



ARCHITECTURE  
*chetna godiyal*  
PORTFOLIO



## Personal Information

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# CHETNA GODIYAL

## ARCHITECTURE STUDENT

5TH YEAR ARCHITECTURE STUDENT, A QUICK LEARNER LOOKING FOR AN OPPORTUNITY TO GROW AND COMMITTED TO SUCCEED. A PASSIONATE STUDENT WITH THE DESIRE TO EXTEND MY KNOWLEDGE AND DEVELOPED SKILLS, THAT MY EDUCATIONAL BACKGROUND INSTILLED IN ME TO CRITICALLY ANALYSE AND PERCEIVE THE BUILT ENVIRONMENT AND ITS VARIOUS ASPECTS. STRONG CULTURAL AWARENESS AND BILINGUAL SKILLS, PROFICIENT WORKSTATION ADAPTABILITY, RESEARCH AND DOCUMENTATION

## Education

- ST. PAUL'S SCHOOL, HAUZ KHAS (2016)
- SCHOOL OF ARCHITECTURE, DTC, GGSIPU (2016–2021)

## Academic Projects

### Design Projects

- 1ST YEAR: FARMHOUSE DESIGN  
2ND YEAR: SCHOOL DESIGN, GREATER NOIDA  
SKILL DEVELOPMENT CENTRE  
3RD YEAR: MULTI-SPECIALITY HOSPITAL,  
GREATER NOIDA  
4TH YEAR: URBAN DESIGN PROJECT – WATER  
FRONT DEVELOPMENT  
ARCHITECTURAL THESIS – COLLEGE  
DESIGN, SHIV NADAR UNIVERSITY

### Research and Documentation

- HAUZ KHAS FORT DOCUMENTATION – ANTHROPOLOGY ANALYSIS (2017)
- COA HERITAGE TROPHY – UDAIPUR PALACE DOCUMENTATION (2018)
- ISPA DESIGN TROPHY – CHANDNI CHOWK REDEVELOPMENT PROJECT (2019)
- RESEARCH – ART DECO MUMBAI (CONSERVATION ARCHITECTURE) (2019)

## Skills

### Technical Skills



### Core Skills

- TEAM COLLABORATION
- PROBLEM SOLVING AND DECISION MAKING
- COMMUNICATION
- ANALYTICAL THINKING
- DATA COLLECTION AND RESEARCH
- CRITICAL ANALYSIS AND ATTENTION TO DETAIL

### Interpersonal Abilities

- SKETCHING
- MODEL MAKING
- DRAFTING
- PHOTOGRAPHY

### Interest

- INTERIOR DESIGN
- URBAN PLANNING
- PRODUCT DESIGN
- PROJECT MANAGEMENT

## Achievements

- HIGH ACHIEVERS AWARD IN 2016
- SPECIAL MENTION, COA HERITAGE TROPHY
- RUNNER UP – ISPA DESIGN TROPHY (2019)

# *Content*

URBAN DESIGN PROJECT

ARCHITECTURAL THESIS

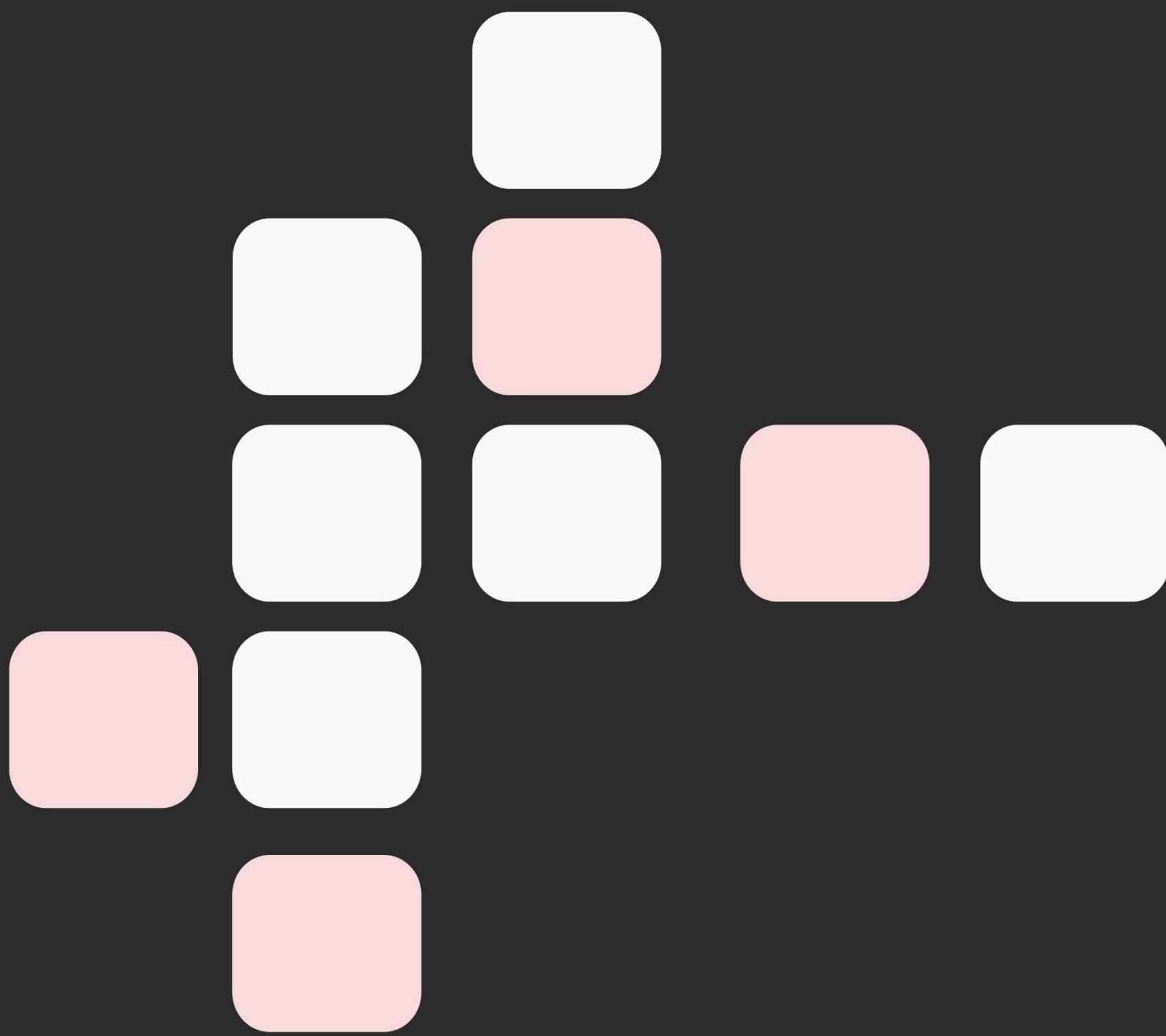
FARMHOUSE DESIGN

SR. SECONDARY SCHOOL DESIGN

MULTISPECIALITY HOSPITAL DESIGN

RESEARCH PAPER

COMPETITIONS



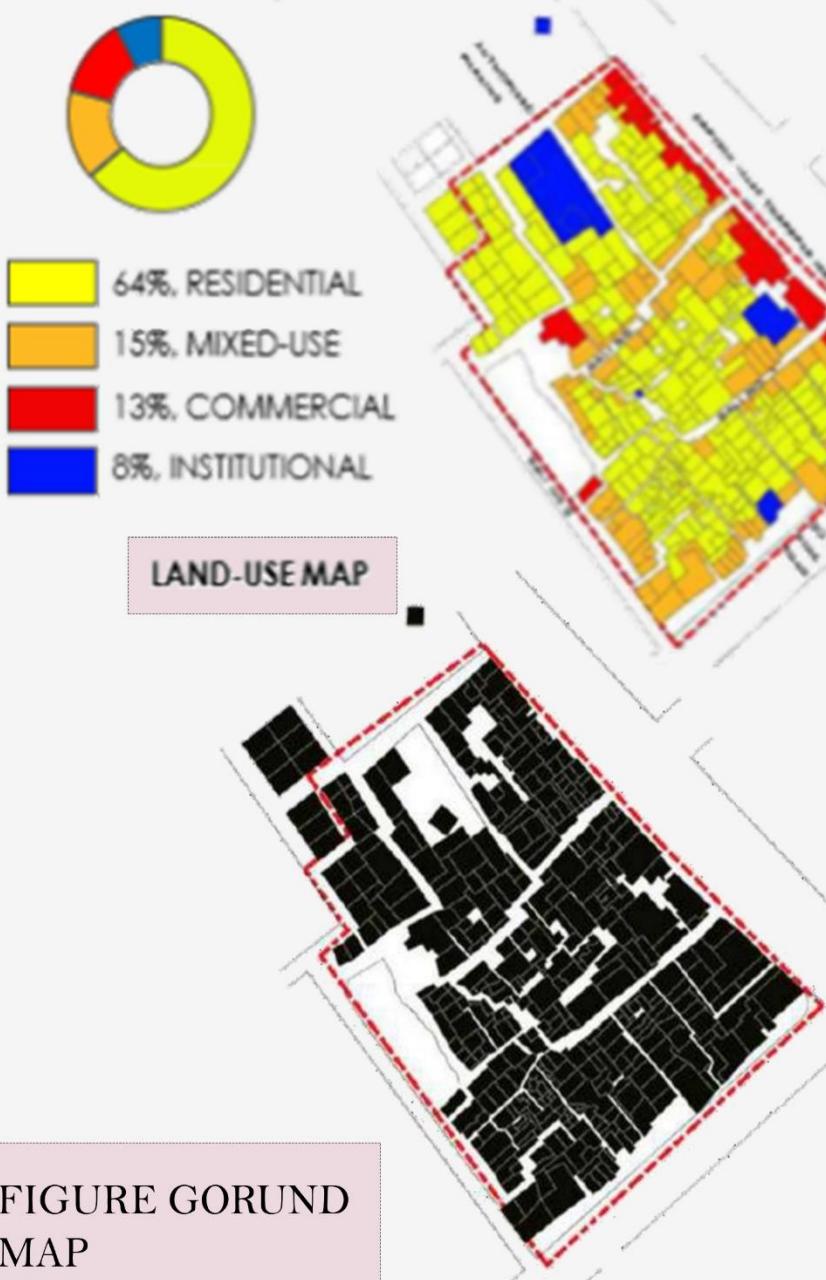
*Design and Research*

**PROJECT BRIEF:**

IT WAS A PROJECT GIVEN IN 4TH YEAR, IN THE SUBJECT OF URBAN DESIGN AIMED TO ENHANCE THE EXISTING AREA BY THE MEANS OF REQUIRED URBAN TECHNIQUES IN ORDER TO MAKE IT A FOCAL POINT OF NOIDA CITY. NAYA BANS IS AN AREA LOCATED IN SECOTR-19 OF NOIDA, HAVING A PECULIAR TRAIT OF BEING DIVERGENT FROM THE SURROUNDINGS, BEING RICH IN GREENERY AND EXTRAVAGANT VILLAS.

**LOCATION****CONCEPT:**

ENHANCEMENT OF EXISTING STRENGTHS AND POSSIBILITIES, BUILT ONTO THE EXISTING IDENTITIY FOR VITALISATION OF THE AREA.

**FIGURE GORUND  
MAP****SHADOW ANALYSIS OF THE SECTOR****SUMMER****WINTER**

8 AM

12 NOON

4 PM

8 AM

12 NOON

4 PM

**EVOLUTION OF SECTORS  
THROUGHOUT YEARS**

2000



2009



2019

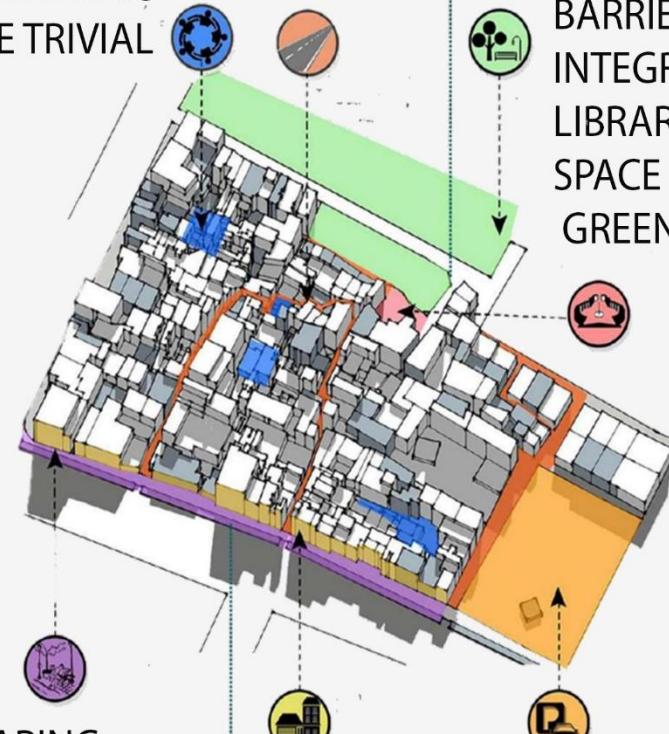
## ISSUE MAPPING

THE ISSUES OF THE MARKED AREA HAVE BEEN IDENTIFIED, THROUGH SITE VISIT AND AREA ANALYSIS, AND DEALT WITH INDIVIDUALLY.

NEED OF ROAD WIDENING BY DEMOLISHING ENROACHED PLINTH



SOCIAL GATHERING PLACES ARE TRIVIAL



STREETSCAPING



PROVIDING THE AREA WITH A SYSTEMATIC PARKING SPACE

DECONSTRUCTION PLAN

## PROPOSED BASE MAP

STRATEGY: ECONOMIC GROWTH FROM CULTURAL SECTOR

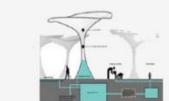
GOAL: MIXED-USE, CONTEXT INTEGRATION AND ACCESSIBILITY



### BARRIER BREAKAGE: EDUCATIONAL AND GREEN INTEGRATION

THE INTEGRATION INVOLVES DESIGNING SPACES LIKE AMPHITHEATER, SPECIALIZED SEATING, MULTIPURPOSE SPACE FOR VENDORS, STAGE AND SITTING FOR KREEDAH STHAL AND PROVIDING A CONNECTING BRIDGE FOR THE TWO SPACES DIVIDED BY ROAD.

RECONSTRUCTION PLAN



THE TREE SHAPED SITTING DESIGN FUNCTIONS AS A RAIN WATER HARVESTING DEVICE ALSO, WHICH CAN BE FURTHER USED TO WATER THE PLANTS AROUND IT.



