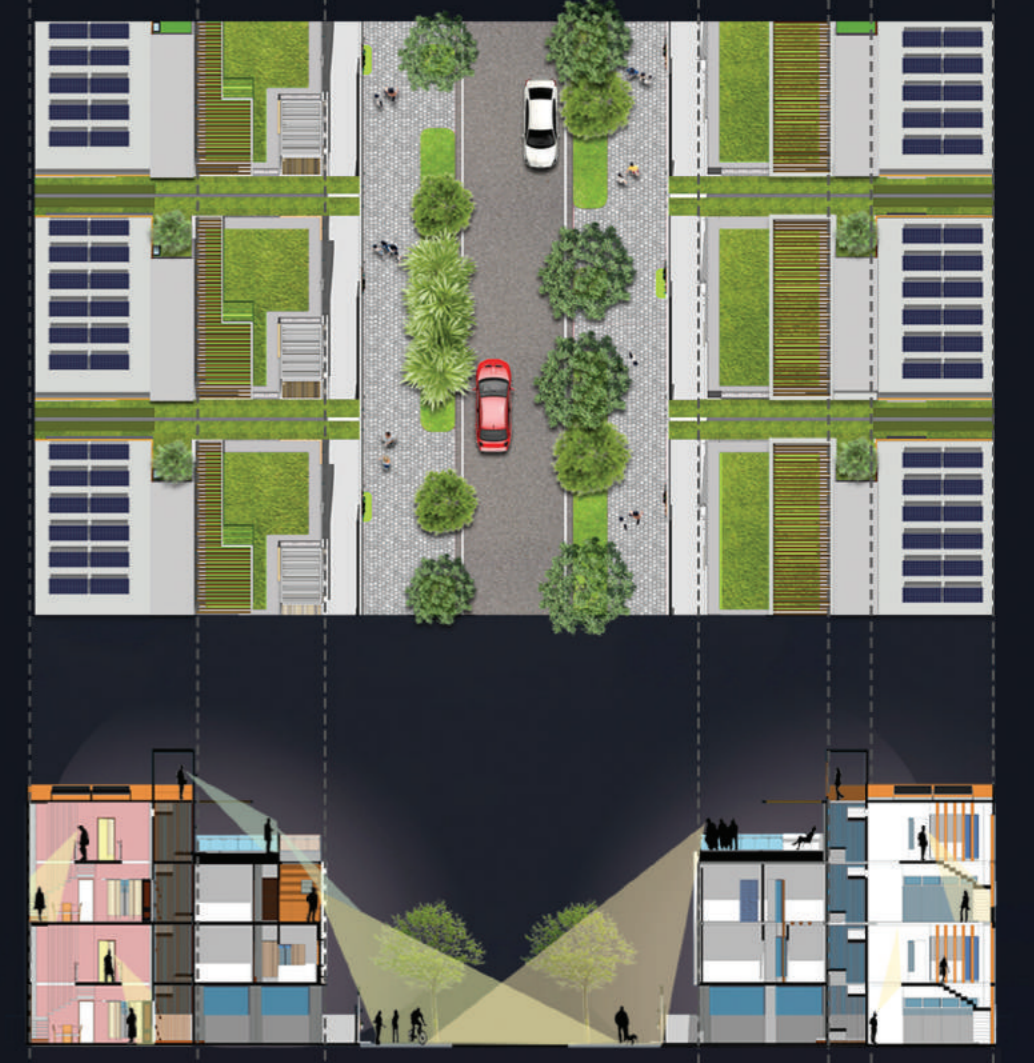


ARCHITECTURE IS A MARRIAGE OF AESTHETIC SENSIBILITIES AND ENGINEERING ASTUTENESS, A PRACTICAL AND ECOLOGICAL DESIGN IS A BALANCE OF FUNCTIONALITY AND SUSTAINABILITY. THE DESIGN PRESENTED IN THE FOLLOWING PROJECT IS A TESTAMENT TO THIS COMMITMENT. THE PROJECT IS DESIGNED TO APPEAL TO THE SENSIBILITIES OF FARMERS EVEN AS THEY RESIDE IN AN URBAN AREA. THE DESIGN IS IN CONCORDANCE WITH THE NEEDS OF THEIR DAILY ACTIVITIES. THEIR CORE VALUE SYSTEMS AND BELIEFS HAVE ALSO PLAYED A VITAL ROLE IN DESIGNING THIS PARTICULAR PROJECT. THE DESIGN INCORPORATES A MODERN VISUAL PERSPECTIVE WHILE HELPING THEM RELATE TO THEIR STRONG FOLKLORIC ROOTS. THE DESIGN IS AN ATTEMPT TO INTEGRATE THE TRADITIONAL DESIGN VALUES, RURAL ARCHITECTURAL UNDERSTANDING, AND MODERN ENGINEERING KNOWLEDGE.

DESIGN CONCEPTS

<p><b>DUPLEX DWELLING UNITS</b></p> <p>TO NOT FEEL CLAUSTROPHOBIC AS IS THE CASE IN MODERN DAY STEREOTYPICAL COMPACT HOUSING.</p>	<p><b>DOUBLE HEIGHTED SPACES</b></p> <p>PROVIDE A SENSE OF AIRYNESS EVEN IN A CONGESTED CONCRETE HOUSING.</p>	<p><b>DIFFUSED LIGHTING</b></p> <p>TO FEEL CONNECTED TO THE ENVIRONMENT AT ALL TIMES.</p>	<p><b>TERRACE GARDENS</b></p> <p>TO BRING THEIR AGRARIAN ROOTS WITH THEM TO THEIR URBAN HOMES.</p>	<p><b>VASTU PURUSHA</b></p> <p>PRECISELY FOLLOWING VASTU TO RESPECT THE BELIEF OF FARMERS</p>
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HUMAN INTERACTION AND SOCIAL CONNECTION



SENSE OF BELONGING

TERRACE GARDENS TO CONNECT TO THEIR FOLKLORIC ROOTS.

