

**THESIS REPORT ON**  
**“PRE-PRIMARY SCHOOL IN LUCKNOW UTTAR PRADESH”**

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

**BACHELOR OF INTERIOR DESIGN**

**BY**

**SANGINI PATHAK**

**(ROLL NO.1200107010)**

**THESIS GUIDE**

**DR. MOHIT KUMAR AGARWAL**



**SESSION**

**2023-24**

**TO THE**

**SCHOOL OF ARCHITECTURE AND PLANNING**

**BABU BANARASI DAS UNIVERSITY**

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

**CERTIFICATE**

I hereby recommend that the thesis entitled“-PRE-PRIMARY SCHOOL IN LUCKNOW UTTAR PRADESH”, prepared by SANGINI PATHAK 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 Interior Design, School of Architecture and Planning, BBDU, Lucknow.

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## **ACKNOWLEDGEMENT**

Our hard work never shines if do not convey our heart feel gratitude to those people from whom we have got considerable support and encourage during this project.

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 4 years.

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

I have put in my best of efforts and worked day and night to make this project a successful.

Hope u too will appreciate my endeavor.

THANKING YOU

SANGINI PATHAK

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4. Degree for which the thesis is submitted: BACHELOR OF INTERIOR DESIGN
5. Faculty of University to which the thesis is submitted: Yes / No
6. Thesis preparation guide was referred to for preparing the thesis. Yes / No
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## **DECLARATION**

I hereby declare that the work done in this thesis project is my own work and I have collected the data from various sources, which I have duly acknowledged in my report.

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Place: Lucknow

Year: 2023-2024

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**B.ID THESIS 2023-2024**

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THESIS TITLE: PRE-PRIMARY SCHOOL

THESIS GUIDE: DR. MOHIT KUMAR AGARWAL

REMARKS: SATISFACTORY/ NOT SATISFACTORY (IN CASE OF NOT SATISFACTORY GIVE COMMENTS)

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## **ABSTRACT**

The thesis paper concerns about the formation of interior perceptions in primary school. The environment forms, basis of many behavioral traits.

the education spaces must be given utmost importance while keeping mind the standards and principal . It will lead to creating an environment that would be psychological interest in child development .

The design and structure of the educational space positively impact the children as it helps in both physical and mental growth.

The employment of these ideas would be beneficial in the children's overall development considering their and mental abilities.

It has been recognized for many years that children learn from direct experiences with their surrounding environments.

Considering children spend the majority of their early lives occupying school buildings, the quality of this built environment is important as it is thought to have an impact on their learning, social development and well-being.'

The interior design of school environments, has been constantly evolving with the need for new and improved school buildings coupled with significant changes in education over the past few decades.

Use of creative methods, providing an understanding of primary school buildings through the children's eyes, giving them a voice within the research.

# **CHAPTER – 01**

## **INTRODUCTION**

## **INTRODUCTION:-**

- A **Pre-Primary school**, junior school, elementary school or grade school is a school for primary education of children who are five to eleven years of age. It typically comes after pre-school and before secondary school. Institution in which children receive the first stage off compulsory education, known as Primary or Elementary school.
- It is an educational establishment or learning space offering early childhood education to children before they begin compulsory education at primary school.
- The education system in India is not much different from other countries. The pre-primary stage is considered the foundation of developing a child's knowledge, skills, and behaviour.
- The completion of pre-primary education sends the child to the primary stage.



- pre-primary education is the incubator for the next generation of leaders, thinkers, and innovators.
- Primary education is measured as the base for the future intellectual developments.

## **NEED OF THE TOPIC:-**

- Pre-Primary School is the foremost and basic right of every child.
- It is the first step in making of the character of child.
- The role of primary education is to ensure broad based learning of the child.
- This includes development of social, cognitive, cultural, emotional and physical skills. Pre-Primary school should aim at providing rich, stimulating and caring environment in which the child feels happy, safe, secure and confident. Learning at this young age should give birth to creative and enquiring minds.



## **HISTORY & BACKGROUND:-**

- In 1816, Robert Owen, a philosopher and pedagogue, opened the first British and probably globally the first infant school in New Lanark, Scotland. In conjunction with his venture for cooperative mills Owen wanted the children to be given a good moral education so that they would be fit for work.

## **AIM AND OBJECTIVE:-**

- To Design a school where children can feel free to experience different challenges have interesting learning experience and get knowledge by themselves. And also help parents and kids to build a healthy relationship, give children a happy childhood.
- To design a primary school will be both functional and aesthetically pleasing for the users( teachers and students)
- Bring the community into the planning process through an integrated design process.
- Provide an interior environment that is visually comfortable and stimulating by integrating natural and artificial lighting, eliminating glare, and incorporating colors that stimulate or soothe depending on the space function.
- Design for diffuse, uniform daylight throughout classrooms.
- Use a daylighting analysis tool to integrate lighting systems, controls, and materials that reflect or absorb light.
- To design safe and non-toxic element.
- Use durable, non- toxic building materials.

## **SCOPE**

- **Pre-Primary School** , The scope of school organization is very vast. It includes; efficiency of the institution, securing benefits of the school through practical measures, clarification of the functions of the school, coordination of the educational programmers, sound educational planning, good direction, efficient and systematic execution. It provides close collaboration and sense of sharing responsibilities, organized purpose and dynamic approach.
- Scope of primary school exhibits an infrastructure that is truly impressive. Windows wide to allow for ample amount of cross ventilation and furniture that encourages students to hold a good posture, are some of the many elements that facilitate a healthy learning environment for the students.

## **USERS OF GROUPS**

- Primary user's group- Students
- Secondary user's group- Teachers
- Tertiary user's group- Parents and visitors
- Program- Kindergarten to Primary School
- Grade- K-VIII (Age 4-14 yr. old)

## **VISUALIZATION**

To creating a space for children to feel like home is the most important thing how to achieve?

How can an environment encourages are children to socialize and being engaged together?

What does multifunction means?

How to insure the children fell better this place?

## **METHODOLOGY:-**

- Site analysis
- Site & surrounding
- Site climate
- Case study
- Literature study
- Requirement sheet
- Area analysis
- Standard sheet
- Concept sheet
- Design
- Elective
- View

## **TENTATIVE PROJECT REQUIREMENT:-**

- Reception
- Principle office
- Class rooms
- Activity Room
- Music room
- Indoor play
- Staff rooms
- Sports Facility
- Toilets
- Others facilities as demand necessary for school

# **CHAPTER – 02**

## **SITE ANALYSIS**

## SITE ANALYSIS

### ABOUT CITY

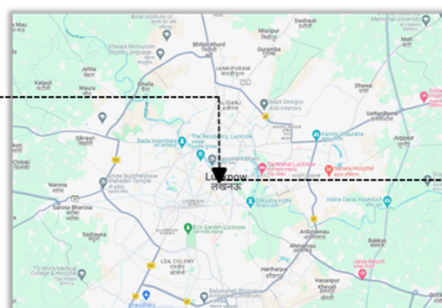
Lucknow is the capital and largest city of the Indian state of Uttar Pradesh and is also the administrative headquarters of the eponymous District and Division. It is the eleventh most populous city and the twelfth most populous urban agglomeration of India. Lucknow has always been known as a multicultural city that flourished as a North Indian cultural and artistic hub, and the seat of power of Nawabs in the 18th and 19th centuries. It continues to be an important centre of governance, administration, education, commerce, aerospace, finance, pharmaceuticals, technology, design, culture, tourism, music and poetry.

### ABOUT PRE-PRIMARY SCHOOL

A Pre- Primary school, junior school, elementary school or grade school is a School for primary education of children who are 5 to 11 years of age. It typically comes after pre-school and before secondary school. Institution in which children receive the first stage off compulsory education, known as Primary or Elementary school.

### SITE LOCATION

- CLIENT : MRS. GARIMA SINGH
- PROJECT TYPE : PRIMARY SCHOOL
- Location- The Site is located in Lucknow , Uttar Pradesh
- Address- PLOT NO.- 18C/K-212 SECTOR 18-C, VRINDAVAN YOJNA NO 4, LUCKNOW
- SITE AREA : 4000 SQM.



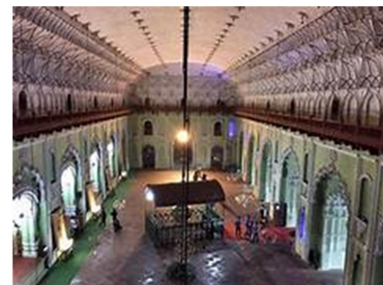
## **MAJOR LANDMARK**



CHOTA IMAMBARA



BARA IMAMBARA



BHUL BHULAIYAN



DILKUSHA



LUCKNOW UNIVERSITY



CHATTAR MANZIL

## **SITE NEARBY LANDMARK**



ALLEN HOUSE PUBLIC SCHOOL

GOPESHWAR MAHADEV TEMPLE

### **CONNECTIVITY**

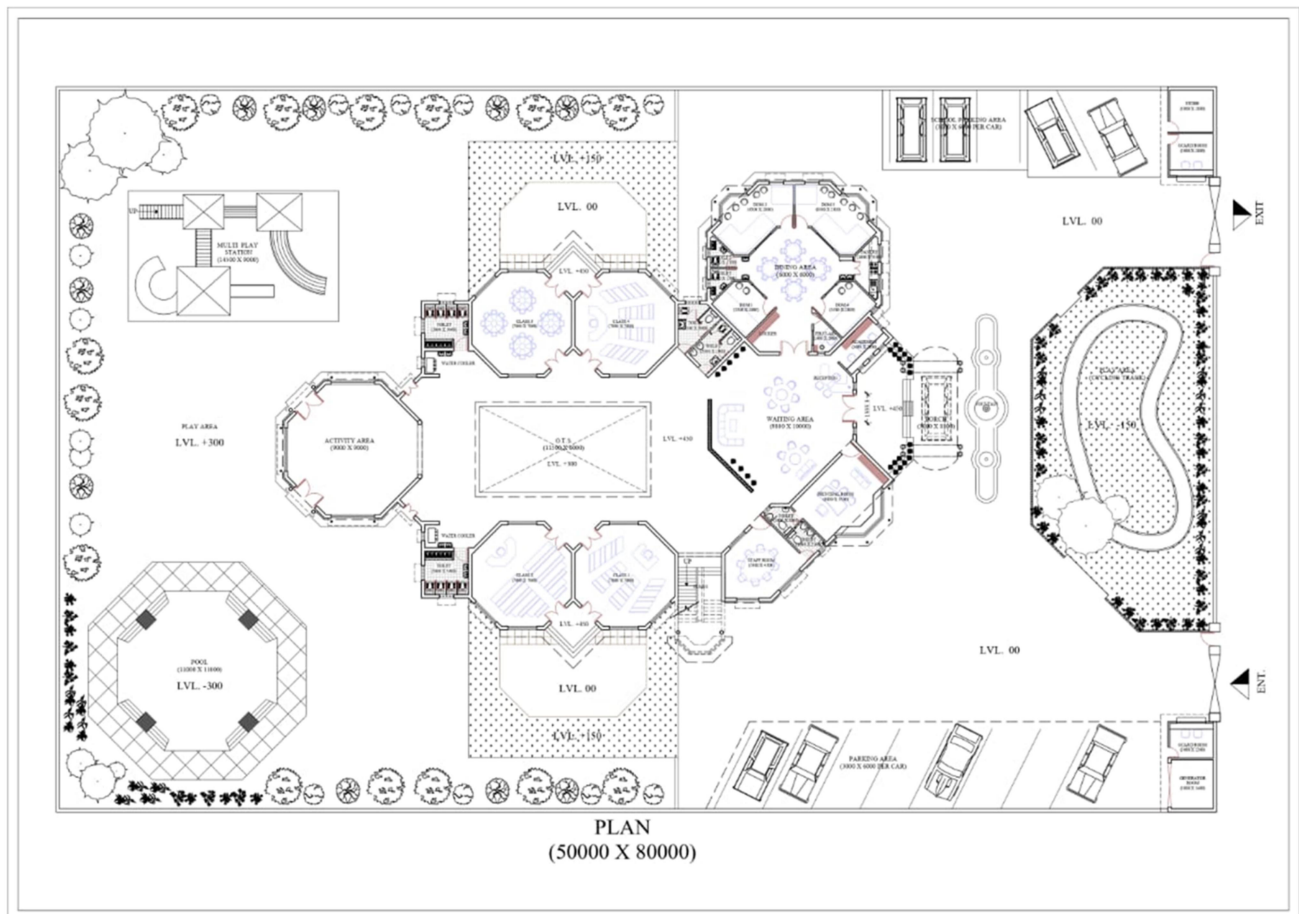
**RAILWAY STATION -** BADSHANAGAR RAILWAY STATION 14 K.M

**BUS STAND -** AWADH BUS STATION 16..3K.M.

**AIRPORT -** CHAUDHARY CHARAN SINGH AIRPORT 13K.M

## SPACE REQUIREMENTS

RECEPTION AREA  
 CLASS ROOMMS  
 PRINCIPLE OFFICE  
 STAFF ROOMS  
 MUSIC ROOM  
 ART AND CRAFT  
 DANCE CLASSROOM  
 INDOOR PLAYING ROOM  
 LIBRARY  
 COMPUTER LAB  
 INDOOR PLAYING AREA  
 TOILETS  
 PANTRY  
SITE DRAWING



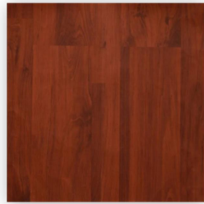


## MATERIAL USED IN INTERIOR

- Wall finish- Paints finish, Wall papers
- Finishing material- Laminates, paint
- Flooring- Kota stone, vitrified tiles , wooden vinyl flooring, rubber flooring
- Ceiling- Grid ceiling, gypsum board, POP etc.
- Lighting- Led lights, fluorescent light
- Furniture- Wooden ,Plastic, steel
- Doors- Wooden, Laminate, Glass, Steel,etc
- Plants- indoor plants