# SITE BRIEF AND CONNECTIVITY

**PROJECT AREA = 284 ACRES = 114.931 HECTARE**

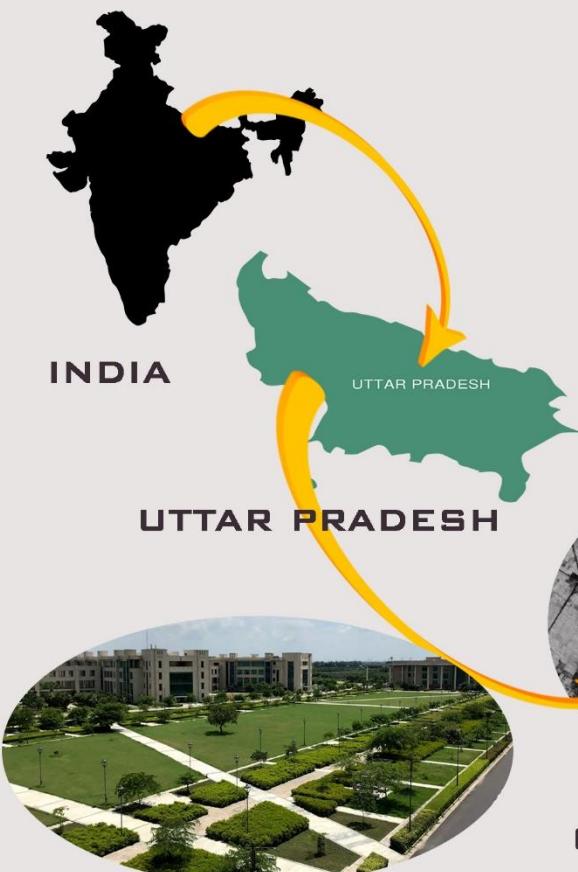
**PROPOSED SITE AREA = 8.92 ACRES = 3.61 HECTARE**

**FAR OF SITE = 1.5**

**SITE LOCATION = NH91, TEHSIL DADRI, GREATER NOIDA, UTTAR PRADESH**

**SITE ENTRANCE = NORTH WITH ROAD WIDTH = 12 M**

**SITE ORIENTATION = EAST**



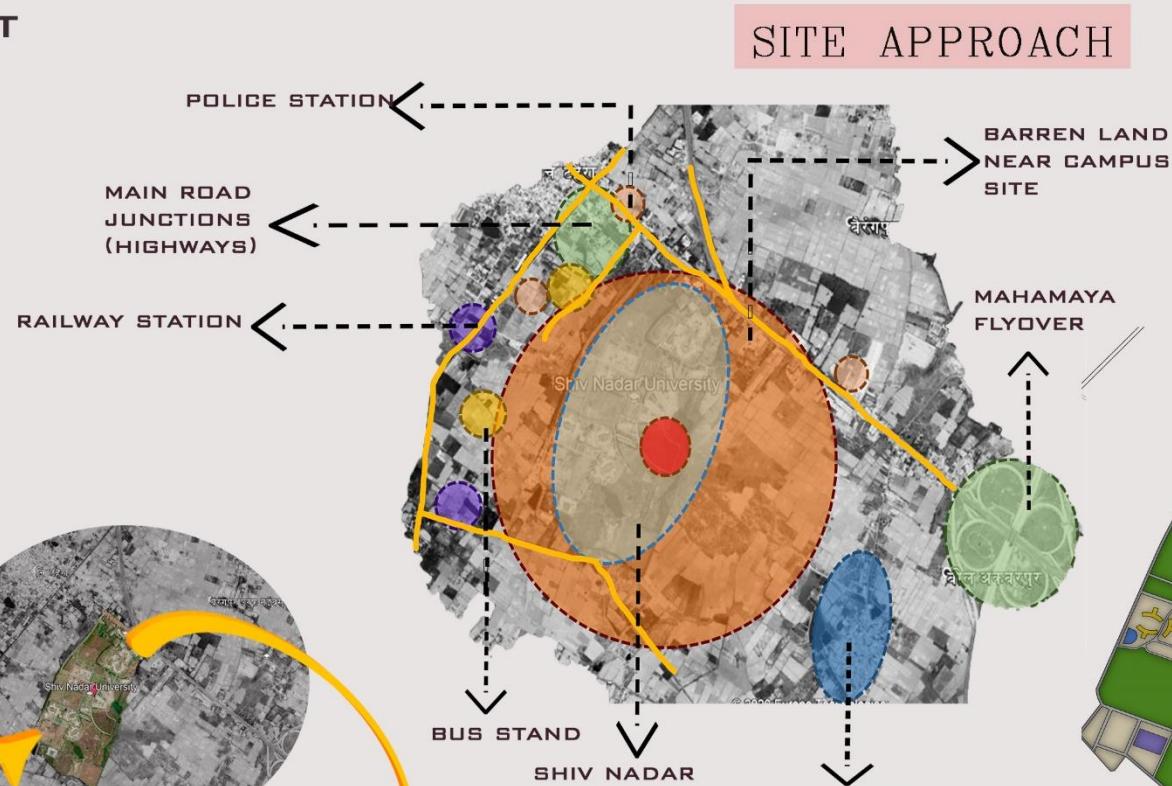
LANDSCAPING ON CAMPUS



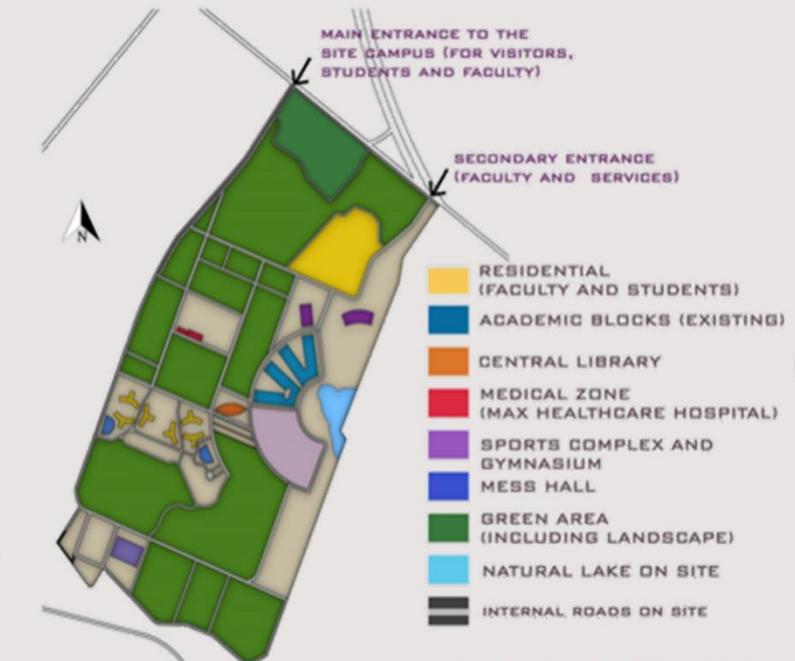
ENTRANCE TO CAMPUS

SHIV NADAR UNIVERSITY

COLLEGE DESIGN : SHIV NADAR UNIVERSITY



SITE APPROACH



LANDUSE MAP



VEHICULAR MOVEMENT

PEDESTRIAN MOVEMENT

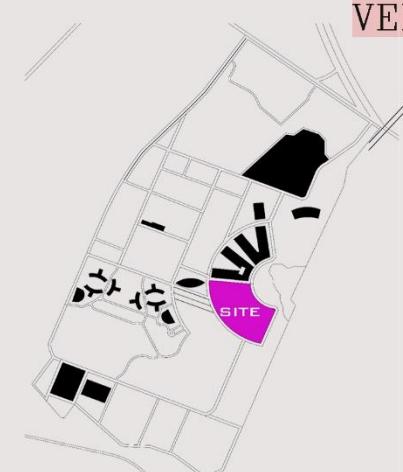


FIGURE GROUND  
PLAN FOR CAMPUS

**PERMISSIBLE HEIGHT = NO LIMIT**

**PERMISSIBLE CIRCULATION AREA = 25%**

**TOTAL CIRCULATION AREA = 4737.5 SQ M**

**TOTAL BUILT UP AREA - CIRCULATION**

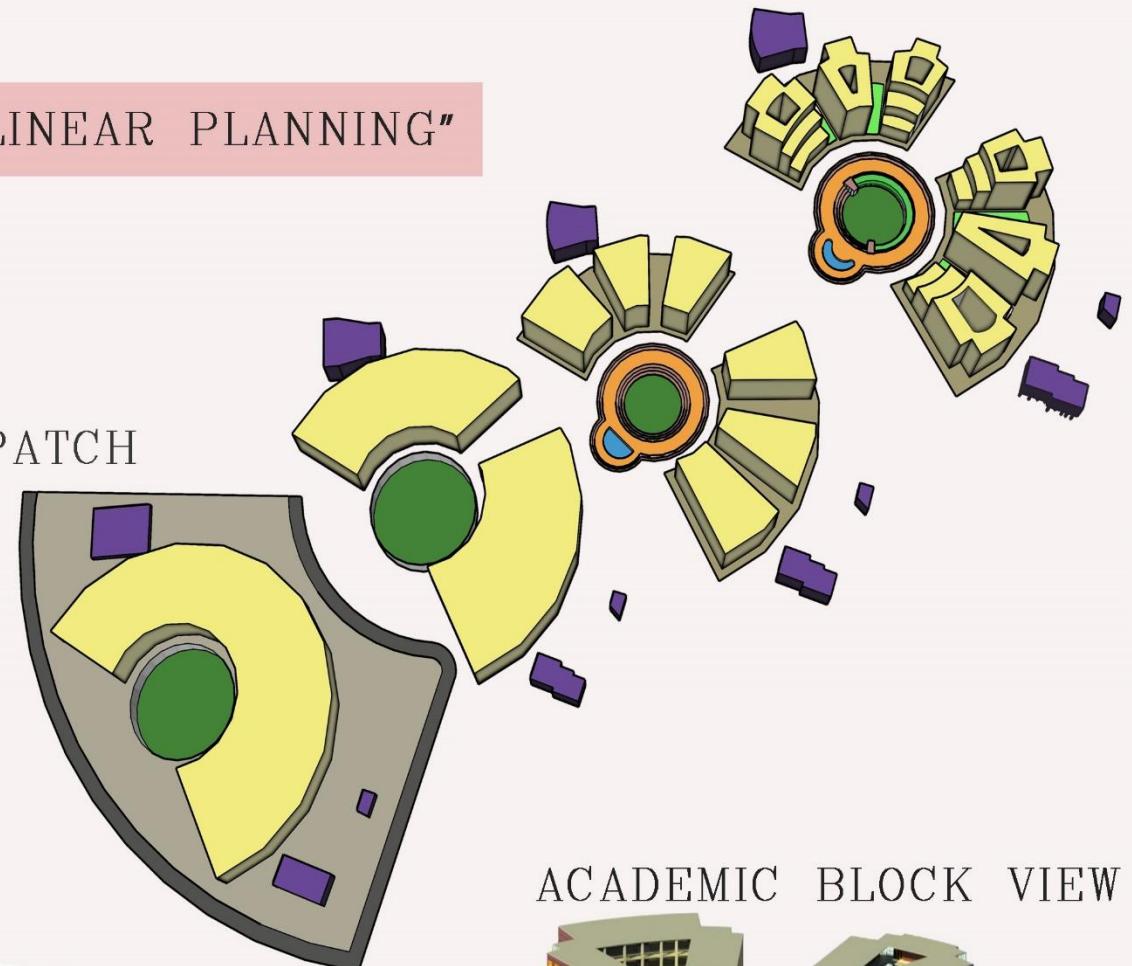
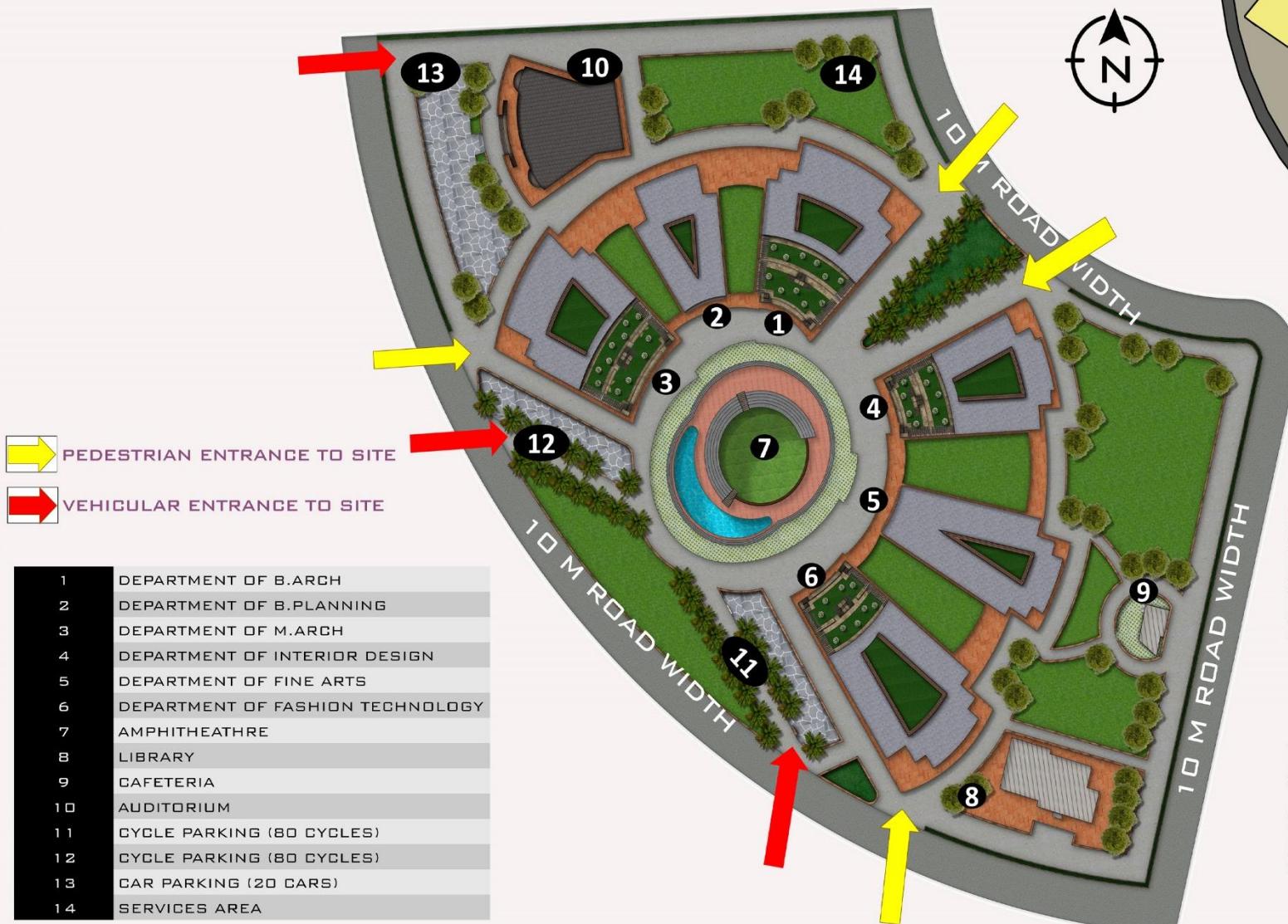
**AREA = 14213.43 SQ M = 3.51 ACRES**

