

HOUSING FOR GOVERNMENT EMPLOYEES, GONDAMARA, BANSHKHALI



Project Title: Housing For Government Employees.

Client : Government

Type of the Project : Housing & Settlement

Location : Gondamara , Banskhali

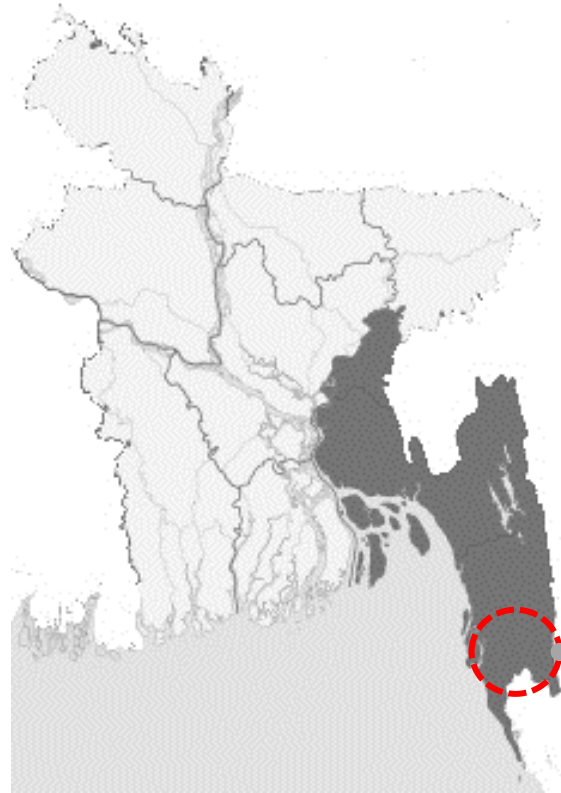
User group : Government Employees (Power Plant)

Capacity : 440 family

Area : 15 acre



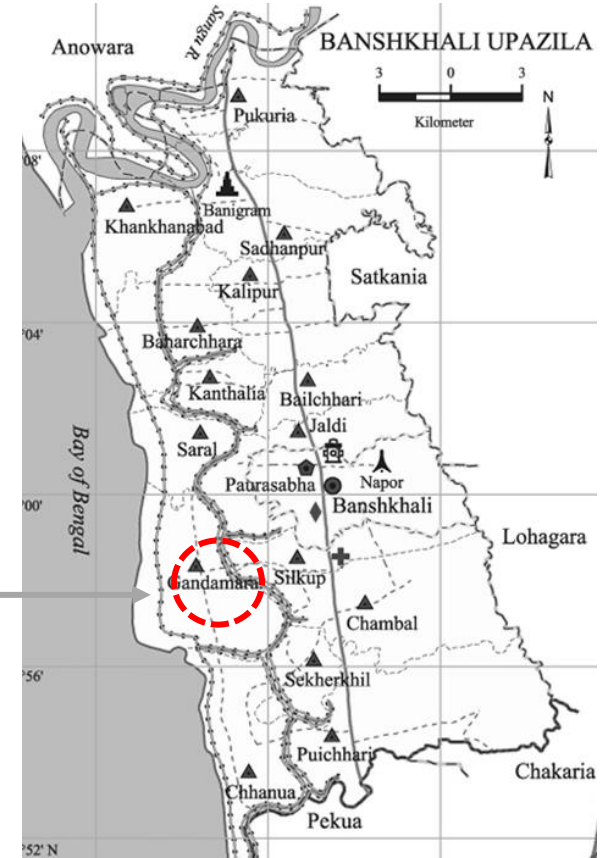
LOCATION MAP



Bangladesh map

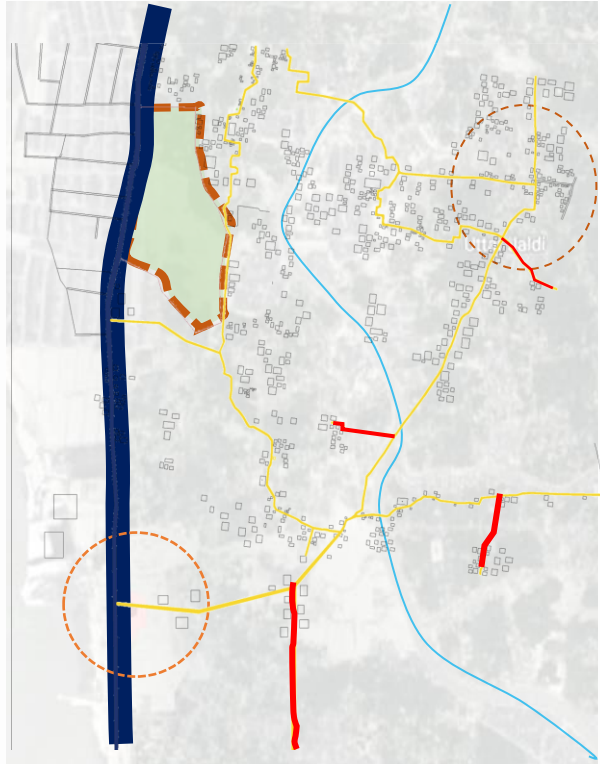


Chittagong map



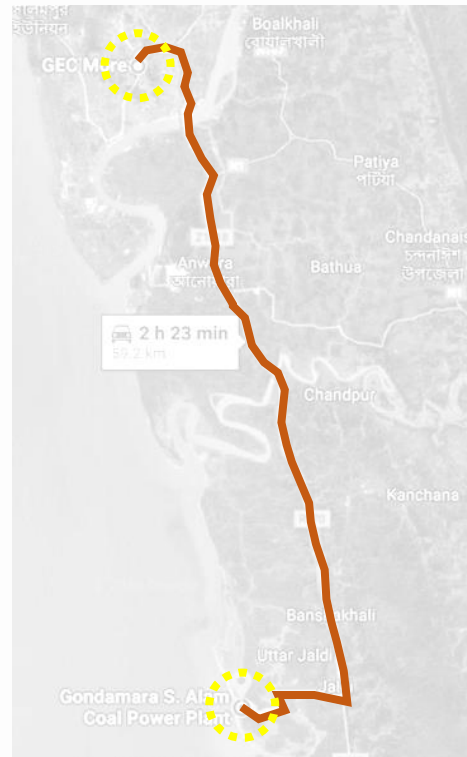
Banshkhali Upazila

ROAD NETWORK



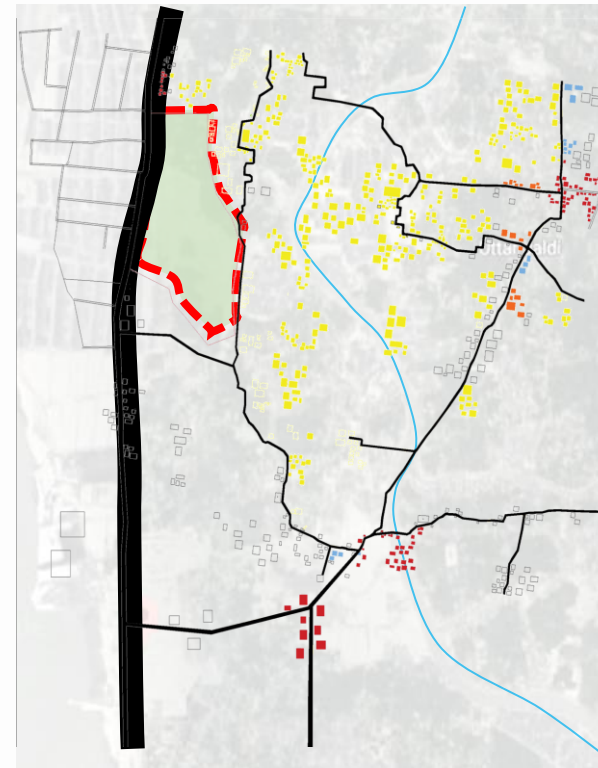
- Secondary Road (15' Wide)
- Primary Road (30' Wide)
- Tertiary Road (12' Wide)

TRAVEL DISTANCE



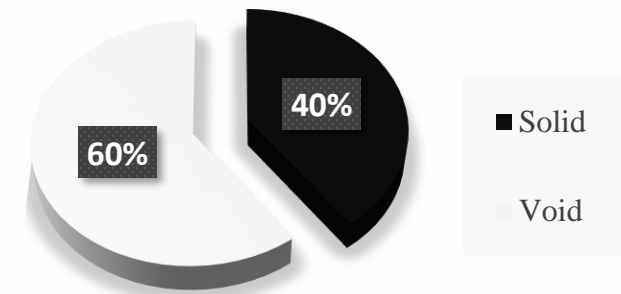
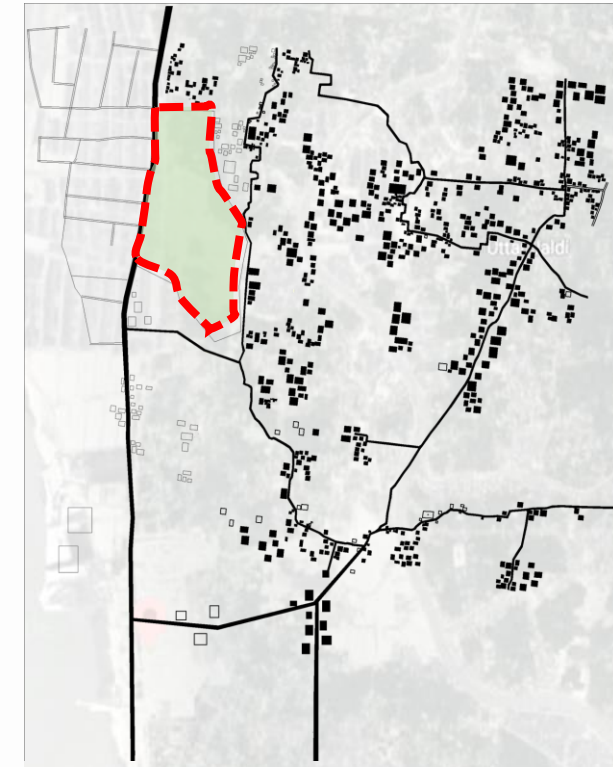
GEC circle to Site
It takes 2h 23min.

