

E T E R N I T Y



1 INTRODUCTION

BRIEF INTERPRETATION



The brief depicts about the need for housing the senior citizen. Young population migrating abroad leaving ageing parents behind who needed support is the ongoing trend. Mostly elderly needs the environment having all the facilities near by so that everything can be accessible to them and nature would be more feasible for them. As the migration rate is increasing (longer life span, change in socio value their is more need of senior friendly houses. Senior citizens need to be independent and we do that by ensuring their safety, dignity and health, cognitive and physical.

AIM & OBJECTIVES

The main aim is to understand the increasing need of senior citizen houses in India and provide not only architectural solutions but also viable solution by creating a good foresighted built environment for elderly that can address their basic needs at 3 levels:



To understand and design healthy livable spaces for the senior people, so that, ageing does not become a factor for their mental illness and their experience comes to a good use to the society.



WHAT?
Elderly friendly design.

To understand the importance of a healthy livable space for old people, where all their needs are taken care of along with providing medical facilities in case of emergency



WHY?
Need of the future.

To uplift and revered elders in society by not only fighting for the cause but also, providing them physically viable, barrier free, socially and mentally sound surroundings which would in turn enrich our culture to new horizons.



WHO?
People above age 55.

The main objective of such housing society would be, providing residents with dignity, independence, privacy, control, choice along with health care supports.



HOW?
Understanding & design according to needs.



WHERE?
A place away from busy city life.



HISTORY OF SENIOR CITIZEN HOUSING IN INDIA

Until about a decade ago, elderly Indians—either by choice or by the wishes of their family—rarely left the nuclear fold of the family even in advanced old age. Many elderly people now have sufficient monetary reserves and have begun valuing their independence even after retirement.



Fifteen years ago, India was not culturally ready for children to have their senior parents live separately. But now the circumstances are such that the children move to other countries or cities, for their career and their parents stay alone.

SCOPE OF THE PROJECT

Elderly care meaningful architecture.

Positive impact on the lives of the elderly.

Improving areas of the built environment for the aged.

High scope of development of suburb in accordance with the senior citizens housing project.

CATEGORY OF OLD AGE PEOPLE DEPENDING ON THEIR PHYSICAL CAPABILITIES



a. Independent Living (IL or ILP)

Independent senior living communities bring together individual seniors and couples who are capable of looking after and providing for themselves on a continuous basis.



b. Assisted Living (AL or ALP)

Some individuals with physical or mental impairments choose to live in assisted living facilities so that professional help is on hand.



c. Continuous Care Retirement Community (CCRC)

A residential option for senior citizens providing flexible housing options, services and amenities, to provide round-the-clock care and address the health and wellness needs of residents.

DIFFERENCE BETWEEN OLD AGE HOMES AND SENIOR CITIZEN HOUSING



Serene, tranquil and calm—that's the kind of life most people desire post retirement. Billed as the idyllic retreat for one's later years, senior citizen homes are fast gaining traction among those who desire an independent lifestyle away from the humdrum of city life.

Already a popular concept in the West, the trend of retirement communities is beginning to find a market in the Indian context.

But are such retirement communities suited for a market such as India that thrives on sentimental values? Definitely yes, the concept of retirement homes is culturally sensitive to places like India, as there are several factors that are likely to contribute to a shift in this pattern.

"Young at heart, slightly older in other places."

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2 DATA COLLECTION

REVERSE MORTGAGE

The property shall stand mortgaged to financial institutions, which will pay a lump-sum or monthly instalments to the Allottees for a predetermined period of time.



OWNERSHIP MODEL

Is valid for transfer of title through 'Sale Deed/Transfer Deed'. Allottees will directly purchase the apartment from the promoter/ developer, and become the owner of the apartment.



LEASE / RENTAL MODEL

The prospective Lessee/ Tenant can reside in the apartment on lease/ rent from the Promoter/ Developer for the agreed period, on mutually agreed terms.



Average size of dwelling units

Area	Medical room	Community space	Convenience store	Total open space
Flats	Minimum 15 sq. m/ 250sq. ft or a part thereof	2 sq. m/ person or 500 sq. m whichever is lesser	2% of BUA or 30 sq. m whichever is lesser	65% of site area
Hilly	Minimum 15 sq. m /25 DUs or part thereof	2 sq. m /person or 500 sq. m whichever is lesser	2% of BUA or 30 sq. m whichever is lesser	55% of site area

Specifications for community spaces and open spaces:

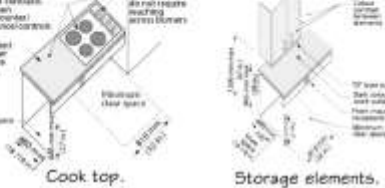
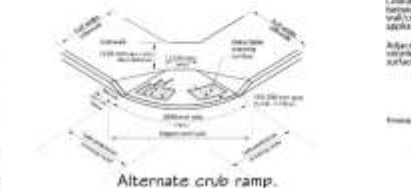
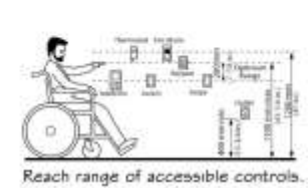
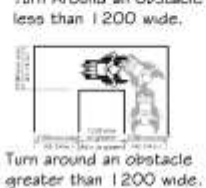
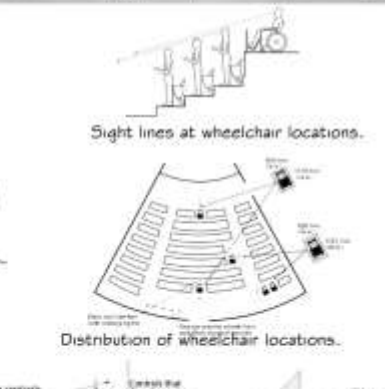
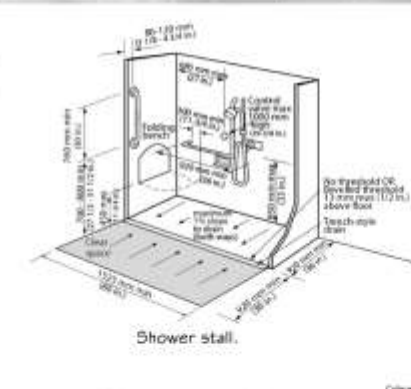
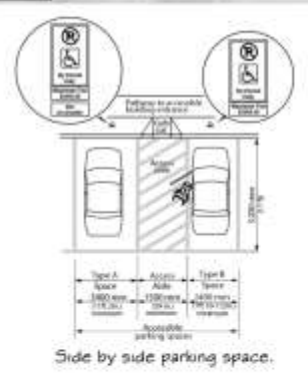
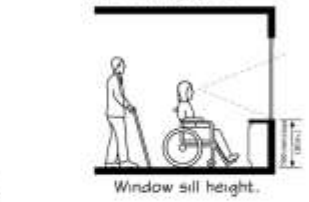
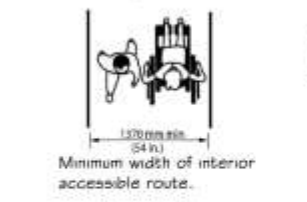
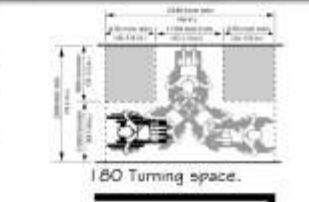
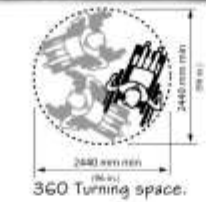
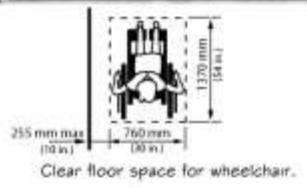
Area	Number of rooms	Dwellings unit (dwelling units)
Flats	10-15K	40 - 60
	15-20K	50 - 80
Hilly	1.5-2K	30 - 45
	2.5-3K	40 - 60

