

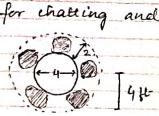
Sheet no. 2

# DATA COLLECTION

SAMRUDDHI MODAK  
BAIYARCOOR  
ARCHITECTURAL DESIGN-II

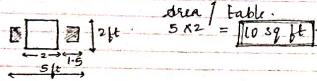
DIFFERENT seating furniture according to different zones :

- \* 5-seater round table for chatting and reading area.  
seating style : 5 seater round table with bean bags.



$$\text{Area dimension / table} = \pi r^2 = 50 \text{ sq ft}$$

- \* seating style : 2-seater tables.



$$\text{Area / table} = 5 \times 2 = 10 \text{ sq ft}$$

LIBRARY space as such is not a separate entity. Thus, the cafe lab has to have quite flexible library area with food and beverages.

- \* Therefore, not rigid library rules are applicable.
- \* The book shelf arrangements can be a side or in between the seating spaces.
- \* It completely depends upon the individual design.
- \* Length and shapes of the shelves can be altered but the standard breadth of depth has to be minimum 1 ft to keep books comfortably.

## AIM

TO DESIGN A CAFE-LAB, WHICH IS A SEMI-FORMAL SPACE WHERE ONE CAN WORK, READ AS WELL AS HAVE SOME LEISURE TIME AND EAT.

## ESSENTIAL REQUIRED SPACES



## CIRCULATION

- \* EFFICIENT CIRCULATION THROUGHOUT THE CAFE SHOULD BE MAINTAINED.
- \* CIRCULATION COMPLETELY DEPENDS ON INDIVIDUAL DESIGN.
- \* ESSENTIAL AREAS SHOULD BE REACHABLE AND CONNECTED FROM ALL AREAS. SUCH AS : COUNTER AND WASHROOM.
- \* A PASSAGE WAY SHOULD NOT HAVE OBSTACLES. CONNECTIVITY SHOULD BE SMOOTH.

## Other Factors to ponder upon....

- COLOUR SCHEME
- ARTIFICIAL LIGHTING
- NATURAL LIGHTING AND VENTILATION
- GREEN SPACES
- USE OF DIFFERENT MATERIALS
- USE OF DIFFERENT WALL FINISHES TO CREATE DRAMATIC VISUAL EFFECT.

EXTERNAL seating arrangement so can be just for leisure.

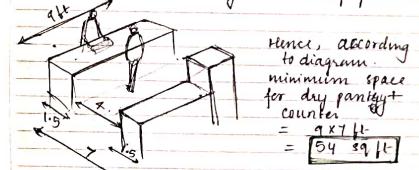
seating style : 4-seater long bar-tables with stools.

$$\text{Area / table} = 5 \times 3.5 = 17.5 \text{ sq ft}$$

\* Also, exterior can have a beautiful decorated entrance foyer. Tempting the visitors to come in.

\* Entrance foyers can have a welcoming board, plantation or any other eye-catcher.

No proper kitchen is expected in a cafe-lab. Instead a dry pantry or minimal cooking space can be appreciated where instant snacks and beverages can be prepared.



Hence, according to diagram minimum space for dry pantry + counter = 7 x 7 ft = 54 sq ft

\* Also, some essential elements are:  
+ Refrigerator (for cold drinks and to-cook)  
+ store room (left)  
- to store instant cooking snacks. The areas of these can be calculated according to the individual design.

# CASE STUDY - 1

## Southwater One Library, UK

Telford Council has taken an inspirational approach to town centre development with stunning community hub at the heart of the new Southwater Landscape.

Southwater Library is on the 1st floor in Southwater one, an iconic building located in the centre of southwater square.

### FEATURES OF LIBRARY

#### \* GROUND FLOOR SHARED AREA :

- The room sets with rugs and sofas create little oasis to relax in while the Books to Go displays tempt quick visitors.
- This space merges with the Costa Coffee and everyone is encouraged to take coffee to other floors if they wish.
- The space also includes a self service PC bar and four private self service booths.

#### \* LIBRARY FLOOR :

- A mix of Print and digital resources - fantastic book displays, computers and tablets, state of art digi-tablets, lots of power to plug-in your own device.
- Flexible event space, sofas for reading groups, wall projections for movie and presentations and space for workshops.
- Areas for different kind of uses : CHATTING , REFLECTING , READING.
- Areas for different audiences , under 5 , 5-11 , teens, adults , seniors, families , no hard boundaries , each areas flows into the next.

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BA19ARCO02

## 3 ARCHITECTURAL DESIGN



PLAN

- The arrangement of book shelves create a sense of privacy in an open space.



#### \* FIRST POINT FLOOR :

- Instead of enclosing people in, angles in the space are cleverly used to give more privacy
- Lovely sofas are positioned to make the pleasant while you wait your turn.
- Slatted screens give a more open feel to the outside of the advice pods and matching acoustic screens give more privacy between adjacent desks .
- You can wander through the place with a COFFEE while you wait glance up at the screens to see when your turn approaches or listen to the audio announcements which call you forward .

## CASE STUDY-II

### Atta Galata, Bangalore

Atta Galata is a beautiful three-storied structure situated in Koramangala, Bengaluru.

The home-turned-bookstore-turned-library-cum-bakery has come a long way in undulating workshops and shelves. The vernacular architecture, the earthy hue, the regional books and freshly prepared confectionaries makes this the perfect place for the artist in you to unleash your imaginative bountiful hay.

#### FEATURES

- Atta Galata typically has no boundaries. Five tall silver oak trees in a snacking clinch with cypresses sway gracefully in front.
- Second floor houses 10,000 affordable paperbacks and 8,000 titles in 6 regional Indian languages as well as in English.
- The homely native-mud brick architecture draws you in.
- The ground floor of the building is earmarked for a bakery and a cafe that serve the readers with hot and cold beverages and exotic breakfast dishes.

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Architectural Design-II



- Since earlier it was home that turned into cafe and library most of the old wood, tiles, steel and doors and window frames are reused.
- The earthy space that blends with the surrounding gives the structure a quite vernacular look.
- Every corner of Atta Galata has been crafted thoroughly and thoughtfully, keeping beauty and functionality in mind.
- The staircase that takes you into the building are lined with colourful Athangudi tiles. Since the structure is meant to be public but lies in residential area, to stand out, it has no compound wall and the stairs are outside and accessible to anyone from the road.
- The spaces include: Cafe [ground floor], Library [1<sup>st</sup> floor], workshop and shelves space [on 2<sup>nd</sup> floor], the top floor balcony has been converted into a warm cozy reading area and working area.

# Site Analysis

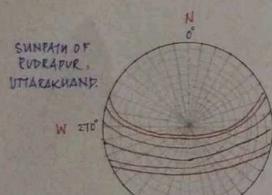
SITE LOCATION - RUDRAPUR, UTTARAKHAND.

PLOT SIZE - 45m x 30m = 1350 sq.m.

## CLIMATE ANALYSIS

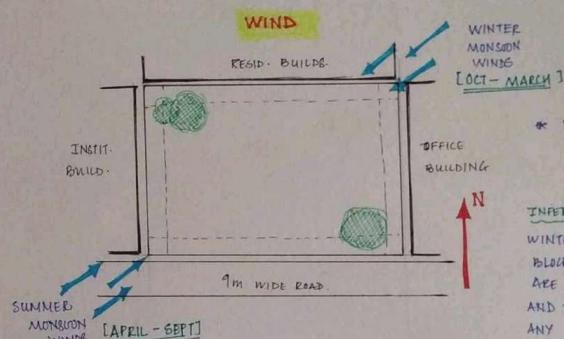
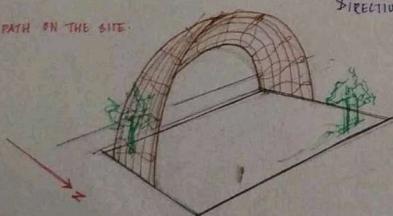
RUDRAPUR LIES ON 215M ABOVE SEA LEVEL. THE CLIMATE IS WARM AND TEMPERATE IN RUDRAPUR THOUGH WINTERS CAN TURN EXTREMELY COLD. THERE IS GREAT DEAL OF RAINFALL IN RUDRAPUR.

