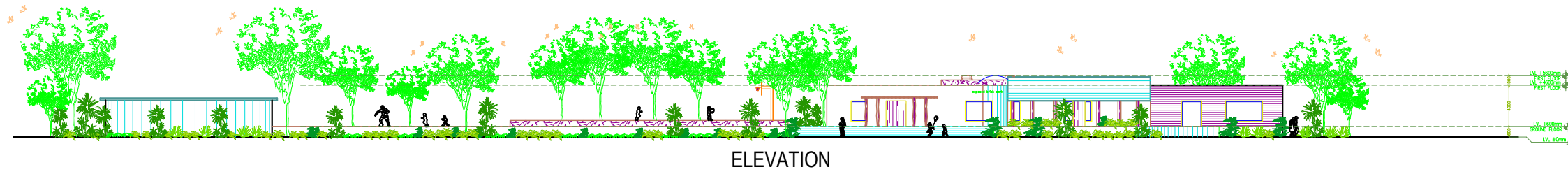
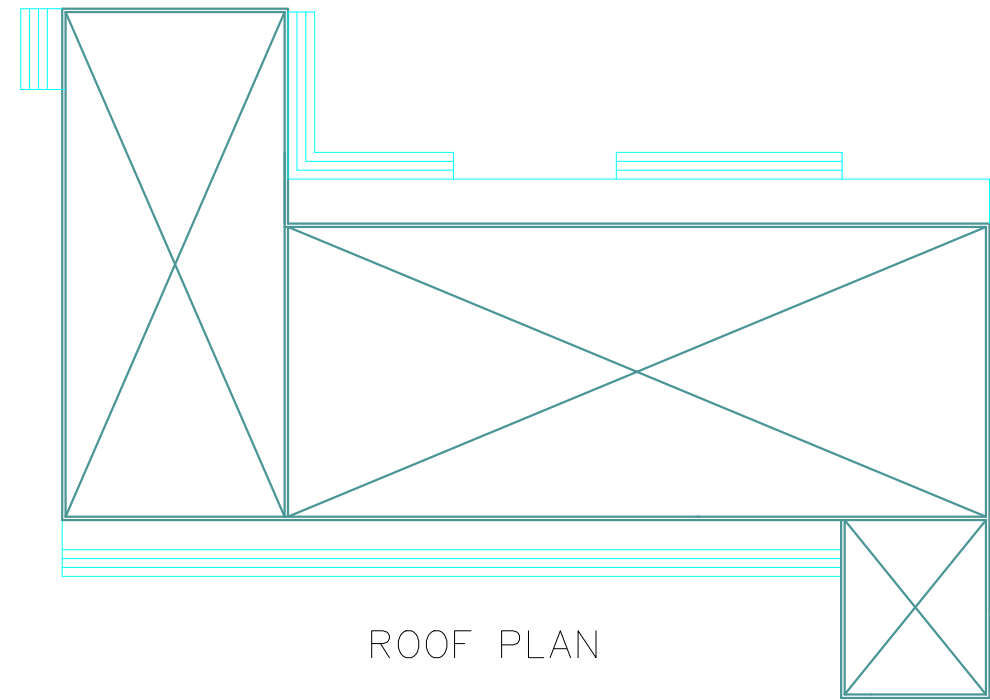
