THESIS REPORT ON

"WAYSIDE AMENITIES CENTRE, VARANASI"

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

BACHELOR OF ARCHITECTURE

BY

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THESIS GUIDE

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TO THE

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BABU BANARASI DAS UNIVERSITY

LUCKNOW.

SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled" **Wayside amenities centre, Varanasi**" under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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Recommendation

Accepted Not Accepted

External Examiner

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ACKNOWLEDGEMENT

The journey which started 5 years ago has culminated….as I step into the world a series of people flash in my memory.

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 guide **AR. SATYAM SIRVASTAVA,** who guided me through active participation in discussions and gave her kind attention throughout the process.

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Above all, thanks to my friends for their sincere help throughout, without which this report would not have been in its present shape.

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

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THANKING YOU

PRAGYA GAUR

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B.B.D. UNIVERSITY, LUCKNOW

CONTENT

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4. CASE STUDY
5. CONCEPT
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7. DRAWINGS DEVELOPMENT
8. ELECTIVES

SYNOPSIS

INTRODUCTION

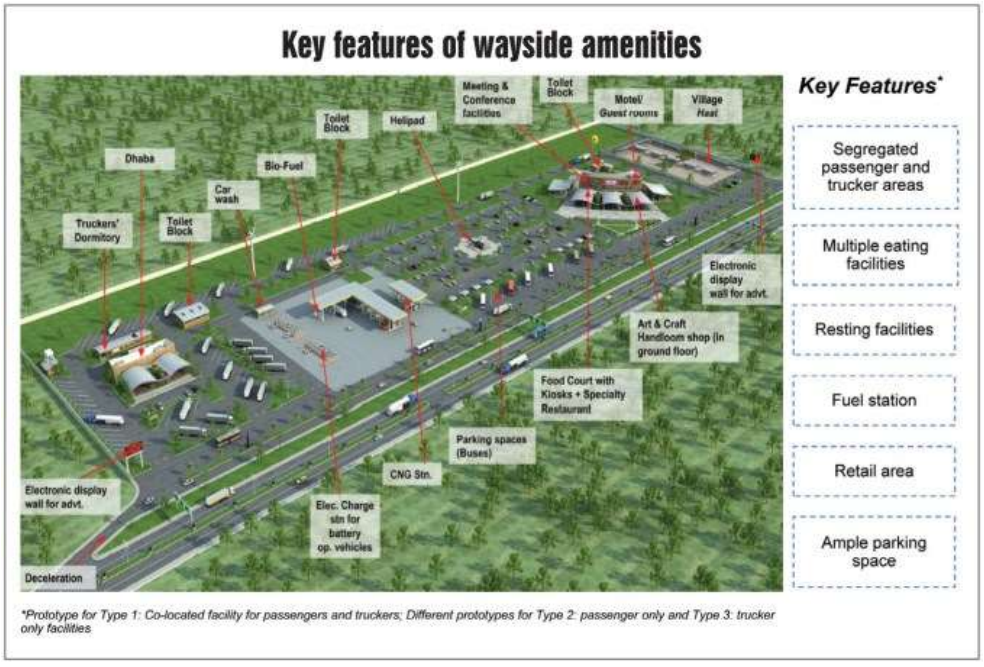
Wayside Amenity Centres are mentioned as complexes on National or State Highways and other district roads, providing a variety of services. These complexes are located at frequent intervals across major roadways, providing basic services and amenities, to ensure safe and convenient journey for long-distance travellers, such as ample parking space (separately for cars, buses & trucks), restaurants or food court, telephone booths, ATMs, fuel stations, minor repair shops, hygienic washrooms,hotels or motels for short stay, village haats, wellness centres, medical stores, kiosks for sale of various items etc.

HISTORY AND BACKGROUND

The development of wayside amenities was included in the scope of build-operate-transfer (BOT)-based projects. Around 20 such amenities have been developed by highway concessionaires. However,restricted and availability has hindered the development of these amenities.

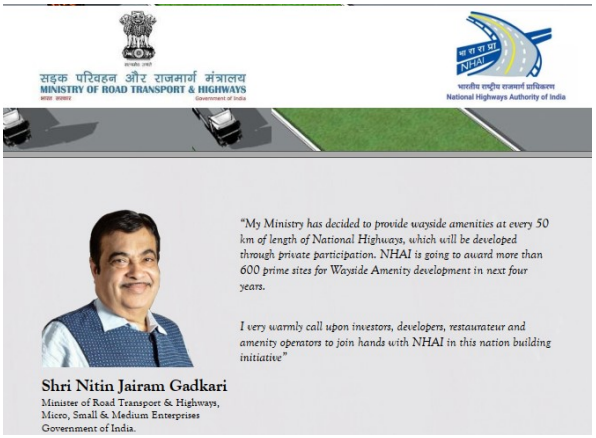
NEEDS OF DEVELOPMENT OF WAYSIDE AMENITIES

Encouraging frequent breaks during the journey in order to reduce driver-fatigu related accidents by providing all necessary facilities at these locations. Providing employment and opportunity for local artisans and craftsmen to sell their products and local delicacies.Safe location for truckers and passengers to park their vehicles and spend the night.Provision of First Aid and medical facilities.



Regional economic development, as the provision of sharing information to travelers about the region they are passing through and the location of nearby attractive places may alter their travel behavior. Increased tourism can occur as a result of altered travel routes, with additional stops in the area and increased inflowof money in the region.Generation of employments of local youths and farmers.

PROJECT BRIFE



NHAI is going to award more than 600 prime sites for Wayside Amenity development in next four years
The project includes proposals for restaurants and a food court, retail outlets with a wider range of offerings including hotel accommodation, drivers rest area and a fuel station – a multipurpose attraction offering a wide range of products and services in one convenient location. The intervention will impact all travelers on the **Kanpur toVaranasi/NH19/800/LHS/Sasaram/Uttar Pradesh** and a population of nearly people in the neighbouring town.

AIMS

To design a fully functional Wayside Amenity Centre to serve all travellers on the Kanpur to Varanasi/NH19/800/LHS/Sasaram/Uttar Pradesh and inhabitants in the neighbouring area while complying with all spatial, technical and functional requirements, zoning regulations and building bye-laws.

OBJECTIVES

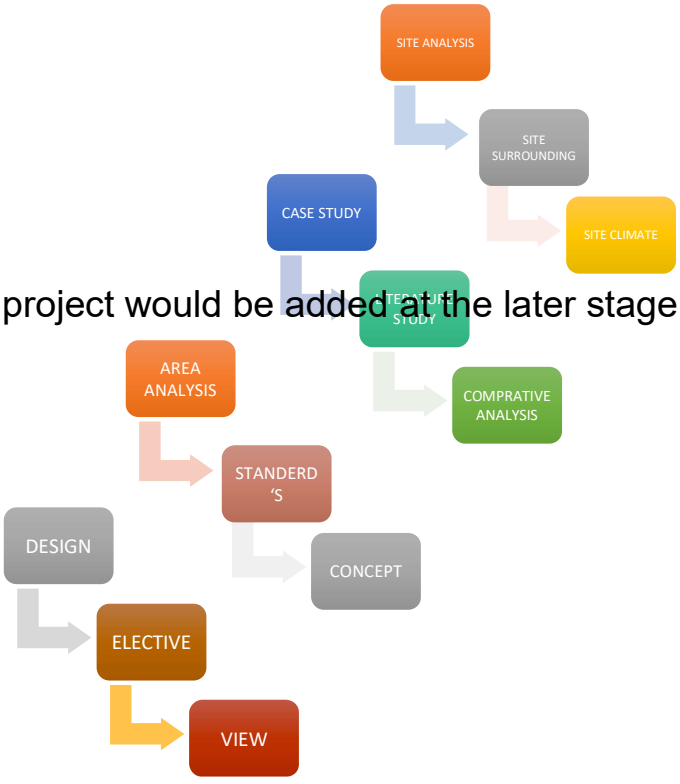
• The complex is intended to act as a support infrastructure to facilitate larger tourist segment moving across the road network, even for lesser known locations or destinations.
• The project aims to reduce the incidence of accidents and improve road safety, by providing drivers, especially truckers, a comfortable place to rest.

- The facility will potentially give an impetus to economic activities, including trade and employment.
- The project with a wide range of offerings is envisaged to provide new products and service opportunities to the fuel station, designed to be a part of the Wayside Amenity Centre, in lieu of changing trends in the fuel retail and automobile industry.
- The complex space is envisioned to be in sync with the local context, site and climatic conditions of the region with an efficient network of services keeping in mind the various functional provisions proposed on-site.

TENTATIVE PROJECT REQUIREMENTS

- Administration
- Restaurants and Food Court
- Retail Outlets
- Hotel Accommodation
- Drivers' Rest Area and Dhaba
- Fuel Station
- Public Washrooms
- Kiosks for sale of sundry items
- Wellness Centre
- Medical Store
- Car and Bus Parking
- EV Charging Stations
- Automobile Repair Shop
- Children Play Area
- Solar Plant
- Car Wash area
- Recreational Area
- ATM

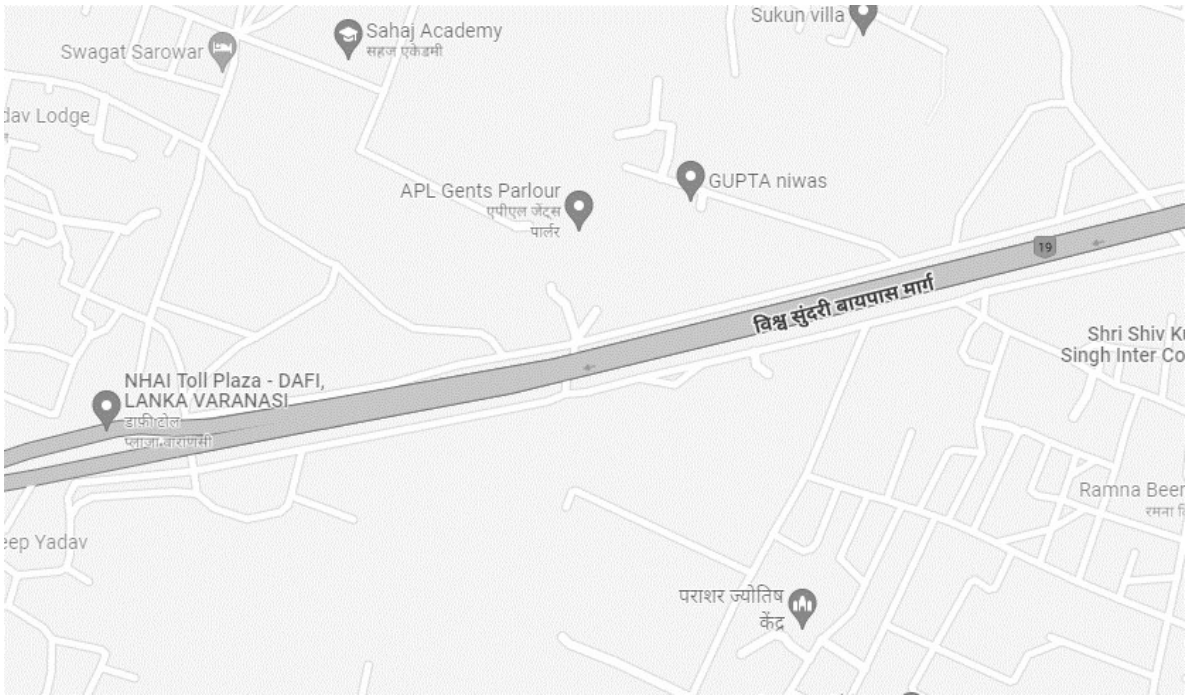
Any other activity, if required in the project would be added at the later stage



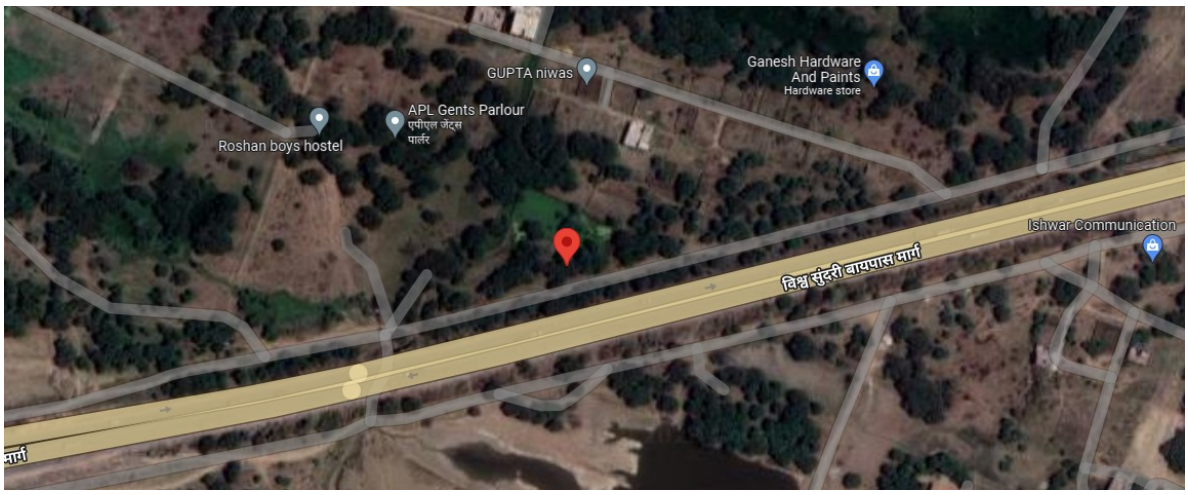
SITE DETAIL

Site - Kanpur to Varanasi/NH19/800/LHS/Sasaram/Uttar Pradesh

- **Site Location**



- **Site Macro Location Map**



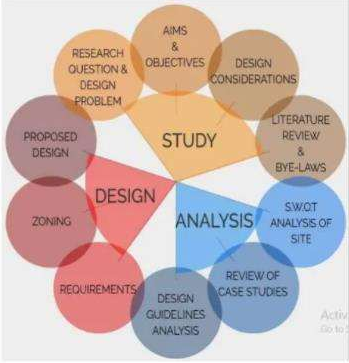
• **Site Photographs**

Scope & Limitations:-

- The project will cover all the facilities and spaces which are required toaccommodate required number of users.
- The design will provide privacy in terms of public and semipublic areas.
- The project will provided employments of local youths and utilities for tourist.

  First limitation is of this project is that the main focus will be **highlighting on** the**conceptual design** and **circulation space**, detailing will not be focussed in general Second, structure drawing will not be focussed.

METHODOLOGY



WAYSIDE AMENITY CASE STUDIES

1. JOLLY GO FOOD COURT, YAMUNA EXPRESS WAY
2. J Plaza, Delhi-Jaipur Expressway, Manesar, Haryana

LITERATURE STUDY

Highway Star, Kolar-Tirupati Highway, Bangalore,Karnataka

SITE ANALYSIS

SITE ANALYSIS

WHAT IS WAYSIDE AMENITIES

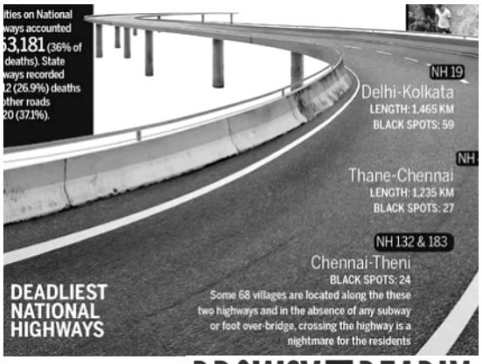
- Wayside Amenity Centres are described as complexes on National or State Highways and other district roads, providing a variety of services.
- These complexes are ensure safe and convenient journey for long-distance travelers and also reduce fatigue in a long-distance journey.
- There is a significant shortage of organised wayside amenities on major roadways which connect destinations, especially of tourism importance.

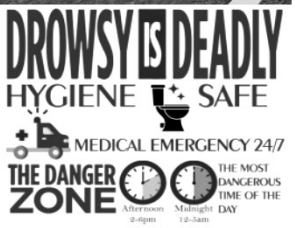
HISTORY

- In 1957 first highway rest stop in the United States was opened at Galesburg, Illinois. It has four restrooms and two gas pumps.
- Wayside amenity also called “Safety rest areas” were constructed as part of the U.S. interstate highway system.
- They were envisioned as off-road respites where motorists could take a break.

NEEDS OF THE PROJECT

- Encouraging frequent breaks during the journey in order to reduce driver-fatigue related accidents by providing all necessary facilities at these locations.
- Providing employment and opportunity for local artisans and craftsmen to sell their products and local delicacies.
- Provision of First Aid and medical facilities.

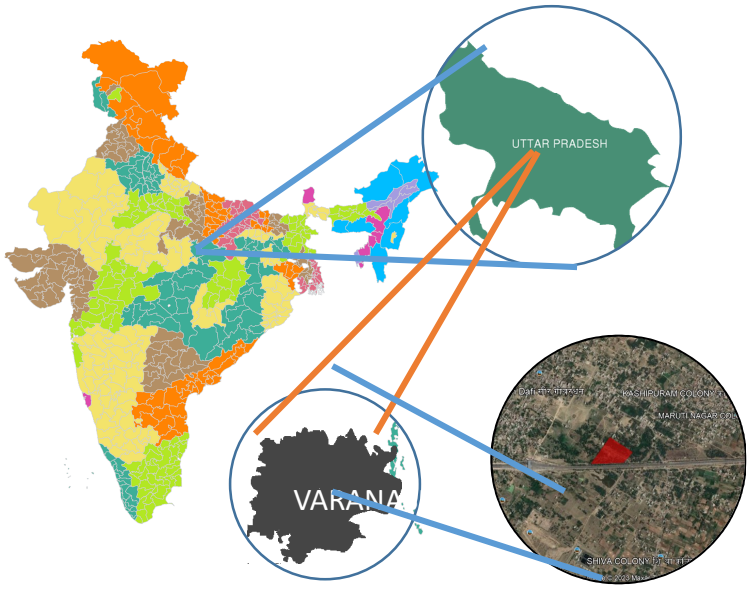




AIM

Aim of this project is to create an rest area facility with recreational features on highways to serve the dual purpose of stay for long travellers/ tourists and also to provide a food/snack court for residents of nearby city /town."

IDENTIFICATION OF SITE



SITE LOCATION
Ashokpuram Colony, Dafi, Varanasi,Uttar Pradesh 221011
CO-ORDINATES
LATITUDE: 25°15'03.4"N
LONGITUDE: 83°00'21.0"E

ACCESSIBILITY

- Lal Bahadur Shastri International Airport, Babatpur, Uttar Pradesh . 31.8 km
- MARUTI NAGAR BUS STAND murarichauk Varanasi, Uttar Pradesh 3.4 km
- Bhulanpur, Central market DLW, Bhullanpur, Varanasi, Uttar Pradesh 9.7 km

SITE JUSTIFICATION

- **Site on Naitional Highway 19. NH 19** has been selected as a part of the **Golden Quadrilateral** by the National Highways Development Project.
- Agra to Kolkata route is numbered national highway 19.
- The location of site near **NHAI Toll Plaza - DAFI, LANKA VARANASI**
- Distance from toll plaza to site is **2.1 km.**
- This project goes under **NHAI (National Highway Authority of India)**

- Site To Ganga, VishwaSundari Bridge - **4.4 km**
- Site To Paramhans Ghat **- 4.2 km**
- Site To Ramnagar Fort **- 7.5 km**

SITE SURROUNDING

- Mother Nav Durga Fruit-and-Vegetable market Ashokpuram Colony. 3.7 km
- Main Market, , Durgakund Rd, Durgakund, Anandbagh, Bhelupur, Varanasi 6.2 km

- Shivganga Hospital, Dafi Lanka Road 1.5 km
- Guru kripa wellness hospital, Sear Govardhan Dafi 900 m

- IndianOil, Ground Floor NH 2, Varanasi Bye-pass, Bisauri 6.5 km

ABOUT THE CITY

Varanasi is a city in the northern Indian state of Uttar Pradesh dating to the 11th century B.C. Regarded asthe spiritual capital of India.Varanasi is the holiest city in Hinduism. The city also has a syncretic tradition of Muslim artisanship that underpins its religious tourism.

ART & ARCHITECTURE

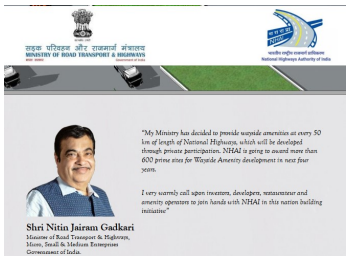
- The most famous craft of Varanasi city is **silk weaving**.Pattern and motifs work also famous.
- architecture of the temples is in the **Nagara style of architecture**.
- Sarnath tample is example of **Buddhist architecture**.

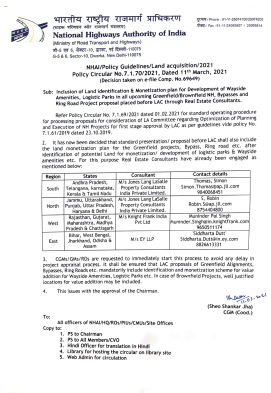
AUTHENTICATION

NHAI is going to award more than 600 prime sites for Wayside Amenity development in next four years.

MINISTRY - MINISTRY OF ROAD TRANSPORT AND HIGHWAY

SCHEME - Bharatmala pariyojana (annual report 2019-20)

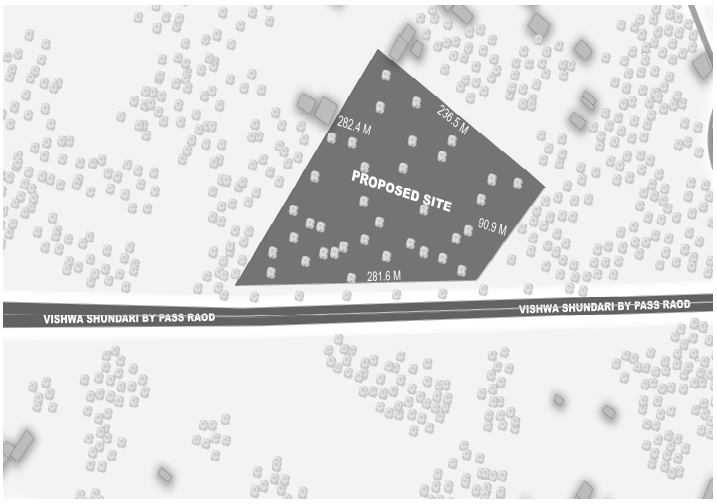




Parameters	Commercial Premise
Area	11.5 acres(46538.85 sqm)
Ground Coverage:	45% (20,942.5 sqm)
FAR	2.5

SITE PICTURES

SITE PLAN



Site Section XX'

Site Section YY'

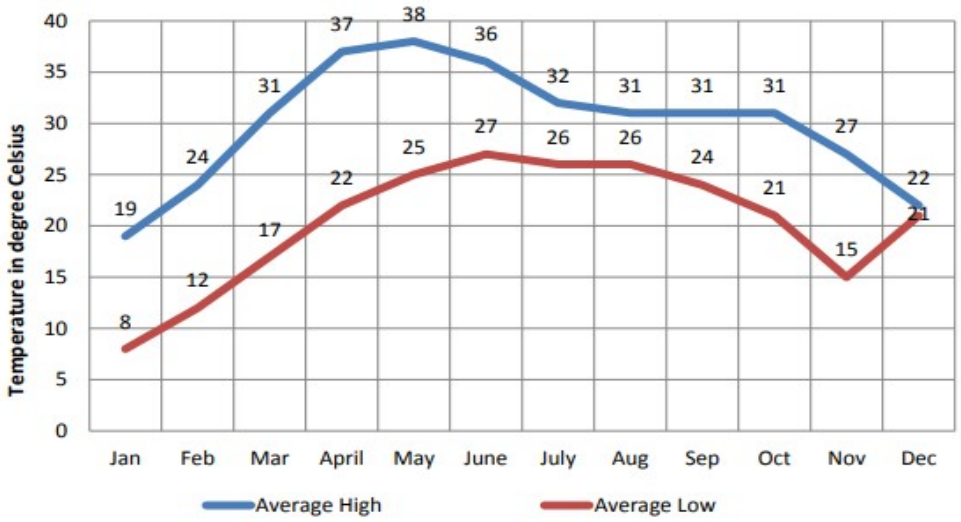
GEOGRAPHICAL LOCATION

The city of Varanasi is located in the middle Ganga valley of North India, in the Eastern part of the state of Uttar Pradesh.

