THESIS

PORTFOLIO

VATTAVADA

Integrated Model village & agro tourism centre

REDEFENITION

Redefinition

The proposed project focuses on the development of certain backward families and got no point on the daily problems faced by the whole village.

lack of vision

One reason for the failure of rural development schemes has been the lack of a holistic focus on the village as a unit. The project does not follow the basic characterstics or have spaces of a typical community where the people can adapt.

Proposed model village

The proposed vattavada model village project was aimed at providing housing for the selected underprivileged SC families (houseless) living in various colonies located in Vattavada Panchayat in order to increase the overall living standards from the present poor living conditions.

108 selected families

മോഡൽ വില്ലേജാകാൻ വട്ടവട പഞ്ചായത്ത്

The village has been already designed with required minimum facilities.

DESIGN

27 housing complexes
mini shopping centre
day shelter homes for aged
community hall
anganwadi
Playground

problems with execution

The project was dropped in 2018 and restarted in 2020. The site selected for the project belong to pazhathottam village and it is having a steep slope. considering the safety of the people the pnchayath has decidedto provide 20 houses in the same site and is inlook for a new site for the remaining 88 families.

site selection

The selected site is having an area of 51 acres which is owned by the government itself in Vattavada (Devikulam Taluk). Currently the site has been given for farming under lease and the area comes under the main cultivating spot of vattavada which is the Pazhathottam.

The site is just 1km away from the proposed site for model village and3kms from the proposed **Munnar-Kodaikanal road** and one which connects all the main tourist spots of Vattavada.

increased tourists

Connectivity – Koviloor Bus stop (3.1km), Railway station: Bodinayakanur, Tamil Nadu (104km), Nearest airport: Cochin International Airport (153km)

Kodaikanal can be reached by this route from Vattavada in just 2 hours. It would provide a reliable link between the unimproved and unconnected rural communities of Vattavada and Kilavarai, improving the living standards of the people.

Pazhathottam LP School is located in it. The main advantage is that the site is having 2 entry points from the same road.

focus

The new approach focuses on how we can make the selected backward families and village people o overcome their problems by providing a type of assistance.

potential agro tourism

Vattavada and Kanthalloor Panchayats account for 40 per cent of the total winter vegetable production in the state. Vattavada is famous for its unique agricultural villages like Vattavada, Kovilur, Kottakampur, Chilanthiyar and the orchard. Agriculture is also predominant in the tribal villages outside these areas.

Advantages of agro tourism
- Expand operations of farming
- Revenue
- Employment, development of market
- Awareness on local materials

For communities
- Upgrade in facilities for the sake of tourists
- Preservation of tradition
- Promotion
- Overall rural economy

The village DEVELOPMENT

The integrated redesign of this concept focuses of providing a solution for the general problems faced by the village people and giving them a way to use their true potentials as a village and a platform where they can live in harmony and earn for their daily needs.

The project will be thinking to promote farm tourism in the village as an income generator and more community gathering spaces for the social empowerment of the communities.

SPACES

usually involves- accommodation, farm land visits, farm shop visits, guided walks, and activities. The use of indigenous methods and organic farming is widely accepted and is popular among tourists. Many destinations like Kanthalloor located near Munnar has gone a long way in this sector.

process MODEL OF KUMBALANGI VILLAGE

kumbalangi village is a model village which got this name based on the developments happened relating to the eco-tourism

The government is providing assistance in form of resorts, restaurants, fishing nets as the people earn from water and their traditional fishing jobs.Relating to the concept of model village the kumbalangi ishaving less services and amenities and the promotion and conservation of tradinal practices and culture make them a model for others. likewise this projects aims to provide maximum assistance and job opportunities for the people of vattavada

PROPOSED WATER COLLECTION TANK

There exist a waterfall in the site and there is a proposal existing in the site for a water collection tank for the water needs of villagers and the water is converted into a public recreational element to boost touism.

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

VATTAVADA

Interactive & responsive architecture

Being responsive to the undulating landforms, its climate and the people lifestyle

design elements

landscaping elements

using the existing trees as an element to more private and public gathering spaces that will create more interaction with inhabitants. this helps to create a more sustainable form of development.

retaining lifestyle

use of the effects of water and trees on human mind.

water

use of the existing water body and use of the proposed watercollection tank on site as a recreational elements.

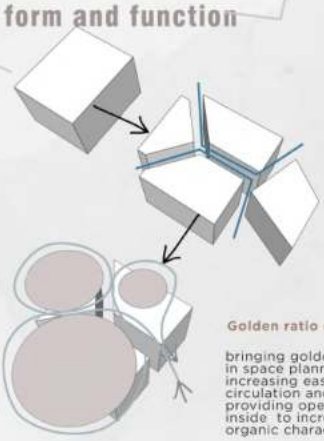
use of water body

climatic response

use of their traditional **mud construction techniques** that are resistant to their cold climate and use of traditional and locally available materials

mud, stone, wood

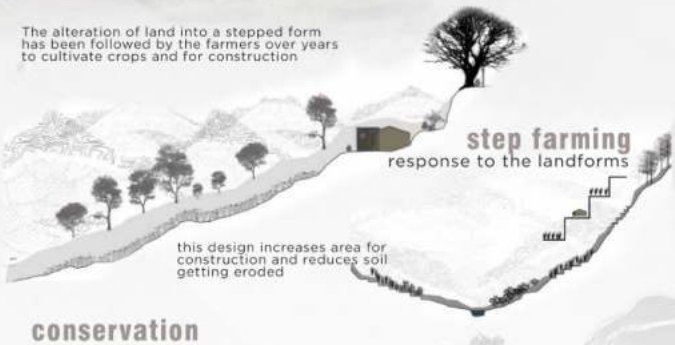
form and function



use of local winds

more open construction helps to design more interactive spaces creates a flow in circulation in the entire pedestrian circulation.

The alteration of land into a stepped form has been followed by the farmers over years to cultivate crops and for construction



step farming

response to the landforms

this design increases area for construction and reduces soil getting eroded

conservation

conserving ecology and habitat of a typical tribal community by bringing all the elements in planning.

retaining the vegetation in maximum and use the unwanted trees for construction. especially the eucally trees in site and around context which causes water scarcity in vattavada.

management of slopes

organic management of slopes to make the site more landslide resistant and for farming.

increasing vegetation

incresing vegetation cover for privacy , recreation and landslide resistance

views

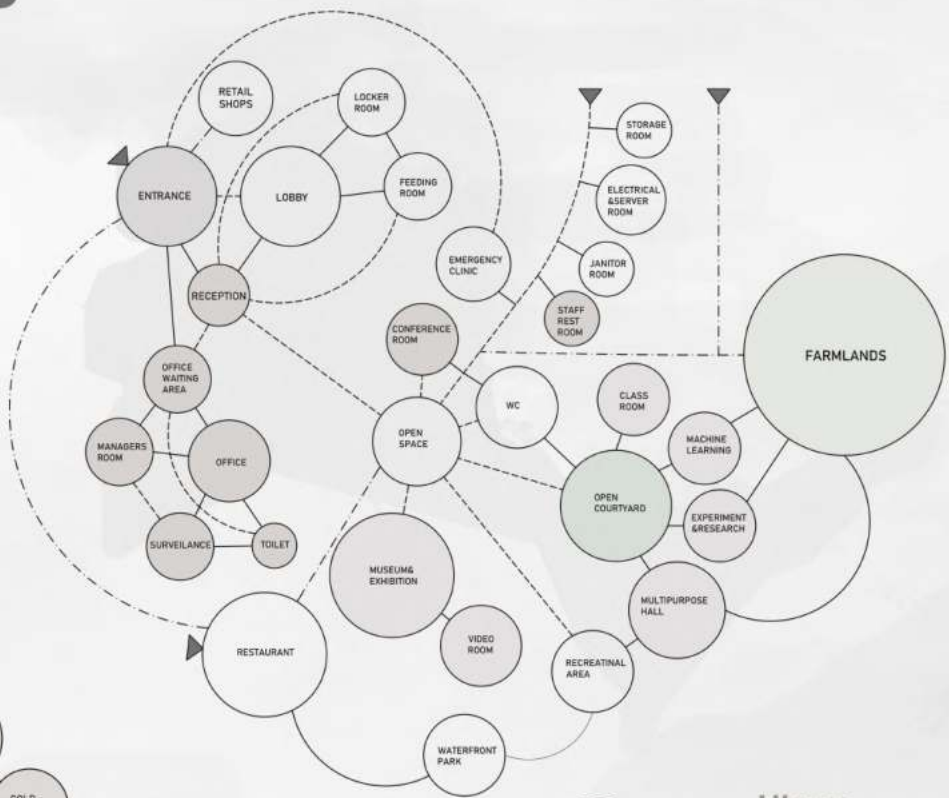
arrangement of building to get the views in maximum and sunlight from every point in the site