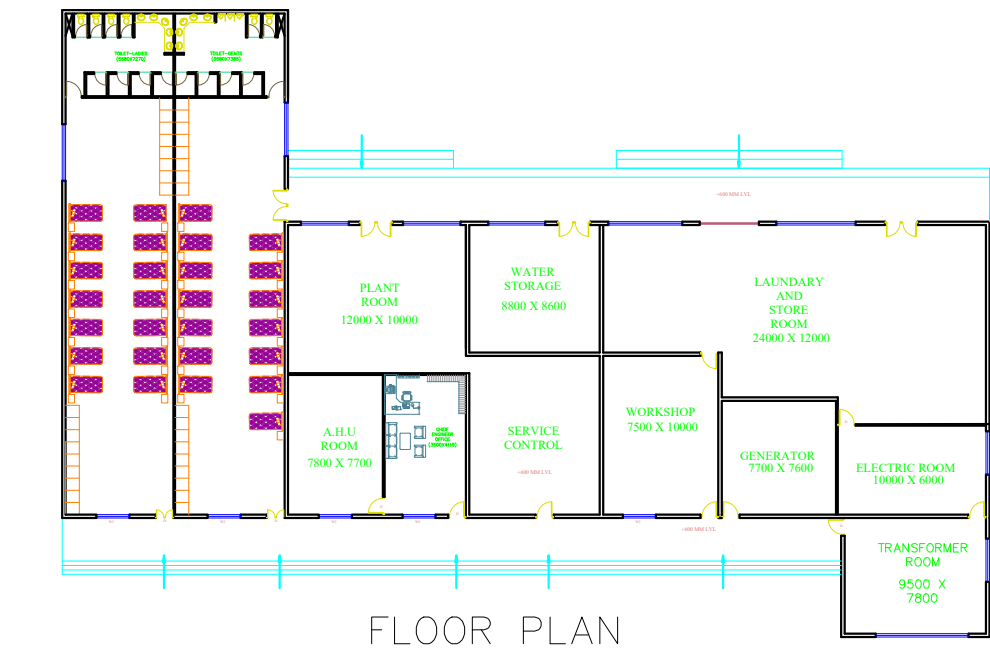
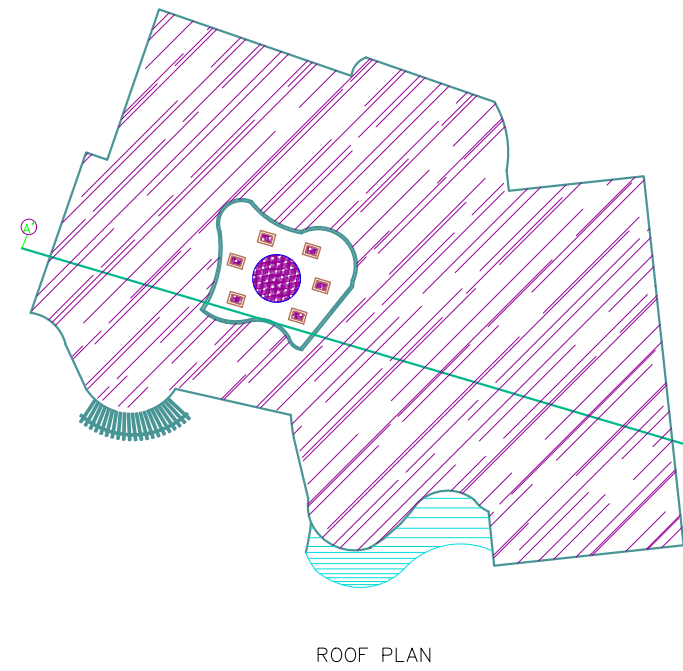
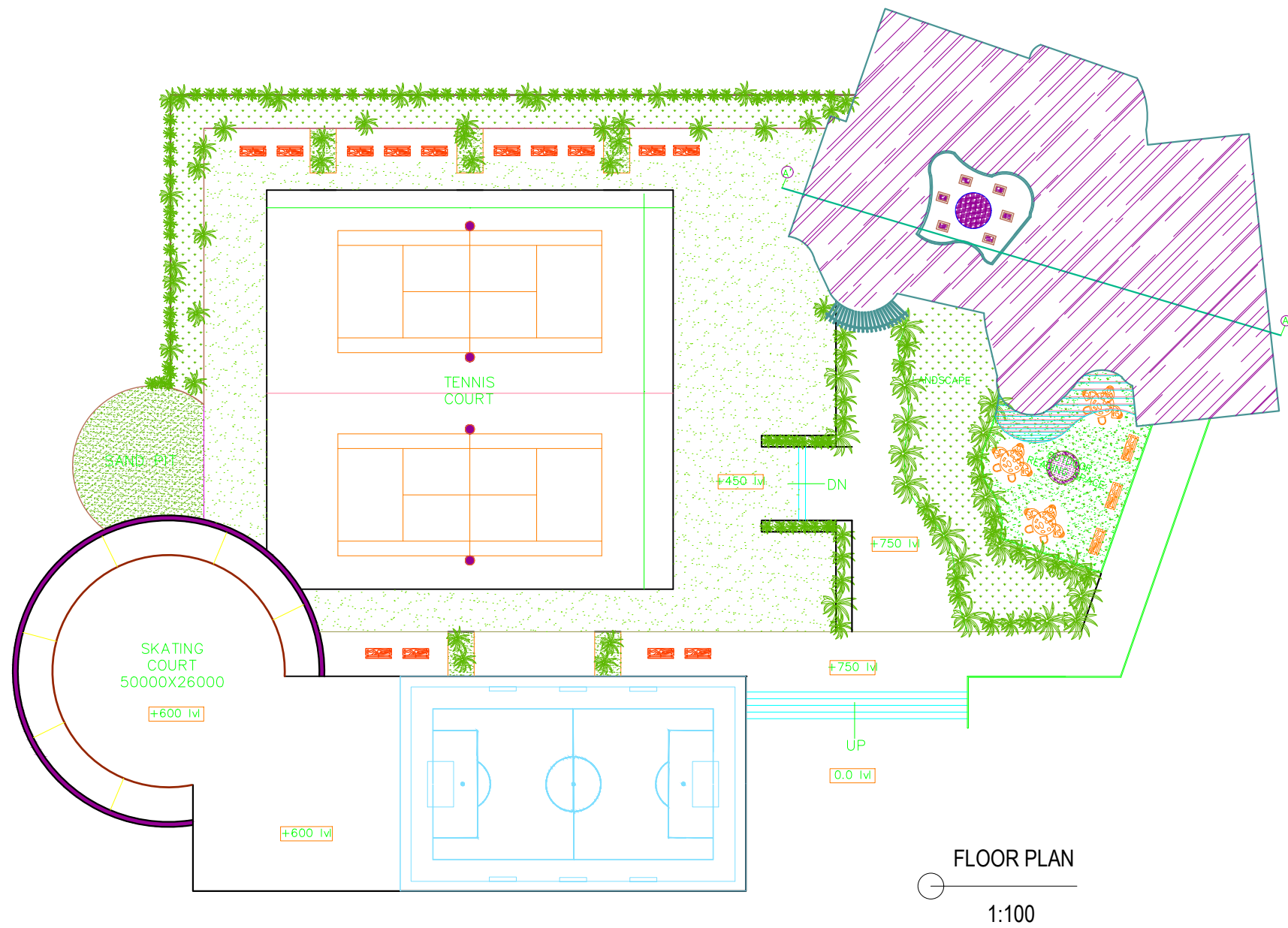