Topography - Between 50 feet (15 m) and 70 feet (21 m)above the river.

Geologically- Varanasi is situated in the fertile alluvial Gangetic plains and is under laid with sediments deposited in successive stages. Layers of clay, fine sand, and clay mixed with kankar and stone bazari is met with during drilling operations.

CLIMATE- humid subtropical climate



Source: India Meteorological Department

Average High and Low Temperature

SUMMER SEASON- (April 4 to June 23)

- An average high of 40.6°C and low of 7.26.1°C.
- The hottest month of the year in Varanasi is May

WINTER SEASON- (December 6 to February 10)

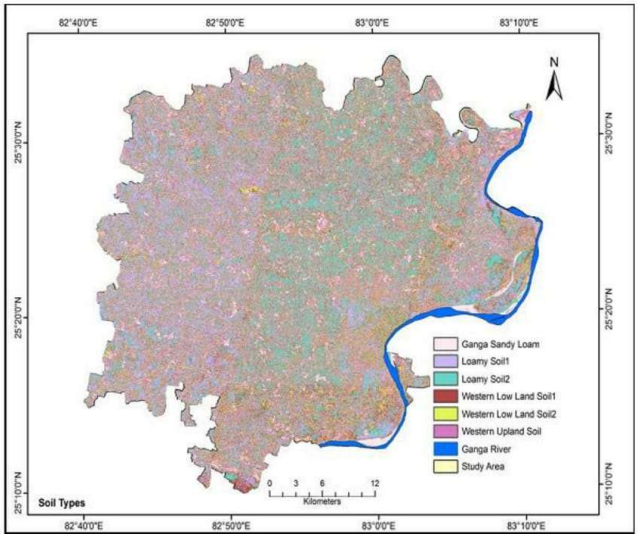
- An average low of 9.4°C and high of 23°C
- The coldest month of the year in Varanasi is January

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high	19	24	31	37	38	36	32	31	31	31	27	22
Average low	8	12	17	22	25	27	26	26	24	21	15	21
Precipitation mm	19	13	10	5	9	10	320	260	231	38	13	4

Source: India Meteorological Department

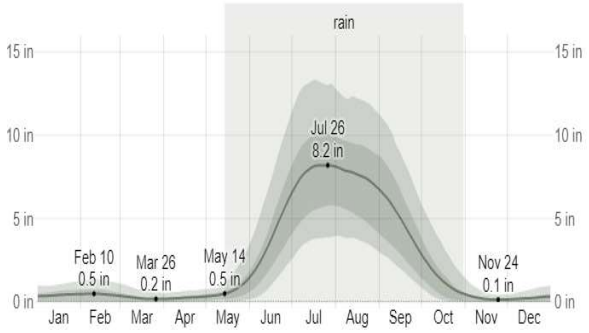
RAINY SEASON - (May 14 to October 30)

- An average rainfall of 8.1 inches.
- The month with the most rain in Varanasi is July

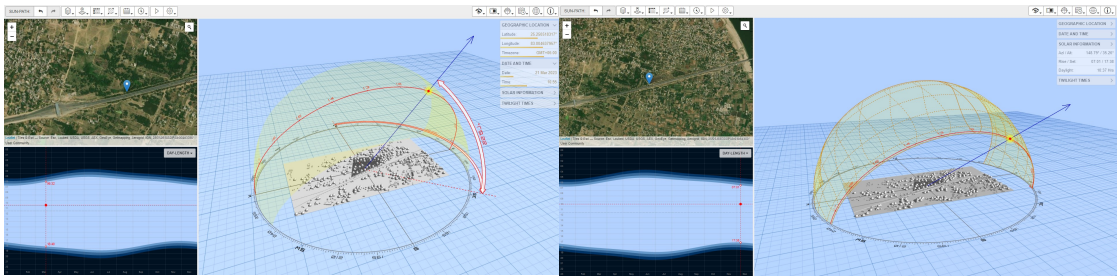


RAINLESS SEASON - (October 30 to May 14)

- an average rainfall of 0.2 inches.
- The month with the least rain in Varanasi is November



SUNPATH DAIGRAM



SUNPATH (SUMMER SEASON) SUNPATH (WINTER SEASON)

HUMIDITY - (May 5 to November)

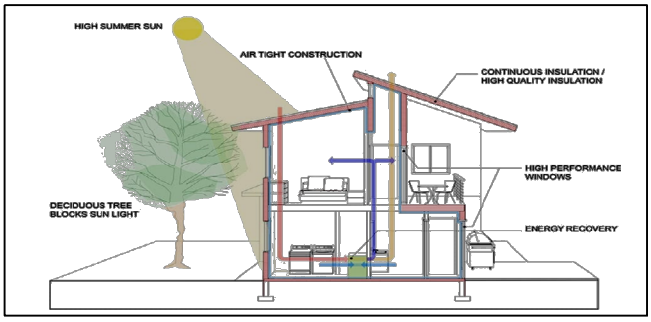
- The month with the most muggy days in Varanasi is August, with 31.0 days that are muggy or worse.
- **The month with the fewest muggy days in Varanasi is January,**

Passive Solar Technology Basics:

- Passive solar technologies convert sunlight into usable Heat and cause Air Movement for Ventilating to Heat and Cool living spaces without Active Mechanical or Electrical Devices.

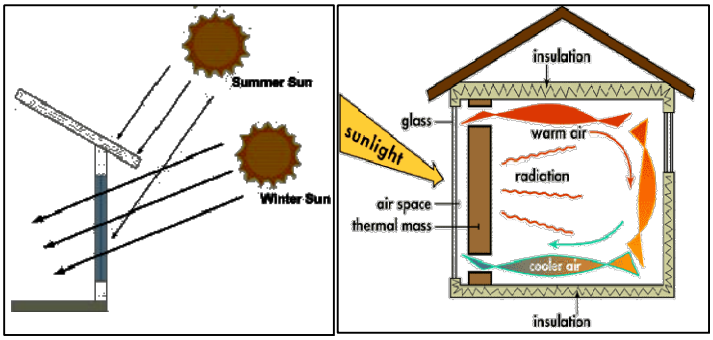
Passive Solar Cooling :

- At their Simpliest, Passive Solar Cooling Systems include Overhangs or Shades on :
  - South Facing Windows,
  - Shade trees,
  - Thermal Mass
  - Cross Ventilation.



Passive Solar Heating:

- The Two Primary Elements of Passive Solar Heating are South Facing Glass and Thermal Mass to Absorb, Store, and Distribute Heat.

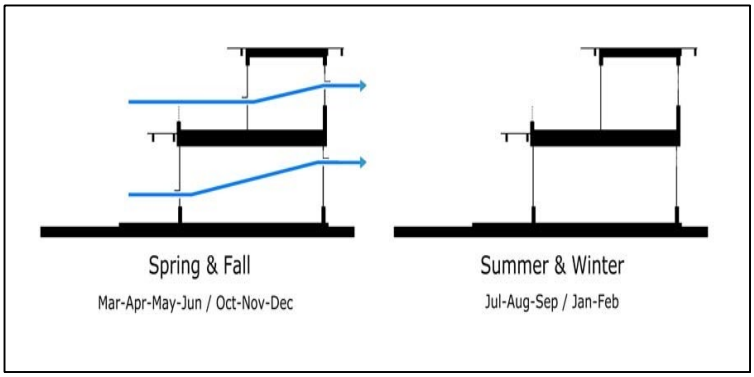


Passive Solar Design:

- A **Passive Solar Building** uses **south facing window** to Collect Heat from the Sun and Store that heat in Material throughout the Building known as **Thermal Mass**

A successful design mast include the following elements:

- Aperture
- Thermal mass
- Distribution
- Coatrol



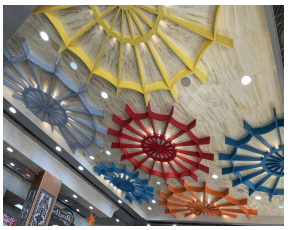
CASE STUDY

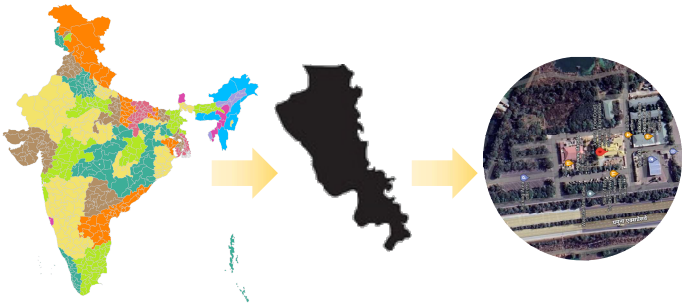
CASE STUDY - 1

JOLLY GO

JOLLYGO, Noida-Agra Yamuna Expressway,Allauddinnagar, Uttar Pradesh 203135

Location: Yamuna Expressway Highway, Allauddinnagar
Site Area: 12.76 Acres (51650 sq. m.)
Client: Jewar IOCL CNG Filling Station
Land Ownership: Jewar IOCL CNG Filling Station
Devloped by: JP Group Noida
Functional Provisions: Restaurants, Fuel Station

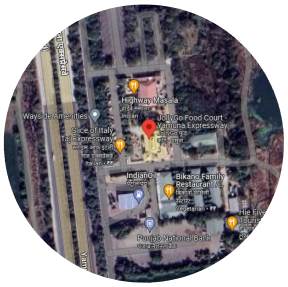


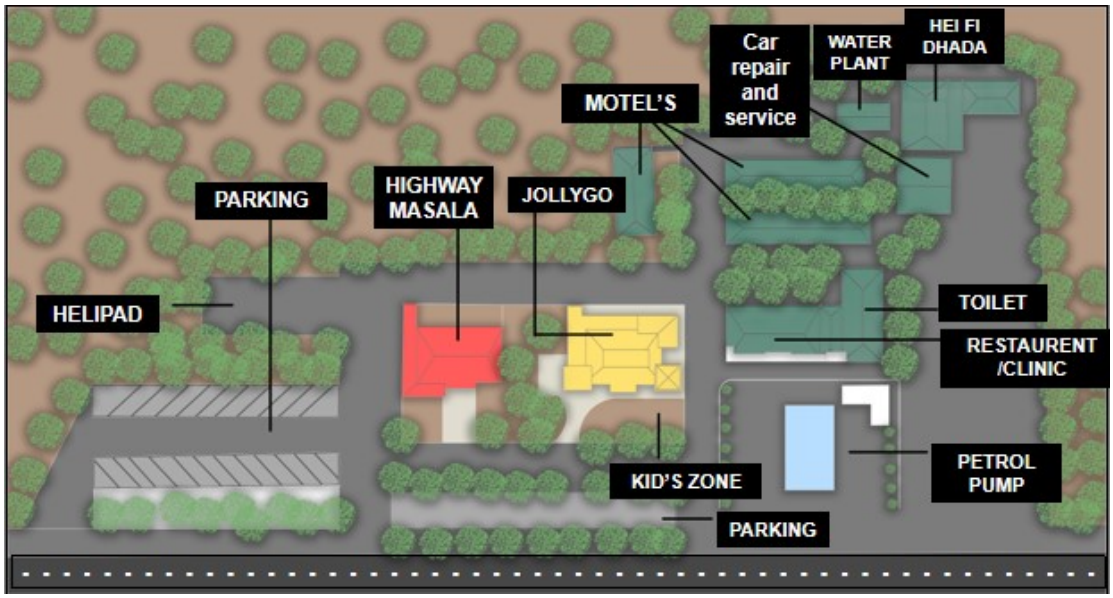


- The project composition of restaurants and a fuel station as part of the facility, located in Allauddinnagar on the Noida-Agra Expressway.
- The facility houses a range of restaurants such as Starbucks, Burger King, Subway and Barista.
- The complex was built in phases which was originally a private farmhouse.
- The Jewar for the construction of a fuel station was provided in 2003 for an area of 2849 sqm and for the Flagship Retail Outlet in 2009 for area of 48,801 sqm.
- The wayside amenit restaurants occupying the ground floor. .
- A motel and warehouse are on the backside

Proximity

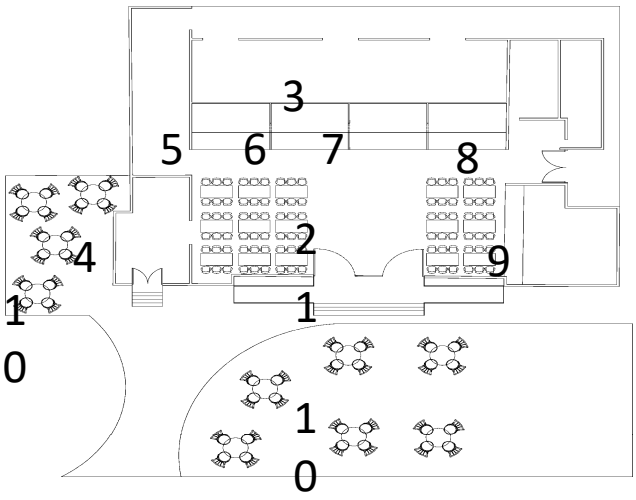
- The JOLLYGO is situated along one of the busiest stretches on Noida- Agra Expressway.
- Maximum number of vehicles entering and exiting through NH-19 are through noida, followed by Greater Noida Road and finally Agra.
    - 5.5 km from the kailash hospital jewar.
    - 5.1 kms from the Noida Airport.
    - 3.5 kms from Mustafabad and yamuna Exprway.





- Public washrooms.
- IOC Fuel Station of 2849 sq. m. area.
- Unloading and services bay in the backside.
- Enclosed air-conditioned spaces.
- Chai Thela Kiosks built separate.
- Parking - 40 car and separate bus.
- **Capacity** - 550 persons seating.
    - **JollyGo** - 170 person seating
        - Starbucks
        - Radha's
        - burgar's & Rolls
        - Murthy's
        - Burger king
- **Subway/Dominos** - 56 person seating
- **Higway masala** - 140 person seating
- **Open area siting** - 104 person seating
- **Hie five a/c Dhaba** - 80 person seating
- **CLINIC** - 5 BED capacity (first aid).

1. **ENTRANCE**
2. **SITTING AREA**
3. **KITCHEN**
4. **STARBUCKS**
5. **RADHA'S**
6. **ROLLS**
7. **MURTHY'S**
8. **TOILET**
9. **BURGER KING**
10. **OPEN SITTING AREA**



Ground Floor Plan (JOLLYGO FOOD COURT)

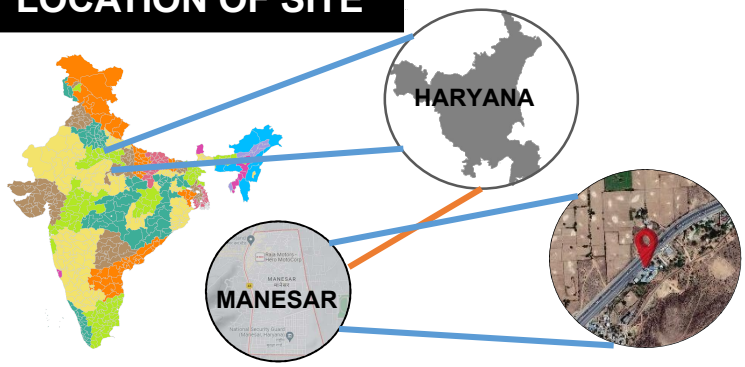
Features

- The structure artwork based on buddhist monastery.
- Stringent building bye-laws and zoning regulations have dictated the building profile and layout for this structure, in a constrained space.
- Considering the Humid subtropical, dry winter climate of Allauddinnagar.
- There are many types of vegetation like ashoka, chandani, palm etc.
- The air-conditioned interiors have been planned with multiple fenestrations to allow ample sunlight within the structure.
- The structure was established as no. of building blocks with the beautiful interior work.
- Subway restaurant is an anothor building block.
- There is also first aid facility with six no. of bed.
- The loading/unloading bay is planned in the backside of the amenity, access to which is facilitated through the ramp organized.
- Facilities for the restaurant staff and other storage and packaging units are designed in the kitchen.
- Other services such as HVAC, exhaust systems, water tanks are organized on the Terrace.
- A Motel and a Warehouse is being situated on the backside of the amenity.

CASE STUDY - 2

BIKANERVALA

LOCATION OF SITE



BIKANERVALA, DELHI-JAIPUR EXPRESSWAY MANESAR, HARYANA

Location: Kukrola, Manesar on Delhi-Jaipur Expressway
Site Area: 2.79 Acres (11310.84 sq. m.)
Architects: Di Arq, Gurgaon
Client: Jamnagar Filling Station
Land Ownership: Jamnagar Filling Station
Functional Provisions: Restaurants, Fuel Station

DESCRIPTION OF SITE

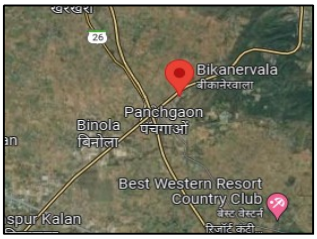
- The facility houses a range of restaurants such as Bikanerwala, KFC, Subway and Cafe Coffee Day.
- The complex was built in phases which was originally a private farmhouse. The CLU for the construction of a fuel station was provided in 2004 for an area of 1925 sqm and for the Flagship Retail Outlet in 2010 for area of 3560 sqm.
- The wayside amenity is still under construction with restaurants occupying the ground floor.
- The structure can be extended till (G+7) floors.
- A motel and warehouse are being proposed on the upper floors.

RELEVANCE OF CASE STUDY

To understand the layout and organization of spaces in a constrained area for a Wayside Amenity of relatively smaller area with similar contextuality, especially in terms of its location, building height, proposed functions and incorporation of a Fuel Station in front.

PROXIMITY-

- The Bikanervala is situated along one of the busiest stretches on Delhi-Jaipur Expressway.
- Maximum number of vehicles entering and exiting through NH-48 are through Delhi, followed by MG Road and finally from Jaipur/Rewari side.
    - 25 kms from the District of Gurgaon.
    - 6 kms from the Town of Manesar.
    - 3.5 kms from Pachgaon and KMP Expressway.



SCALE: NTS

(A) Landscaping in front of the facility

(B) Kiosks for sale of sundry items

(C) Transformer Yard and Meter Room

(D) Side view of the Flagship Retail Outlet

(E) Ramp leading to the Basement

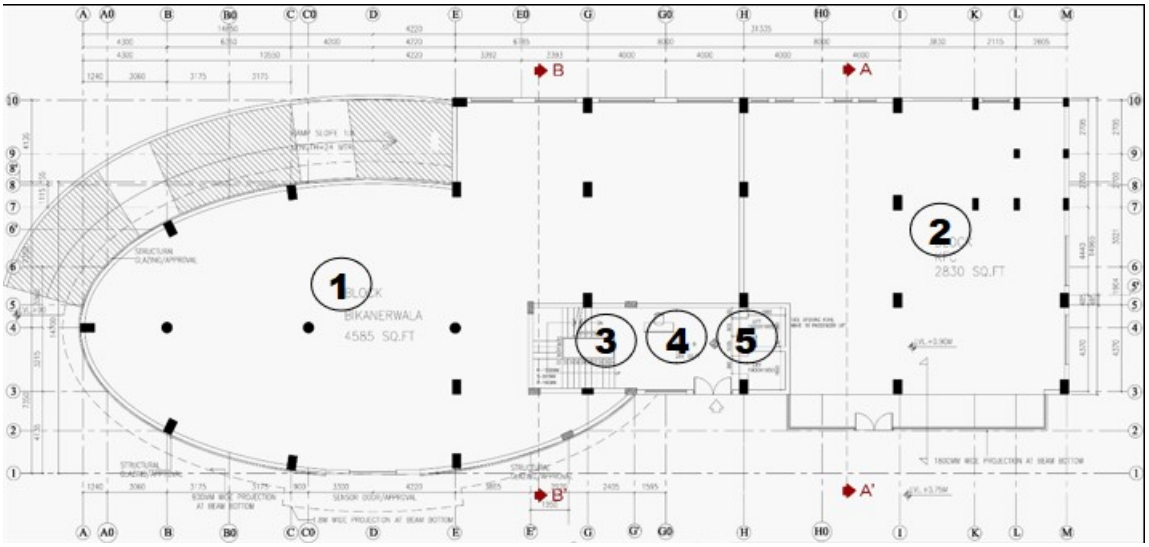
(F) Proposed Kids Play Area

(G) Public washroom facility

(H) STP and DG Set

SITE PLAN

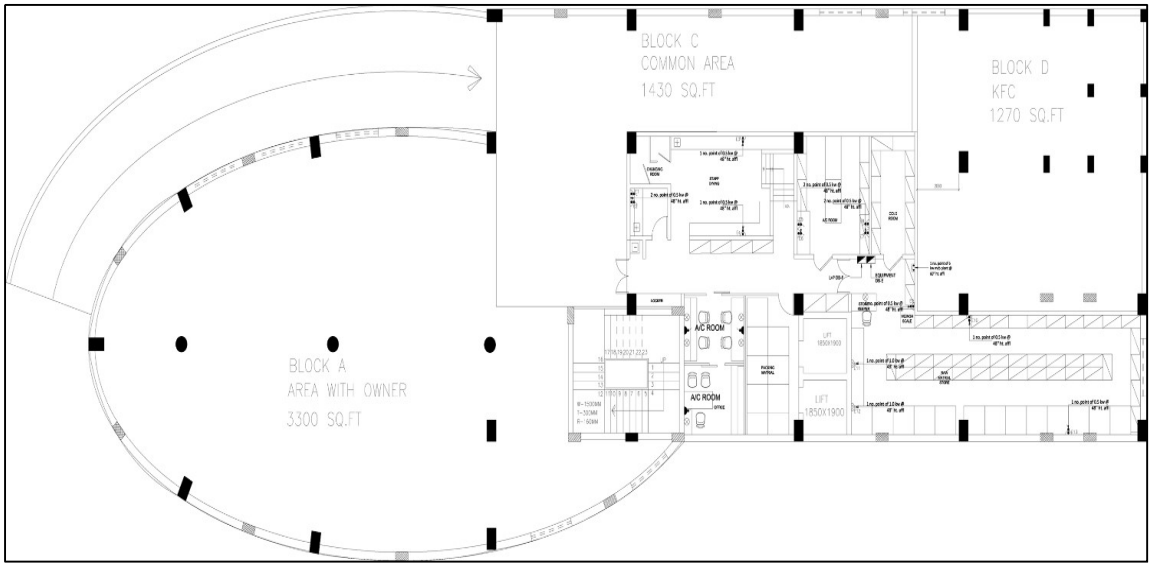
- **STRUCTURAL SYSTEM-** RCC framed structure
- **CLIMATE-** Subtropical, Composite Climate
- **MATERIAL-** tinted glass facades and aluminium composite panels



Ground Floor Plan

LEGENDS

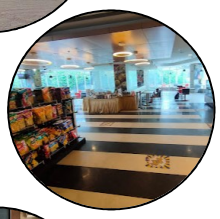
1. BIKANERWALA **2. KFC**
3. STAIRCASE **4. LOBBY**
5. LIFT



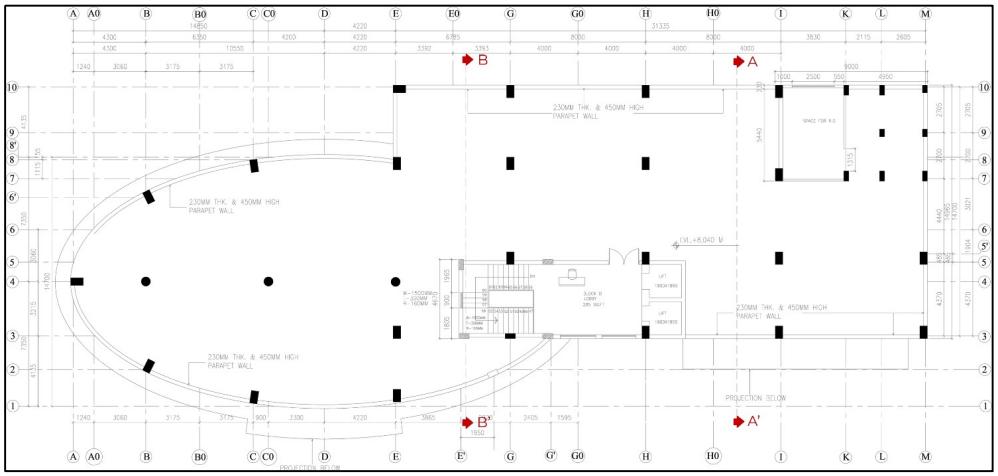
Basement Floor Plan

The loading/unloading bay is planned in the basement, access to which is facilitated through the ramp organized along the elliptical floor plate. Facilities for the restaurant staff and other storage and packaging units are designed in the basement

Features

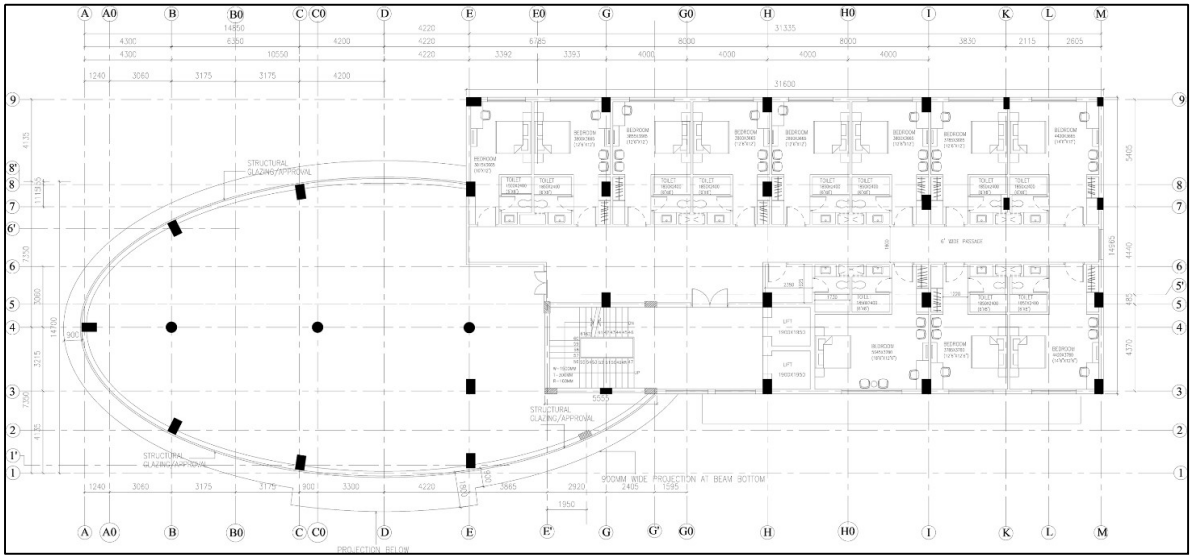


- Separate Fuel Station.
- Kids Play Zone.
- Retail Outlet with separate restaurants.
- Public washrooms.
- Glass facades offering panoramic views.
- Toilets for special needs and water filter facility.
- Unloading and services bay in the basement.
- Enclosed air-conditioned spaces.
- DG Set with a metered supply.
- Cafe Coffee Day and Kiosks built separate.
- Water supply by Borewell.
- Motel and Warehouse on upper floors.
- Fuel Station of 0.5 acres area.
- carpet area on G.F. - 5,525 sq. ft.
- Parking - 40 car and separate bus bay
- Capacity - 150 persons seating.
- KFC area - 2,830 sq. ft..
- Subway area - 1,650 sq. ft.