Indicative norms for Retirement Homes as Group Housing:

SI/NO	Plot size (sq. mts.)	Ground coverage(%)	FAR	Dwelling density(DUs/Acre)	Height (including atrium)
1.	3000	35	2.00	150	10
2.	1500	45	1.2	100	12

Note: In case of high demand FAR may be considered by the state government based on relevant studies.

Note: For higher FAR, state government may conduct relevant studies.



NORMS FOR SENIOR CITIZEN HOUSE



• Senior citizen houses can be developed with appropriate green spaces to promote social relation. Building more than one floor must be provided with lifts.



• Green building principle
There should be maximum use of non-polluting and renewable energy sources



• Corridor
Steps should not be introduced in corridors



• Sliding windows and doors should be used and easy to grip knobs and handles are provided. Door opening should not be less than 900 mm in width.



• Lifts and ramps
All lifts must have audio and video signages and signaling systems. Mandatory ramps to be incorporated the building to provide for wheelchair access



• Lighting and ventilation
Power backup should be mandatory in bathroom and kitchen



• Furniture should be light weight, sturdy and without sharp edge.



• Bathroom
Wash basin should have grab rails and tiles should be anti-skid. Bathroom door should have opening from outside



• Fitness facility
Jogging and walking track with non-slippery and non-skid surface

3. SITE JUSTIFICATION

KIWALE, RAVET.



PROS.

1. View of river.
2. Existing biodiversity.
3. Suitable for housing.

CONS.

1. Flooding may occur during heavy rains.
2. Highly polluted area.
3. Thorny vegetation.

SPINE ROAD, MOSHI



PROS.

1. Easy accessible.
2. Prime location.
3. Suitable for housing.

CONS.

1. Industrial surrounding.
2. Highly polluted area.
3. Lack of vegetation.

NADHE NAGAR, KALEWADI



PROS.

1. Easy accessible.
2. Market surrounding.

CONS.

1. Lack of vegetation.
2. Noise pollution.
3. Kila nearby.

WHY THIS SITE ?



1. Site is located in Kiwale which is far away from densely populated areas and chaos of city life.
2. Site has scenic riverside view and rich ecological value.
3. Good vehicular network and ease of accessibility to amenities and facilities.
4. Great environment for old aged people and helpful context for psychological health.
5. Easily accessible.
6. Undeveloped piece of land in a flourishing area.



The existing biodiversity along with the existing topography cohesively can create a lively and homely atmosphere for the senior citizens with the contours interacting with the structure to create pleasing views and the closely knit river changing the micro climate by interacting with the breezes to tackle harsh warmth and cold. With close to no noise and a freedom from the hectic life a peaceful living will be perennial.



2005

2013

2019

DEVELOPMENT PLAN



Residential zone Commercial zone Recreational zone

ACTIVITY MAPPING



Old people gather together to share their views, experiences, chat together etc.



Sewing classes, carrom clubs, Yoga class

SITE SURROUNDING



school

deputy office

river ghat

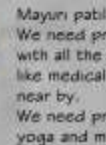
agricultural land

common toilet

INTERVIEW

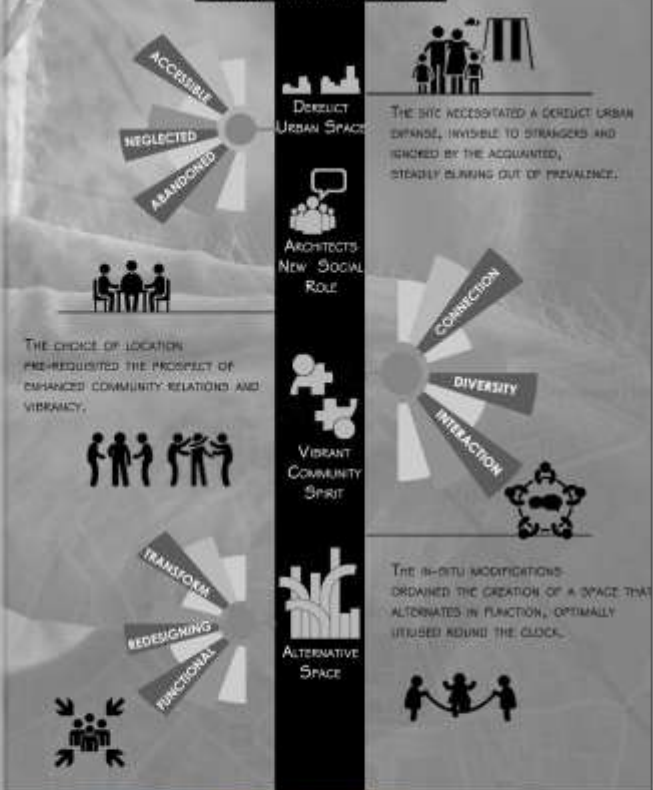


Ramdas patil age[72] - We just need a peaceful environment and which is close to nature and all the basic facilities should be very near to us as many of us like to see drama and some are very active users of technology so we even need faster connectivity. We need time to time cleaning services and proper laundry service as we also need proper security. We also need proper power backup we need a proper playing ground as we also love to play sports and also spaces for indoor games for the people who are on the wheelchairs or who are not comfortable to move to places.



Mayun patil age[62] - We need proper security with all the basic facilities like medical and shopping near by. We need proper eco friendly yoga and meditation spaces for peace. We need proper cleaning services as well as time to time laundry. We also need proper sitting spaces for spending time and sharing our thoughts. We also need proper walking way for regular moment.