LAND USE MAP



- Residential
- Commercial
- Mixed use
- Public

FIGURE GROUND



SITE SURROUNDINGS



Site



Temporary structure

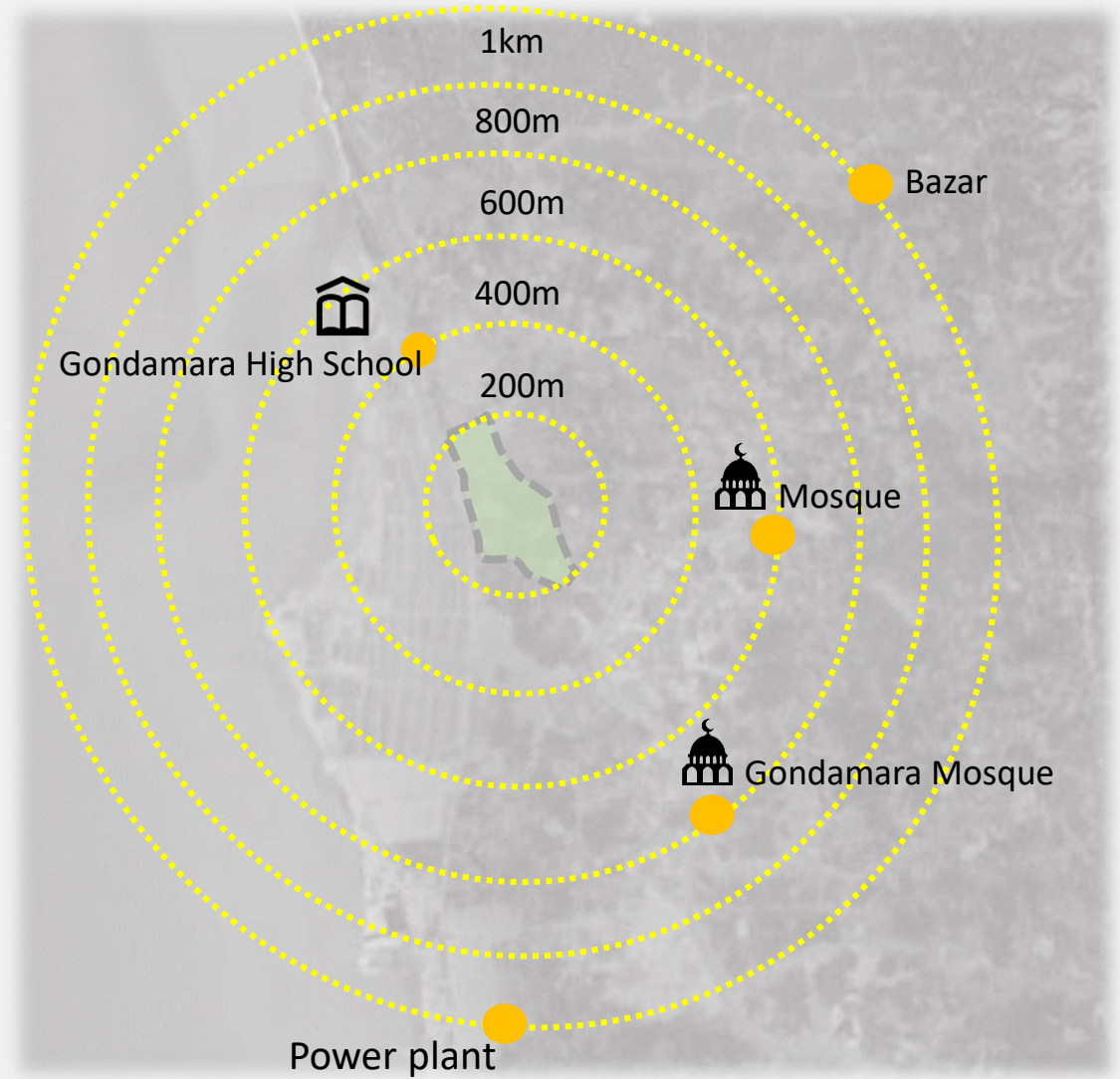


Site office



Power plant under construction

NEIGHBORHOOD FACILITIES



SPACE STANDARDS

Depending on the salary and position, government worker are given distinctive sorts of flats and flat size likewise changes. Often there is segregation between class of officers and workers.

Category of officers & employees	Allot able floor area in square feet	Types Categories of flat
Secretary	4000 3000	Bungalow Bungalow
Class I	1500 1300 1000	F E D
Class II	800	C
Class III	600	B
Class IV	400-450	A

Grade	Salary Scale	Flat Size
1 st	78,000/=	1800sqft
2 nd	66,000	
3 rd	56,500	1500sqft
4 th	50,000	
5 th	43,000	1300sqft
6 th	35,000	
7 th	23,000	
8 th	22,000	1000sqft
9 th	21,000	
10 th	16,000	
11 th	12,000	

Grade	Salary Scale	Flat Size
12 th	11,300	800sqft
13 th	11,000	
14 th	10,200	
15 th	9,700	600sqft
16 th	9,300	
17 th	9,000	
18 th	8,800	
19 th	8,500	400-450sqft
20 th	8,250	

source: Public works development (PWD)

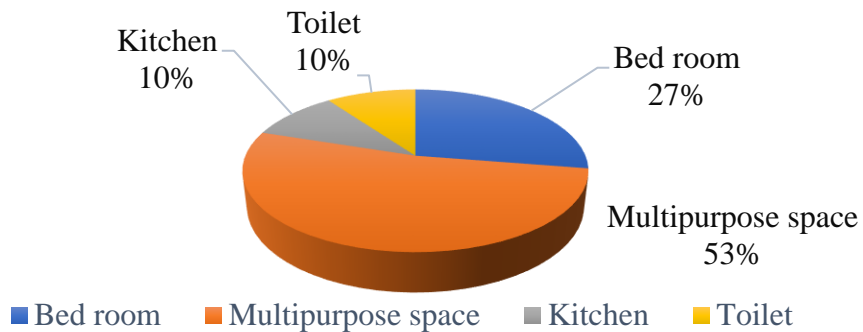
FUNCTIONAL PROGRAMME DEVELOPMENT

Class IV

Grade 20th

Salary Scale : 8250/=

Type of Unit	Functional Activities	No of elements	Area (sqft)	
400sqft	Bed room	1	110	
	Multipurpose Space	1	210	
	Kitchen	1	40	
	Toilet	1	40	
	Total sqft of 1 flat			400
	Total sqft of 180 flat			72,000
	30% circulation			21,600
	Total sqft of 180nos (400sqft) flat			93,600

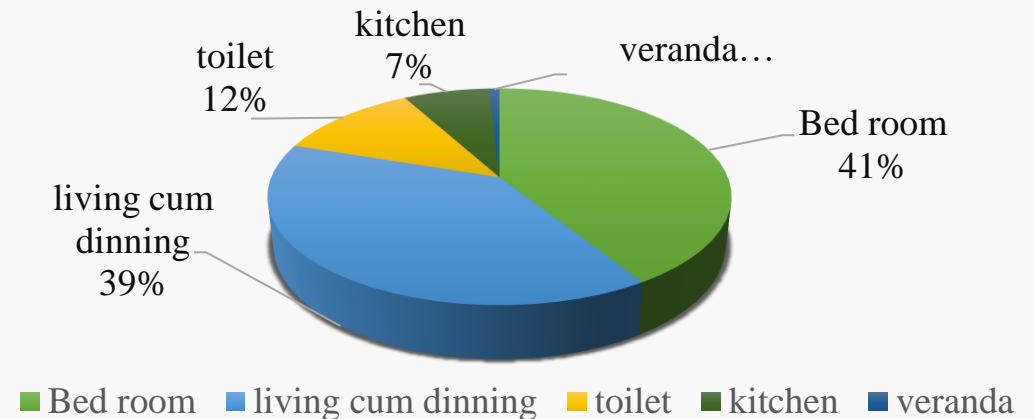


Class III

Grade :15th – 19th

Salary Scale : 8,500-9,700/=

Type of Unit	Functional Activities	No of elements	Area (sqft)	
600sqft	Bed room	2	242	
	Living Cum Dinning	1	230	
	Kitchen	1	42	
	Toilet	2	70	
	Veranda	1	16	
	Total sqft of 1 flat			600
	Total sqft of 130 flats			78,000
	30% circulation			23,400
Total sqft of 130nos (600sqft) flats			101,400	



FUNCTIONAL PROGRAMME DEVELOPMENT

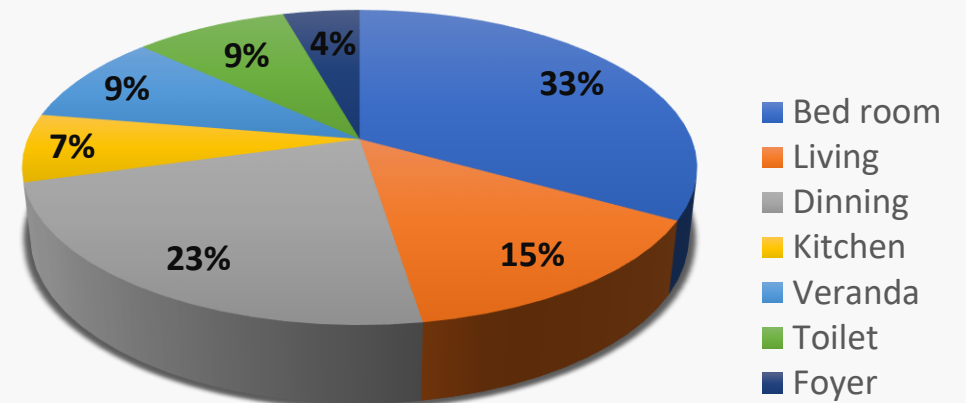
Type of Unit	Functional Activities	No of elements	Area (sqft)	
800sqft	Foyer	1	35	
	Bedroom	2	265	
	Living room	1	115	
	Dinning	1	185	
	Toilet	2	70	
	Kitchen	1	56	
	Veranda	3	74	
	Total sqft of 1 flat			800
	Total sqft of 100 flats			80,000
	30% circulation			24,000
Total sqft of 100nos (800sqft) flats			104,000	

Class II

Grade : 12TH -14TH

Salary Scale : 10,200-11,300/=

Flat Size : 800 sqft



FUNCTIONAL PROGRAMME DEVELOPMENT

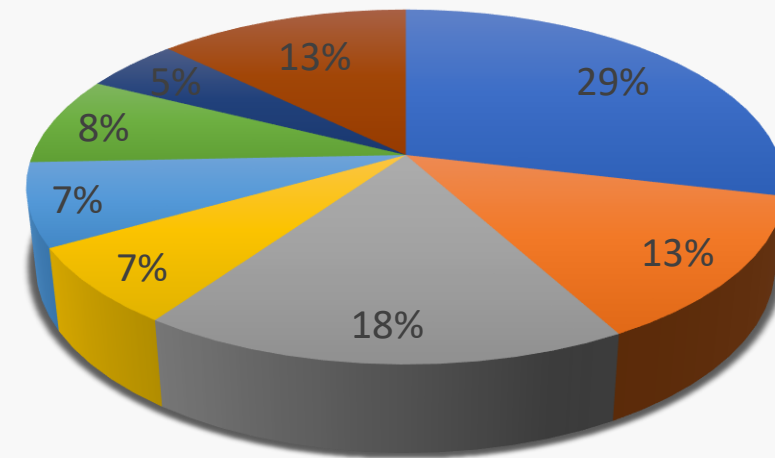
Type of Unit	Functional Activities	No of elements	Area (sqft)	
1000sqft	Foyer	1	48	
	Bedroom	2	284	
	Living room	1	132	
	Family Living	1	126	
	Dinning	1	175	
	Toilet	2	80	
	Kitchen	1	70	
	Veranda	3	75	
	Total sqft of 1 flat			1000
	Total sqft of 16 flats			16,000
	30% circulation			4,800
Total sqft of 16nos (1000sqft) flats			20,8000	