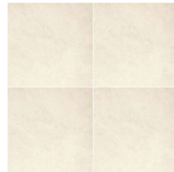
RUBBER FLOORING



VINYL FLOORING



KOTA STONE



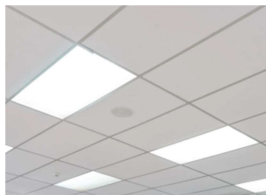
VITRIFIED TILES



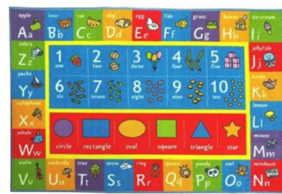
SOFA SEATING



LED PANEL



GRID CEILING



CARPET



WOODEN SHELVES



FURNITURE



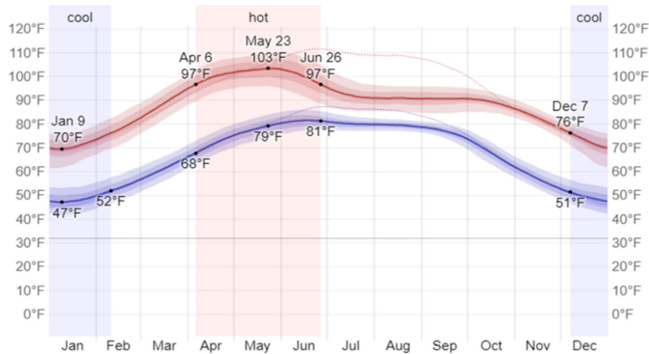
fluorescent light

## SITE IMAGES

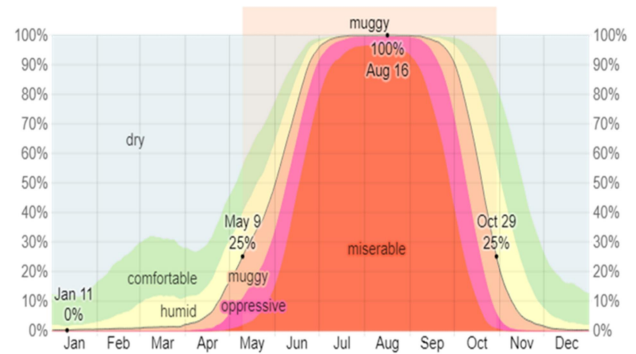


## CLIMATE DATA

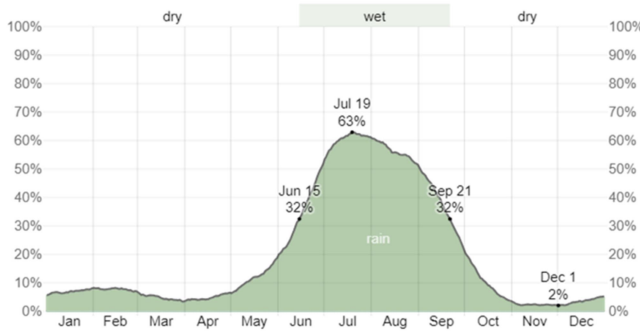
Lucknow has a warm subtropical climate with cool, dry winters from December to February and dry, hot summers from April to June. The rainy season is from mid-June to mid-September, when Lucknow gets an average rainfall of 1010 mm (40 in) mostly from the south-west monsoon winds. In winter the maximum temperature is around 21 degrees Celsius and the minimum is in the 3 to 4 degrees Celsius range. Fog is quite common from late December to late January. Summers can be quite hot with temperatures rising to the 40 to 45 degree Celsius range, the average highs being in the high 30's.



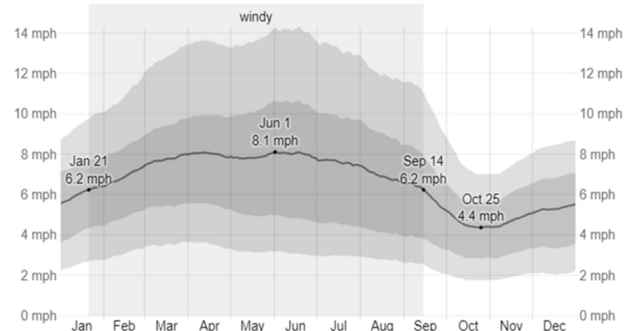
TEMPERATURE GRAPH



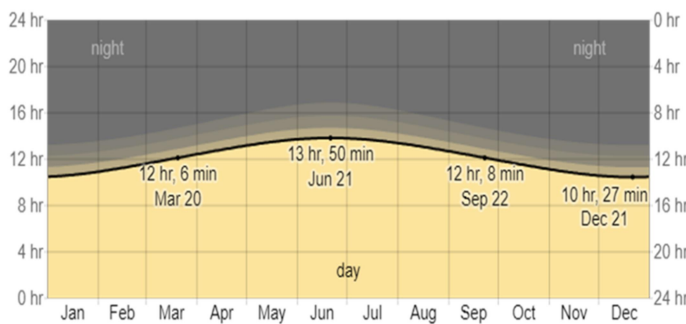
HUMIDITY GRAPH



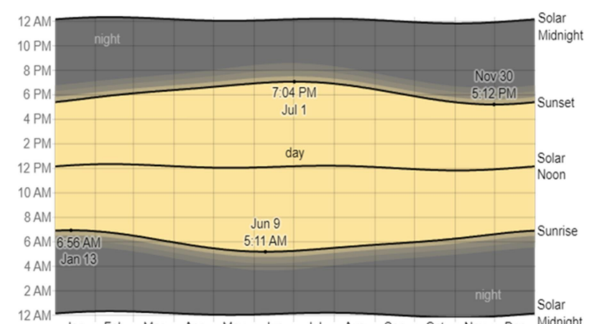
PRECIPITATION GRAPH



WIND SPEED GRAPH



DAILY SUNSHINE GRAPH





# **CHAPTER-03**

## **CASE STUDY**

**RED HILL SCHOOL(LUCKNOW)**

**SANSKRITI SCHOOL(LUCKNOW)**

# CASE STUDY-1 RED HILL SCHOOL

## INTRODUCTION

Red Hill School has been established in the heart of Lucknow since 1986, on land graciously donated by the Mohan Family, offering the very best care and education for children, and a warm welcome for parents.

Our founder and chairperson, Mrs. Rekha Mohan, always aspired to do something constructive for the city. Through watching and observing her own children, she developed an interest in education and set out to build a foundation-laying school for children between the ages of 1½ -10 years old.

Twenty-five years later, Red Hill School, with its well-planned programs combining learning with play, and its efficient and dedicated staff, has gained the reputation of being one of the best primary schools in the city, with several other branches recently opened due to the increasing demand in other areas of the city for a “Red Hill Education”.



## SITE DETAILS

**Location:** Red Hill School Is Located MMB1/162, Sector B, Aliganj, Lucknow U.P 226021

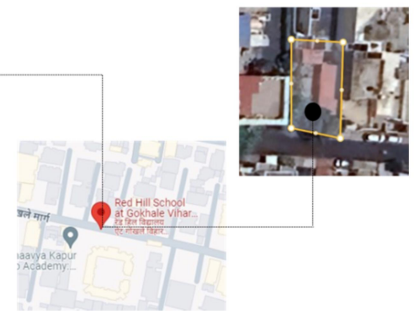
**Site Area:** 74544Sqft.

**Architect:** Bhavya Design And Architect

**Principal Name:** Deepti Bhatt

**Direction:** North Facing

## SITE IDENTIFICATION



## SITE NEARBY LANDMARK



Kartikey Hospital



Hanuman Mandir



Shivaji park

## CONNECTIVITY

- Kamta Bus Stand -17.9 Km.
- Kesar Bagh Bus Station -17 Km.
- Charbagh Railway Station -13 Km.
- Krishna Nagar Metro Station – 8.5 Km.
- Amausi Airport - 8km.

## SITE PLAN



## SPACE REQUIREMENT

Entrance gate  
Kindergarten  
Classrooms  
Reception Area  
Conference Area  
Principal Office  
Teachers Cabin  
Parents Waiting Area  
Staff Room  
Library  
Computer Staff  
Toilets  
Art and Craft room  
Dance Room  
Kids play area  
Pool  
Rabbit Cave

## ABOUT INTERIORS

The interior color palette comprises of playful primary colors juxtaposed cleverly with biscuit colored brick walls. A yellow accent band that runs horizontally in the corridor further enlivens the spaces within. The doors are designed with circular cut-outs at the height of a child, creating a dynamic play of solid and voids at the child's eye-level allowing the every tots to peak in. A simple c-shaped plan is devised that fulfills the coverage norms and allows for the development of a modular string of well-ventilated, glare-free class rooms, each of which is 6m x 7m.

## **EXTERIOR MATERIAL**

- Hpl
- Wooden Texture Tile(wall ,Stair)
- White Paint
- Ceiling Light
- Black Granite
- White Marble
- Steel + Hpl Gate
- Matt Red Cement Ramp Tile
- Glass Railing With SS Framing
- Gate Light
- Iron Rod
- Wooden Window With Glass
- Brick Texture Tile
- SS Railing

## **FURNITURE SIZES**

- Bench – 100X330X450 MM
- Sitting Bench – 900X330X330 MM
- Wall mounted cabinet – 380X900 MM
- Wardrobe – 1200X8400 MM
- Chair – 330x330x450 MM
- Storage cabinet – 2100X1200 MM
- Activity table – 900X900X330 MM
- Wash aera – 1500X450X 900
- Wash basin size – 490X280X900 MM
- W.C Sizes – 400X720X430 MM
- Office table size – 1500X600X850MM
- Office table size – 1200X550X760 MM
- Office chair size – 530X1200 MM
- Toy boxes – 600X380X380 MM

## **INTERIOR MATERIAL**

- Ceramic Tile
- Wooden Texture Tile
- Paint
- Pvc Grid Ceiling
- Ceiling Light
- Plywood
- Mica
- Polypropylene Plastic
- UPVC Window
- Glass
- ACP slider
- EVA Rubber mat
- (Ethylene vinyl acetate)
- Foam mat
- Wooden panelling
- SS handle
- Texture tile
- Fabric
- Leather fabric
- Foam

## **TOILET FIXTURE**

- Ceramic Fixture
- European Type Water Closet
- Vitrified Tile
- Ceiling Light
- Pvc Ceiling
- Vetrified Texture Tile
- Tap
- SS Rack

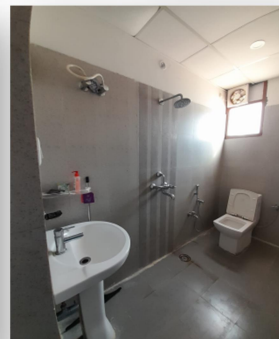
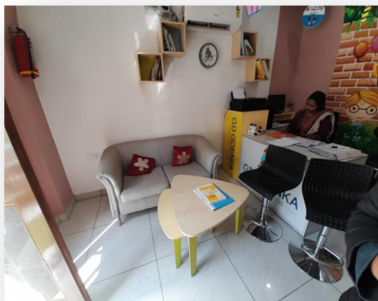
## **BENEFITS OF PAPER**

### **CRAFTING**

- Developing Imagination
- Learning To Follow Instructions
- Inspiring Critical Thinking
- Expressing Emotions
- Encouraging Social Skills



## INTERIOR IMAGES OF PROJECT



## **CASE STUDY-2 SANSKRITI SCHOOL**

### **INTRODUCTION**

The 10 Acre site is located in the newly planned CG city at Lucknow. The campus houses the main academic block, a swimming pool & dining block and a hostel facility for 200 students – girls and boys. The academic block is designed as a series of alternating rectangular blocks of exposed brick and concrete. The brick bars accommodate the classrooms while the concrete bars house activities like the labs, library and multipurpose spaces. The blocks are separated by voids being connected at the first and second levels by steel bridges. The section of the concrete activity blocks steps down towards the playgrounds on the northeast, creating an intermediate, multipurpose terrace which provides the necessary release/void between two classroom blocks.



### **PROJECT DETAILS**

#### **SANSKRITI SCHOOL**

Type: Institutional Architecture Year: 2017

Area: 38000 sqft

Location: CG City, Lucknow

Project Architect: sukhmani brar as Senior Consultant for Archohm

Project Team: Ganesh Kholiya, Kriti Aggarwal

#### **SITE NEARBY LANDMARK**



**EKANA STADIUM**



**PHOENIX PLASSIO MALL**

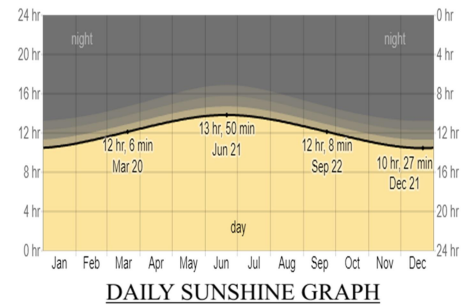


#### **SITE LOCATION**



## CLIMATE

Lucknow has a warm subtropical climate with cool, dry winters from December to February and dry, hot summers from April to June. The rainy season is from mid-June to mid-September, when Lucknow gets an average rainfall of 1010 mm (40 in) mostly from the south-west monsoon winds. In winter the maximum temperature is around 21 degrees Celsius and the minimum is in the 3 to 4 degrees Celsius range. Fog is quite common from late December to late January. Summers can be quite hot with temperatures rising to the 40 to 45 degree Celsius range, the average highs being in the high 30's.