### SUN PATH



SUNPATH OF  
RUDRAPUR,  
UTTARAKHAND.  
THE SUN PATH  
ON THE SITE  
SHOWS THAT  
SUNRAYS ARE  
MORE DILUTED  
FROM SOUTH  
DIRECTION.

SUN PATH ON THE SITE:

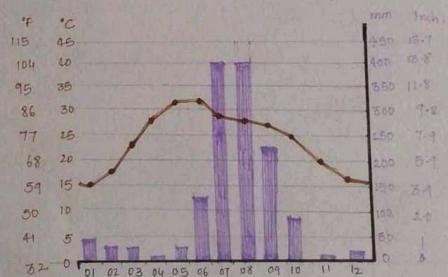


\* WINDS ARE PREDOMINANT FROM NORTH EAST AND SOUTH WEST DIRECTIONS.

### INFERENCES:

WINTER MONSOON SHOULD NOT BE BLOCKED BY TREES. SINCE WINTERS ARE VERY COLD IN THE REGION AND THE COOL BREEZE FLOWING THROUGH ANY KIND OF VEGETATION CAN MAKE IT EVEN MORE COLDER.

## PRECIPITATION AND TEMPERATURE



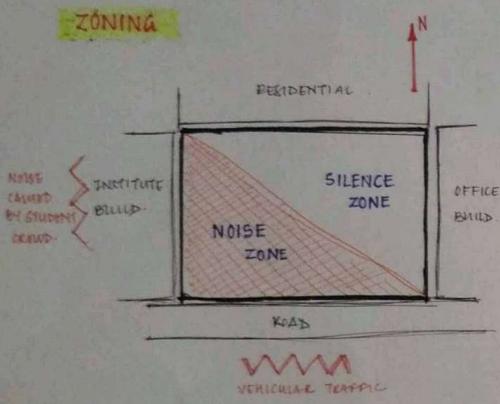
\* HOTTEST MONTH: JUNE

\* COLDEST MONTH: JANUARY.

\* WETTEST MONTH: JULY

# SITE PLANNING

## ZONING



## NOISE ZONE AREAS

CAFETERIA  
PARKING  
KIDS BRAIN GYM  
STATIONARY

## SILENCE ZONE AREAS

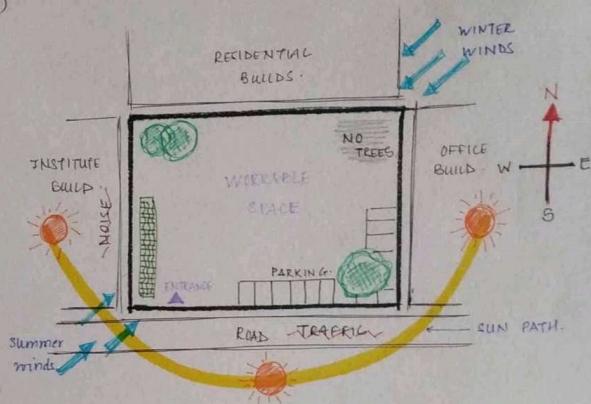
READING ROOM  
PERIODICALS  
E-LIBRARY  
ADMIN BLOCK

\* OTHER SPACES LIKE STAIRCASES AND RESTROOMS CAN BE PLACED ACCORDING TO THE CONNECTIVITY.

## AREA DISTRIBUTION

SPACE	AREA (SQ.M)
RECEPTION AND WAITING	→ 40
MANAGER'S CABIN WITH WASHROOM	→ 20
LIBRARIAN'S CABIN WITH WASHROOM	→ 20
STORE ROOM	→ 10
WASHROOMS	→ 10+10
PERIODICAL SECTION	→ 40
KIDS BRAIN GYM	→ 80
COURTYARD	→ 150
CAFETERIA + STORAGE	→ 150
WASHROOMS	→ 10+10
READING ROOM	→ 200
STATIONERY + ACC+REG.	→ 20
E-LIBRARY	→ 80
CATALOGUING ROOM	→ 40.

## OVERALL CLIMATE RESPONSE



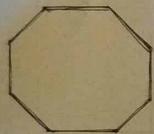
ENVIRONMENTAL ASPECTS TO BE CONSIDERED, HENCE, SOME BUILDING DEVICES, ACCORDING TO THE CLIMATIC PATTERN CAN BE ADDED:

- GREEN FAÇADE → ROOF GARDENING
- RAINWATER HARVESTING → SHADING DEVICES
- ARTIFICIAL VEGETATION.
- ENERGY EFFICIENT MATERIALS:
- GLASS CUBE WALLING
- TIMBER FAÇADE
- TIMBER SHADE, PERGOLAS, ETC.

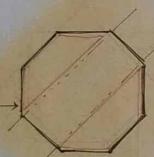
## CONCEPT

THE MAIN CONCEPT BEHIND THIS DESIGN WAS TO FOCUS ON AESTHETIC AND THEORETICAL DIMENSIONS OF DESIGN ALONG WITH INTEGRATIVE CLIMATIC ASPECTS OF THE SITE AND LOCATION.

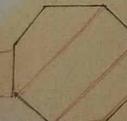
## FORM EVOLUTION



THE PLAN FORM WAS SIMPLY INSPIRED FROM THE GEOMETRIC SHAPE OF OCTAGON.  
SINCE, IT FITTED BEST WITH THE SITE AREA AND CLIMATIC CONDITIONS.



KEEPING IN MIND THE WIND DIRECTIONS TO THE SITE, TO OBTAIN CROSS VENTILATION, THE OCTAGONAL FORM WAS CUT AND SEPARATED.



FURTHER PROCESSING AND PERMUTATION AND COMBINATION. THE FINAL FORM WAS ARRIVED THAT FITS THE FUNCTION AND REQUIREMENTS AT ITS BEST.

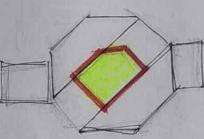
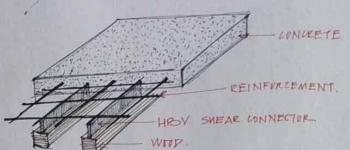
## MATERIAL AND CONSTRUCTION.

TIMBER IS THE MOST COMMON AND AVAILABLE AT LOCAL MATERIAL AT THE SITE LOCATION THAT IS RUPRAJUR, UTTARAKHAND.

THUS THERE IS AMPLE AMOUNT OF TIMBER USED IN THE DESIGN.

HOWEVER, RUPRAJUR ALSO EXPERIENCES HIGH PRECIPITATION, HENCE, ROOFING WITH TIMBER IS AVOIDED. THUS, CONCRETE IS USED FOR ROOFING AND LITTLE IN OTHER PLACES. THUS, AMALGAMATION OF TIMBER AND CONCRETE IS USEFUL IN THE DESIGN.

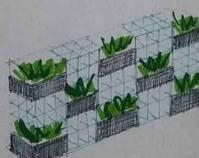
LONG:



I. COURTYARD → THE GEOMETRY OF COURTYARD AFFECTS UNDERRALLY THE SHADOWS PRODUCED BY BUILDING ENVELOPE. ALSO IT FORMS ITS OWN MICROCLIMATE. AFTER SUNSET THE WARM AIR RISES UP AND THE COOL AIR ACCUMULATES IN LAMINAR LAYERS IN THE COURTYARD AND SEEP INTO SURROUNDING ROOMS, COOLING THEM.