BRIEF INTERPRETATION



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4 SITE ANALYSIS

KIWALE, RAVET
DEHU ROAD, MAHARASHTRA 412101

WHY KIWALE?

Kiwale has paralleled with the growth of the areas under PCMC, and developed remarkable real estate projects which are all set to make homes to cater to the living standards for the growing population of Pune. The outskirts areas of Pune are growing rapidly creating good and convenient spaces. As an obvious fact, the desired sites, at which home buyers are looking at, are the places which are close to all the facilities like hospitals, market, etc. However, with all the amenities comes the terrible traffic, over-population, pollution and all-night busy roads; and these can neither be avoided nor be overcome.

LANDMARKS



ACCESSIBILITY



SOCIO-CULTURAL ACTIVITIES

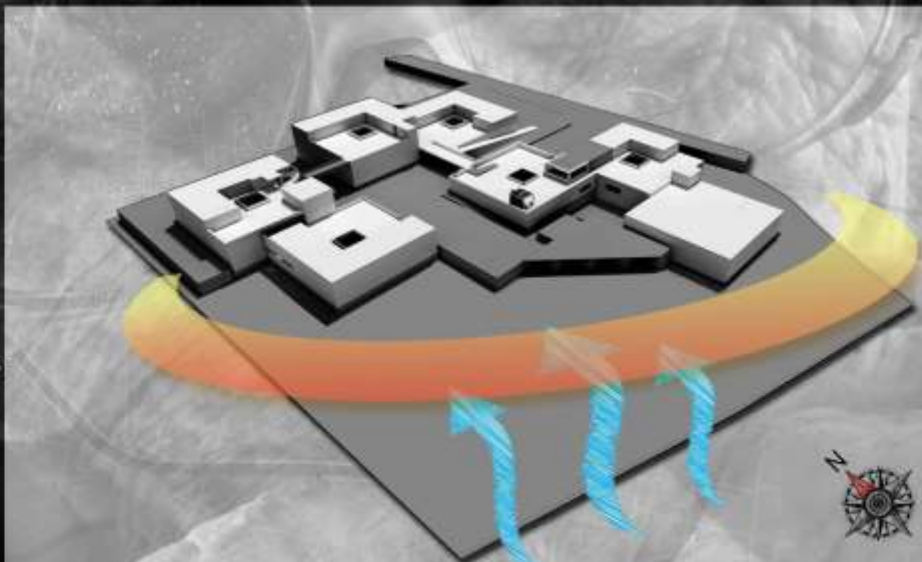


SOIL ANALYSIS

Black cotton soil is inorganic clay, of medium to high compressibility, they are characterized by high shrinkage and swelling properties.

CLIMATE

Pune has a hot semi-arid climate bordering with a tropical wet and dry climate, with average temperature ranging between 20 and 28 °C.



Site has a great view of river on a side. Site is located away from densely populated region and local community houses, providing peaceful surrounding. Site has few contoured patches. There is a variety of local vegetation and biodiversity due to less human disturbance.



Floods may effect the site. People can find site lonely due to lack of amenities in the surrounding.



Existing biodiversity and vegetation can provide a lively and old age friendly atmosphere. Contoured patches can help to provide innovative landscape and help to create views. Old age people can have a peaceful life with no noise in surrounding and no hectic life. Great view and cool winds and pleasant temperature during harsh summers.



Unclean river leads to foul smell. Prone to reptilian creatures.



1. If site has multiple building, they should be arranged in ascending order of their height and be built on stilts to allow ventilation.
2. Place buildings at a 30 or 45 degree angled to the direction of wind for enhanced ventilation. Form can be staggered in wind facing direction, also to achieve the same result.
3. Taller form in the wind direction of prevailing wind can alter the wind movement pattern for low lying building beside them.
4. STAGGERED LAYOUT HELPS IN ACCENTUATING WIND MOVEMENT.

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5 CASE STUDY

YEH MERA GHAR

● Mumbai Pune Expressway coming from Mumbai, look for Khopoli / Bypass and follow till the turning of Karjat / Neral / for road to Matheran. About 4 km before climbing the hill, look for the Lifestyle signboard on the Karjat-Matheran main road.

● Site is 4 kms from Neral railway station
● Site is 90 kms from Mumbai (Churchgate) by road

● SECURITY FACILITIES
24x7 security personnel.
Safety lockers in every cottage.
Emergency alarm bell in each cottage.
Availability of basic health care monitoring on a daily basis.



NULIFE

- Gagan Nulife
Kamshet, Maharashtra 410405
- Gagan Nulife Phase 1 is a premium housing project launched by Gagan properties in Kamshet, Pune. These 1, 2 BHK Apartment in Pune West are available from 0 sqft. Among the many luxurious
- amenities that the project hosts are Community Hall, Swimming Pool, Meditation Zone, Pergola, Landscaped Gardens, 24 X 7 Security
- Includes 24x7 onset backup for lift's of all buildings, common lobbies areas of each wing, staircases and pathways moving all along the campus so you don't get stuck up anywhere to reach your home.
- They provide the latest in proven, best-practice therapies to involve residents as much as possible
IN ORDER TO MAINTAIN THEIR PHYSICAL, EMOTIONAL AND COGNITIVE HEALTH.



Spacious 3-room Cottages with a private garden called Deluxe -1023 SQ.FT.



Spacious 2-room Cottages with a private garden called Premium -609 SQ.FT



Classic Clusters -435 SQ. FT with a common living room.



typical floor plan



1 bhk 477.9 - 712.98 sq. ft



2 bhk 824.81 - 920.73 sq. ft



Internet surfing and emailing: you're just a click away from your loved ones.
A well-stocked library: lots of books and magazines to devour between meals
Health Club and Fitness Centre: remember, you're only as young as you feel.
Indoor games: Carom, Cards, Chess and Tennis table. Now who wants to get out?
12.5 acres of lush green environment to explore
Dining Room with segregated kitchens for vegetarian and non-vegetarian.
Our menu changes every day and so does our table linen.
Special Baths: Curative and Preventive Hydrotherapies.
Remember, nothing heals like water.



Accessible amenities

All amenity spaces are located in the community building, nu-campus. This allows all residents convenient access to all amenities in one building, expanding useable activity space to outdoors and increasing contact with nature.
Trellises, canopies and covered porches in outdoor courtyards allow residents to enjoy being outdoors without feeling exposed or unprotected from wind, sun and rain.
parking space per residential unit is provided. Nulife routinely provides a shuttle van or town car to bring residents to shopping areas, medical appointments or cultural events.

PROS

- Its is well connected to nature.
- Situated on hilly area the residence provides some of the serene views.