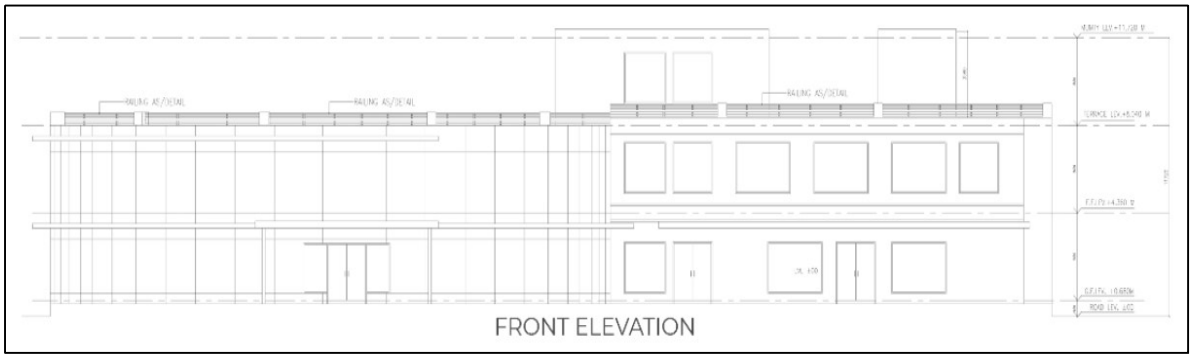
Terrace Floor Plan

Services such as HVAC, exhaust systems, water tanks are organized on the Terrace.

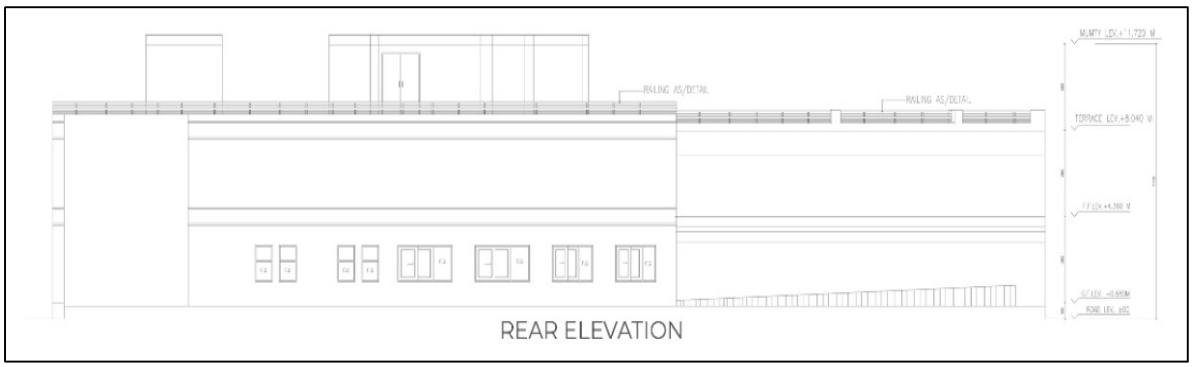


Proposed Motel Typical Floor Plan

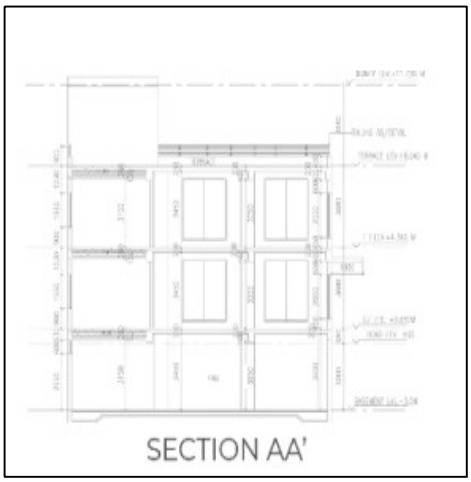
FAR allows the structure to be extended till G+7 floors. A Motel and a Warehouse is being proposed on the upper floors.
The design and conceptualization of the Guest Rooms is currently underway. A total of 10 standard rooms and 1 deluxe room will be accommodated on one typical floor.

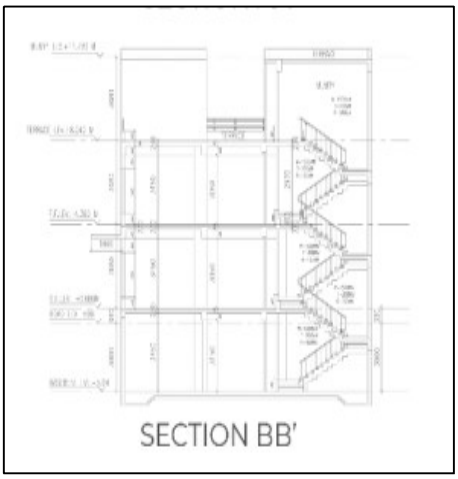


Front Elevation



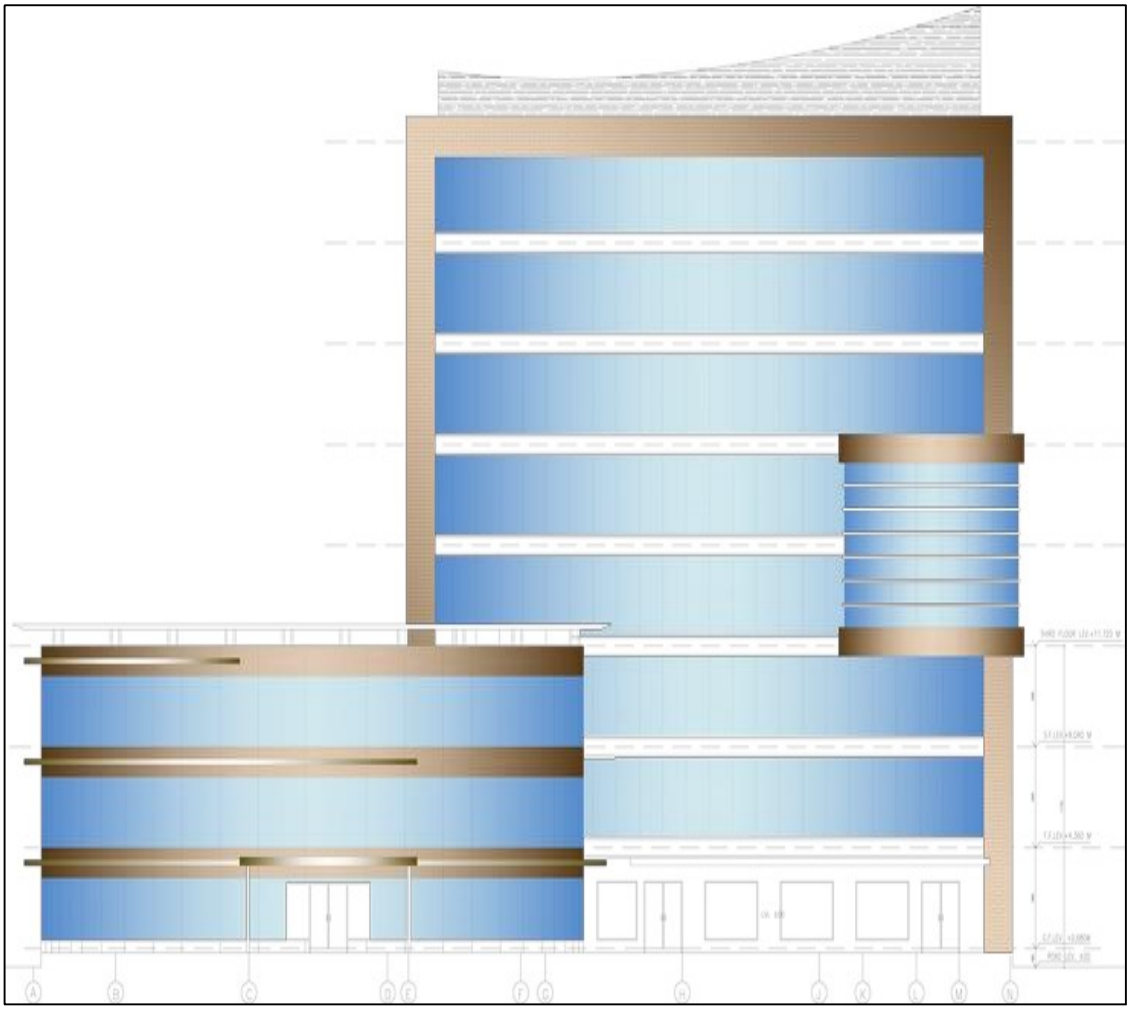
Rear Elevation





Section AA'

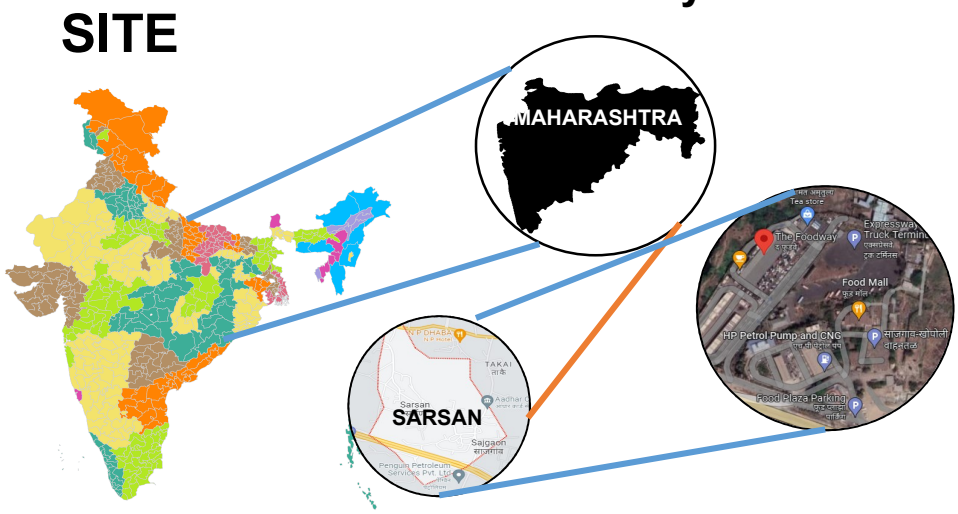
Section BB'



LITERATURE STUDY

LITERATURE STUDY - 1

Foodway



Foodway, Mumbai-Pune Expressway, Sarsan, Maharashtra

Location: Sarsan, Khalapur on Mumbai Pune Expressway
Site Area: 4.65 Hectares (11.49 Acres)
Architects: StudioBoxx, Mumbai
Project Management Consultants: StudioBoxx, Mumbai
Client: Expressway Truck Terminus and MSRDC
Land Ownership: Maharashtra State Road Development Corporation Ltd. (MSRDC)
Functional Provisions: Food Court, Fuel Station and Truck Terminus
Status: Completed in 2018

DESCRIPTION OF SITE

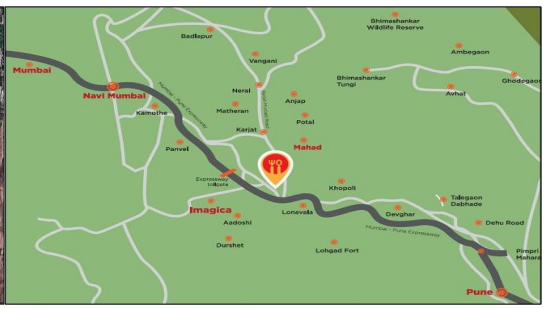
The project houses one of the largest food facilities and fuel station in the country.
Located at the epicentre of the pulse, Foodway endeavours to drive the energy of the people residing in the twin cities.
Being at the core of the landmark expressway, the exposure that brands enjoy at this thriving location is unparalleled.
The one striking feature that stands out from the other establishments is that this built facility is
distinguished into Quick Serve Restaurants and fine dining, thus profusely satisfying the tastes of both.

PROXIMITY-

Foodway nestles along one of the busiest stretches on Mumbai-Pune Expressway. Being close to the Khalapur Toll Plaza, it receives a traffic of close to 5 lakh vehicles on average.

• 1500m from the Khalapur Toll Plaza. • 8 kms from Adlabs Imagica.
• 18.6 kms from Lonavla. • As a result, 36000 footfall each day.

Site Location



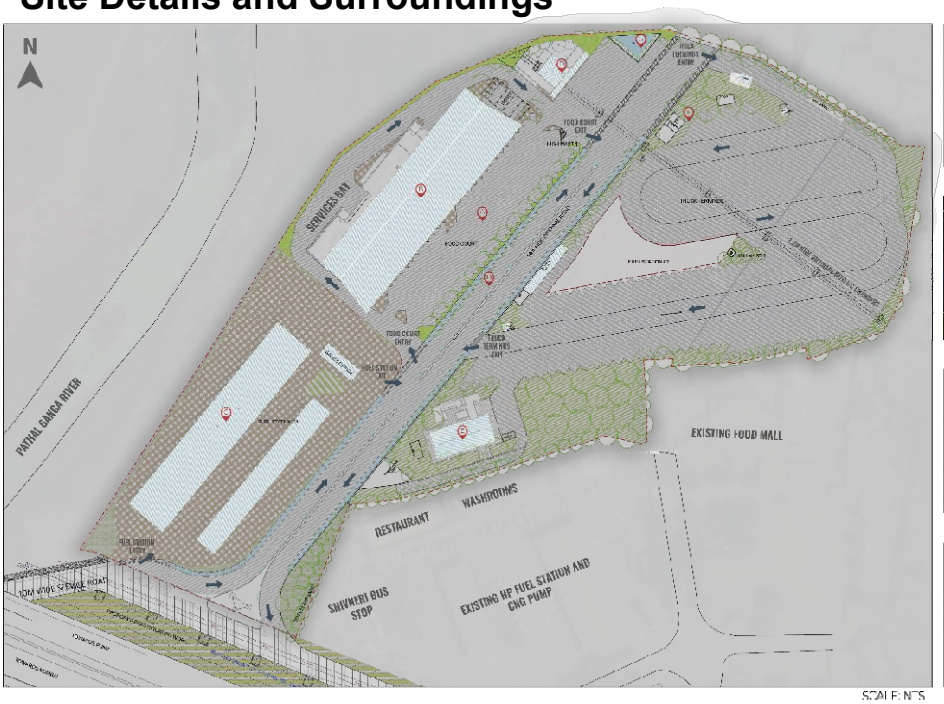
Location and Proximity Map

CAPACITY-

Food Court with a 40,000 sq. ft. carpet area.
3,000 persons per hour serving capacity.
60,000 persons per day serving capacity.
1,200 persons total seating capacity.
Totem of 22m height with 2.5m height per level.
Toilets for special needs and drinking water facility.
Loading/unloading bay via service passage.
Multiple DG's with metered supply.
575 persons seating capacity on the ground floor.
12,500 sq. ft. common dining area.
Semi-open and double height dining space
125 car and 10 bus parking bays.
Truck Terminus with 125 parking bays.
Water supply by tankers and STP present on site.
IOC Fuel Station of 0.88 Ha area.
Service capacity of 3,000 customers per hour.
1,500 turnover of vehicles per hour.

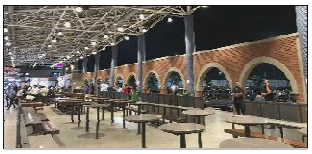
3D Conceptual View of the Site

Site Details and Surroundings



SCALE: NTS

(A) Car Parking Lot



(B) Interiors of the Food Court

(C) Indian Oil Fuel Station with 34 nozzles

(D) Canteen for Bus Passengers

(E) Canteen for Truckers: Raj Da Dhaba

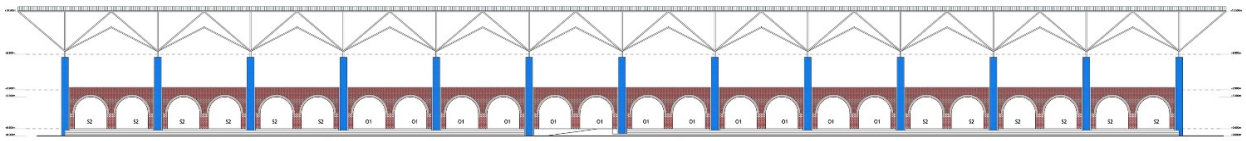
(F) Sewage Treatment Plant

(G) DG Set and Garbage Disposal Unit

(H) 18m Access Road

Features

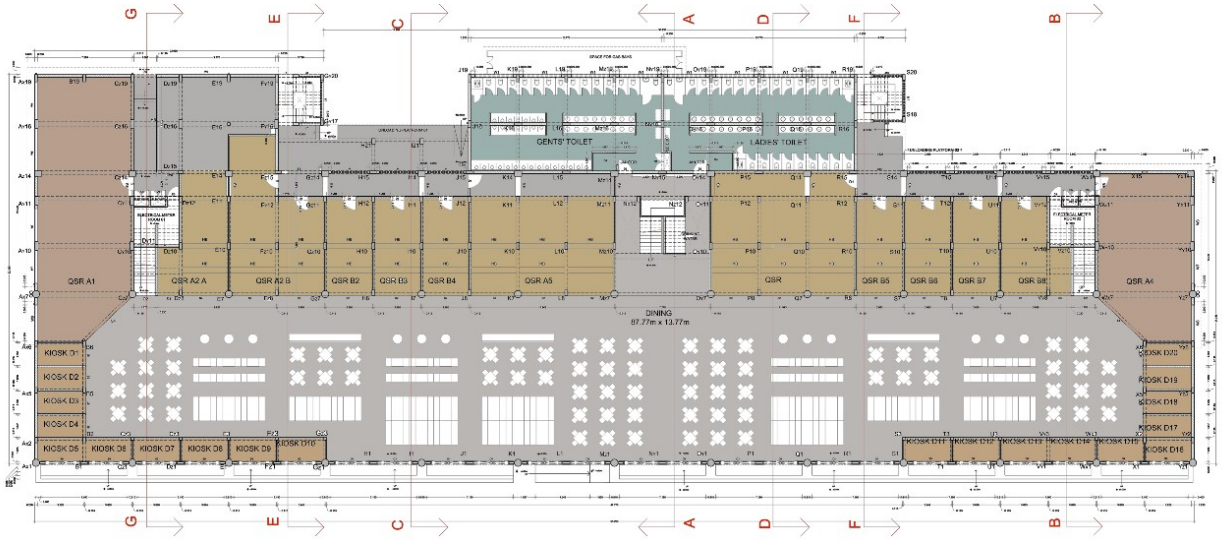
- The facility possesses an RCC framed structure with a principal grid of 8m x 8m with a pre-engineered
- lightweight roofing structure covered with thermally insulated double roofing, supported by circular columns on the front. The front facade of the structure comprises of a uniform archade ensuring
- multiple accesses for visitors with no one major entrance route.
- The whole structure is essentially a double-height, semi-open space to facilitate a naturally lit and ventilated dining area.
- This produces a ‘stack effect’ within the premise to ensure a comfortable
- environment for visitors. The semi-openness of the structure is conducive for the facility considering
- The food court possesses a linear building profile with anchor shops arranged in the corners,
- washrooms in the centre and kiosks for the sale of sundry items along the front facade. The objective
- of the same is to ensure users access the facility in an end to end fashion. The loading/unloading bay
- is organized along the rear, and other services on first floor.