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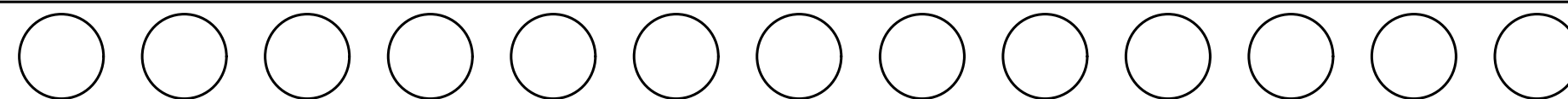
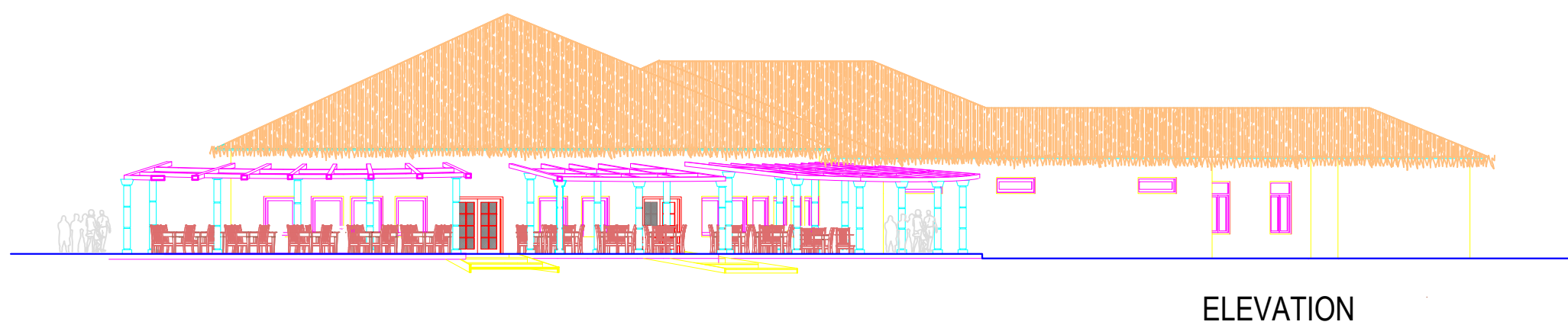
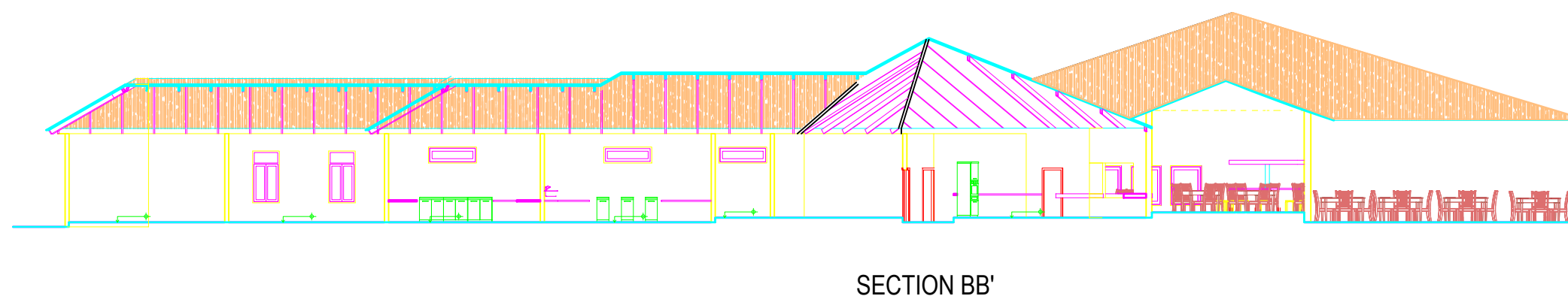