CONS

- Being in a hilly area it feels isolated.
- At times the cold climate seems to be unfavourable to the old people.

Conclusion:

It is well connected to nature as it is built in a hilly region. The natural environment provides healthy lifestyle. It has various indoor and outdoor activities for the elderley people to engage in. The project being built in hilly area did not lack any services as the were provided appropriately on the site.

PROS

- Every tenament is provided with sufficient parking.
- All residents get convenient access to all amenities as all amenity spaces are located in the community building.

CONS

- Congested planning.
- Low light and ventilation in the lobbies of apartments.

Conclusion

Life here is bustling, relaxing & refreshing. It's a recreation and facility building, Nucampus to call here. Seniors from all walks of life live, share and connect together as if revisiting their cherished college days. Here you can enjoy the camaradene of good neighbours, make friends for life, have fun at various indoor and outdoor games, welcome guests at grand lobby, enjoy coffee breaks & live happily together

6. CONCEPT AND ZONING



OLD PEOPLE TEND TO SPENT TIME LOANLY WITH MANY THOUGHTS ABOUT THEIR FUTURE, TRYING TO DIVERT THEIR MIND FROM WORRIES OF HEALTH AND VISION TRYING TO FIND OUT SOMETHING RELAXING. A SPACE DESIGNED WHERE MIND, THOUGHT AND VISION GET CONNECT LEADING TO ETERNAL PEACE.



PHYSICAL PARAMETERS

INTERACTION

PATH CONNECTING NATURE

PHYSICAL CONNECTIVITY

OLD AGERS FACE MANY VARIOUS CONSTRAINTS THROUGHOUT THE DAY DURING EACH AND EVERY ACTIVITY SO THE PROVISION OF EACH AND EVERY MAJOR & MINOR CONSTRAINT IS CONSIDERED.

PROVISION OF MANY LANDSCAPED PATCHES WITH MAXIMUM INTERACTIVE SPACES AND PSYCHOLOGICAL EMPOWERMENT ZONES ARE DESIGNED FOR RESIDENTS HELPING THEM TO GIVE A HOME LIKE ENVIRONMENT.

EVERY BLOCK HAS A DIRECT CONNECTION WITH NATURE AND THE PATH LEADS THE RESIDENTS TO THE WOMB OF MOTHER NATURE. ALSO VISUAL CONNECTIONS FROM EACH PART TOWARDS SYNIC VIEWS IS CONSIDERED.

ALL BLOCKS TO BE ORIENTED AND DESIGNED IN SUCH A MANNER THAT PHYSICAL, VISUAL AND PSYCHOLOGICAL LINKAGE TO BE GAINED AND CREATION OF A VISUAL FRAME OF CONNECTIVITY.



STAFF RESIDENTIAL ZONE

Block is placed in such a way that all assistance staff get an easy access to the assistance living residents.



TRANSITION ZONE

This zone connects all 3 built-up blocks with each other and also with all amenities, facilities and landscape zones with many interactive features incorporated in it.



HIGH RISE ACTIVE LIVING RESIDENTIAL ZONE

The placement of block is done in such a way that it is located on the highest part of the contour and behind the low-rise block without obstructing their views.



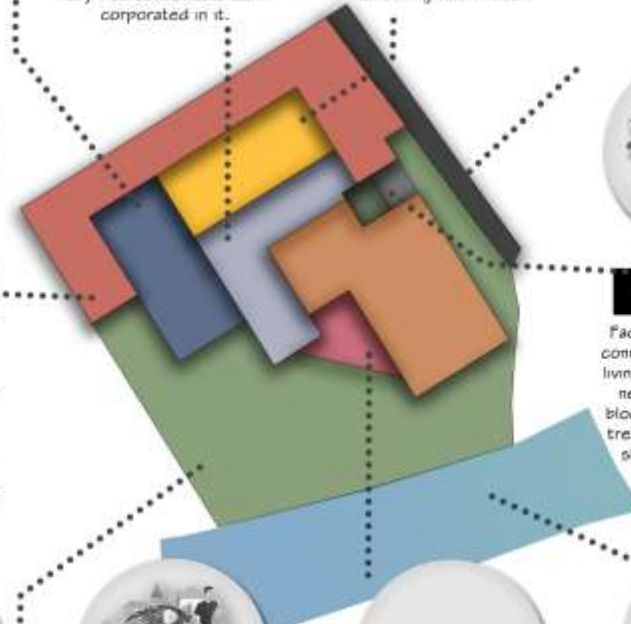
ACCESS ROAD

A road of 9 m is connected to the site. The road is connected with the Kivale highway and has a dead end at the site ends.



PARKING ZONE

Connected with all the 3 major blocks with no connectivity with landscape zones and amenities zone, reducing carbon footprint on site and also reducing sound pollution and air pollution on site.



FACILITIES ZONE

Facilities zone is directly connected with the assistance living zone and parking lot near by the road. This block consists of medical treatment rooms, grocery shops, administration rooms, etc.



LANDSCAPE ZONE

Landscape zone is created at the lowest part of the site, isolating it from city life and noise, also creating a scenic view of the river and ample water landscaping.



AMINITIES ZONE

Amenities are placed as the core of the site, giving a scenic view of the river and also ease of access from all residential blocks.



LOW RISE FOR ASSISTED LIVING RESIDENTIAL ZONE

This block is connected with the facilities block and staff block for assistance. Even being low-rise, maximum dwellings get a view of the river.



RIVER

7 MASTER PLAN



SECTION BB

AREA CALCULATION

Building type	Floor	Ground cover (m ²)	Indoor area (m ²)
Independent & Active living	G+9	1250	10707
Assisted living	G+2	1892	4284
Supporting staff living	G+2	1288	2578
Admin	0	171	111
Library	G+2	276	651
Hospital	0	118	181
Total ground cover		4925	Total indoor - 17301

Site area	158.14 Hect
Planned PFI	12
Planned built-up area	19707 Sqm
Conserved built-up area	17301 Sqm
Remaining PFI	4.61

1. ENTRANCE
2. MEDICAL BLOCK
3. ADMIN BLOCK
4. PARGOLA
5. AMBULANCE PARKING
6. ASSISTED LIVING BLOCK
7. LIBRARY ENTRANCE
8. WASHROOM
9. MEDITATION AREA
10. POND
11. BIRD BATH
12. AMPHITHEATRE
13. VEGETABLE GARDEN
14. VIEWING DECK
15. OUTDOOR GYM
16. SEWAGE TREATMENT PLANT
17. UNDERGROUND WATER TANK
18. BONFIRE
19. MULTIPURPOSE SITTING
20. OPEN THEATRE
21. CENTRAL PLAZA
22. SUPPORTING STAFF BLOCK
23. SHOPS
24. INDEPENDENT LIVING BLOCK
25. VISITOR'S PARKING



SCALE 1:500



HIGHRISE BLOCK



SECTION AA

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8. SITE LANDSCAPE

The site is provided with nature friendly landscape so that elderly can connect with the nature and can spend some quality time. The trees are provided such that which have cultural touch and medicinal sense, so that elderly can spend their life in the essence of the nature and even the spaces provided complement with native vegetation to suit their daily lives.