# DESIGN CONCEPT

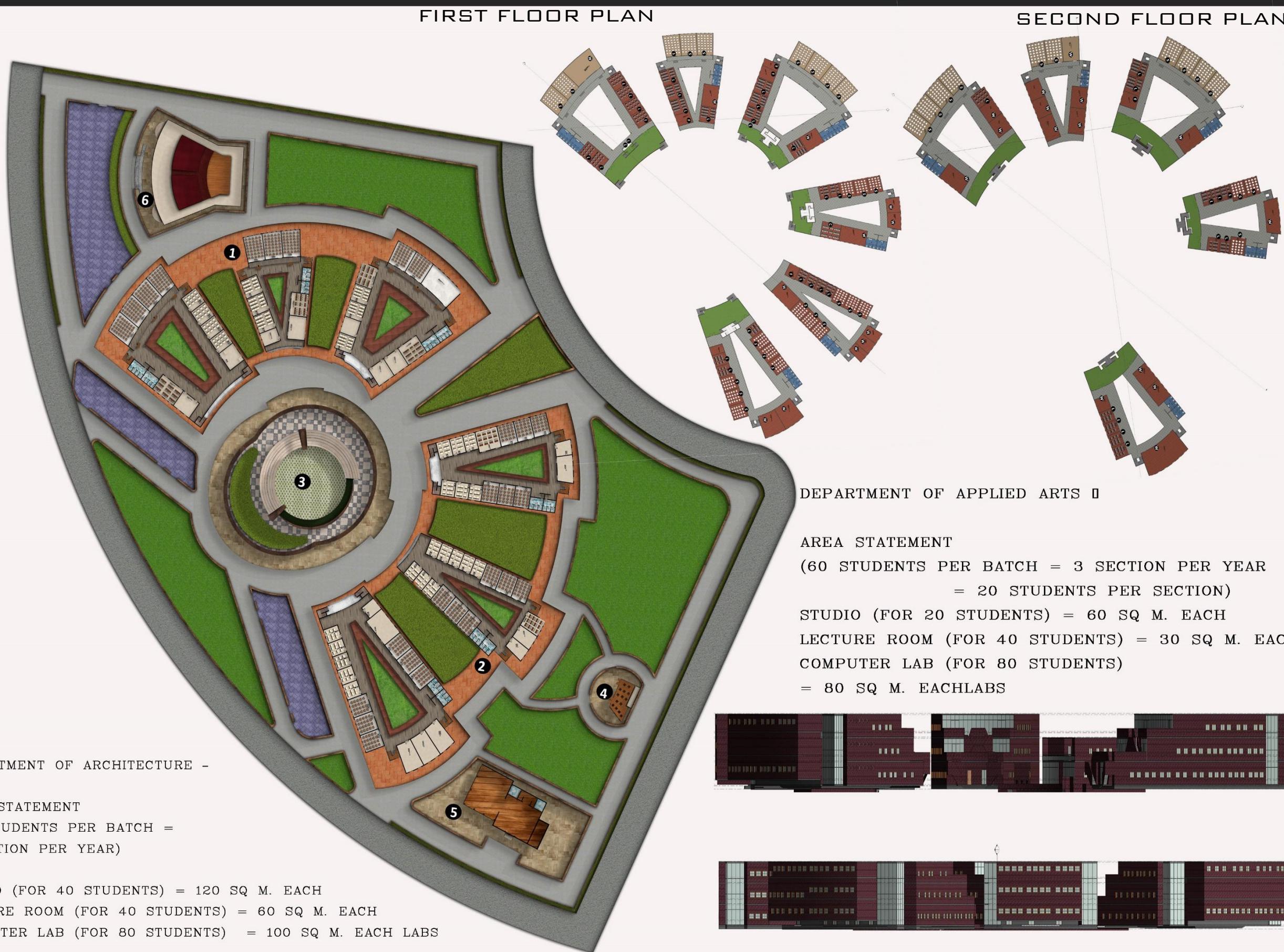
"INTEGRATING NATURAL ELEMENTS IN DESIGN WITH LINEAR PLANNING"

THE CONCEPT IS BASED ON INTEGRATING NATURE WITHIN THE CAMPUS. THIS IS ACHIEVED BY PROVIDING:

- OPEN SPACES (GARDENS AND OPEN TERRACE)
- AMPHITHEATRE WITH WATER SOURCE AND GREEN PATCH
- EXPOSED BRICK WORK TO GIVE MORE RAW EFFECT
- LINING THE ROADS WITH TREES CREATING AVENUES



# FLOOR PLAN





DEPARTMENT OF ARCHITECTURE



DEPARTMENT OF APPLIED ARTS



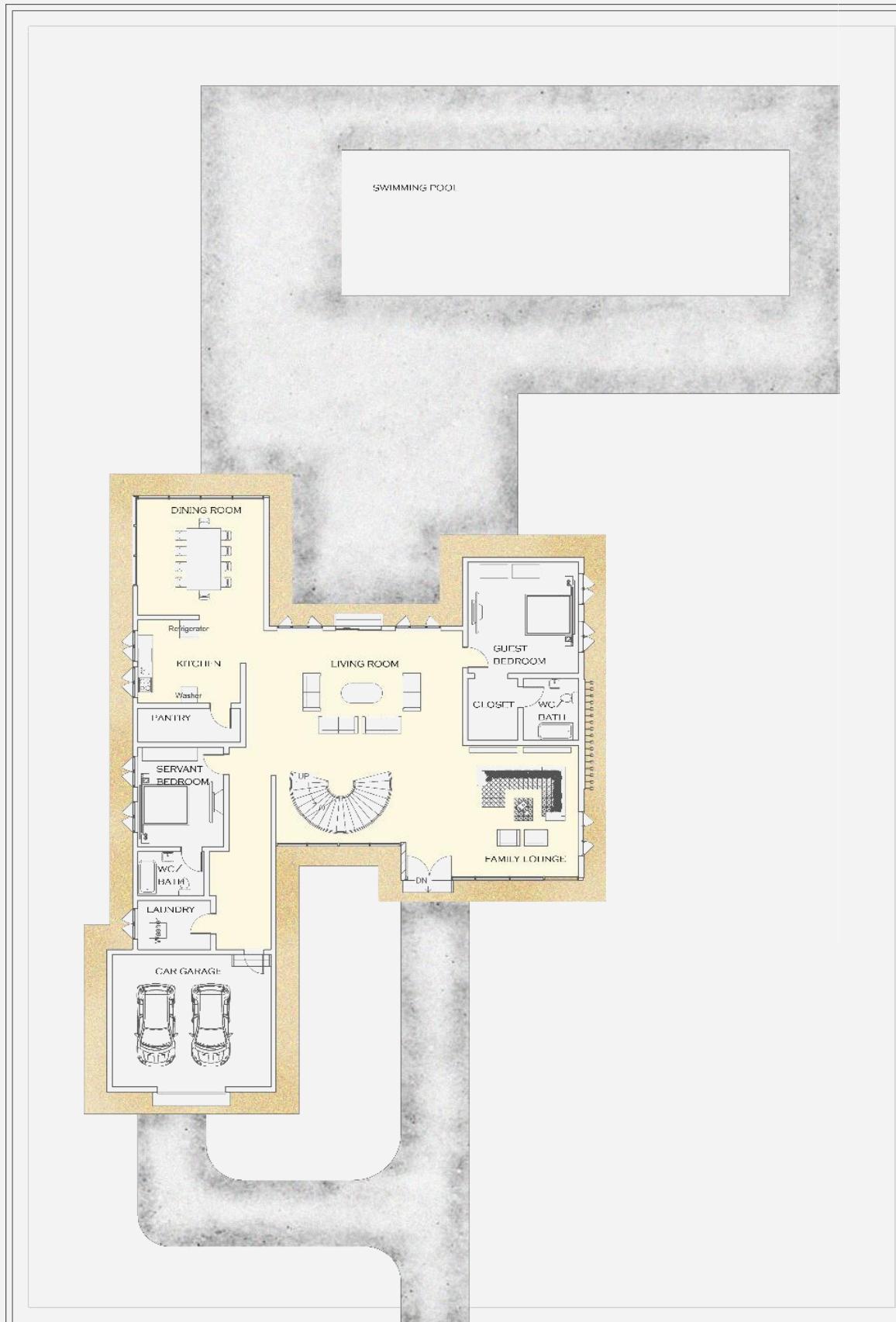
VIEW OF OPEN TERRACE



LANDSCAPING NEAR CAFETERIA

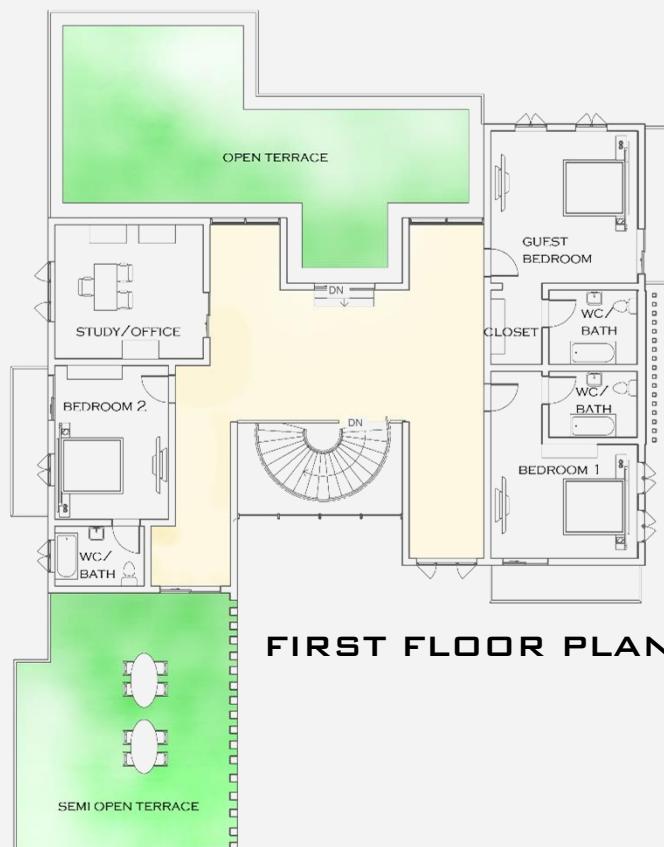
COLLEGE DESIGN: SHIV NADAR UNINVERSITY

## GROUND FLOOR PLAN

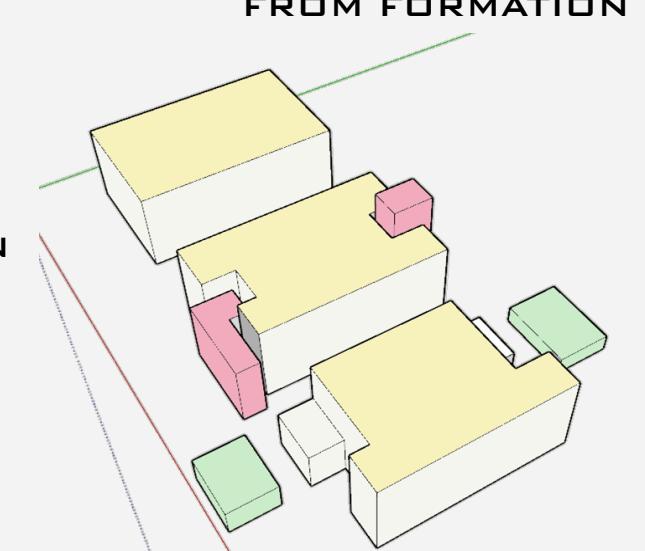


## FARMHOUSE DESIGN

- HEIGHT = 15M
- SITE AREA = 1250 SQ M
- FRONT SETBACK = 5 M
- SET BACK REST OF THE 3 SIDES = 3 M
- FAR = 1.5



FIRST FLOOR PLAN



THE BLOCK IS DIVIDED IN WAY TO GIVE MORE OPEN SPACES AND TERRACE AS INTERACTIVE SPACES MARKED IN GREEN.



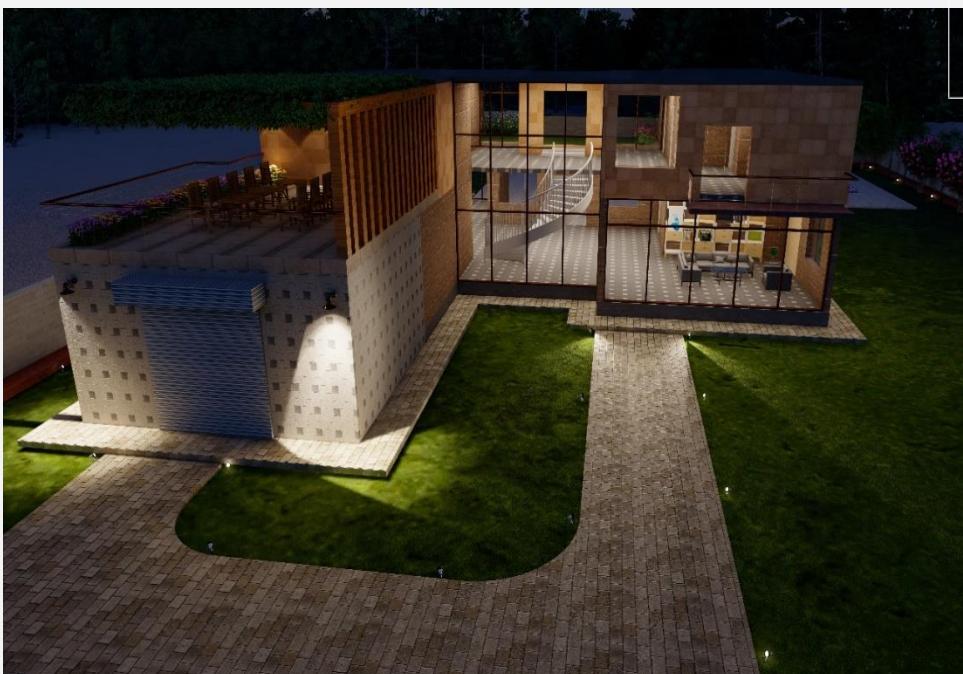
ELEVATION (WEST)