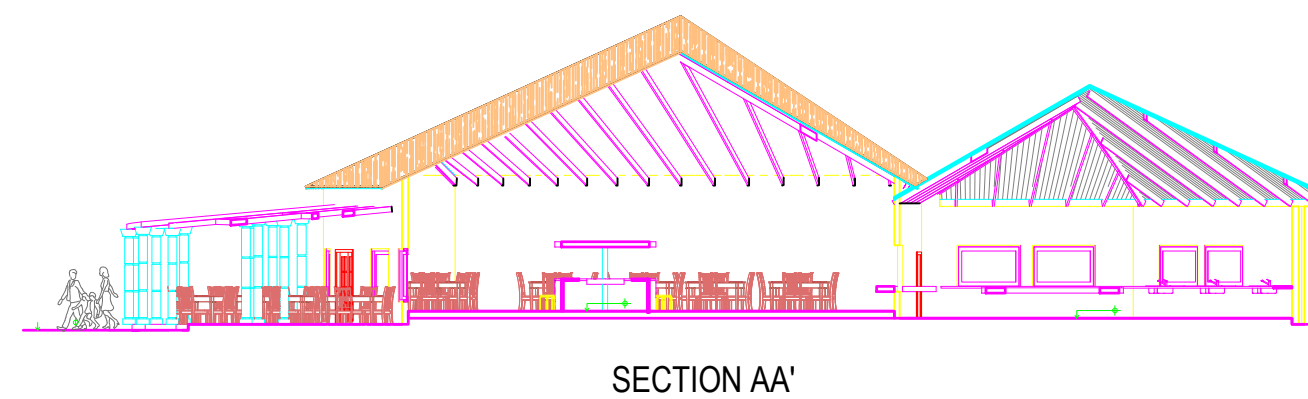
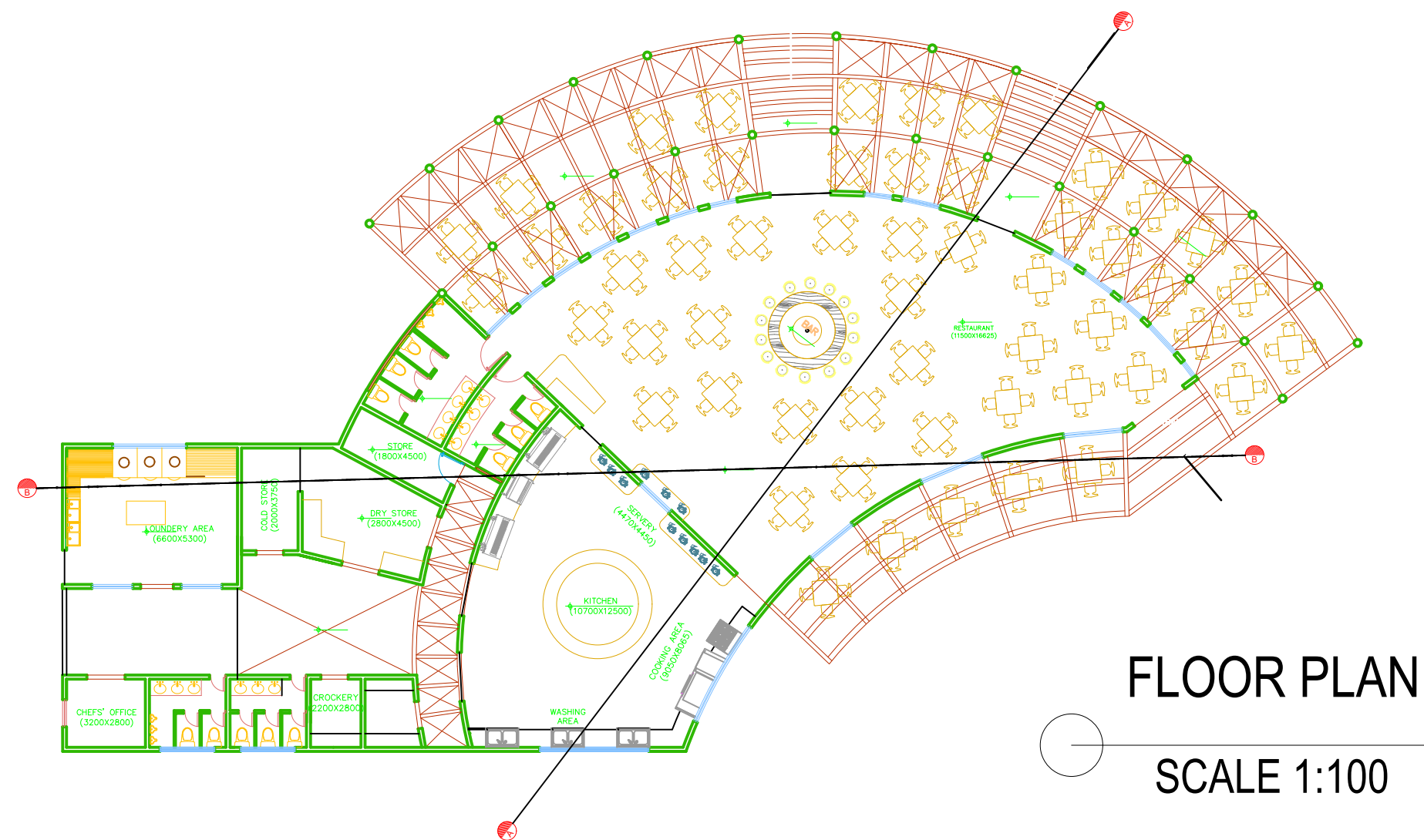