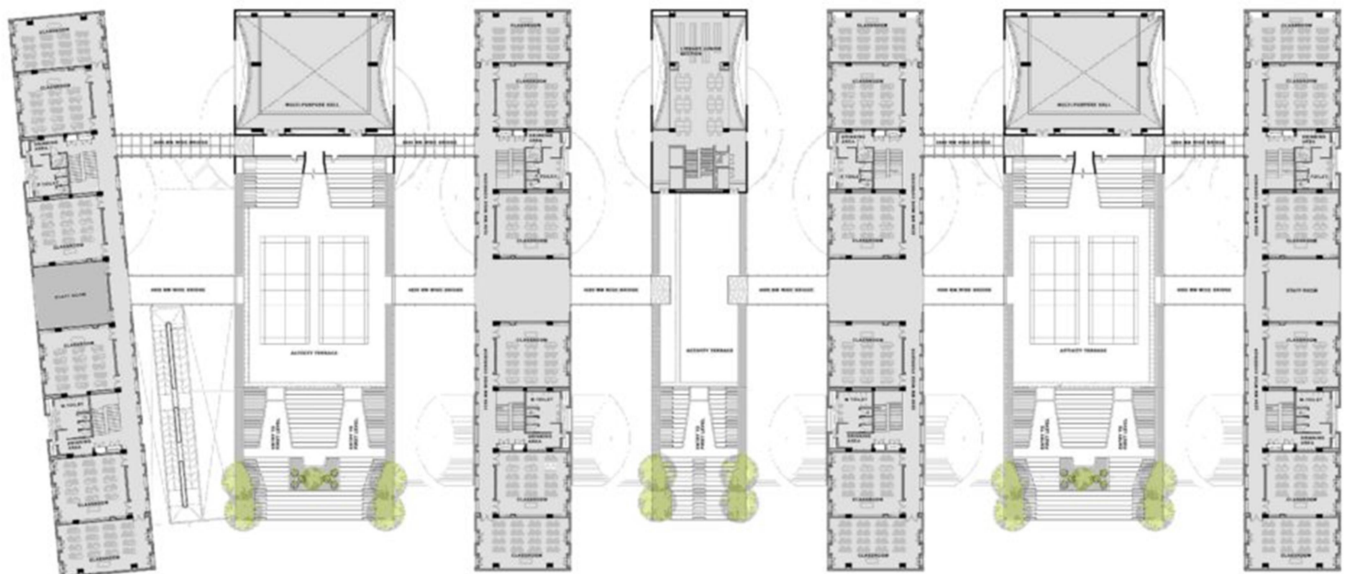
## FLOOR PLAN

### GROUND FLOOR PLAN





## SECOND FLOOR PLAN



 second floor plan



sectional elevation  
typical classroom block



## **ABOUT INTERIORS**

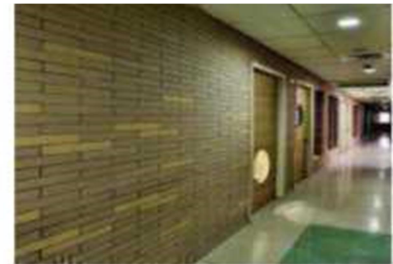
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**LIBRARY**



**CLASS ROOM**



**LOBBY**

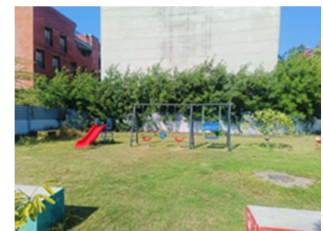
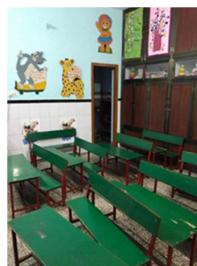
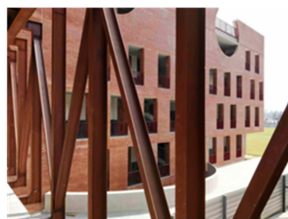
## **MATERIAL USED IN INTERIOR**

The use of traditional materials like dholpur and agra stone juxtaposed with transient materials like aluminum and heat insulated glass. Aiming to establish an external visual character unlike that of A primary school, and more in sync with the colors of Delhi, the typical brick is done away with in favor of the local dholpur stone along with agra stone and olive green metal on the electricity poles and the gate.

Floor finish - kota stone and vitrified tiles

Wall finishes- biscuit color brick walls dholpur stone, insulated glass. Ceiling - wooden false ceiling, grid false ceiling fluorescent tube lights used in ceiling.

## **INTERIOR IMAGES OF PROJECT**



# **CHAPTER-04**

## COMPARATIVE ANALYSIS

## COMPARATIVE ANALYSIS

FEATURE	NANDANAM KINDERGARTEN SCHOOL, NASIK	DPS KINDERGARTEN SCHOOL, BANGALORE	RED HILL SCHOOL, LUCKNOW	<u>SANSKRITI SCHOOL, LUCKNOW</u>
LOCATION	AUROVILLE, TAMIL NADU, INDIA	DVILLAGE, HOSKOTE BENGALURUELHI PUBLIC SCHOOL WHITEFIELD MALLASANDRA, KARNATAKA 560067	RED HILL SCHOOL IS LOCATED MMB/162, SECTOR B, ALIGANJ, LUCKNOW U.P 226021	CG CITY NEAR EKANA STADIUM, LUCKNOW
TOTAL AREA	6150 sq. m	35000Sqft.	74544Sqft.	38000 sqft
WEATHER & CLIMATE	PLEASANT WEATHER YEAR- ROUND, WITH WARM SUMMERS AND MILD WINTERS	WARM SUMMERS AND PLEASANT WINTERS	HOT SUMMERS AND COLD WINTERS	HOT SUMMERS AND COLD WINTERS
ASTHETICS	ATTRACTIVE	ATTRACTIVE	LESS ATTRACTIVE	ATTRACTIVE
ARCHITECTURAL STYLE	CONTEMPORARY WITH EXPOSED BRICKWORK, HOLLOW TERRACOTTA ROOFING.	TRADITIONAL TERRACOTTA JALIS AND NATURAL LIGHTING AND VENTILATION	MODERN DESIGN ELEMENTS	MODERN/CONTEMPORA RY STYLE
INTERIOR STYLE	MINIMALIST AND SERENE	TRADITIONAL OR MODERN DESIGN ELEMENT USE	MODERN INDIAN STYLE AND FOCUS ON MODERNITY DESIGN ELEMENT	MODERN INDIAN WITH HANDCRAFTED ELEMENTS AND FOCUS ON CONTEMPORARY DESIGN ELEMENT
LANDSCAPING	LUSH GREENERY, NATIVE PLANTS, WATER FEATURES	NATURAL LANDSCAPING	COURTYARD GARDENS WITH TREES AND PLANTS	LUSH GREENERY, NATIVE PLANTS, INDOOR PLANTS
PLANNING	OPEN FLOOR PLAN WITH CENTRALIZED COURTYARD WITH FOCUS ON NATURAL LIGHT AND VENTILATION	CENTRALIZED COURTYARD WITH FOCUS ON NATURAL LIGHT AND VENTILATION	CENTRALIZE D COURTYARD PLANNING	DESIGNED AS A SERIES OF ALTERNATING RECTANGULAR BLOCKS OF EXPOSED BRICK AND CONCRETE
TYPES OF SPACES	ENTRANCE TOILETS OFFICE SEMI-COVERED EXTENSION ASSEMBLY SPACE CORRIDOR	ENTRANCE ASSEMBLY AREA OFFICE COURTYARD CLASSROOMS LABORATORY FIRE EXIT	ENTRANCE TOILETS OFFICE PLAY GROUND PARENTS WAITING	ENTRANCE TOILETS OFFICE PLAY GROUND PARENTS WAITING AREA CORRIDOR CLASSROOMS

	CLASSROOMS ACTIVITY ROOM DINING ROOM, BLOCK ROOM DINING HALL ANNEX ATB ROOM	STAGE TOILETS SANOPT ADMINISTRATION	AREA CORRIDOR CLASSROOM S ACTIVITY ROOM DINING ROOM, BLOCK ROOM POOL STAFF ROOM RABBIT CAVE	ACTIVITY,DANCE ROOM DINING ROOM, BLOCK ROOM POOL STAFF ROOM INDOOR GAME GYMNASIUM
MATERIALS	STONE, WOOD, CLAY POT TILE, EXPOSED BRICKWORK, HOLLOW TERRACOTTA, PLAYFUL ELEMENTS	BRICK, WOOD, STONE, TERRACOOTAS JALIS, CONCRETE, CORRUGATED SHEET METAL FOR WALLS	STONE, WOOD, CONCRETE, STEEL, IRON ROD,	EXPOSED BRICK, CONCRETE, STEEL BRIDGES,WOOD
FLOORING	POLISHED STONE, VINYL PLANK, CARPET, TILES	PORCELAIN TILES, WOODEN PLANKS, CARPET TILES	PORCELAIN TILE, KOTA FLOORING, CARPET TILE, CERAMIC TILE	PORCELAIN TILE, WOODEN TEXTURE TILE, CARPET TILE, KOTA FLOORING, STONE
CEILING	HIGH CEILINGS WITH EXPOSED BRICK, HOLLOW TERRACOTTA ROOFING	CONCRETE STRUCTURE, BEAMS	HIGH CEILINGS WITH SKYLIGHTS	HIGH CEILINGS WITH DECORATIVE PLASTERWORK
WALL MATERIAL	EXPOSED BRICKWORK, WALL DECORATIVE ELEMENTS, PAINTS	PERFORATED BRICK, VERNACULAR TERRACOTTA JALIS, CORRUGATED SHEETS, PAINTS , DECORATIVE ELEMENTS	PAINT, MICA, WOODEN PANELLING, CRAFT DECORATIV E WALL	EXPOSED BRICKWORK, PLASTER, PAINT, WALL DECORATIVE ELEMENTS, PANELLING
LIGHTING	NATURAL LIGHT, CEILING LIGHT( LED PANELS), TUBE LIGHT	WARM, DIFFUSED LIGHTING	SOFT, INDIRECT LIGHTING, NATURAL LIGHT THROUGH SKYLIGHTS	WARM, TRADITIONAL LIGHTING FIXTURES

FURNITURE STYLES	SIMPLE WOODEN FURNITURE WITH SOFT EDGES( OAK WOOD)	SIMPLE AND MODERN FURNITURE WITH SMOOTH EDGES (WOODEN ,PLASTIC,)	SIMPLE AND MODERN FURNITURE WITH SMOOTH EDGES	SIMPLE AND MODERN FURNITURE WITH SMOOTH EDGES
DOORS & WINDOWS	LARGE WINDOWS FOR NATURAL LIGHT, WOODEN DOORS	WOODEN DOORS AND WINDOWS WITH NATURAL LIGHT	WOODEN WINDOWS AND DOORS WITH GLASS	WOODEN DOORS AND WINDOWS WITH GLASS
CIRCULATION	WELL DEFINED	WELL DEFINED	WELL DEFINED	WELL DEFINED
LANDMARKS	AUROVILLE MATRIMANDIR	K MALLASANDRA LAKE	NEAR SHIVAJI PARK	EKANA STADIUM
ELECTRICAL	ENERGY-EFFICIENT LIGHTING AND APPLIANCES	SOLAR POWER INTEGRATION WHEREVER POSSIBLE	STANDARD ELECTRICAL SYSTEMS	STANDARD ELECTRICAL SYSTEMS
HVAC	CENTRAL AIR CONDITIONING WITH A FOCUS ON ENERGY EFFICIENCY	NATURAL VENTILATION WITH CEILING FANS AND AIR COOLERS	CENTRAL AIR CONDITIONING	CENTRAL AIR CONDITIONING
PURPOSE	TO PROVIDE A INTEGRAL DEVELOPMENT OF CHILDREN,, FOCUSING ON THEIR PHYSICAL, MENTAL, VITAL AND PSYCHIC DEVELOPMENT IN ACCORDANCE WITH THE MOTHER'S AND SRI AUROBINDO'S GUIDELINES	HOLISTIC DEVELOPMENT OF TINY HUMANS	DEVELOP ESSENTIAL SKILLS AND KNOWLEDGE THAT WILL ALLOW THEM TO BECOME INDEPENDENT,INQUISITIVE, AND CARING MEMBERS OF SOCIETY.	EDUCATIONAL PROGRAM DESIGNED FOR YOUNG CHILDREN TO PREPARE THEM FOR SCHOOL.

# **CHAPTER-05**

## **LITERATURE STUDY**

**NANDANAM KINDERGARTEN SCHOOL( TAMIL NADU)  
DPS KINDERGARTEN SCHOOL ( BANGALORE)**

## LITERATURE STUDY 1-NANDANAM KINDERGARTEN

### INTRODUCTION

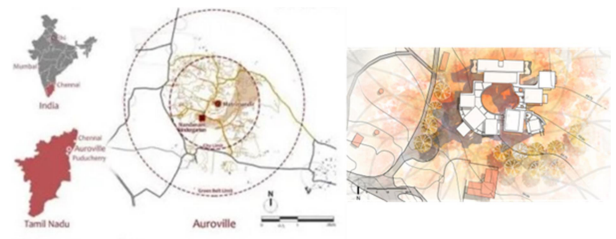
Nandanam, meaning ‘Garden’ in Sanskrit, is the second kindergarten in Auroville located in the centre field. This creche cum kindergarten accommodates up to 60 children of age varying between 2.5 years to 7 years. The main ideology recognized in this kindergarten is that the foremost principle of teaching is that you can’t teach anything and the teacher is a helper and a guide, not an instructor or taskmaster. With these principles being followed, the kindergarten works on the integral development of children, focusing on their physical, mental, vital, and psychic development in accordance with The Mother’s and Sri Aurobindo’s guidelines.