SEMI COVERED TERRACE VIEW



SECTIONAL ELEVATION



FRONT ELEVATION



SECTIONAL ELEVATION



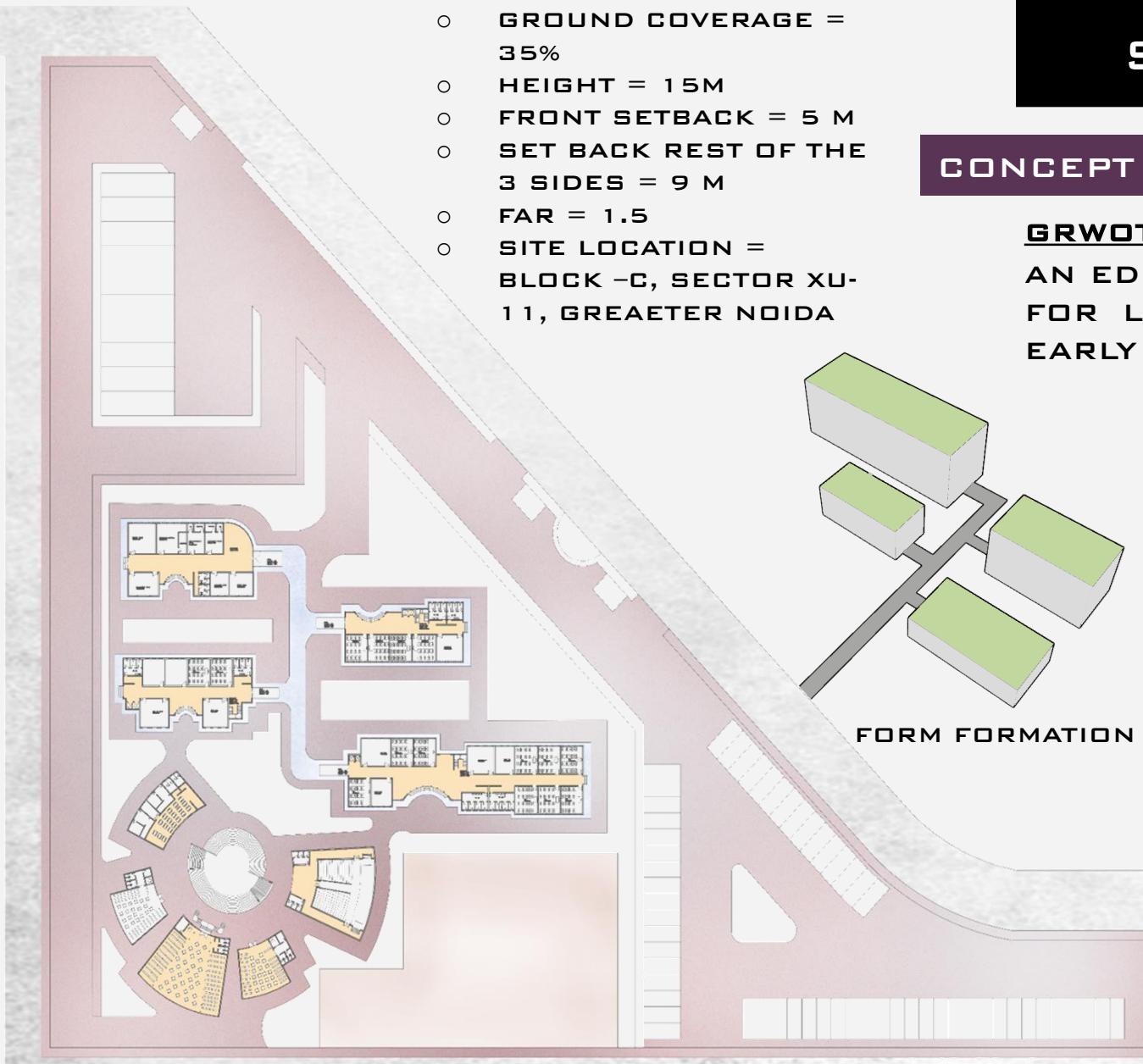
REAR ELEVATION



EAST ELEVATION

# SR. SECONDARY SCHOOL DESIGN

- GROUND COVERAGE = 35%
- HEIGHT = 15M
- FRONT SETBACK = 5 M
- SET BACK REST OF THE 3 SIDES = 9 M
- FAR = 1.5
- SITE LOCATION = BLOCK -C, SECTOR XU-11, GREATER NOIDA



SITE PLAN

## CONCEPT

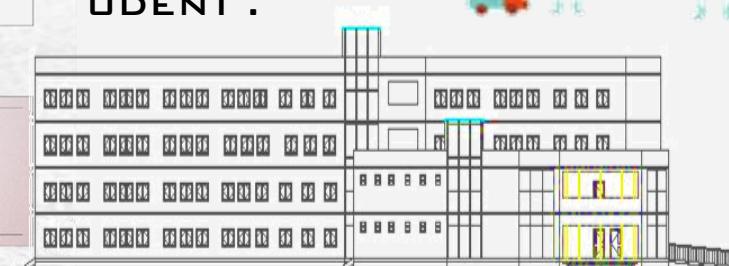
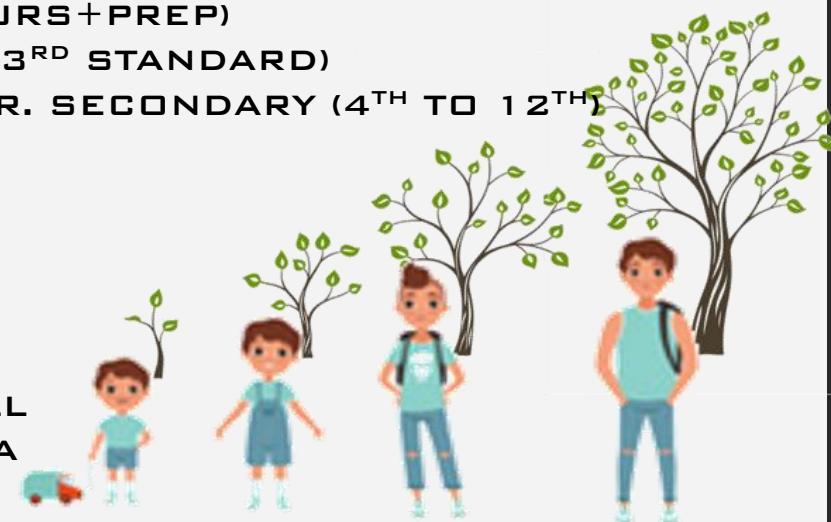
### GROWTH AND MOVEMENT

AN EDUCATIONAL INSTITUTION DESIGNED TO PROVIDE SPACE FOR LEARNING AND GROWTH OF A STUDENT FROM THEIR EARLY STAGES.

THERE ARE 3 LEVELS:

1. PRE-PRIMARY (NURS+PREP)
2. PRIMARY (1<sup>ST</sup> TO 3<sup>RD</sup> STANDARD)
3. SECONDARY + SR. SECONDARY (4<sup>TH</sup> TO 12<sup>TH</sup>)

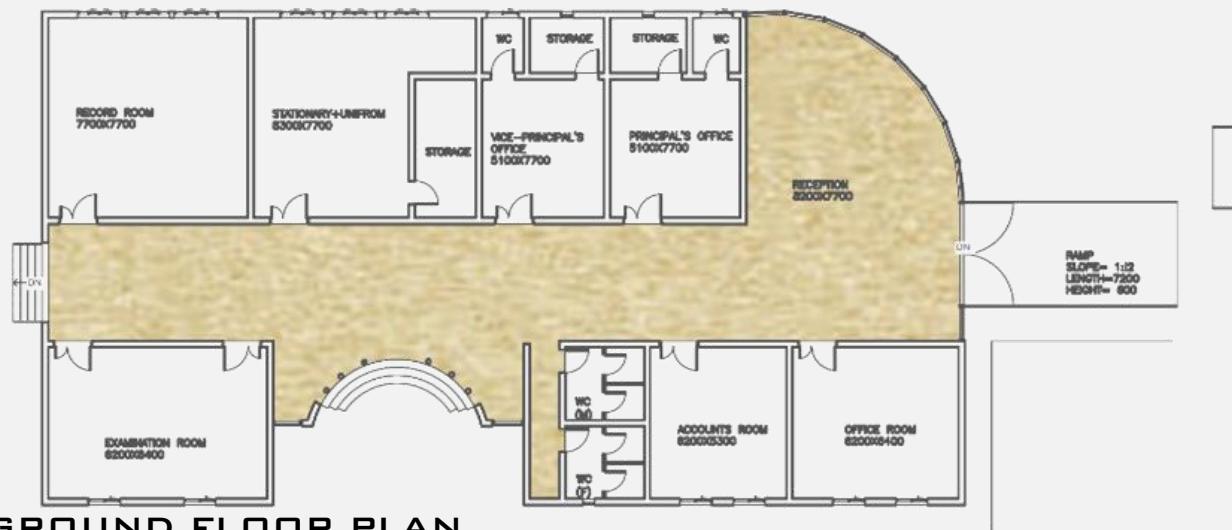
A SEPARATE BUILDING IS PROVIDED FOR EACH LEVEL IN ORDER TO FACILITATE OVERALL DEVELOPMENT OF A STUDENT .



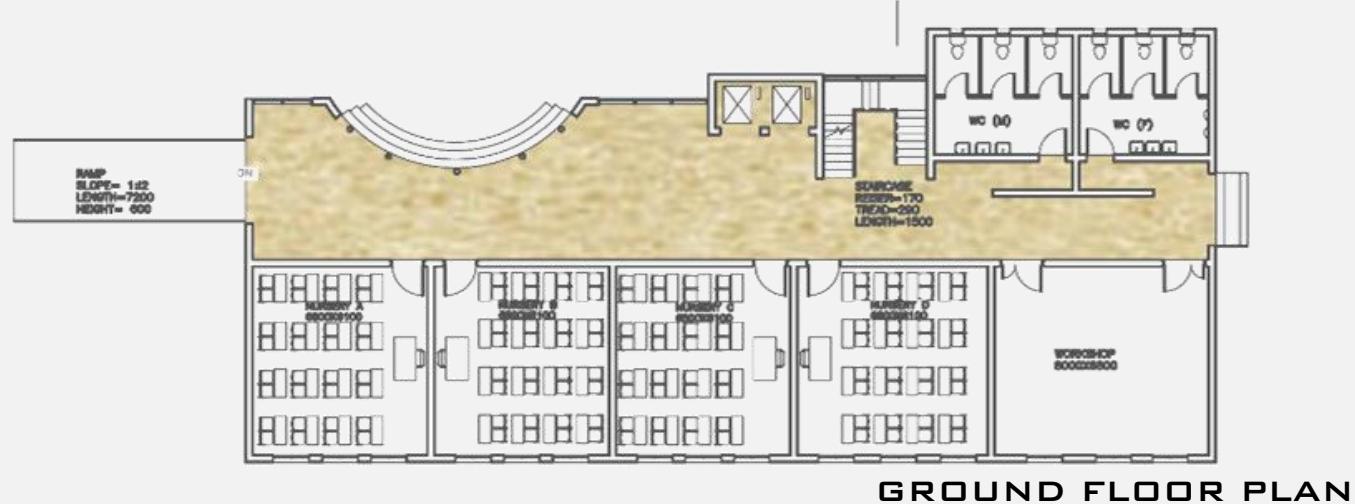
SECTIONAL ELEVATION



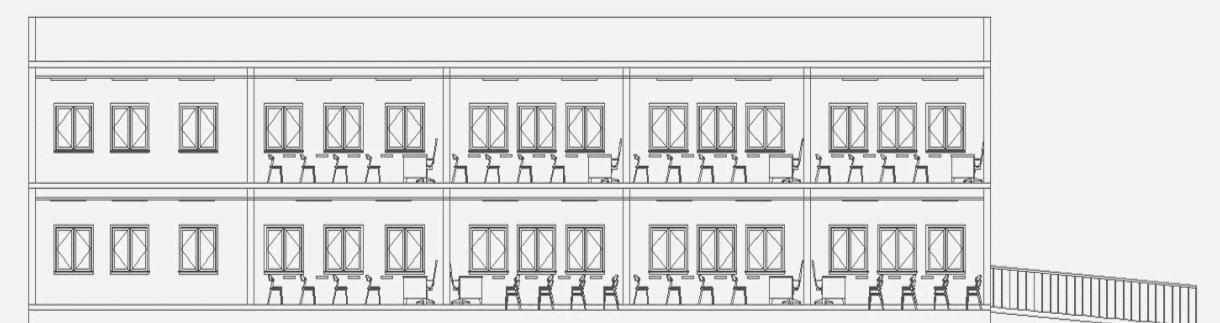
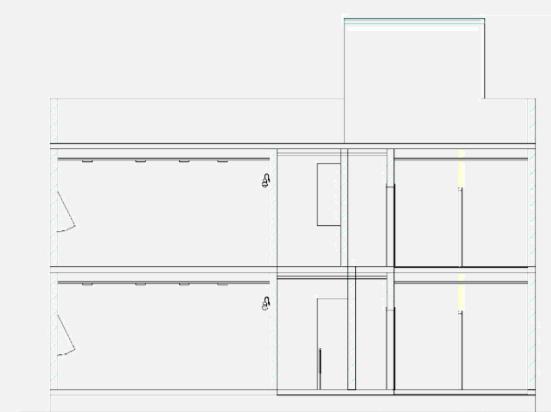
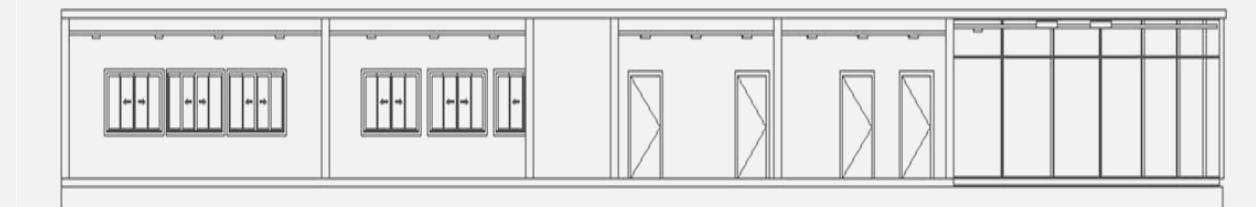
## ADMINISTRATION BLOCK