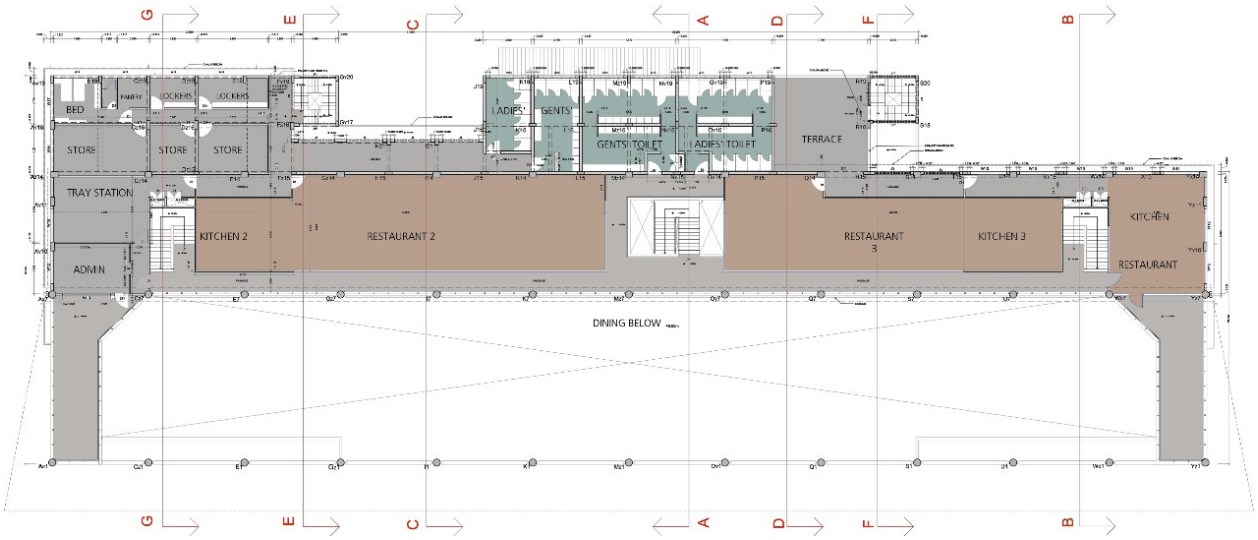


FRONT ELEVATION

REAR ELEVATION

BUILDING SECTIONS





LITERATURE STUDY - 1

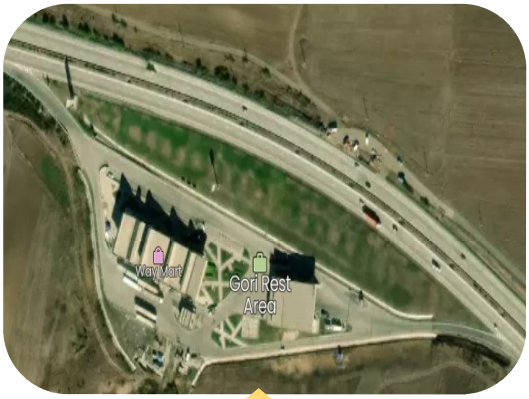
GORI REST AREA

GORI REST AREA

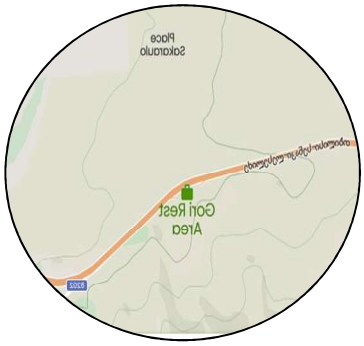
Project Details -

Location: Gori, Georgia
Architect: J. MAYER H. Architects
Team: Jürgen Mayer H., Paul Angelier, Jesko Malkolm Johnsson-Zahn, Marcus Blum, Guy Levy
Preliminary Design: 2009
Completion: 2011
Function: Rest Stop
Clients: JSC Wissol Petroleum Georgia / Socar Georgia Petroleum
Architect on site: Kobulieli and Partners, Ltd."Alioni 99", Tbilisi
Total floor area: Wissol: 2.000 m², Socar: 1.500 m²

SITE



LOCATION OF SITE



Gori Rest Area is in Georgia. Gori Rest Area is situated nearby to the shopping centre Way Mart and the village Urbnisi.
Gori Rest Area is situated northeast of the archaeological site.

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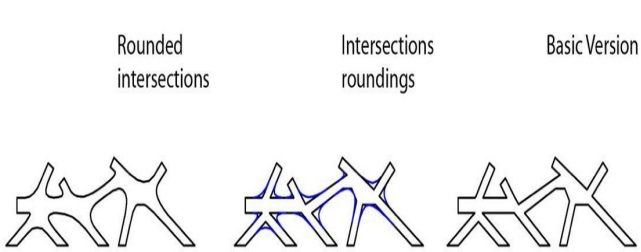


PROJECT DESCRIPTION

- In 2009 Head of Roads Department of Georgia commissioned J. MAYER H. to design a system of 20 Rest Stops for the new highway which will run through Georgia and connect the Republic of Azerbaijan with the Republic of Turkey.

- Two Rest Stops have been completed while a third one is under construction.

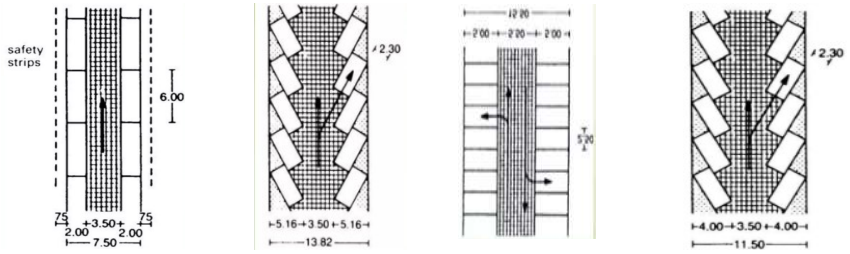
- The new Rest Stops are located on selected scenic viewpoints and serve as activators for their area and neighbouring cities, including not only gas station and supermarket, but also a farmers market and a cultural space for local arts and crafts.

SERVICES-

- PETROL STATION
- RESTAURENT
- SUPAR MARKET
- PARKING

Parking

• Parking on one or both sides of a road is often permitted, though sometimes with restrictions.



DISTANCE BETWEEN TWO ADJACENT BUILDING BLOCKS

Distance between two adjacent building blocks shall be minimum 6 mtrs. to 16 mtrs, depending on on the height of of blocks.

For building height up to 18 mtrs., the spacing shall be 6mtrs.and thereafter the spacing shall be increased by 1metre for every addition of 3 mtrs in height of building subject to at maximum spacing of 16 mtrs. as per National Building Code -2016

Access from Highways/Important Roads

No premises other than highway amenities like petrol pumps, motels, etc, shall have an access direct from highways and such other roads not less than 52 m in width, which the Authority with the approval of the highway authority shall specify from time to time. For all other buildings, the access to the plot from the highway shall be only through a service road/lane as per the stipulation of the highway authority.

TYPES OF USE	MINIMUM PARKING REQUIRED	VISITOR'S PARKING AND REMARKS
Shop, Restaurant, Shopping Centre, Shopping Mall, Wholesale, Offices for Individuals, Corporate Offices, Call Centres, Training Centres, Clinic, Fitness Centre, Nursing Home, Temples, Church, Mosque, Gurudwara, Synagogue, Upashraya, Sant Niwas, Guest House, Lodging and Boarding, Hotel, Serviced Apartment, Truck Terminal, Bus Terminal	•50% of Total Utilised F.S.I.	•20% of the required parking shall be provided as visitors parking

Restaurant

Total Food Service suggests that the dining area should take up 60% of the total area of a restaurant; the kitchen and prep areas should equal 40%

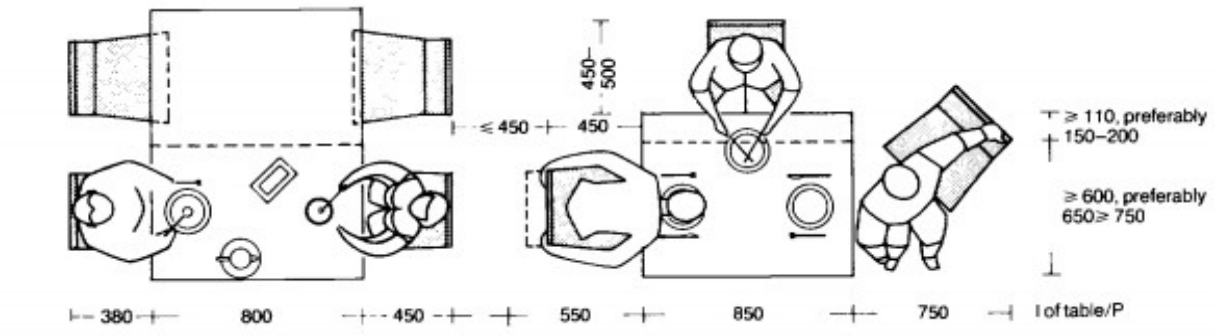
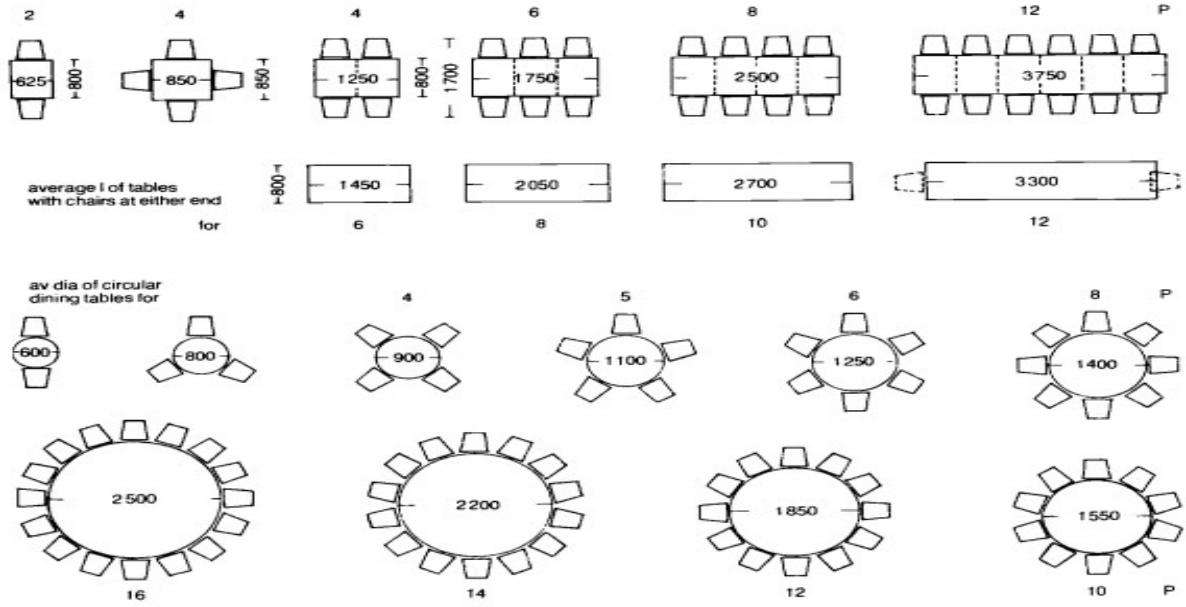


Table sizes vary according to type of restaurant; min for cafeterias etc:2 persons 600 x 600, 4 persons 600 x 1100.



Petrol/diesel filling and servicing centre

- Shall not be located on the road having right of way less than 30 m.
- Shall be approved by the explosive/fire department.

Area/size

I) only filling station	30mx17m
Ii) filling-cum-service station	36mx30m
Iii) filing-cum-service station-cum-workshop	45mx36m
Iv) filling station only for two and three wheelers	18mx15m

EV Charging Station

The government, as of November 2020, is planning to set up at least one EV charging kiosk at around 69,000 petrol pumps across the country to induce people to go for electric mobility.

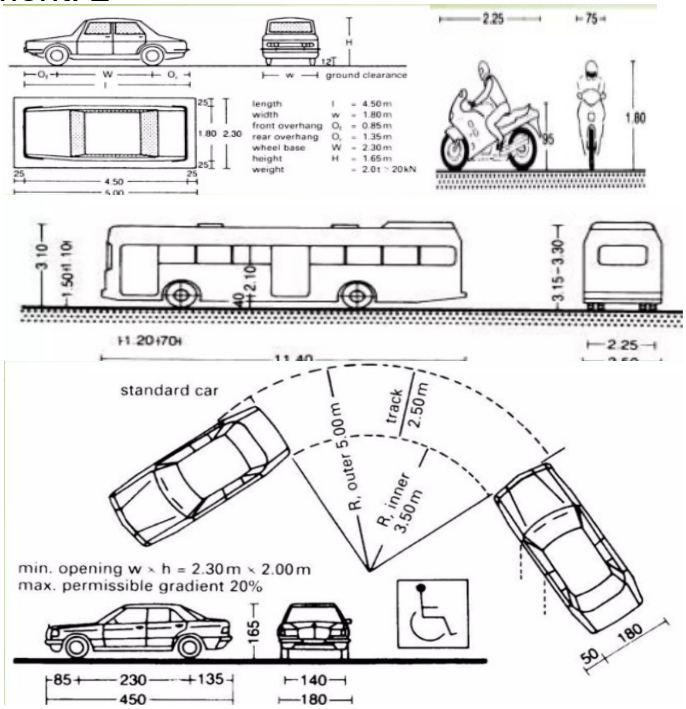
State	Targets (# of Charging Stations/Charging Station Density)	Infrastructural Incentives	Financial Incentives
Uttar Pradesh (Approved August 2019)	0.2 Million (by 2024)	Mandatory for public parking spaces, new housing societies, residential townships, and commercial complexes with a built-up area 5,000 sq. m. to have a charging station	Capital Subsidy of 25% on fixed capital investment (excluding land cost) to first 100 charging stations (maximum of INR 0.6 Million per charging station)

Commercial Centres

Land Area Required, Min

a) Convenience shopping
1 for every 5 000 population Area 1 500 m2
b) Local shopping including service centre
1 for every 15 000 population Area 4 600 m2
c) Community centre with service centre
1 for every 100 000 population Area 5.00 ha

Each off-street parking space provided for vehicles shall be as follows:
 For car
minimum parking space to be
individual parking space 3 m x 6 m
common parking space is 2.75 m x 5 m
Space for scooter/two wheeler and bicycle to be not less than 1.25 sq.m and 1.00 sq.m respectively.
Area for each equivalent car space inclusive of circulation area is
23 sq.m for open parking,
28 sq.m for ground floor covered parking
32 sq.m for basement.



WAYSIDE AMENITIES CENTRE

S. No.	Space	JOLLYGO	Floor | Type	J Plaza	Floor | Type	Foodway	Floor | Type	Standards
		Area (sq.m.)		Area (sq.m.)		Area (sq.m.)		Area (sq.m.)
1	**Site**							
	Plot Area	51650		11,310	-	46,500	-	-
	Permissible G.C.	30%		30%	-	30%	-	-
	Permissible FAR	1		1.5	-	1	-	-
2	**Food Outlets**							Per Person
	Food Stall 01					48	GF [QSR A2 A]	0.48
	Food Stall 02					82	GF [QSR A2 B]	0.48
	Food Stall 03					31 [Total=280]	GF [QSR]	0.48
	Food Stall 04					120.5	GF [McD]	0.48
	Food Stall 05					120.5	GF [QSR B8]	0.48
	Restaurant 01	1230 218 DINNING AREA+150 KITCHEN	GF(JOLLYGO)	426 [320 Dining+106 Kitchen]	GF [Bikanerwala]	164	GF [Starbucks]	1.35
	Restaurant 02	1020	GF(HIGNWAY MASALA)	263	GF [KFC]	100	GF [Veg.]	1.35
	Restaurant 03	950	GF(BARISTA)	120	GF [Subway]	255.6 [207 Dining + 48.6 Kitchen]	FF	1.35
	Restaurant 04					184.3 [135.6 Dining + 48.7 Kitchen]	FF	1.35
	Restaurant 05					100.5 [44.2 Dining + 56.3 Kitchen]	FF	1.35
	Kiosks	11	CHAI WALA	24	GF [CCD]	7.6 [Total=152 (76+76)]	GF	0.4
	Food Court / Common					2116.4 [1785+331.4]	GF, FF	1
	Ice Cream Stall							0.4
	Tea Shop							0.4
	Coffee Shop	24	GF					0.4
	Admin. Area			13.7	Basement-1			0.3
	Staff Dining			19.8	Basement-1			0.18
	Tray Station					55.5	FF	0.1
	Packaging Unit			12	Basement-1			0.1
	Raw Material Storage			82.4 [Bikanerwala], 118 [KFC]	Basement-1	73	FF	0.09
	Cold Storage			23	Basement-1			0.06
	Changing Rooms			3.21	Basement-1	24.1	FF	0.15
3	**Retail Stores**							Per Person
	Retail Shop 01	34	GF					1.4-7
	Retail Shop 02							1.4-7
	Retail Shop 03							1.4-7
	Retail Shop 04							1.4-7
	Convenience			33	GF			1.4-7
	Pharmacy							4.6-9
4	**Services**							Per Person
	Toilets [Males+Females]	175.6(92.1+83.6)	GF	54.3 [32+22.3]	GF	246 [23+123], 174.6 [91.5+83.1]	GF, FF	0.4
	BoH Area					430	GF, FF	0.8
	Electrical Room			24	GF	180		
	Mechanic Shop							
	DG Room			64.5	GF	283.6 [66+217.6]	GF	0.09
	Dry Garbage							0.06
	Control / Panel Room			12	Basement-1			
	STP			24.2	GF	130		
	Loading/Unloading Bay			132.85	Basement-1	48.2	GF	0.13
5	**Amenities**							Per Person
	Admin. Area					26.2	FF	0.3
	Offices							1.5
	Rest Area					28	FF	
	Lobby			26.4	GF			0.8
	ATM	20	GF					1.4
6	**Hotels**	PER ROOM						Per Room
	Guest Rooms	11.1	GF					35-45 (Motel)
	Toilets							0.4
	Common Room							0.5
	Reception	0.5	GF					0.4
	Office / Admin. Area	0.5	GF					0.3
	Meeting Rooms							1.1
	Café							1.1
	Kitchen							2.5
	Store							0.9
	Reading Room							0.3
	Lobby							0.8
	Lounge Area							0.5
	Business Centre							0.5
7	**Drivers' Facilities**							Per Person
	Dining Space							1.35
	Kitchen					1500	GF, FF	0.58
	Toilets							0.03
8	**Parking (No.)**							
	Cars	70	GF	40	GF	125	GF	3 ECS / 100 sq. m.
	Buses / Trucks	10	GF			10 Bus, 125 Truck	GF	

STANDERDS

Building Design Norms

Minimum Area, Size, Height and Light and Ventilation of Different Components of Residential Premises:

Minimum area for a habitable room, kitchen and water closet shall be followed in accordance to table:

Sl. No.	Component of Building	Min. requirement for plots upto 50 sq m.	Min. requirement for plots above 50 sq m.
1	Habitable Room	Area 7.50 sq m. Width 2.10 m. Height 2.75 m.	Area 9.50 sq m. Width 2.40 m. Height 2.75 m.
2	Kitchen	Area 3.30 sq m. Width 1.50 m. Height 2.75 m.	Area 4.50 sq m. Width 1.50 m. Height 2.75 m.
3	Pantry	Area Not applicable Width Not applicable Height Not applicable	Area 3.00 sq m. Width 1.40 m. Height 2.75 m.
4	Bathroom	Area 1.20 sq m. Width 1.00 m. Height 2.20 m.	Area 1.80 sq m. Width 1.20 m. Height 2.20 m.
5	W.C.	Area 1.00 sq m. Width 0.90 m. Height 2.20 m.	Area 1.10 sq m. Height 0.90 m. Height 2.20 m.
6	Combined Bath & W.C. (Toilet)	Area 1.80 sq m. Width 1.00 m. Height 2.20 m.	Area 2.80 sq m. Width 1.20 m. Height 2.20 m.
7	Store	Area No restriction Width No restriction Height 2.20 m.	Area No restriction Width No restriction Height 2.2 m.
8	Projections	Permitted within the setbacks upto 0.75 m. width	Permitted within the setbacks upto 0.75 m. width
10	Garage	--	Area 14.85 sq m. Width 2.75 m. Length 5.40 m. Height 2.40 m.
11	Passage	--	Width 1.00 m.
12	Doorways Habitable rooms For kitchen bath, W.C. etc.	Width 0.80 m. Height 2.00 m. Width 0.75 m. Height 2.00 m.	Width 0.90 m Height 2.20 m. Width 0.75 m. Height 2.00 m
14	Staircase	Width 0.75 m. No restriction for internal ladder	Width 0.90 m.

Habitable Room:

• In case of air-conditioned rooms, the height shall not be less than 2.4 m. measured from the surface
of the floor to the lowest point of air conditioning duct or false ceiling; and
• All doors and windows shall open directly or through a veranda or to a permanent open space or
an open space abutting the building not less than m. in width.
• No portion of a room shall be assumed to be lighted, if it is more than 3 m. or as stated in National
Building Code 2005, away from the opening provided for lighting that portion.

Kitchen:

• In case there is a separate store, the floor area of the kitchen shall be reduced to 4.5 square m.
• In case of houses constructed on plots up to 100 square m., the size of the kitchen shall be reduced
to 3.8 square m.
• The kitchen which is intended for use as a dining space also shall have a floor area of not less than
9.5 square m. with a minimum width of 2.45 m.
• For the purpose of this regulation, a kitchen shall be deemed to be a habitable room and all the
aforementioned requirements regarding ventilation shall apply to it provided that the minimum
area of the kitchen shall not be less than 5.5 square m. with a minimum width of 1.8 m.
• Kitchen planning requires four stages of development:
o Determine a process plan covering all major areas.
o Check maximum and minimum personnel need per area.
o Determine the equipment needed for each area.
o Space allocation.
• Space allotment for the main kitchen:
o 6 sq. ft. per restaurant seat.
o 1 sq. ft. per guest room.
• Service lanes should not be less than 900 – 1350 mm.
• Net kitchen 15 to 30% to the restaurants.
• Kitchen and wash to be preferred at the same level as the restaurant.

• Dining Area: People must be able to eat comfortably. One person requires a table area of around
60cm wide by 40cm. deep. This provides sufficient clearance between adjacent diners. Although
an additional 20cm of space in the center for dishes and tureens is sometimes desirable, an overall
width of 80-85cm for a dining table. Round table, or table with six or eight sides, with a diameter
of 90-120cm are ideal for four people and can also take one or two more diners.
• Restaurants should be planned so that variety of seating arrangement can be achieved.
• Large regular spaces should be broken up in small more intimate areas.
• Changes of level not usually favoured by caterers but acceptable providing, they may positive
contribution to design. No more than 2 or 3 steps and main restaurant should be same level as
kitchen.

Bathroom and Water Closet (W.C):

• Every bathroom and water closet shall:
o Preferably be so situated that at least one of its walls shall have opening for circulation of
external air, with provision of exhaust fan.
o Not be directly over any room other than another W.C, washing place, bath or terrace unless it
has a water-tight floor;
o Have a platform or seat made of water tight non-absorbent materials;
o Preferably be enclosed by walls and partitions and the surface of every such walls or partition,
shall be finished with a smooth impervious material to a height not less than 1.5 m. above the
floor of such room; and
o Be provided with impervious floor covering sloping towards the drain with a suitable gradient
and not towards veranda or any other room.

• Where the water-closet room in a building is not connected to exterior, it shall be ventilated by
mechanical means or through a vertical shaft open to sky of a minimum size of 1.25 m. X 1.50 m.
for ventilation to toilet, bath and water closet, but it shall be counted towards covered area.
• No room containing water-closet shall be used for any other purposes except as lavatory and no
such room shall open directly into any kitchen or cooking space by a door/ window or another
opening. Every room containing WC shall have a door completely closing the entrance to it.
• Soil or ventilating pipes shall not be allowed on the exterior face of any building, provided these
shall either be embedded in the walls or pipe ducts to be provided to accommodate them.

Parking:

• In Integrated/ Multi Storey Commercial Building, Big Box Retail Stores and Shopping Mall 1 ECS
for every 50 square m. of covered area shall be required.
• In shopping area and designated shopping markets being developed by competent authority, 65%
of total site area shall be kept for parking purpose.
• For restaurant, parking shall be provided as 1 ECS for every 2 seats and for multiplex/ cinema/
theatre 1 ECS for every 4 seats.
• 3 Star Hotel will comprise of 1 ECS for every four guest rooms (Employees and Visitors). • The covered parking in the basement or in the form of multi-level parking above ground level or
stilt shall not be counted towards Floor Area Ratio (FAR).

• However, the footprint of separate parking building blocks shall be counted towards ground
coverage.
• In case of provision of mechanical parking in the basement floor/ upper stories, the floor to ceiling
clear height of the basement/ floor may be maximum of 4.75 m.
• No storage and commercial activities shall be permitted in the covered parking areas.
• The misuse of the covered parking space shall immediately attract levy of three times the penalty
of the composition fee prescribed for the excess covered area in the respective category.
• For sites other than residential plots, 1 ECS = 23 square m. for open parking, 28 square m. for
parking on stilts and 32 square m. for basement parking.
• The public entrance and the movement of staff and goods should be segregated.
• The parking pattern that will be most satisfactory fully warrants a careful thought. it depends upon
many factors including the possible locations of access drives. At right angle turn off the driveway
should be 25 feet wide and the curb should have a 30 feet radius.
• Slope of 1:8 to 1:12 is customary for ramps.
• Central driveway with 2 rows of cars and 90 parking gives the best economical layout.
• Diagonal parking is easier for drivers, reduces the necessary width, but requires more total space.

