ARCHITECTURE PORTFOLIO

ARPAN JAIN

This portfolio holds a collection of some of my academic and non-academic work in architecture, art and design. Each project has its own means of presentation, but for convenience, they're all presented in this portfolio in a similar layout keeping original presentation spirit.

CURRICULUM VITAE

Arpan jain

Mother's name	:	Mrs. Meenakshi Jain
Father's name	:	Mr. Shrayans Jain
D.O.B.	:	7th July 1995
Nationality	:	Indian
Language	:	Hindi, English
Address	:	D-3/5 Sardar Nagar, c.c.colony, Delhi-110007
Phone No	:	+91-9910790067
Email	:	arpanjain707@gmail.com

SOFTWARE SKILLS

Autodesk Autocad	●●●○○
Sketchup	●●●●●
Autodesk Revit	●●○○○
Adobe Photoshop	●●●○○
Vray Rendering	●●●●○
Rhino	●●●○○
Grasshopper	●●●●○
LB + HB	●●●○○
Firefly + Arduino	●●●○○

OBJECTIVE

I am a fresher architect currently seeking for a job opportunity where I can show my potential hard work in practical field as well as gain work experience to increase my knowledge in field of architecture and design. presently I am doing research on responsive kinetic facade with practical applications in building with my engineer mate.

EDUCATION

2013-2018
Graduated (B.Arch) from Hindu School of Architecture, Deenbandhu Chotu Ram University of Science and Technology, Murthal, Sonipat, Haryana

2006-2013
10th and 12th passed from government boys senior secondary school no.1, Shakti Nagar, Delhi-110007

2016
Academic Internship: Zero Energy Design Lab, C.C.Colony, Delhi-110007

2015
Summer Internship: Holistic Urban Innovation Pvt. Ltd. Sector 62, NOIDA, Uttar Pradesh

HONORS AND AWARDS

2013 - Won 1st prize in two informal events zo-nasa 2013.
2014 - Reubens trophy 2014 shortlisted in top 10 in NASA.
2015 - main design trophy short listed in annual NASA
2015 - ANDC shortlisted in annual NASA
2017 - Second prize in parametric model making trophy in srijan 2k17.

COMPETENCES

Architectural design
Architectural drafting
Kinetics in architecture
Computational design
3d modeling

STRENGTHS AND SKILLS

Cooperative
Hard worker
Quick learner
Punctual
Problem solving abilities

HOBBIES

CYCLING RESEARCHING ORIGAMI FOODY SELENOPHILE MUSIC ELECTRONICS

Those who look for the laws of Nature as a support
for their new works collaborate with the creator.

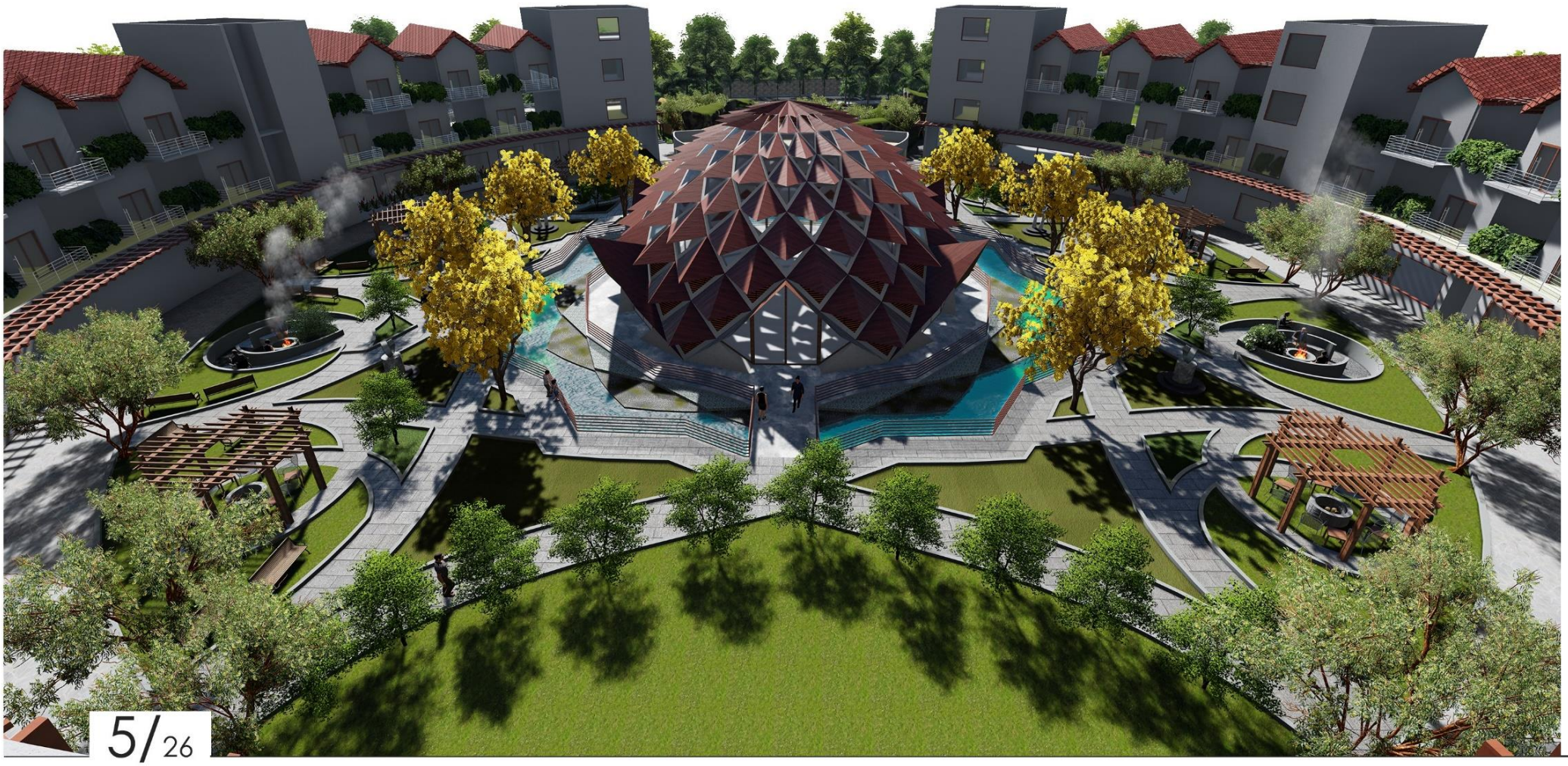
-Antoni Gaudi

CONTENT

THE PINE

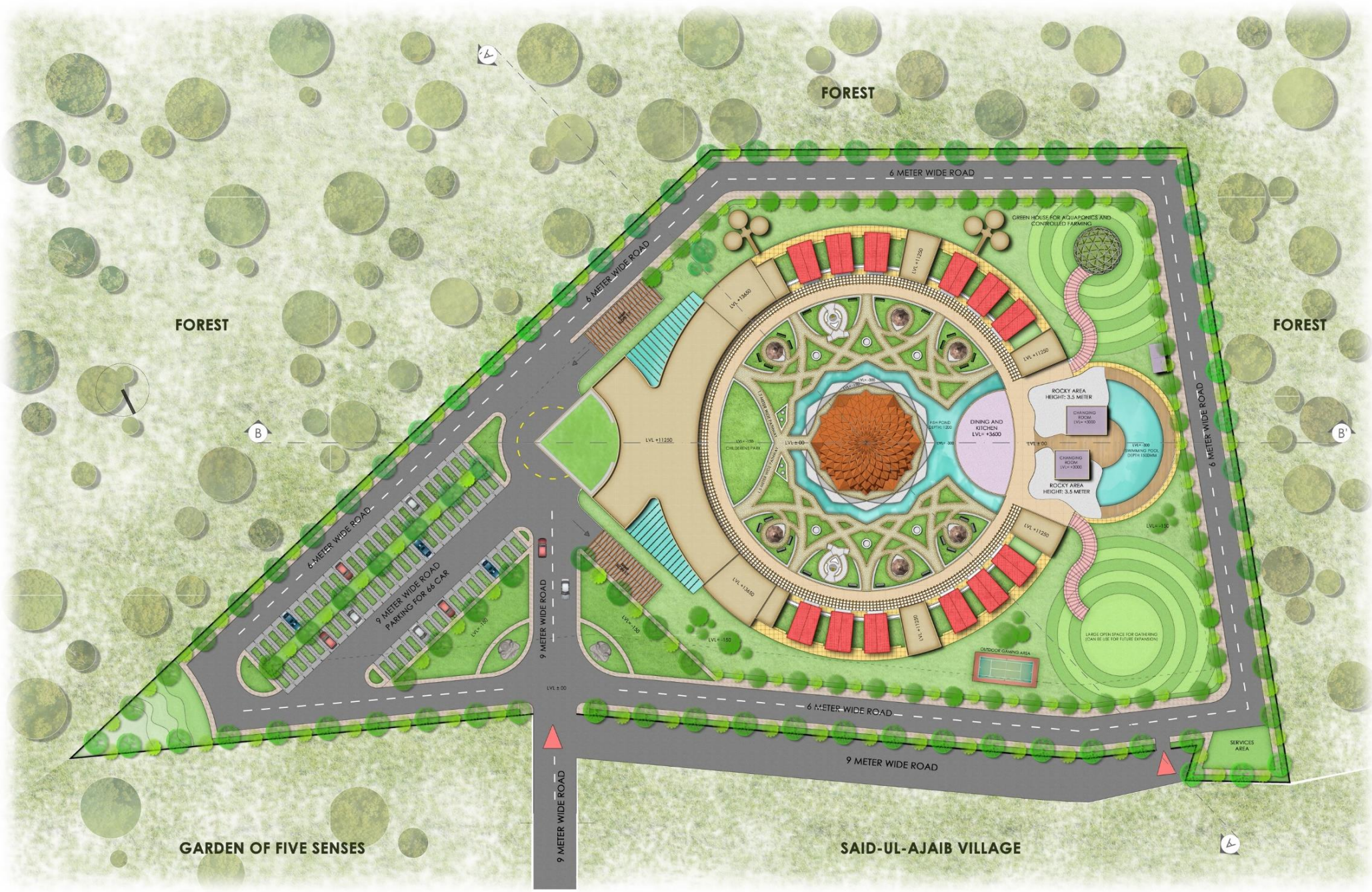
WELLNESS CENTER

"THE PINE" wellness center is proposed at said-ul-ajaib, Delhi. is chosen as my thesis project. "Wellness is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." – The World Health Organization. The whole design is done keeping in mind the differently abled people, emotions related to humans and animals, and their socialising behaviours everything which makes it whole a wellness centre. "WELLNESS FOR ALL" My aim is to build a space which reflects healing effect over everybody related to the designed area, every category comes under this criterion whether it is humans, animals, building or environment. By adopting passive technology in contemporary world major issues are concerned while planning and designing the project.



ABOUT THE PROJECT

Project name : Wellness and Recreation Club
Location : said-ul-ajaib, Delhi, India
Site area : 5.25 acre
Client : Delhi Tourism and Transportation Corporation
Project cost : 25 crores
Project brief : The 'wellness & recreational club' is expected to offer treatments based on traditional Indian medicines and alternate therapies such as Ayurveda, yoga and unani.



SCALE
0 10 20 50 100

ABOUT SITE

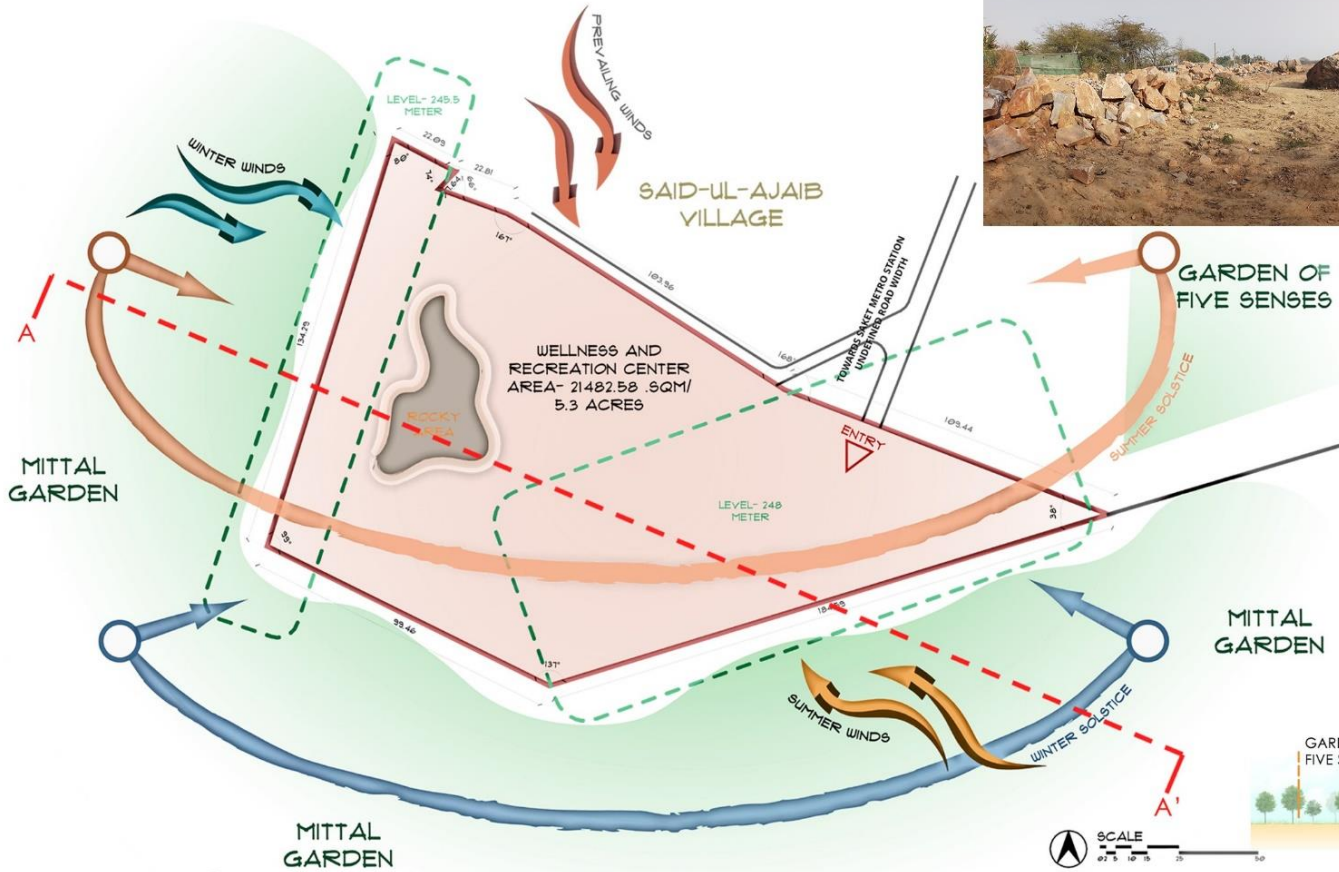
Site is located in Said-ul-ajaib, Delhi.
Coordinate- lat: 28.51, long: 77.19

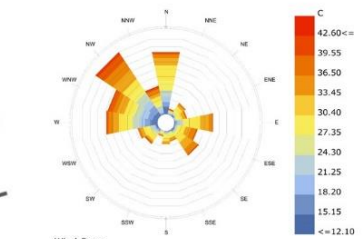
The location of the site has a rare advantage of being in the prime area of south Delhi (one of the most affluent areas of Delhi) at the same time secluded from the mainstream noisy areas. The fact that it is surrounded by green belt on three sides ensures peace and serenity and hence augurs well for the concept of wellness centre