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# RESTAURANT



# **ELECTIVES**

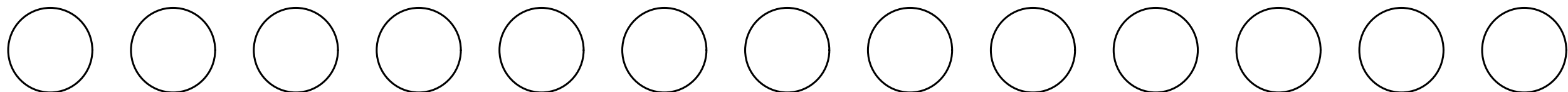
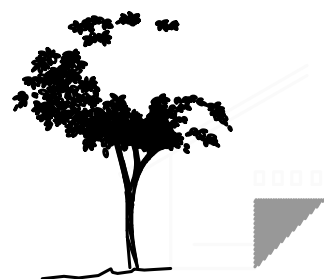
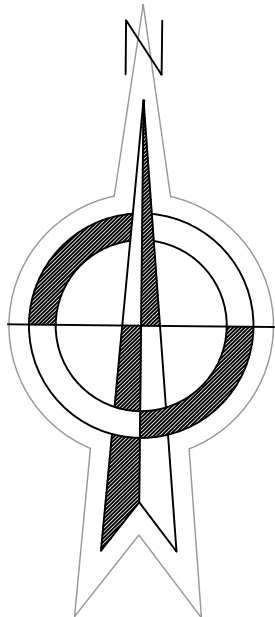


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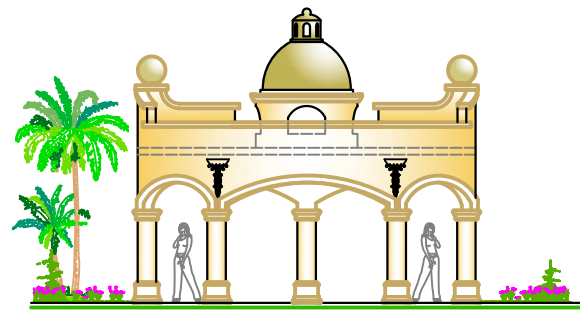
TREES SCHEDULE				
TREE PLAN	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD UPTO
	Grevillea Robusta	Silver Oak	15m	6m
	Delonix Regia	Gulmohar	18m	12m
	Cassia Fistula	Amaltus	13.5m	5m
	Peltophorum Ferrugenum	Pili Gulmohar	9m	8m
	Polyalthia longifolia	Ashoka	18m	5m
	Reystonea Regia	Bottle plam	12m	3m
	Callistimon lenceolatus	Bottle Brush	6m	5m
	Plumeria Alba	Safed Champa	6m	5m