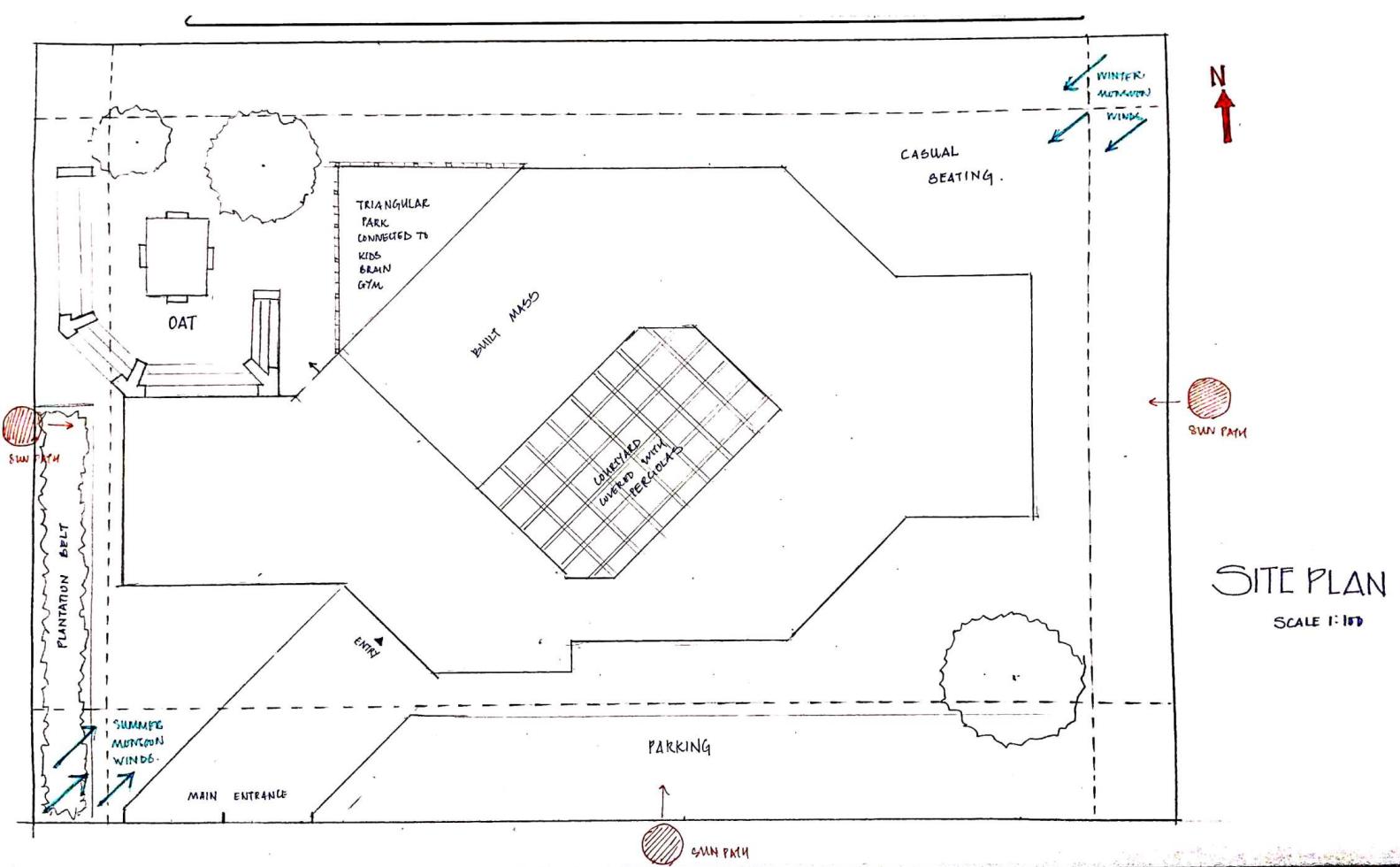
II. LOUVER WALLING →

BOTH HORIZONTAL AND VERTICAL LOUVERS CAN HAVE THE SAME EFFECT. INTEGRATION OF LOUVERS AS SHADING DEVICES IN THE BUILDING LEADS TO INDOR COMFORTABLE THERMAL CONDITIONS. ALSO AIR CLOTHING OUT OF LOUVERS BECOMES COOLER AND ALSO IT CUTS THE HARSH SUN RAYS.