VEGETATION:

SR.NO	PLAN	NAME OF THE TREE	USE	TYPE/POLAGE
1		Hibiscus	Religious offerings	Flowering shrub
2		Mogra	Religious offerings/ Garland	Flowering shrub
3		Tulsi	Medicinal / sacred, insect repellent.	Medicinal shrub
4		Bougainvillea	Aesthetic purpose	Flowering shrub
5		Pennisetum	Aesthetic purpose	Flowering shrub
6		Mangold	Ceremonial / decorative	Flowering shrub
7		Lemon	Buffer, medicinal use, insect repellent.	Shrub 3-6 m
8		Neem	Creates fresh air by releasing more oxygen, medicinal, insect repellent.	Tree 5 to 20m
9		Gulmohar	Buffer, aesthetic.	Tree 3.5 to 5m
10		Pumona	Pleasant smell / Pleasant atmosphere.	Tree 7-8 m
11		Palm	Buffer, requires less water.	Tree 5m
12		Pothole palm	Buffer, requires less water.	Tree 4-6m
13		Mango	For shading & buffer purpose, fruits for religious purposes	Tree 5-6 m
14		Sai	Buffer, requires less water.	Tree 2.5 m
15		Guava	Fruits	Tree 4 to 6m

SITE SECTIONS



1. ENTRANCE PLAZA



2. AMPHITHEATRE



3. BONFIRE PIT



4. YOGA & MEDITATION



5. BIRD BATH & POND



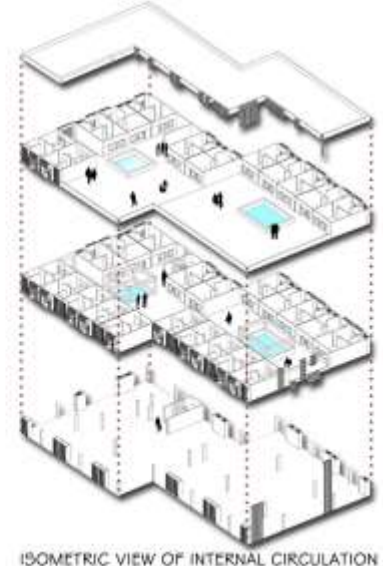
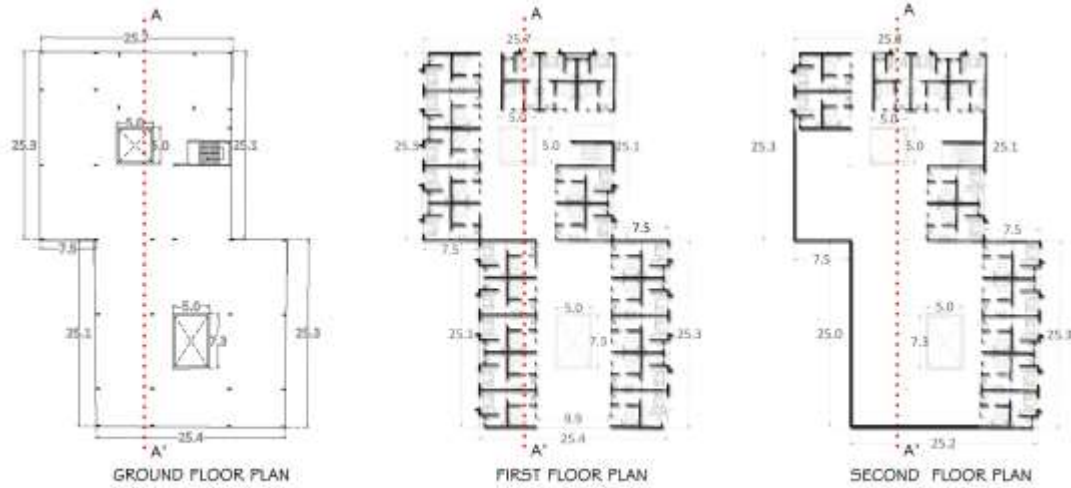
6. MULTIPURPOSE SEATING



1 SUPPORTING STAFF



CLUSTER PLANS



UNITS PLANS



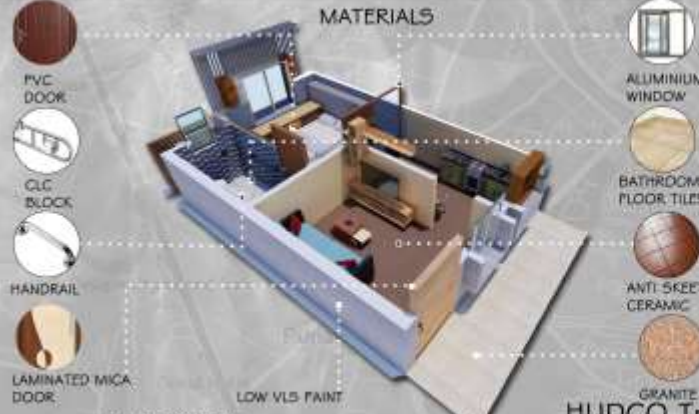
ROOM	AREA
Living room	17.1 sqm
Bedroom	14.24 sqm
Kitchen	10.7 sqm
Bathroom	7.0 sqm