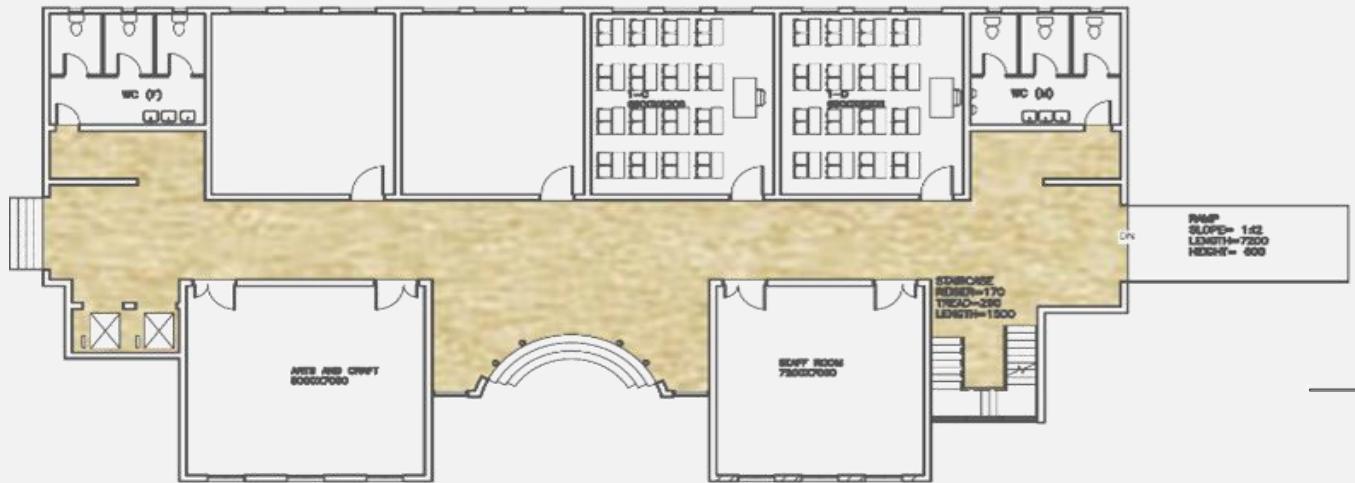
## PRE - PRIMARY BLOCK



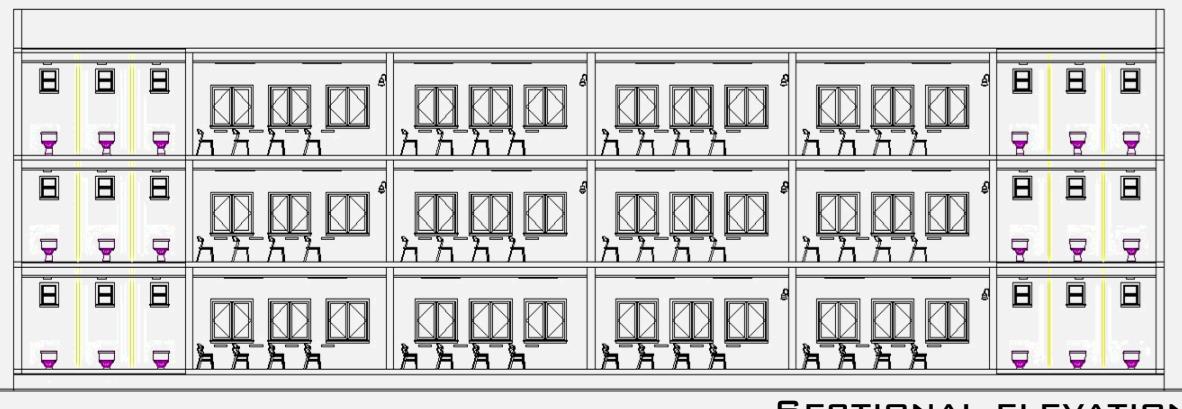
GROUND FLOOR PLAN



## PRIMARY BLOCK



GROUND FLOOR PLAN



SECTIONAL ELEVATION



FIRST FLOOR PLAN



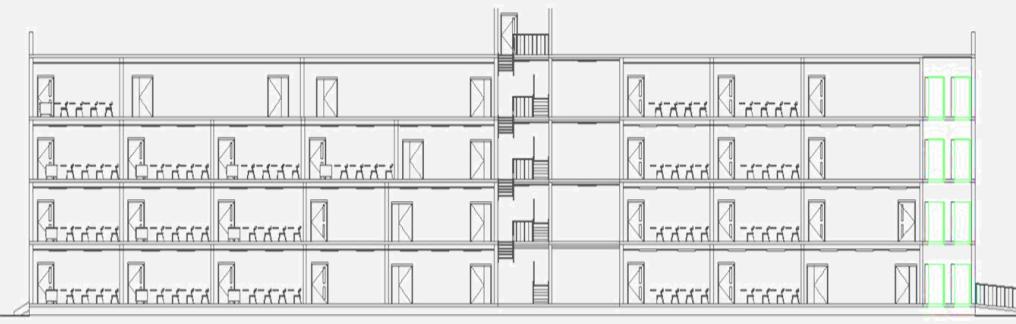
SECTIONAL ELEVATION



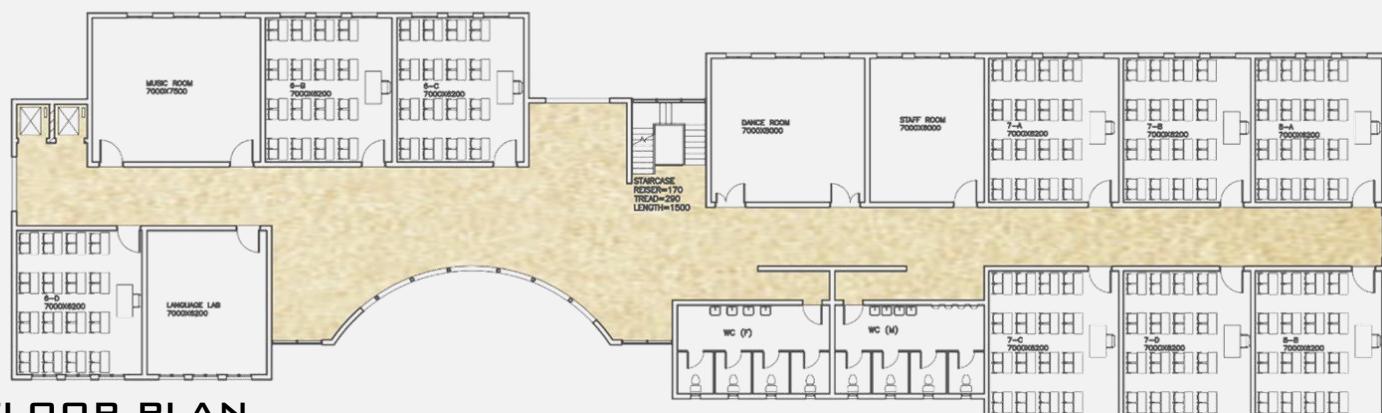
SECOND FLOOR PLAN



## SECONDARY BLOCK



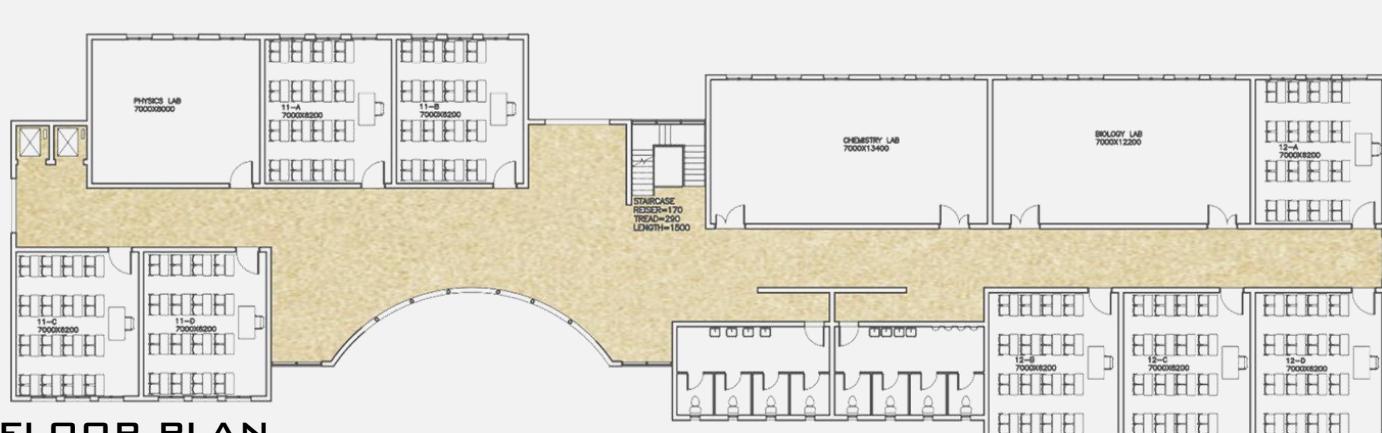
GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

REAR VIEW SECONDARY BLOCK

# MULTISPECIALITY HOSPITAL DESIGN

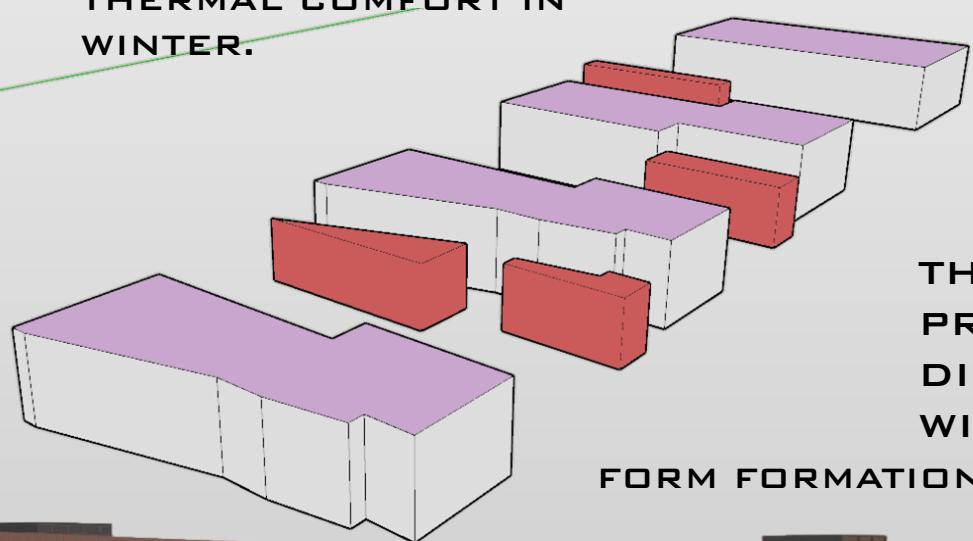
## CONCEPT

### CLIMATE RESPONSIVE BUILDING

SINCE THE CLIMATE OF GREATER NOIDA IS HARSH I.E. HOT IN SUMMERS AND COLD IN WINTER, HENCE THE BUILDING IS DESIGNED TO PREVENT OVERHEATING IN SUMMERS AND AUTOMATION SYSTEMS ARE PROVIDED TO MAINTAIN THERMAL COMFORT IN WINTER.



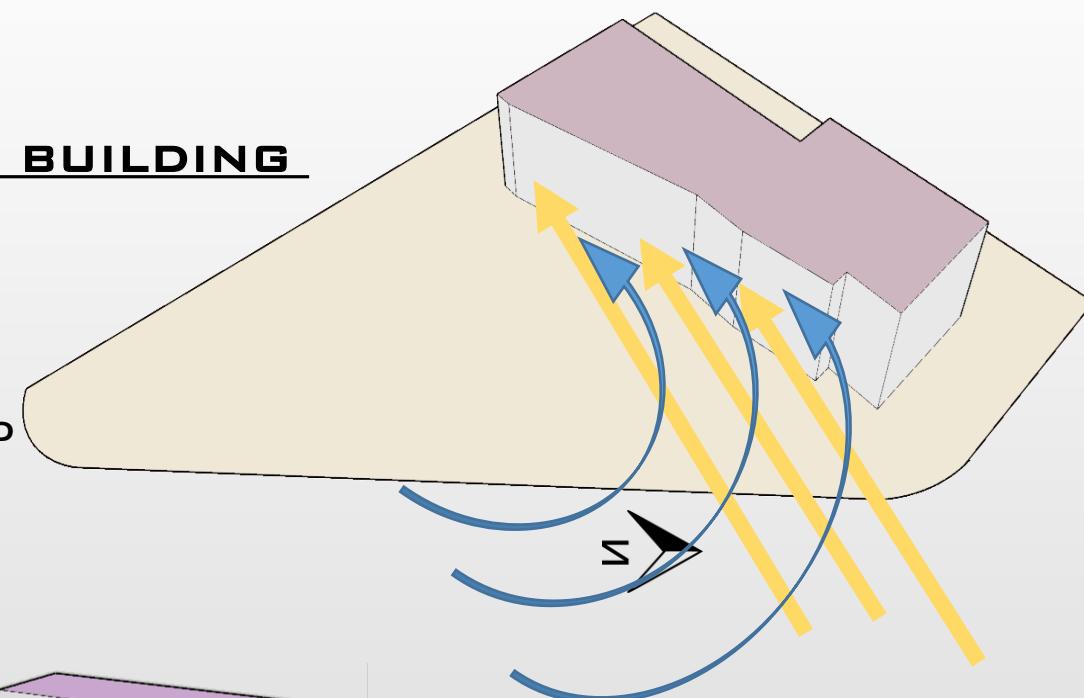
SITE PLAN



FORM FORMATION

SUN - SOUTHEAST TO NORTHWEST  
WIND - SOUTH TO WEST

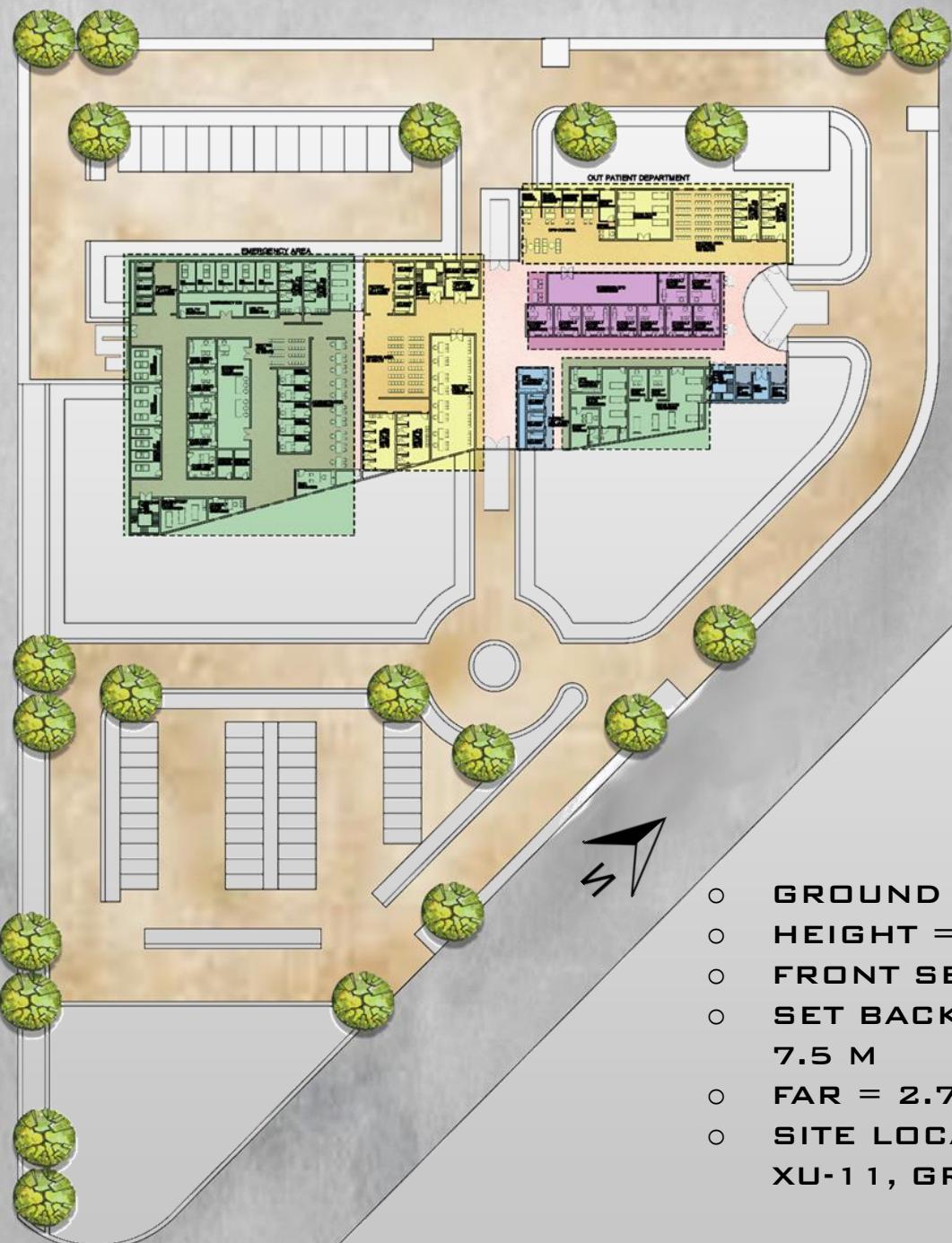
THE ANGULAR DESIGN PROTECTS THE BUILDING FROM DIRECT SUN RAYS AND HEAVY WIND MOVEMENT.