Courtyard:

• The courtyard shall have a minimum area, throughout its height, of not less than the square of one_x0002_fifth the height of the highest wall abutting the courtyard.
• Provided that when any room (excluding staircase bay, bathroom and water closet) is dependent
for its light and ventilation on an inner courtyard, the dimension shall be such as is required for
each wing of the building.
• Provided that such courtyard shall not be less than 12.0 square m. in area and the minimum width
of every such courtyard in any direction shall not be less than 3.0 m. In determining the said aggregate, floor area of the rooms and veranda abutting on the courtyard, following shall be considered:

o Only one half of the floor area of such rooms and verandas as abut on another courtyard or an open space or road not less than 6 m. in width shall be taken in account;
o The area of the courtyard for the purposes of this code shall be the area open to sky, clear of all projections

Plinth:

• The plinth of the main building shall be so located with respect to surrounding ground level that
proper drainage of the site is assured. The height of the plinth shall not bless than 450 mm and more than 1.5 m.
• The plinth of court-yard shall be at least 150 mm above the level of the street from where entry to plot has been taken and shall be satisfactorily drained.
• In no case, any part of the ramp/ steps connecting building plinth to street/ road shall lie on street/ road and obstruct traffic movement.

Basic Room Layout:

• Hotel offer different types of accommodation, including bedrooms, suites.
• The size and number of beds largely dictates dimensions and layout of rooms, e.g. twin 100/200cm,
double 150/200cm, queen-size 165/200cm, or king size 200/200cm.
• Rooms may include a sitting area with chairs, a desk, T.V., self-services drinks refrigerator and
suitcase stand. Corridor space should be about 6m2/ room, and normally at least 1.5-1.8m wide.
Separate route should be provided for guest, staff and goods.

Boundary Wall, Fence, Gate and Porch:

• Maximum permissible height of front side boundary wall shall be not more than 1.2 m. from the mean level of abutting street in front of the plot from where entry to the plot has been taken.
The owner/ applicant if desires, is permitted to not construct boundary wall in front of plot, so that the said area can be utilized for parking.

• Maximum height of boundary wall at rear and side of plot shall not be more than 1.8 m. from the mean level of abutting street in front of the plot from where entry to the plot has been taken.
In case of plots above 2000 square m., maximum height of boundary wall at the rear and side of plot shall not be more than 1.8 m. from the abutting ground level.
• A railing/ grill with or without poly carbonate/ fibre glass sheet covering of 0.75 m. height shall be permitted over and above the maximum height of boundary wall at all sides.
• Boundary wall upto the height of 2.4 m. may be permitted by the Competent Authority in industrial buildings, electric sub-stations, transformer stations, institutional buildings like hospitals, industrial buildings like workshops, factories and educational buildings like schools, colleges, including hostels and other uses of public utility undertakings and strategically sensitive buildings.

Staircase:

• Every building intended to be used as multiple residential building or commercial or educational and institutional or industrial building shall be provided with required number of staircase (accessible from a maximum distance of 30 m. (45 m., if building has automatic sprinklers for firefighting) from any part of the building, extending from ground floor level to the highest floor, having following specifications:
Residential and Commercial Plots above 51 sqm. Area: o Minimum permissible clear width of staircase: 1.2m.
o Minimum permissible width of tread: 0.3m (without nosing).
o Maximum permissible height of riser: 0.15m.
Assembly Building: o Minimum permissible clear width of staircase: 2m.
o Minimum permissible width of tread: 0.3m (without nosing).
o Maximum permissible height of riser: 0.15m.
private portion of a public building and industrial building not open to the general public, may be of the sizes mentioned for residential building.

• For residential plot sizes upto 100 square m., there is no restriction for maximum permissible height of riser, subject to the condition that it shall not cause inconvenience to user.

Ramps:

• Every building having more than 15 m. height shall be provided with a lift or a ramp with an inclination of 1:10 in addition to the staircases. In all residential buildings having more than 15 m.
height, lift is mandatory to install in numbers depending on the occupancy of building.

• In case of public building with only ground floor, ramp shall be provided for reaching its plinth level. Further, in case of public building being more than one storey, lift or ramp shall be provided.

• The ramp to basement and parking floors shall not be less than 7.2 m. wide for two-way traffic and 4 m. wide for one-way traffic, provided with minimum gradient of 1:10.

• Ramps may also be provided in the setbacks which can be sloped considering unhindered movement of fire engine and in no case the gradient shall be less than 1:10. (to be read with basement).

• All structural design/ safety aspects as per latest Bureau of Indian Standards Codes and National Building Code, 2005 (as amended from time to time) shall be complied along with consideration of weight of Fire Engine and its manoeuvring.

• A ramp shall have handrail on at least one side, and preferably two sides with minimum height of 0.90 m., measured from the surface of the ramp. The handrails shall be smooth and extend to 0.30 m. beyond the top and bottom of the ramp. Where major traffic is predominantly children, the extra handrail shall be placed 0.76 m. height.

• Where ramps with gradients are necessary or desired, they shall conform to the requirement that a ramp when provided shall not have a slope greater than 1:20 or maximum of 1:12 for short distance up to 9 m.

Lifts:

• Every building having more than 15 m. height shall be provided with a lift or a ramp with an inclination of 1:10 in addition to the staircases. In all residential buildings having more than 15 m.height, lift is mandatory to install in numbers depending on the occupancy of building.

• Wherever lift is required as per Code, provision of at least one lift shall be made for the wheel chair users, with the following cage dimensions, recommended for passenger lift of 13 persons capacity
by the Bureau of Indian Standards:
o Clear internal depth 1.1 m.
o Clear internal width 2.0 m.
o Entrance door width 0.9 m.
• A handrail not less than 0.6-m.-long and 1 m. above floor level shall be fixed adjacent to the control panel.
• The minimum size of lift lobby shall be 1.8 m. x 2.0 m. or more.
• The interior of the cage shall be provided with Braille symbols and auditor signage that audibly indicates the floor. When the cage reached on floor, it shall indicate that the door of the cage for entrance/ exit is either open or closed.

Passages and Corridors:

• The minimum width of corridors and passages in a residential building shall be at least 1.25 m. and
these shall be of fire-resistant material.
• Minimum width of any corridor and passage in case of residential building with multiple dwelling units and for other type of building, shall be as given below:
Residential and Commercial Buildings: o Minimum permissible width of passage and corridor: 1.25m.
Assembly Building: o Minimum permissible width of passage and corridor: 2m.
• The clear headroom height of passage and corridors shall, in no case, be less than 2.15 m.
• All surfaces including ceiling shall be of fire resistance materials.
• All the passages and corridors shall be naturally lighted and ventilated and if not possible, provision for artificial lighting and mechanical ventilation shall be made.

Exit:

• The requisite number and size of various exits shall be provided, based on the occupants in each room and floor based on the occupant load, capacity of exits, travel distance and height of buildings as per provisions of Part 4 Fire and Life Safety, National Building Code as amended with time.

• At least one primary entrance and exit to each building shall be usable by individuals in wheelchairs, indicated by a sign and on a level that would make the elevators accessible.

• Exits shall be so located so that the travel distance on the floor shall not exceed 22.50 m. for residential, educational, institutional and hazardous occupancies and 30.0 m. for assembly, business, mercantile, industrial and storage occupancies. Whenever more than one exit is required for a floor of a building they shall be placed as remote from each other as possible. All the exits shall be accessible from the entire floor area at all floor levels.

• The travel distance to an exit from the remote point shall not exceed half the distance as stated
above. Provided for fully sprinklered building, the travel distance may be increased by 50 percent
of the values specified.

• No exit doorways shall be less than 1 m. in width except assembly and institutional buildings where it shall not be less than 2 m.

• Exit doors shall open outwards, that is away from the room but shall not obstruct the travel along any exit. No door when opened shall reduce the required width of stairway or landing to less than 0.90 m. Overhead door shall not be installed.

Means of Access:

• No Building shall be erected as to deprive any other building of its means of access.

• If there are any bends or curves in the approach road, sufficient width shall be permitted at the curve to enable the fire tenders to turn, the turning circle shall be at least of 9.0 m. radius.

• Other provisions of means of access for buildings other than plotted residential and commercial:

o The approach to the building and open spaces on its all sides upto 6.0 m. width, shall have
composition of hard surface capable of taking the weight of fire tender, weighing upto 22 tonnes for low rise building and 45 tonnes for building 15 m. and above in height. The said open space shall be kept free of obstructions and shall be motor-able.
o Main entrance to the premises shall be of adequate width to allow easy access to the fire tender and in no case, it shall measure less than 6.0 m. The entrance gate shall fold/ slide
back against the compound wall of the premises, thus leaving the exterior access way within the plot free for movement of the fire service vehicles. If archway is provided over the main entrance, the height of the archway shall not be of height less than 5.0 m.
o In case of basement extending beyond the building line, it shall be capable of taking load of 45 tonnes for a building of height 15.0 m. and above and 22 tonnes for building height less than 15.0 m.
• Every person who applies for permission for erection or re-erection of building shall also submit NOC for accessing the road (whether National Highway, State Highway) if applicable from the concerned authority.
• In no case, development on plots shall be permitted unless it is accessible by a public street of width not less than 6 m.
• For all assembly buildings like, theatres, cinema houses, assembly halls, stadia; educational buildings; markets, hospitals; industrial buildings and other buildings which attract large crowd, the means of access shall not be less than the following:

Width of Means of Access (m)	Length of Means of Access (m)
12.0	200
15.0	400
18.0	600
24.0	Above 600

• Further, in no case shall the means of access be lesser in width than the internal accessways in layouts and subdivision.

Light and Ventilation of Building:

• Every room that is intended for human habitation shall abut on an interior or exterior open space or on to a veranda open to such interior or exterior open space.
• The setback area can be sunk for light, ventilation and access to basement, provided fire tender movement is not hindered.
• The whole or part of one side of one or more rooms intended for human habitation and not abutting on either the front, rear or side open spaces shall abut on an interior open space whose minimum width in all directions shall be 3.0 m. in case of buildings not more than 15 m. in height, and in case of buildings above 15 m., the provision of code shall apply accordingly.
• Sunken courtyard up to the lowest floor of basement(s) shall be allowed as 'light well' within building envelop for light and ventilation for basement area.
• Other provisions of light and ventilation for buildings other than plotted residential and commercial:
• If exterior open-air space is intended to be used for the benefit of more than one building on same plot/ site, then the width of such open-air space shall be the one specified for the tallest building abutting on such open-air space, shall be as given below:

Height of Building (m)	Exterior Open Spaces to be left on all sides of Building Blocks (front, rear and sides in each plot) (m)
15.0	5
18.0	6
45	13
50	14

Motor Garage and Repair Shops:

• The minimum size of a private motor garage shall be 2.75 m. x 5.0 m. The clear height of the garage shall not be less than 2.40 m. The plinth of the motor garage shall not be less than 150 mm above the average ground level.

• A garage shall be permitted within zoned area and shall be counted towards covered area.

• Garage shall not be used for habitable purposes.

Basement:

• The construction of the basement shall be allowed by the Competent Authority in accordance with
the provisions of Zoning Plan.

• The basement shall be constructed within the zoned area and may be put to following uses:

o Storage of household or other goods of ordinarily non-combustible material;

o Strong rooms, bank cellars, etc.;

o Air-conditioning equipment and other machines used for services and utilities of the building.

• Modern automated laundry shall be allowed only in the basement of Hotel and Hospital/ Nursing Home sites, group housing, service apartment, as an ancillary services for the purpose for which permission is granted by Competent Authority and meant for in-house services only subject to the condition that the effluent of the laundry shall be properly pumped up to ground floor inspection chambers and discharged to the main sewer;

• Car wash, security room, ticketing booth, driver waiting room, toilets, loading/ unloading activities, lift/ escalator lobbies and parking.

• The basement may be used for habitable purpose subject to fulfilment of fire safety, light & ventilation and exit provisions on opposite directions. However, in case basement is used for habitable purpose, the area utilized will be counted towards total covered area of building i.e. FAR.

The basement is used for uses other than specified above, shall be considered for habitable use and shall be counted towards FAR, subject to fulfilment of fire safety, light and ventilation and exit provisions on opposite directions.

• An open area of a minimum width of 1.8 m. shall be provided across the full length and/ or width of the basement storey. This area shall be within the limits of the site and shall be paved with impervious material above a concrete bed. It shall be completely unobstructed except that in this area steps may be allowed for access to it, if considered necessary.

• In the case of buildings governed by the zoning, basement storeys shall be lighted and ventilated by means of windows of the minimum area within 1/10th to 1/25th of the total floor area, at least half of which must open subject to the condition that the deficit of light and ventilation shall be made up by providing artificial lighting and mechanical ventilation as per provision of National Building Code of India.

• The walls of the basement story shall be properly damp proofed and if in contact with the soil, they must be effectively secured against dampness from the soil with the approved vertical and horizontal damp proof course.

• The minimum clear height of the basement shall be 2.4 m. and maximum clear height of the basement shall be up to 4.75 m. from floor to the underside of the roof slab or ceiling subject to structural stability to be certified.

Concept

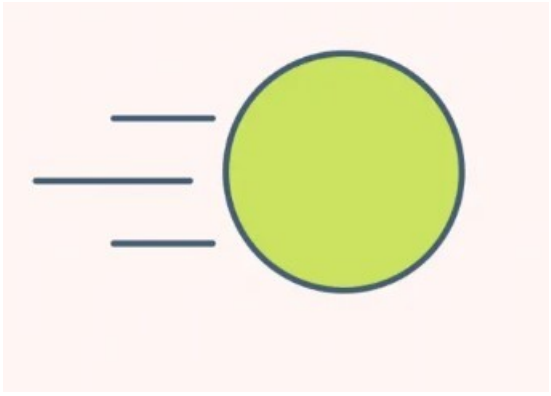
CONCEPT

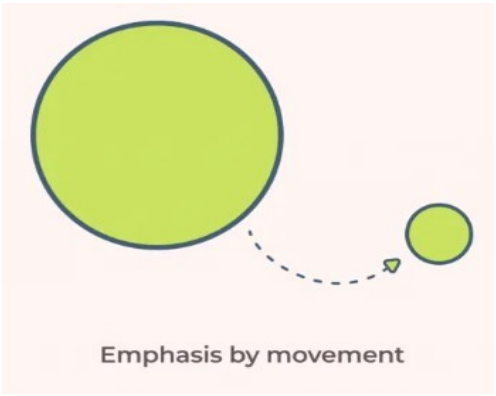
WAYSIDE AMENITY

MOVEMENT

MOVEMENT

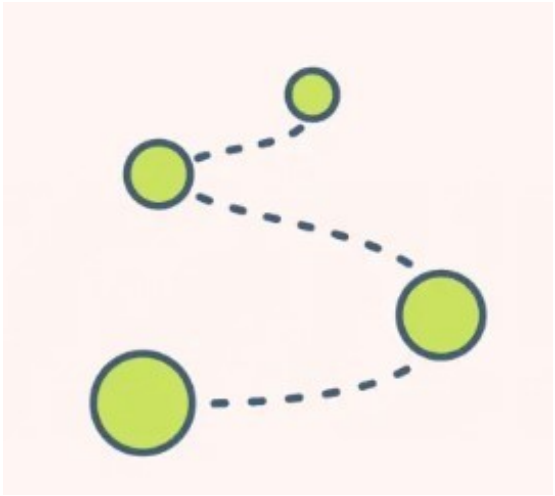
- ACT OR PROCESS IRREGULAR FORM ONE PLACE TO ANOTHER
- IT CAN BE DIRECTIONAL, IRREGULAR OR MULTIDIRECTIONAL
- NEED AND AVAIBILIY AT DIFFERENTLEVELS IS THE MAIN CAUSE OF MOVEMENT
- MOVEMENT IS RELATED TO ENERGY SO TO CONSERVE ENERGY THERE MUST BE DELIBERATE EFFORT TO ARRAGE TEH VAIRIORS





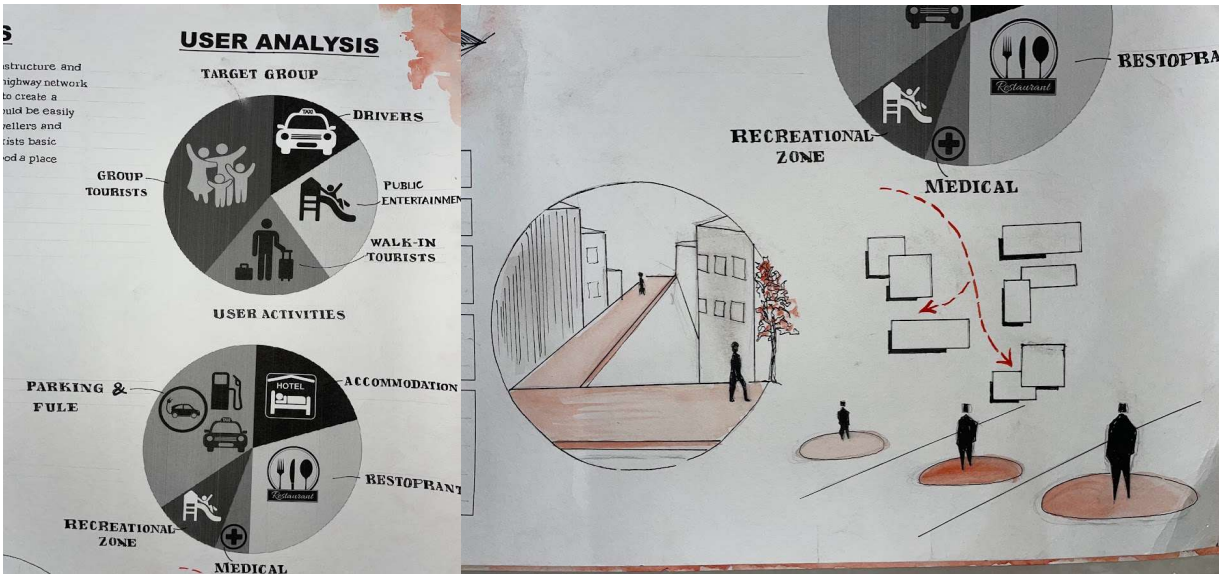
RELATION WITH ARCHITECTURE

- Movenment is the part of principle of architecture.
- The Principles of Design are concepts used to organize or arrange the component elements of design.
- there are Seven principles design.
  - Balance.
  - Rhythm.
  - Emphasis.
  - Proportion and scale.
  - Movement.
  - Contrast.
  - Unity



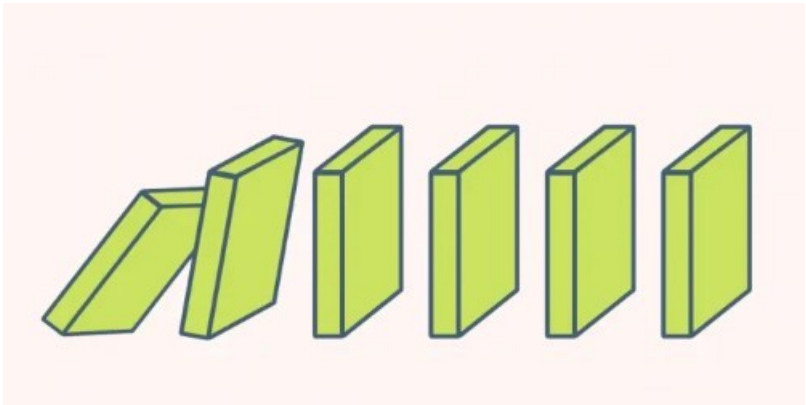
MOVEMENT

- Movement is how the design leads a viewer's eyes through the exterior and interior of a building composition, guided by patterns or other design elements.
- Any element of design can be used to accomplish this, including direction, colors, value, and proportions
- M o v e m e n t me a n s g u i d i n g t h e u s e r 's e y e t o a predetermined path in a composition.
- The tale or narrative of work is created by movement



MOVEMENT IMPORTANCE

- Guides the viewers and lets them know what to look at next.
- Brings attention to focal points.
- Makes design dynamic

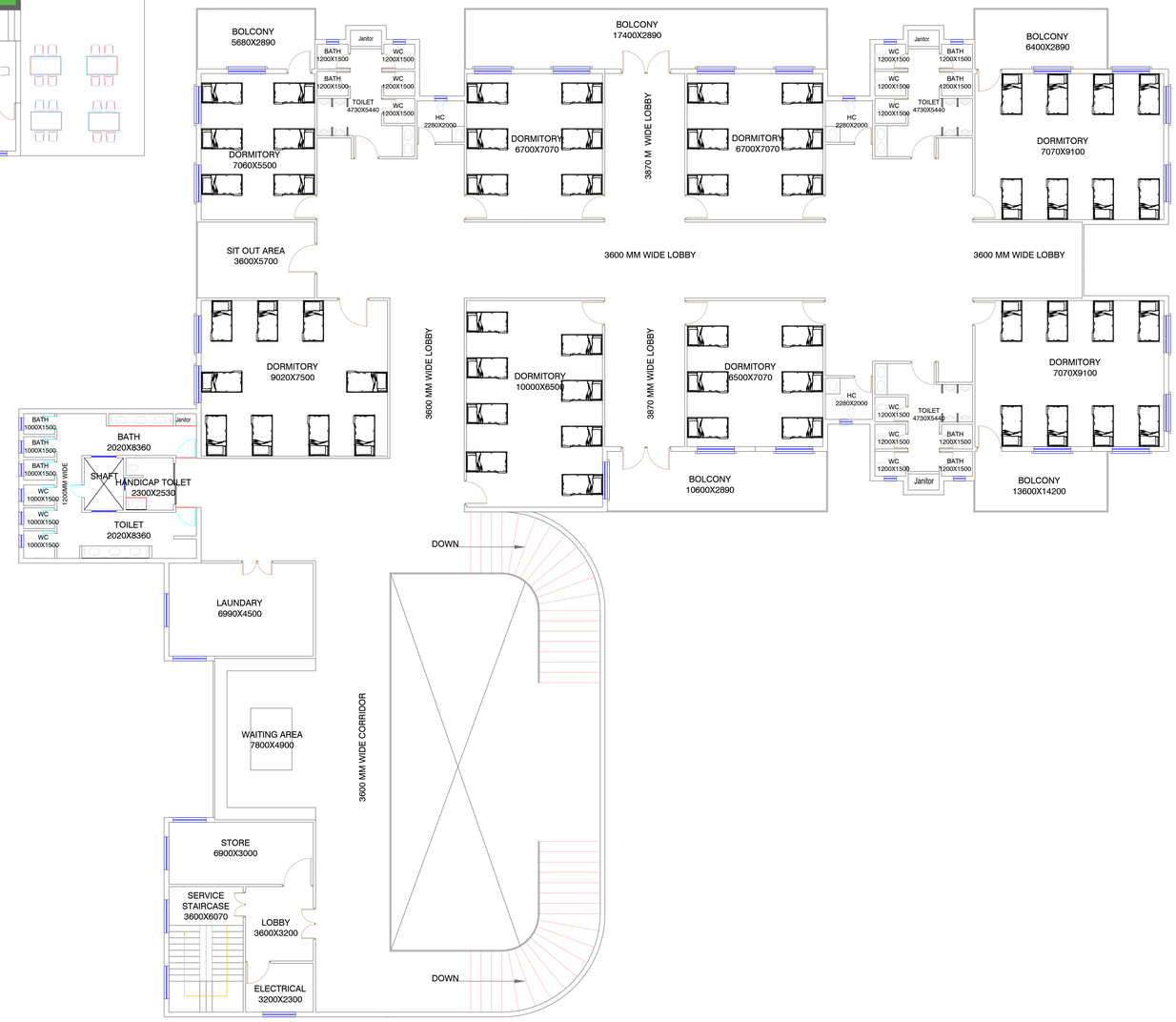


DRAWINGS
WAYSIDE
AMENITY

DORMITORY

GROUND FLOOR

FIRST FLOOR



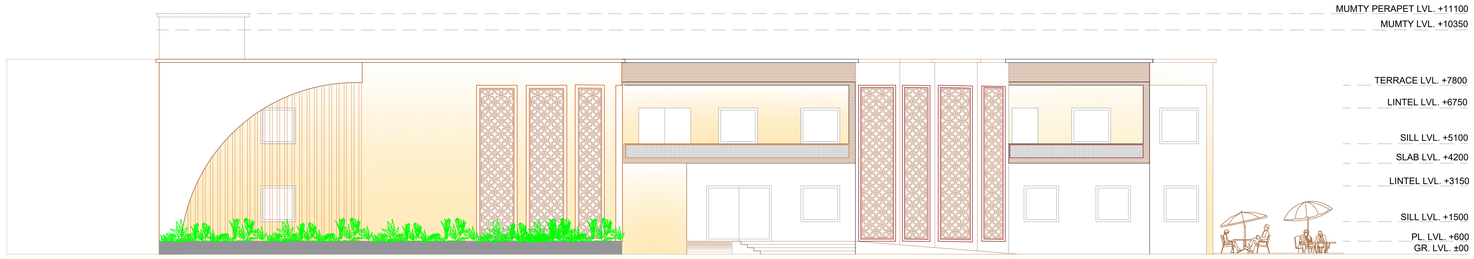
WAYSIDE AMENITIES CENTRE VARANASI

SCALE : 1:100

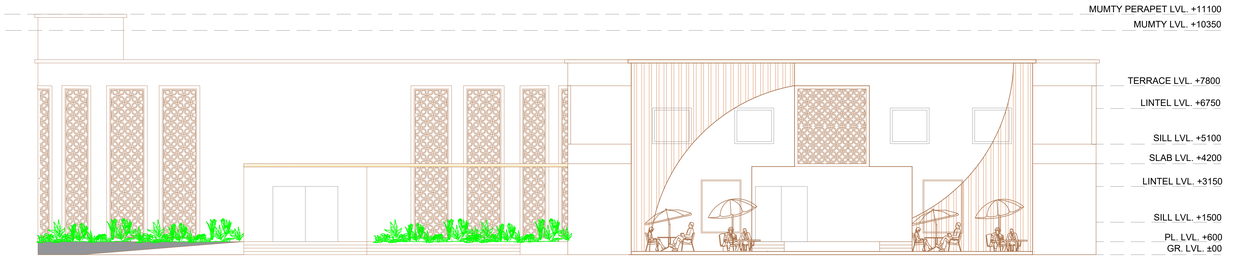
B.Arch 5th Year Thesis 2022 - 2023 By :
PRAGYA GAUR (1180101036)