Class I (Type D)

Grade : 8th – 11th

Salary Scale : 12,000-22,000/=

Flat Size : 1000 sqft



■ Bed room

■ Living

■ Dinning

■ Kitchen

■ Veranda

■ Toilet

FUNCTIONAL PROGRAMME DEVELOPMENT

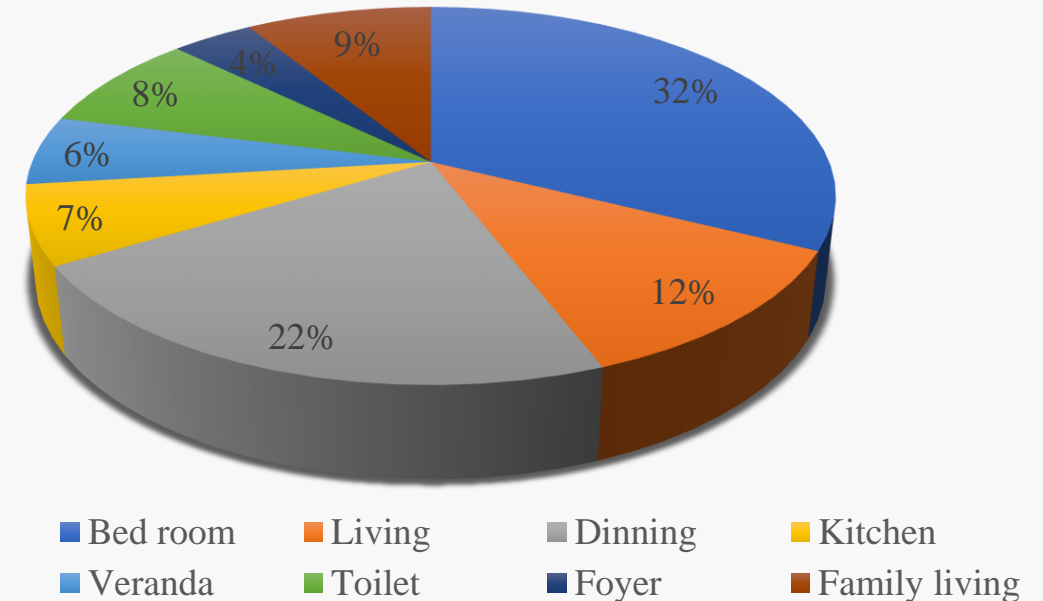
Type of Unit	Functional Activities	No of elements	Area (sqft)	
1300sqft	Foyer	1	52	
	Bedroom	3	430	
	Living room	1	156	
	Family Living	1	117	
	Dinning	1	294	
	Toilet	3	110	
	Kitchen	1	90	
	Veranda	3	78	
	Total sqft of 1 flat			1300
	Total sqft of 10 flats			13,000
	30% circulation			3,900
Total sqft of 10nos (1300sqft) flats			16,900	

Class I (Type E)

Grade : 5th – 7th

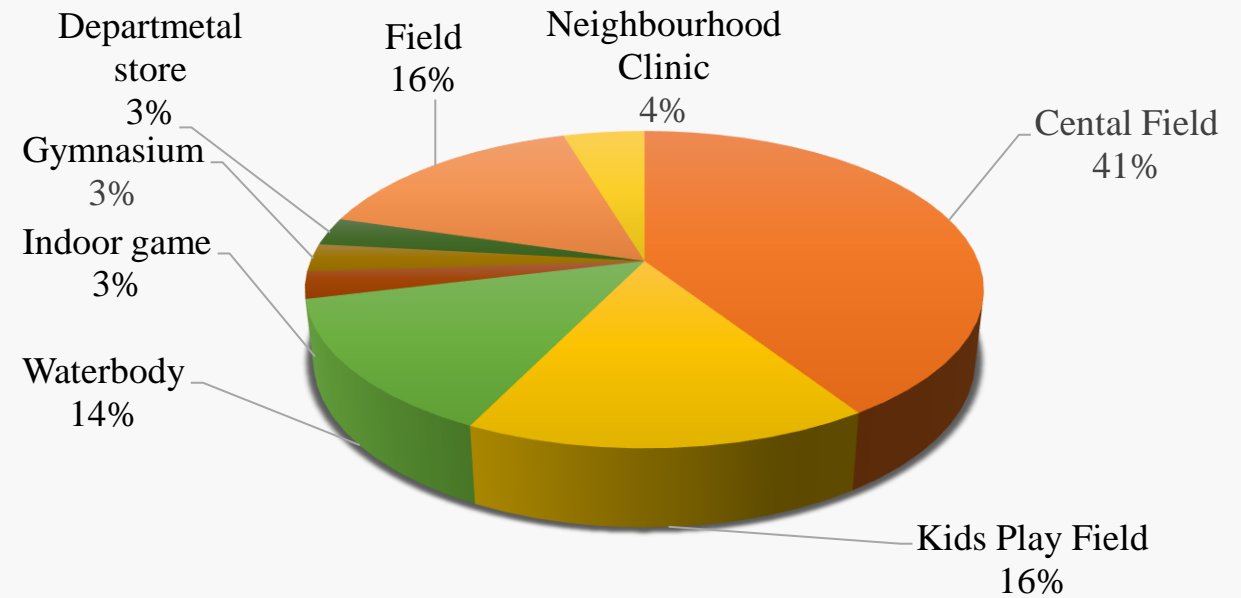
Salary Scale : 23,000-43,000/=

Flat Size : 1300 sqft



FUNCTIONAL PROGRAMME DEVELOPMENT

Amenities	Area (sqft)
Central Field	40228
Kids Play Field	16,110
Waterbody	13770
Indoor games	2700
Gymnasium	2800
Departmental store	2800
Field	15525
Neighborhood clinic	4540



MAXIMUM GROUND COVERAGE

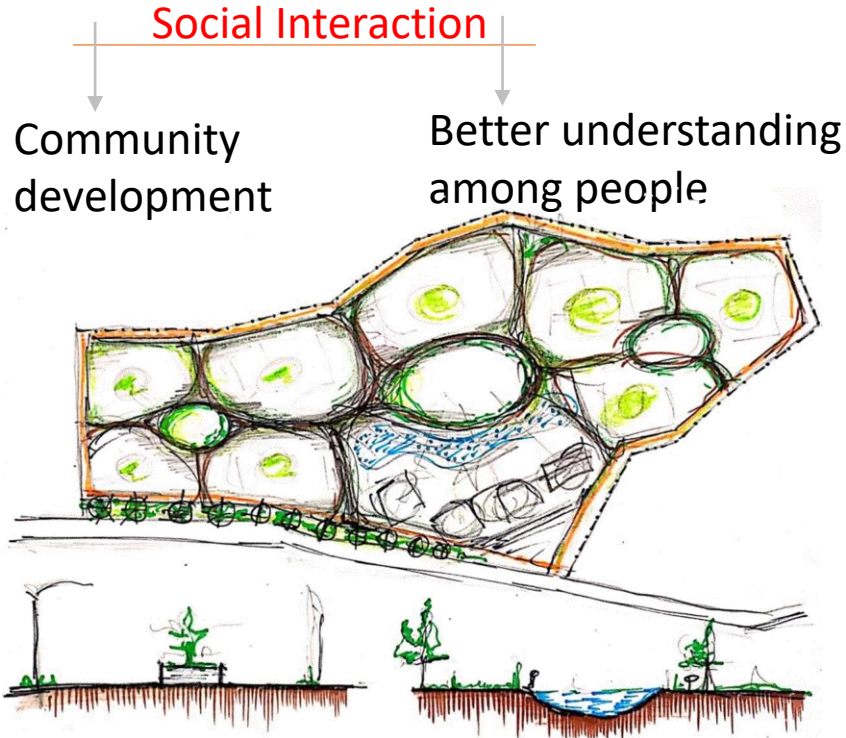
Site Area, 15acre = 653,400 sqft

Build Area 190683sqft

Green Area 300996sqft

DESIGN IDEA

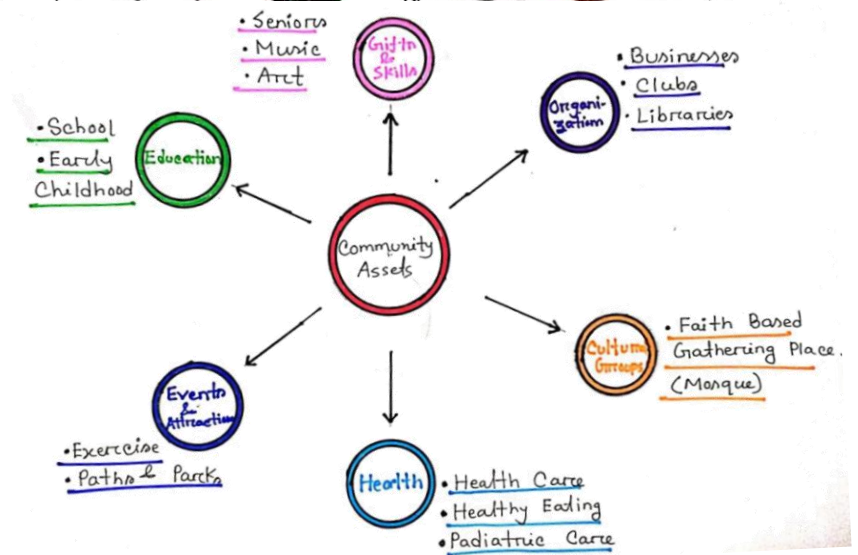
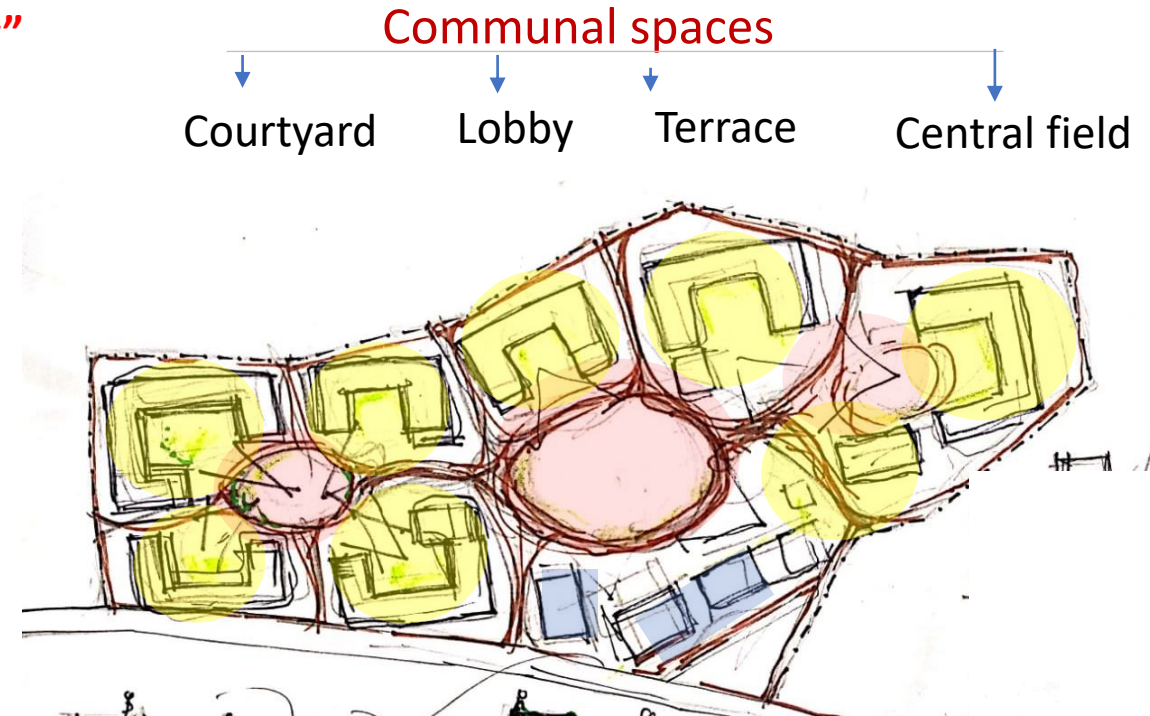
Promote social interaction among people. **“Unity In Multiplicity”**