### SITE DETAILS

**Project Name:** Nandanam Kindergarten  
**Architect:** PATH Architects and Planners  
**Project Location:** Auroville, Tamil Nadu, India  
**Project Year:** 2014  
**Project Area:** 6150 sq. m  
**Ground Coverage:** 925 sq. m  
**Built-Up Area:** 737 sq. m

### SITE IDENTIFICATION



### INTERIOR IMAGES OF PROJECT





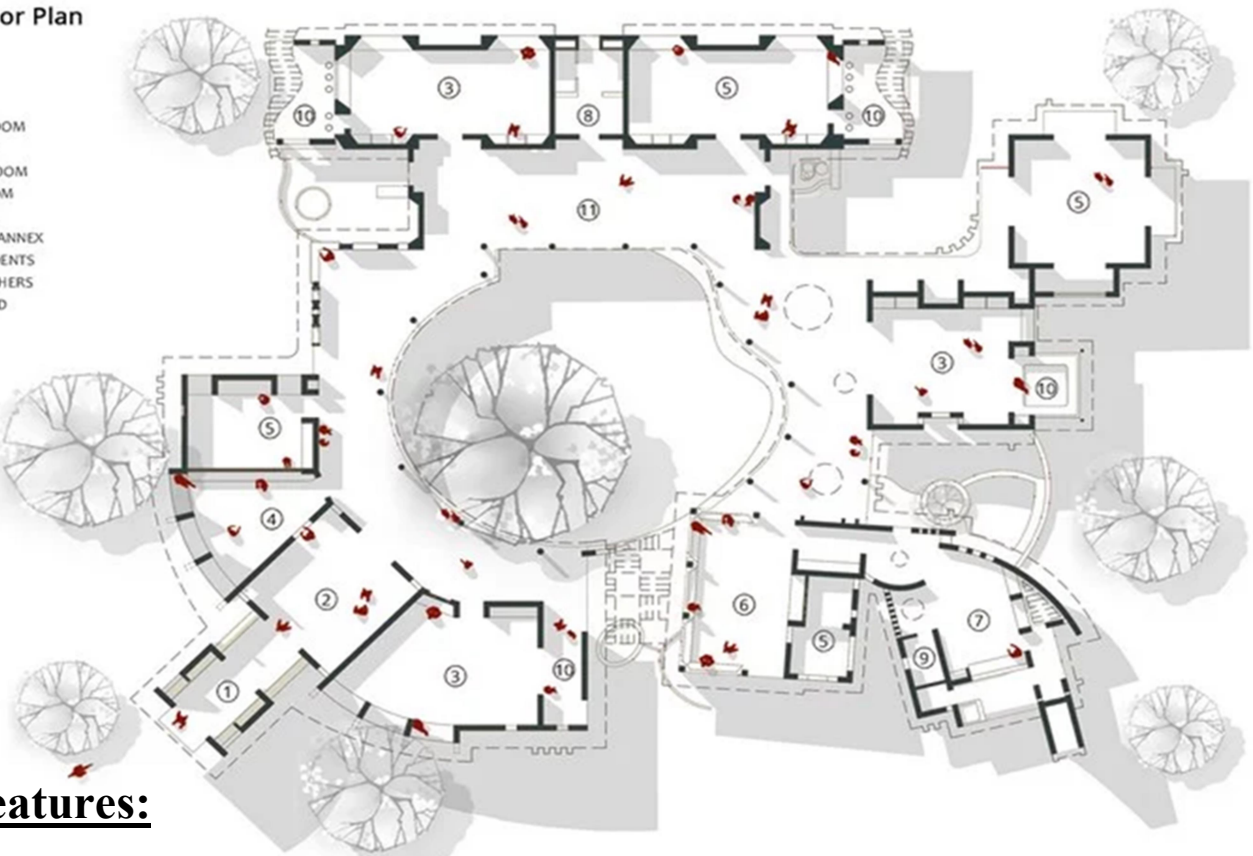
# SITE PLAN

## Ground Floor Plan

### Legend:

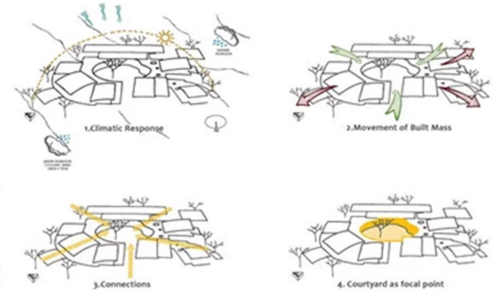
- ① ENTRANCE
- ② ASSEMBLY ROOM
- ③ CLASS ROOM
- ④ TEACHER'S ROOM
- ⑤ ACTIVITY ROOM
- ⑥ DINING HALL
- ⑦ DINING HALL ANNEX
- ⑧ TOILET - STUDENTS
- ⑨ TOILET - TEACHERS
- ⑩ SEMI-COVERED EXTENSION
- ⑪ CORRIDOR

0 1 2 5m



## Features:

Exposed brickwork, Hollow terracotta roofing with thermal insulation, use of playful elements and a steady flow of circulation spaces arranged around the central courtyard



## MOVEMENT







## INTERIOR SPACES

Connection of the inner being of the child to the infinity is an essential element of Education in Auroville.

The curved roofs gradually rise up to bring the sky inside, to connect the eye to the sky and invoke spiritual connection. The trusses elevating the roof are elements to hang works of children and this way the building itself becomes part of the play. Inside the classrooms the walls are plastered and take a backseat, allowing the child to speak. The child's connection to landscape is ensured by large openings and low window sills. Small scaled open spaces are integrated in the flow of built spaces.

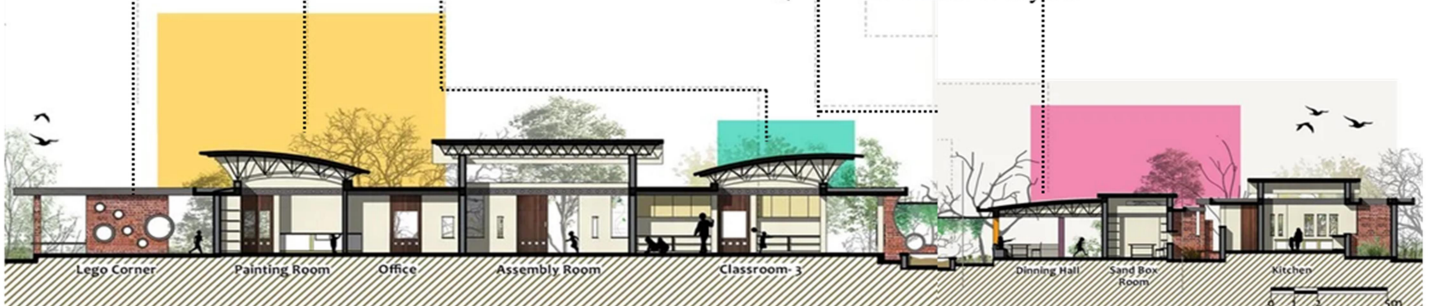


### Activity Plan

The corridor forms a continuous band of activities like an internal street and surrounds the central courtyard. Here, the division of children by age ends and what pulls them together is their interest in a common activity.

### Features::

Exposed brickwork, Hollow terracotta roofing with thermal insulation, use of playful elements and a steady flow of circulation spaces arranged around the central courtyard.



# LITERATURE STUDY 2-DPS KINDERGARTEN

## INTRODUCTION

DPS Kindergarten School in Bangalore, a project by Khosla Associates, experiments with a form of sustainability involving screening of sunshine with traditional terra cotta jalis and natural ventilation and lighting. The building, based on a concrete module with corrugated sheet metal walls, proclaims a democratic model of schooling.

the current kindergarten facility has 25 classrooms, and with 40 children a class, a total strength of 1000. The efficiencies of designing and constructing a building so rapidly had to be balanced with what we believed in; creating a warm, playful and welcoming environment for these young children that would be filled with natural light and ventilation.

## PROJECT DETAILS

LOCATION - DELHI PUBLIC SCHOOL  
Whitefield Mallasandra Village, Hoskote  
Bengaluru, Karnataka 560067

AREA - 35000SQFT

ARCHITECTS FIRM- KHOSLA  
ASSOCIATES

ARCHITECT- Sandeep Khosla, Amaresh Anand

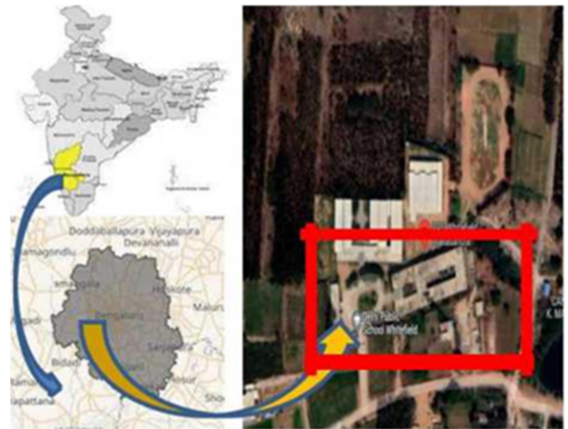
COMPLETION DATE- 2013

LATITUDE - 12.9716° N,

LONGITUDE- 77.5946° E



## SITE LOCATION



## EXISTING LANDMARKS







Canara Bank



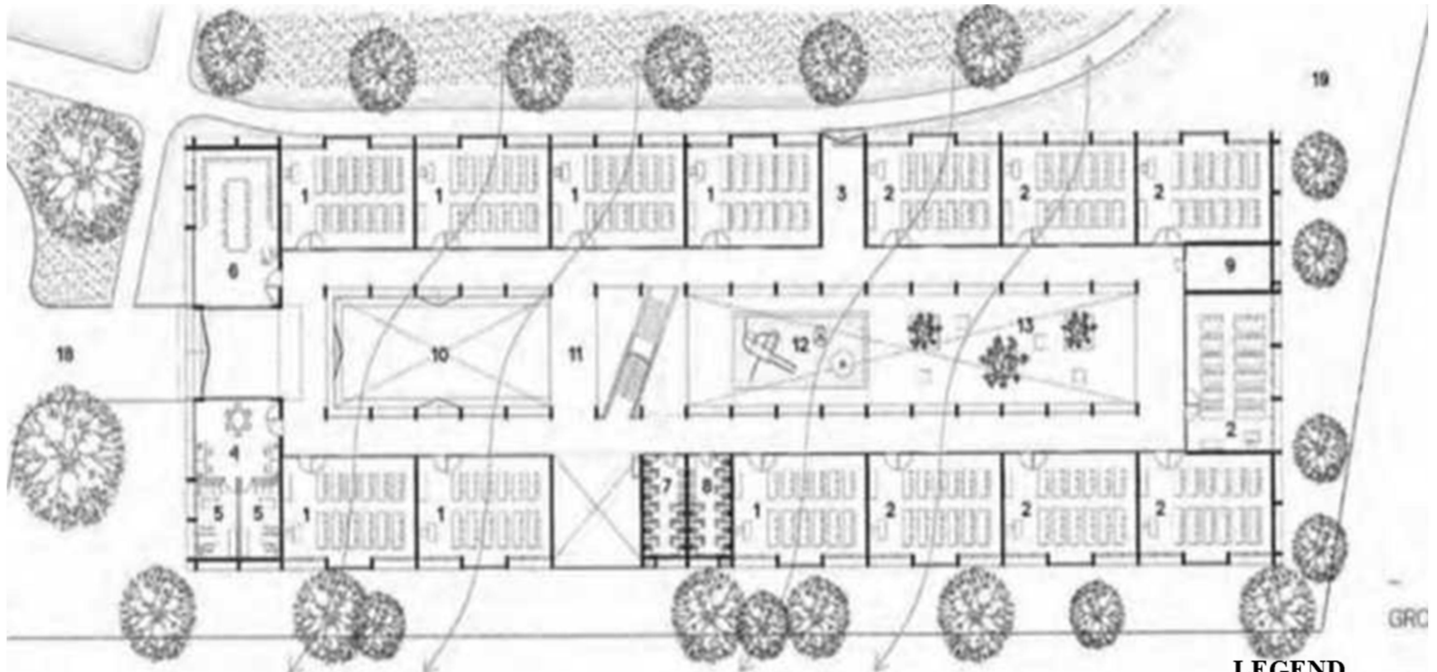
Classic Pet Bisleri water

## ACCESSIBILITY TO THE SITE

	Mallasandra Bus Stop 750m	<i>Kt</i>
	Seegehalli Bus Stop	<i>?Q</i>
	Bhktarahalli Bus Stop 1.3km	<i>?Q</i>
	Kannamangalla Bus Stop 14km	<i>?Q</i>



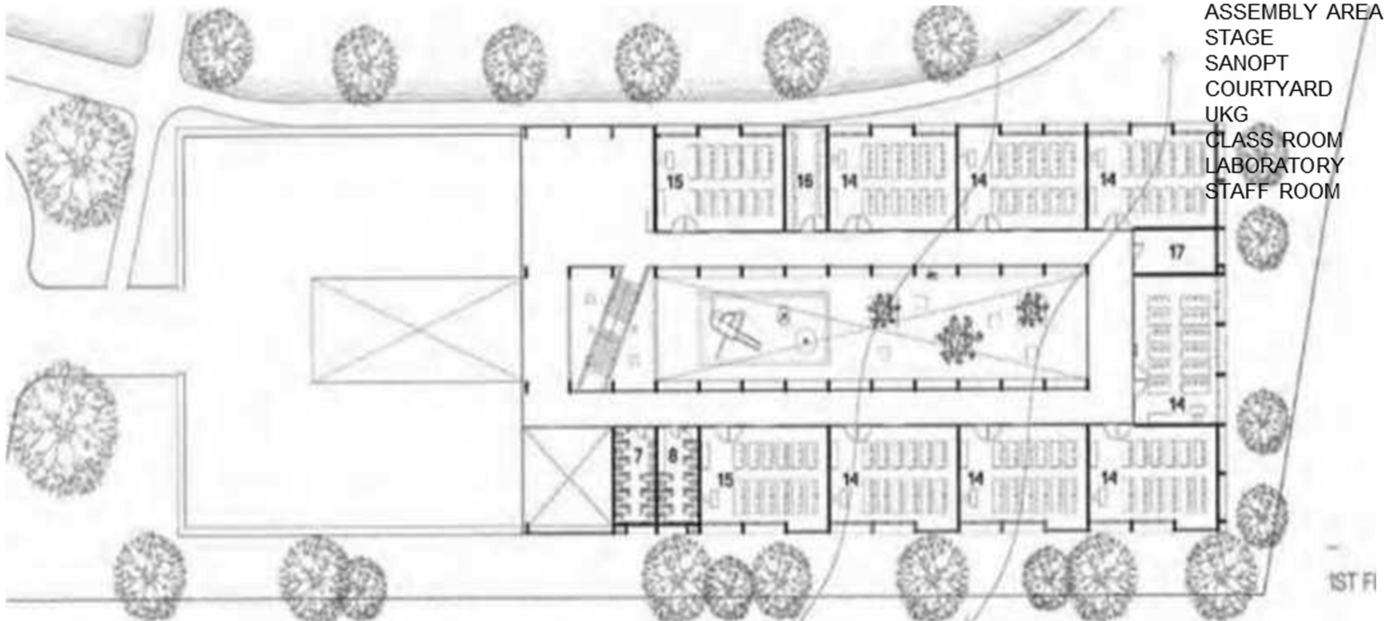
## SITE PLAN



GROUND FLOOR PLAN

### LEGEND

NURSERY  
 LKG  
 FIRE EXIT  
 ADMINISTRATION  
 OFFICE  
 COMPUTER LAB  
 BOYS TOILET  
 GIRLS TOILET  
 ELECTRICAL ROOM  
 ASSEMBLY AREA  
 STAGE  
 SANOPT  
 COURTYARD  
 UKG  
 CLASS ROOM  
 LABORATORY  
 STAFF ROOM



FIRST FLOOR PLAN

## ABOUT PROJECT

The primary challenge was to design and complete construction of the first 35,000 sft. The efficiencies of designing and constructing a building so rapidly had to be balanced with what we believed in; creating a warm, playful and welcoming environment for these young children that would be filled with natural light and ventilation. the school's most important group activities take place: assemblies and games in a paved area with playground equipment and flowerbeds. the school's most important group activities take place: assemblies and games, in a paved area with playground equipment and flowerbeds. Creating an efficient modular system that we could use as building blocks. We looked at the basic module of a 700 sft classroom (35ft x 20 ft.) That could be repeated horizontally, or stacked one atop the other. The classrooms on either side flank an 8ft wide single loaded corridor and open up to a central open- to-sky courtyard. In the middle of the floor plan is a concrete stair case linking the ground floor with the first floor. A massive element colored red on the sides The simplicity of the repetitive exposed concrete structure is what eventually dictated the design outcome as we added flexible layers onto it. The corrugated sheets also gave us the opportunity to play with pattern and use tropical colors typical of the vernacular architecture of the region.