BBDU ARCHITECTURE SCHOOL OF PLANNING

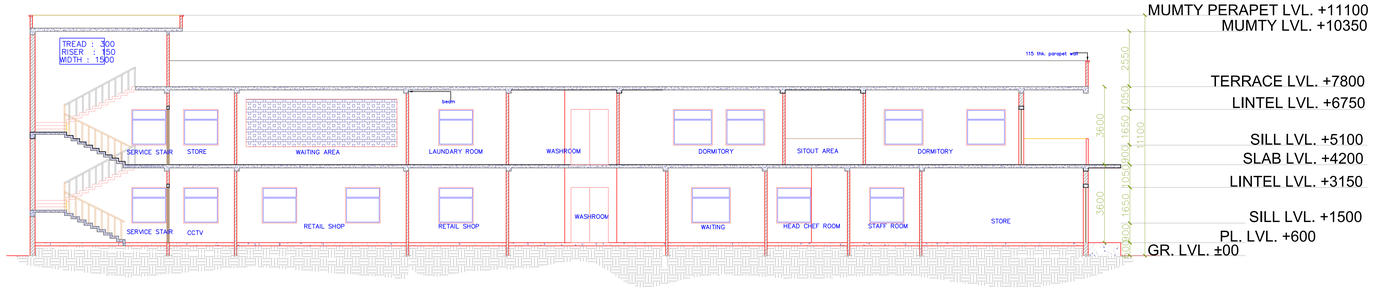
SHEET NO. -



SIDE ELEVATION



FRONT ELEVATION



SECTION AT A-A"(A)

3D VIEWS

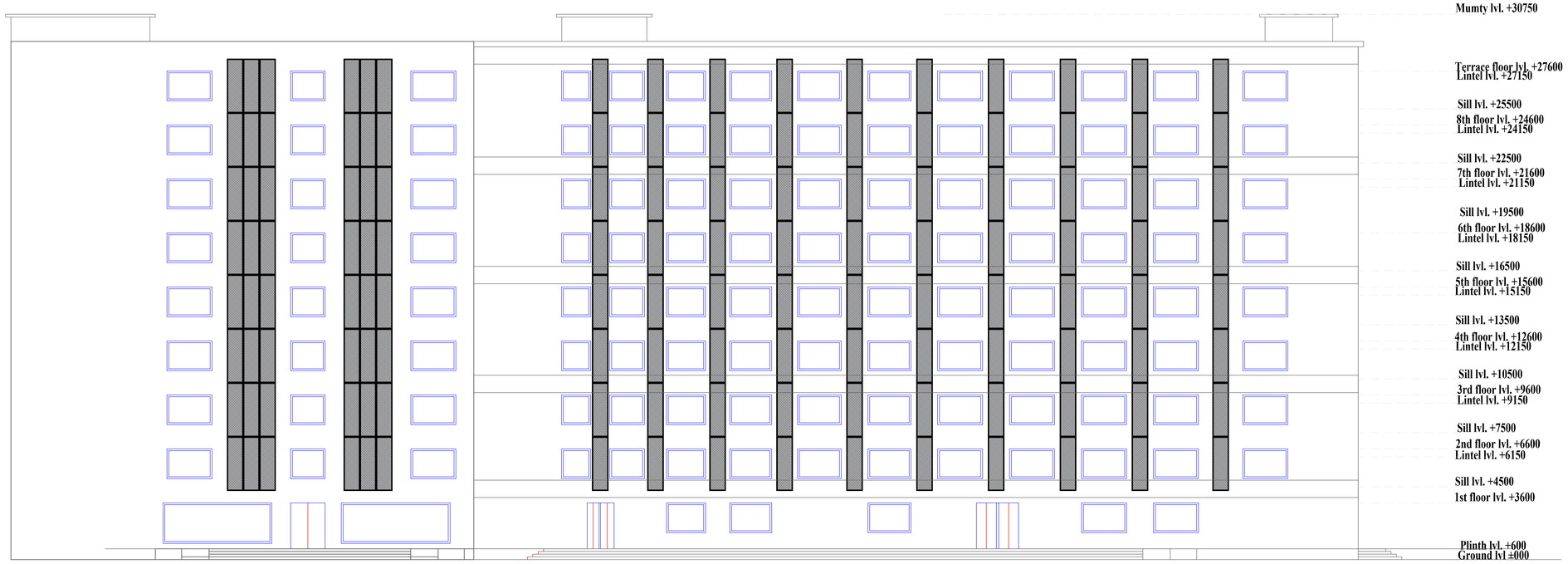
WAYSIDE AMENITIES CENTRE VARANASI

SECTION AT A-A

SECTION AT B-B

SECTIONS

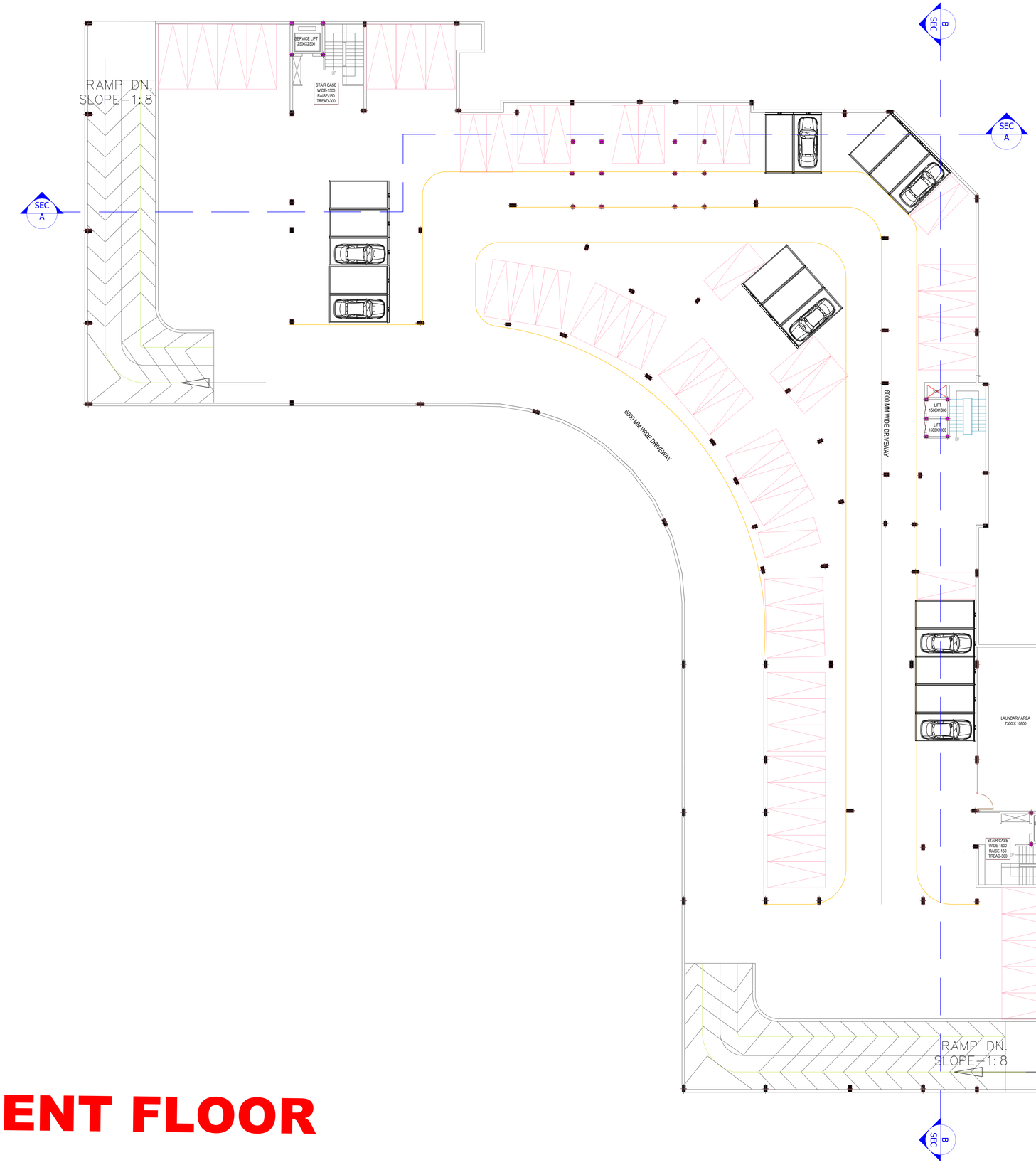
FRONT ELEVATION



SIDE ELEVATION

ELEVATION

WAYSIDE AMENITIES CENTRE VARANASI

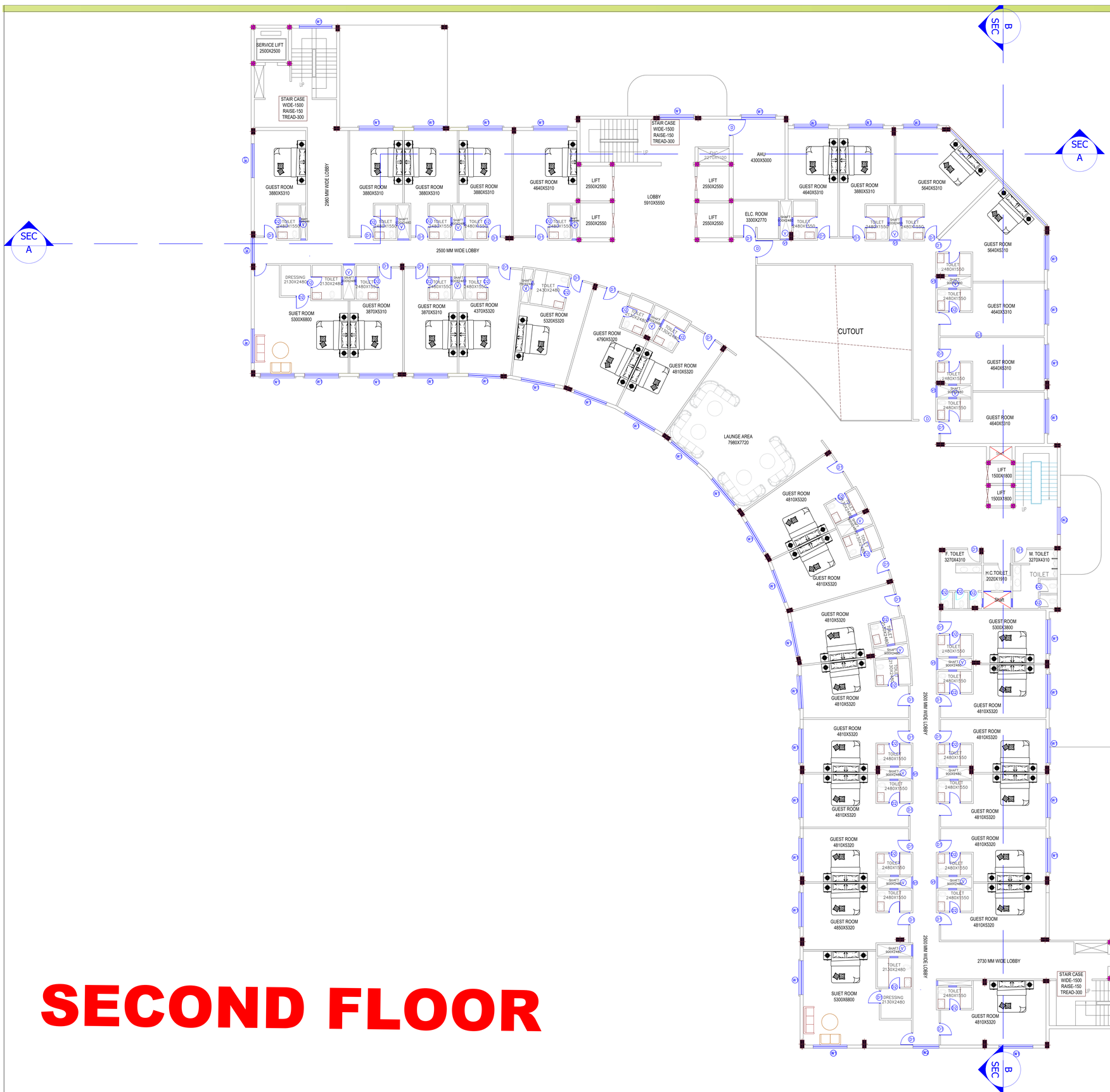


BASEMENT FLOOR

WAYSIDE AMENITIES CENTRE VARANASI

HOTEL

TYPICAL FLOOR PLAN



SECOND FLOOR

SCALE : 1:100

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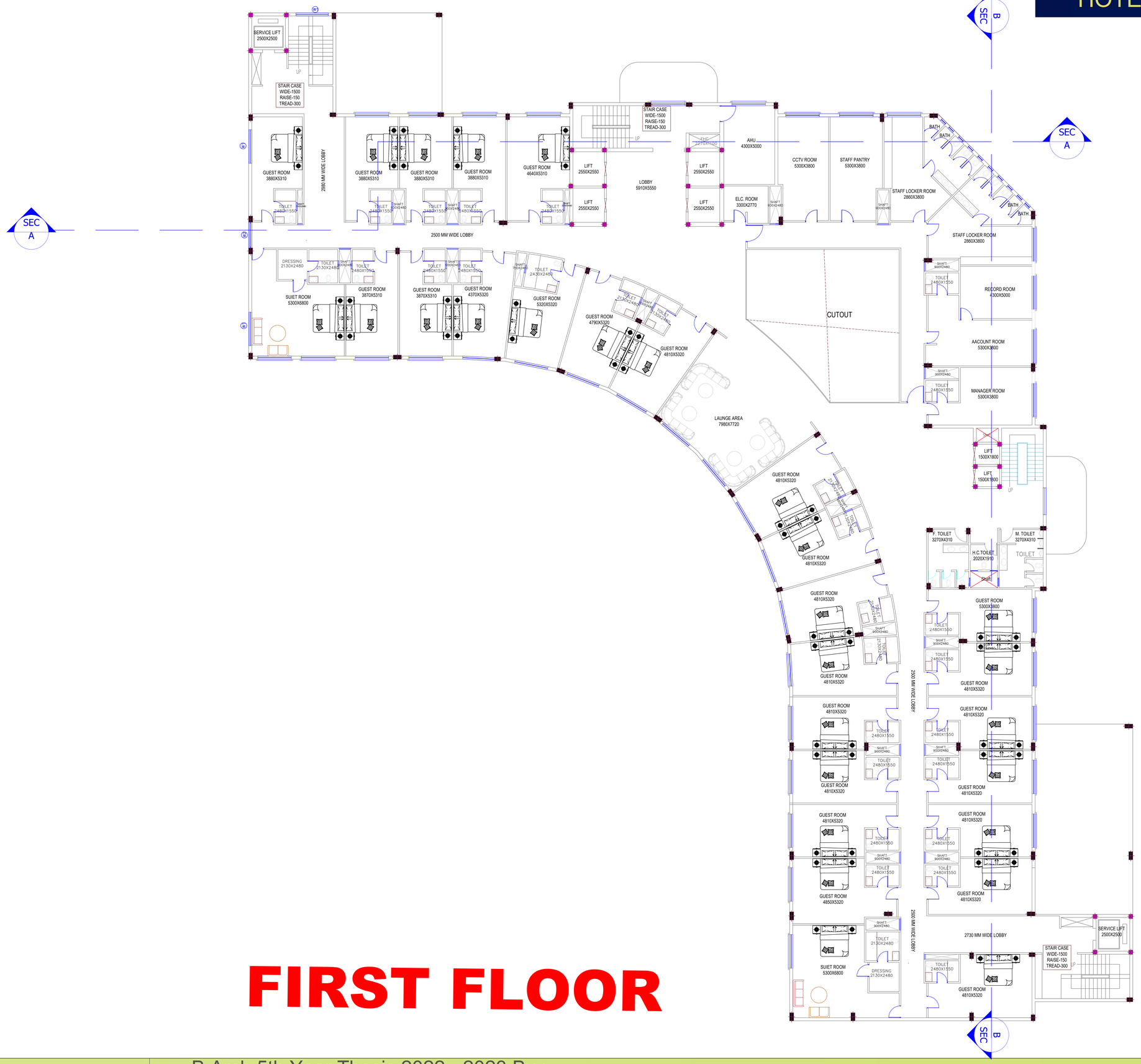
BBDU ARCHITECTURE SCHOOL OF PLANNING

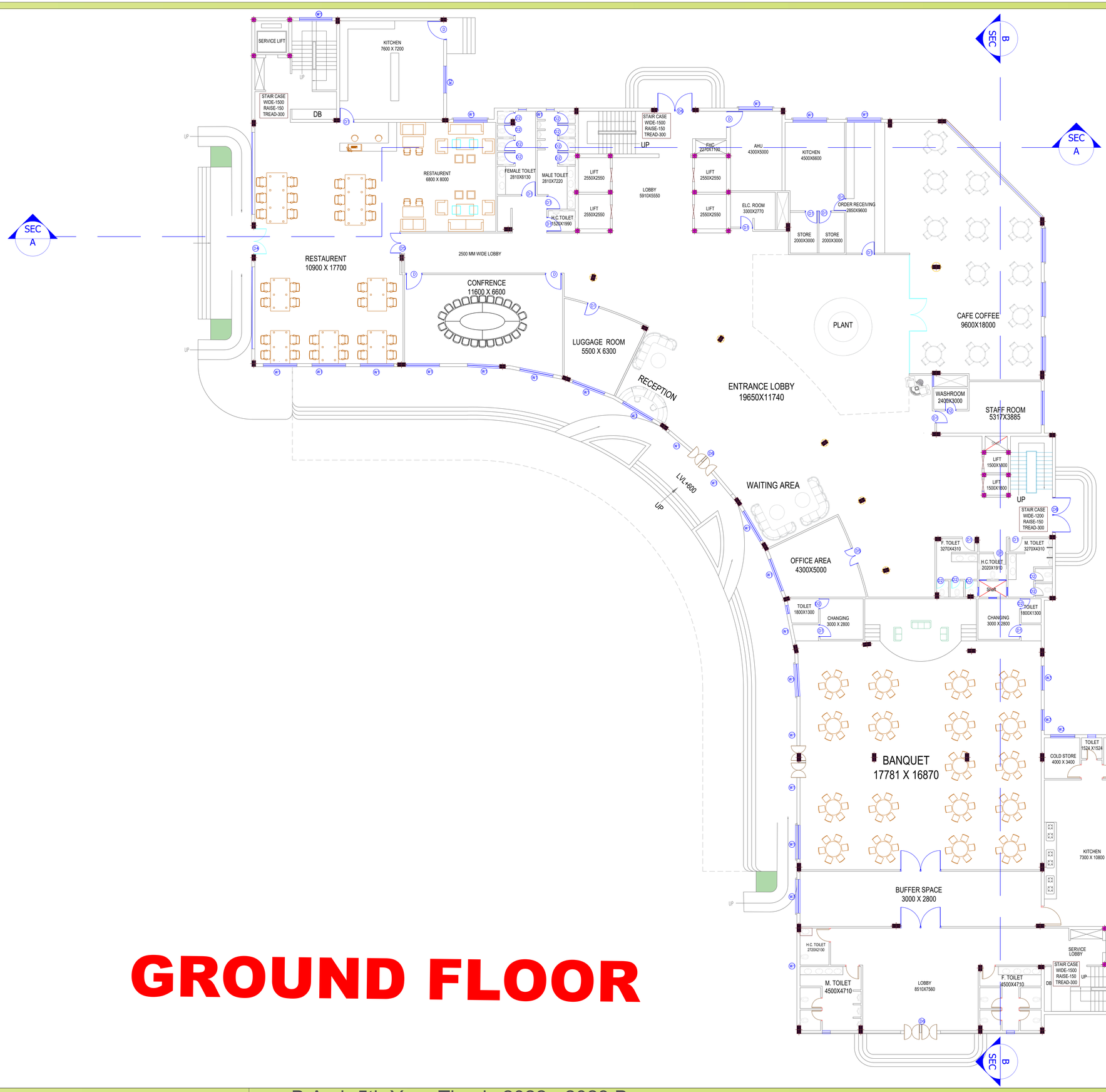
SHEET NO. -

WAYSIDE AMENITIES CENTRE VARANASI



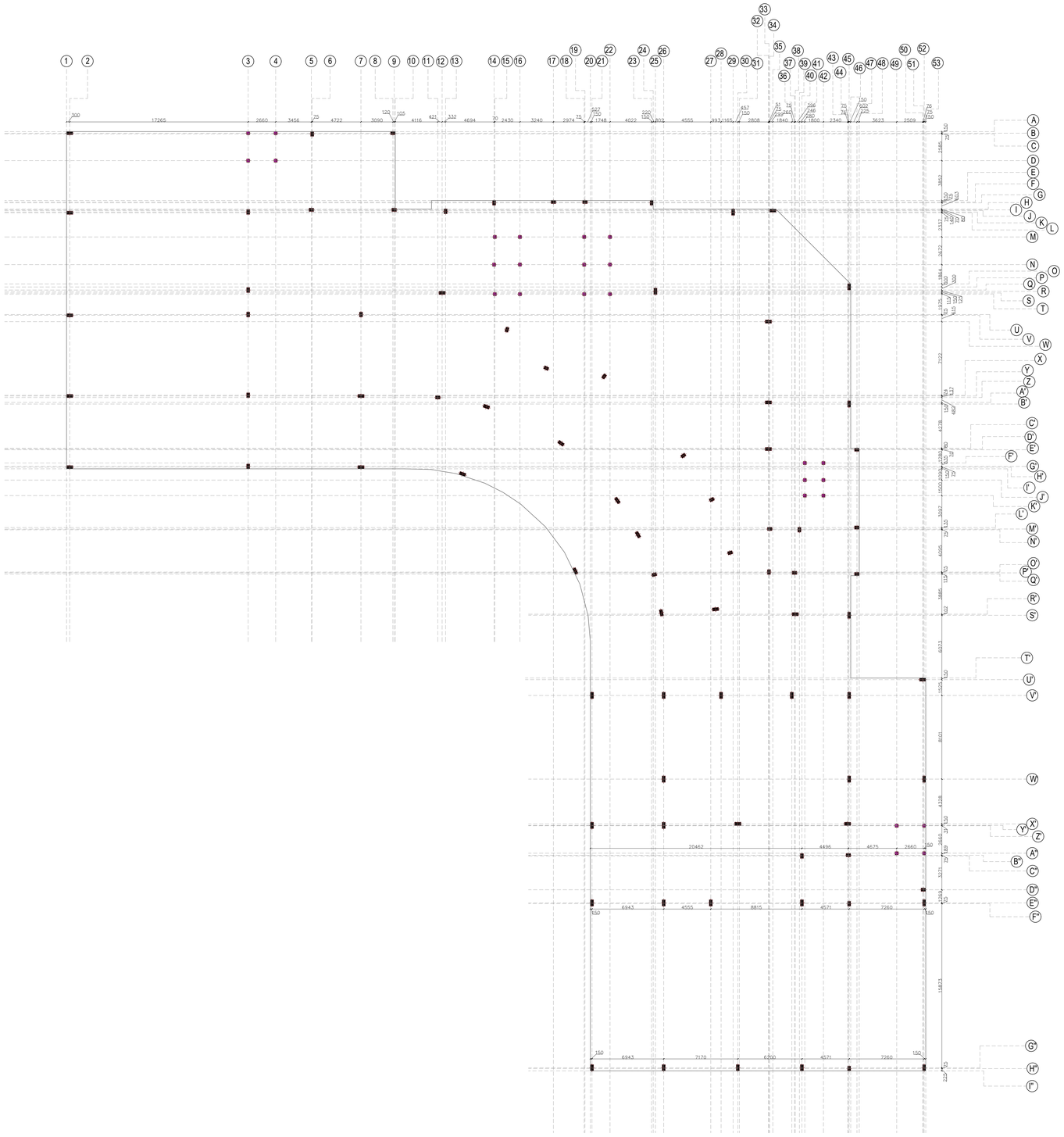
FIRST FLOOR

WAYSIDE AMENITIES CENTRE VARANASI



GROUND FLOOR

WAYSIDE AMENITIES CENTRE VARANASI



CENTRE LINE PLAN (WORKING DRAWING)