- Continuity
- Walkable
- Interactive
- Active
- Safe

Design Principle

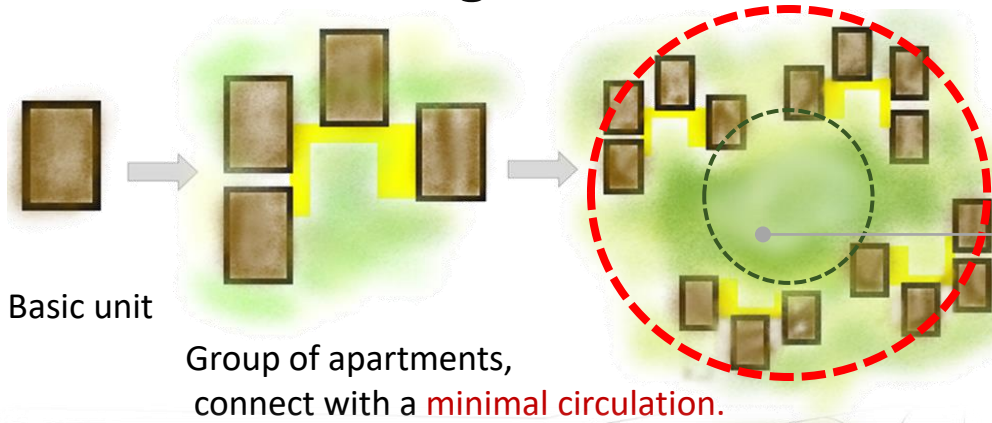
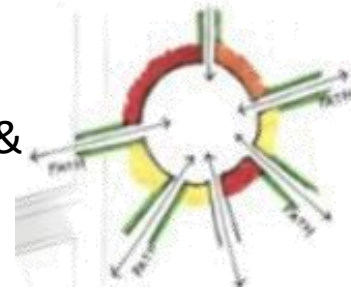
- **Vitality** - to Support socio-physical aspirations of the community
- **Imageability** – Marking identity & increasing sense of belonging amongst inhabitants
- **Equity** – Creating a community of equal qualities & opportunities for all
- **Efficiency** - Optimizing natural materials.



CLUSTER PLANNING

"Know our neighbors".

- to encourage interaction between dwellings , within clusters & between clusters, thereby forming a well knit community.

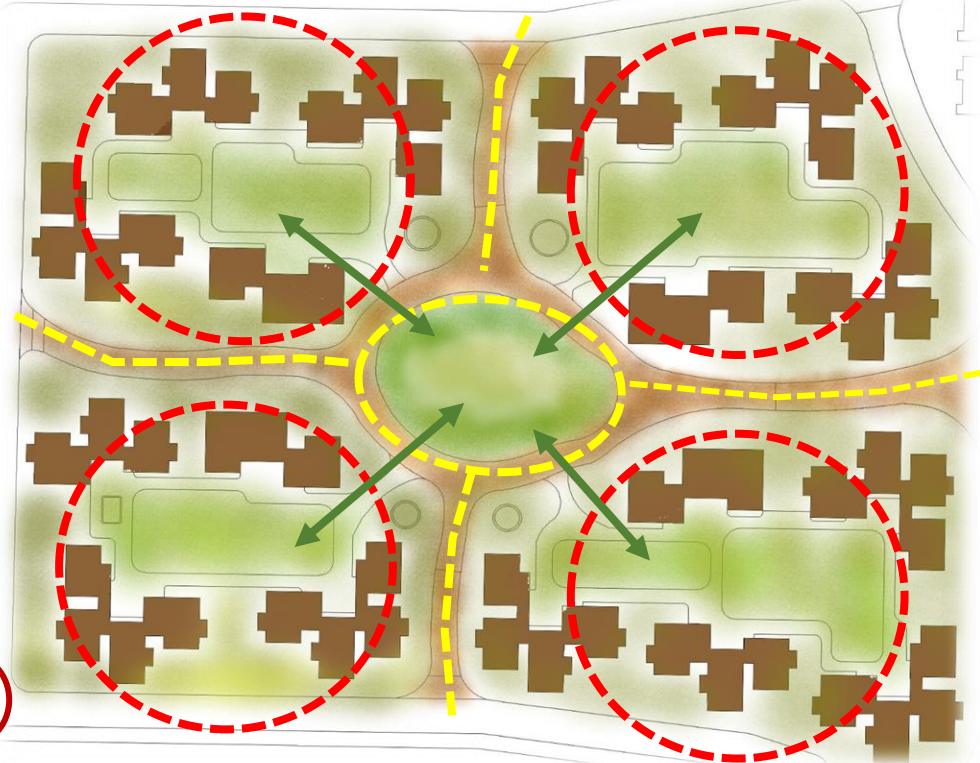
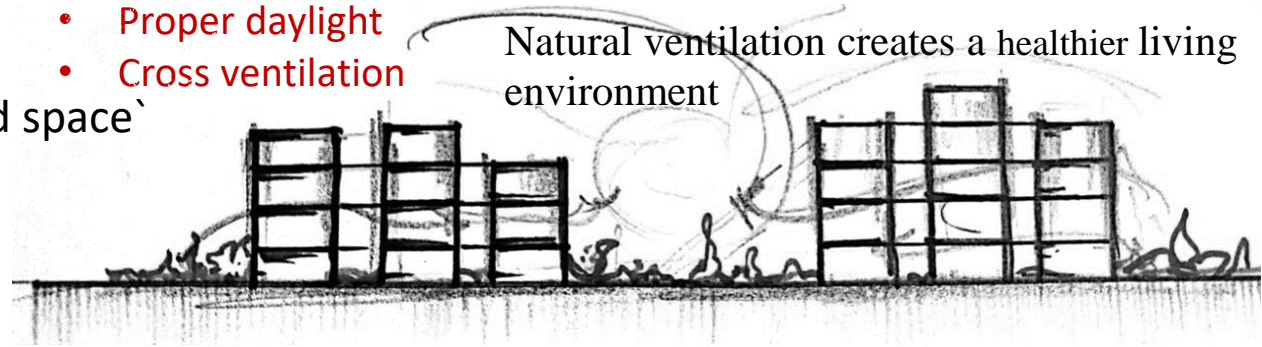


Climate Consideration

- Thermal comfort
- Proper daylight
- Cross ventilation

North South oriented

Natural ventilation creates a healthier living environment



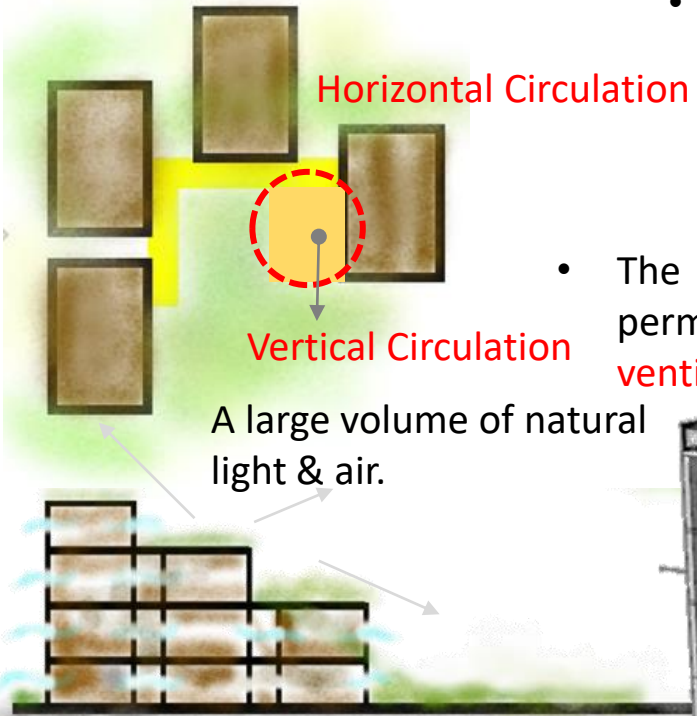
Inner courtyards providing public space within the building

- Courtyards within houses , Public squares & small activity areas are sufficiently shaded by the adjacent buildings.