Golden ratio circles

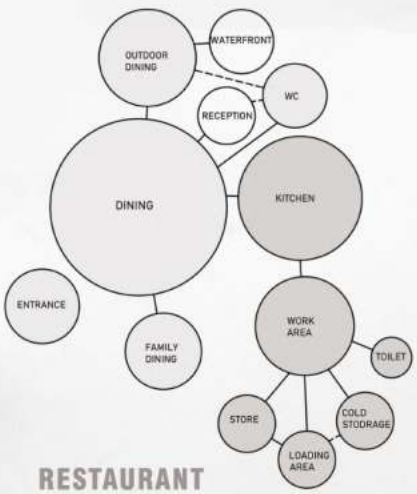
bringing golden ratio in space planning for increasing ease of circulation and also providing open spaces inside to increase its organic character.

design process

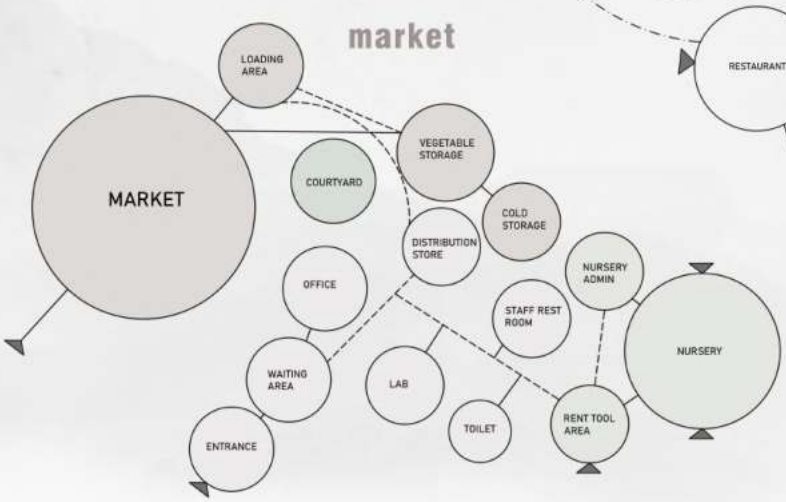
visitors centre



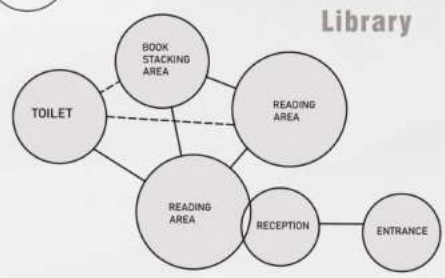
RESTAURANT



market



Library



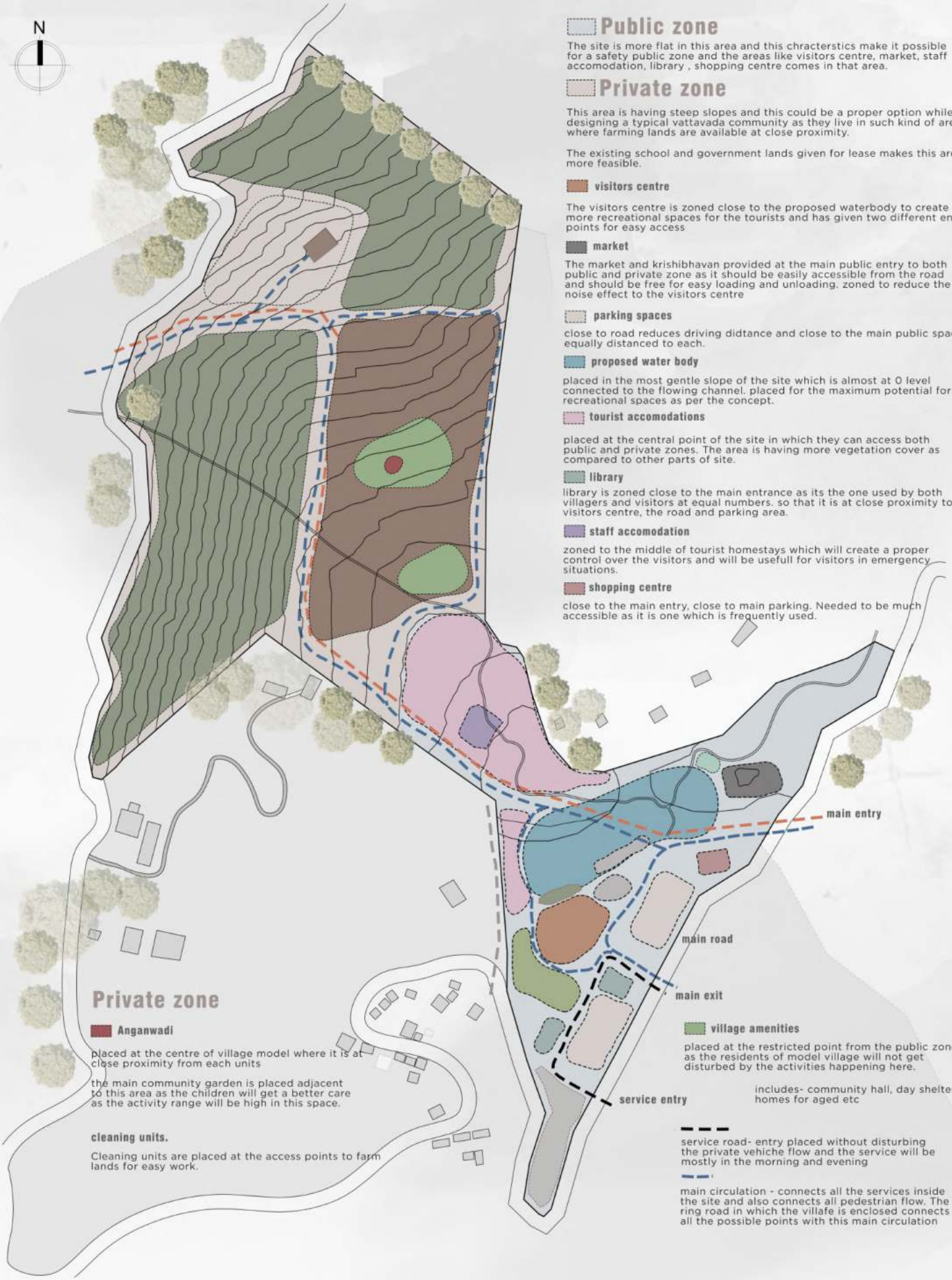
adjacent/connected

close proximity

nearby

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10



Public zone

The site is more flat in this area and this chracterstics make it possible for a safety public zone and the areas like visitors centre, market, staff accomodation, library , shopping centre comes in that area.

Private zone

This area is having steep slopes and this could be a proper option while designing a typical vattavada community as they live in such kind of areas where farming lands are available at close proximity.

The existing school and government lands given for lease makes this area more feasible.

visitors centre

The visitors centre is zoned close to the proposed waterbody to create more recreational spaces for the tourists and has given two different entry points for easy access

market

The market and krishibhavan provided at the main public entry to both public and private zone as it should be easily accessible from the road and should be free for easy loading and unloading. zoned to reduce the noise effect to the visitors centre

parking spaces

close to road reduces driving didtance and close to the main public spaces equally distanced to each.

proposed water body

placed in the most gentle slope of the site which is almost at 0 level connected to the flowing channel. placed for the maximum potential for recreational spaces as per the concept.

tourist accomodations

placed at the central point of the site in which they can access both public and private zones. The area is having more vegetation cover as compared to other parts of site.

library

library is zoned close to the main entrance as its the one used by both villagers and visitors at equal numbers. so that it is at close proximity to visitors centre, the road and parking area.

staff accomodation

zoned to the middle of tourist homestays which will create a proper control over the visitors and will be usefull for visitors in emergency situations.

shopping centre

close to the main entry, close to main parking. Needed to be much accessible as it is one which is frequently used.