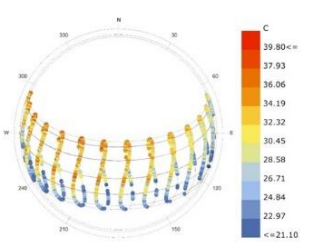
Bye laws

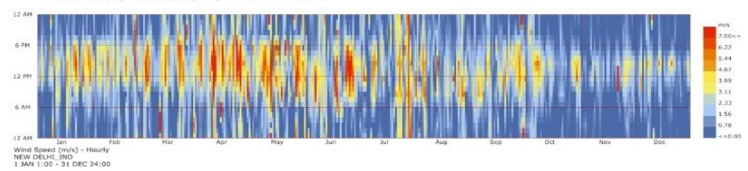
Site area	: 21482 sq. m.
Ground coverage at 30%	: 6444.6 sq. m.
F.A.R.	: 1.2
Maximum built up area	: 25778.4 sq.m.
Maximum height	: 26 meters

Setback.: front 15 meters and other 12 meters





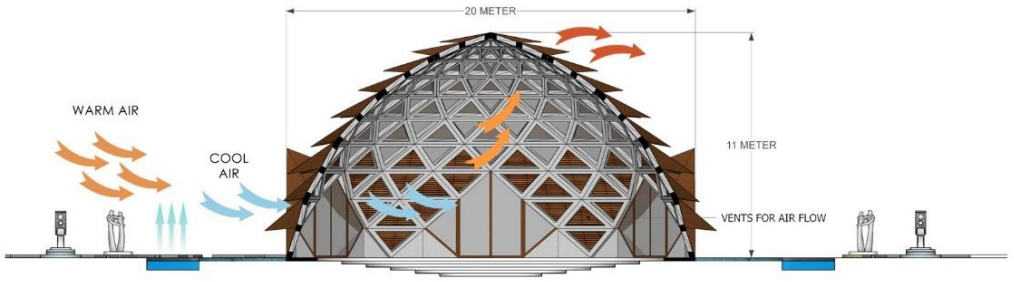




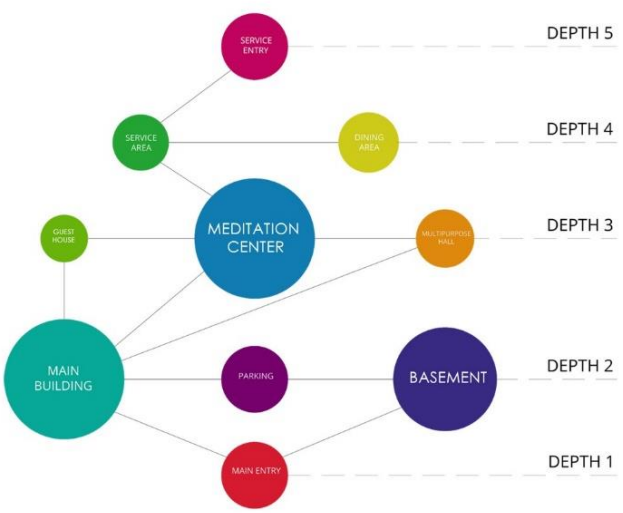
SECTION AT AA'

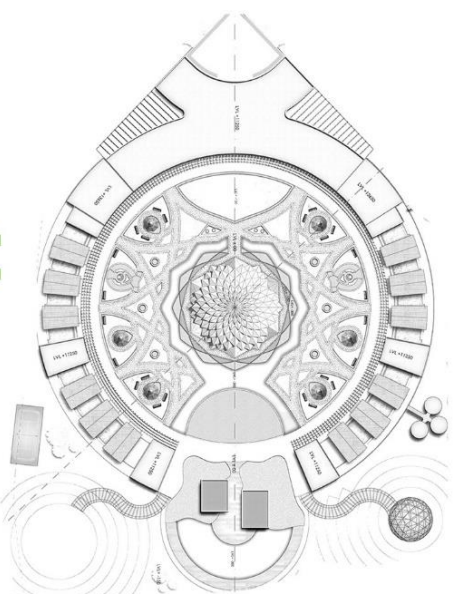
"WELLNESS FOR ALL"

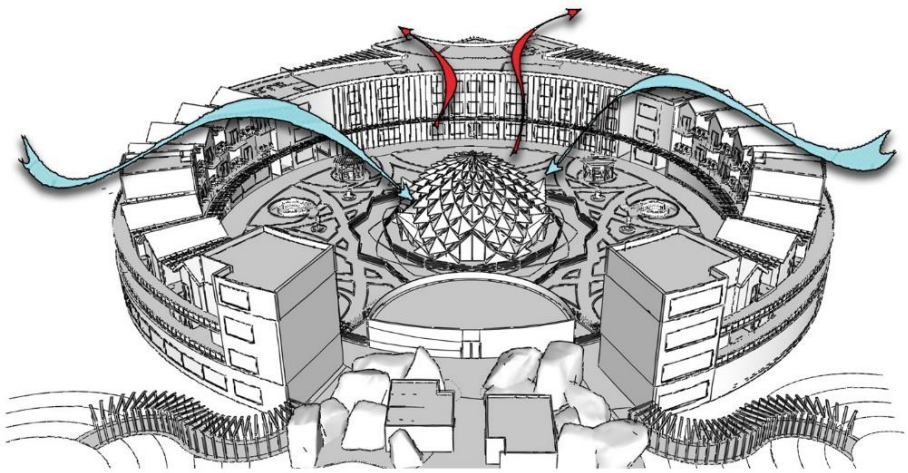
My aim is to build a space which reflects healing effect over everybody related to the designed area, every category comes under this criteria whether it is humans, animals, building or environment.
By adopting passive technology in contemperory world major issues are concerned while planning and designing the project.

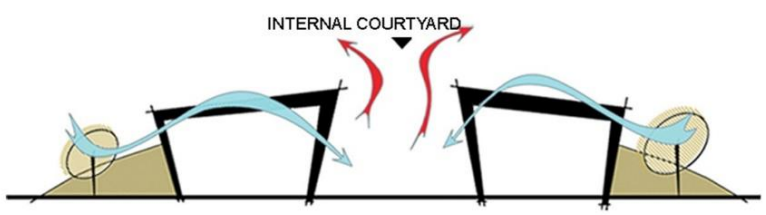


TAKING IN COOL BREEZE FROM WATER BODY INSIDE THE BUILDING AND THROWING OUT WAR AIR FROM UPPER WENTS





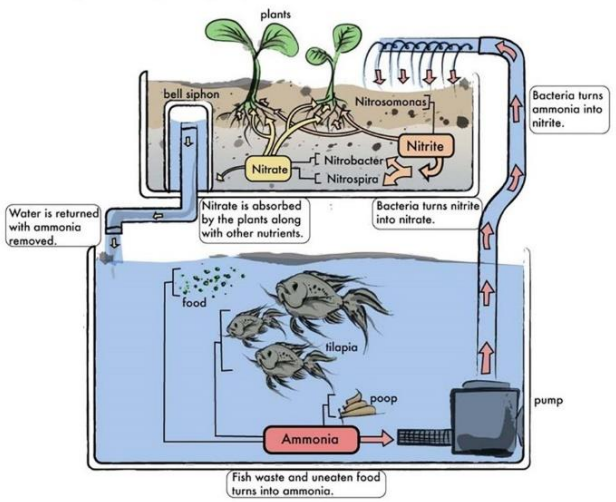


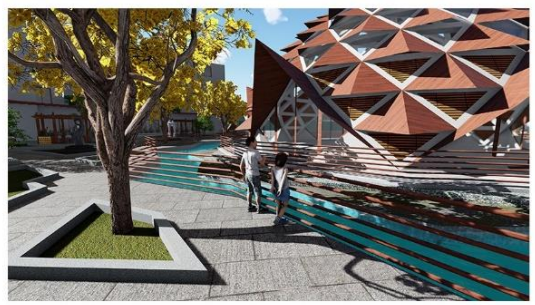


Courtyard spaces allow in cooler air thereby creating cooler spaces within. (A principle of traditional Indian design for hot climate)

AQUAPONIC

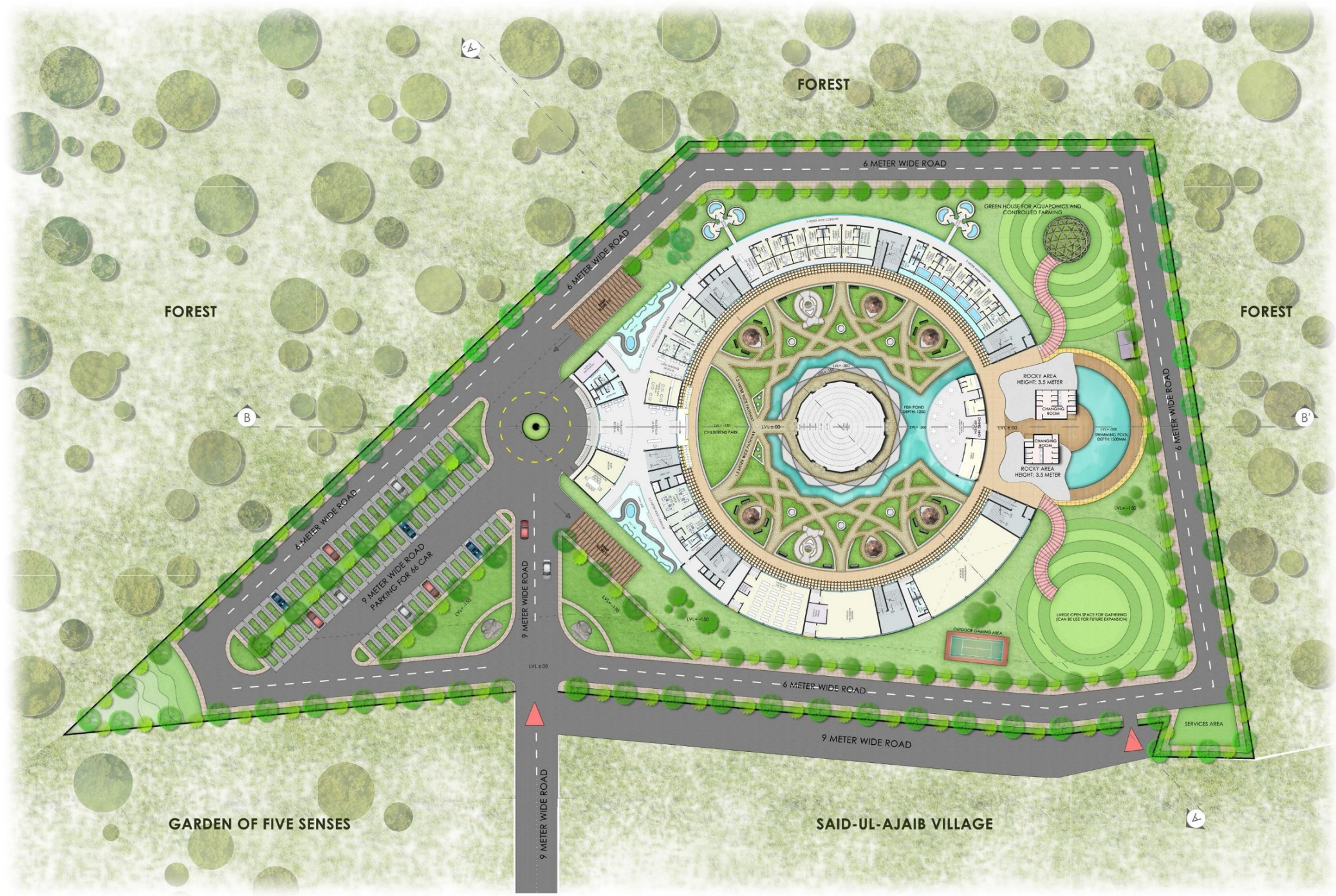
The simplest definition of Aquaponics is the combination of aquaculture (raising fish) and hydroponics (the soil-less growing of plants) that grows fish and plants together in one integrated system. The fish waste provides an organic food source for the plants, and the plants naturally filter the water for the fish.

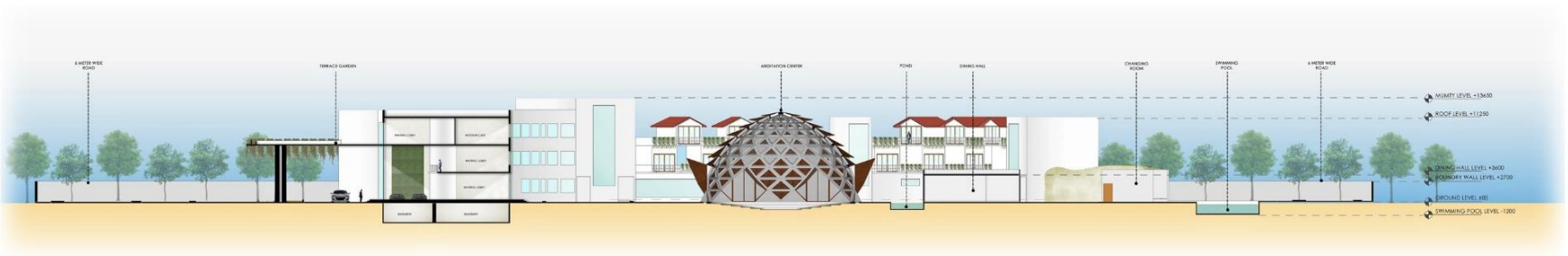




Fish pond around meditation centre as a part of aquaculture at same scale which enhance the visual experience and also a part of aquaponics.