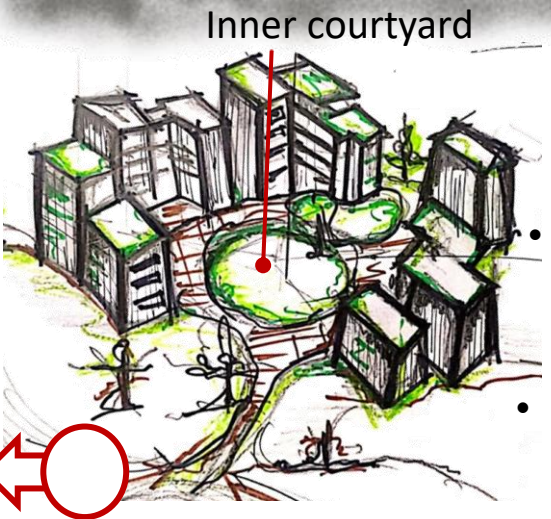
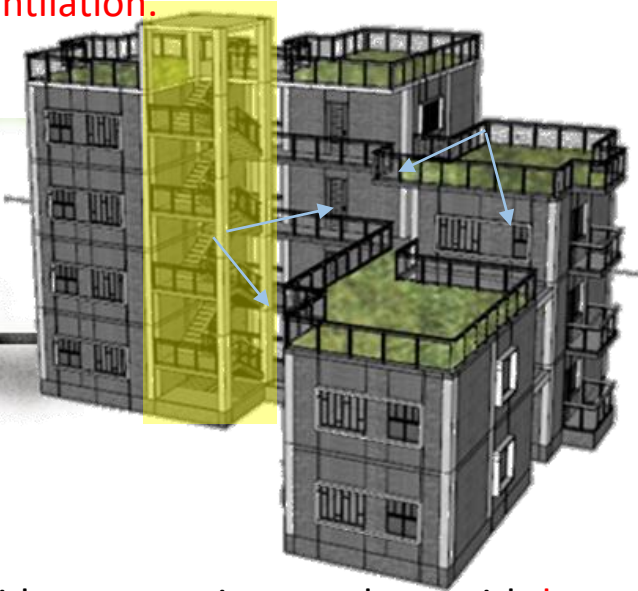


- Each cluster permits the emergence of a local community feeling ,while integrating each house to the whole settlement at different levels.

CLUSTER PLANNING



- The longer side facade is oriented in the **North-South** axis to reduce the solar radiations on building especially during summers.
- The two openings on **north & south** permit **natural light & cross ventilation.**

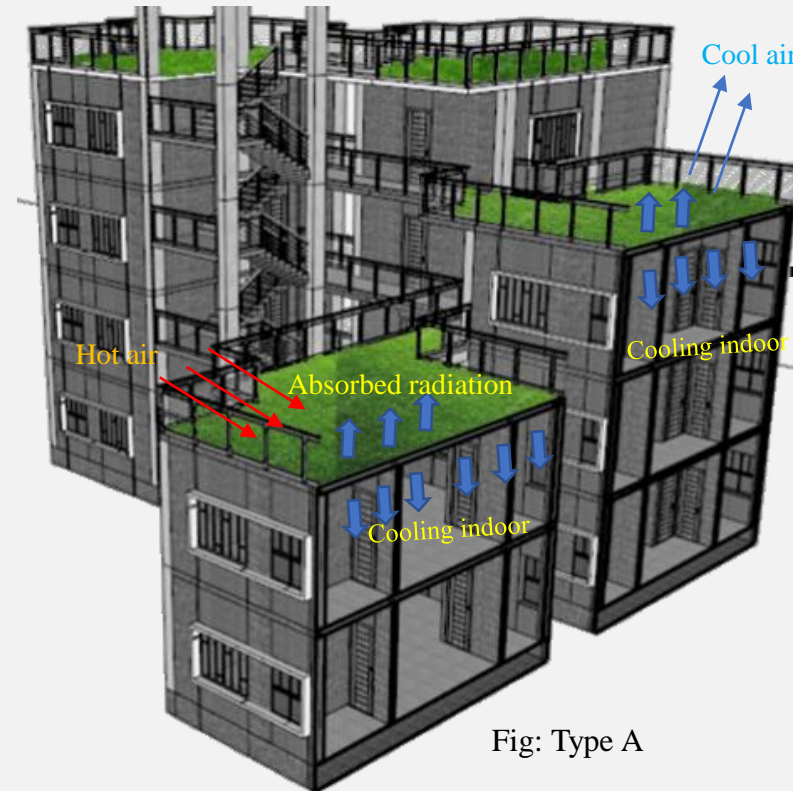
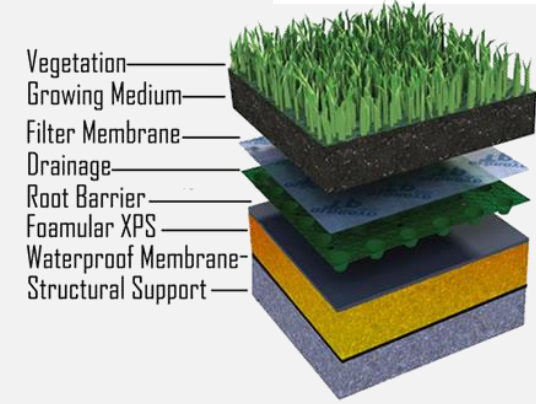


- Provide community members with **larger recreation areas** & create a **sense of openness**
- Courtyards within houses, Public squares & small activity areas are sufficiently shaded by the adjacent buildings.

ROOF GARDEN/GREEN ROOF



- Provide a visual relief
- Reclaim space for relaxation and passive recreation for employees and residents.
- Grow fruits, vegetables, and flowers etc.



- Cools buildings in summer and insulates in winter**

Create green space in neighborhoods that have little ground level space, increasing livability and helping to meet municipal mandates for green space.

Fig: Type A

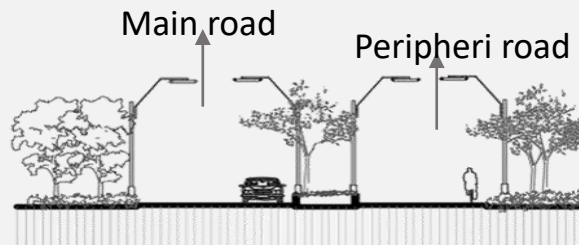
ROAD NETWORK



- Provide a **Peripheral road** which is connected to inner pedestrian walkway.
- Segregation of **vehicular and pedestrian** traffic
- Break visual monotony
- The roads suit human scale.

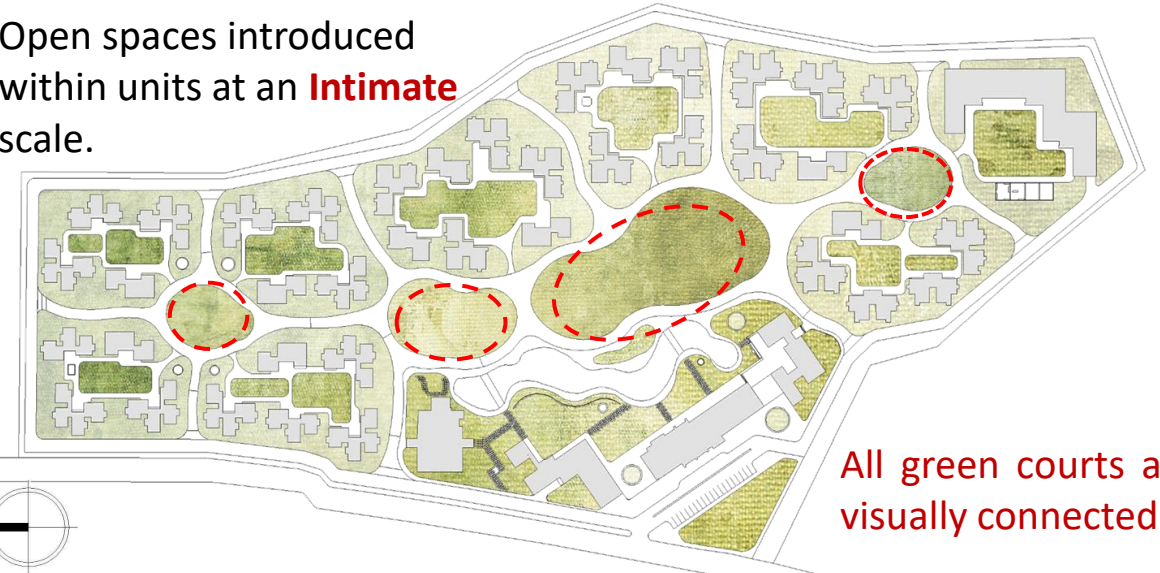
To create a **Safely healthy physical environment** in which

- Children will have no traffic streets to cross on their way to school, which are within walking distance from home.
- women may have an easy to shop where they may get the daily households
- Well equipped playground is located near the house where children may play in safely.



HIERARCHY OF OPEN SPACES

- Open spaces introduced within units at an **Intimate** scale.



- Larger open spaces created within blocks at a **Community** level

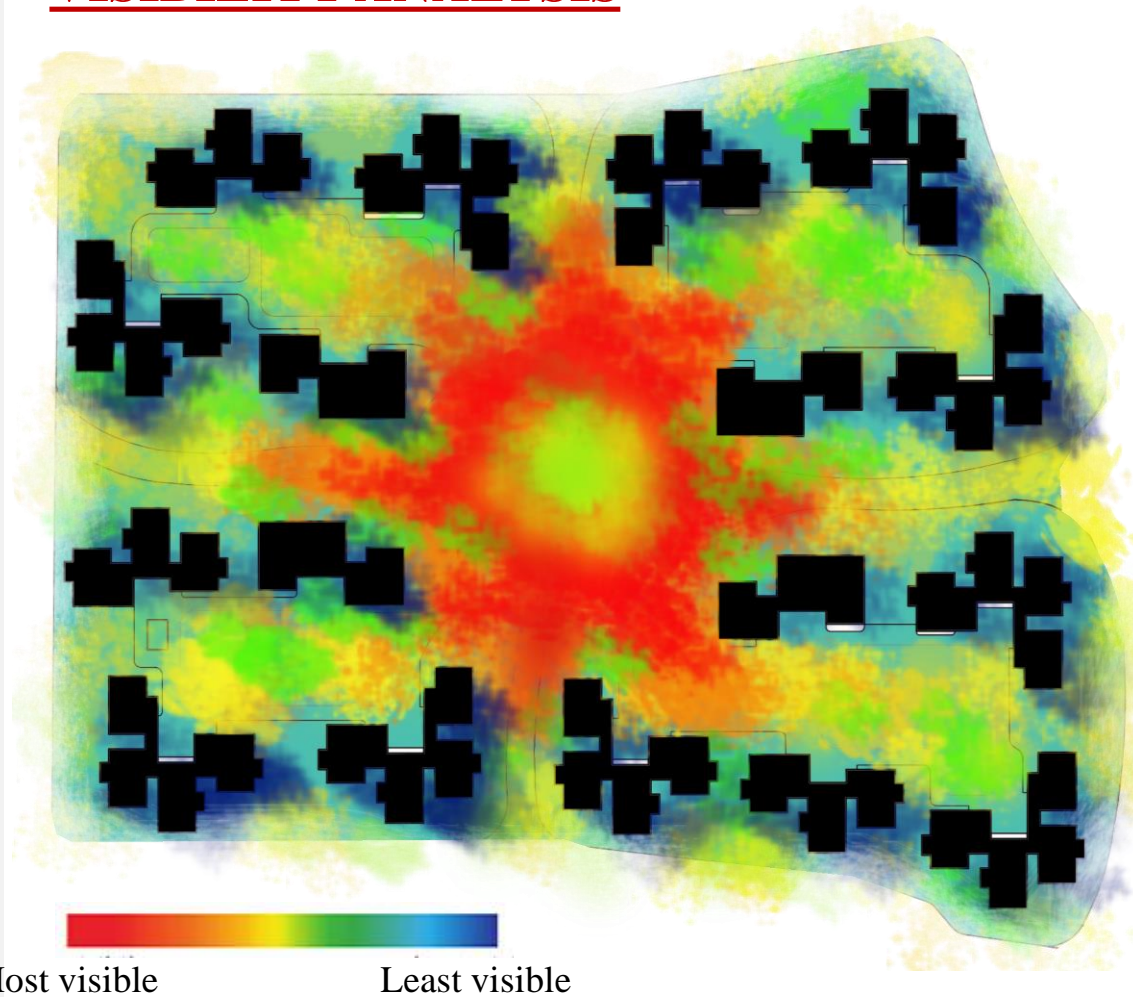
A **Organic network of green** open spaces created to generate an integration of **private & communal** spaces.