04 Zoning

SCALE 1:2000

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

1. Visitors centre
2. Library
3. Mini shopping centre
4. Krishibhavan/market
5. Water tank
6. Farm lands(visitors)
7. Expansion area
8. Tourist accomodation
9. Staff accomodation
10. Community hall
11. Day shelter home
12. Anganwadi
13. Village
14. Gathering spaces
15. Cleaning units
16. Private entry to village
17. Private farming land
18. Farm land for lease
19. Service Plot
20. Ambulance & bus parking
21. Car& bike parking
22. Playground
23. Main entry
24. Main exit
25. Service entry
26. ring road-6metre

GROUP D - ASSEMBLY
SITE AREA= 51 ACRES

PERMISSIBLE COVERAGE = 40%
PERMISSIBLE FSI =1.5
TOTAL FLOOR AREA ON ALL FLOORS = PLOT AREA X 1.5
COVERAGE = 40%
BUILDABLE AREA = 40% OF 51 ACRES
= 206390 X 40/100
= 82556SQM
NO OF FLOORS PERMITTED = 1

SETBACK
FRONT – 10.5M
REAR - 3M
SIDES - 5M

VISITORS CENTRE PARKING

MIN. DIMENSIONS FOR MOTOR CARS PARKING = 5.5 X 2.7
MIN. AREA FOR 2 WHEELERS – 3SQM AND 1.5 SQM(BICYCLE)

CALCULATION= ONE PARKING SPACE FOR EVERY 20SQM

TOTAL BUILT AREA = 2172SQM
TOTAL PARKING REQ = 108CAR
BIKE PARKING – 25% OF CAR PARKING = 135 BIKE PARKING

BICYCLE PARKING = 0
DISABLED PARKING = 3% = 3.25 = 4 CAR PARKING

VILLAGE PARKING
TOTAL NO OF HOUSES = 88
NO OF FAMILIES OF VATTAVADA USING JEEPS = 15% CONSIDERING THE STATUS OF THE RESIDENTS AS ECONOMICALLY BACKWARD CLASSES = 10% OF TOTAL = 9 JEEP PARKING

NO OF BIKE PARKING = 25% OF CAR PARKING = 11 BIKE PARKING

VISITORS ZONE
MODEL VILLAGE
ACCOMODATION

05 Masterplan

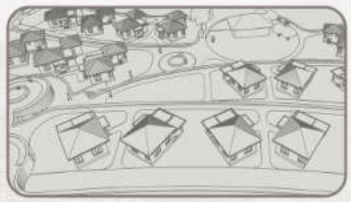
SCALE 1:1500

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

N

VILLAGE VIEWS



10

SHOPPING CENTRE AND MARKET VIEW

+26ML.VL
CONTOUR 15

+26ML.VL
CONTOUR 15

+24ML.VL
CONTOUR 14

+22ML.VL
CONTOUR 12

+20ML.VL
CONTOUR 11

+18ML.VL
CONTOUR 10

+16ML.VL
CONTOUR 9

+14ML.VL
CONTOUR 8

+12ML.VL
CONTOUR 7

+10ML.VL
CONTOUR 6

+8ML.VL
CONTOUR 5

+6ML.VL
CONTOUR 4

ROAD WIDTH= 6 M(RING ROAD
CONTOUR 3

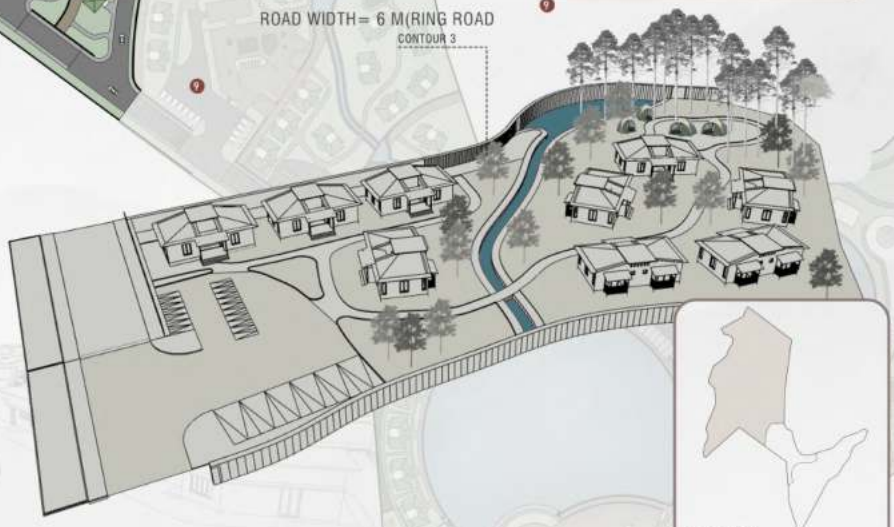
TOTAL VILLAGE AREA = 51722SQM

TOTAL NO OF UNITS WITH
HOMESTAY = 44
WITHOUT HOMESTAY = 11

NO OF VEGETABLE CLEANING UNITS
= 6(DIMENSIONS = 2X2)

1. ANGANWADI =5 X10 M
2. GENTS DORMITORY= 5X 10M
3. LADIES DORMITORY=6X7.6M
4. GENTS TOILET=5.1X4.8(4 UNITS)
5. LADIES TOILET =5.1X4.8(4 UNITS)
6. COMMUNITY HALL = 25 X10M
7. PLAYGROUND= 25X15M
8. COURTYARD
11. VEGETABLE UNITS
12. SCHOOL

9



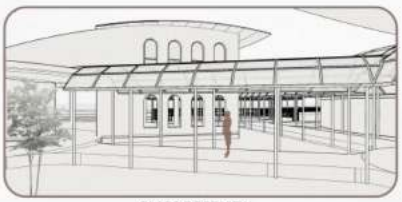
KEY PLAN

06 Master plan-private zone

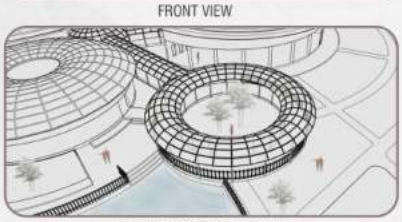
SCALE 1:1000

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10


GLASS ROOF VIEW

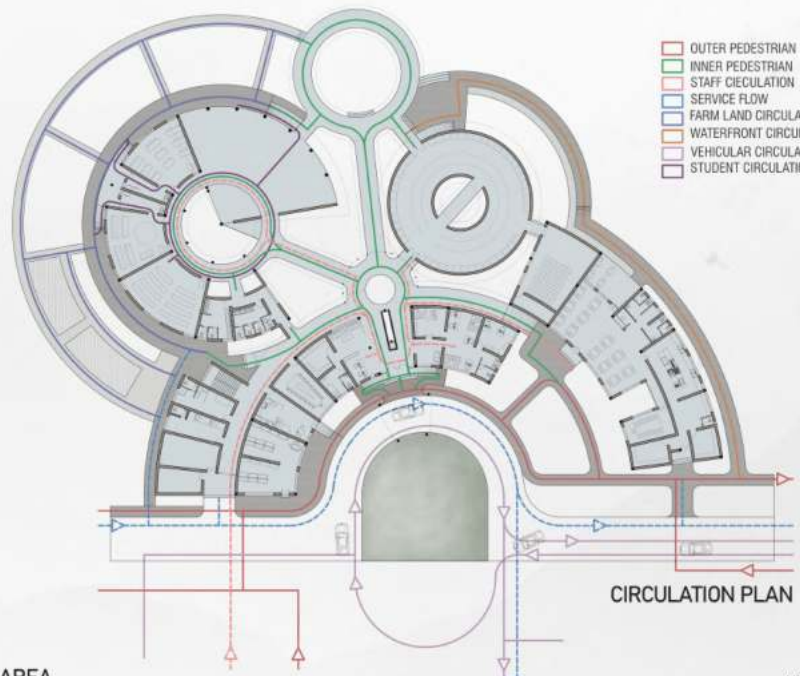

FRONT VIEW


WATERFRONT PARK VIEW


RESTAURANT FRONT VIEW

FLOOR PLAN @ 1.6MLVL

DIMENSIONS IN METERS



CIRCULATION PLAN

AREA

TOTAL BUILT AREA = 2742.5SQM APPROX

SPACES

EXHIBITION ROOM
VIDEO ROOM
RESEARCH AND EXPERIMENT ROOM FOR TOURISTS
MACHINE LEARNING ROOM
MACHINE LEARNING ROOM
CLASS ROOM FOR VILLAGERS
MULTIPURPOSE HALL FOR TEACHING