**Kids playing area**



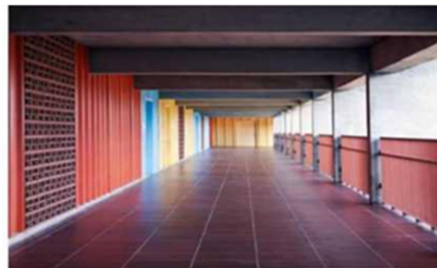
**Class Room**



**Stair Case**



The central open to sky court that runs the entire length of the building is the soul of the school and facilitates learning outside the class room



Constructed from two standard types of perforated brick, these decorative screens - referred to locally as jails - reduce the impact of direct sunlight and enable cross ventilation.

**Corridor**



The vernacular terracotta jails (shading and ventilation screens used traditionally in India) that wrap around parts of the building and are included on both sides of each classroom to facilitate adequate cross ventilation from NE to SW.

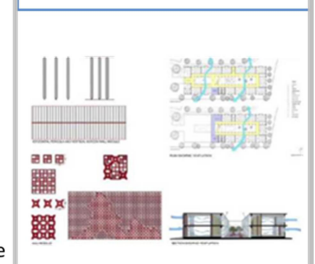
- The jails cut down the sun especially on the western face of the building where we have effectively used them in breakout areas.

## MATERIAL USED IN INTERIOR

Concrete staircase  
Concrete walls and terra cotta screens  
Concrete structure Terra cotta floors



A modular concrete framework provides a standard size for the classrooms, which in some places are stacked to create a second storey

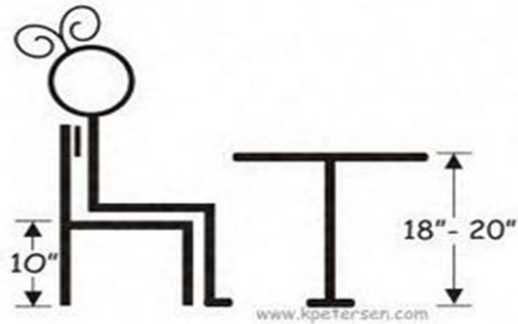


# **CHAPTER-06**

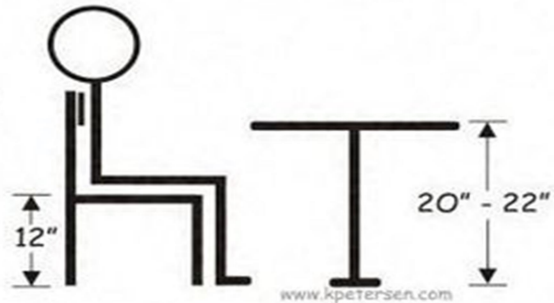
## STANDARD

## Juvenile Chair Seat And Table Heights

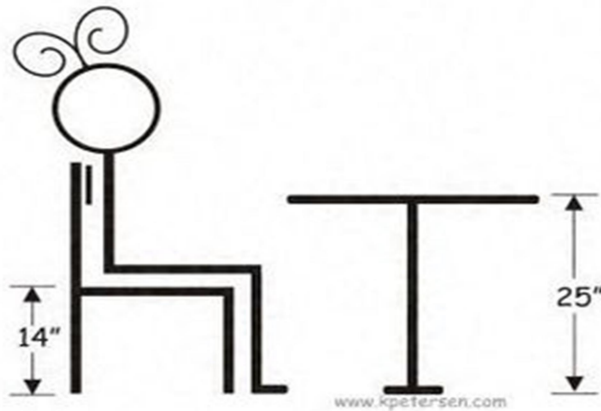
Pre - K ( Ages 2 - 4 )  
Seat Height: 10"  
Table Height 18" - 20"



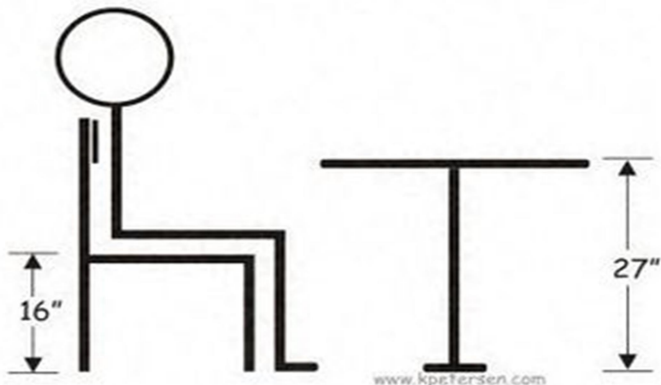
Kindergarten ( Ages 4 - 7 )  
Seat Height: 12"  
Table Height 20" - 22"

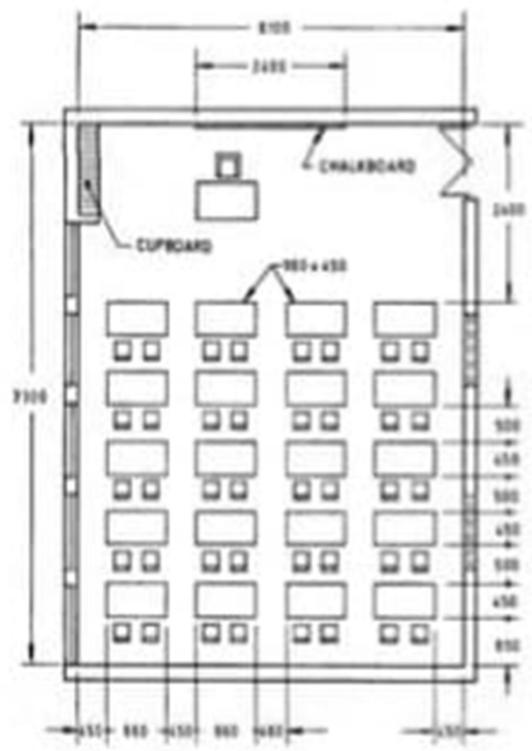


K - 3 ( Ages 7 - 9 )  
Seat Height: 14"  
Table Height 25"



Grade 4 - 8 ( Ages 9 - 12 )  
Seat Height: 16"  
Table Height 27"





max 1605 = 5 × 305 baskets  
 max 1480 = 6 × 230 baskets  
 min 965 = 3 × 305 baskets  
 min 740 = 3 × 230 baskets

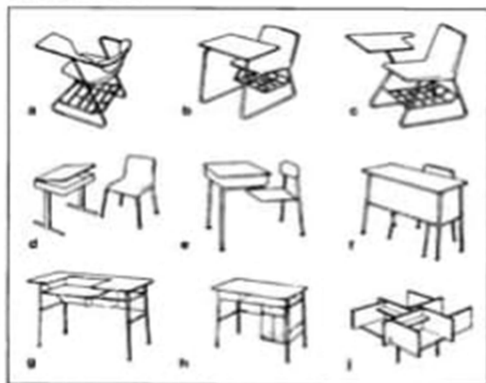
max 9 baskets 2380  
 min 5 baskets 1405

330  
 230 or 305  
 205  
 locker basket

basket rack

Figure 1 illustrates anthropometric data for 3-5 year olds. The figure is divided into two parts: a sitting child and a standing child. The sitting child's measurements are: eye level (775), elbow h (780), wrist (780), popliteus (310), and sitting h (685). The standing child's measurements are: eye level (1150), max reach (1150), standing working plane (610), and standing h (1500). The text 'max reach (for 90% of age range)' is also present.

Figure 1 illustrates anthropometric data for 5-7 year olds. It shows two stick figures representing a child in sitting and standing positions. The sitting figure has measurements for eye level (880 mm, 87.5 cm), elbow height (175 mm, 150 cm), and popliteus height (345 mm, 27.5 cm). The standing figure has measurements for stature (1200 mm, 120 cm), max reach (185 mm, 18.5 cm), eye level (1045 mm, 104.5 cm), and standing working plane (720 mm, 600 mm). A note indicates that the max reach is for 96% of the age range.



41

# **CHAPTER-07**

## CONCEPT



## **CONCEPT**

A primary school, junior school, elementary school or grade school is a school for primary education of children who are four to twelve years of age. It typically comes after preschool and before secondary school. Institution in which children receive the first stage of compulsory education, known as primary or elementary school.



## **THEME: MODERN STYLE**

Modern interior design is defined by its simple, minimalistic aesthetic with a focus on functionality. The combination of light colors and clean lines creates a comforting environment, appealing to the fast paced, high stress modern schools typically have a simplistic design with light neutral colors, wood tones, and pops of bright accents. The schools are designed to allow an abundance of natural light and provide views to the outside in order to capture the culture and landscape of the surrounding area. Use of varying visual and tactile textures is common in modern design.

## **ELEMENTS OF MODERN STYLE**

- SIMPLICITY
- POP BRIGHT COLORS
- FURNITURE WILL BE OF CLEAN LINES WITH SMOOTH AND SLEEK SURFACE.
- NATURAL MATERIALS
- REFLECTIVE SURFACE
- CLEAN LINES



# MOOD BOARD

**Wall finish-** Paints finish, Wall papers

**Finishing material-** Laminates, paint

**Flooring-** Kota stone, vitrified tiles , wooden vinyl flooring, rubber flooring

**Ceiling-** Grid ceiling, gypsum board, POP etc.

**Lighting-** Led lights, fluorescent light

**Furniture-** Wooden ,Plastic, steel

**Doors-** Wooden, Laminate, Glass, Steel,etc

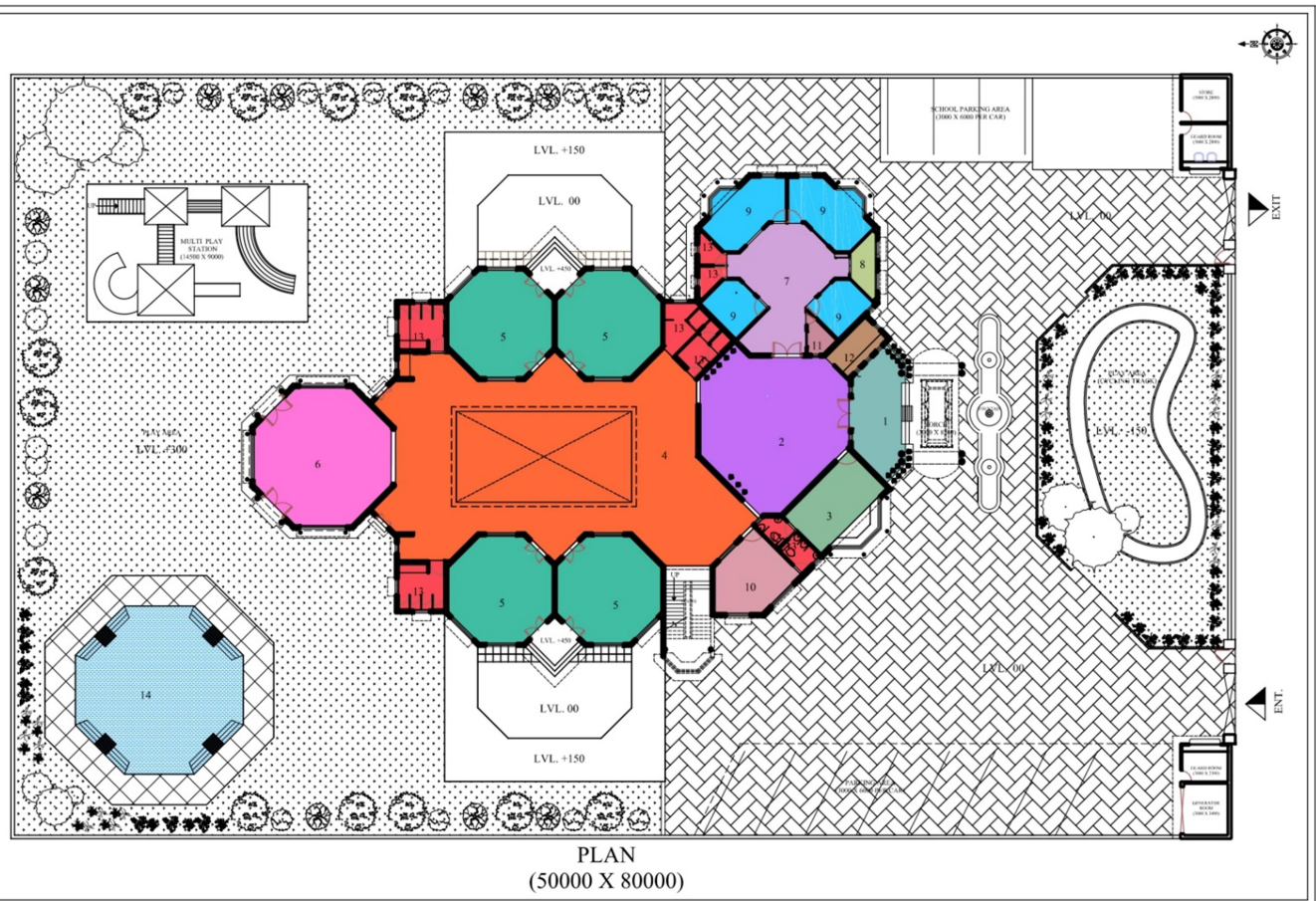
**Plants-** indoor plants





# REQUIREMENTS

- 1.ENTRANCE
- 2.WAITING AREA
- 3.PRINCIPAL ROOM
- 4.CORRIDOR
- 5.CLASSROOM
- 6.ACTIVITY ROOM
- 7.DINING AREA
- 8.PANTRY
- 9.DORM ROOM
- 10.STAFF ROOM
- 11.FIRST AID ROOM
- 12.ACADEMICS
- 13.TOILET
- 14.POOL