LAYOUT PLAN



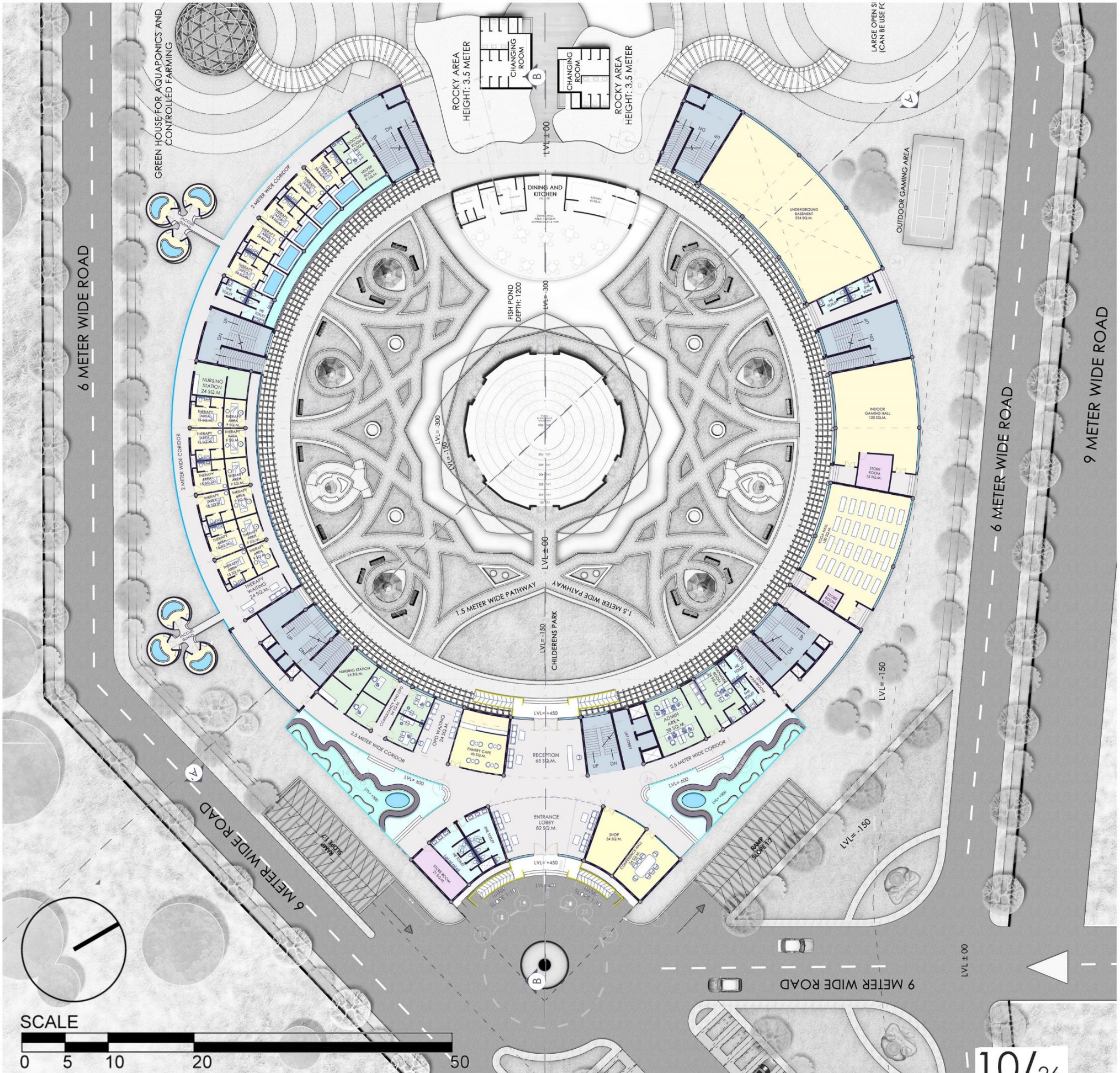


Section at BB'

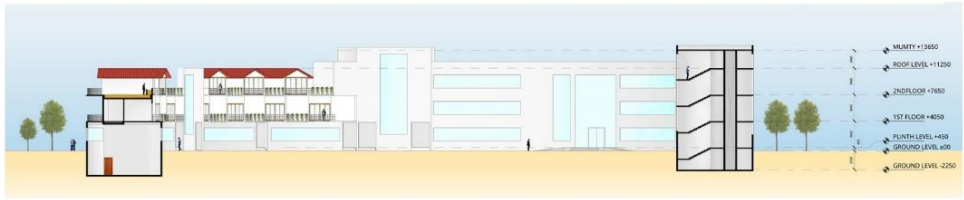
SCALE

0 10 20 50 100

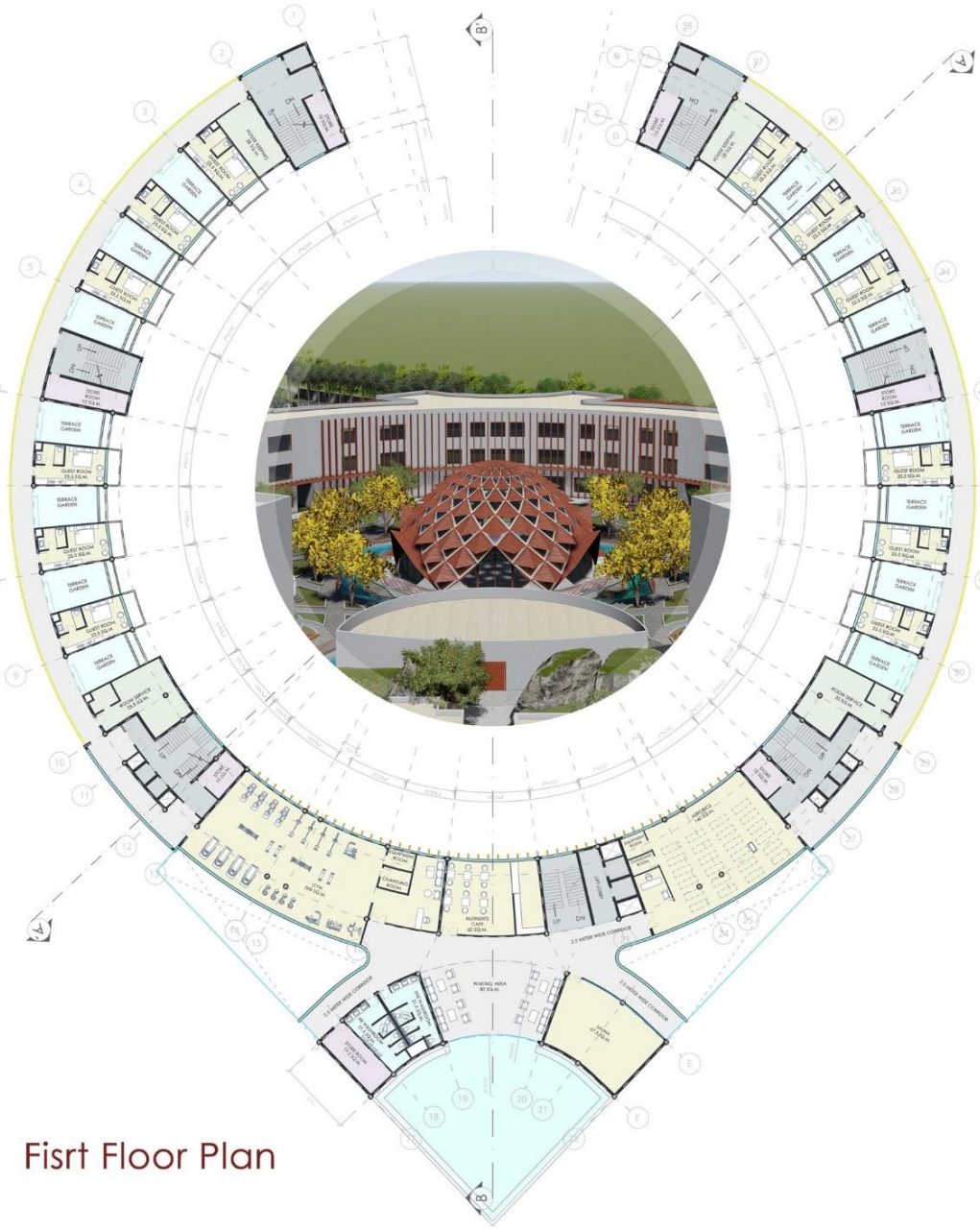
Ground Floor Plan



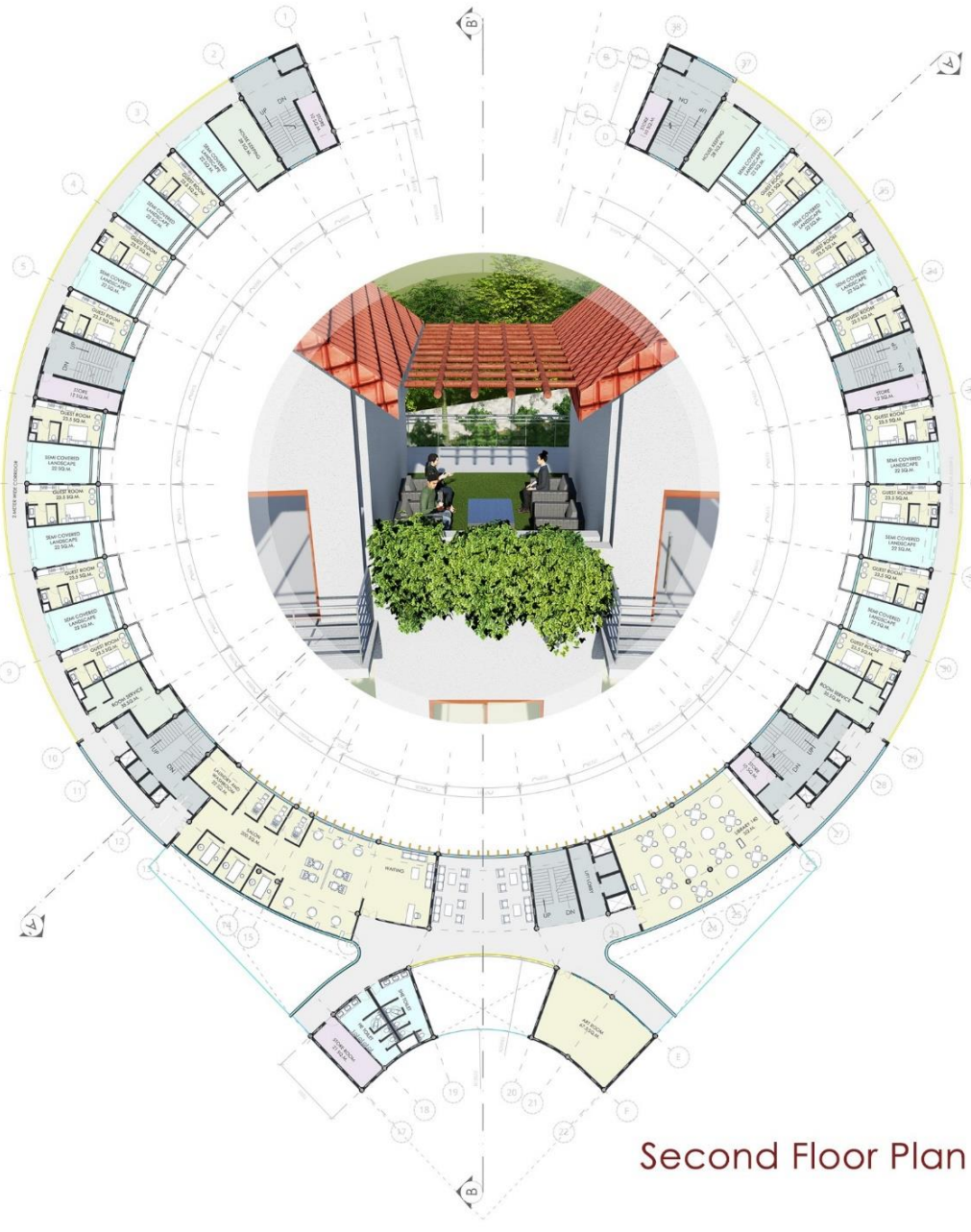
Section at AA'



Section at BB'



Fisrt Floor Plan



Second Floor Plan

Front elevation

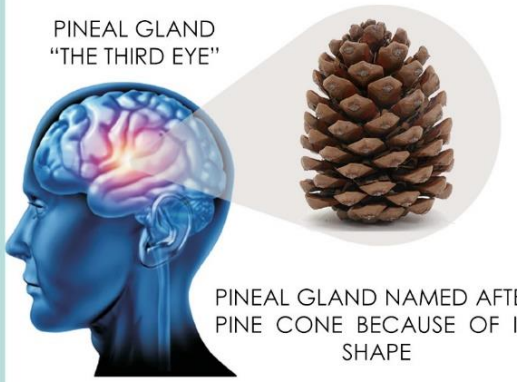
Side elevation

SCALE

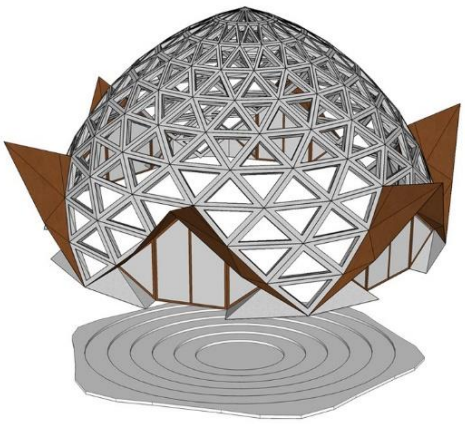
0 5 10 20 50

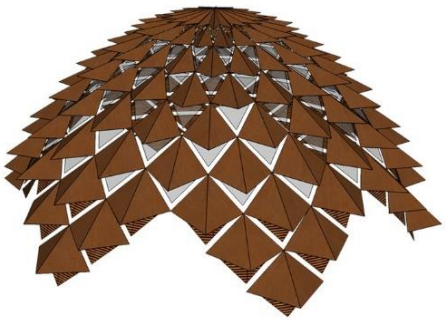
THE PINE

MEDITATION CENTER

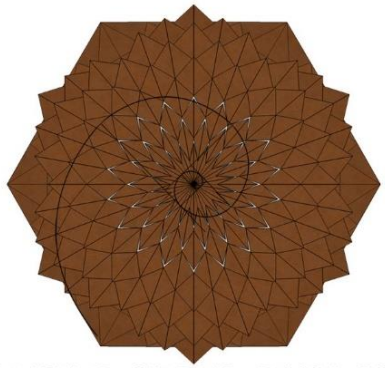


PINEAL GLAND NAMED AFTER PINE CONE BECAUSE OF ITS SHAPE

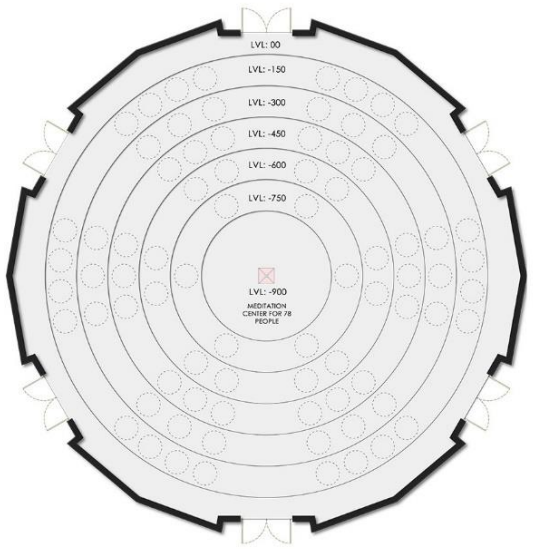


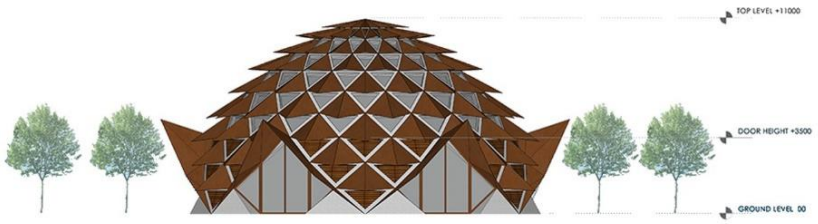


SHADING PANELS REPLICATING THE FORM OF PINE CONE WITH TRIANGULAR SHADING DEVICES WHICH ALLOWS DIFFUSED LIGHT INSIDE THE BUILDING

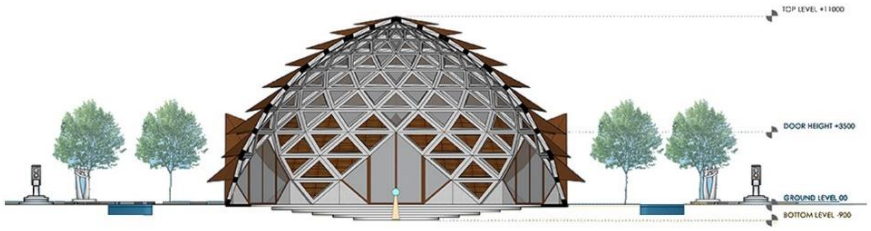


TRIANGULAR SHADING DEVICE FORM SPIRAL IN PERFECT FIBONACCI SEQUENCE. MUCH LIKE SACRED GEOMETRY OF FLOWER

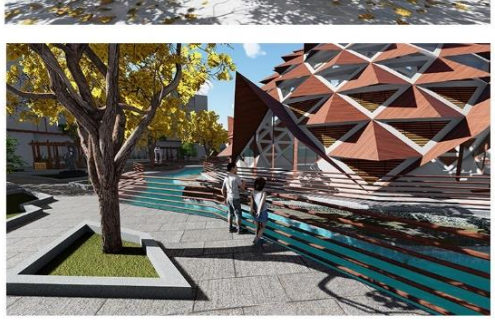




FRONT ELEVATION



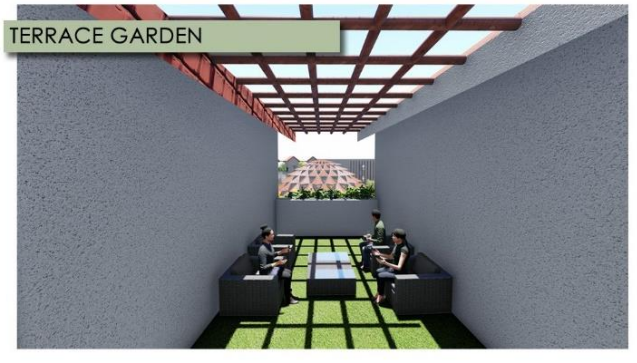
HORIZONTAL SECTION



SUNKEN GARDEN

SHADED PERGOLAS

TERRACE GARDEN



AT THE ENTRANCE

INSIDE LANDSCAPE

GREEN BALCONY

THE HUB

"THE HUB" is district centre proposed in Delhi, is an urban design challenge done at college. project consist of different zones e.g. commercial, recreational and mixed-used spaces. design of the whole is done for changes occurrence in future and to fulfil the need at that time. connecting corridors, pond, central park, and large green recreational area is provided which enhances the user experience and also the beauty of the centre. aim of the project is deliver best amenities to public of surrounded by this district and become an example in future development.