RESERVOIR

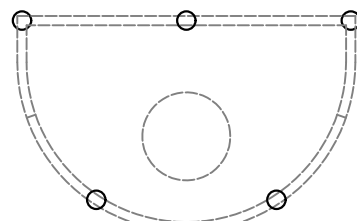




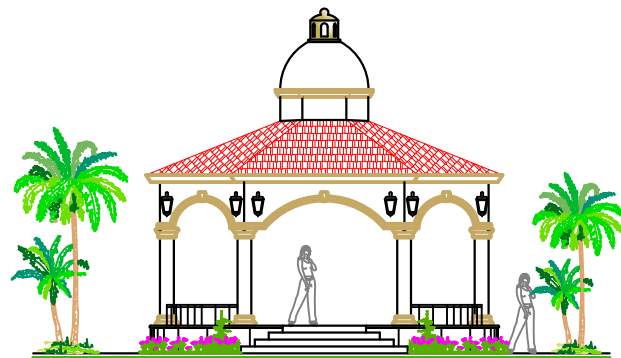
# DETAILS OF SITE



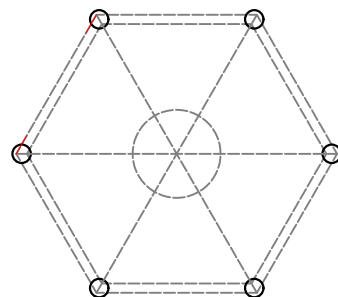
ELEVATION



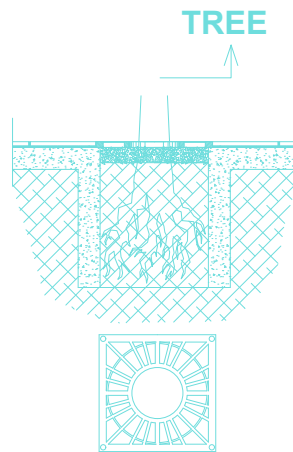
PLAN OF SIT OUT



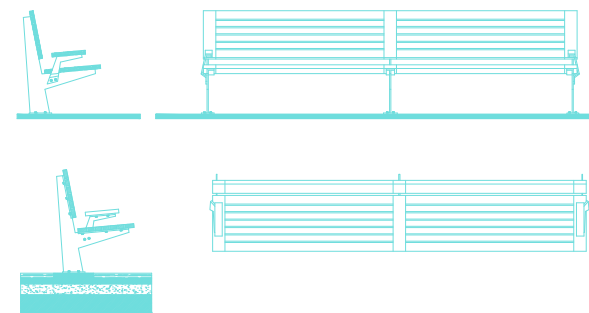
ELEVATION



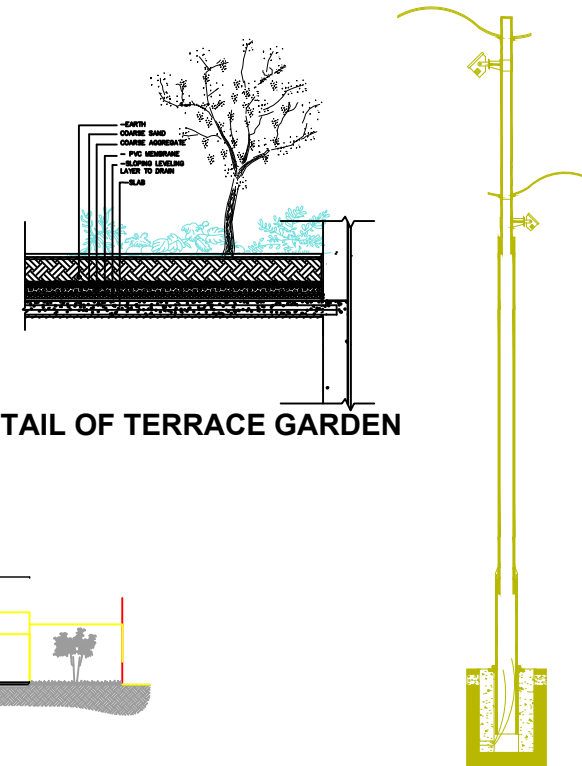
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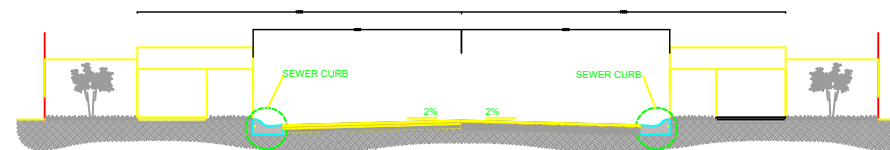
PLANTER DETAIL



BENCH DETAIL



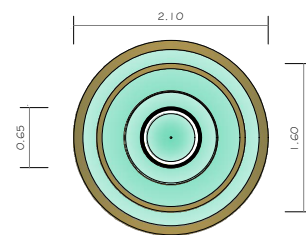
DETAIL OF TERRACE GARDEN



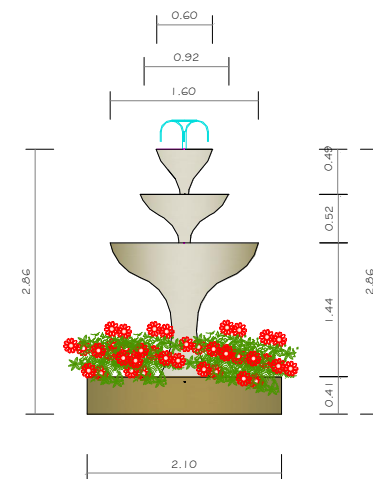
ROAD SECTION DETAIL



LIGHTING POST DETAIL



PLAN OF FOUNTAIN



ELEVATION



PERSPECTIVE