TOTAL COST OF ONE UNIT = 3.64 LAKHS

WORKING STAFF ON THE SITE



MATERIALS



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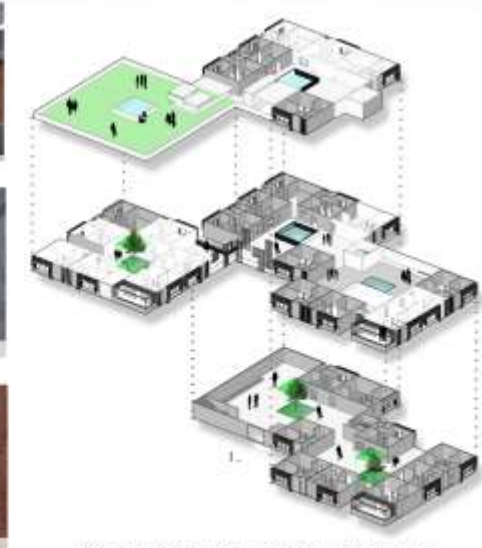
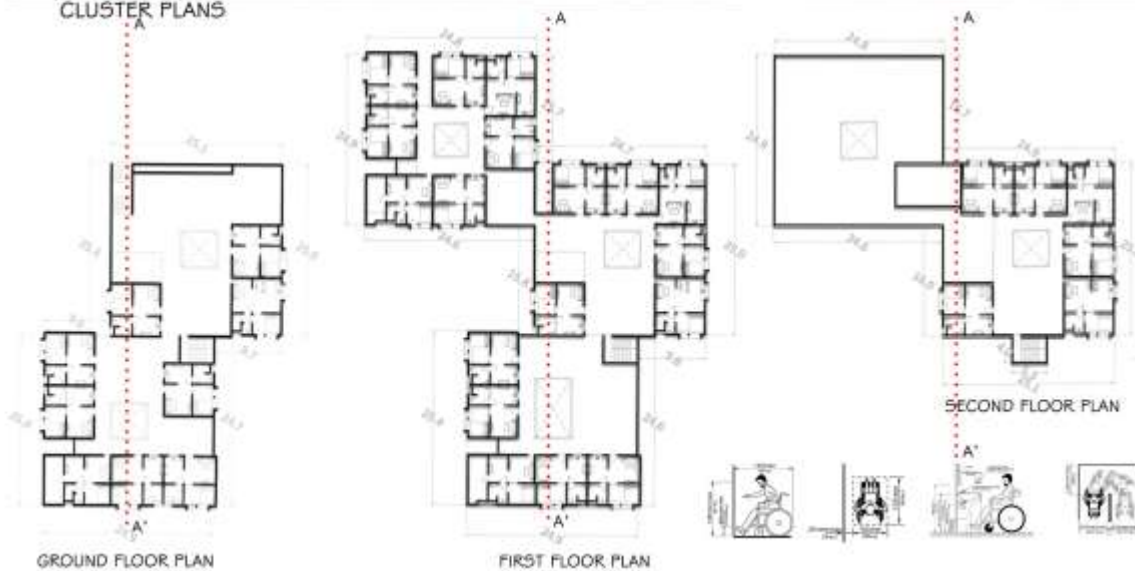


12 ASSISTED LIVING



Major emphasis of these blocks was to have height variations giving maximum dwellings view of the river and allowing cross ventilation through all the blocks and ample of sunlight all through day. Connecting bridges play a major role in connection of other blocks at various levels and help connecting people. There are courtyards provided the openings give the inhabitants a sense of connectivity amongst themselves and security.

CLUSTER PLANS



UNITS PLANS

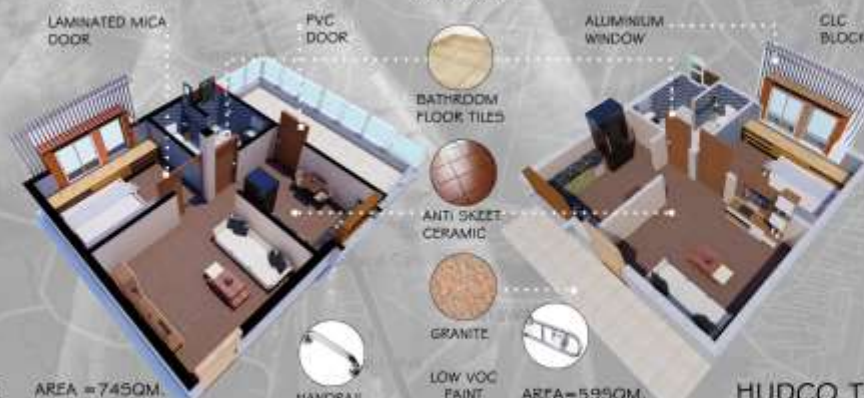


TOTAL COST OF ONE UNIT = 4.42 LAKHS

TOTAL COST OF ONE UNIT = 2.34 LAKHS

AREA = 745QM.

MATERIAL



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ACTIVE LIVING



NORTH SIDE ELEVATION

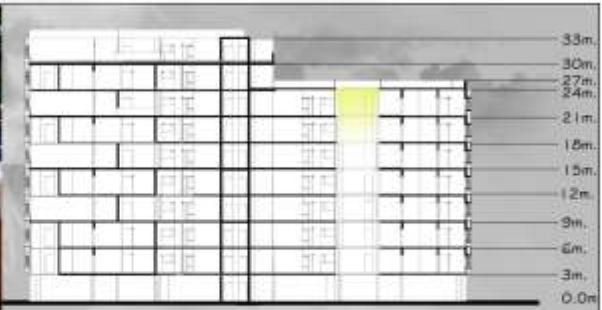


EAST SIDE ELEVATION



1. ENTRANCE LOBBY

2. SEMI OPEN SPACE FOR WORKING



SECTION AA

33m.
30m.
27m.
24m.
21m.
18m.
15m.
12m.
9m.
6m.
3m.
0.0m

CLUSTER PLANS



1ST FLOOR



2,4,6TH FLOOR



3,5,7TH FLOOR



3. SEMI OPEN SPACE



4. VERTICAL GARDEN



5. MULTIPURPOSE AREA



ISOMETRIC VIEW OF INTERNAL CIRCULATION

UNITS PLANS



ROOM	AREA
Living room	- 17.1 SQM.
Bedroom	- 14.24 SQM.
Kitchen	- 10.7 SQM.
Bathroom	- 7.8 SQM.

TOTAL COST OF ONE UNIT = 2.34 LAKHS



ROOM	AREA
Living room	- 25.1 SQM.
2 Bedroom	- 21.7 SQM.
Kitchen	- 21.1 SQM.
Bathroom	- 4.3 SQM.

TOTAL COST OF ONE UNIT = 7.33 LAKHS

MATERIAL

- LAMINATED MICA DOOR
- PVC DOOR
- ALUMINIUM WINDOW
- CLC BLOCK
- BATHROOM FLOOR TILES
- ANTI SHEET CERAMIC
- GRANITE
- HANDRAIL
- LOW VLS PAINT

745QM.

595QM.