Central field mainly proposed for disastrous purpose. It will also work as

- Community Gathering space
- Play field
- Fair space
- Park

It is placed in a way so that it can be accessed easily by everyone

ARRANGEMENT OF A BLOCK USING VISIBILITY ANALYSIS

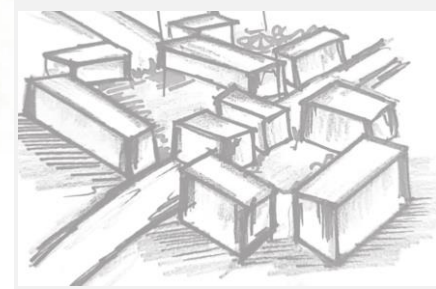


Arrangement of units more fragmentation provides **connection between neighboring** units while maintaining **privacy within individual** units.





MASTER PLAN



MASTERPLAN ZONING

- Provide 440 residential units ranging in size from 400sqft (lower income) to 1300sqft for high income groups.
- Create a place with a sense of continuity and fundamental values of security in a good living environment.
- Achieve a community character by establishing harmony between the built environment and the people
- Create a balanced community of various socio-economic groups to evolve a framework through design.



Entry



Residence



Kids play field



School



Clinic



Mosque



Central field



Amenities

..... Periphery Road

..... Inner Pedestrian

Yellow 4th class

Purple 2nd class

Red 3rd class

Orange 1st class



GROUND FLOOR PLAN

- 1.Entry
- 2.Shop
- 3.Guard room
- 4.Central field
- 5.Kids zone
- 6.Community building
- 7. Block a type
- 8.Block b type
- 9.Block c type
- 10.Block d type
- 11.Mosque
- 12.School
- 13.Clinic
- 14.Private courtyard
- 15.Water body

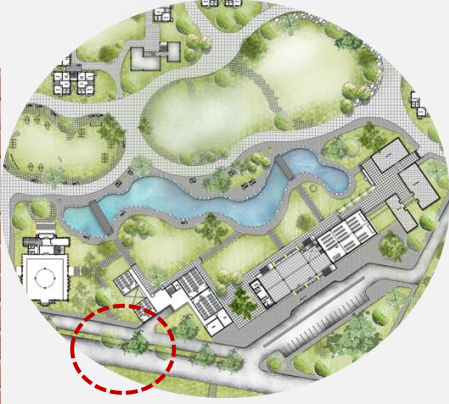


PUBLIC FACILITIES



- Mosque
- School
- Amenities
- Central





Main road Green Buffer Service Road



- Each cluster permits **the emergence of a local community feeling**, while integrating each house to the whole settlement at different levels.



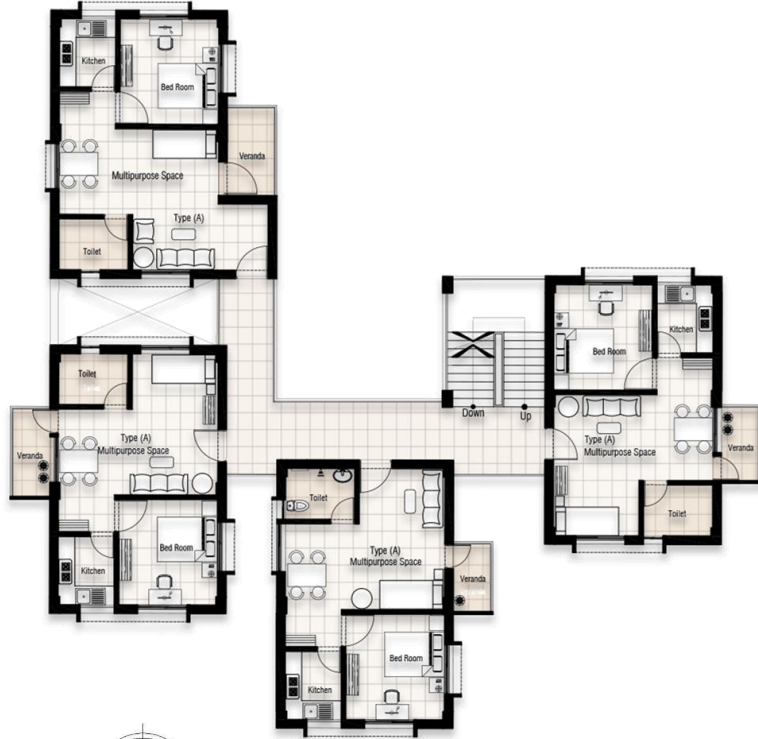
Class IV

Grade 20th
Salary Scale : 8250/=
Flat Size : 400-450 sqft

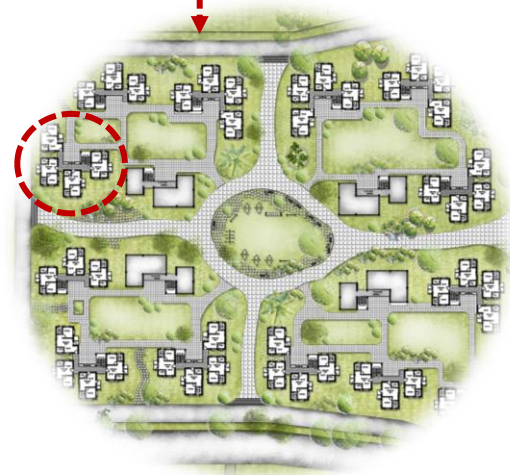
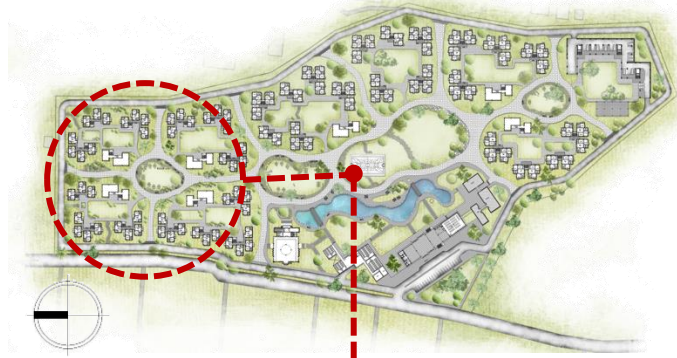
Facilities:

- 1 Bed Room
- 1 Multipurpose space
- 1 Kitchen
- 1 Toilet
- 1 Veranda

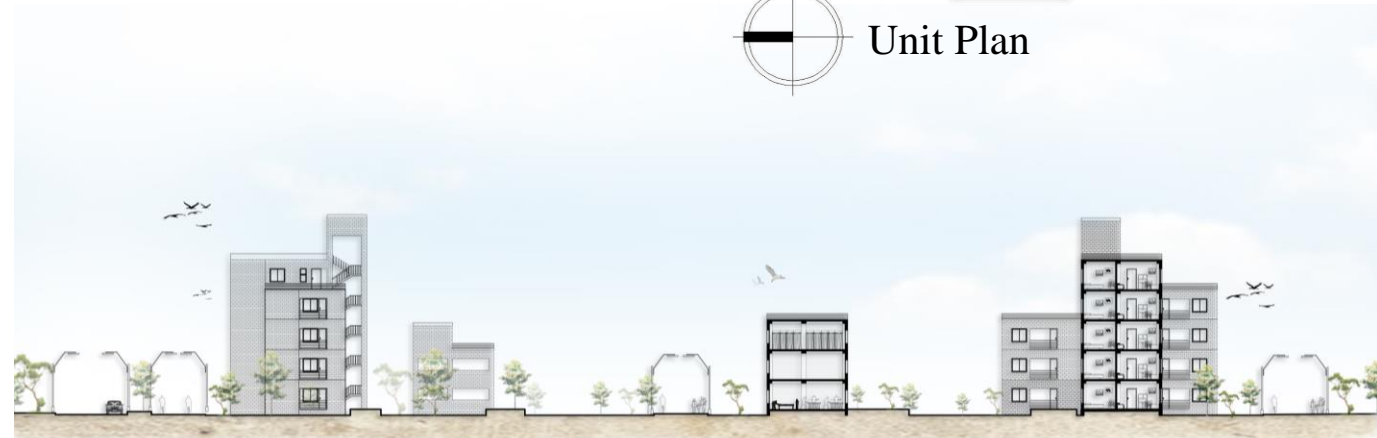
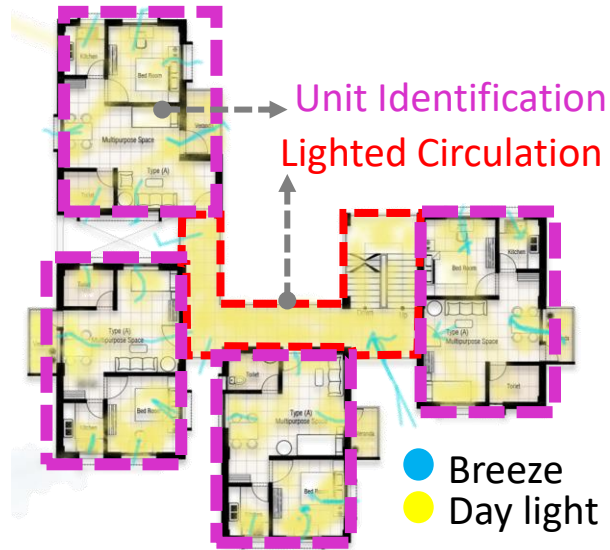
CLUSTER DETAIL (TYPE A)



Unit Plan



Blow up



SECTION CC'





CLUSTER DETAIL (TYPE B)