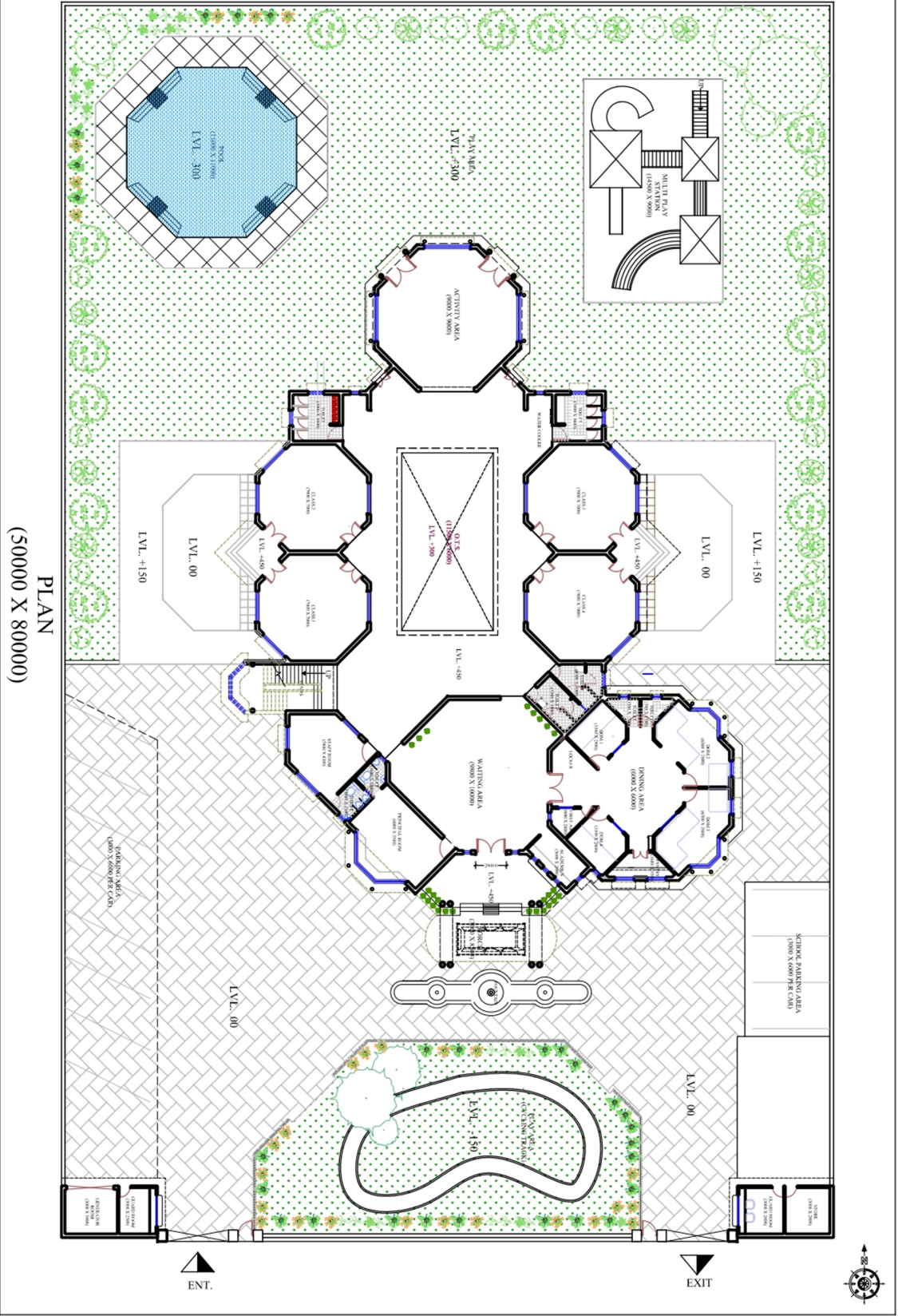


## GROUND FLOOR ZOINING

# **CHAPTER-08**

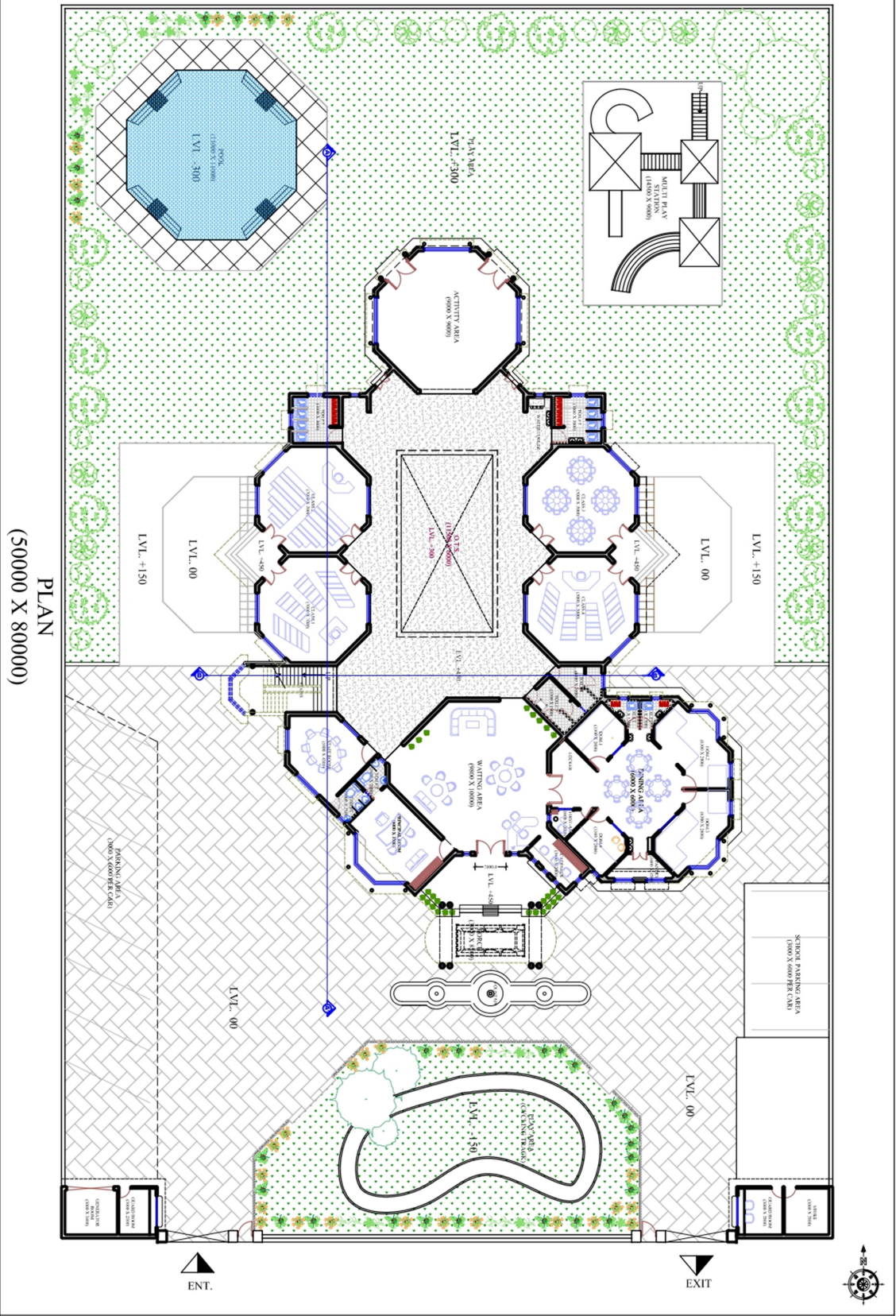
## DESIGN DEVELOPMENT

# FLOOR PLAN



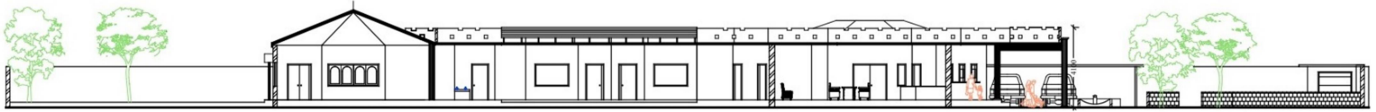


# FURNITURE LAYOUT

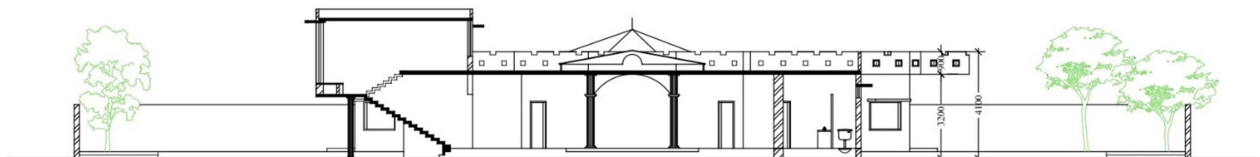
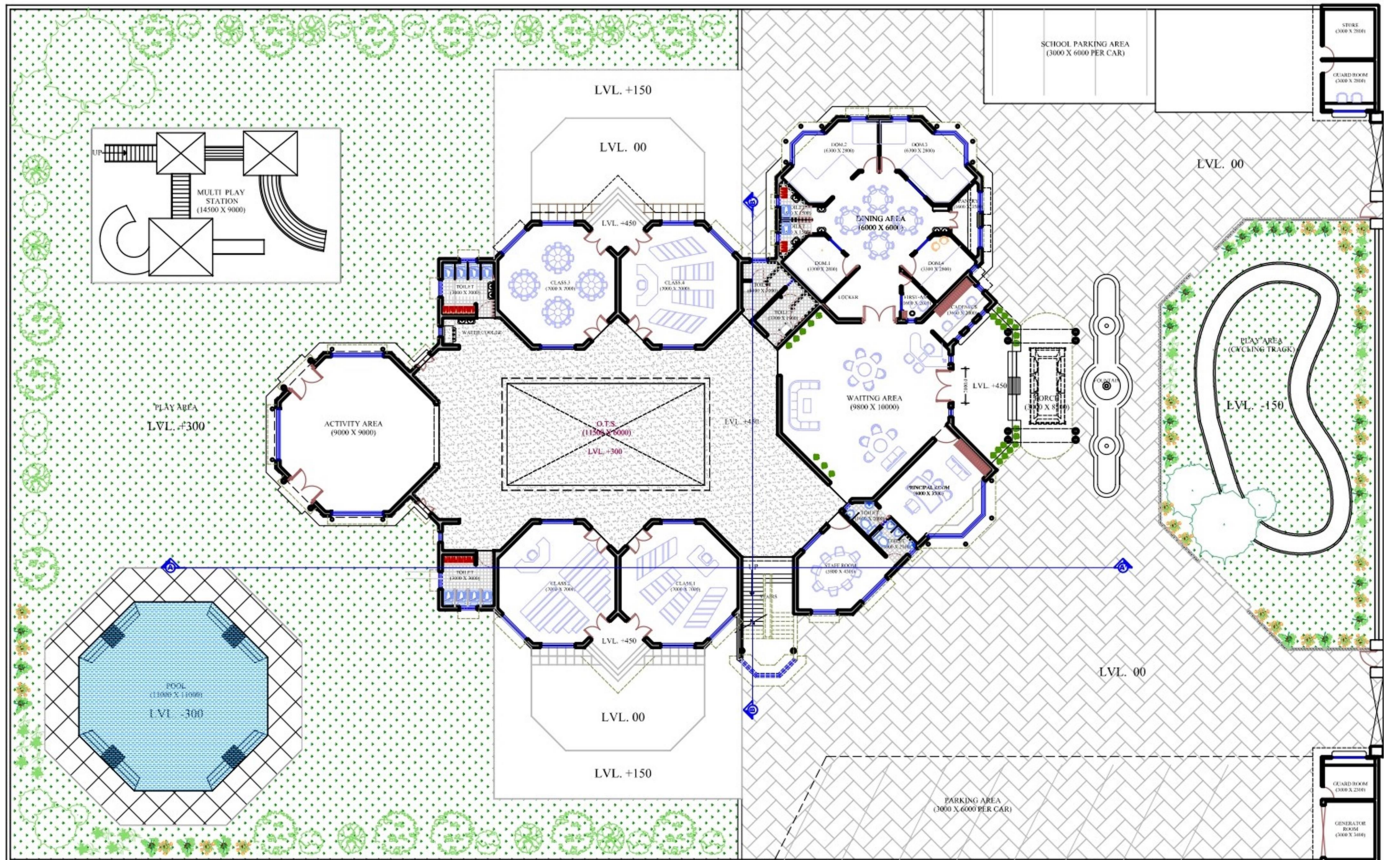