WAYSIDE AMENITIES CENTRE VARANASI

SCALE : 1:100

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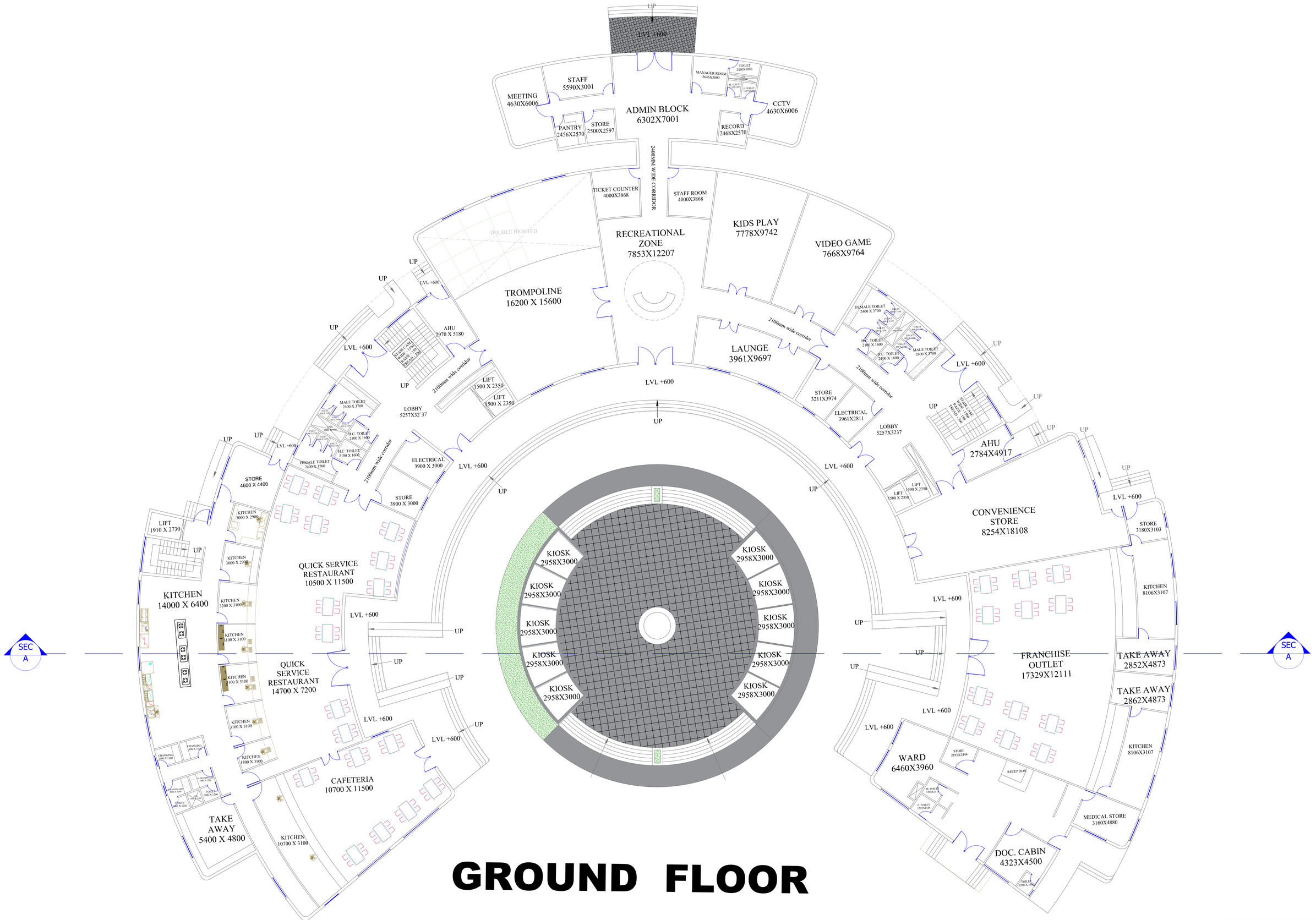
SHEET NO. -

WAYSIDE AMENITIES CENTRE VARANASI



GROUND FLOOR

SCALE : 1:100

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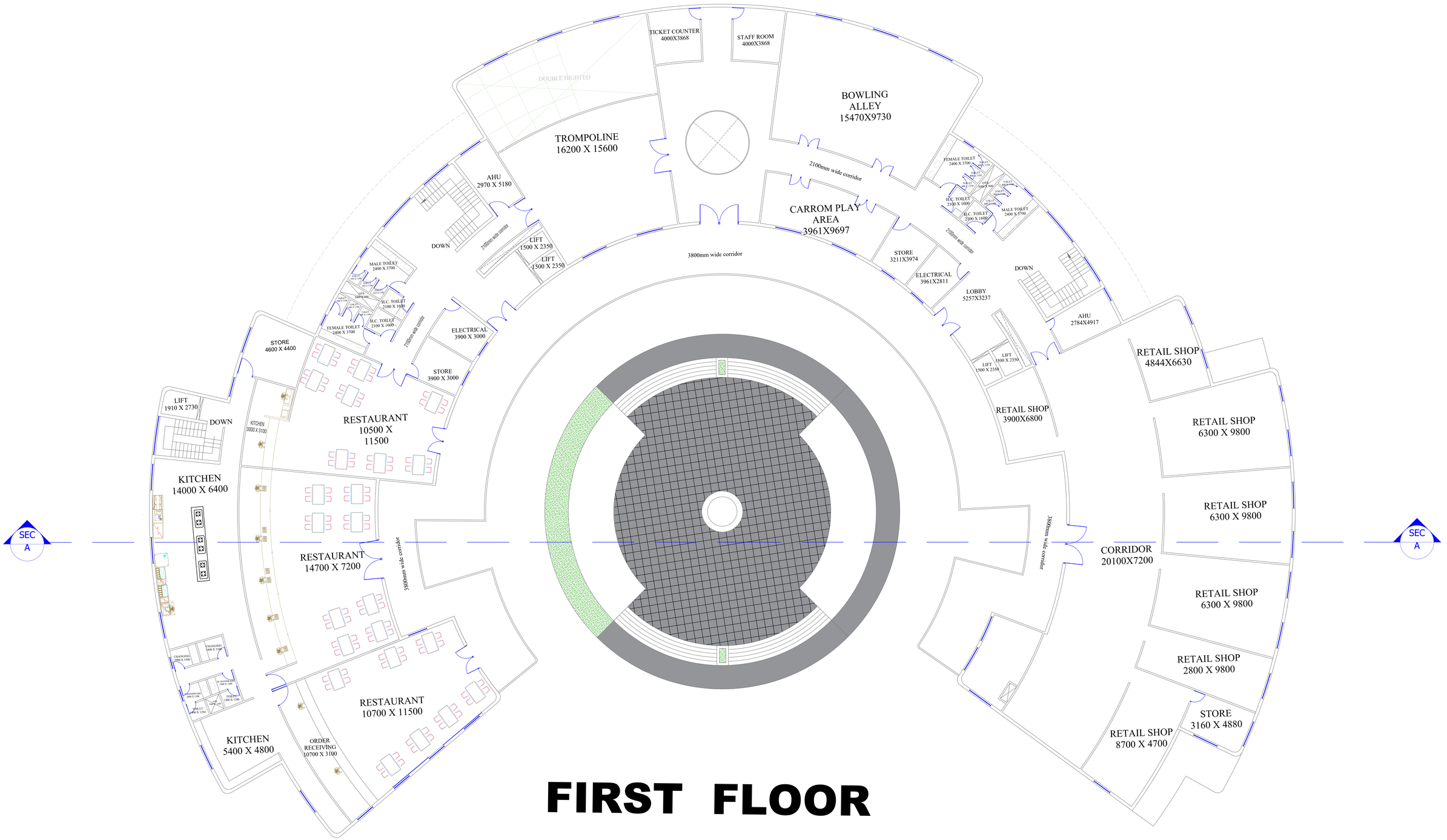
SHEET NO. -



FIRST FLOOR

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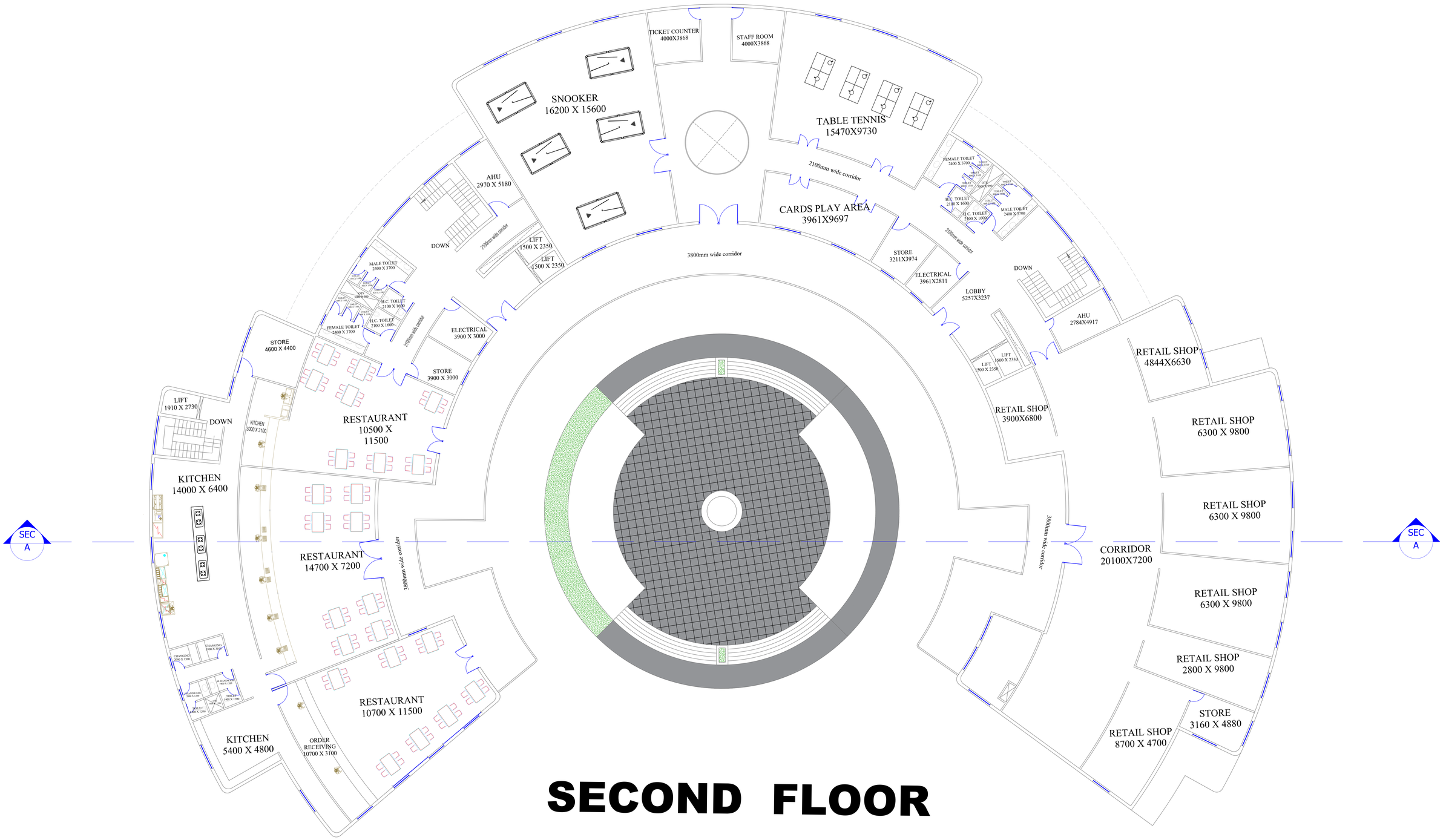
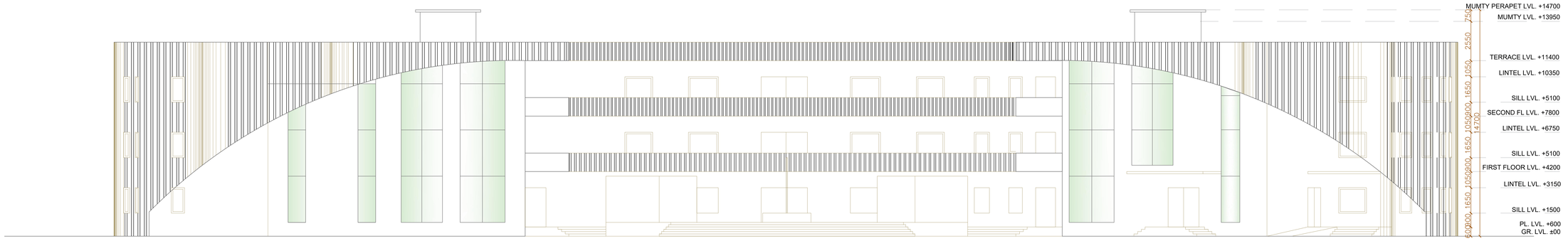
BBDU ARCHITECTURE SCHOOL OF PLANNING



SECOND FLOOR

WAYSIDE AMENITIES CENTRE VARANASI

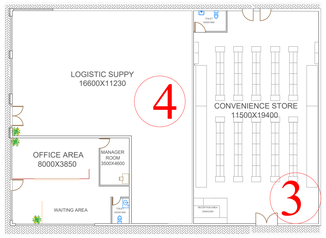


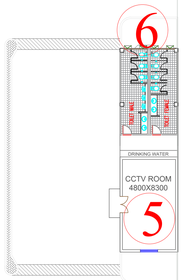
FRONT ELEVATION

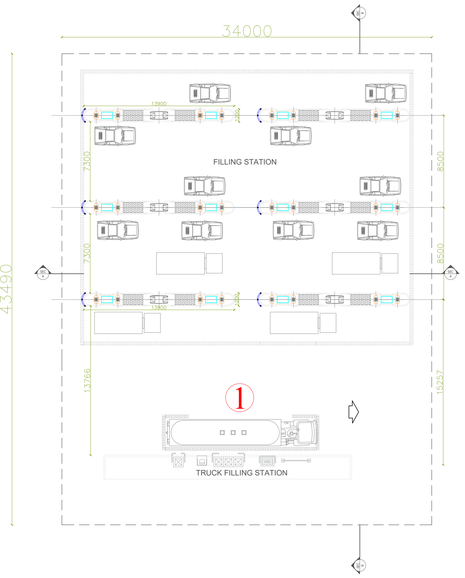
SECTION AT AA'

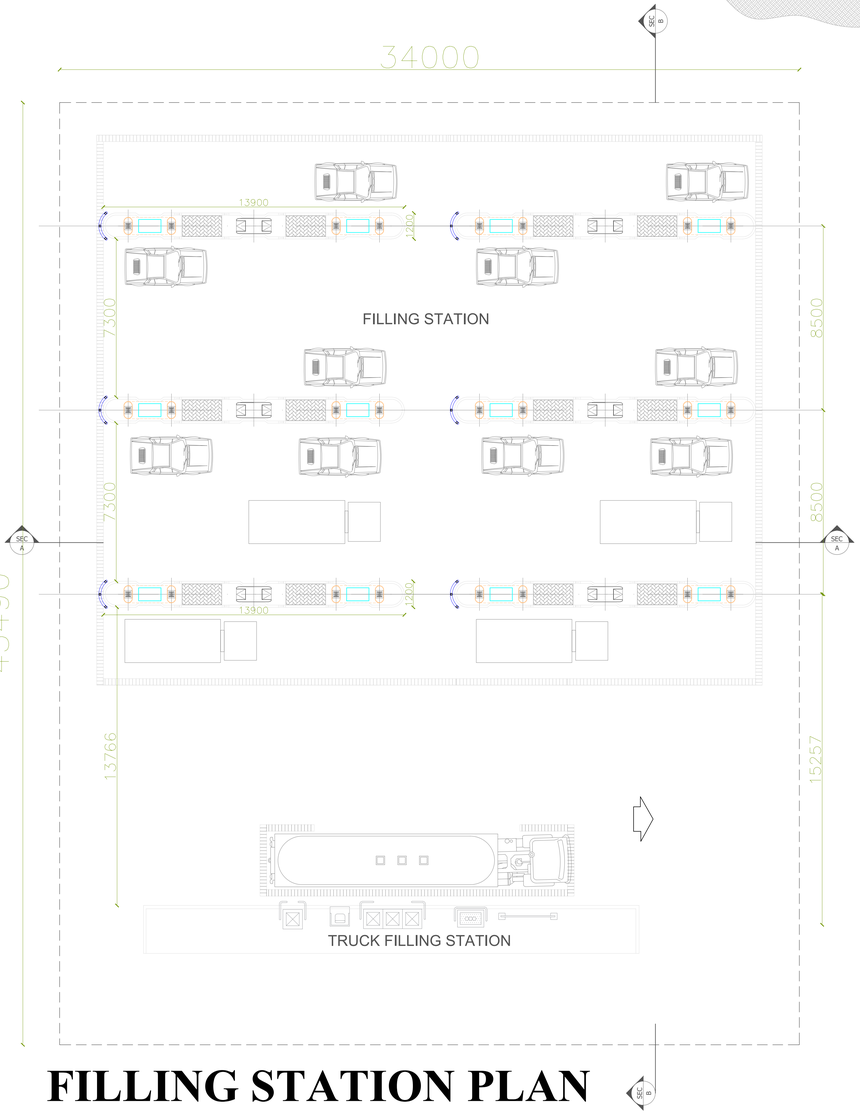
WAYSIDE AMENITIES CENTRE VARANASI

PETROL PUMP PLAN

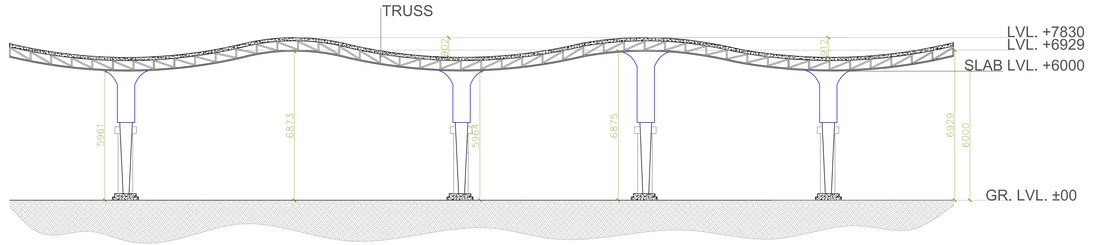




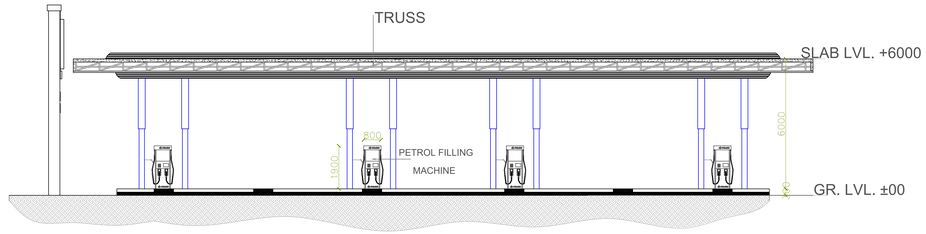




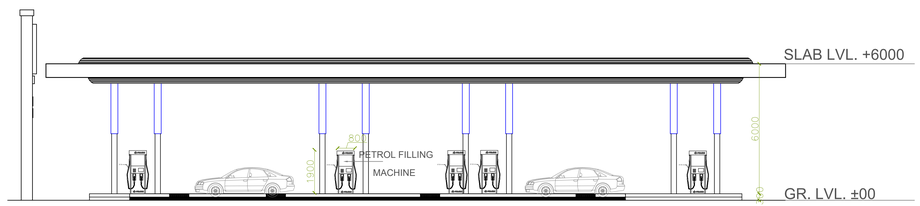
FILLING STATION PLAN



SECTION BB



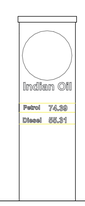
SECTION AA

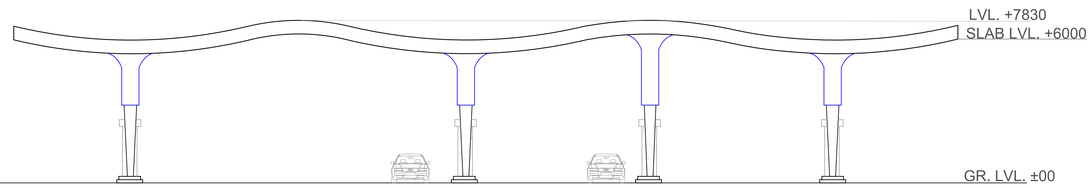


FRONT ELEVATION

LEGENDS

1. FILLING STATION
2. 24X7 STORE
3. CONVENIENCE STORE
4. LOGISTIC SUPPLY
5. CCTV ROOM
6. TOILETS
7. TAKE AWAY
8. ATM





SIDE ELEVATION

AMENITIES CENTRE VARANASI

WAYSIDE A

SCALE : 1:100

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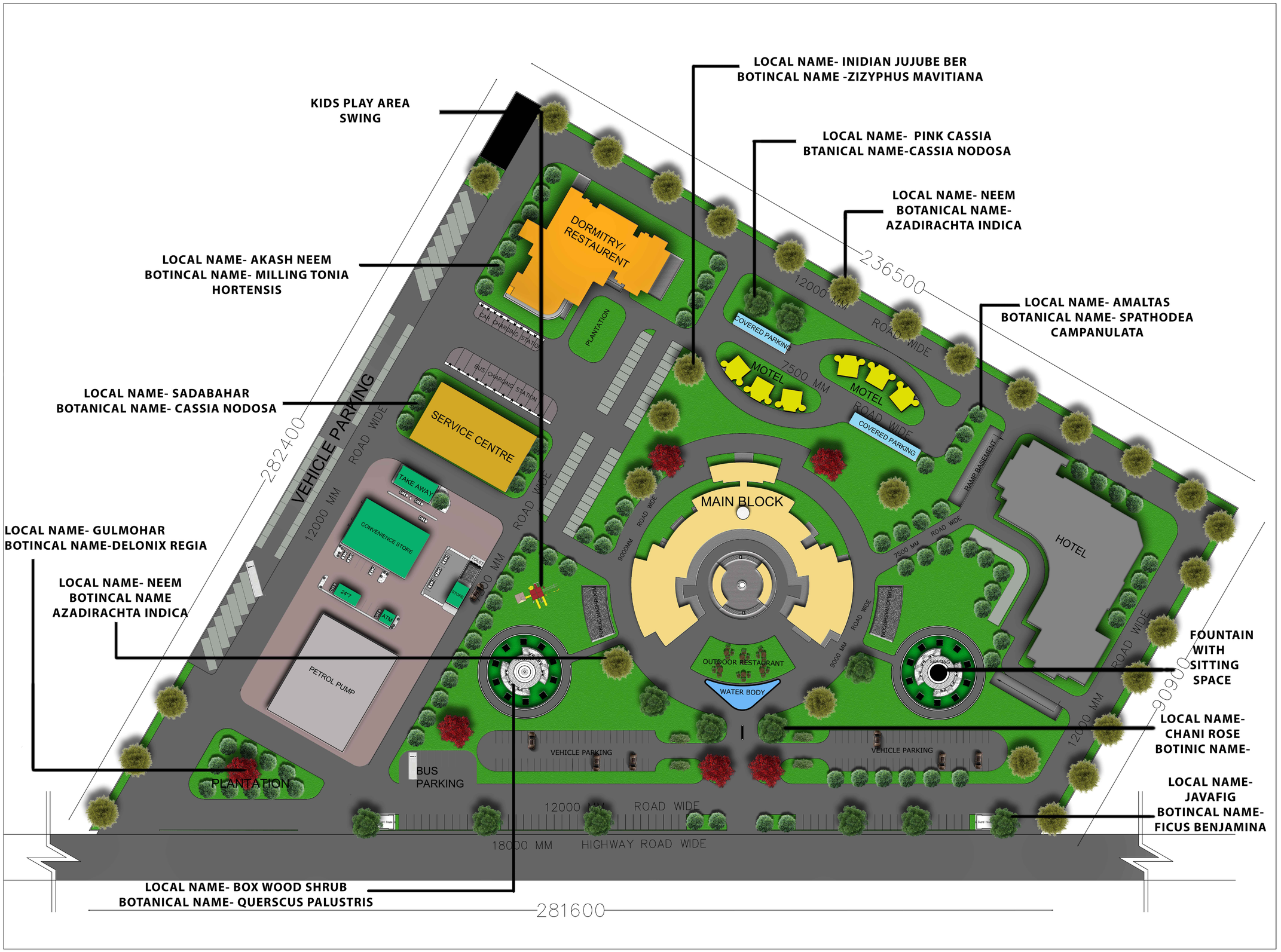
BBDU ARCHITECTURE SCHOOL OF PLANNING