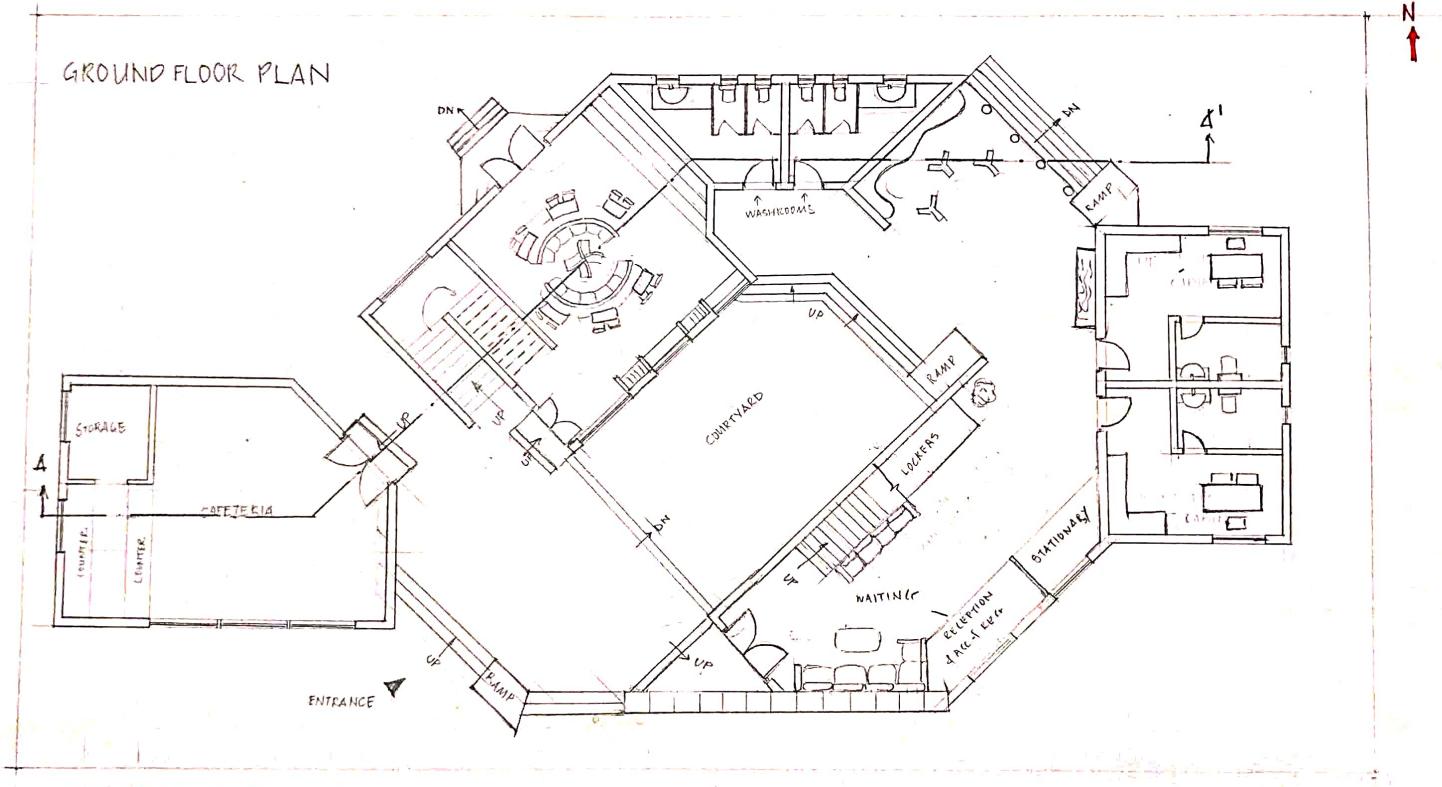


III. LIVING WALL.

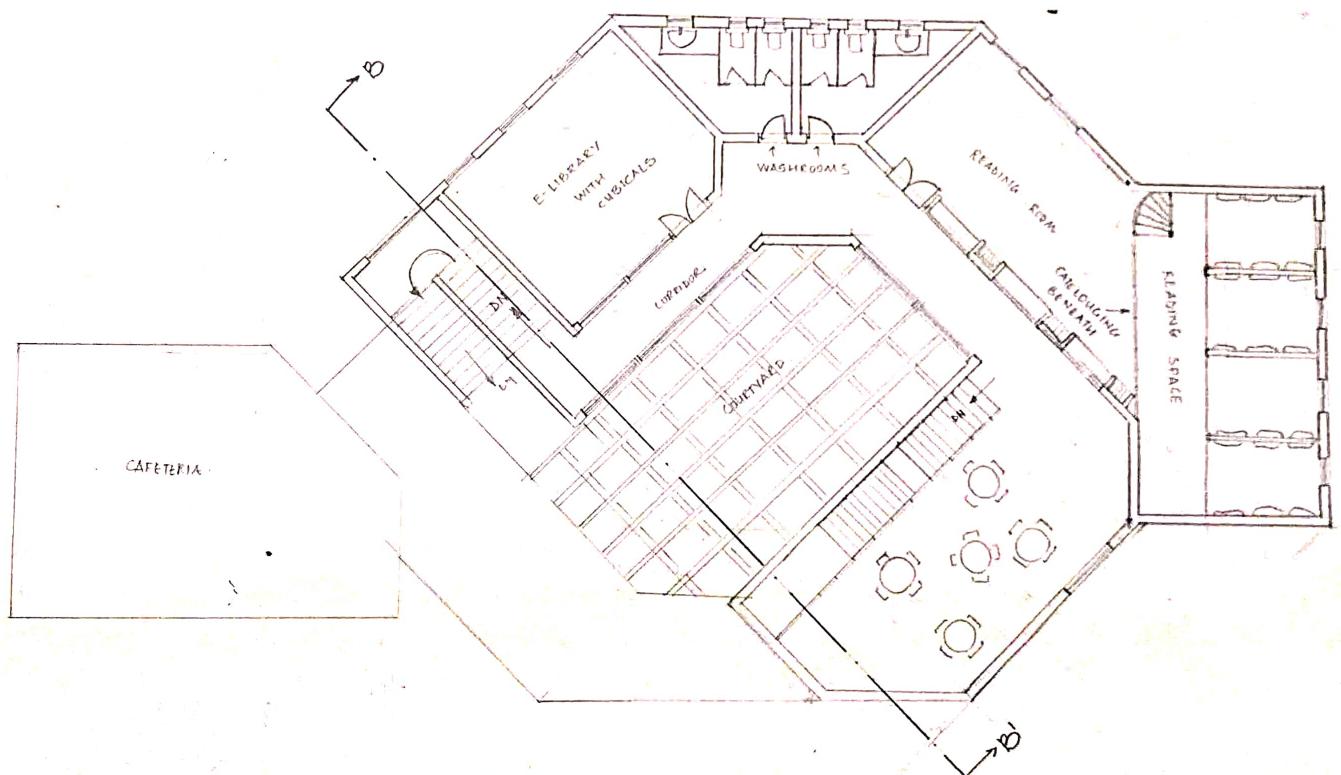
A LIVING WALL IS INCORPORATED IN THE DESIGN WHERE ALTERNATIVELY A PLANT POT IS KEPT. THE SPACES LEFT ARE FILLED BY GLASS MURE WALLING. THIS ALLOWS NATURAL LIGHT TO PASS AND ALSO GLASS MURE GIVE THERMAL AND SOUND INSULATION TO A THE PLANTS IMPROVE THE AIR QUALITY OF THE AIR PASSING THROUGH IT. HENCE IT IS INCORPORATED AS GREEN FAÇADE REDUCING THE NOISE FROM VEHICULAR TRAFFIC AND MUD FOR AIR PURIFICATION.