Class III

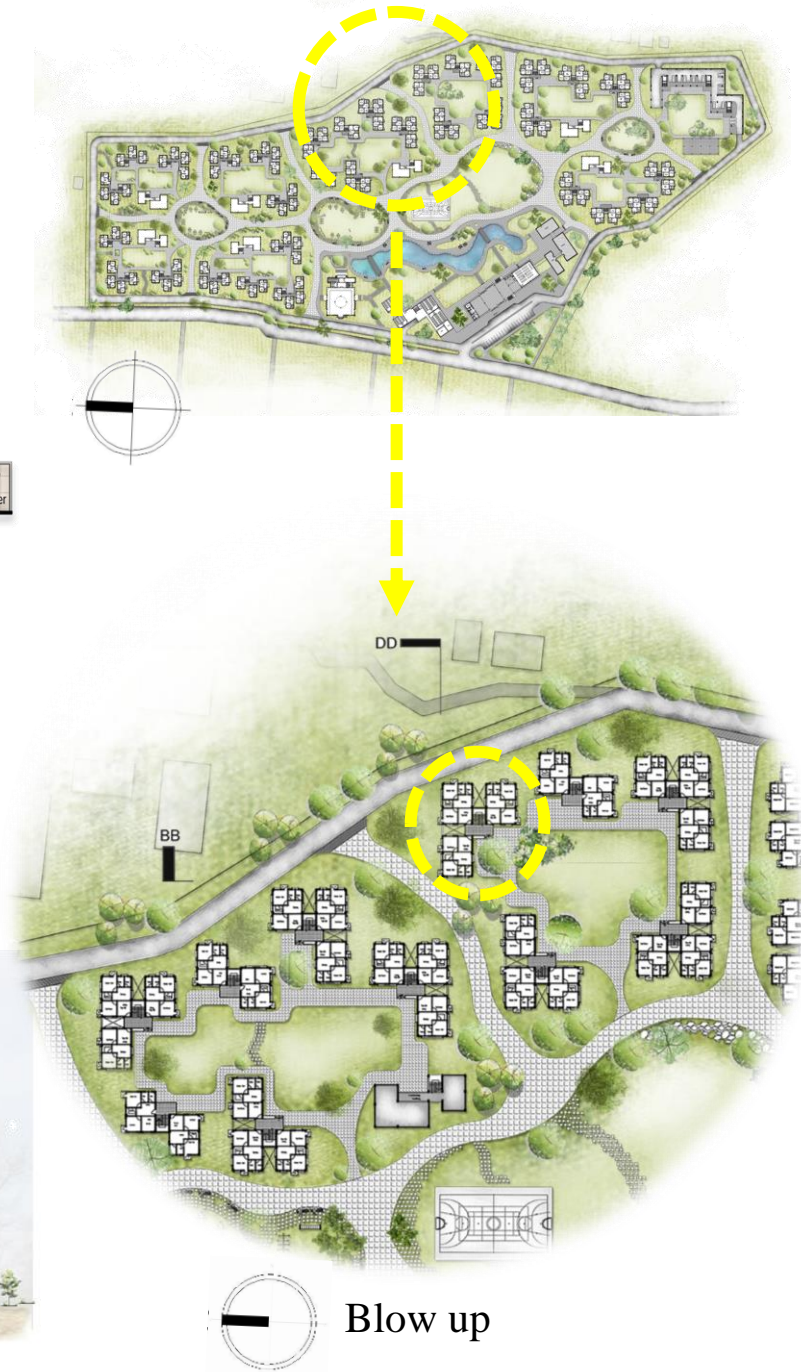
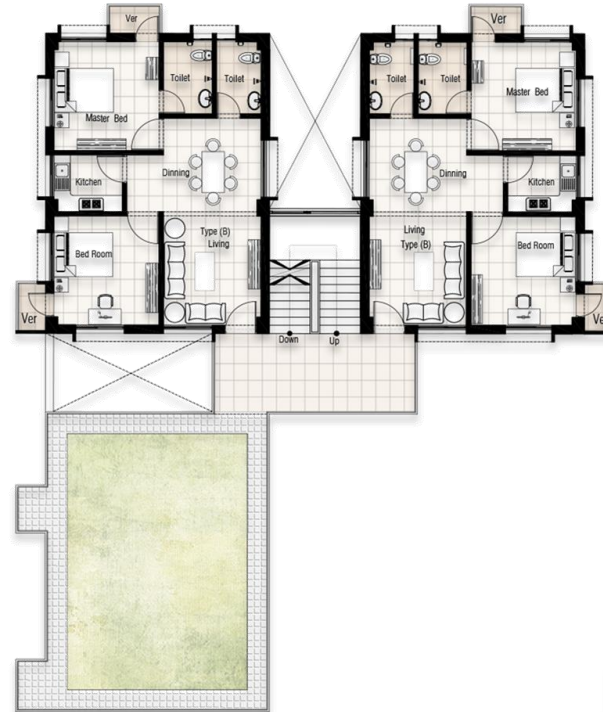
Grade : 15th – 19th
 Salary Scale : 8,500-9,700/=
 Flat Size : 600 sqft

Facilities:

- 2 Bed Room
- 1 Multipurpose space
- 1 Kitchen
- 2 Toilet
- 2 Veranda



Unit Plan



Blow up



SECTION BB'
 SCALE: 1/32" = 1'-0"



Class II

Grade : 12TH -14TH

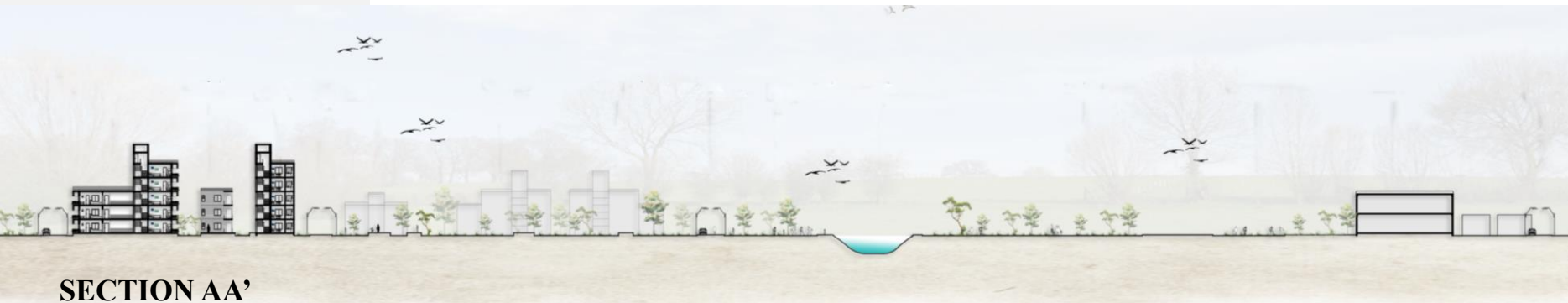
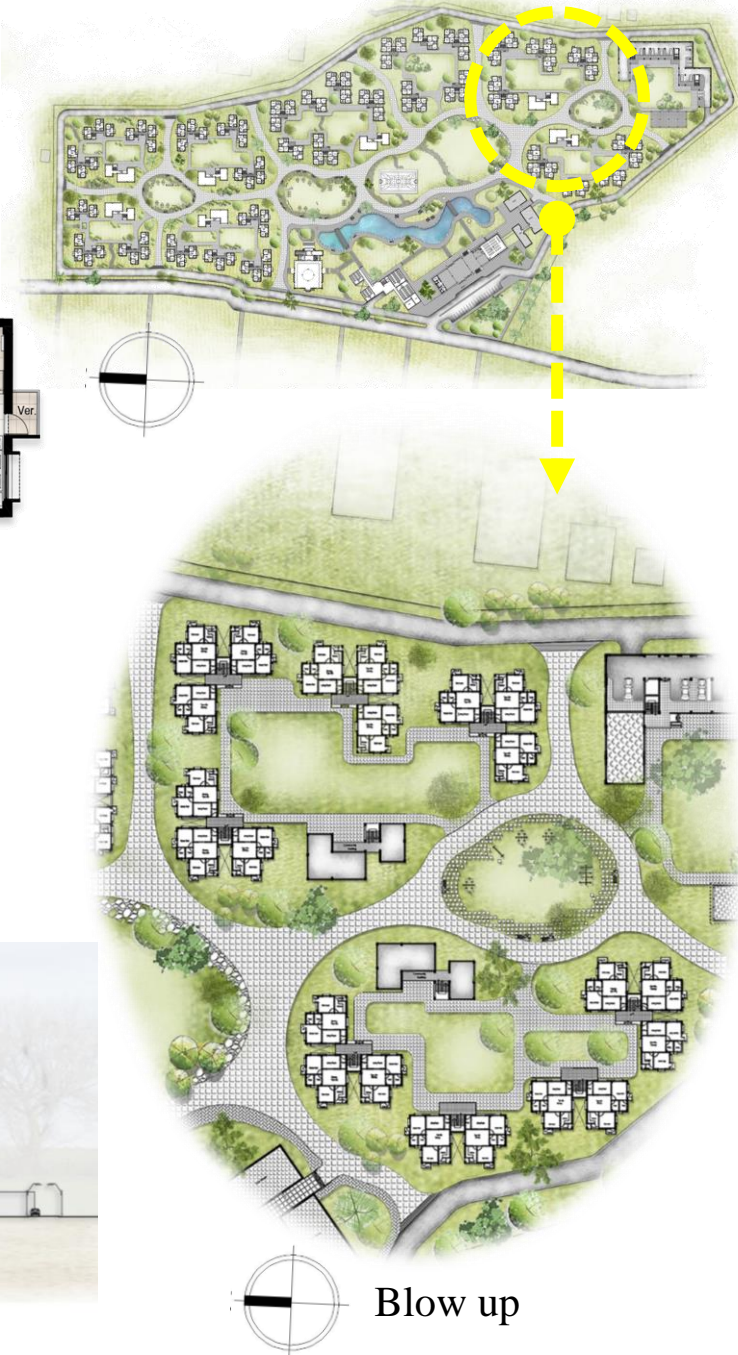
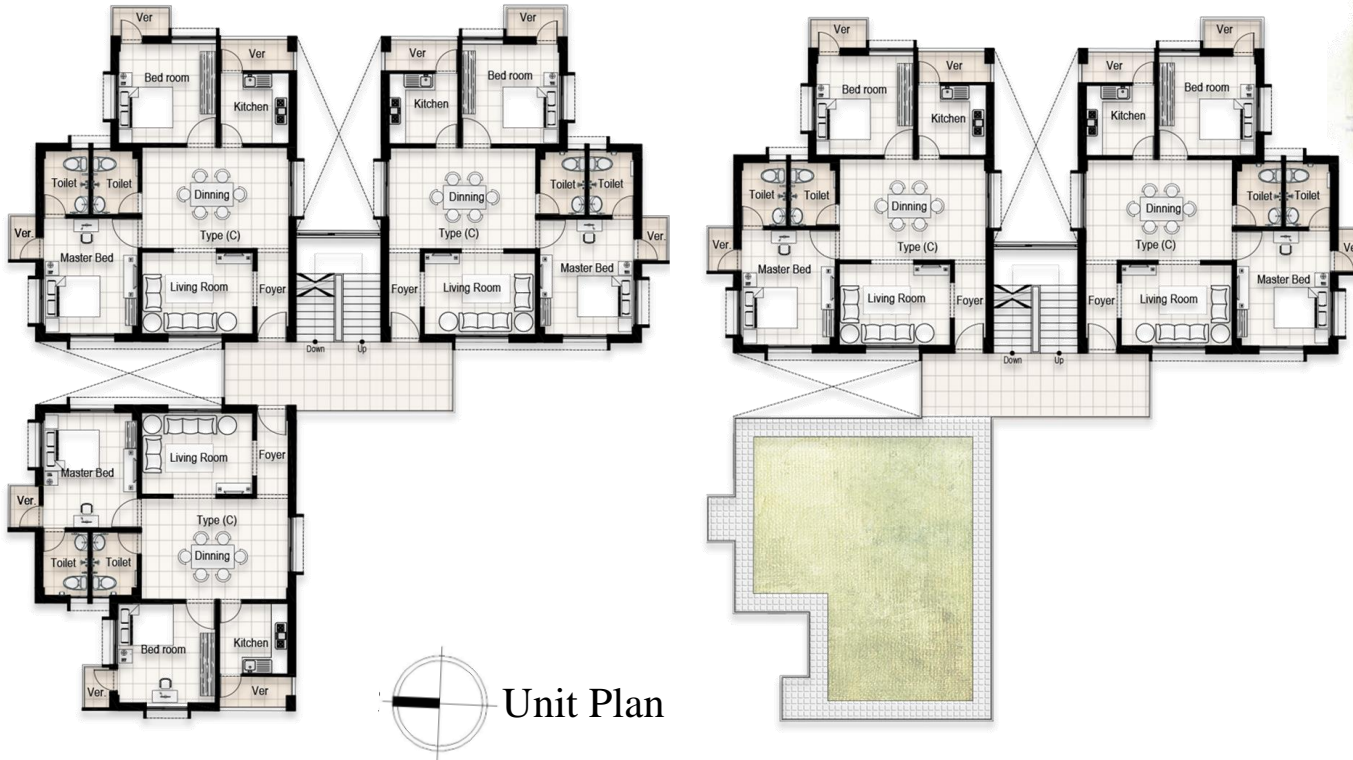
Salary Scale : 10,200-
11,300/=