# SECTION ELEVATION

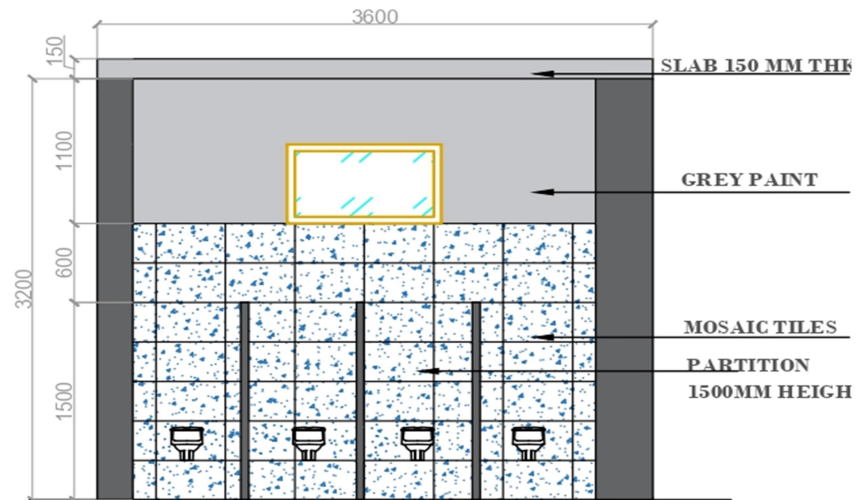
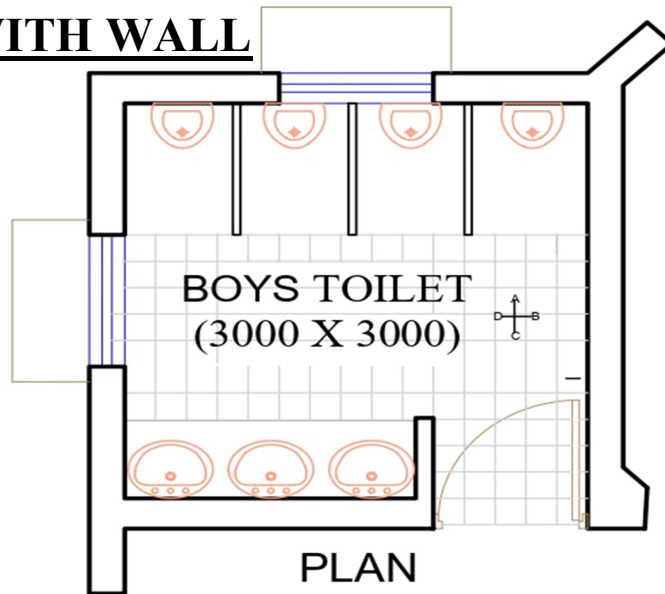


SECTION -A-A'

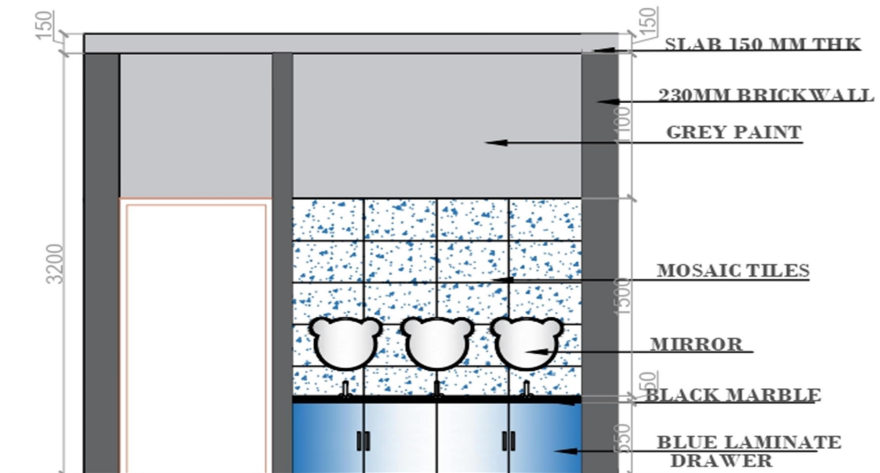


SECTION -B-B'

## FLOOR PLAN WITH WALL



WALL ELEVATION- A



WALL ELEVATION- B

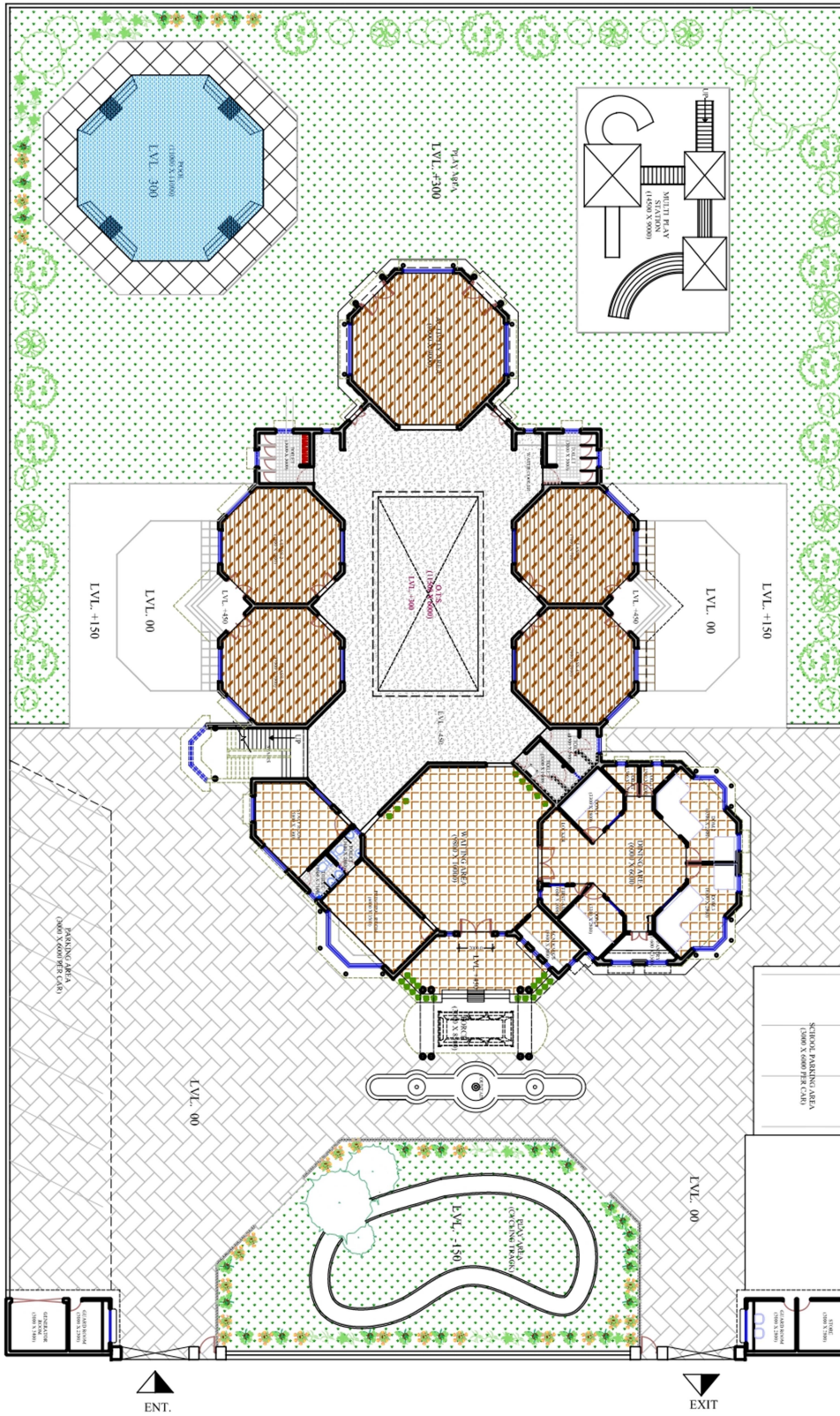
## 3D RENDERS IMAGES

### CLASSROOM

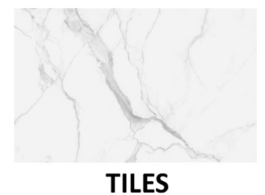
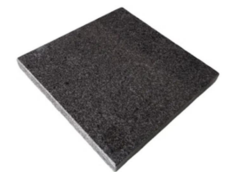
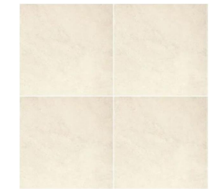




# PLAN (50000 X 80000)

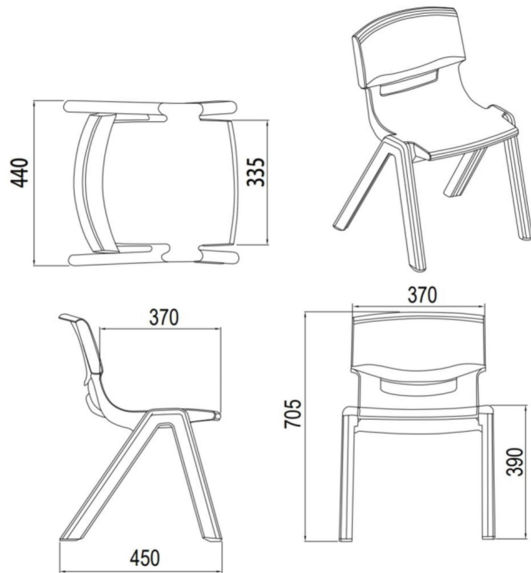


## FLOORING MATERIAL

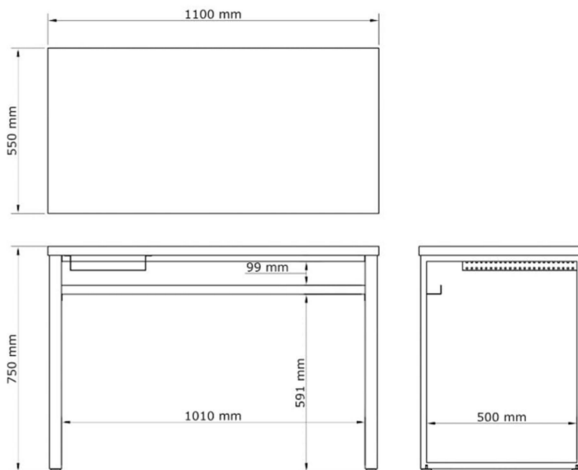


# ELECTIVE DETAIL

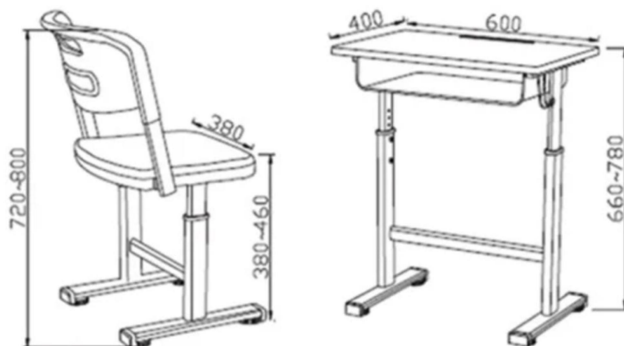
## FURNITURE DETAIL



PLASTIC CHAIR



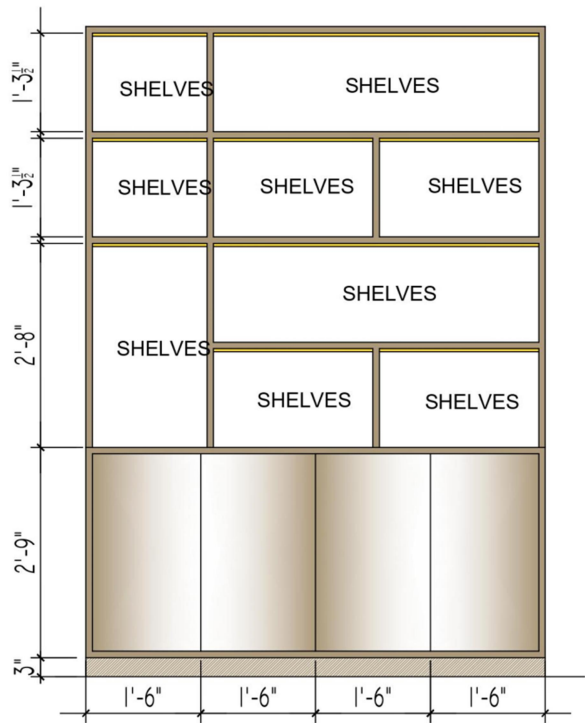
STAFF OFFICE TABLE



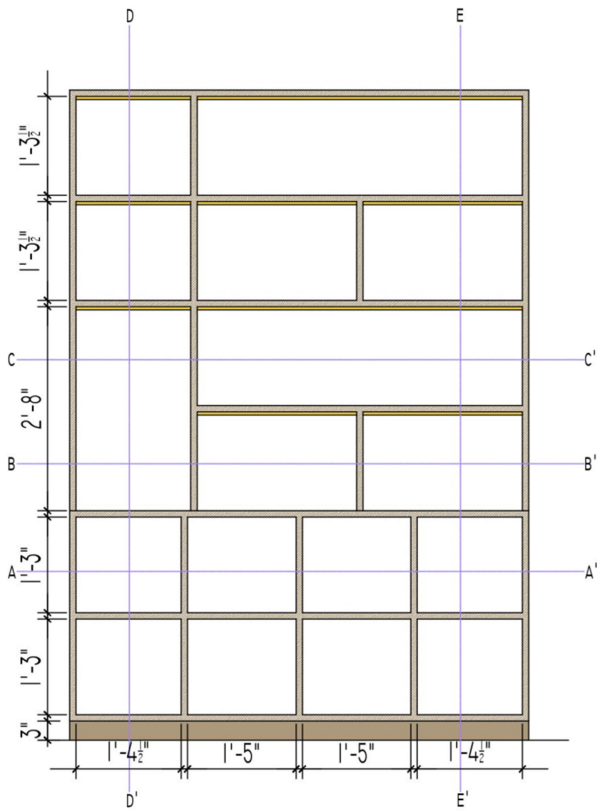
BENCH

# FURNITURE DETAIL

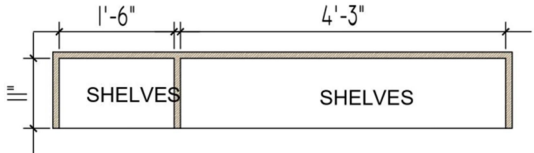
FRONT ELEVATION



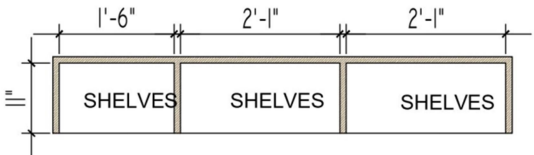
SECTIONAL FRONT ELEVATION



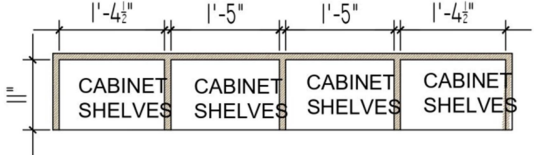
SECTIONAL PLAN C-C'