ABOUT THE PROJECT

Project name : District Centre
Location : Sector 23, Rohini, Delhi, India
Site area : 60.08 acre
Client : DDA
Project brief : District Centre should offer shopping complexes, office spaces, commercial spaces, petrol pumps and recreational spaces for public .

THE HUB

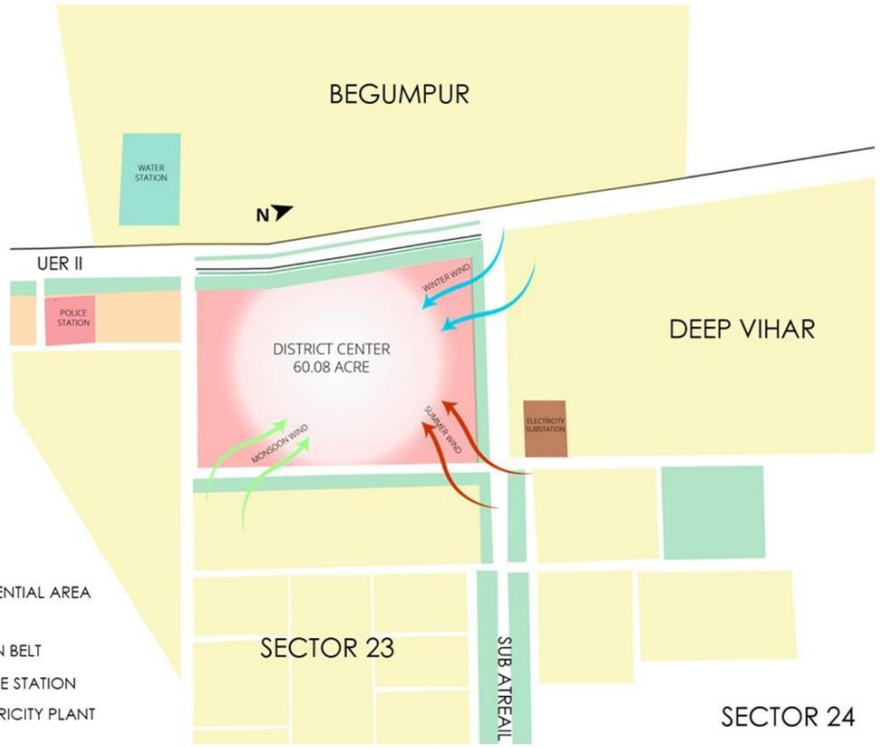
DISTRICT CENTER

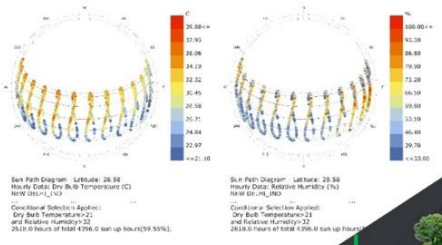
Organic shapes are set in hierarchy with each other to create a welcoming visual representation of the whole site. Overall site is expanding from the branch (which is the cultural hub part bounded for pedestrian only), to the other building to mall and office building creating the scenic view of the site.

Evolution of forms are done in such a way that the organic form is not bounded for just planning part but so that the building will get merge in the ambience of the site.

site imagery

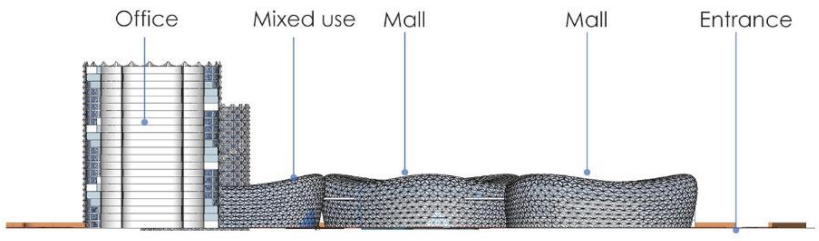
site imagery





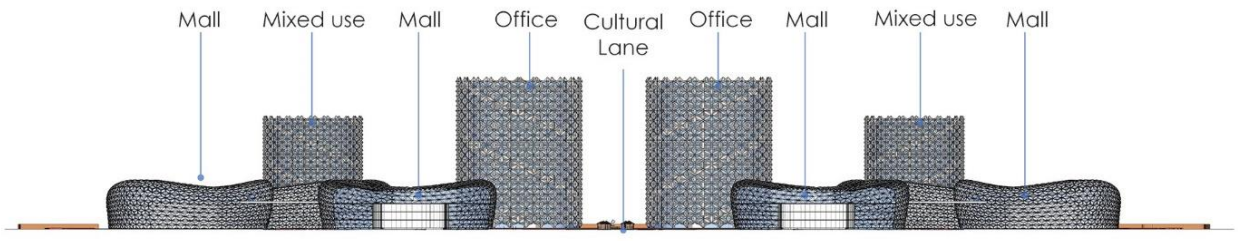
Petrol pump is set at outside of site connected to inner roads

Cultural hub at the pedestrian entrance so that it cant be override by modern building.

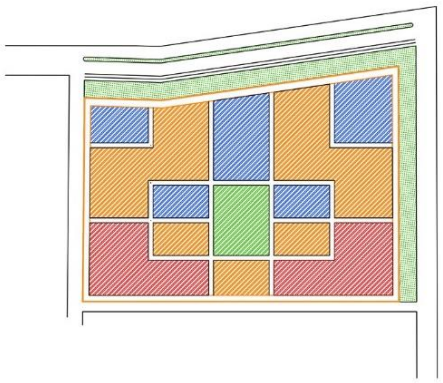


site section

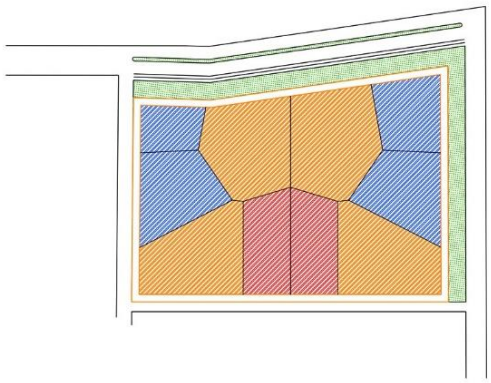
Hospital are placed at the entrance of site for easy to treat patient while emergency



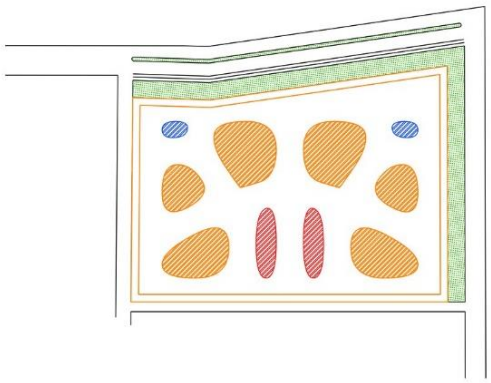
site section



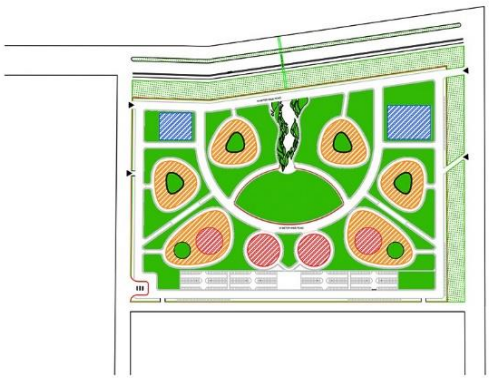
Zoning of spaces



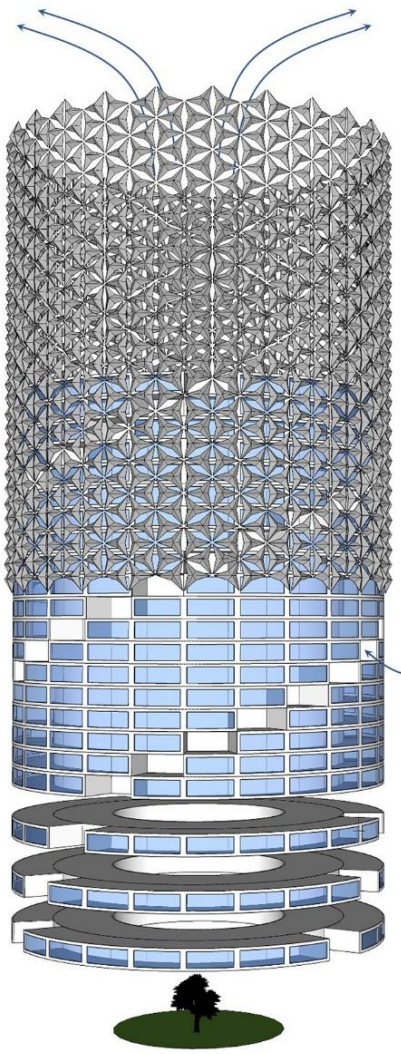
Reparametrizing the zoned space

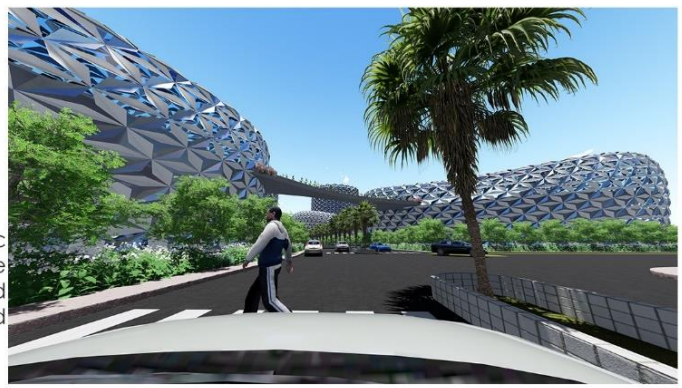


Creating the boundry within zoned space



Rebuilding and rearranging spaces according to site



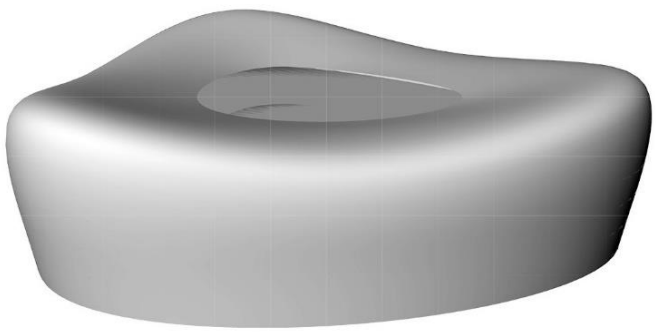


connecting corridor for switching between buildings decrease the walking distance. and also enhances the view

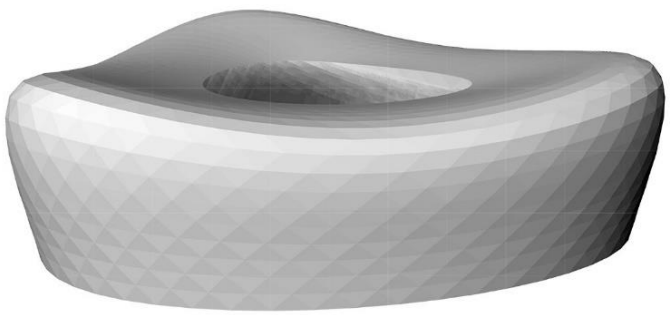
a view from the connecting corridor towards inner road giving the pleasing view of roads

cultural lane decorated with shoping huts built with traditional building material. showing the the cultural foundation of modern culture

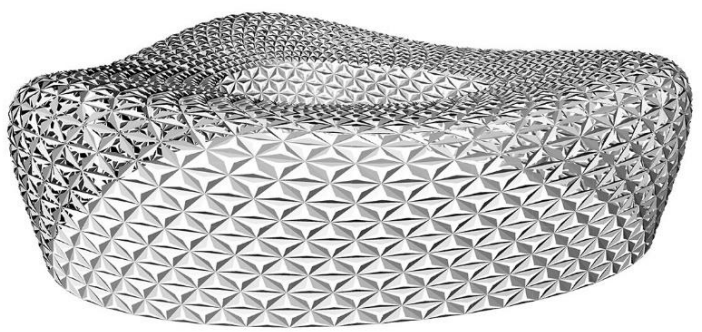
Small lake is proposed in central park for marine species and migrating bird. Interaction place for humans and wildlife, act as reserve and attract public towards central park.