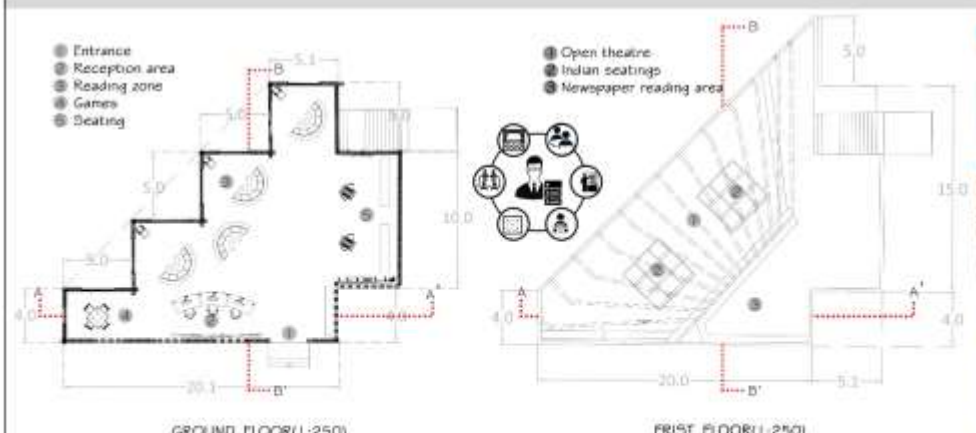
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KEYPLAN

SCALE: 1:500



AMINITIES

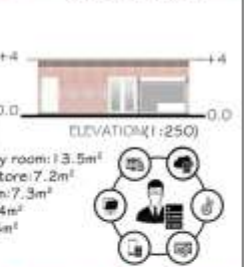
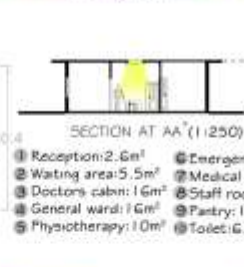
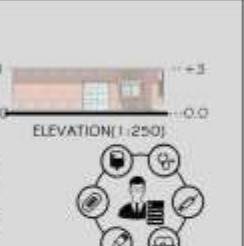
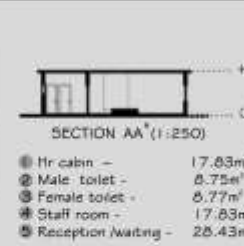


LIBRARY

Library is very important part of an old age home and we have used low height sitting benches and chairs and we have used bookshelf which joined lamps with comfortable sitting arena and having separate interaction space with an open theatre and some indoor games too like chess and carrom.

OPEN THEATRE

Open theatre is a form of cinema structure consisting of a outdoor movie screen. Within this enclosed area residents can view movies. Rear side is provided with newspaper stock so residents can read newspaper also. At centre Traditional indian sittings are provided which is comfortable.



HOSPITAL

As hospital is one of the major part of old age home just because we have to be very peculiar about the people health and we have to take full responsibility of every single person living in. And we have hospital with proper transportation facilities and the hospital have basic facilities for curing different type of diseases, with hygienic environment and proper sections for male and female.



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13 COSTING

1) INDEPENDANT AND ACTIVE LIVING

Item	Quantity	Unit	Rate	Unit	Amount
Excavation Filling Work/ Earthwork	338.76	cum	1064.00	Cum	360440.84
Concrete Work For Foundation	54	cum	4757	cum	256878
Columns	100.60	cum	6930.00	Cum	697158.00
Beams and Lintels	203.10	cum	6300.00	Cum	1279530.00
Slab	9457.00	cum	7600.00	Cum	71873200.00
Masonry Work (230mm Thick Wall)	1023.88	cum	5265.00	Cum	5390728.20
Masonry Work (150mm Thick Wall)	2292.00	Sqm	672.00	Sqm	1540224.00
Plastering (12mm Thick)	19876.00	Sqm	365.00	Sqm	7234740.00
Painting And Finishes	19876.00	Sqm	22.00	Sqm	437272.00
Flooring	4664.00	Sqm	860.00	Sqm	4011040.00
Doors	395.00	Sqm	5200.00	Sqm	2054000.00
Railings	176.00	Sqm	1258.00	Sqm	221408.00
Aluminium Window with steel work	378.00	Sqm	3762.00	Sqm	1422036.00
Waterproofing Work	1250.00	Sqm	706.00	Sqm	882500.00
				Total Price	97681154.84

WORK ESTIMATION FOR ACTIVE LIVING IS - 97681154/- R5

2) ASSISTED LIVING

Item	Quantity	Unit	Rate	Unit	Amount
Excavation Filling Work/ Earthwork	398	cum	1064	Cum	423472
Concrete Work For Foundation	74.9	cum	4757	cum	356878
Columns	40.12	cum	6930	Cum	278011.6
Beams and Lintels	67.5	cum	6300	Cum	425250
Slab	5905	cum	7600	Cum	41838000
Masonry Work (230mm Thick Wall)	238.5	cum	5265	Cum	1260967.5
Masonry Work (150mm Thick Wall)	1246	Sqm	672	Sqm	837312
Plastering (12mm Thick)	7458	Sqm	365	Sqm	2722170
Painting And Finishes	7458	Sqm	22	Sqm	164076
Flooring	4282	Sqm	860	Sqm	3682520
Doors	182	Sqm	5200	Sqm	946400
Railings	105	Sqm	1258	Sqm	132090
Aluminium Window with steel work	132	Sqm	3762	Sqm	496584
Waterproofing Work	911	Sqm	706	Sqm	643166
				Total Price	54106917

WORK ESTIMATION FOR ASSISTED LIVING IS - 54106917/- R5

3) SUPPORTING STAFF LIVING

Item	Quantity	Unit	Rate	Unit	Amount
Excavation Filling Work/ Earthwork	341.00	cum	1064.00	Cum	362824.00
Concrete Work For Foundation	63.84	cum	4757	cum	304678
Columns	50.00	cum	6930.00	Cum	346500.00
Beams and Lintels	51.20	cum	6300.00	Cum	322560.00
Slab	3672.00	cum	7600.00	Cum	27907200.00
Masonry Work (230mm Thick Wall)	60.80	cum	5265.00	Cum	320112.00
Masonry Work (150mm Thick Wall)	1736.00	Sqm	672.00	Sqm	1166592.00
Plastering (12mm Thick)	1472.00	Sqm	365.00	Sqm	1973380.00
Painting And Finishes	1472.00	Sqm	22.00	Sqm	120884.00
Flooring	1036.00	Sqm	860.00	Sqm	890960.00
Doors	395.00	Sqm	5200.00	Sqm	2054000.00
Railings	50.00	Sqm	1258.00	Sqm	62900.00
Aluminium Window with steel work	141.00	Sqm	3762.00	Sqm	530442.00
Waterproofing Work	1424.00	Sqm	706.00	Sqm	1005344.00
				Total Price	37343976.00