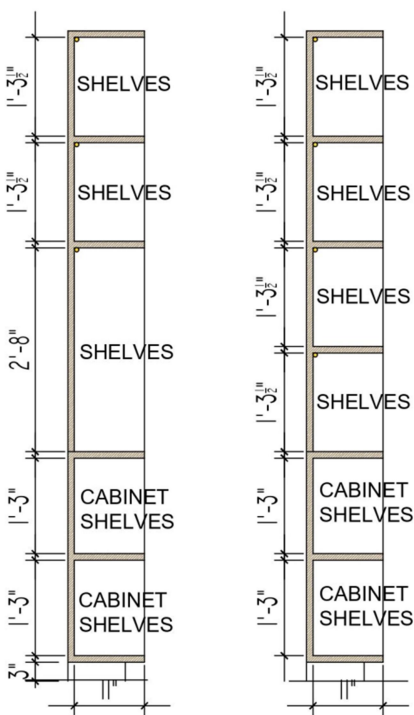
SECTIONAL PLAN B-B'



SECTIONAL PLAN A-A'



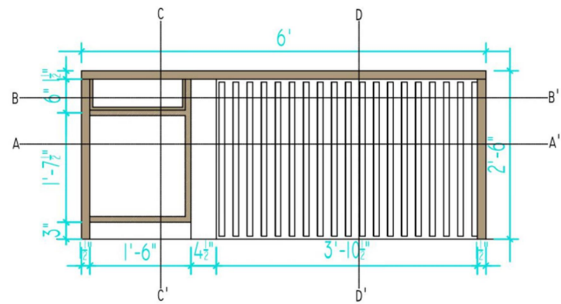
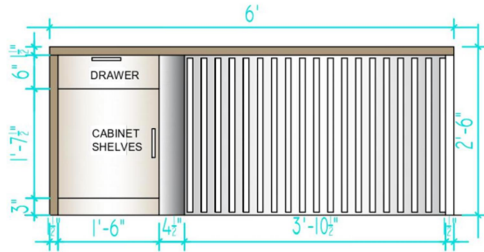
SECTION D-D' SECTION E-E'



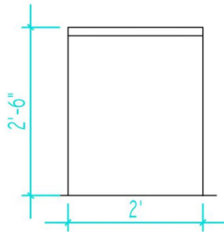


# FURNITURE DETAIL

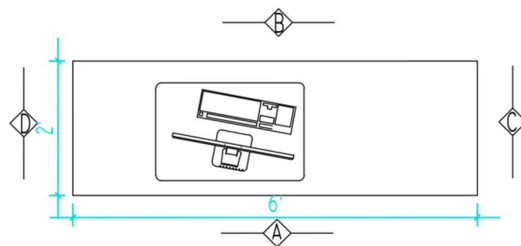
ELEVATION B



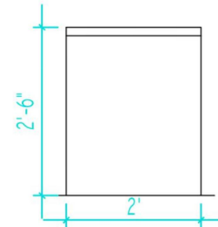
ELEVATION D



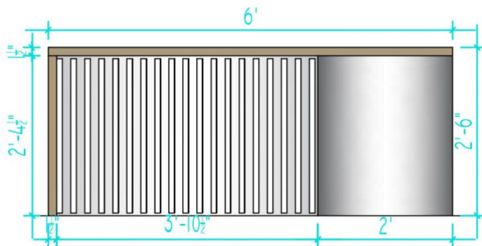
PLAN



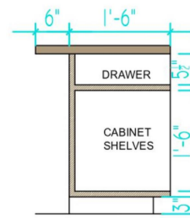
ELEVATION C



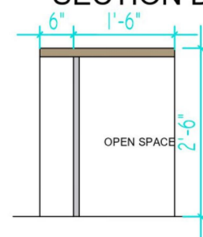
ELEVATION A



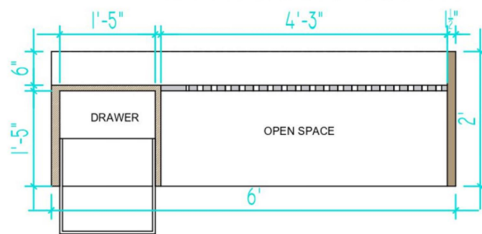
SECTION C-C'



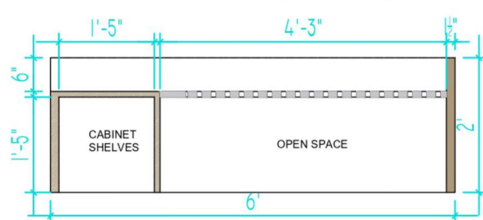
SECTION D-D'



SECTIONAL PLAN B-B'

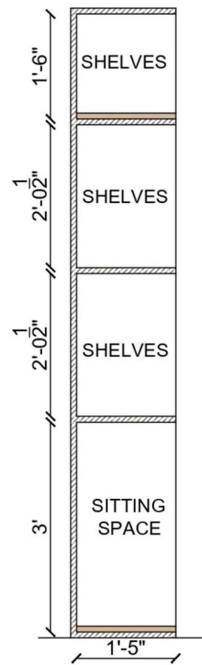


SECTIONAL PLAN A-A'

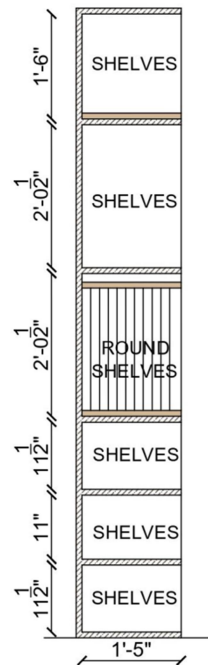


# FURNITURE DETAIL

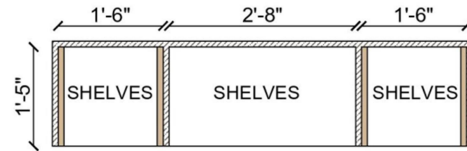
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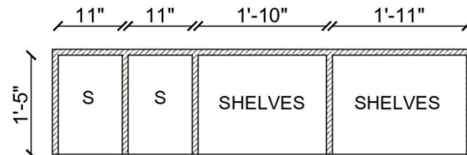
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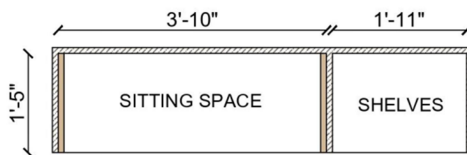
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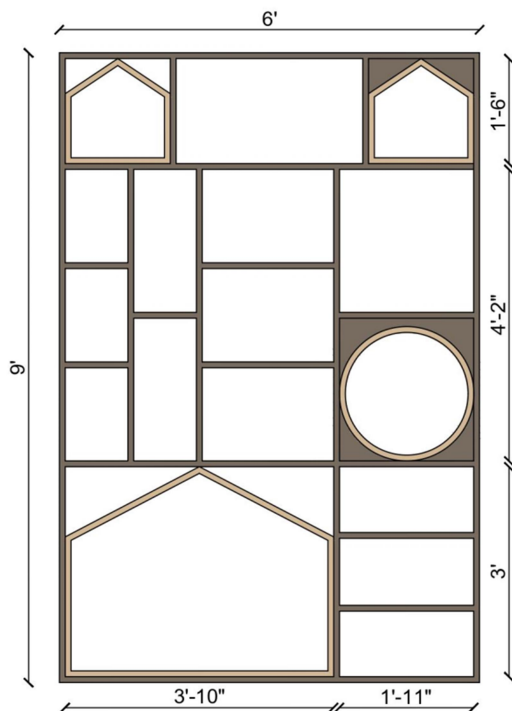
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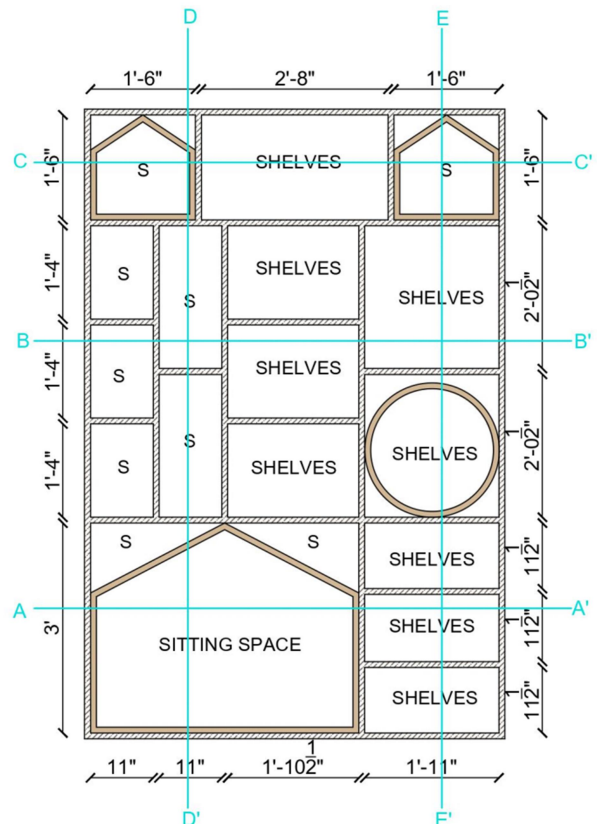
SECTIONAL PLAN A-A'



FRONT ELEVATION

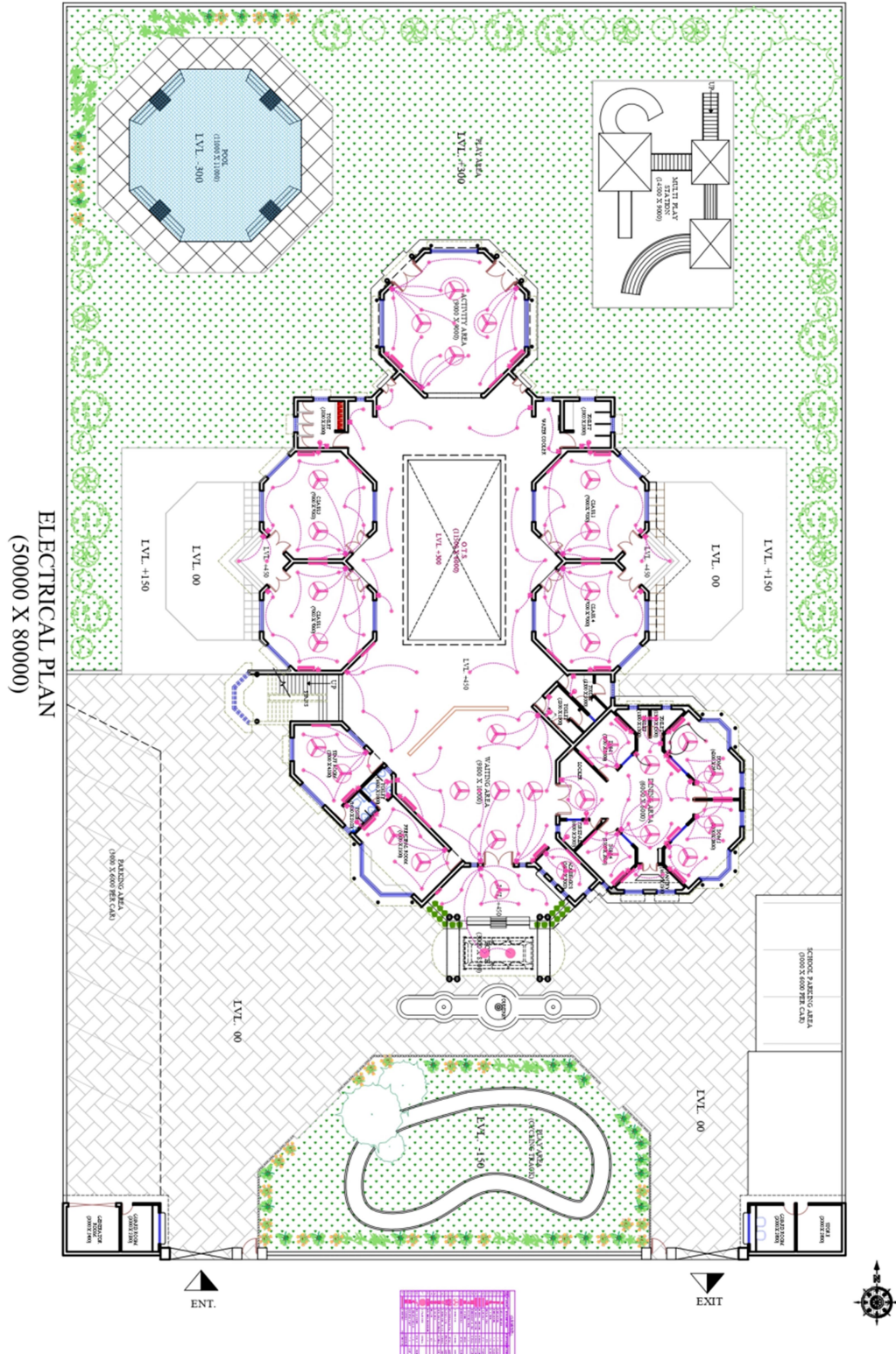


SECTIONAL FRONT ELEVATION



# ELECTIVE DETAIL

## ELECTRICAL PLAN



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