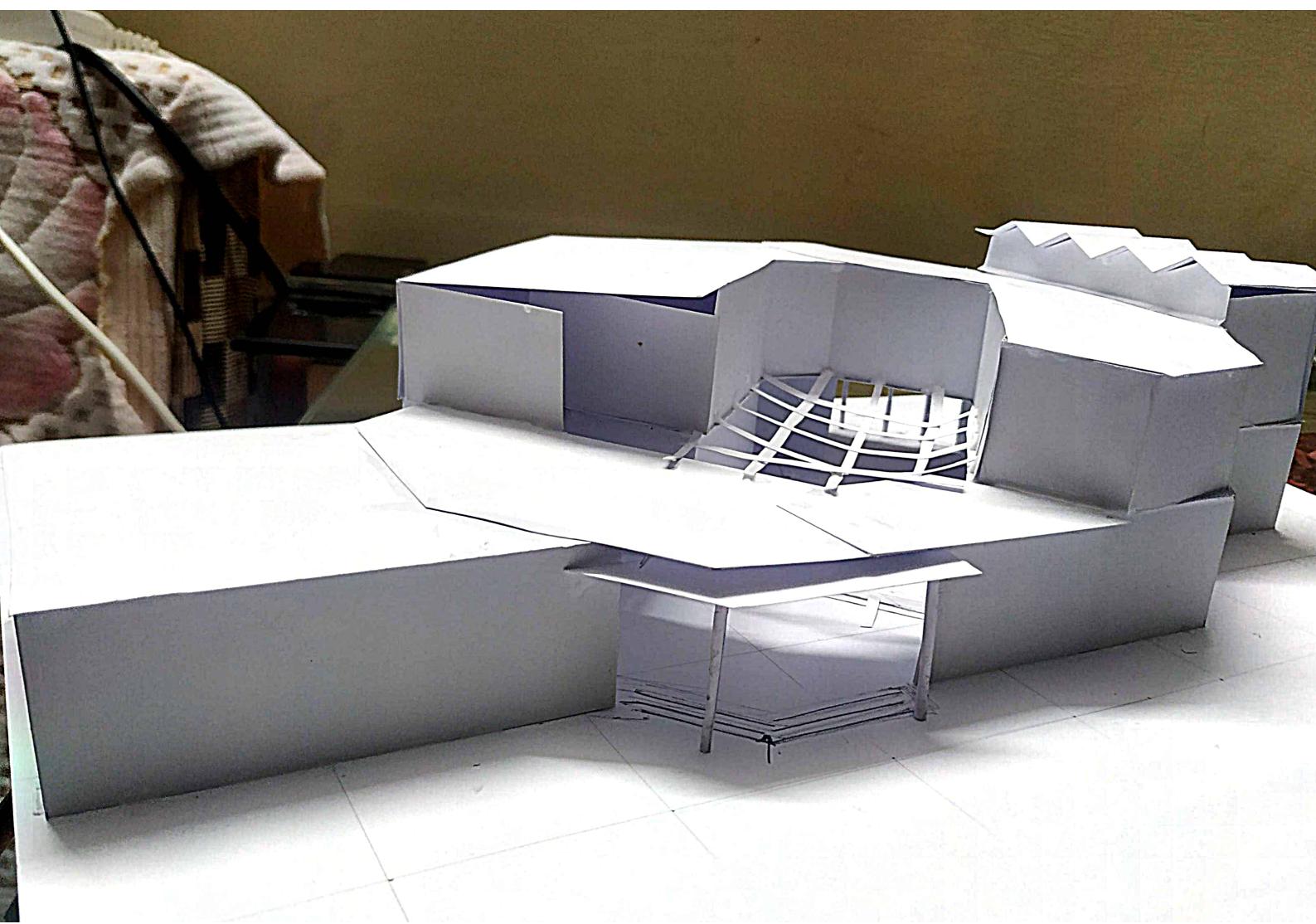
GROUND FLOOR PLAN

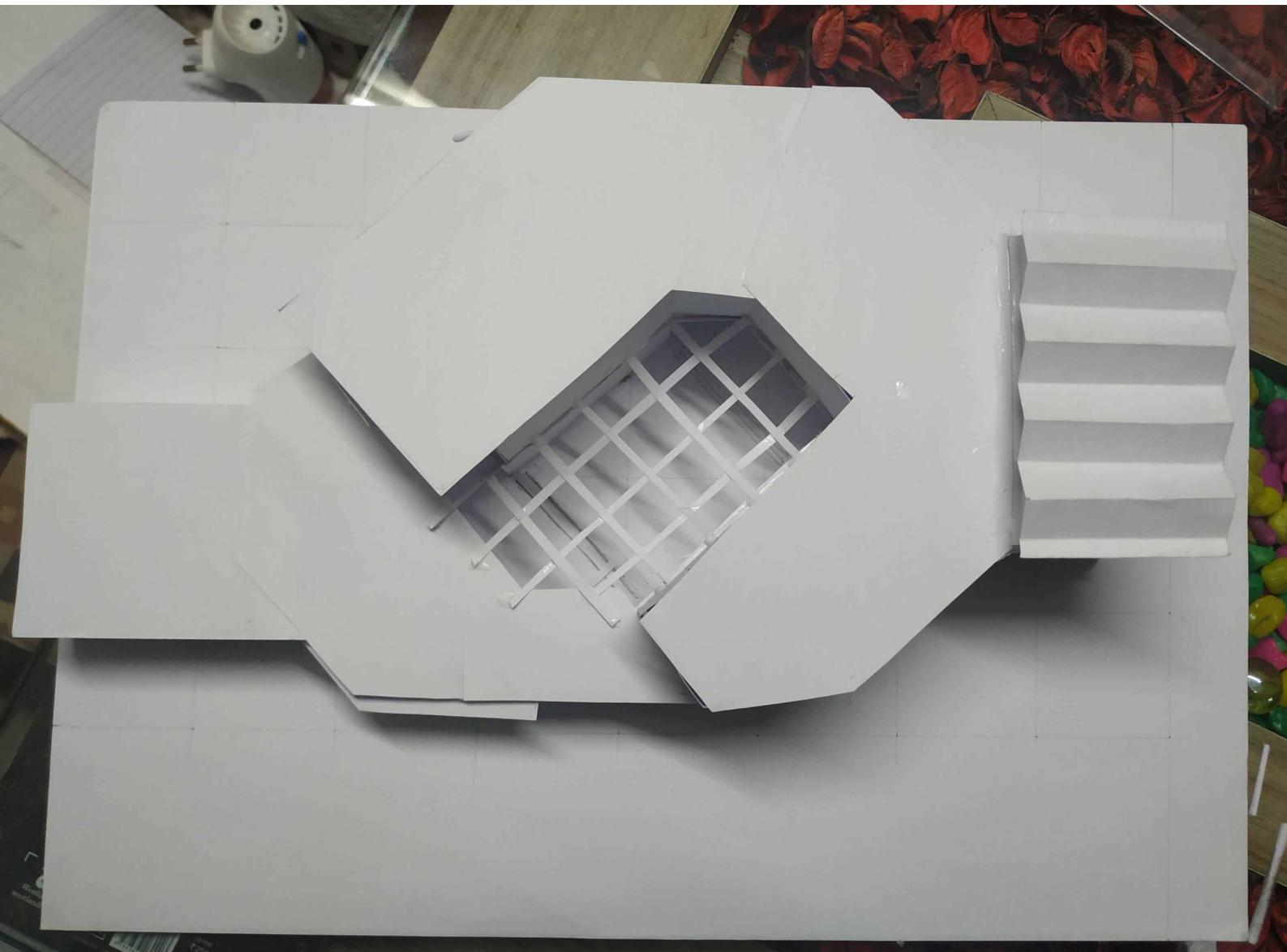


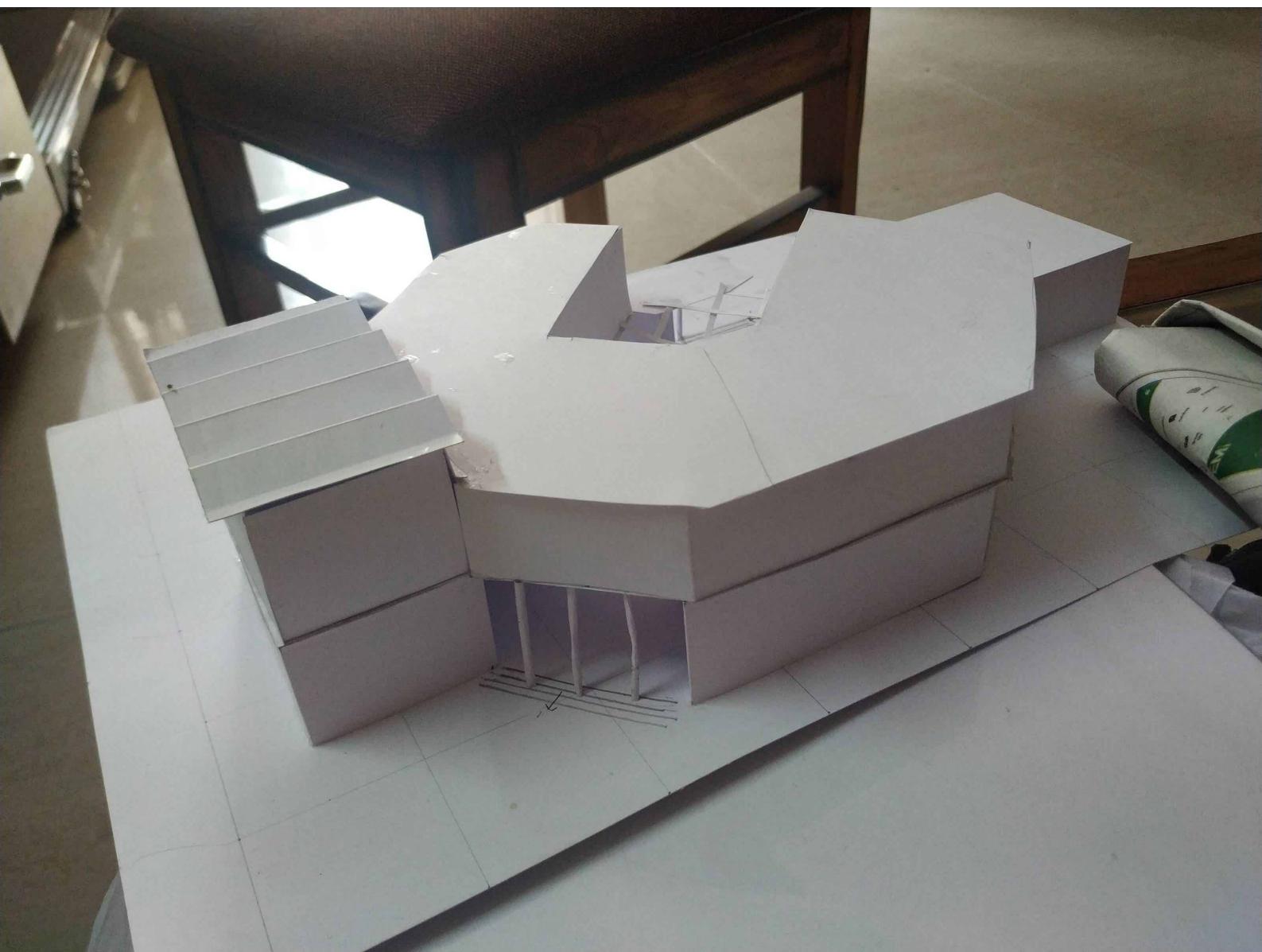
FIRST FLOOR PLAN

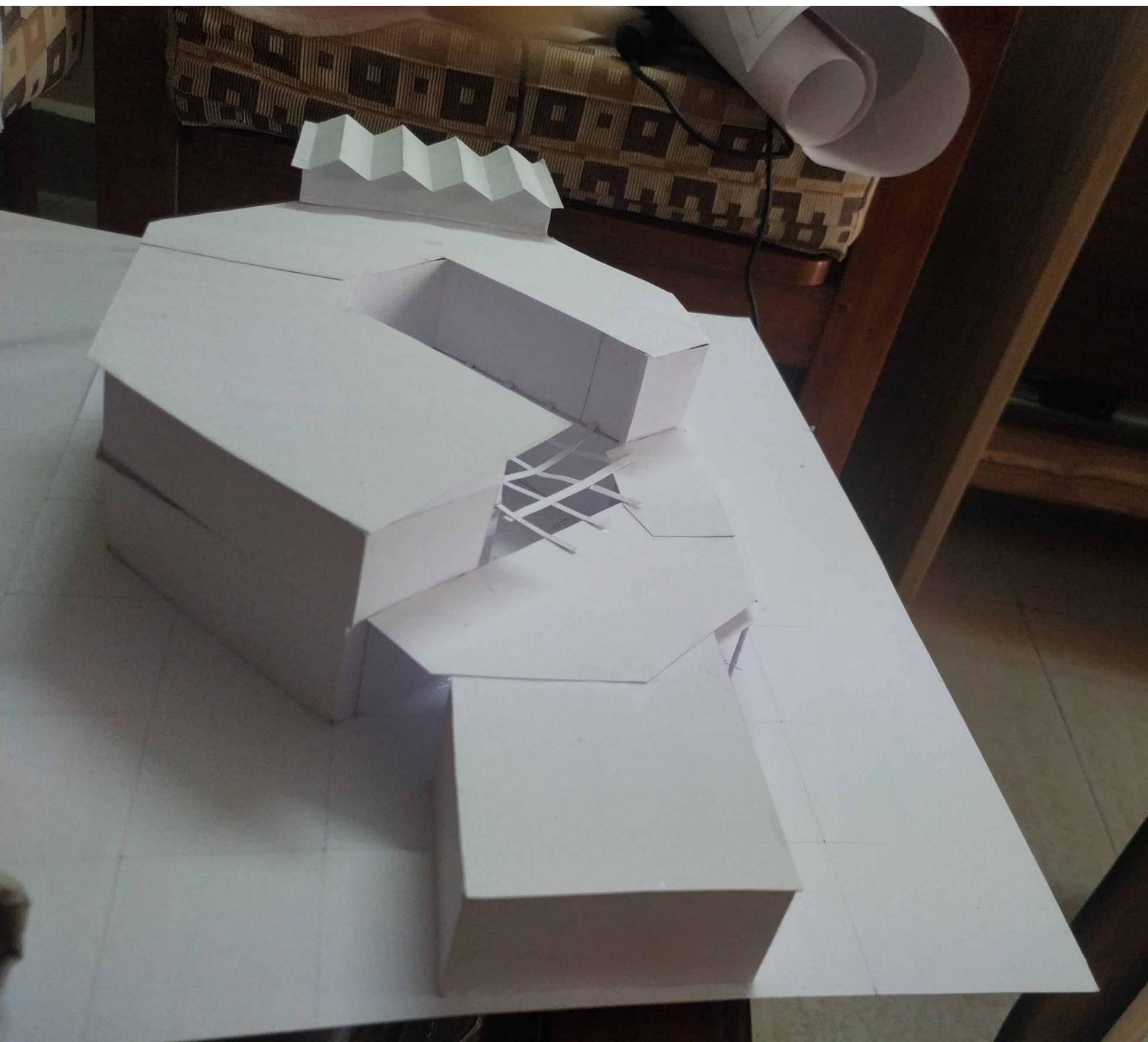


SCALE 1:100



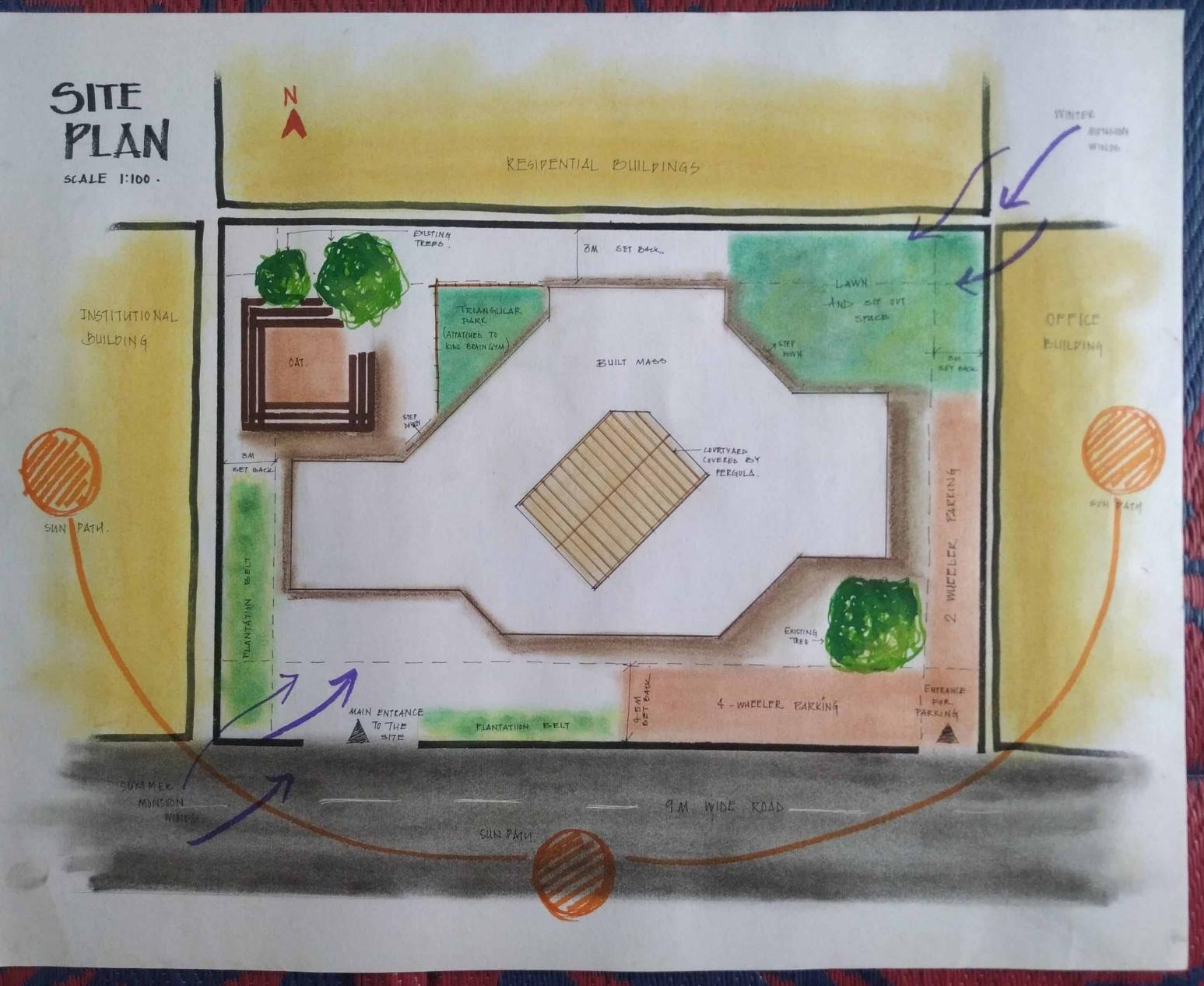