Flat Size : 800 sqft

Facilities:

- Foyer
- 2 Bed Room
- 1 Living
- 1 Dinning
- 1 Kitchen
- 2 Toilet
- 2 Veranda

CLUSTER DETAIL (TYPE C)



SECTION AA'
SCALE:1/32"=1'-0"

Class I (Type D)

Grade : 8th – 11th

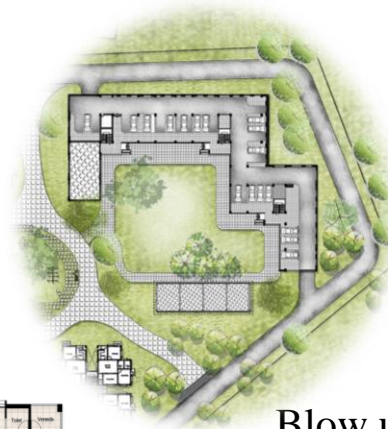
Salary Scale : 12,000-22,000/=

Flat Size : 1000 sqft

Facilities:

- Foyer
- 2 Bed Room
- 1 Living Room
- 1 Family Living
- 1 Dining
- 1 Kitchen
- 2 Toilet
- 3 Veranda

CLUSTER DETAIL



Blow up



Class I (Type E)

Grade : 5th – 7th

Salary Scale : 23,000-43,000/=

Flat Size : 1300 sqft

Facilities:

- Foyer
- 3 Bed Room
- 1 Living Room
- 1 Family Living
- 1 Dining
- 1 Kitchen
- 3 Toilet
- 4 Veranda



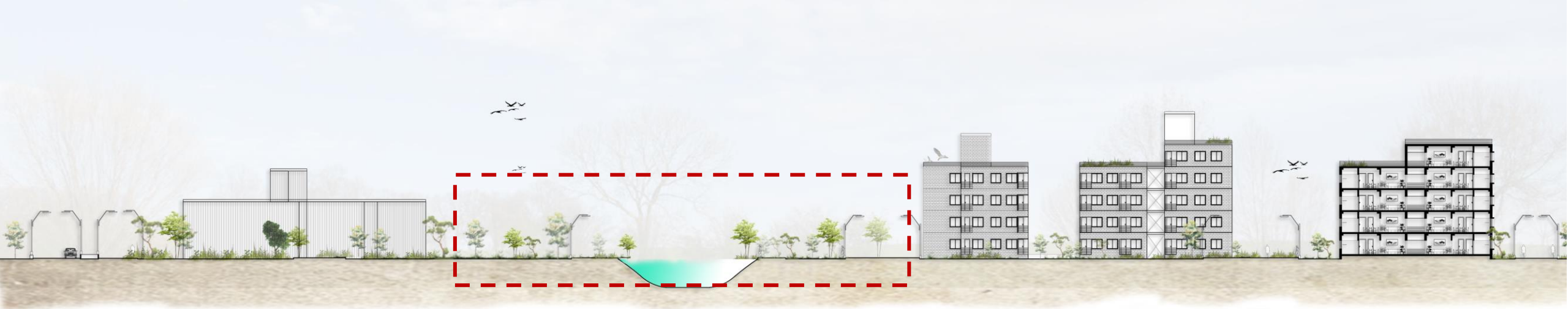




Community buildings

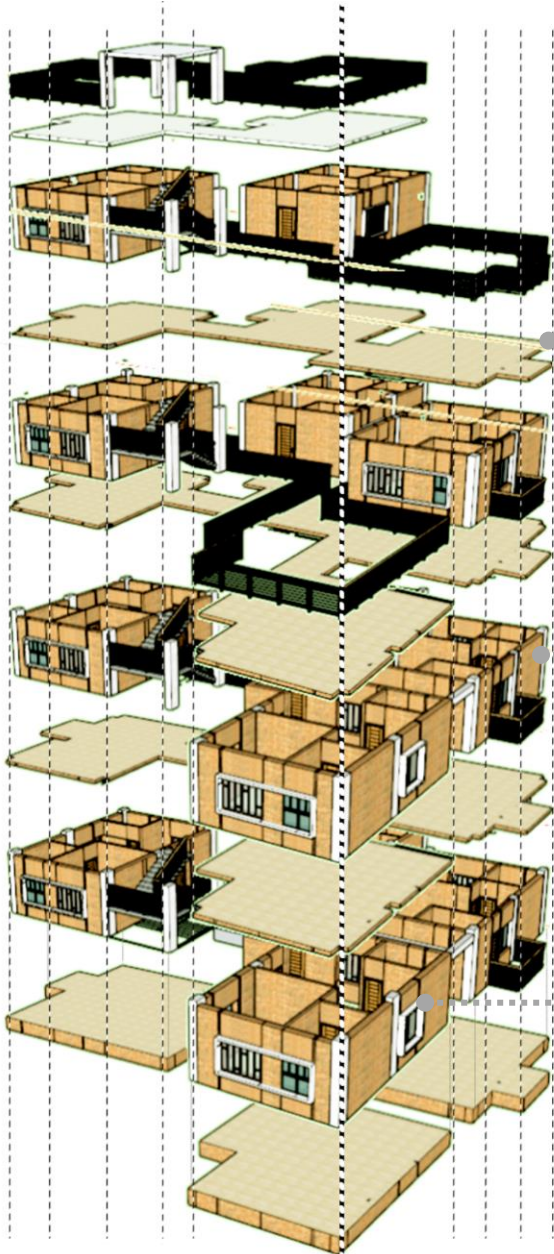


WEST ELEVATION



SECTION DD'

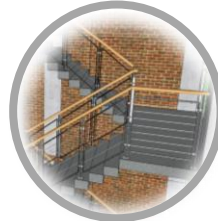
❑ MATERIALS



Egg-crate Shading device
Glass, Wooden frame



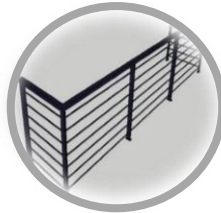
Concrete slab



Concrete staircase



Brick wall

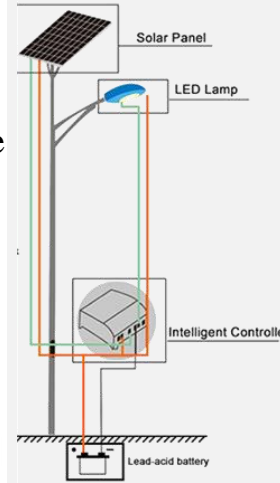


Metal railing



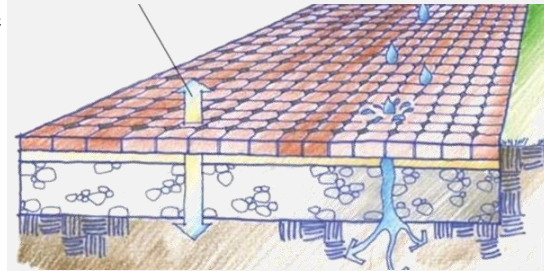
Louvered window
(Toilet)

❑ Solar LED Street lights



- Solar street lights require much less maintenance compared to conventional street lights.
- Electricity produced from solar panels is non-pollutive.
- Separate parts of a solar panel system can easily be transported
- Energy costs can be saved.
- Provide a safe & secure environment at night
- Extend the use of parks & walkways in the night.

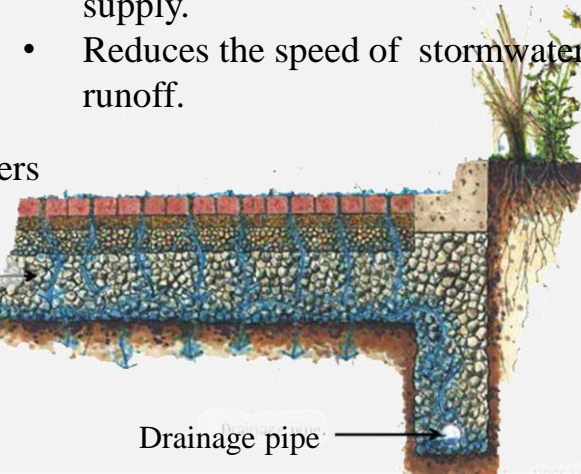
❑ Permeable Pavement



Permeable pavement allows infiltration of air & water.

Spaces between pavers

Aggregate bedding course & open graded bases.



Drainage pipe

- Decreases the amount of runoff leaving a site
- Improves water quality by filtering pollutants from runoff.
- Recharges the ground water supply.
- Reduces the speed of stormwater runoff.