ADMIN SPACES

RECEPTION
OFFICE
MANAGER ROOM
CONFERENCE ROOM
SURVEILANCE ROOM

OTHER SPACES

RESTAURANT
WATERFRONT PARK
RECREATIONAL PARK
EMERGENCY CLINIC
PRODUCT STORE
RESTAURANT
FEEDING ROOM
LOCKERS

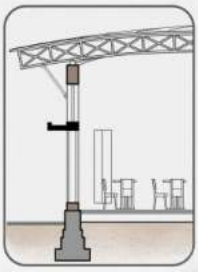
KEY PLAN

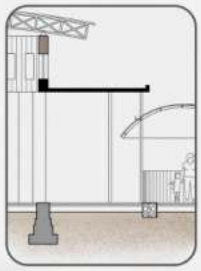
08 Visitors centre

SCALE 1:200

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10





DETAIL

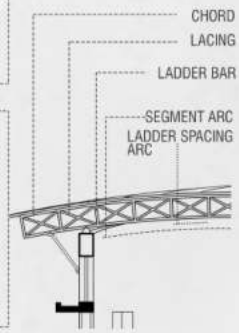
SECTION C-C

SECTION A-A

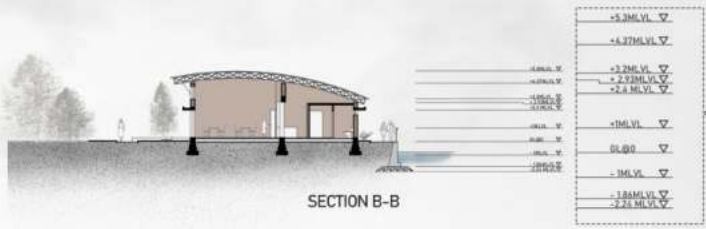
TRUSS DETAILES

CURVED POSI STRUT ROOF TRUSSES

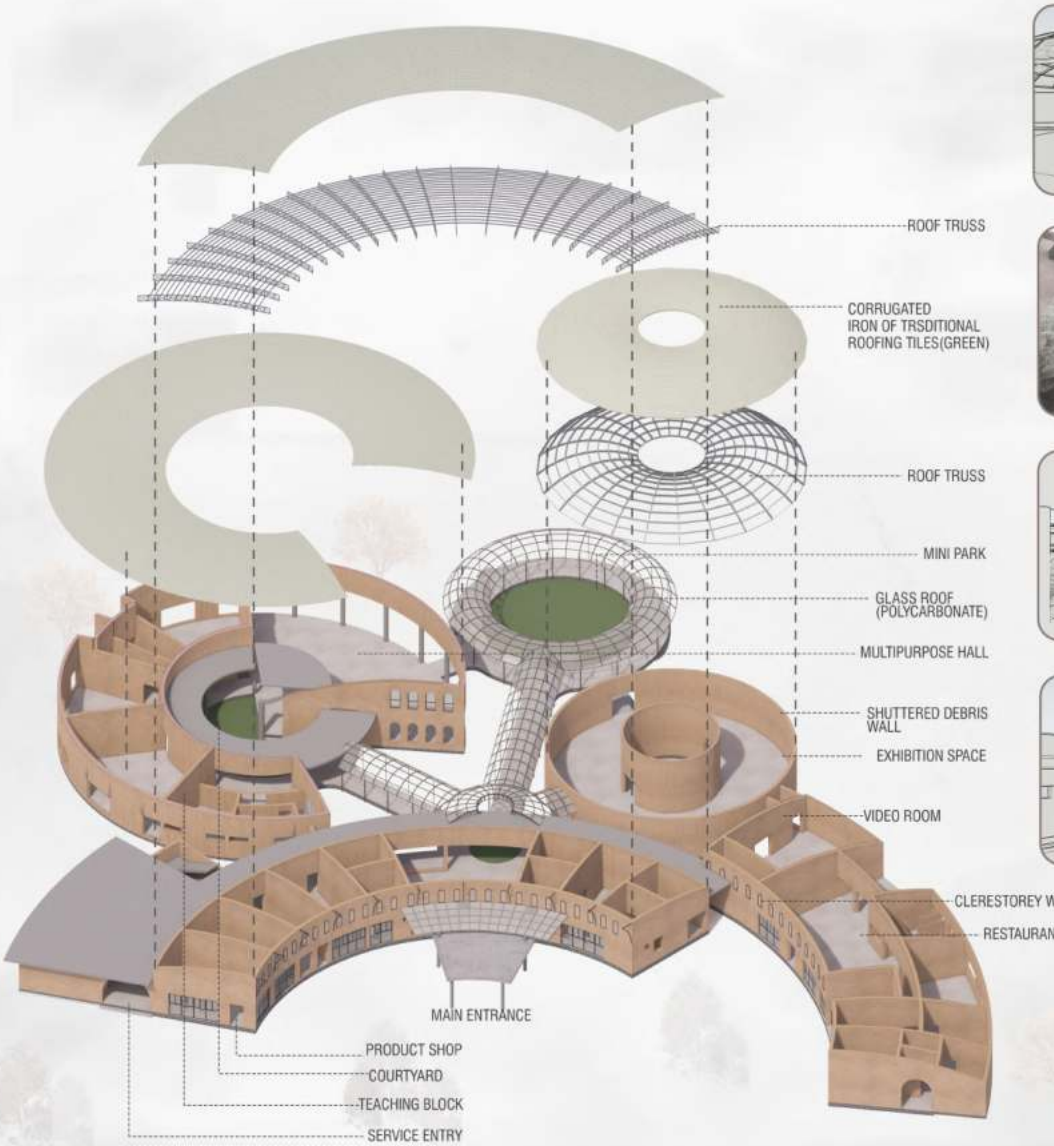
USED FOR LONG SPANS AND ORGANIC SHAPES



DETAIL



SECTION B-B



MINI PARK

COURTYARD

MULTIPURPOSE HALL

WATER FRONT AREA

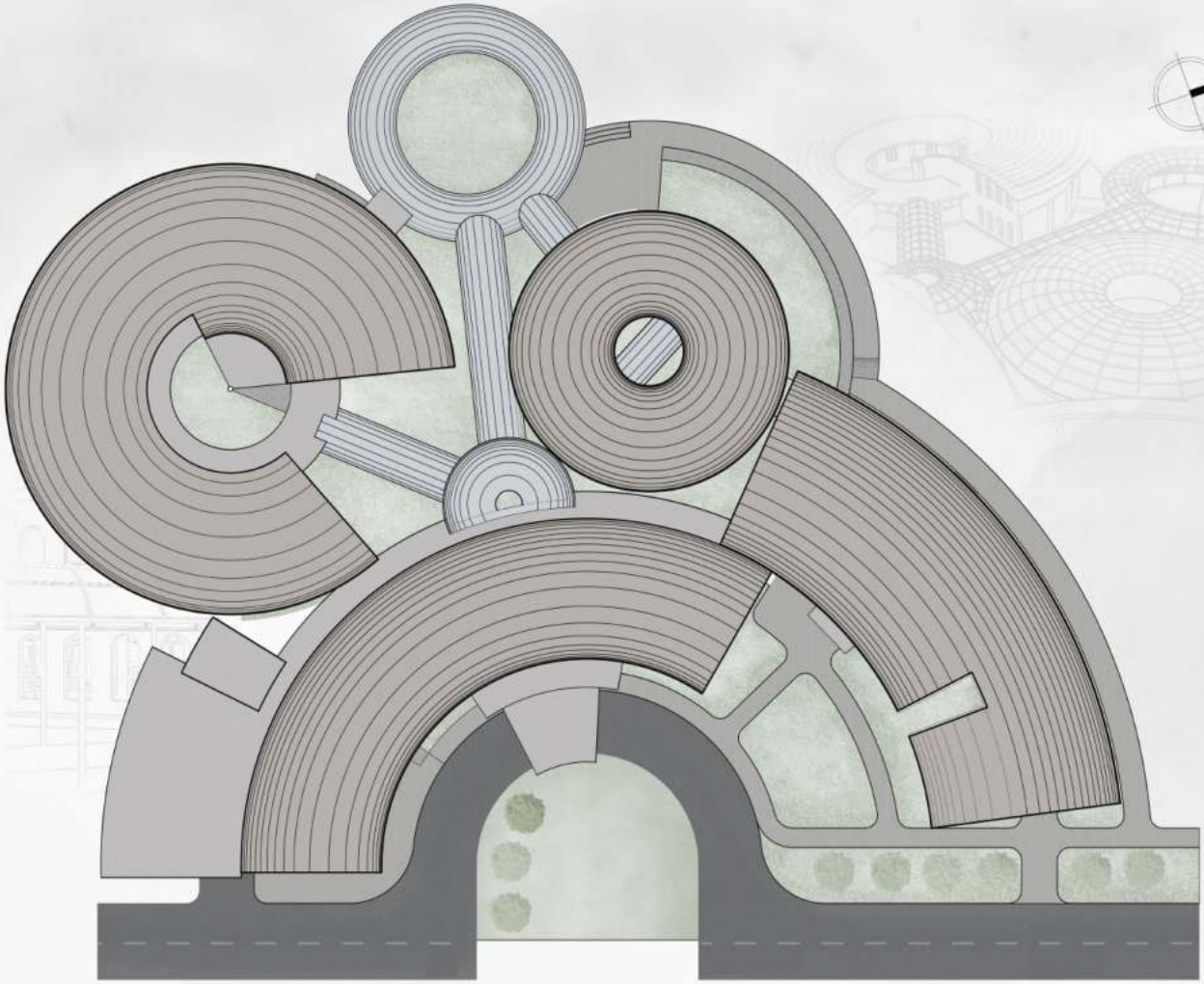
DIMENSIONS IN METERS

09 Visitors centre

SCALE 1:200

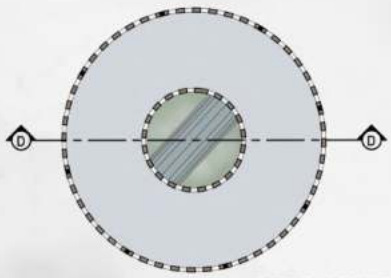
BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