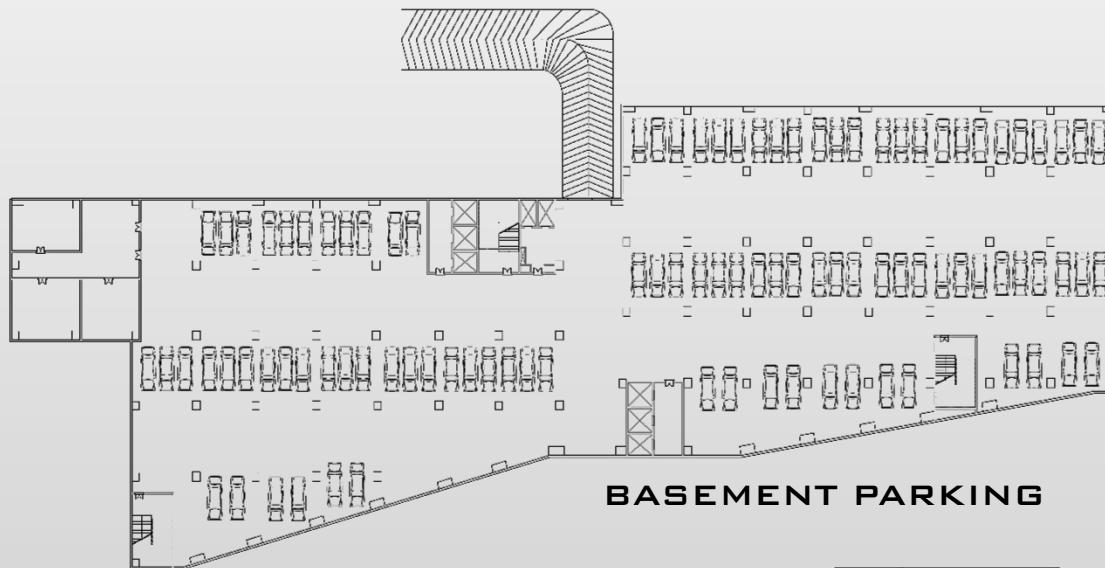
## GROUND FLOOR PLAN

## SITE BRIEF

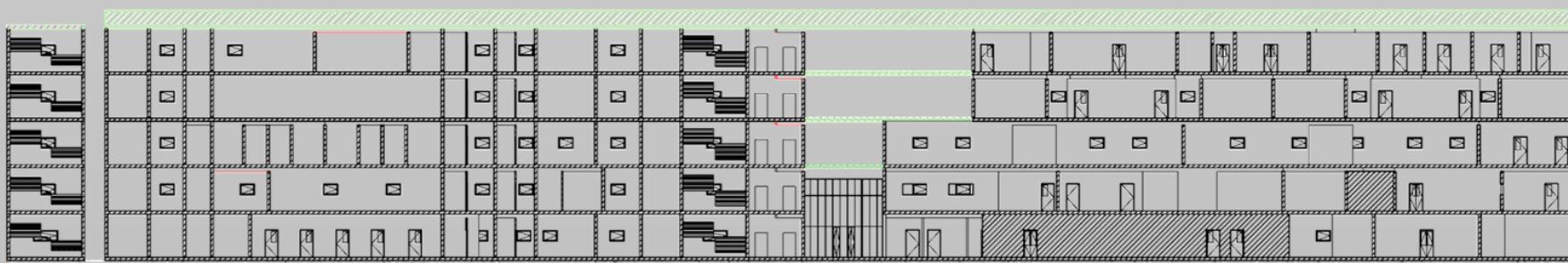
- SITE AREA - 3.096 ACRES (12531 SQ M)
- UNDERGROUND DRAINAGE ON ALL SIDES OF THE SITE
- NEAREST METRO STATION IS PARI CHOWK = 9 KMS
- THE SITE LIES IN A RESIDENTIAL SECTOR OF GREATER NOIDA



- GROUND COVERAGE = 30%
- HEIGHT = NO LIMIT
- FRONT SETBACK = 12 M
- SET BACK ON TWO SIDES = 7.5 M
- FAR = 2.75
- SITE LOCATION = SECTOR XU-11, GREATER NOIDA

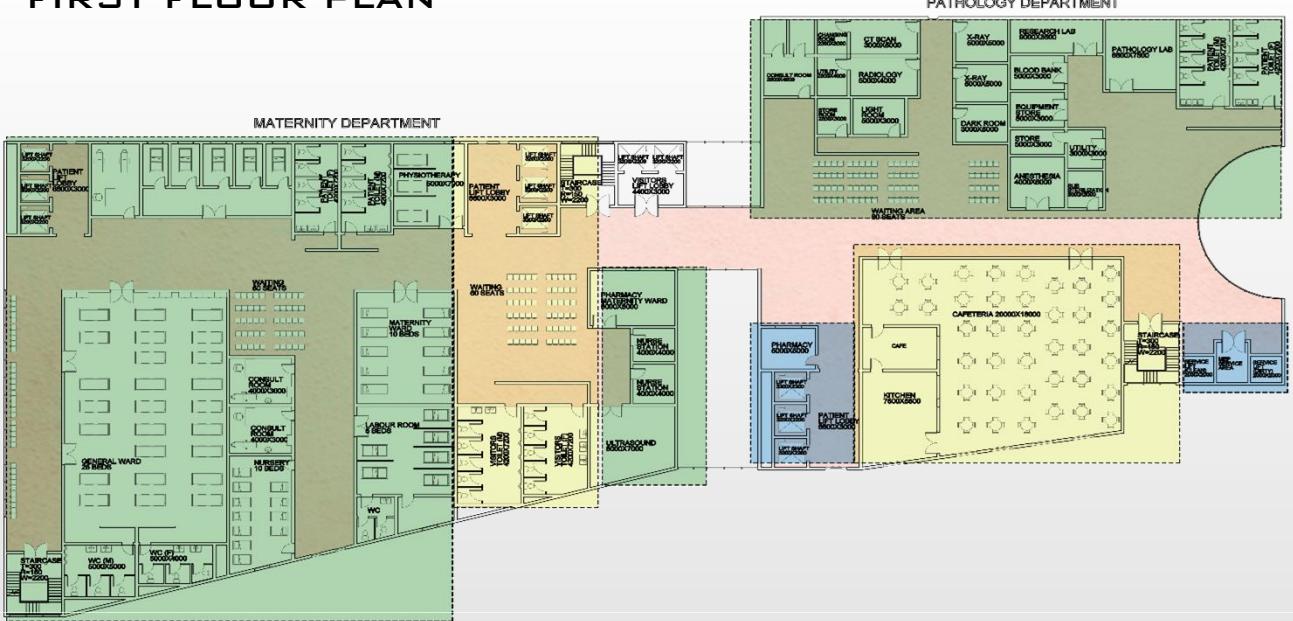


SECTION YY

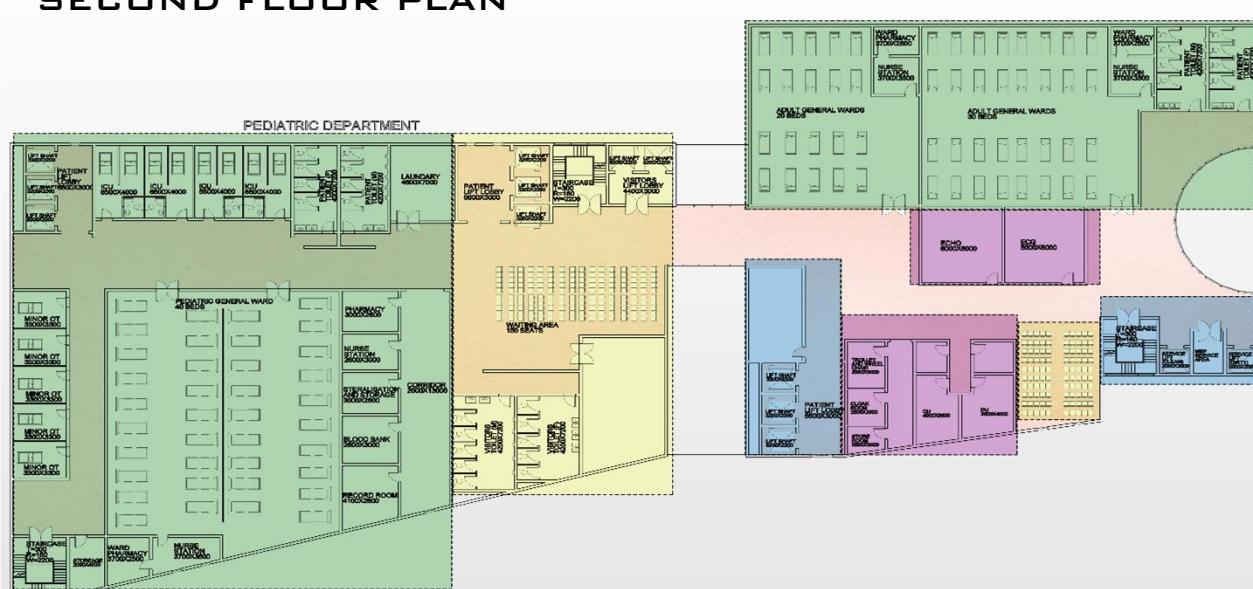


SECTION XX

## FIRST FLOOR PLAN



## **SECOND FLOOR PLAN**



## **THIRD FLOOR PLAN**



## **FOURTH FLOOR PLAN**



## PATIENTS

## PUBLIC

DOCTORS

# SERVICES



# **ART DECO**

CHETNA GODIYAL  
AR. PREETI NAIR

## **ABSTRACT**

The city planning of Mumbai has been a collage of varying architectural styles, with numerous urban form and diverse ethnic and social groups. The infrastructure of Mumbai, whether new or old, mainly comprises of 7 major architectural styles- Rock Cut, Hindu- Islamic, Portuguese, Victorian-Gothic, Indo-Saracenic, Art Deco and Contemporary styles of architecture. The research paper focuses on a very prominent architectural style prevailing in southern parts of Mumbai called Art Deco. The study discusses the history and emergence of Art Deco in Mumbai in the 1930s and how it altered the lifestyle and standards for luxury in Mumbai. The buildings that were constructed over the span of 30 to 40 years in the Art Deco era and the preservation of the essence of this fading style is the USP of this paper. Mainly, 3 typologies of the Art Deco buildings have been discussed with examples. The cataloguing of these buildings, helps to understand how the architects of today's generation are contributing towards conservation of the architectural identity of Art Deco in Mumbai.

**Keywords** - Art Deco, Interiors, Cinema Halls, Residential Apartments, Public Buildings, Victorian Architecture

## **1. INTRODUCTION**

Mumbai (formerly called Bombay) is a densely populated city on India's west coast. It was not an indigenous city and was primarily set up as a port by the British to maintain trade links with India. It was neither oriented nor structured to form a large city. Through decades, Bombay was identified as a sanctuary because of the policies followed by administrations. Due to lack of planning and design strategy, it offered some flexibility for every addition or intervention was an opportunity to compensate for existing physical structures. This provided with a chance to modify the physical appearance of the city in more contemporary form.

As Bombay grew precinct by precinct, the city's planning became a collage with varying architectural styles and different urban forms with diverse ethnic and social groups forming settlements. These settlements had distinct lifestyles and culture: settlement that are a result of planned interventions versus incremental growth, passive versus active mediation, governmental versus private actions. Bombay's transition from the period of rapid growth, hectic building activity took place from 1930s onwards.

The unceasing immigration and growth in population finally led to the emergence of exploding city with its imploding centre. The Indian Institute of Architects introduced the American style of architecture called Art Deco to alter the expanding skyline of Bombay with many residential building, office complexes and theatres as well reflecting westernised style. The application of Art Deco in Bombay was consistent with the original, compared to buildings in America, forms were angular and facades stepped back.

It is a rapidly transforming urban landscape and attention to conserving the important fragments of built environment is the major concern. Since Art Deco was not imposed to the city by the government, but was embraced by the citizens, planners need to evolve strategies and policies for new growth as well as conservation of existing city areas that would, within a cohesive framework, incorporate a pluralism of architectural attitudes, varied needs, lifestyles and emerging opportunities. Creating such an urban landscape is the challenge that lies before the citizens of Bombay.

Art Deco is one of Mumbai's least noticed architectural styles, though Mumbai and its suburbs possibly have the largest number of Art Deco buildings in the world. Art Deco in India (and especially in Mumbai) evolved into a unique style that came to be called Deco-Saracenic. Essentially, it was a combination of the Islamic and the Hindu architectural styles. The main features of the Indo Saracenic Style were the construction of domes, arches, spires, stained glasses and minarets. The interiors have Victorian influences while the exterior was Indian.



Mumbai's Art Deco stands out not only because it uses the easy blend of Deco- Saracenic but also because architects have used a variety of materials to express design freely. For instance, many buildings have been constructed entirely out of reinforced cement concrete but has a facing of Malad stone. It was used primarily for office buildings, residences and movie theatres, during a period when India was part of the British Empire. On 30 June 2018, an ensemble of such buildings was officially recognized as a World Heritage site by the UNESCO World Heritage committee held in Bahrain.

*"Mumbai's Art Deco buildings have always lived in the shadow of the Victorian Gothic structures built by the British" – Atul Kumar (founder of Art Deco Mumbai, 2018)*

Art Deco is a vibrant, colourful yet the sophisticated style of architecture reflecting the luxurious lifestyle of the South Bombay region of Mumbai. After several years of colonial rule, Mumbai was able to establish a unique style in the country, creating its own architectural identity that does not clash with the rest of the country.