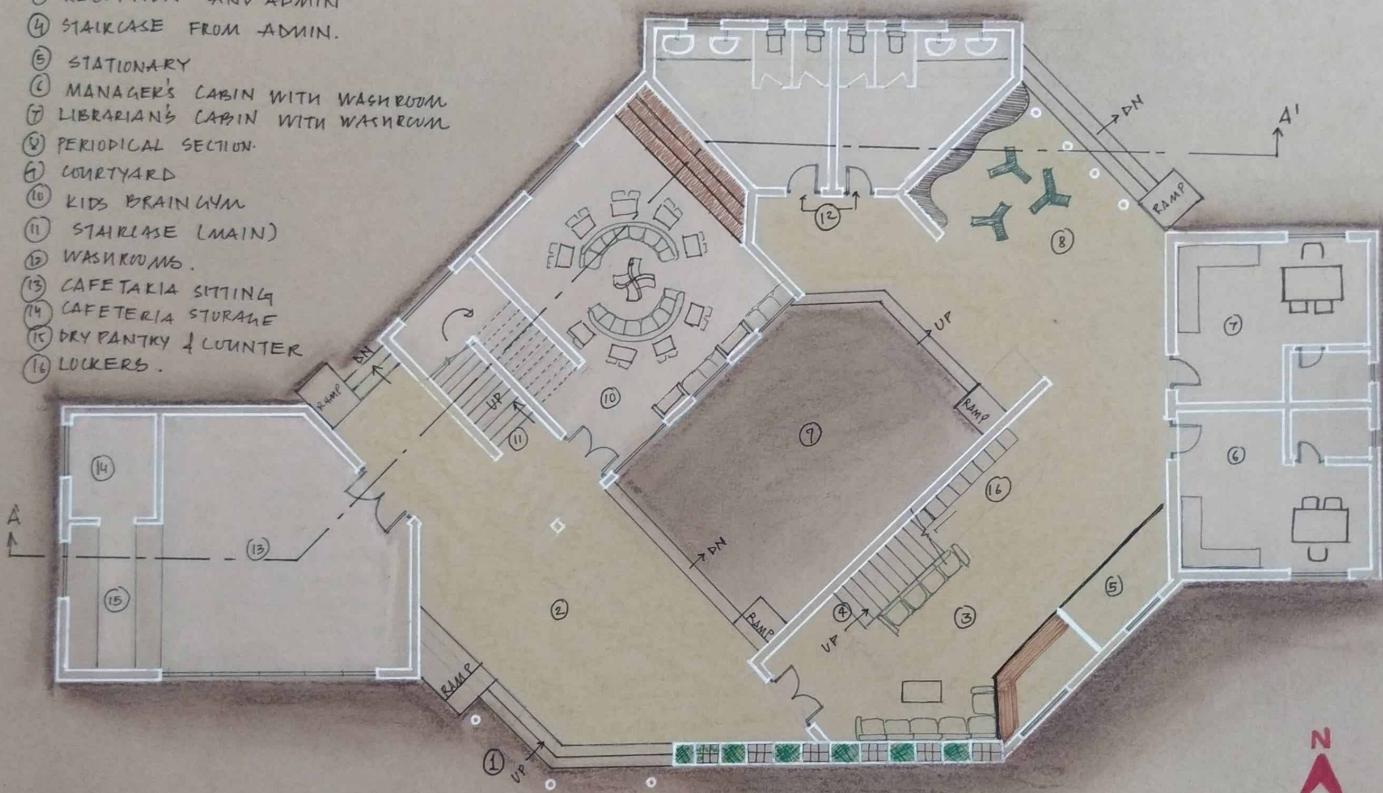


# SITE PLAN

SCALE 1:100.



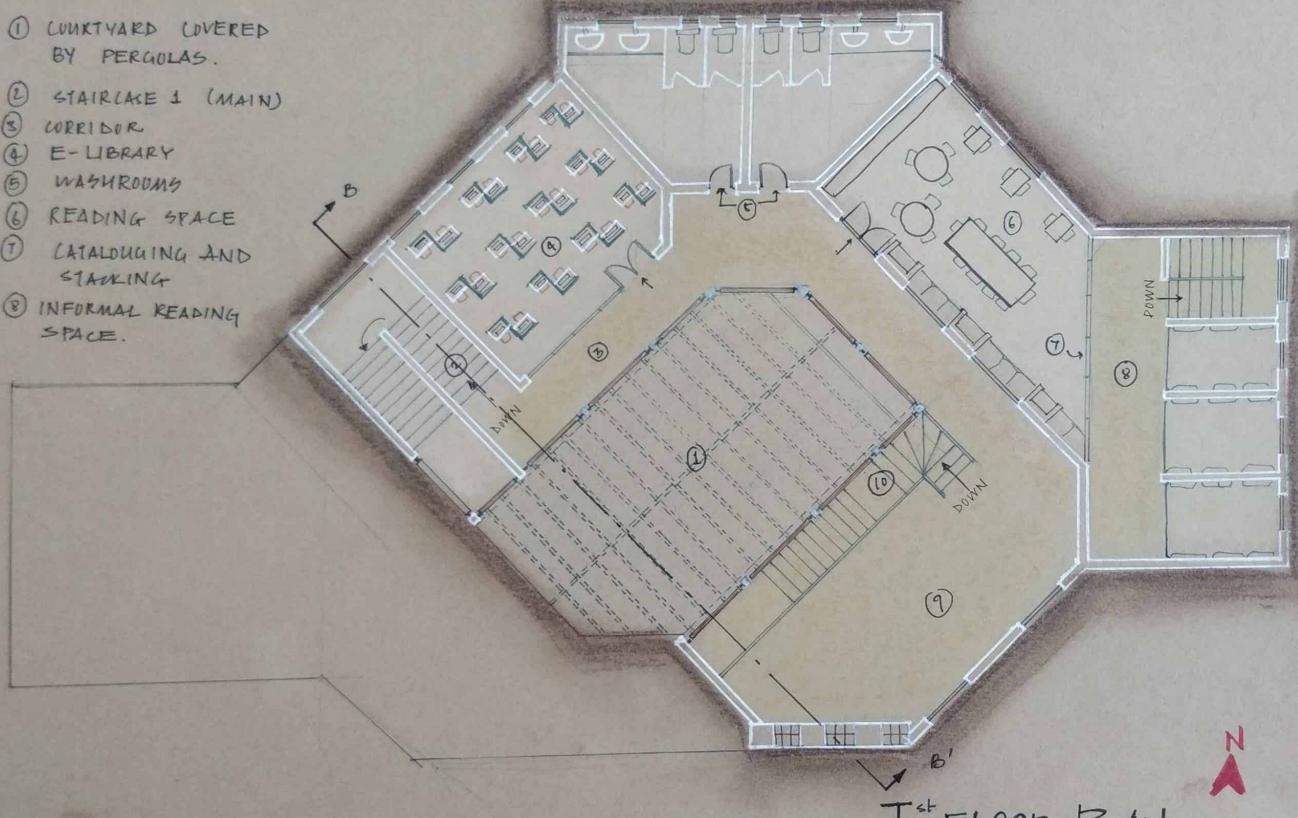
- ① ENTRANCE WITH STEPS AND RAMP
- ② PORCH
- ③ RECEPTION AND ADMIN.
- ④ STAIRCASE FROM ADMIN.
- ⑤ STATIONARY
- ⑥ MANAGER'S CABIN WITH WASHROOM
- ⑦ LIBRARIAN'S CABIN WITH WASHROOM
- ⑧ PERIODICAL SECTION
- ⑨ COURTYARD
- ⑩ KIDS BRAIN GYM
- ⑪ STAIRCASE (MAIN)
- ⑫ WASHROOMS
- ⑬ CAFETAKIA SITTING
- ⑭ CAFETERIA STORAGE
- ⑮ DRY PANTRY & COUNTER
- ⑯ LOCKERS