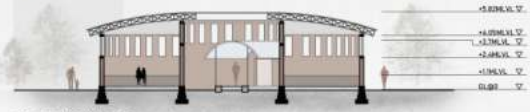


ROOF PLAN

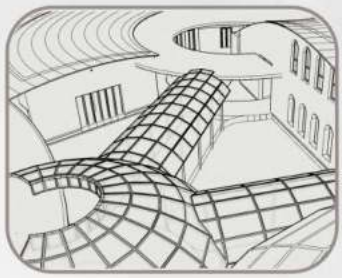
SOUTH-EAST ELEVATION

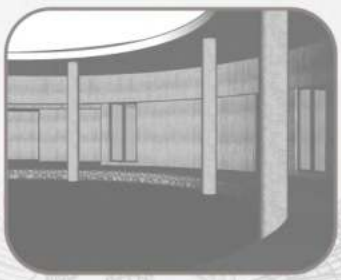


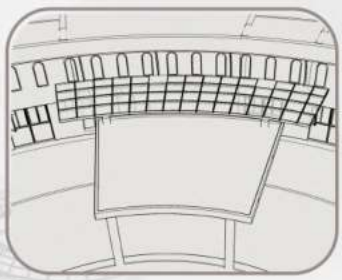
EXHIBITION ROOM PLAN @ 3.6MLVL



SECTION D-D





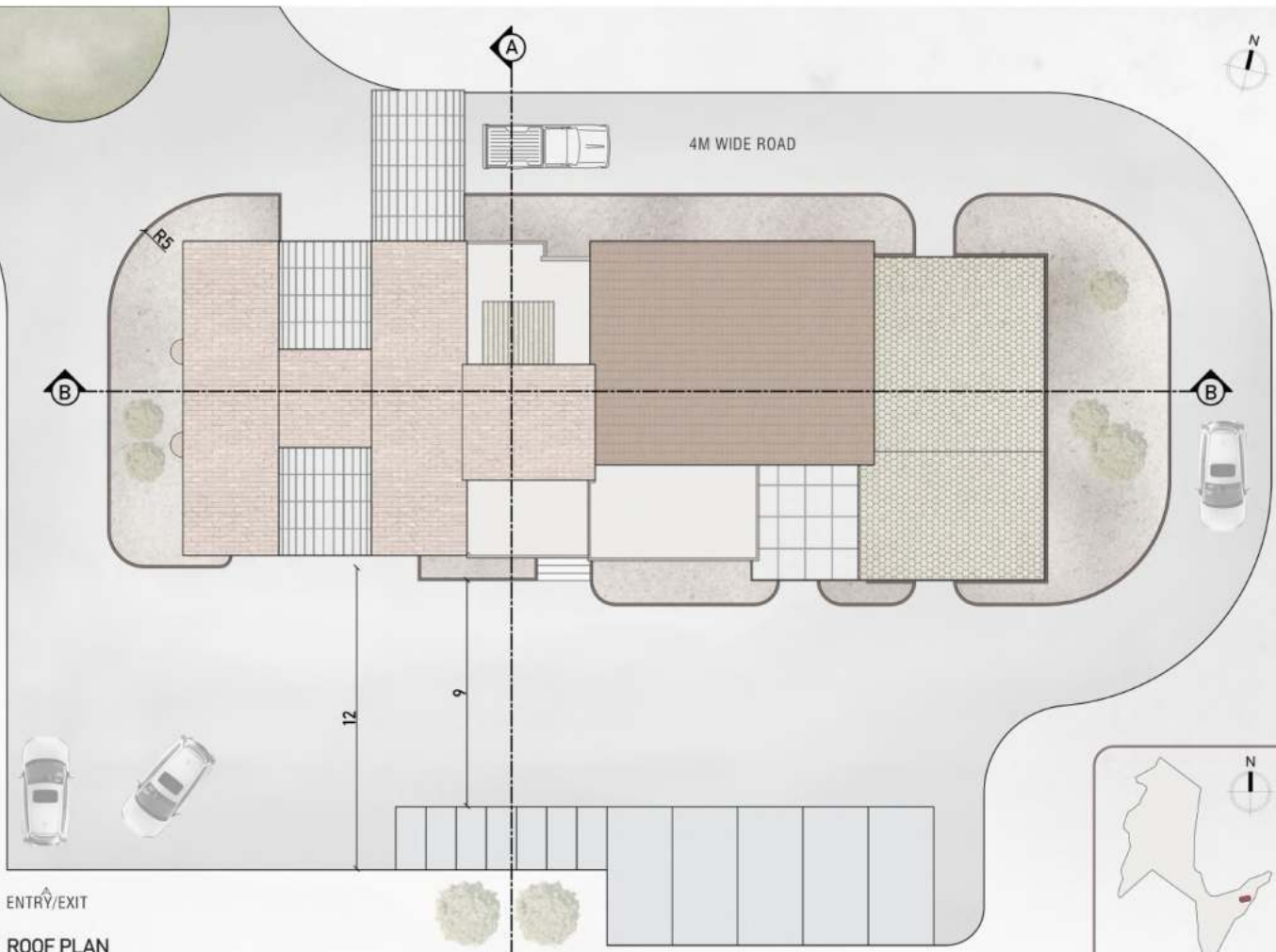


SHEET NO **10** Visitors centre

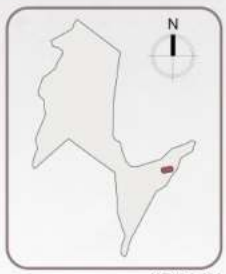
SCALE 1:200

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

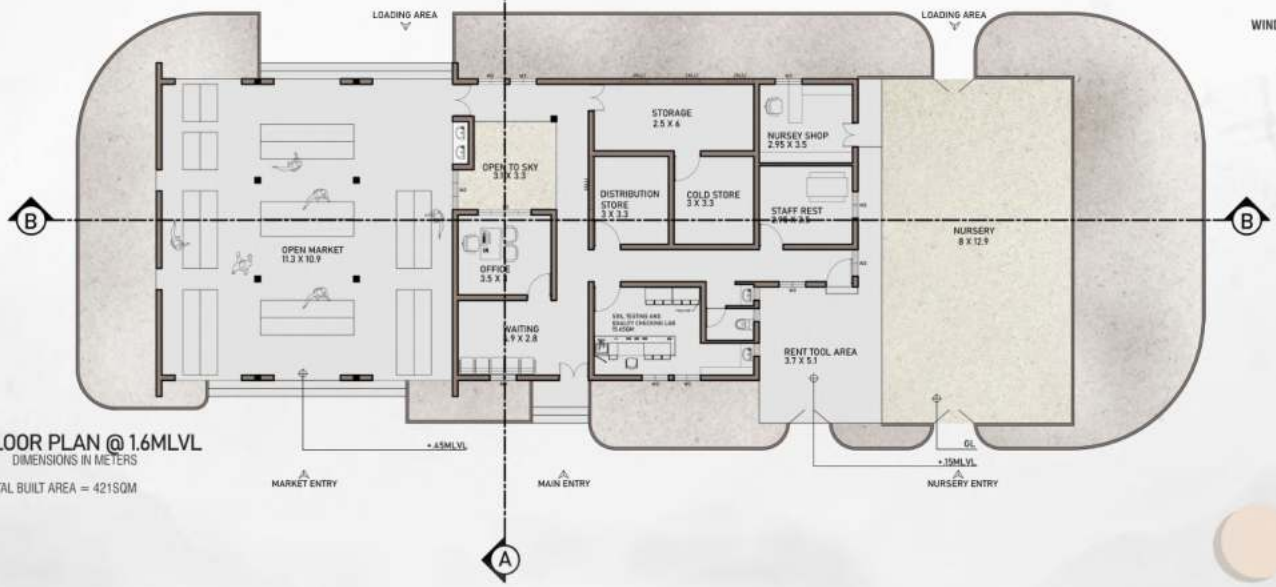


ROOF PLAN



KEY PLAN

WINDOW WIDTH
W1 - 2M
W2 - 1.5M
W3 - 1M



FLOOR PLAN @ 1.6MLVL
DIMENSIONS IN METERS

TOTAL BUILT AREA = 421SQM

SECTION A-A

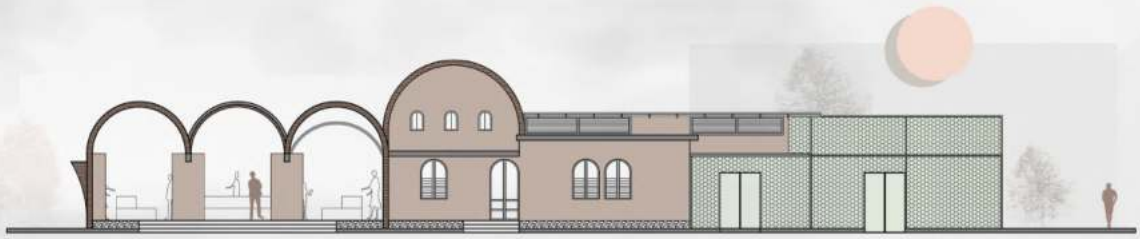
WEST ELEVATION