Bombay's assembly of Art Deco architecture was created for the most part by a small list of first-generation Indian Architects. They were trained in western architectural traditions and returned to India to form ARIBA – Associates of Royal Institute of British Architects. These architects were influenced by the aesthetic current in Europe and were eager to imbue the city with a modern style. The buildings were designed of remarkable uniformity in terms of scale, mass, geometry and decorative elements. The sense of modernity also extended to the palette of materials- reinforced concrete frame structures along with stucco-clad facades were used in India for the very first time. Their architecture exhibited flat roofs with high parapets, cantilevered balconies, geometric motifs and decorative schemes influenced by streamlined and tropical imagery.

## 2. CASE STUDY

### ART DECO HOUSING

The striking examples of Art Deco residential apartment blocks in large groups occupied Marine Drive, the western seaside promenade and road fringing the new Backbay reclamation, which was completed in the late 1930s. These buildings were constructed from 1940 onwards along Marine Drive, the beautiful natural bay termed the ‘Queen’s Necklace’.



Soona Mahal

Around the corner, five-storey buildings sporting elegant Deco fonts, marble floors and spiral staircases line the Oval Maidan playing field while nearby are the popular Eros and Regal cinemas.



Fairlawn

At the windows. The plain rectangle was decorated with beautiful wrought iron grilles. The spiral pattern is repeated in other windows that can be seen, and also in the ironwork grille atop the low boundary wall

### ART DECO CINEMA

While the cinemas were the icons of the new style that Mumbai had embraced, the massive development of residential buildings in the Art Deco style in Backbay Reclamation were what transferred Mumbai's from Gothic to international modern city. The Art Deco or ‘moderne’ movement reached its pinnacle in Mumbai in 1938 with the opening of the grand and luxurious Eros, the only non-residential building to be constructed on the plots fronting the Oval in the Backbay Reclamation scheme. Designed by Sohrabji Bedhwar as a V-shaped structure, the two wings of the Eros rounded off at the main entrance to the theatre. The theatre is partially faced with red sandstone from Agra and the same tint of red has been used for the colour finish of the mouldings and ornamental details while the rest of the structure is painted in light cream.

Metro INOX Cinema (1938–2006) is an Art Deco Heritage grade IIA multiplex movie theatre in Mumbai, India built in 1938. It was built and originally run by Metro-Goldwyn-Mayer (MGM), the Hollywood studio. The main architect of the cinema was Thomas W. Lamb of New York, and D. W. Ditchburn (Senior partner of the architectural firm Ditchburn Mistry and Bhedwar) of Mumbai was the associate architect. This elegant 1500-seater American Deco Style cinema was a part of four storey mixed use building, with housing, cinema theatre and offices and shops at street levels.



## 3. ANALYSIS



### HOUSING

- The buildings have a basic typology of G+3 to G+6
- Multiple apartment buildings
- Every Art Deco style residence has a basic feature of entrance gates and railings moulded into basic characteristic features of the style
- The windows grills are artistic and similar
- Every building uses a different Art Deco font which is the unique point of the structure
- Ongoing restoration projects
- Interior corridors, staircase, tiling and other spaces have been modified to suit the present-day generation residing in these apartments
- The façade is yet to be restored

### CINEMA

- The buildings have a basic typology of G+4 to G+6.
- Mainly single screen cinema (cineplex)
- The accommodation was provided for the elite class and hence the sitting was less
- Cinemas were inspired from American style theatres
- The buildings were later converted to mixed used buildings

### Examples –

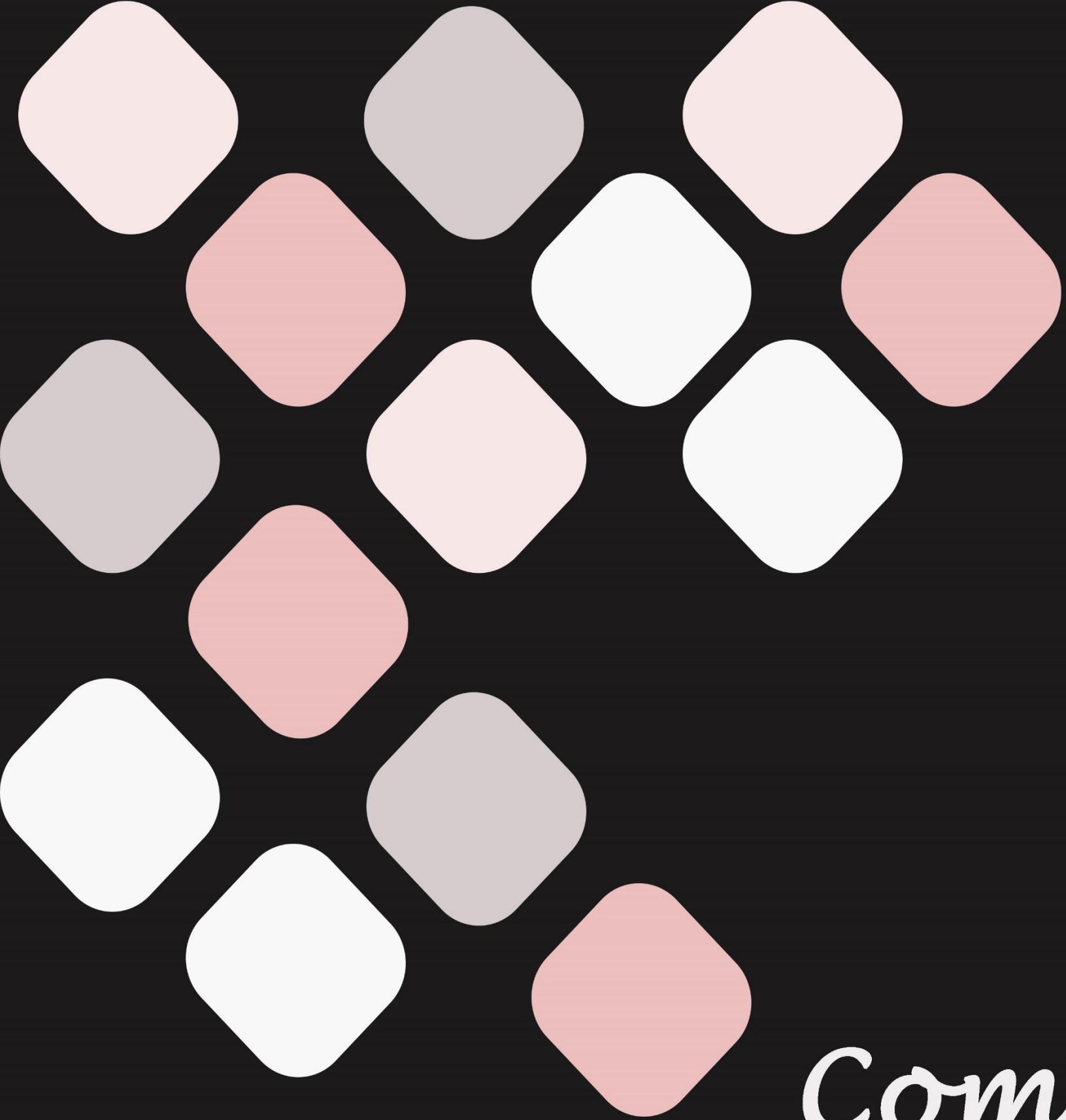
- Liberty Cinema and Metro Cinema
- Converted to multiple screen cinema (multiplex)
- Commercial activities such as cafeterias were introduced
- Halls were converted for press reviews and conferences
- Residential apartments were introduced
- The cinemas were moulded to cater all generations whether kids or adults by introducing certain play areas and auditoriums
- The interiors were renovated by using the same style and materials maintaining the essence of the style keeping the facades intact.

## 4. CONCLUSION

In a city starved for space, conservation efforts haven't always been able to save these heritage structures from damaging restoration or repair work, or even outright demolition. Over the past year, though, a small team of locals has been working to raise awareness about the art deco style, taking to social media to document all of Mumbai's art deco details, and help people engage with the city's architecture. On June 27, Art Deco Mumbai, a self-funded non-profit organisation, launched an online platform that will allow architecture buffs, experts, and even the ordinary, curious visitor, to explore and learn more about one of India's most underrated architectural styles.

“(Mumbai) is an art deco paradise,” Kumar said. “I like to say that we’re taking (art deco) out of the shadows...”

The declaration of the Art Deco Ensemble of Mumbai as a World UNESCO Heritage Site, more and more architectural firms are participating in the restoration program for many Art Deco buildings including the housing apartments in Oval Maidan.



*Competitions*



## THE SPIRIT OF THE CITY

## UNDERSTANDING THE BRIEF

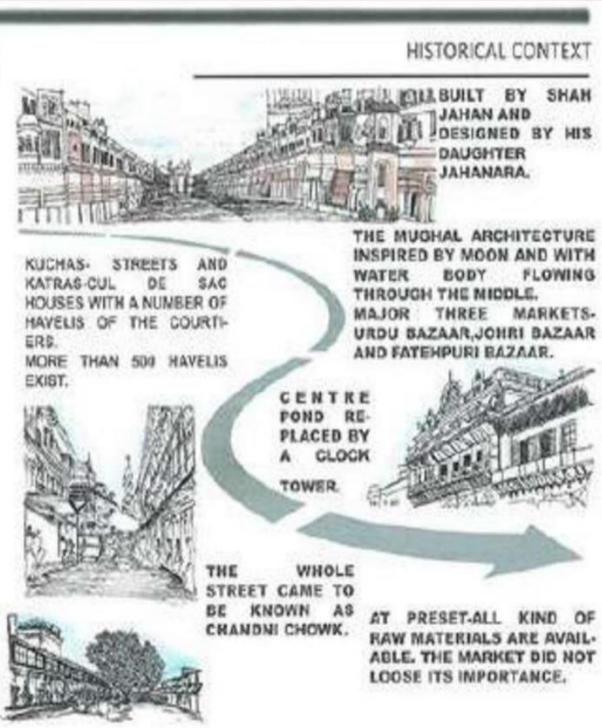
- Indian cities are a complex system of WORK, FOLK & PLACE. Each city sustains due to integrated functioning of the three aspects.
- There are regions in a city that run on this typical networking of its people, with respect to the space & type of work they do.
- These areas become highly significant & with great intensity of functionality.
- Hence they're often recognised as the SPIRIT OF THE CITY.

## GEDDES' TRIAD



Inspired by the French sociologist Frederic Le Play's (1802-1880) triad of 'Lieu, Travail, Famille' — which Geddes translated to "Work, Place, Folk" —

Geddes developed a new approach to regional and town planning based on the integration of people and their livelihood into the environmental givens of the particular place and region they inhabit.



॥ जाना दिलो आर और चांदो धौक नहीं देखा तो क्या देखा ॥

## 1. WORK



b) WELL SEGREGATED MARKET

PLACE IS LIKE A OLD OLD BOOK WITH ALL THE CONTENT WELL LATED OUT IN ORDER. ALL YOU NEED TO DO IS JUST ASK. AND YOU WILL KNOW WHERE TO GO



c) FESTIVE FLOWERING

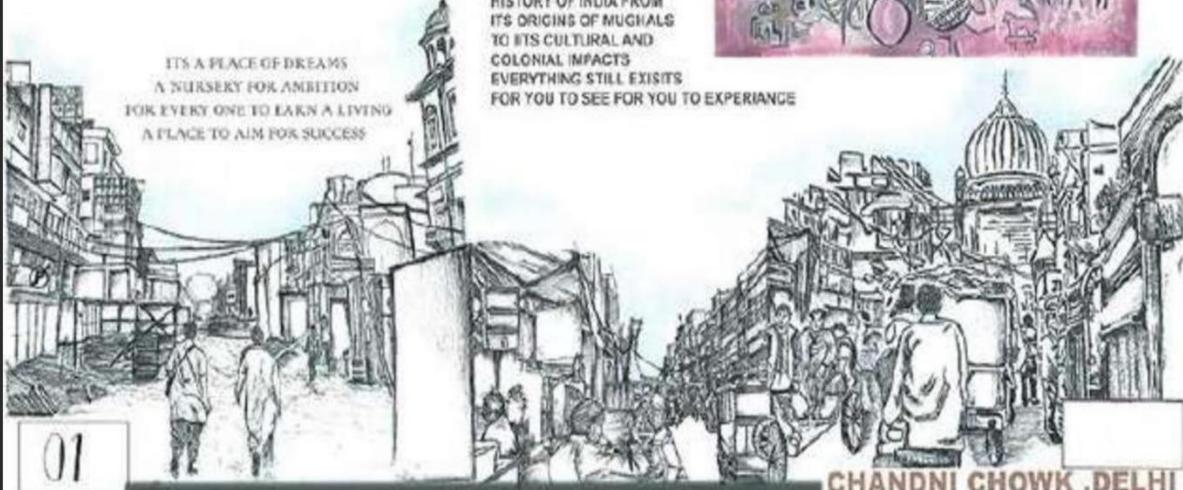
MOST BEAUTIFUL PART OF THIS MARKET IS IT CHANGES ACCORDING TO YOU IT'S A MARKET THAT DOES

GLITTER OF DIWALI OR THE FOOD OF EID FROM THE BEAUTY OF YOUR WEDDING TO SERVE CHRISTMAS LIGHTS ALL THESE ARE FLOWERS FLOWERS HARVESTED FROM ONE TREE FLOWERS GROWN FOR EVERYONE



## 3. PLACE

THE BEAUTY OF SECULARISM : CHANDNI CHOWK IS SPEAKING LIVING HISTORY OF INDIA FROM ITS ORIGINS OF MUGHALS TO ITS CULTURAL AND COLONIAL IMPACTS EVERYTHING STILL EXISTS FOR YOU TO SEE FOR YOU TO EXPERIENCE



01

CHANDNI CHOWK , DELHI

## THE SPIRIT OF THE CITY

LAL QUILA METRO STATION

FATEHPURI BUS STOP

## CIRCULATION

THREE VEHICLE

PEDESTRIAN

TWO VEHICLE

ACROSS THE ROAD

## BUILDING CONDITION

GOOD
MODERATE
PUNK
DILAPIDATE

## BUILDING HEIGHT

G+1
G+2
G+3

## FIGURE GROUND

■ & ■ BUILT UP
□ OPEN SPACE

## LANDUSE

COMMERCIAL
RESIDENTIAL
INSTITUTIONAL
MIXED LANDUSE

## ACTIVITY MAPPING

HIGH DENSITY(>150)
MEDIUM DENSITY(50-150)
LOW DENSITY(<50)