SHEET NO. -

WAYSIDE AMENITIES CENTRE VARANASI



SCALE : 1:500

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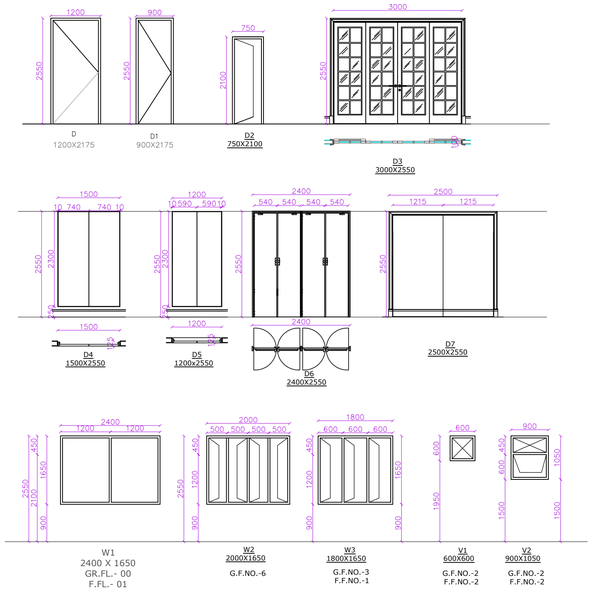
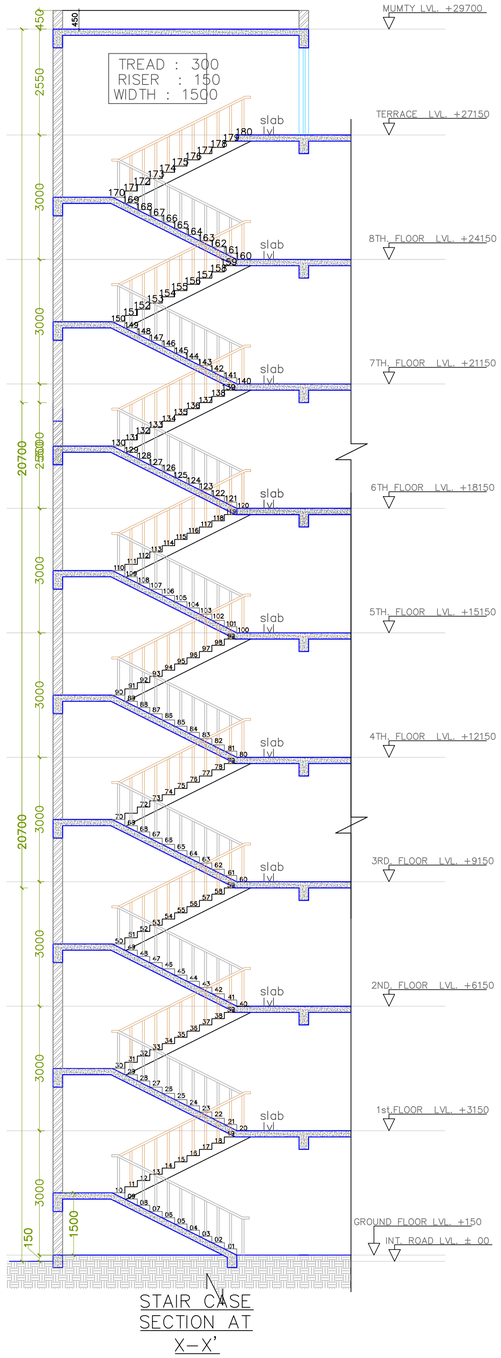


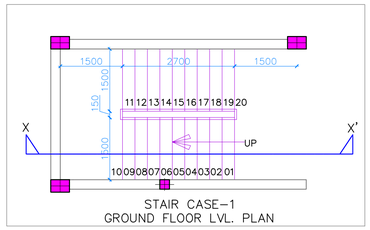
DOOR WINDOW DETAILS

SCHEDULE OF DOORS & WINDOWS

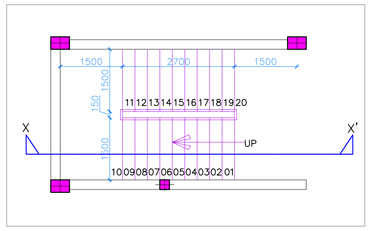
S.NO.	TYPE	WIDTH	SILL LVL	LINTEL LVL.
1.	D	1200	–	2550
2.	D1	900	–	2550
3.	D2	750	–	2100
4.	D3	3000	–	2550
5.	D4	1500	–	2550
6.	D5	1200	–	2550
7.	D6	2500	–	2550
9.	W1	2400	900	2550
10.	W2	2000	900	2550
11.	W3	1800	900	2550
12.	V1	600	1950	2550
13.	V2	900	1500	2550



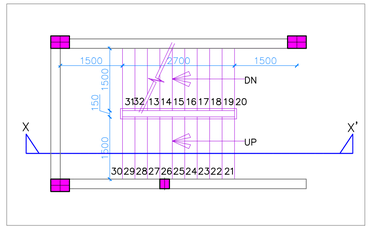
STAIR CASE
SECTION AT
X–X'



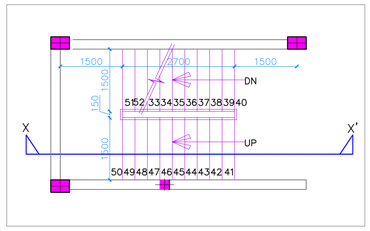
STAIR CASE–1
GROUND FLOOR LVL. PLAN



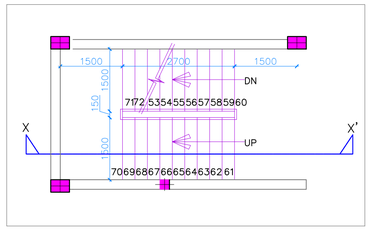
STAIR CASE–1
1ST. FLOOR LVL. PLAN



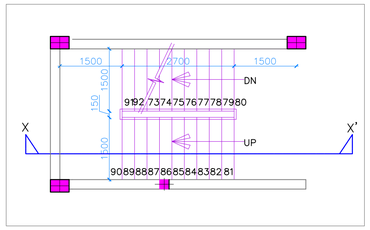
STAIR CASE–1
2ND. FLOOR LVL. PLAN



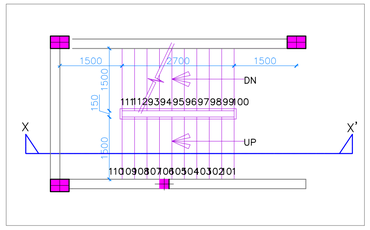
STAIR CASE–1
3RD. FLOOR LVL. PLAN



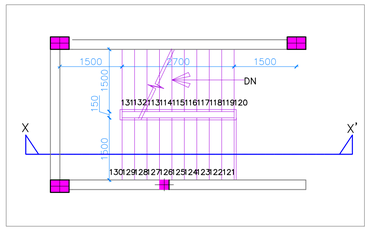
STAIR CASE–1
4TH. FLOOR LVL. PLAN



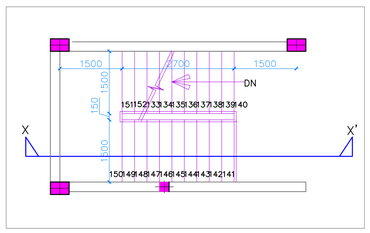
STAIR CASE–1
5TH. FLOOR LVL. PLAN



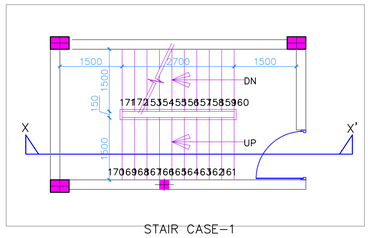
STAIR CASE–1
6TH. FLOOR LVL. PLAN



STAIR CASE–1
7TH LVL. PLAN



STAIR CASE–1
8TH LVL. PLAN

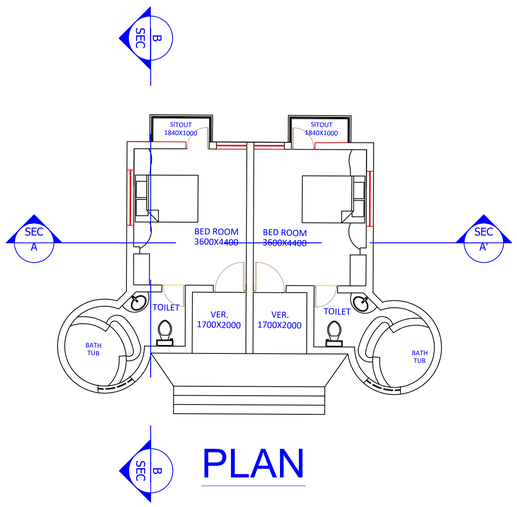


STAIR CASE–1
TERRACE LVL.
PLAN

STAIRCASE DETAIL

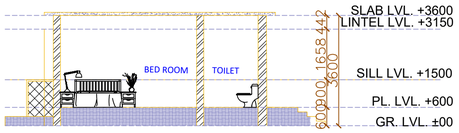
WAYSIDE AMENITIES CENTRE VARANASI

MOTEL



PLAN

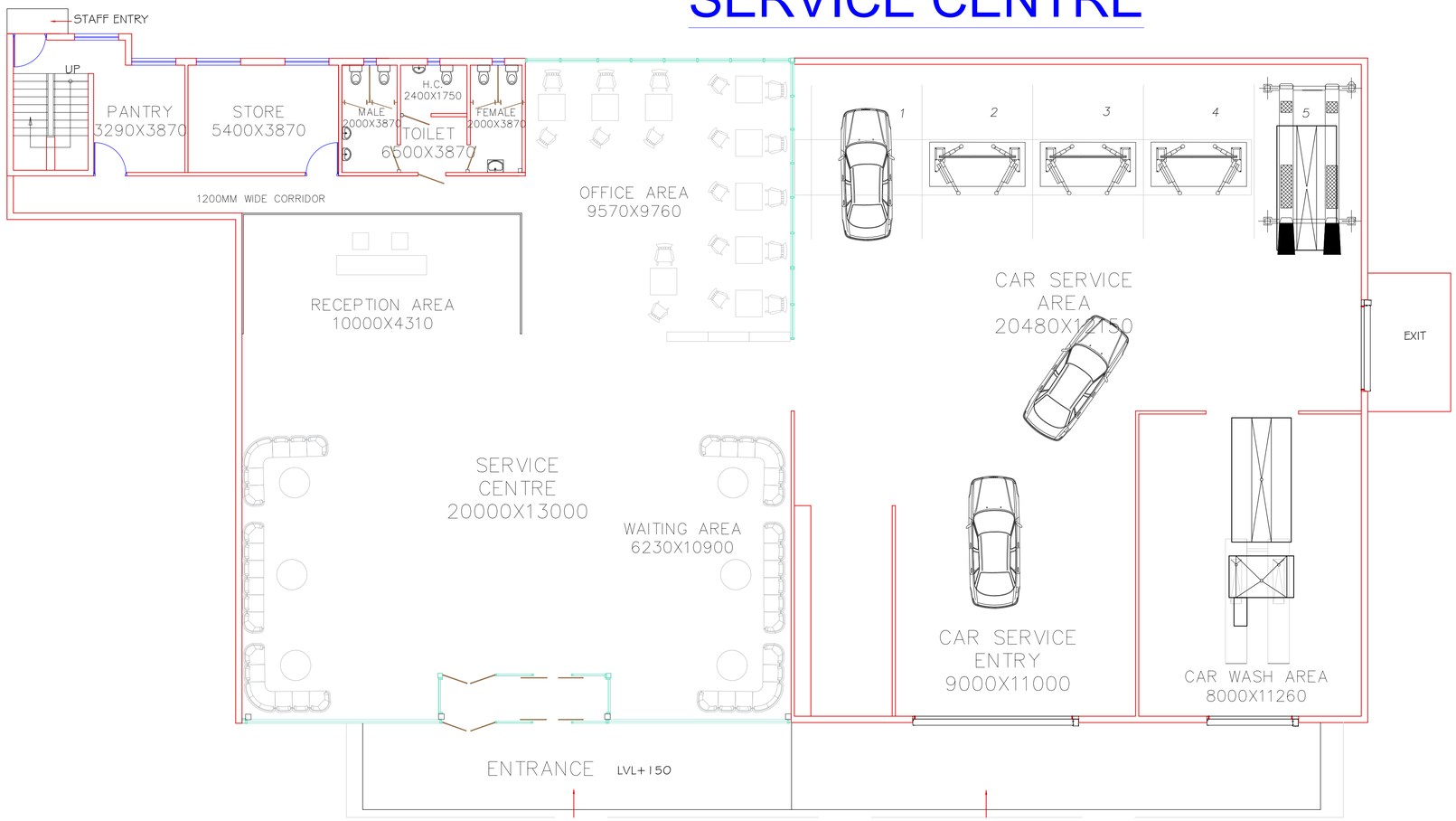
SECTION AT AA'



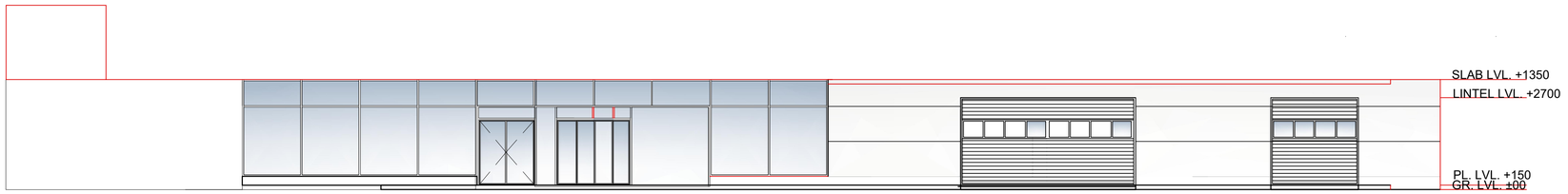
SECTION AT BB'

3D VIEWS

SERVICE CENTRE



PLAN

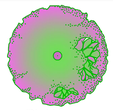


FRONT ELEVATION

WAYSIDE AMENITIES CENTRE VARANASI

SITE SECTION PLAN

BOTINCAL NAME	CASSIA NODOSA
LOCAL NAME	PINK CASSIA
HEIGHT / SHAPE	12 TO 16M HT; UMBRELLA
FOLIAGE	20 TO 30 CM LONG LEAFS, DENSE
FLOWERING	BRIGHT PINK ON ERCT OCCURS DURIN MAR-APR
SPECIAL FEATURE	EVERGREEN
USES	SHADE FOR PARKING


PLAN

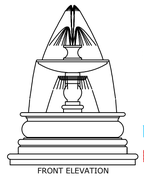
ELEVATION

BOTINCAL NAME	ZIZYPHUS MAVITIANA
LOCAL NAME	INIDIAN JUJUBE BER
HEIGHT / SHAPE	8 TO 10 MT ROUNDED IRREGULAR CANOPY
FOLIAGE	SMALL ROUNDED GREEN SILKY LEAVES, LIGHT FOILAGE
FLOWERING	GREENISH YELLOW FLOWERS, FRUIT GREEN YELLOW, ORANGE, BROWN SCARLET AND SOUR
SPECIAL FEATURE	ACT AS WIND BREAK
USES	FOR SITOUT NEAR RECREATIONAL AREA

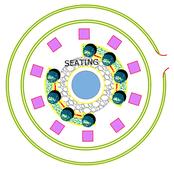
PLAN

ELEVATION

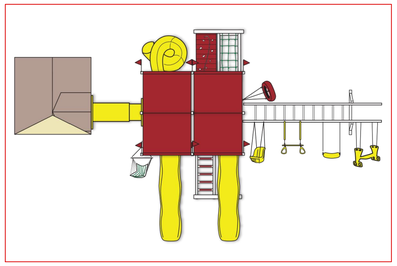
FOUNTAIN


FRONT ELEVATION

- Grass
- Mud
- Stone paving
- Water
- Brick paving



SWINGS



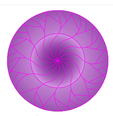
BOTINCAL NAME	CHRYSANTHIUM
LOCAL NAME	SADABAHAR
HEIGHT / SHAPE	40 TO 60 CM
FOLIAGE	DULL GREEN SMALL
FLOWERING	WHITE / YELLOW / PINK / PURPLE IN WINTER, NUMEROUS PETALS
SPECIAL FEATURE	
USES	ALONG EMERGENCY ROAD

PLAN

BOTINCAL NAME	HIBISCUS ROSA SINENSIS
LOCAL NAME	CHINA ROSE
HEIGHT / SHAPE	1 TO 3M
FOLIAGE	OVATE COARSELY TOOTHED
FLOWERING	LARGE WHITE / RED/ PINK / ORANGE COLOURED
SPECIAL FEATURE	USED AS HEDGE
USES	AROUND SWIMMING POOL

PLAN

BOTINCAL NAME	SYZYGIUM CUMIM
LOCAL NAME	JAMUN
HEIGHT / SHAPE	25 TO 30MT OVAL
FOLIAGE	DARK GREEN, GLOSSY ROUND LEAVES
FLOWERING	SMALL DIRTY WHITE IN FEB-MAY, FRUIT OBLONG FLESHY DEEP PURPLE PULP
SPECIAL FEATURE	BARK IS ASTRIGENT AND USED IN SORE THROATS, ASTHMA ETC.
USES	SHADE FOR SITOUT AT YOGA HALL


PLAN

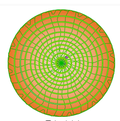
ELEVATION

BOTINCAL NAME	AZADIRACHTA INDICA
LOCAL NAME	NEEM
HEIGHT / SHAPE	10 TO 16MT SPHERICAL
FOLIAGE	DELICATE SHINYY 20 TO 40 CMS, SCENTED
FLOWERING	YELLOW IN MAR-APR
SPECIAL FEATURE	MEDICINAL PURPOSE, SLOW GROWING
USES	SHADE FOR SITOUT

PLAN

ELEVATION

BOTINCAL NAME	DELONIX REGIA
LOCAL NAME	GULMOHAR
HEIGHT / SHAPE	10 TO 15M; UMBRELLA SHAPED
FOLIAGE	LIGHT FEATHERY 10 TO 20 CM PINNACAE
FLOWERING	SCARLET RED, ORANGE WRINKLED AT TIP, APR-JUN
SPECIAL FEATURE	EVERGREEN, QUICK GROWNG
USES	EAST PERIPHERY ALONG AUDITORIUM


PLAN

ELEVATION

BOTINCAL NAME	MILLING TONIA HORTENSIS
LOCAL NAME	AKASH NEEM
HEIGHT / SHAPE	20MT COLUMNAR
FOLIAGE	LARGE, 50 TO 60 CM, LEAFLET 4 TO 6 CM LONG
FLOWERING	WHITE CYLINDRICAL 25 TO 30CM LONG FRANGRANCE, HT. BLOOMING IN AUTUMN AND SPRING
SPECIAL FEATURE	EVERGREEN, QUICK GROWNG
USES	ALONG NORTH WEST PERIPHERY OF PREMISES

PLAN

ELEVATION

BOTINCAL NAME	SPATHODEA CAMPANULATA
LOCAL NAME	AMALTAS
HEIGHT / SHAPE	6 TO 10M HIGH
FOLIAGE	LIGHT FEATHERY 10 TO 20 CM PINNACAE
FLOWERING	SCARLET RED, ORANGE WRINKLED AT TIP, APR-JUN
SPECIAL FEATURE	EVERGREEN, QUICK GROWNG
USES	ALONG NORTH PERIPHERY

PLAN

ELEVATION

BOTINCAL NAME	FICUS BENJAMINA
LOCAL NAME	JAVAFIG
HEIGHT / SHAPE	15 TO 20 M LARGE SPREAD DROOPING BRANCHES
FOLIAGE	SMALL SHINING 5 TO 8 CM LONG LEATHERY LEAVES.
FLOWERING	MALE AND FEMALE IN SAME GLOBSE 1 TO 2CM DIA RED WHEN RIPE
SPECIAL FEATURE	EVERGREEN, GOOD SHADY TREE
USES	ALONG EAST PERIPHERY OF PLATGROUND

PLAN

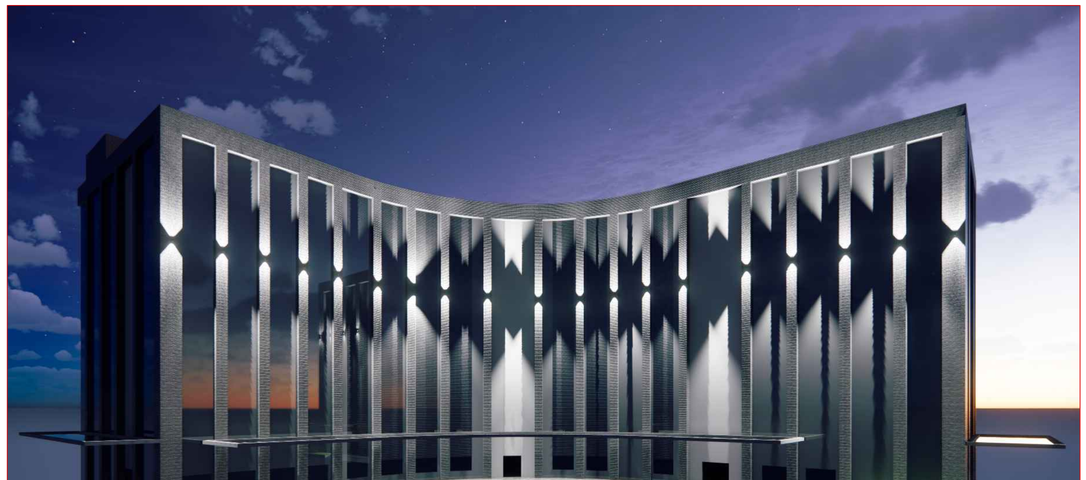
ELEVATION

WAYSIDE AMENITIES CENTRE VARANASI

SCALE : 1:500

B.Arch 5th Year Thesis 2022 - 2023 By :
PRAGYA GAUR (1180101036)

BBDU ARCHITECTURE SCHOOL OF PLANNING



WAYSIDE AMENITIES CENTRE VARANASI