form of the structure



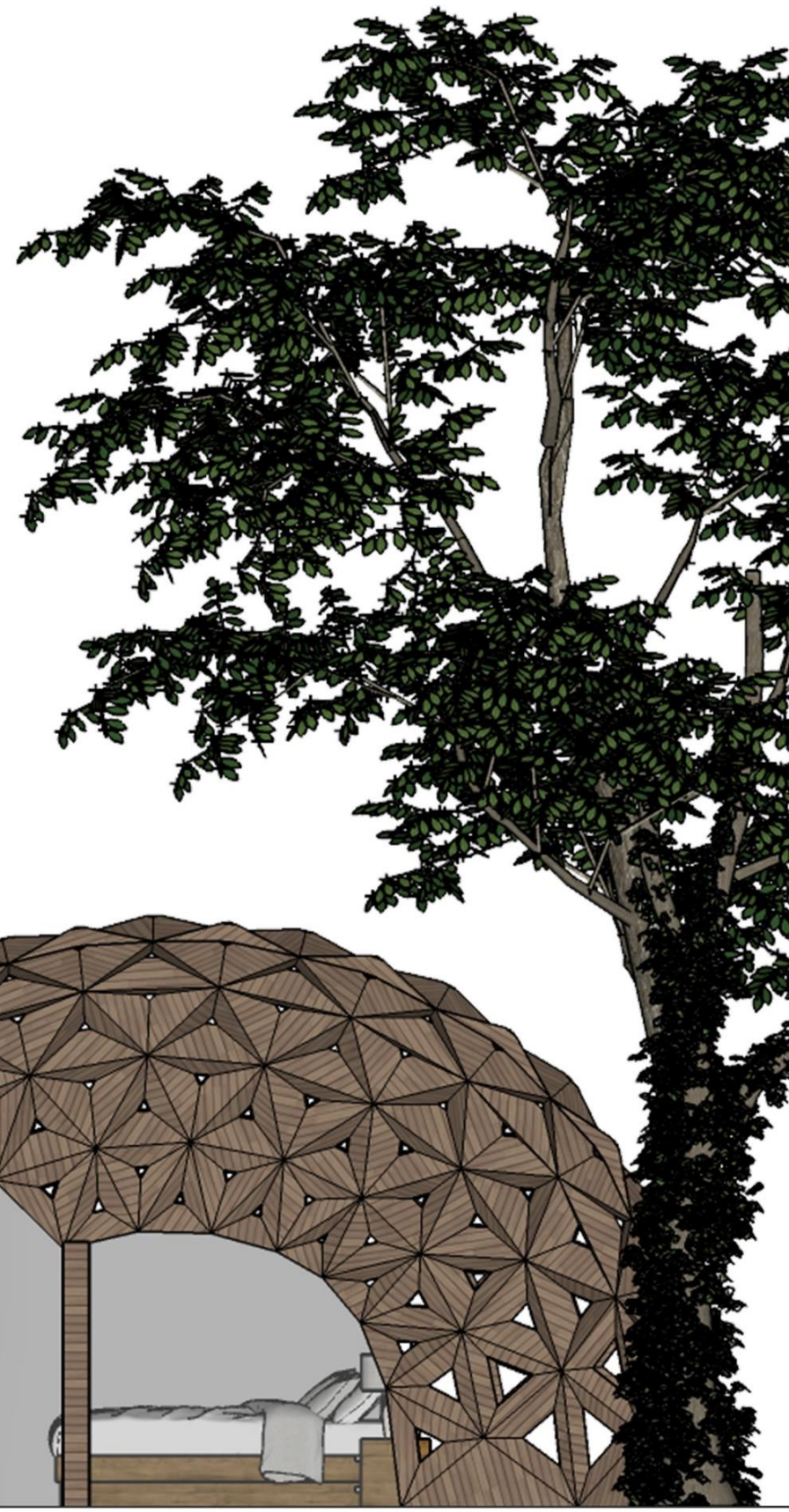
Derivation of the structure



Skin of the structure

THE SHED

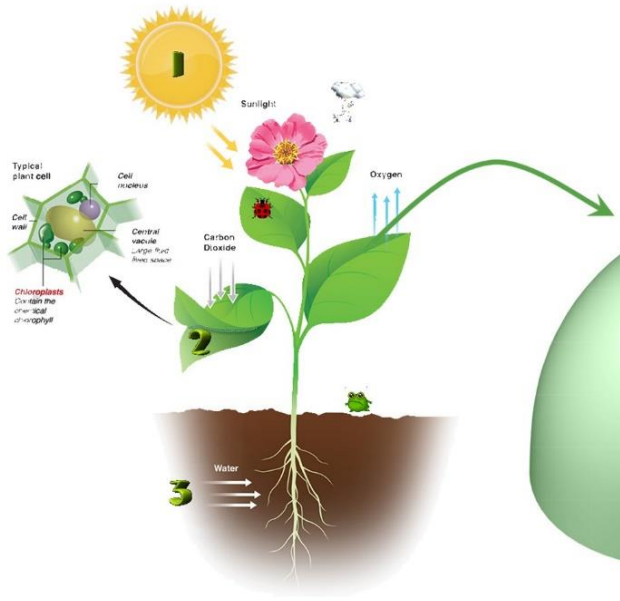
"THE SHED" is a model making competition entry for srijan 2k17 event. theme of the competition is "SYMMETRY IN ABSTRACT". The idea behind this competition defines that symmetry is beautiful and is an inescapable notion. When we see it in creatures, plants, art, architecture or anywhere else, we are drawn to it and are captivated. Whether it's our brains that enjoy the fun of spotting repetition or that there's just less information to process, we can't help but feel that symmetry is good and right. therefore, challenge is to design a model in such a way that it fulfils the theme plus adding up such elements that create some unusual techniques of construction.



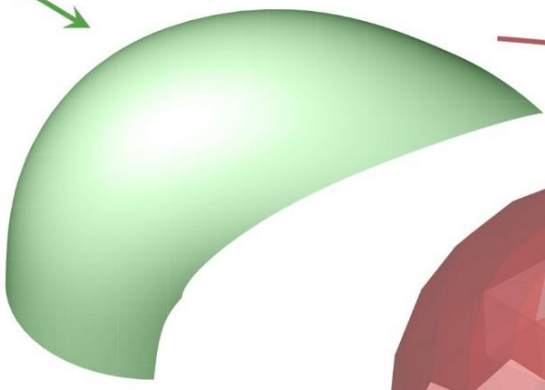
Design is inspired from the leaves and its cells which are responsible for photosynthesis in plant. These natural process in plant is applied in developing architectural form of "the shed". The designed form undergoes algorithm script which triangulates the form on which radiation analysis is done, and then gathered data is used for defining extrusion and opening of triangular pyramid. That's how it completes the title "symmetry of abstract".

View of model

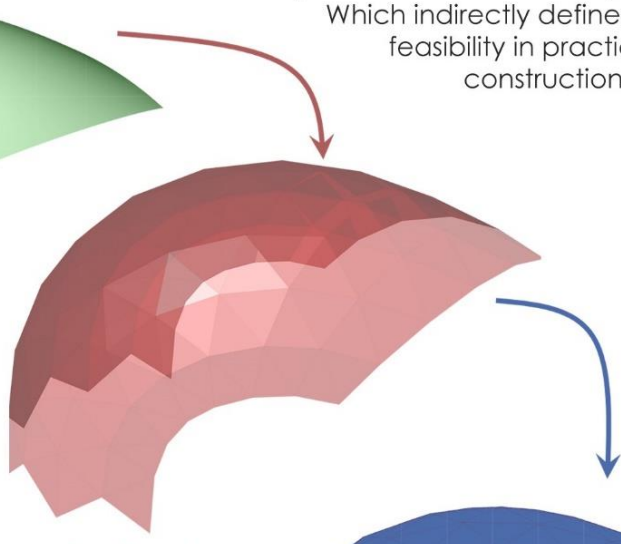
View of model



Proccess of photosynthesis in plant through leaves

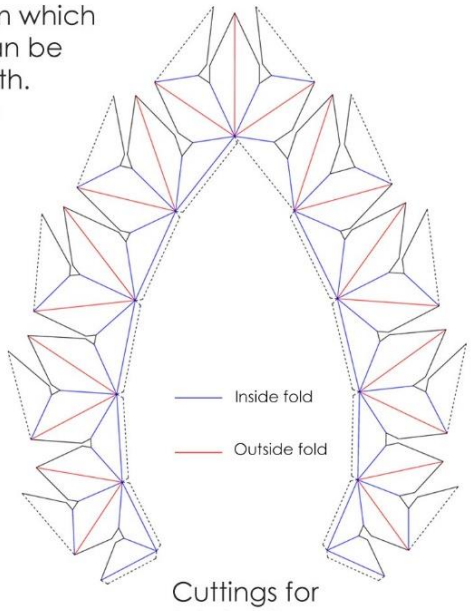


Extruding shape of leaves

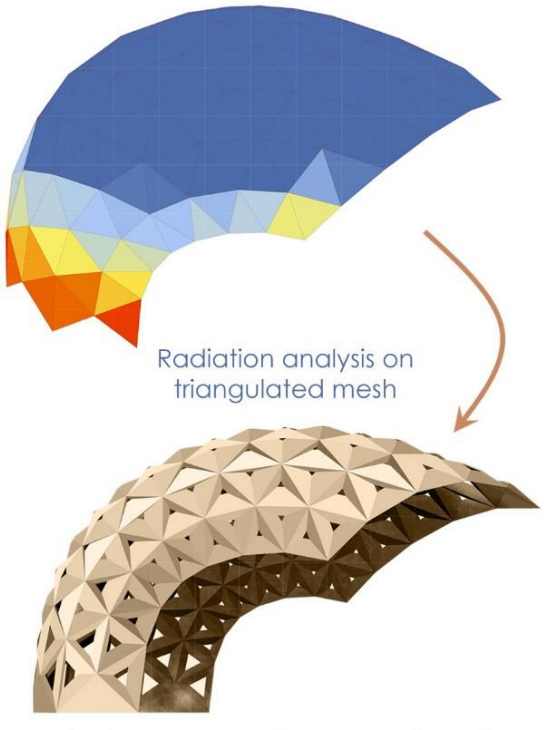


Converting form to triangulated mesh

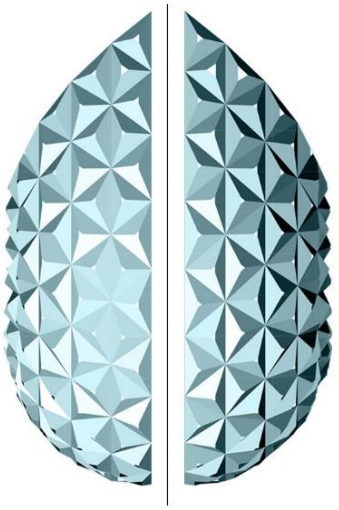
Fabrication of the model is done through algorithm which gives the planar lines to draft on paper can be cut by machine and manually both. Which indirectly defines its feasibility in practical construction.



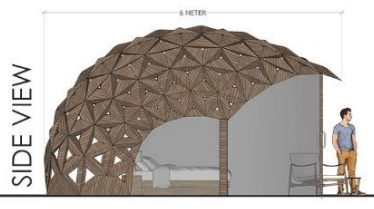
Cuttings for fabrications



Radiation analysis on triangulated mesh



Symmetry of abstract

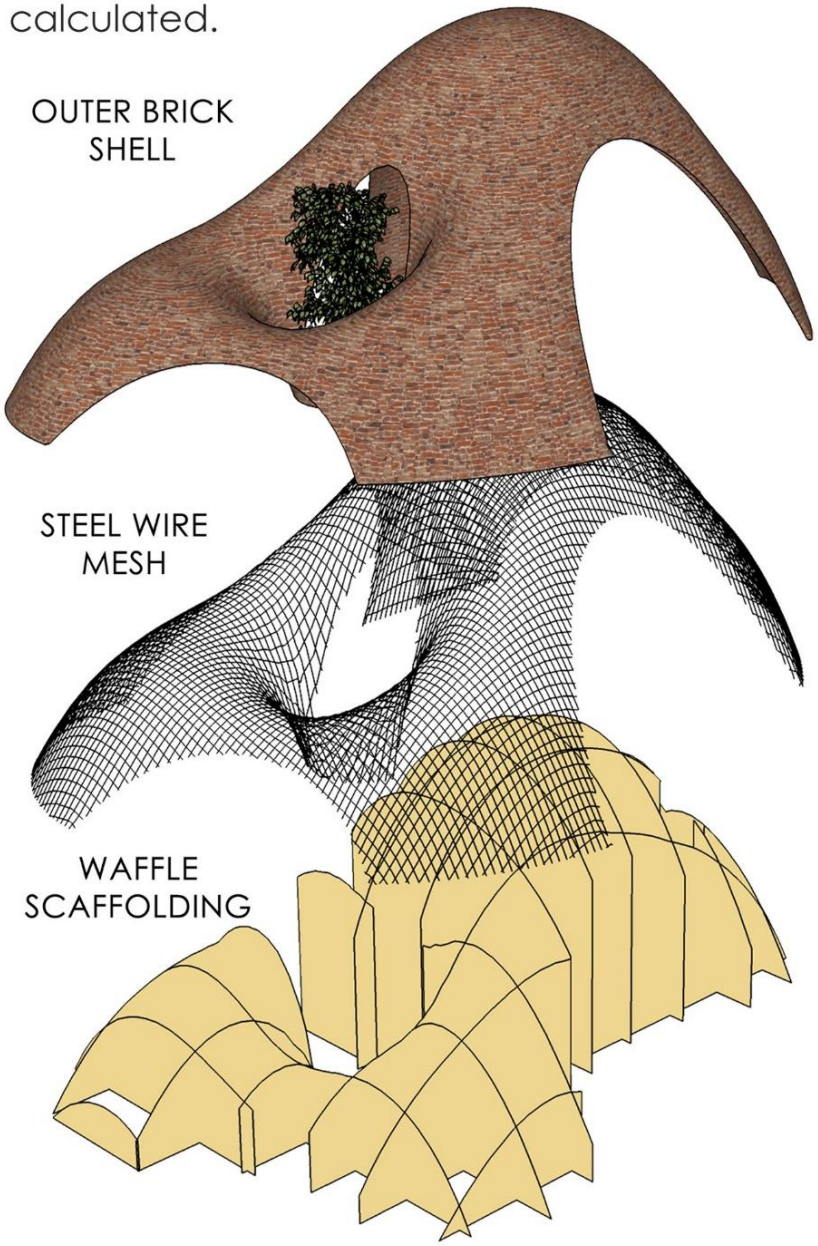


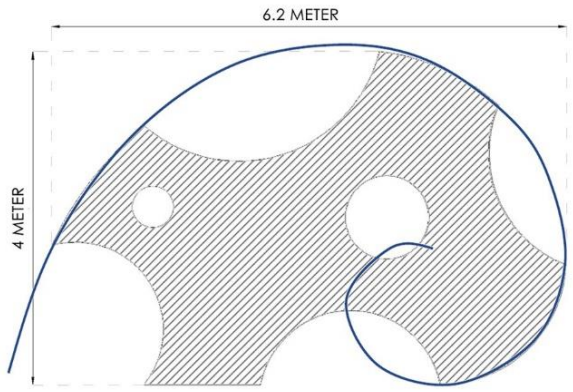
Final outcome after many iterations

THE VAULT

"The Vault" is a funicular structure done as a academic dissirtation project. Conceptually, a funicular structure could be said to be a structure which can achieve equilibrium state by adopting a mechanism of a 'right' form (shape/geometry) corresponding to the applied loads. This 'right' form is referred to as the 'funicular' geometry.Project developed on RHINOvault constructed by laying brick over mesh through waffle scaffolding designed computationally on grasshopper and rhino, so that mesh takes out the shape of designed structureon which the brick structure can rest.

Inspiration for the design is taken from the history of brick architecture when structures are self-supported with exposed material and innovation. Therefore, I decided to decode the process of organic brick vaults in architecture constructed in contemporary world. design is initiated by planning space by twist awry golden ratio curve. Primarily the planned form is triangulated after which the forces are calculated firstly horizontal and at last vertical equilibrium is calculated.





AREA: 13.5 SQ.M.