02

## POPULATION DISTRIBUTION



## TYPE OF SHOPS



## BUILDING CONDITION



## CONGESTION NODE

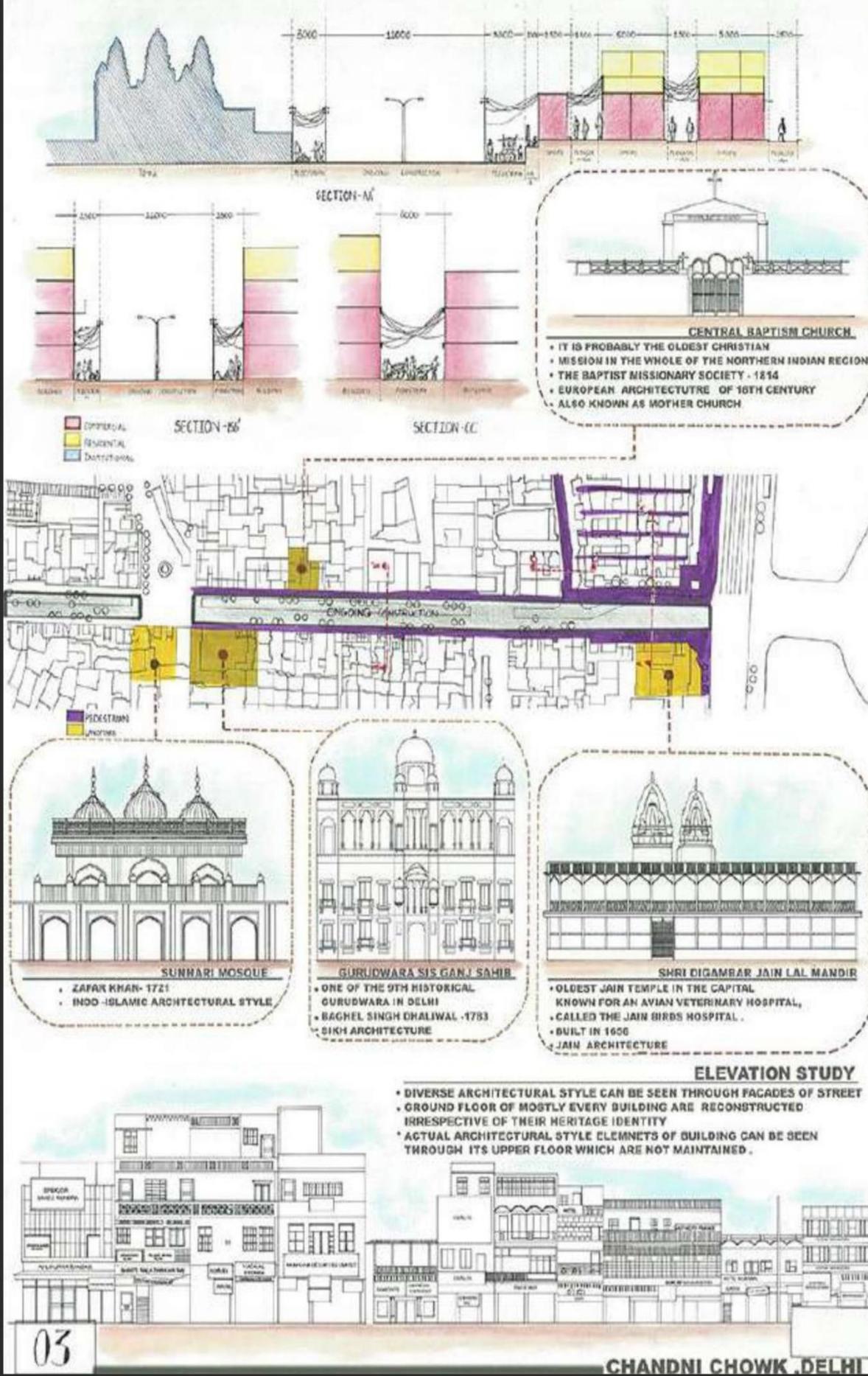


## INFERENCES

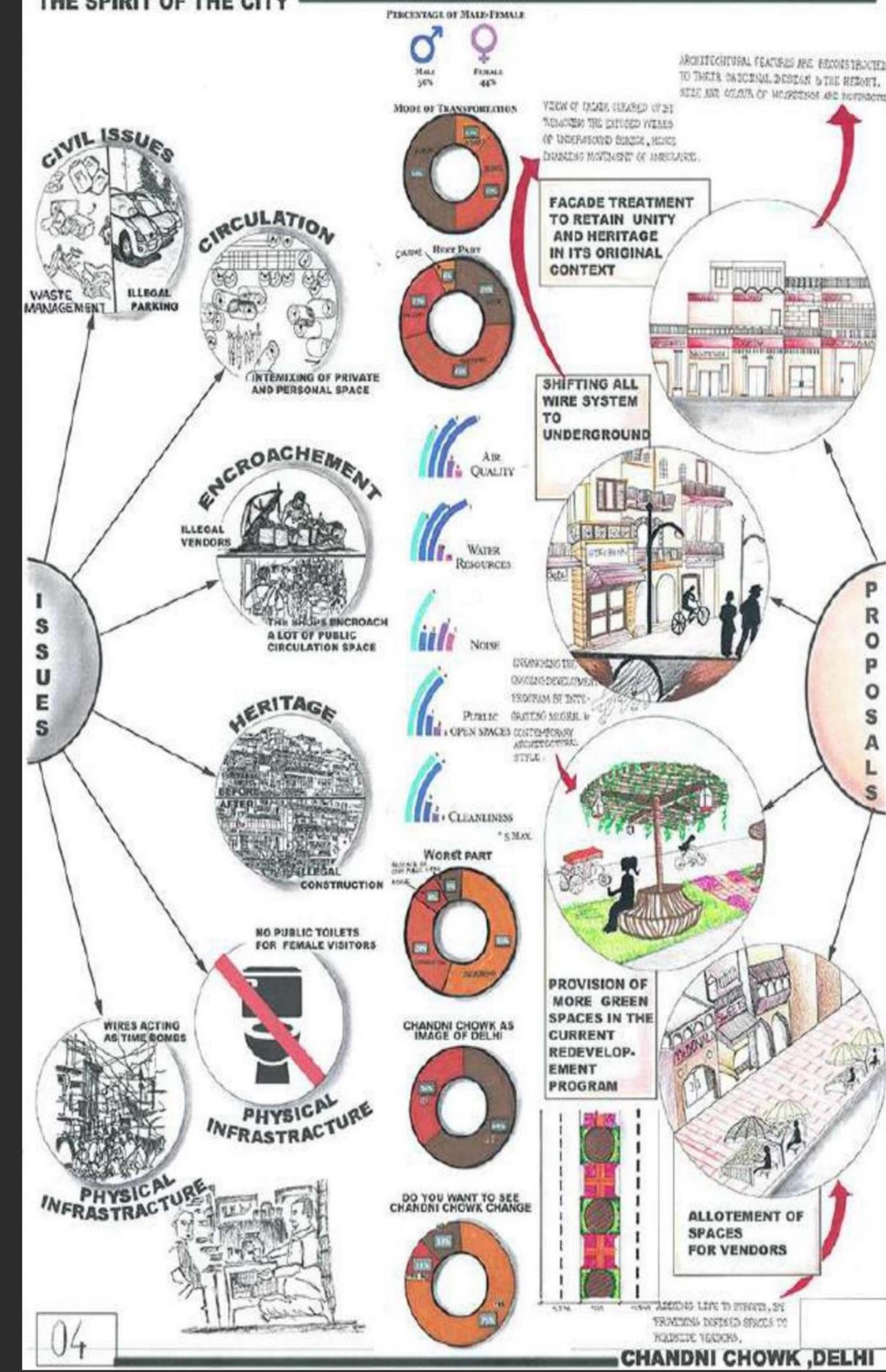
- LACK OF OPEN SPACES ON THE STRETCH.
- TRAFFIC CONGESTION AT EVERY NODE.
- ONLY RELIGIOUS BUILDINGS ARE MAINTAINED AND IN GOOD CONDITION.
- HARMONY BETWEEN ALL THE DIFFERENT RELIGIONS CAN BE SEEN.
- VARIETY OF GOODS IN THE MARKET IS AVAILABLE.

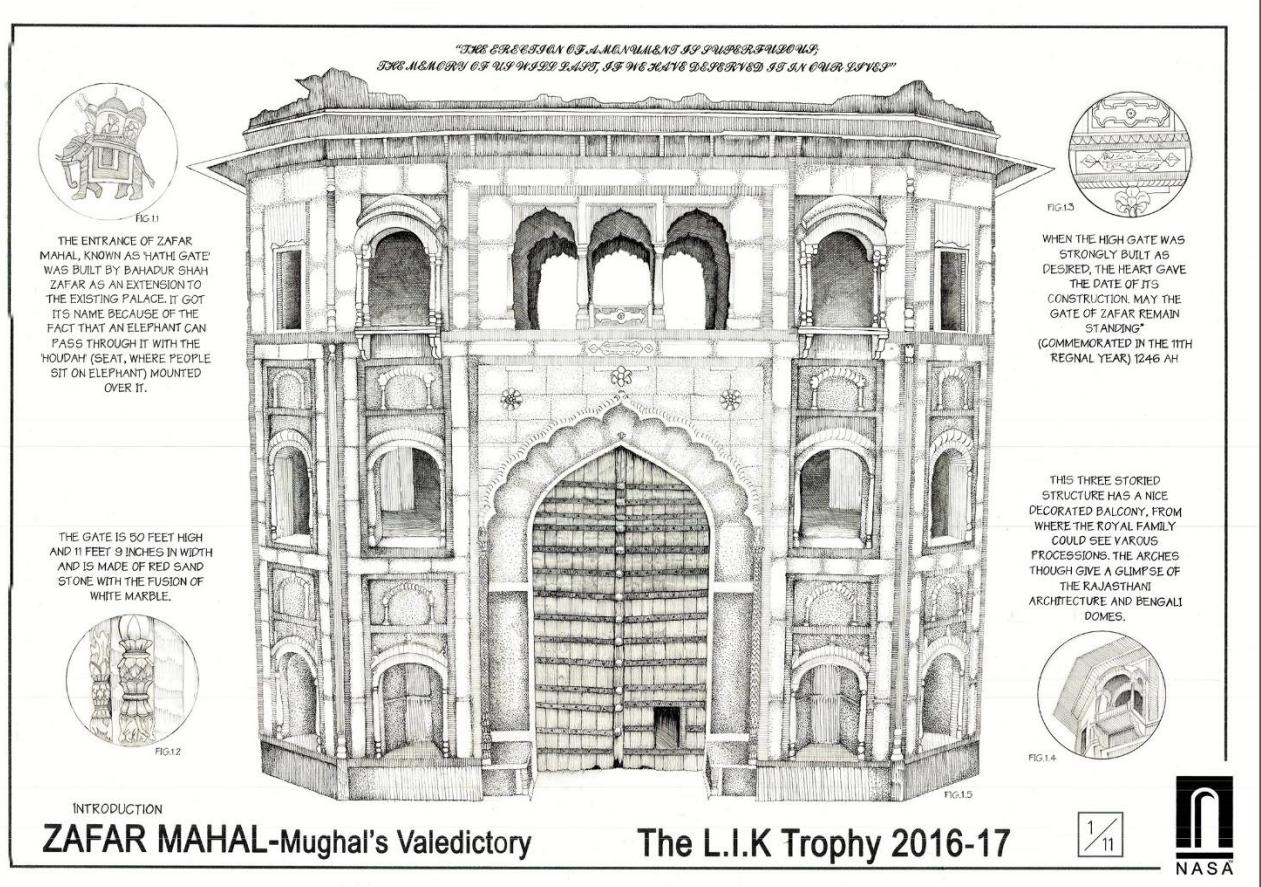
CHANDNI CHOWK , DELHI

## THE SPIRIT OF THE CITY



## THE SPIRIT OF THE CITY







**SPRINGTIDE - A YOUTH CENTRE**

### ENERGY CONSUMED

Electricity generation is the process of generating electric power from sources of primary energy. For electric utilities in the electric power industry, it is the first stage in the delivery of electricity to end users, the other stages being transmission, distribution, energy storage and delivery, using pumped storage methods.

### ENERGY GENERATED

#### ENERGY GENERATION

#### ENERGY CONSUMPTION

### GREEN FITNESS EQUIPMENT:

Cardio machines – stationary cycles, treadmills and ellipticals – generate resistance while we exercise. The resulting friction produces heat, which can be converted into energy via a generator. A typical cardio machine contains resistors that eliminate this heat. An external generator can replace the resistors and take in the DC power produced by the machine.

### ENERGY COMPARISON

### URBAN FARMING

**SOLDEPTH**: A system that measures soil depth for different crops. It shows soil depths for Tomato (~10cm), Cucumber (~10cm), Pepper (~10cm), Lemon (~10cm), Spinach (~5cm), and Corn (~20cm).

**PART SECTION (URBAN FARMING)**: A diagram showing a cross-section of a vertical farm with layers for different crops.

### TIME TAKEN BY THE CROPS TO GROW

Crop	Time Taken
TOMATO	70-80 DAYS
CUCUMBER	50-60 DAYS
PEPPER	70-80 DAYS
LEMON	120 DAYS
SPINACH	10-10 DAYS
CORN	40-50 DAYS

### PROTOTYPE TOILET

The toilet flushes itself after every use, using a minimum amount of water, that is determined through sensors. On an average, each flush uses 1.5 litres of water, compared to the 6-8 litres used by a normal flush. Its floor is automatically washed after every tenth use. The lights turn on automatically and draw power from a built-in solar panel. Everything is monitored through GPS telemetry, the frequency and volume of usage, and water and electricity consumption. Also, there are provisions for waste treatment using anaerobic bio-degradation.

### PROTOTYPE TOILETS (25% WATER CONSUMPTION)

### WATER SAVING

NASA

**ZNDC TROPHY 2018 - 2019**

**SPRINGTIDE - A YOUTH CENTRE**

### SITE BRIEF & JUSTIFICATION

**CHOSEN SITE : BAGA BEACH, GOA**  
**SWOT Analysis**

#### STRENGTH

1. Goa is the biggest tourist/ youth attraction. Therefore there is a source of production.
2. Having that amount of footfall results in greater waste production.
3. Plastic waste could be easily disposed off.

#### WEAKNESS

1. Flood prone area.
2. Soil is not suitable for urban farming.
3. High footfall. Therefore high waste production.

#### OPPORTUNITY

1. A youth cafe must be beneficial.
2. Project that deals with waste is immensely needed.
3. Material can be easily available.
4. Condom dispensers can be largely useful.

#### THREATS

1. Flood prone area.
2. Maintenance issues.

- The structure is made up of waste materials and an innovative technique called the mudblocks.
- The structure has been made self-sustaining by the use of solar panels, electricity generation through the floor of the dance and through the equipment installed in the gym.
- The youth centre promotes the social interaction among people and that is sustainable in its own way.

**A BOUT SPRINGTIDE**

**TERRACE PLAN**

**FIRST FLOOR PLAN**

**GYM EQUIPPED WITH MACHINES THAT PRODUCE ELECTRICITY**

**URBAN FARMING**

**CAFFETERIA**

**PUBLIC TOILETS**

**AREA SPECIFICATIONS**

ITEM	VALUE
TOTAL BUILT AREA	194 SQM
TOTAL GARDEN AREA	193 SQM
TOTAL GROUND COVERAGE	100 SQM
GATE FEE	-/-
FAIR ACHIEVED	-/-

**SECTION**

**GROUND FLOOR PLAN**

**ZNDC TROPHY 2018 - 2019**

**NASA**



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