SCALE 1:100

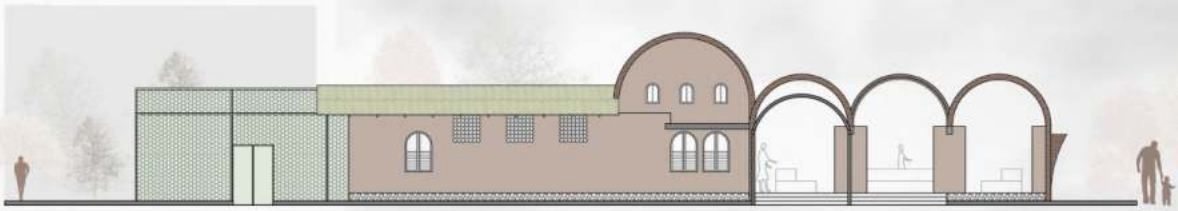
BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

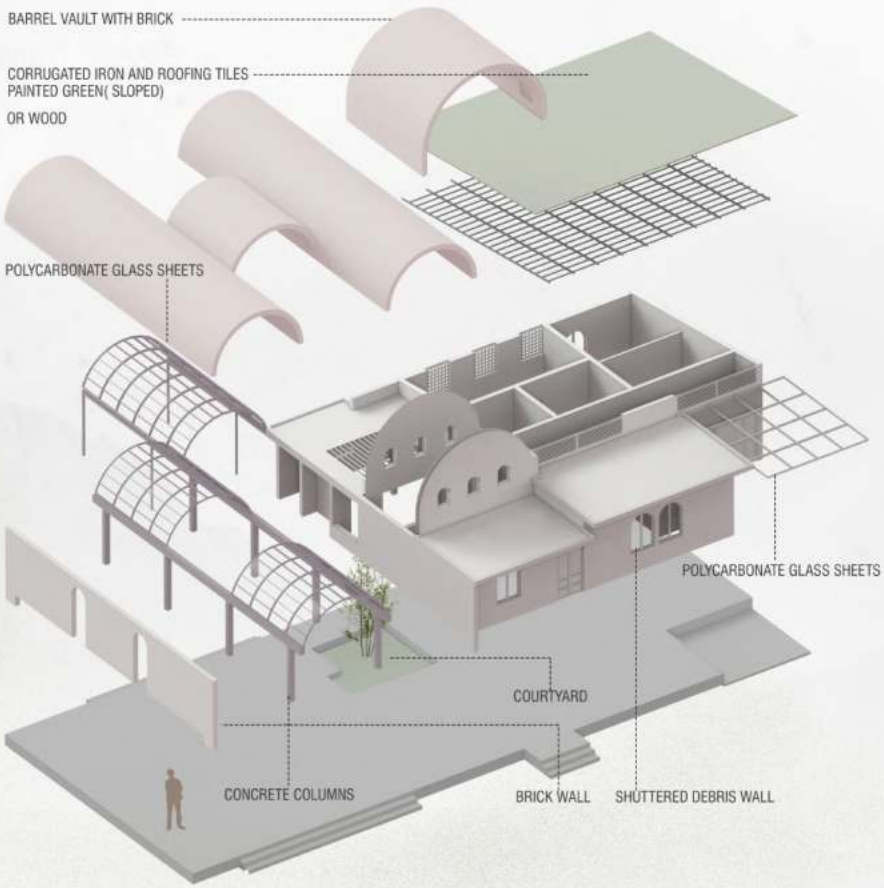
SECTION B-B

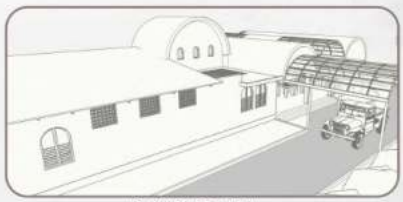


SOUTH ELEVATION



NORTH ELEVATION





LOADING AREA VIEW

MAIN ENTRANCE VIEW

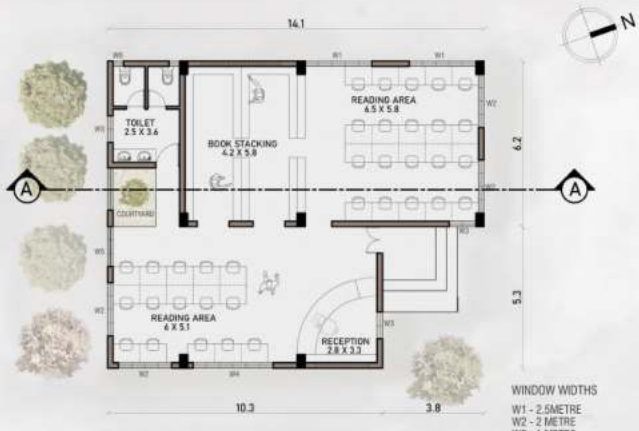
SHEET NO **12** Market

SCALE 1:100

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

ROOF PLAN



FLOOR PLAN @ 2MLVL

TOTAL BUILT AREA = 151 SQM

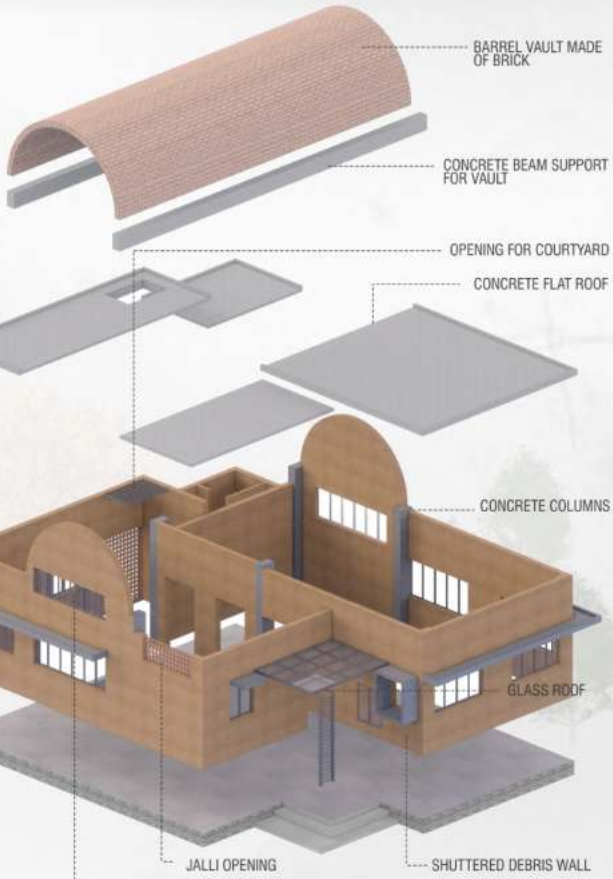
WINDOW WIDTHS

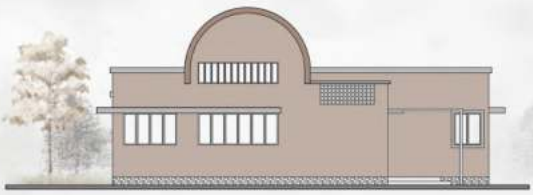
W1 - 2.5METRE
W2 - 2 METRE
W3 - 1 METRE
W4 - 3 METRE
W5 - 1.5 METRE
W6 - VEBTILATION - (.5 X.4 METRE)