WORK ESTIMATION FOR SUPPORTING STAFF LIVING IS - 37343976/- R5

4) ADMIN AND HOSPITAL BLOCK

Item	Quantity	Unit	Rate	Unit	Amount
Excavation Filling Work/ Earthwork	71.10	cum	1064.00	Cum	75690.40
Concrete Work For Foundation	13.37	cum	4757	cum	256878
Columns	3.40	cum	6930.00	Cum	23562.00
Beams and Lintels	12.37	cum	6300.00	Cum	77911.00
Slab	80.00	cum	7600.00	Cum	608000.00
Masonry Work (230mm Thick Wall)	65.80	cum	5265.00	Cum	346437.00
Masonry Work (150mm Thick Wall)	138.50	Sqm	672.00	Sqm	79632.00
Plastering (12mm Thick)	480.00	Sqm	365.00	Sqm	175200.00
Painting And Finishes	480.00	Sqm	22.00	Sqm	10560.00
Flooring	232.70	Sqm	860.00	Sqm	200122.00
Doors	28.00	Sqm	5900.00	Sqm	165200.00
Railings	0.00	Sqm	1258.00	Sqm	0.00
Aluminium Window with steel work	11.05	Sqm	3762.00	Sqm	41570.10
Waterproofing Work	300.00	Sqm	706.00	Sqm	211800.00
				Total Price	2272542.50

WORK ESTIMATION FOR ADMIN / HOSPITAL IS - 2272542.50/- R5



Units	Amount
1. Independent and Active Living	97,681,154.84/-
2. Assisted Living	54,106,917.00/-
3. Supporting Staff Living	37,343,976.00/-
4. Admin and Hospital	2,272,542.50/-
5. Library	1,896,610.50/-
6. Landscape	8,721,310.00/-
Total	200,023,510.84/-

TOTAL ESTIMAT COST OF SITE 200022510.84/- R5

5) LIBRARY

Item	Quantity	Unit	Rate	Unit	Amount
Excavation Filling Work/ Earthwork	164.32	cum	1064	Cum	174836.48
Concrete Work For Foundation	40.1	cum	6757	cum	256878
Columns	3.4	cum	6930	Cum	23562
Beams and Lintels	4	cum	6300	Cum	25200
Slab	88	cum	7600	Cum	668800
Masonry Work (230mm Thick Wall)	60	cum	7000	Cum	420000
Masonry Work (150mm Thick Wall)	0	Sqm	672	Sqm	0
Plastering (12mm Thick)	0	Sqm	365	Sqm	0
Painting And Finishes	0	Sqm	22	Sqm	0
Flooring	296	Sqm	950	Sqm	281200
Doors	6	Sqm	5900	Sqm	35400
Pine wood lag	8.64	Sqm	3550	Sqm	30672
Aluminium Window with steel work	5	Sqm	3762	Sqm	18810
Waterproofing Work	42	Sqm	706	Sqm	29652
				Total Price	1896610.48

WORK ESTIMATION FOR LIBRARY IS - 1896610.48/- R5

6) LANDSCAPE

Item	Quantity	Unit	Rate	Unit	Amount
Paver blocks	1950	sqm	600	sqm	1170000
Wooden deck	110	sqm	3500	sqm	385000
Wooden Pergolas	650	sqm	1320	sqm	858000
Red sand stone	1250	sqm	485	sqm	606250
Recycal paving block	1100	sqm	270	sqm	297000
Masonry work	1300	sqm	67	sqm	87100
RCC work	318	sqm	5500	sqm	1749000
Compound wall	1104	sqm	700	sqm	772800
				Total Price	6653150

WORK ESTIMATION FOR HARD SCAPE IS - 6653150/- R5

6) LANDSCAPE

Trees	Quantity	Unit	Rate	Unit	Amount
Hibiscus	30	no	10	per piece	300
Mogra	15	no	8	per piece	120
Tulu	20	no	25	per piece	500
Bougainvillea	12	no	20	per piece	240
Periwinkle	20	no	10	per piece	200
Marigold	20	no	3	per piece	60
Sarson	50	no	25	per piece	1250
Negun	12	no	50	per piece	600
Gulmohar	13	no	30	per piece	390
Flumeria	20	no	200	per piece	4000
Palm	25	no	900	per piece	22500
Fishtale	20	no	900	per piece	18000
Mango	12	no	1200	per piece	14400
Bal	4	no	200	per piece	800
Guava	42	no	100	per piece	4200
				Total Price	67560

WORK ESTIMATITON FOR VEGETATION IS - 67560/- R5



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NASA

15 SERVICES

WATER MANAGEMENT



ROOT ZONE WASTE WATER TREATMENT
 RZWT consists planted filter beds containing gravel, sand and soil. This system utilizes nature's way of biologically processing domestic effluents. Treated water can be used for irrigation and flushing.



RAIN WATER HARVESTING
 Capturing rainwater can be a valuable way to reduce or even eliminate a building's use of municipal potable water, without requiring reductions in water use by occupants.



SUSTAINABLE MATERIAL
 Autoclaved Aerated Concrete blocks consisting of flyash, cement and gypsum used for walls and pre-cast lintels.



ORIENTATION
 A building's orientation is important to its overall energy efficiency. A correct oriented building can save a lot of money in no longer required heating and cooling costs expenditure.



LOW VOC PAINT
 Volatile Organic Compounds (VOC) contain chemicals that has detrimental effects on human health. These problem can be eliminated by using low VOC paints

SOLID WASTE MANAGEMENT



DRY WASTE COMPOSTER
 The composter holds dry leaves and wet waste from the site and converts this waste into manure naturally with span of 4-5 weeks.



EFFECTIVE WASTE SEGREGATION
 The waste generated by every house will be collected and then separated into dry and wet waste. Wet waste will be converted into manure which can also be put up for sale by the society and the rest will be recycled.

SUSTAINABLE LANDSCAPE ELEMENTS



XERISCAPING
 XERISCAPING HELPS IN CREATING A WATER CONSERVING LANDSCAPE BY REDUCING ON-SITE IRRIGATION REQUIREMENT WHICH IS MAINTAINED BY THE USE OF NATIVE LANDSCAPE



SALVAGED BRICKS
 Salvaged bricks easily available from used building materials and local constructions and used in making sitouts and pathways



OUTDOOR LIGHTING
 Outdoor lighting in site premises is entirely based on off-grid solar system.



PERMEABLE PAVER BLOCKS
 Acts as a self drainage. The use will also reduce the installation costs of drainage systems and use of water in landscape.

SERVICES LAYOUTS



SEWAGE LAYOUT



STORM WATER DRAINAGE LAYOUT



ELECTRICITY LAYOUT



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5 SITE VIEW



MULTI-PURPOSE SPACE



INDEPENDENT / ACTIVE LIVING



CENTRAL PLAZA



MEDICAL FACILITY



ENTRANCE



COURTYARD

1 INTRODUCTION



SHADED PATHWAY



ASSISTED LIVING



YOGA / MEDITATION SPACE



AMPHITHEATRE



OPEN THEATRE



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