PLAN OF THE DESIGNED STRUCTURE IN CONTEXT TO GOLDEN RATION

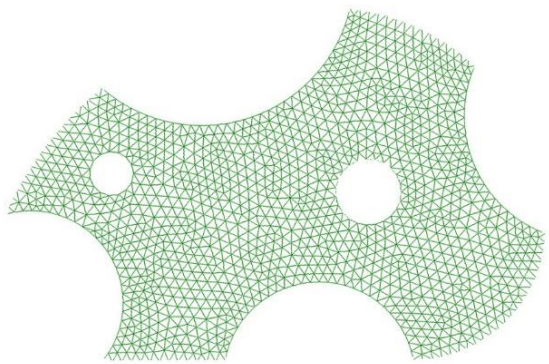


FIGURE 2: TRIANGULATED FORM DIAGRAM GENERATED FROM DRAFTED PLAN

Construction: wooden scaffolding is specially designed for this structure so that wire mesh can take the shape of entire structure and on which the brick work can take place. projects is made keeping the digital fabrication techniques in mind

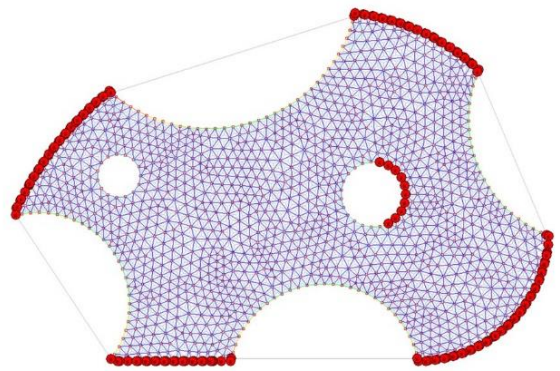


FIGURE 3: DEFINING THE SUPPORTS AND OPENINGS OF THE STRUCTURE

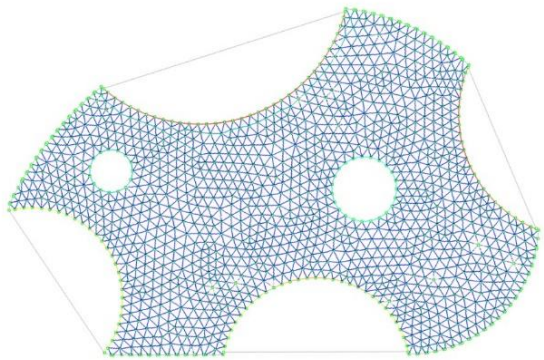


FIGURE 2: HORIZONTAL EQUILIBRIUM, ITERATIONS: 49, SECONDS: 1, @TOLERANCE: 13.63 DEGREE

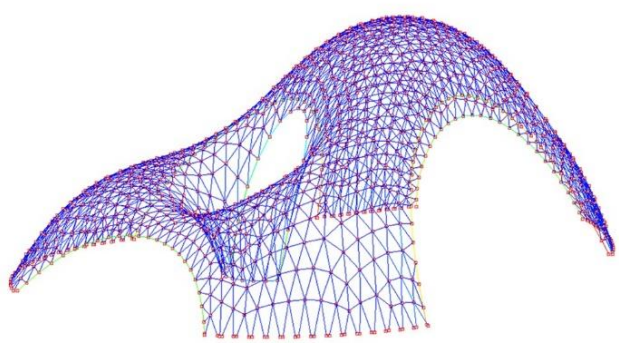
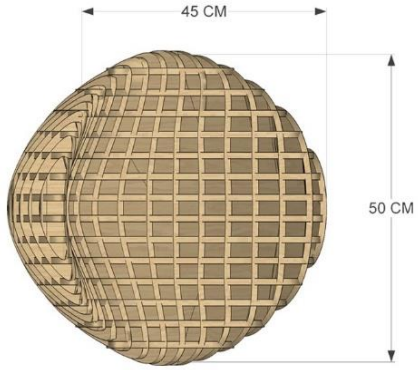


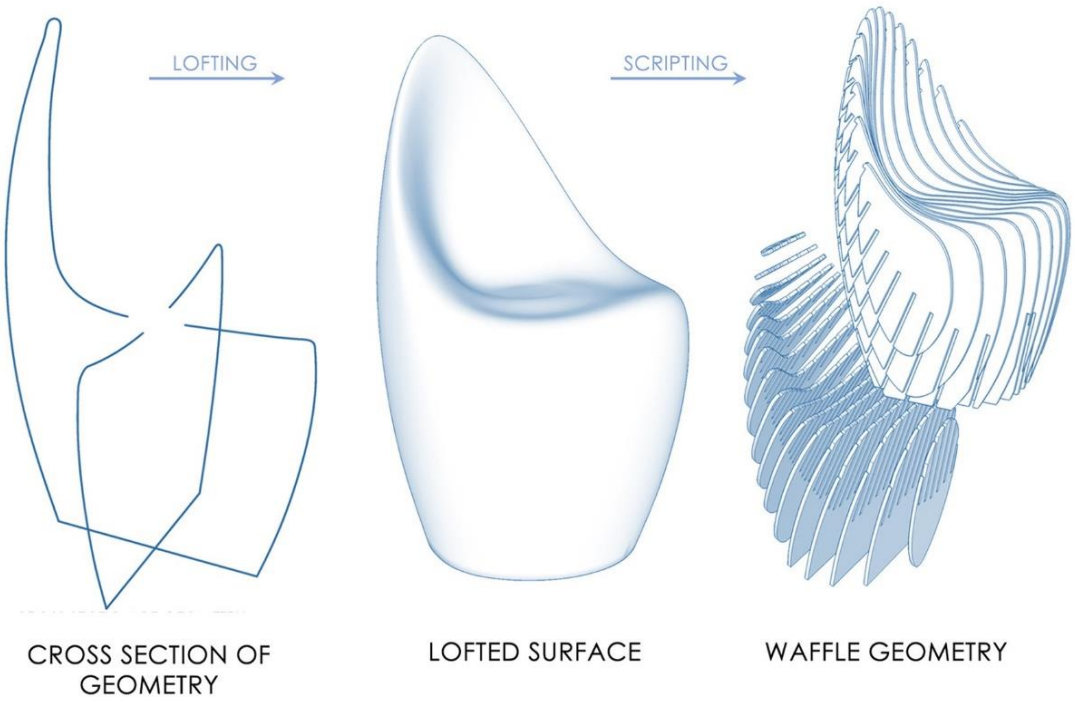
FIGURE 5: VERTICAL EQUILIBRIUM CONVERGENCE AFTER 1900 ITERATIONS

THE WAFFLE

"THE WAFFLE" is title given to the chair designed in academic studies as a part of interior design. the waffle is elegant and ergonomic furniture design for contemporary world.waffle is the sweet dish made by cooking dough between plates usually having check pattern over it. therefore the idea of the project is an amalgamation of waffle structure with comfort. projects is made keeping the digital fabrication technique in mind. which make the furniture easy to move and easy to construct both



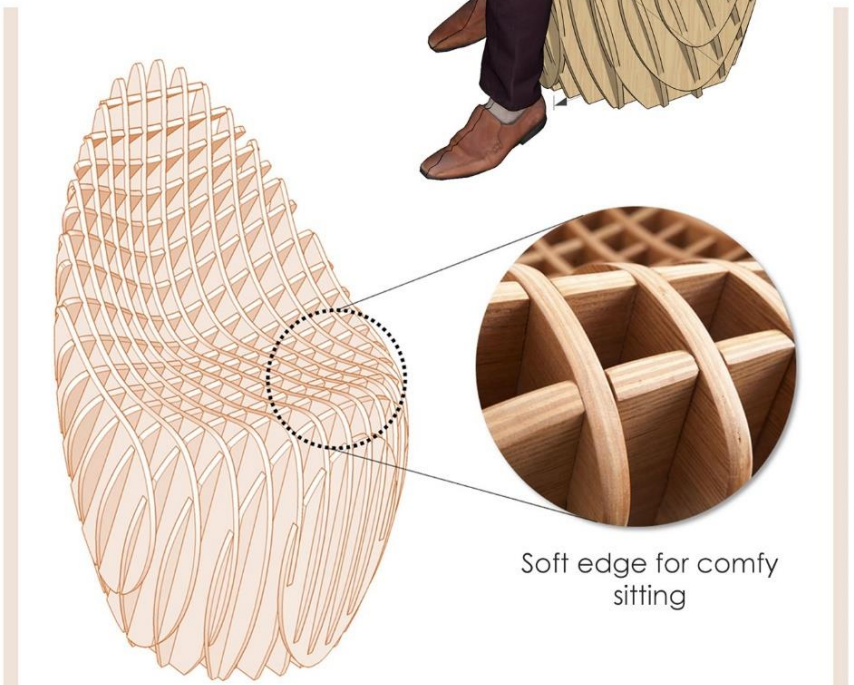
Top View



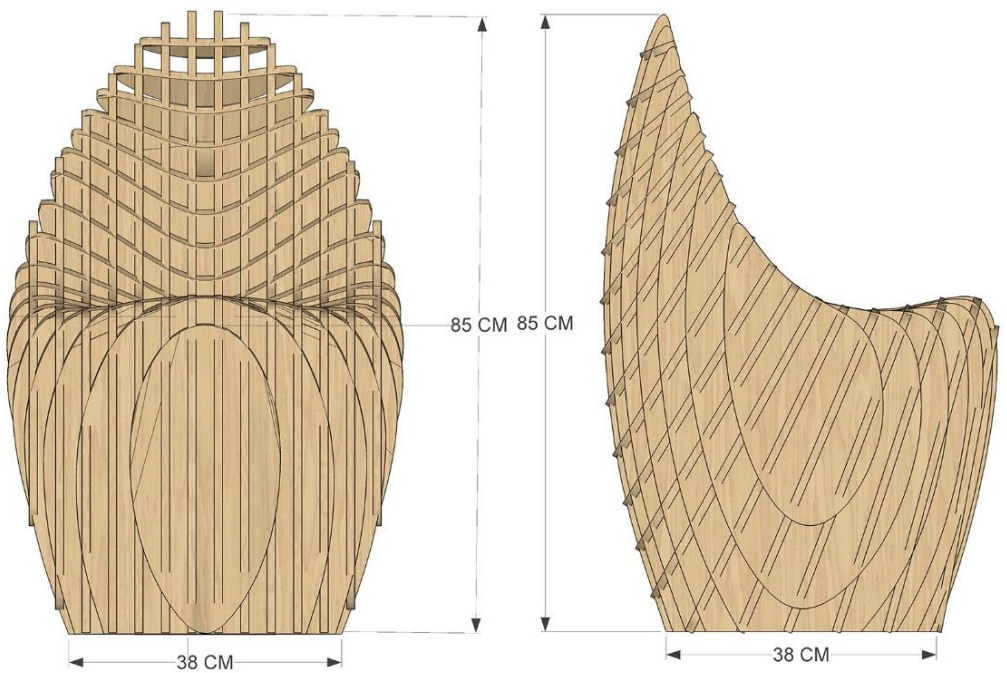
CROSS SECTION OF GEOMETRY

LOFTED SURFACE

WAFFLE GEOMETRY

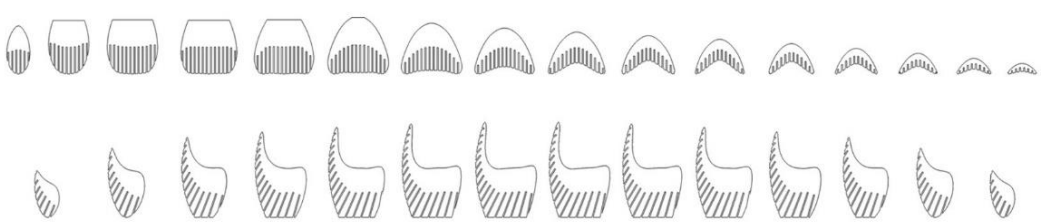


Soft edge for comfy sitting



Front View Side View

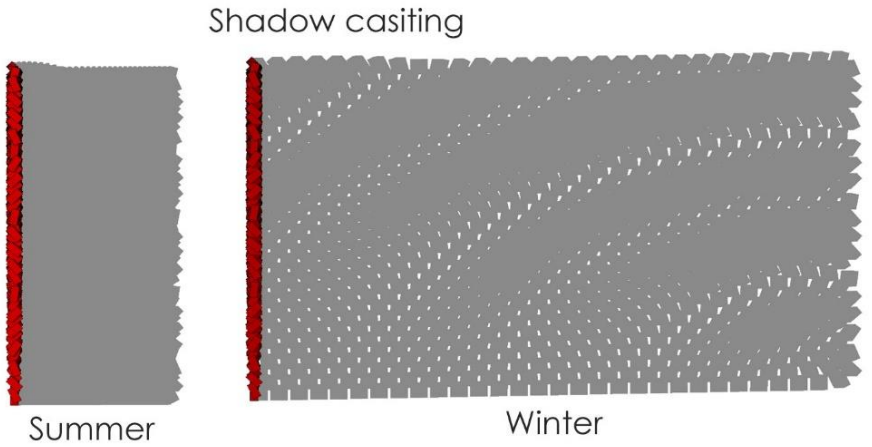
Whole design process is computative which have its own benefits like computational design makes the design easy for both client and designer. in case when clients demand its own design then specific script makes out the drawing of CNC cuts which will saves the precious time of both parties. digital fabrication process is more precise relative to other methods of making furniture.

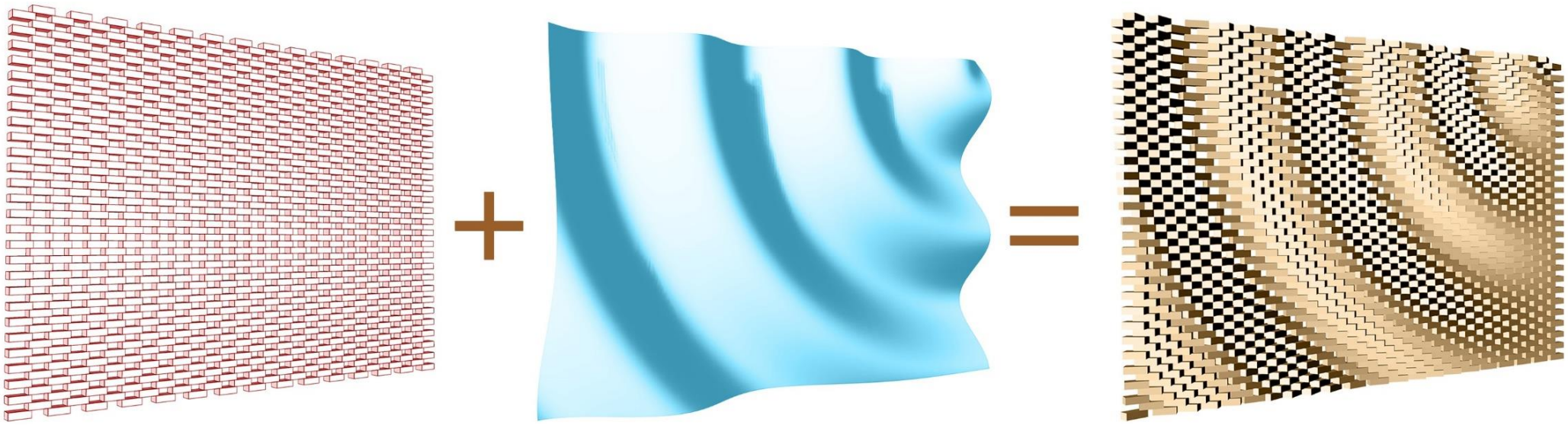


Laser cut outs for fabrication

THE WAVE

"THE WAVE" is a parametrically designed brick jaali made out in such a way that it mimics the wave generated from a water drop on water. challenge is to convert the traditional jaali into morphed one, therefore starting is done by taking stretcher bond jaali and morphing it into the wave surface following the form of water. "THE WAVE" is more efficient in controlling sun radiation and it increase the wind flow making space livelier.





Stretcher bond jaali

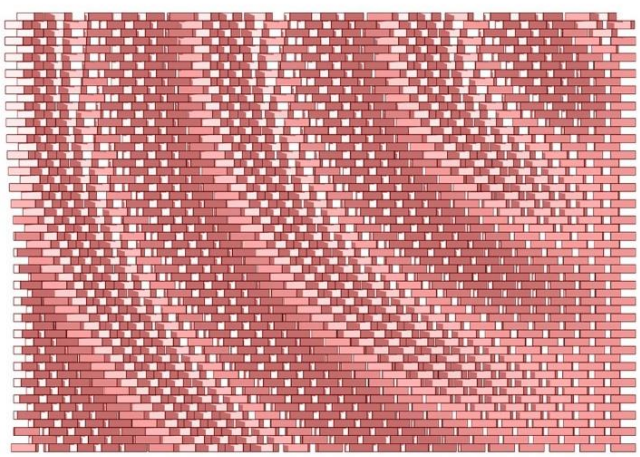
Surface of water

Output: brick jaali mimicking the wave.