SOUTH-WEST ELEVATION

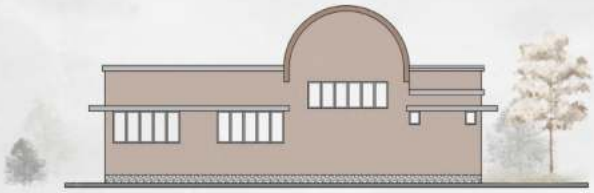
SECTION A-A

NORTH-EAST ELEVATION

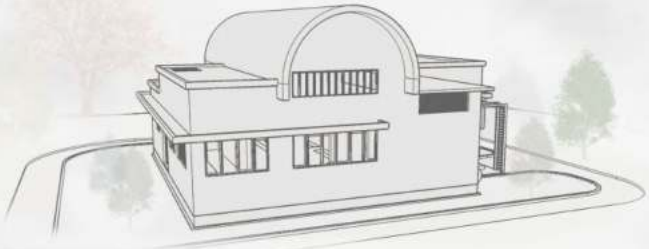




SOUTH-EAST ELEVATION



NORTH-WEST ELEVATION



3D VIEWS

DIMENSIONS IN METERS

SHEET NO 13 Library

SCALE 1:100

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

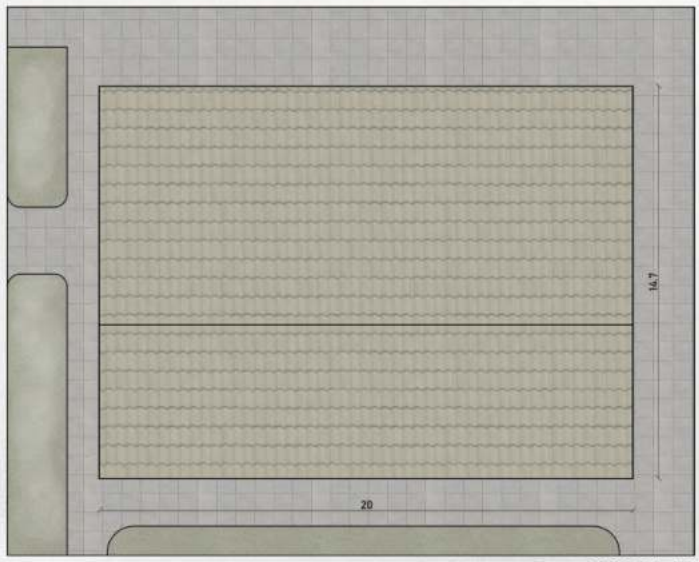
S10

FLOOR PLAN@ 1.5MLVL

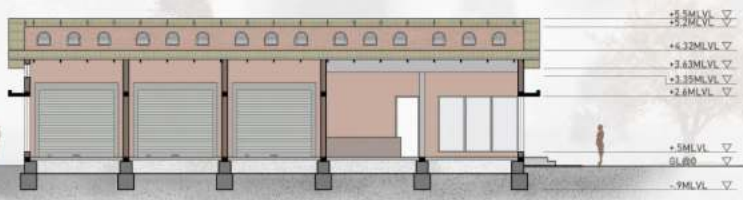
DIMENSIONS IN METERS

TOTAL BUILTUP AREA = 288SQM

N



ROOF PLAN



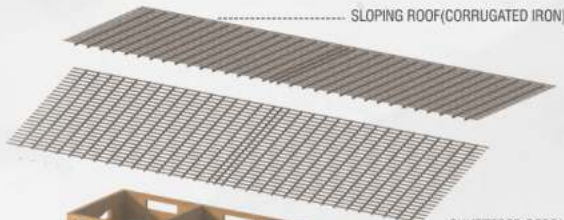
SECTION D-D

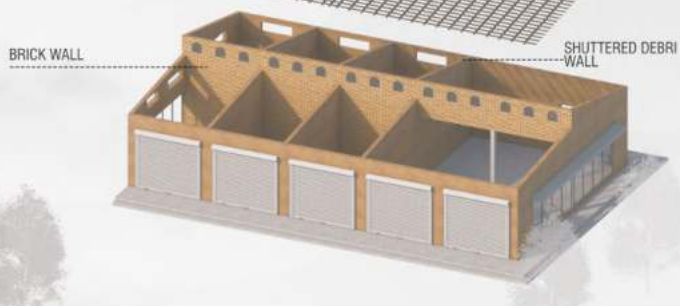
WEST ELEVATION

NORTH ELEVATION

EAST ELEVATION

SOUTH ELEVATION





EXPLODED VIEW

3D VIEW

SHEET NO 14

mini shopping centre

SCALE 1:100

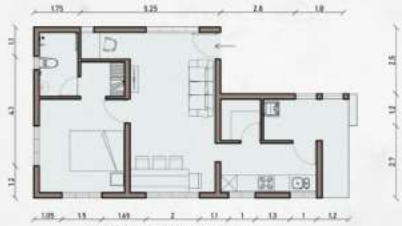
BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

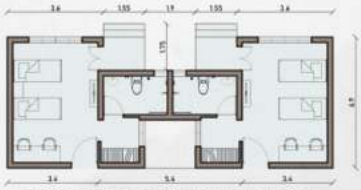
FLOOR PLAN @ 2MLVL

TOTAL BUILT AREA = 787SQM

ROOM TYPOLOGIES- SCALE 1: 100



a) ONE BEDROOM FAMILY TYPE



d) TWO BED HOSTEL TYPE WITH ATTACHED BATHROOM

b) TWO BED HOSTEL TYPE WITH ATTACHED BATHROOM AND KITCHEN

EXTERIOR VIEW

COVERED PATH VIEW

SECTION A-A

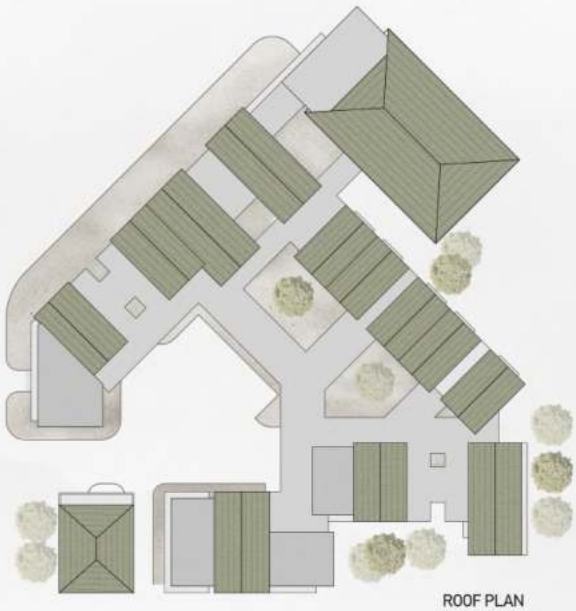
SECTION B-B

SOUTH EAST ELEVATION

c) THREE BED HOSTEL TYPE WITH ATTACHED BATHROOM

e) ONE BED HOSTEL TYPE WITH ATTACHED BATHROOM

OPEN MODEL



ROOF PLAN

f) ONE BED HOSTEL TYPE WITH SHARED BATHROOM

WEST ELEVATION

g) TWO BED HOSTEL TYPE WITH ATTACHED BATHROOM AND KITCHEN

DIMENSIONS IN METERS

KEY PLAN

SHEET NO 15

staff accomodation

SCALE 1:200

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

TWIN BEDROOM PLAN
@2MLVL

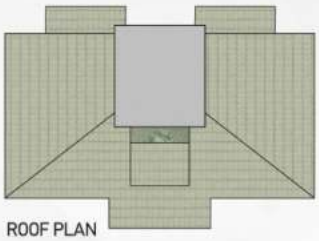
BUILT AREA = 66 SQM

SINGLE BEDROOM PLAN
@2MLVL

BUILT AREA = 66 SQM

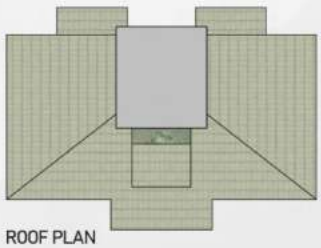
DORMITORY PLAN
@2MLVL

BUILT AREA = 61.5 SQM



ROOF PLAN

SECTION A-A



ROOF PLAN

FRONT ELEVATION

RIGHT ELEVATION

RIGHT ELEVATION

REAR ELEVATION

LEFT ELEVATION

LEFT ELEVATION

EXPLODED VIEW

FRONT ELEVATION

3D VIEW

REAR ELEVATION

SECTION B-B

WINDOW WIDTHS

W2- 1.5 METRE
W3- 1 METRE
W6 - .5 METRE
W4 - TOILET VENTILATION (.5 X .5)