GROUND FLOOR PLAN

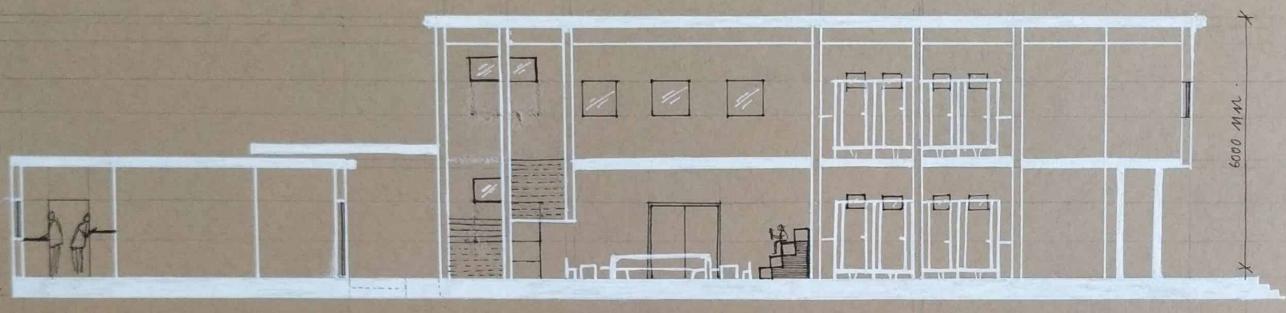
SCALE 1:100

- ① COURTYARD COVERED BY PERGOLAS.
- ② STAIRCASE 1 (MAIN)
- ③ CORRIDOR
- ④ E-LIBRARY
- ⑤ WASHROOMS
- ⑥ READING SPACE
- ⑦ CATALOGUING AND STACKING
- ⑧ INFORMAL READING SPACE.

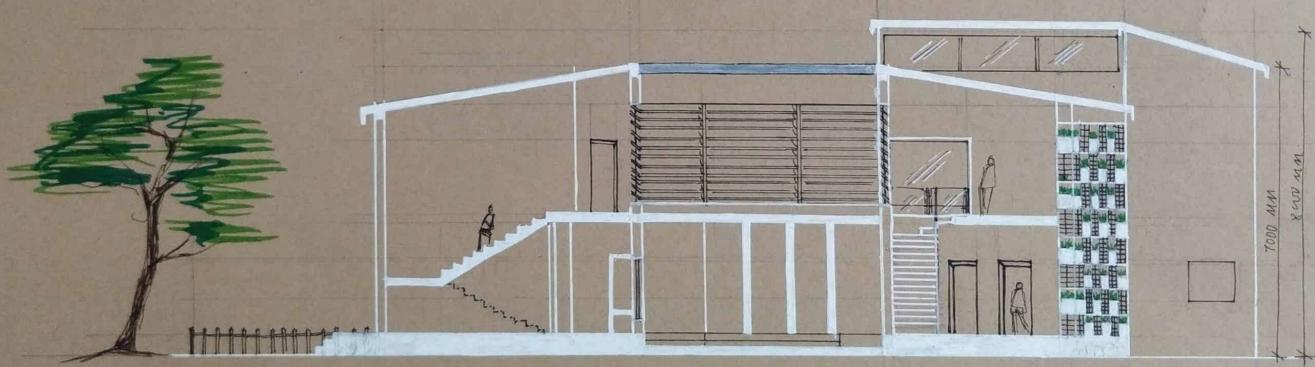


I<sup>st</sup> FLOOR PLAN

SCALE 1:100.



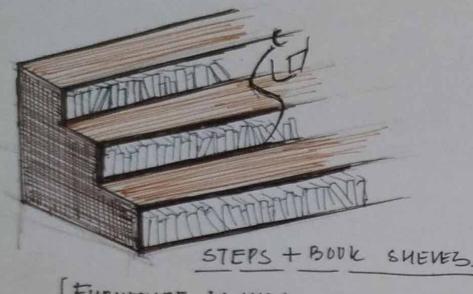
SECTION A-A'  
SCALE 1:100



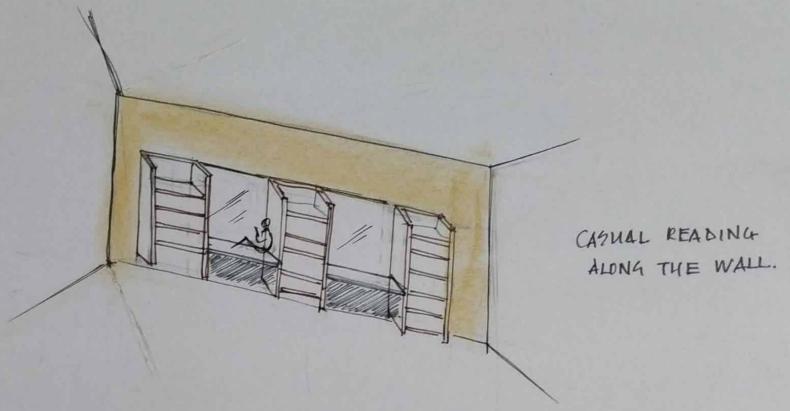
SECTION B-B'  
SCALE 1:100



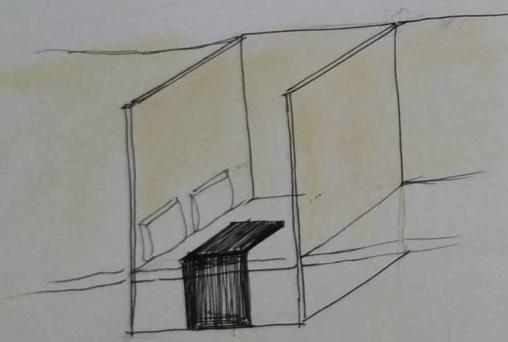
# VIEWS



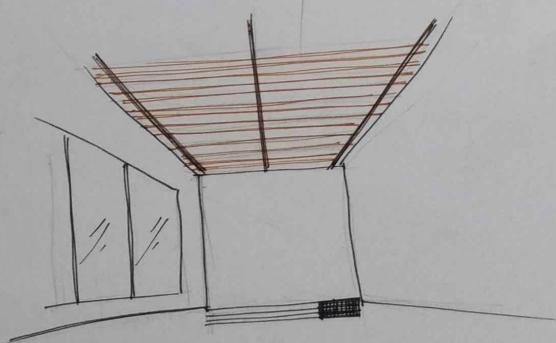
STEPS + BOOK SHELVES.  
[FURNITURE AT KIDS  
BRAIN GYM.]



CASUAL READING  
ALONG THE WALL.



INFORMAL  
READING SPACE  
[ON MEZZANINE FLR.]



OUR YARD  
COVERED WITH PERGOLA.