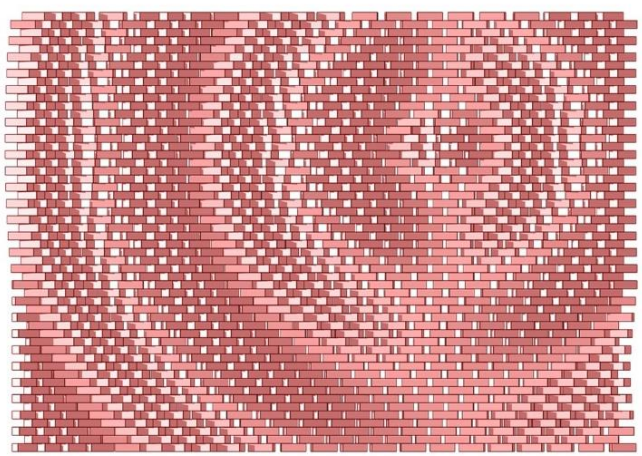
how to construct?

the wave is easy to construct anywhere all it needs is just CNC machine. computationally designed wall also gives the stencil which can be cut and use as guide for brick which will allow user to build exact designed wall precisely. different course will have different guides for brick.

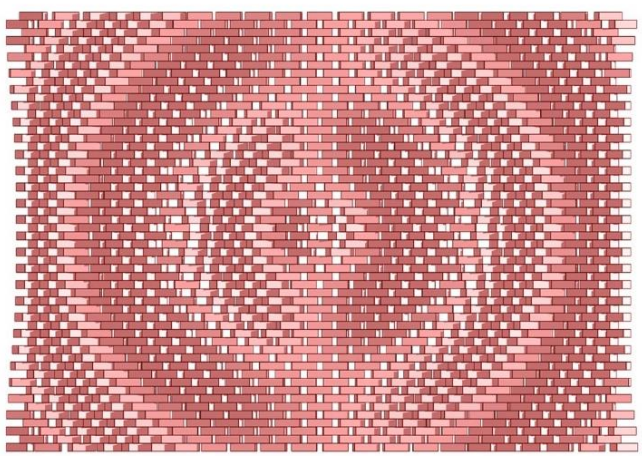
EASY TO CUSTOMISE



X: 100, Y: 100

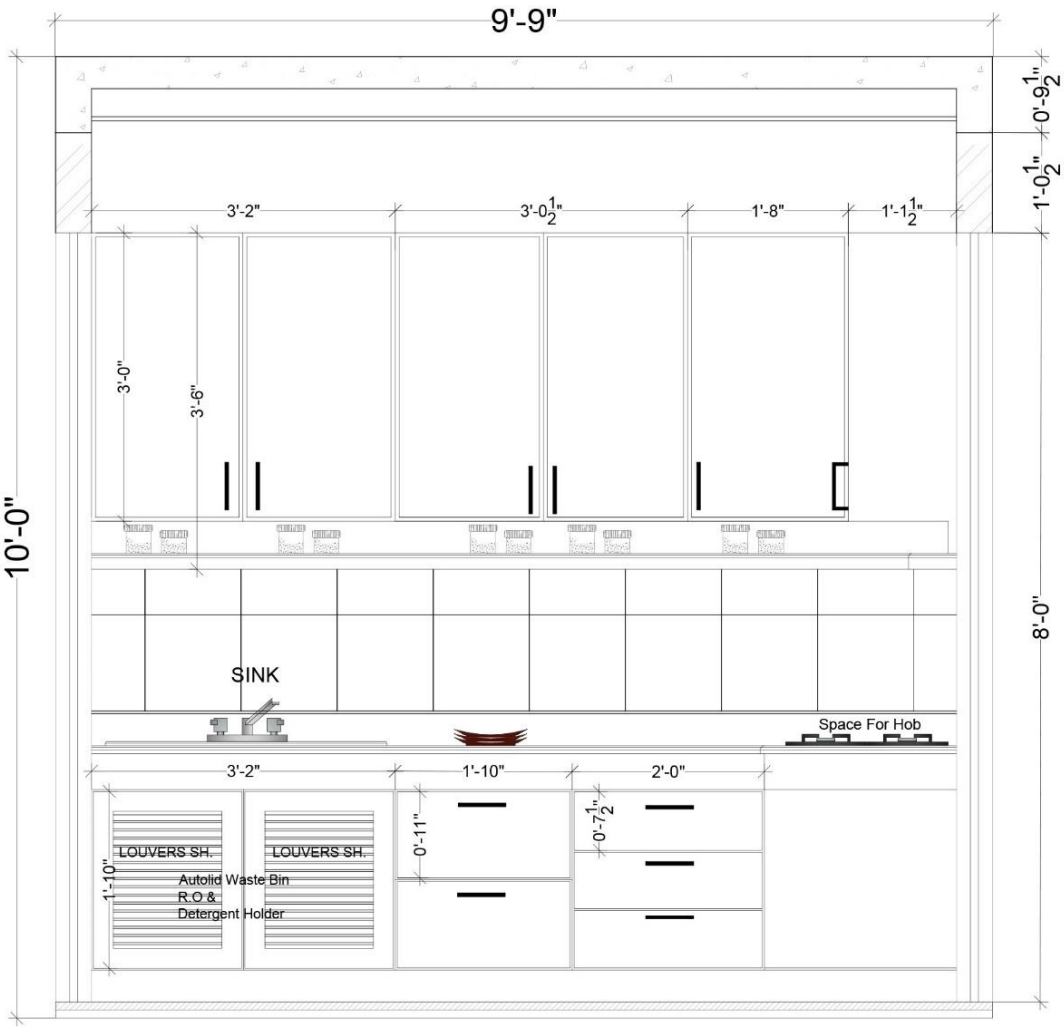


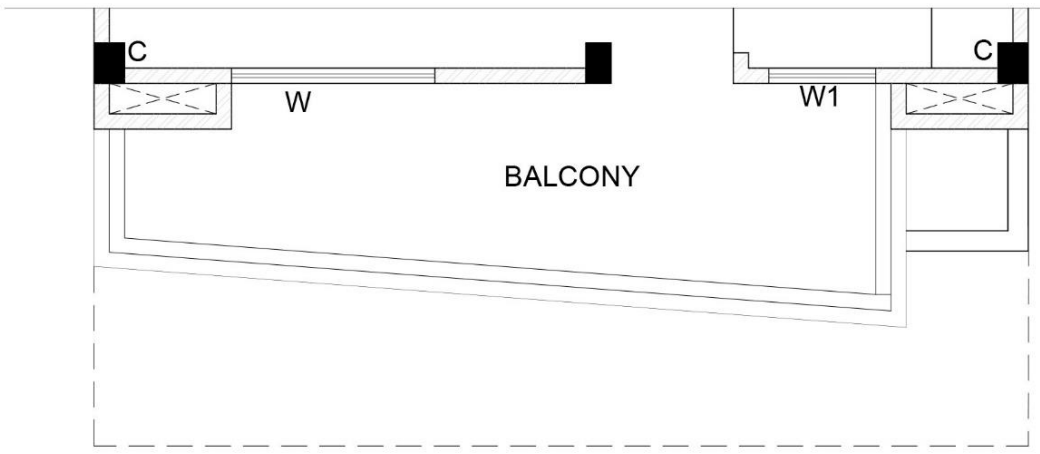
X: 70, Y: 70

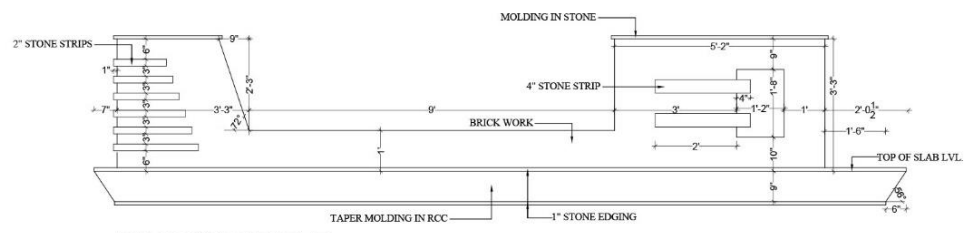


X: 00, Y: 00

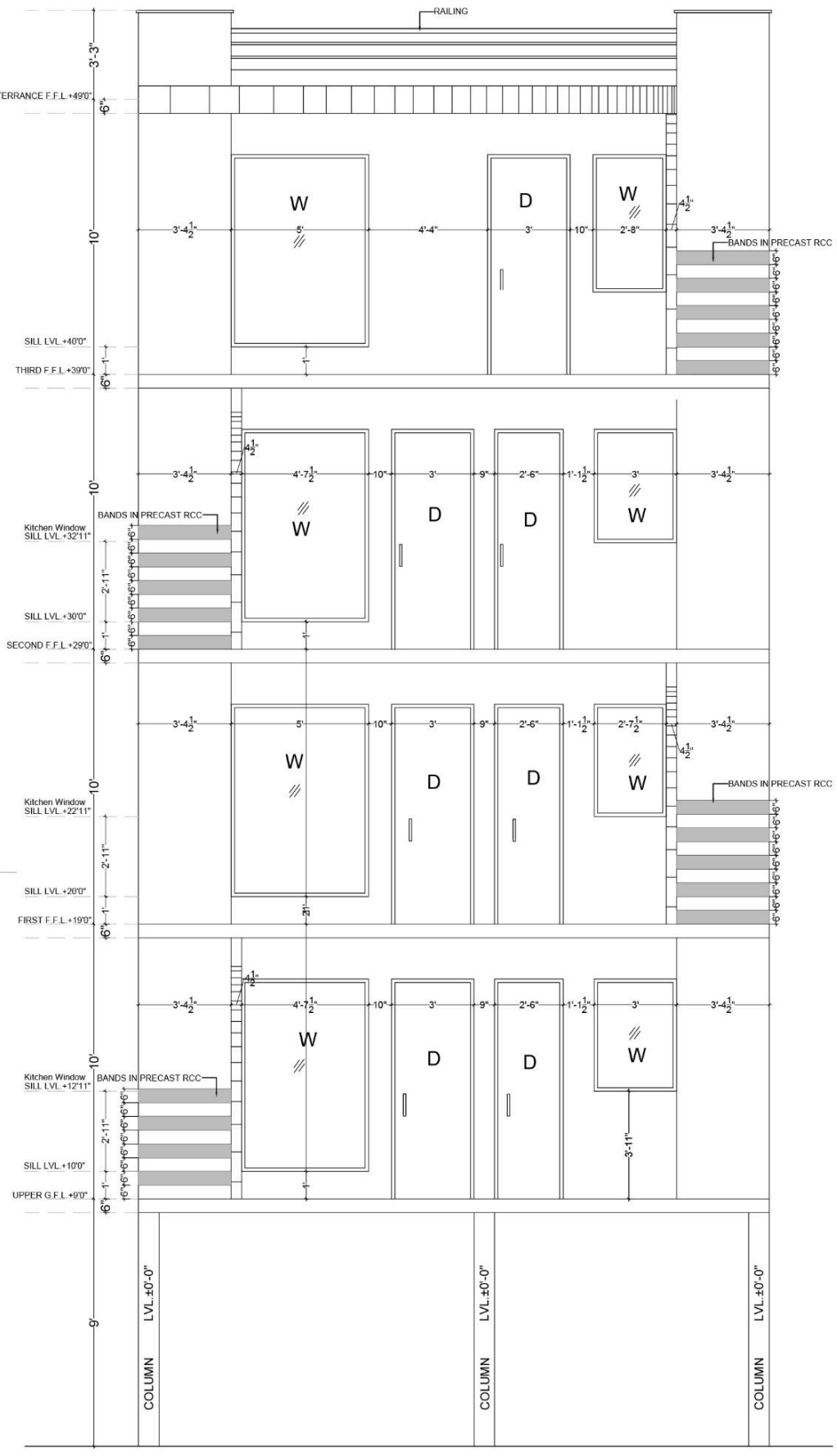
WORKING DRAWING



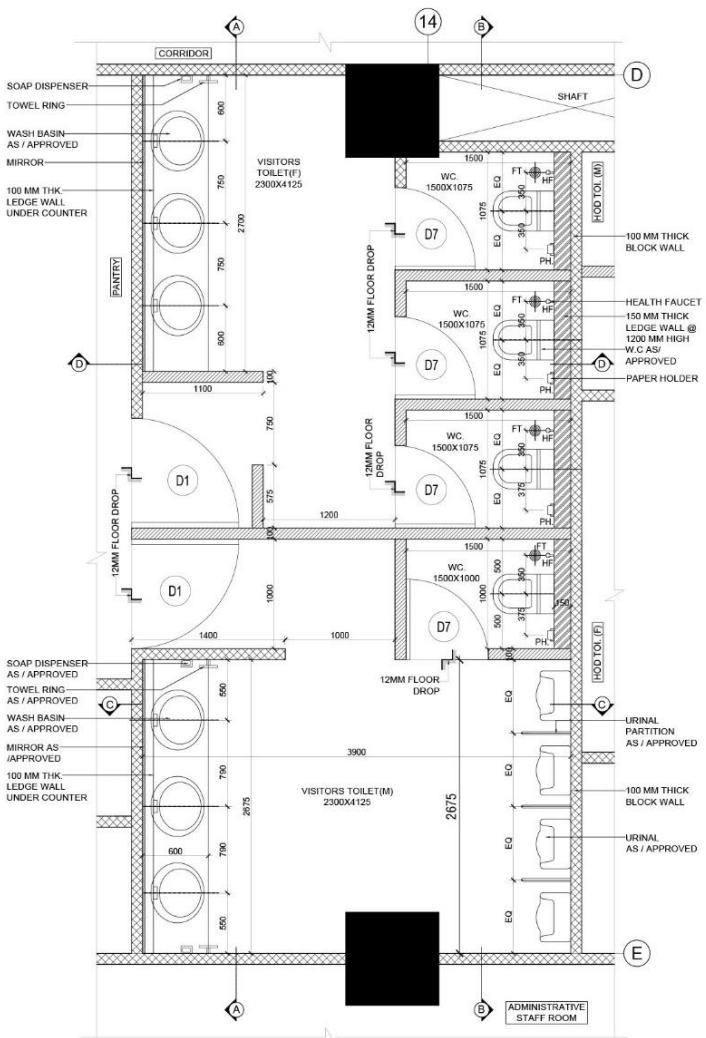




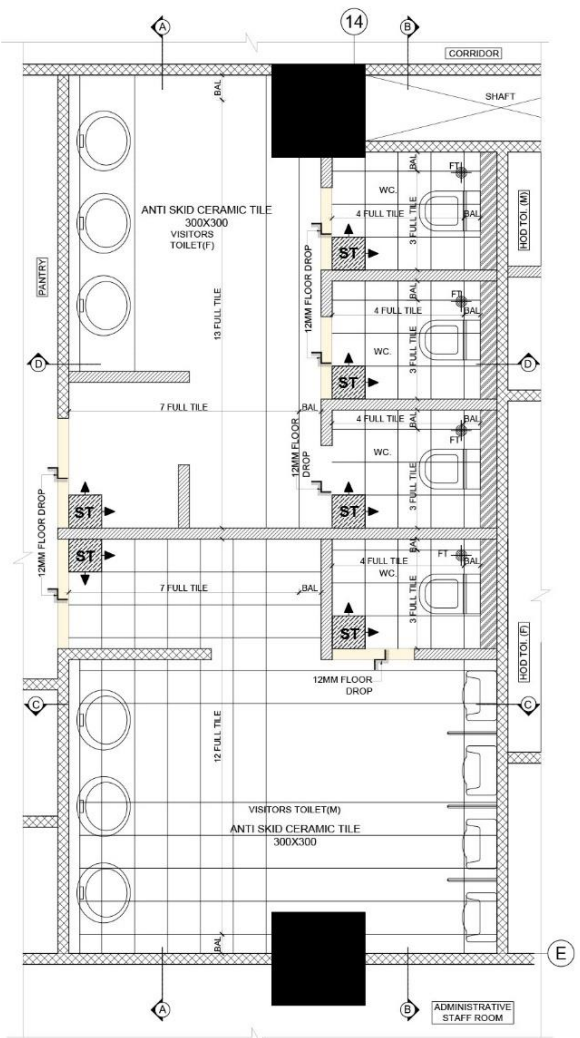
BALCONY PARAPET



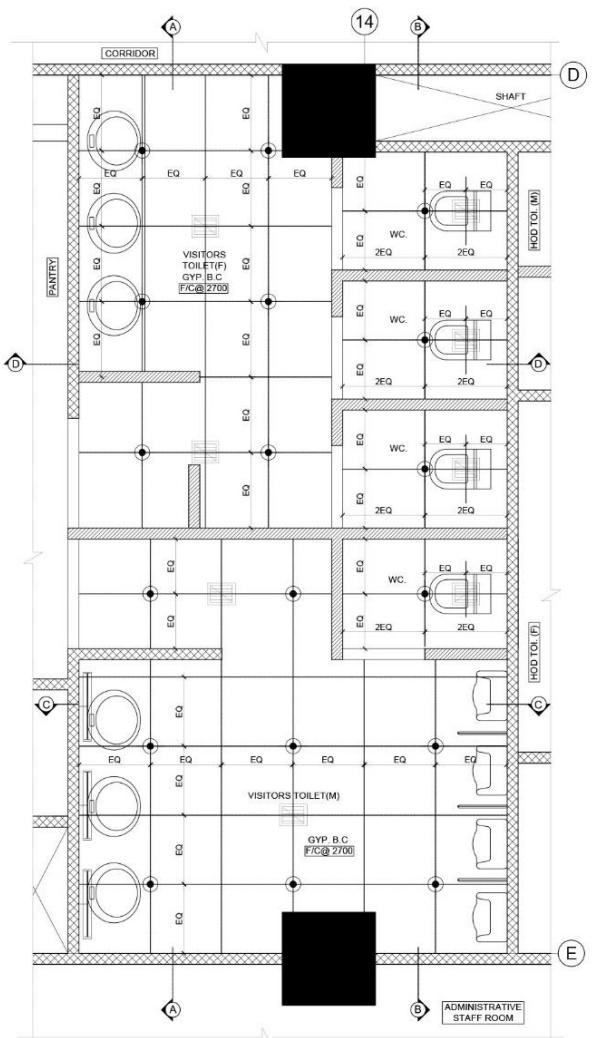
FRONT ELEVATION



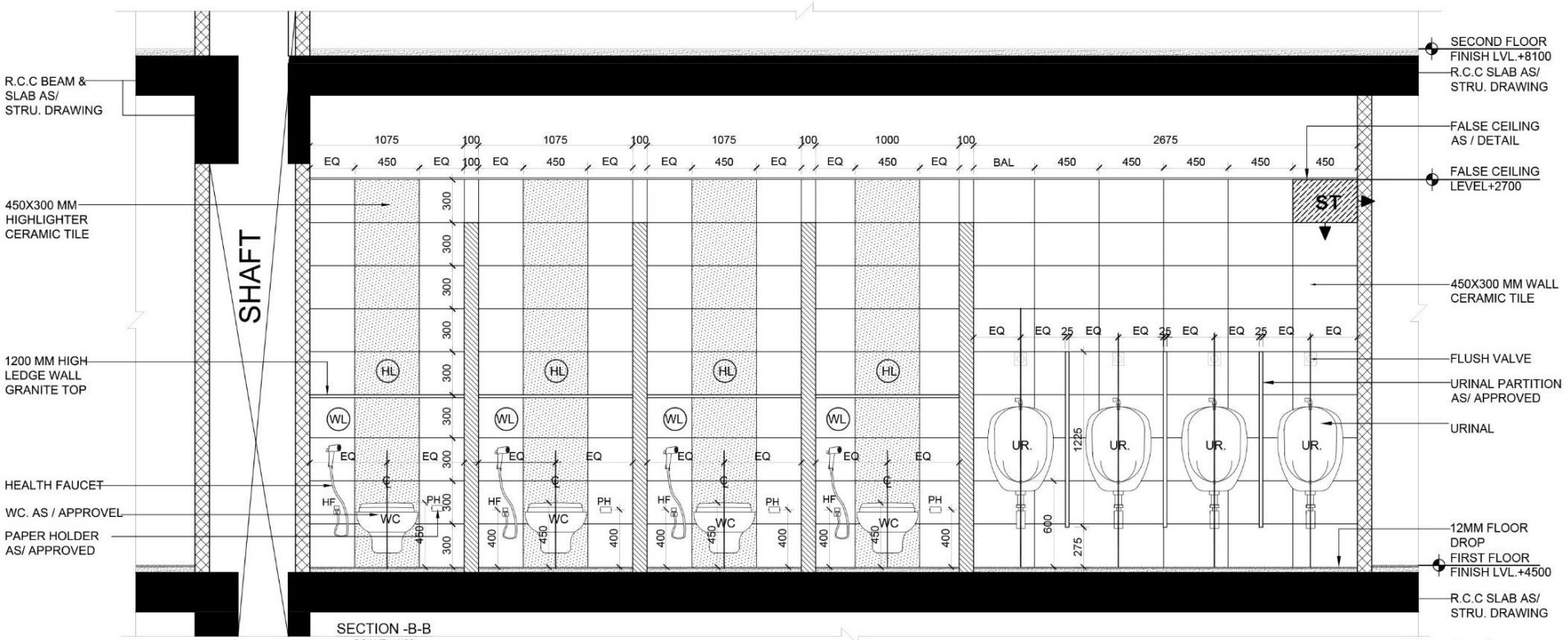
VISITORS TOILET DETAIL OF 1ST FLOOR
FIXTURE LAYOUT PLAN AT GRID NO D,14
SCALE :- 1:30



FLOORING LAYOUT PLAN
SCALE :- 1:30



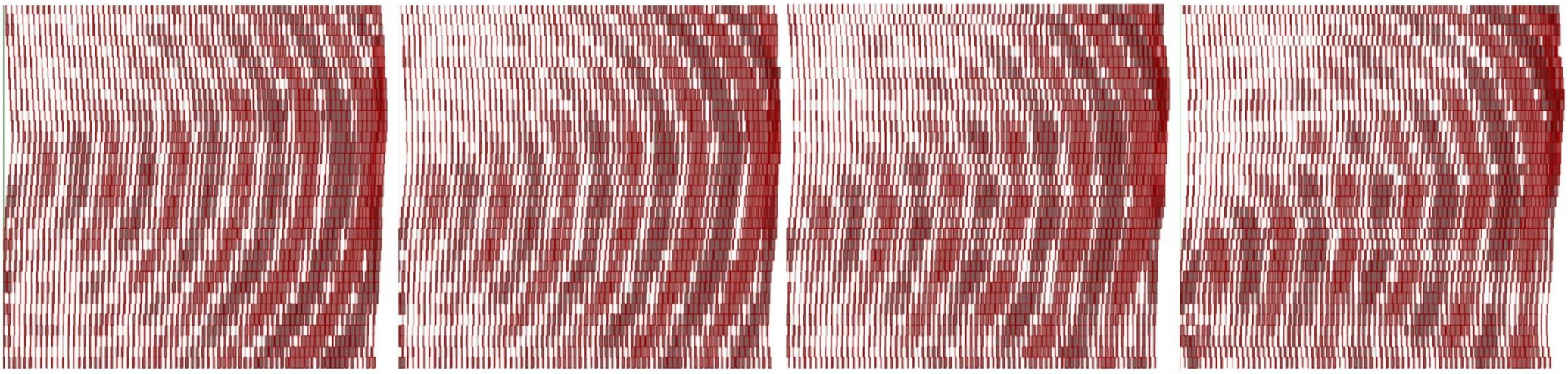