HEIGHT - 1.5 METRE

DIMENSIONS IN METERS

SHEET NO **16**

Tourist accomodation

SCALE 1:100

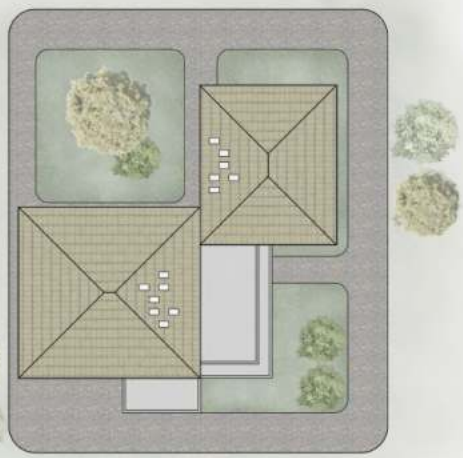
BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10

FLOOR PLAN
@2MLVL

WINDOW SIZES

W1 -1.5 X 1.5 METRE
W2 -1.5 X .5 METRE
W3 - 1.5X 1 METRE
W4 - 1.2 X 1.5 METRE(KITCHEN)
W5 - 1.2X 1 METRE(KITCHEN)
W6 - VENTILATION- .5X.5



ROOF PLAN

DIMENSIONS IN METERS

TOTAL BUILT AREA = 65.5 SQM APPROX
BUILT AREA WITHOUT HOMESTAY FACILITY- 43 SQM APPROX
NO OF UNITS WITH HOMESTAY = 44
NO OF UNITS WITHOUT HOMESTAY = 44
TOTAL BUILT AREA = 2882 + 1896
TOTAL AREA = 4778

REAR ELEVATION

LEFT ELEVATION

RIGHT ELEVATION

FRONT ELEVATION

EXPLODED VIEW

3D VIEW OF THE RESIDENTIAL UNIT

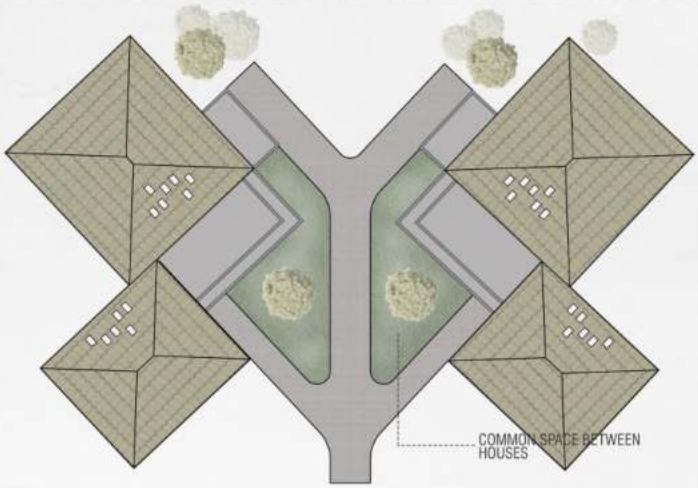
SHEET NO 17

Residential unit

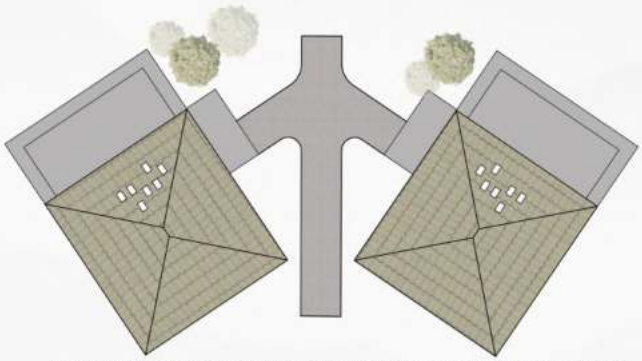
SCALE 1:100

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10



GROUP OF TWO RESIDENTIAL UNIT- WITH PROVISION FOR TOURIST HOMESTAY



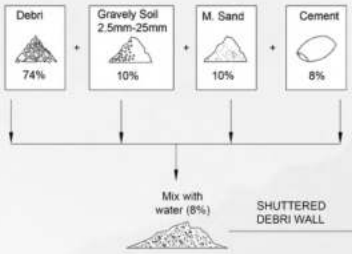
GROUP OF TWO RESIDENTIAL UNIT- WITHOUT PROVISION FOR TOURIST HOMESTAY

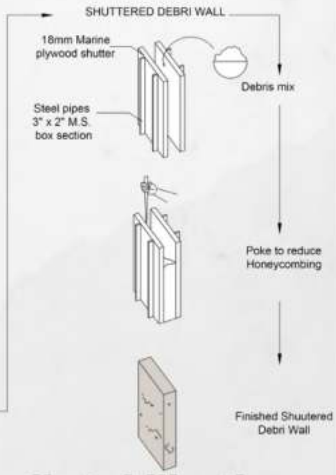
construction

WALL - SHUTTERED DEBRIS WALL

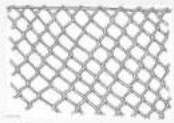
DEBRI = 100 MM DIA
- BROKEN BRICKS
- RCC SLAB WASTE
- CERAMIC WASTE
- GRAVELY STONES IN SOIL

process





soil stabilization



steel meshes will be used in steep slopes where the vegetation cover is less in the site and where slope farming is not possible (specially along the sides of water bolly)

This meshes will be also used as fences where the 5 metre alteration has been done that may restrict the flow of bigger elements elements during landslides. this may reduce the impact on structures.

steel meshes

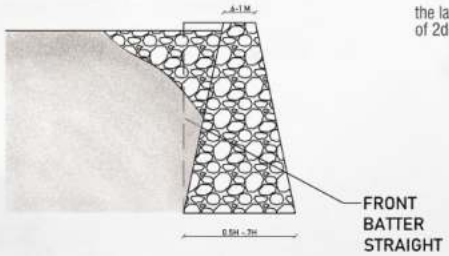
since the entire vattavada village id affected with the attack of wild animals on their farming this meshes may resist those problems as it os ecofriendly and cost effective.

soil nails and grillages - used in steep slopes

Landslide resistance

REFERENCE (IS 14458)

DRY STONE WALL
HILL SLOPE ANGLE> 35 DEGREE

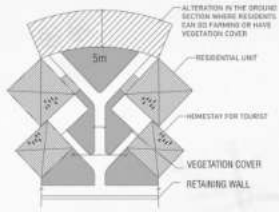


TOP WIDTH - .6 - 1 METRE
BASE WIDTH - .5H -.7H
BACK BATTER - VARIES
RANGE OF HEIGHT - 1- 6M
FOUNDATION DEPTH BELOW DRAIN - .5 M

The land in between the residences and the retaining wall has been altered in it surface making a small dip that could reduce the force of incoming landslide.

the land surface has been altered into an angle of 2degree to reduce the force against the flow

Its been given 5 metre at the point where the site is having steep slopes and is being reduced to 3 metres when its having gentle slopes



altered area can be used for making mini vegetable garden or else can add trees as per the plan

for water chhannel and water bodyedges boullder pitching will be done

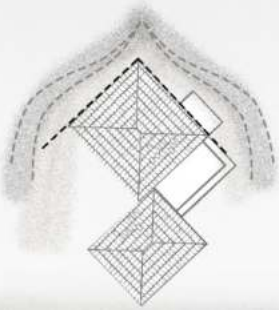
SETTING STONES ALONG FOUNDATION BED. USING LONG BONG STONES. HAND PACKED STONES IN BACK FILL

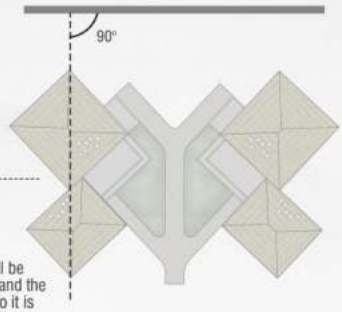
Increasing no of trees in the surrounding areas of the residential moduleso that the impact of landslide can be reduced and also the chances of soil getting eroded is reduced. increases binding strength.

Maximizing green spaces in the possible points where there is a probability of soil flow and its direction

PLANNING

The housing units and all other buildings in the site is placed at perpendicularto the retaining walls with the corner alignment so that the impact of landslide on the structure will not be severe.





the landslide impact will be higher on flat surfaces and the load will much higher so it is required to reduce its effects from the point of origin itselif

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE
S10

community spaces

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

Staff area

courtyard

Library

BLESSON CHAKKIATH
ROLL NO:11
MES17AR011
MES SCHOOL OF ARCHITECTURE

S10