REFLECTED CEILING LAYOUT PLAN
SCALE :- 1:30



SECTION -B-B
SCALE:- 1:30

COMPUTATIONAL WORK

Kinetic building facade



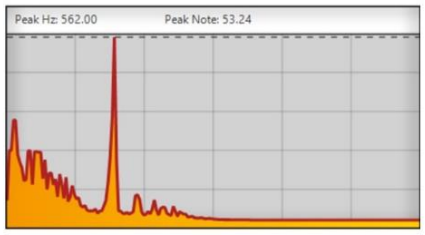
At 2 second

At 4 second

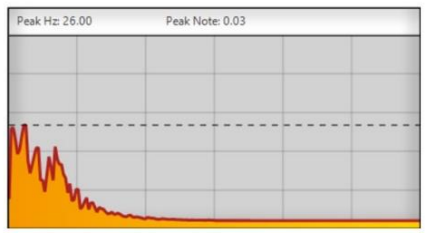
At 6 second

Sound responsive ceiling

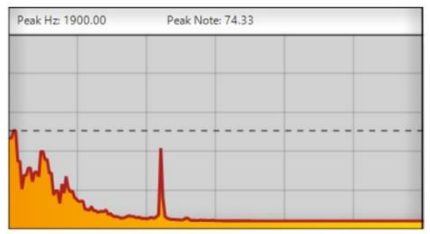
variable 1

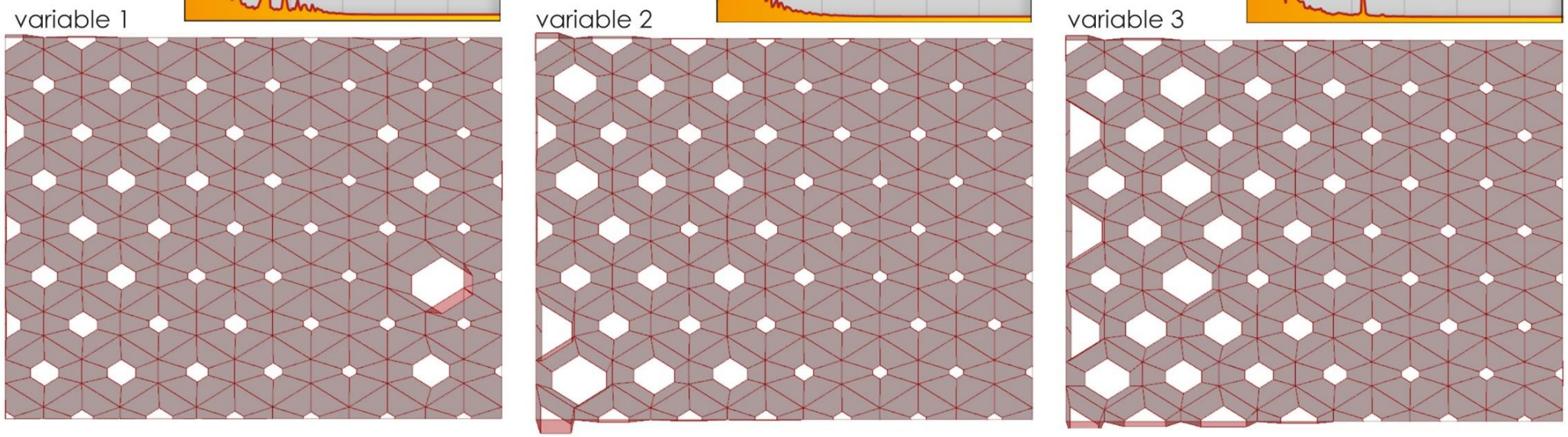


variable 2



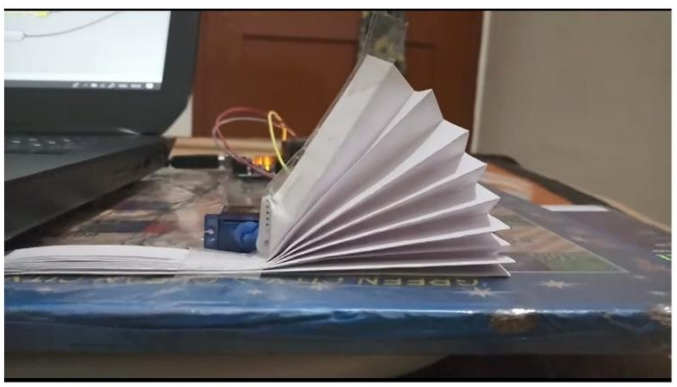
variable 3



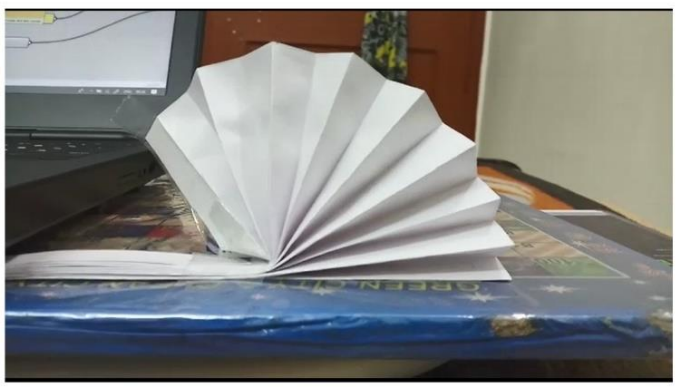


Light responsive project

At intensity 0

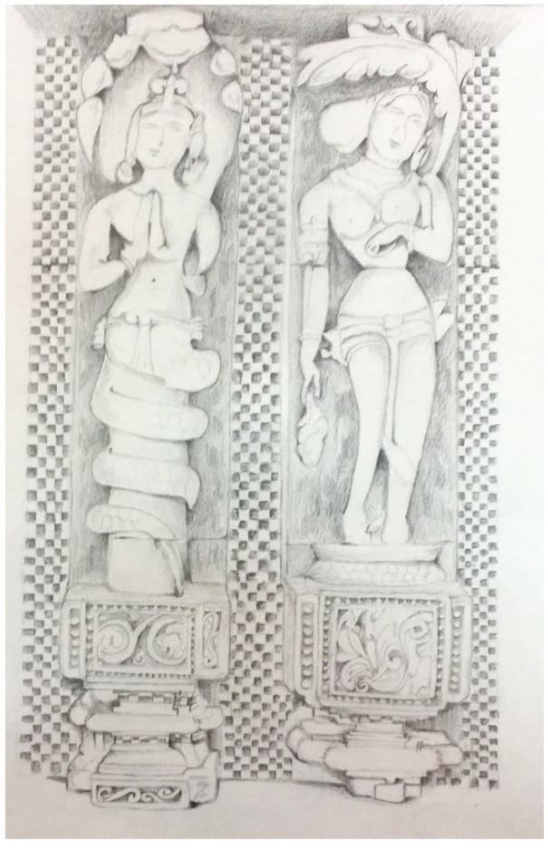


At intensity 50



At intensity 150

MISCELLANEOUS



FIFTY SHADES OF SHADOW

"COVER PAGE" is a cropped part of front elevation of a building whose facade is designed by changing the position of vertices back and forth of white rectangular panel grid divided diagonally, generates abstract pattern when comes uner sun light through shadow, making the whole façade live.

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