DUPLEX DWELLING UNITS TO NOT FEEL CLAUSTROPHOBIC AS IS THE CASE IN MODERN DAY STEREOTYPICAL COMPACT HOUSING.

ENTRY TO EACH DWELLING UNITS FROM SEPERATE FLOORS.

MASSING SCHEMATIC

**BUILT MASS**

**ROOF GARDEN**

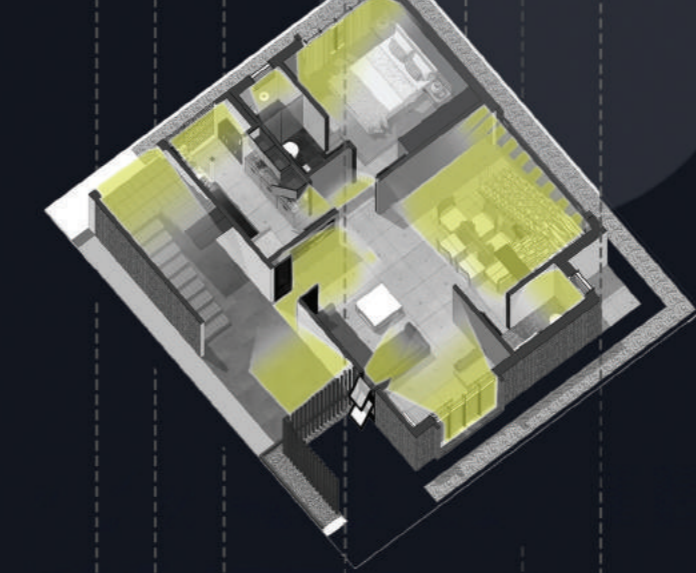
**PARKING ZONE**

**3BHK DUPLEX-II**

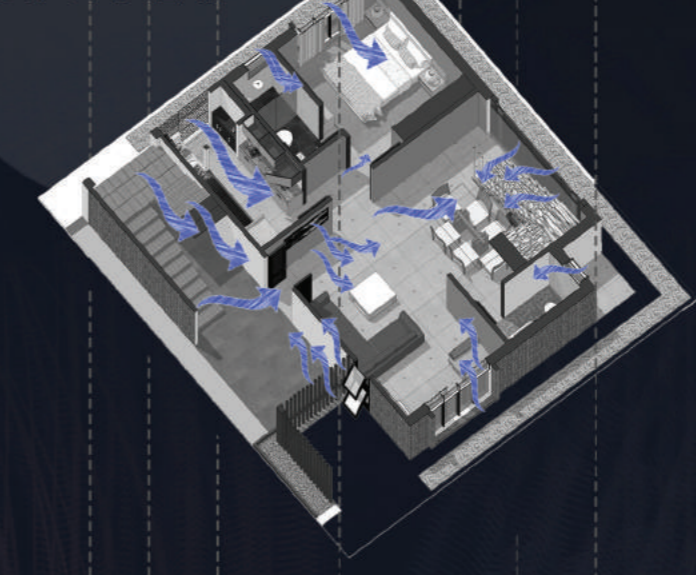
**3BHK DUPLEX-I**

**DIFFERENT MASSING TYOLOGIES- PLOT B1**

NATURAL LIGHTING



WIND FLOW PATTERN



**EAST FACING PLOT**

**WEST FACING PLOT**

**SOUTH FACING PLOT**

**NORTH FACING PLOT**

**INDOOR GARDEN TO IMPROVE AIR QUALITY**

- Peace Lily
- Florist's Chrysanthemum
- Devil's Ivy
- Red-Edged Dracaena
- Snake Plant
- Lady Palm
- Fleming's Lily
- English Ivy

**MOSQUITO REPELLENT PLANTS**

- Lavender
- Marigolds
- Rosemary
- Catnip
- Scented Geraniums
- Citronella Grass

VASTU CONSIDERATIONS (Followed Precisely)

**ENTRY/EXIT (PLOT & BUILDING)**

**MASTER BEDROOM**

**KITCHEN**  
SE/NW corner are preferred with the cooking counter facing East.

**TOILETS**  
WC's and urinals could never face W/E.

**STAIRCASE**  
enter the first flight facing either W/E and continue in clock wise direction

Puja Room to be present in NE

Provisions for the East setback to be more than West setback by 2-3 inches & the North setback more than the South setback by same.

EAST FACING PLAN

Total Built-up Area : 407.69 Sq. m.  
 Front Setback : 2m  
 Setback from remaining sides : 1 m  
 Ground Coverage : 133.9 Sq. m.  
 Total height of Building : 12 m  
 No. of Floors : 4  
 No of parking provided: 3



**GROUND FLOOR PLAN**

**FIRST FLOOR PLAN**

**SECOND FLOOR PLAN**

**THIRD FLOOR PLAN**

**SECTION**

**FRONT ELEVATION**



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 AMARAVATI DESIGN CHALLENGE '19



**SUSTAINABLE PRACTICES**



**DEWATS SYSTEM**  
Efficient wastewater treatment solution that minimizes water and soil pollution.

**SOLAR POWER GENERATION**  
The roof offers an ideal location for the addition of solar cells for power generation.

**AAC BLOCKS**  
Eco-friendly building material that comes from industrial waste.

**TERRACE GARDENS**  
Provides Natural insulation, Natural comfort & Noise cancellation along with better environment.

**PERVIOUS PAVEMENT**  
Allows for movement of water and air around the paving material.

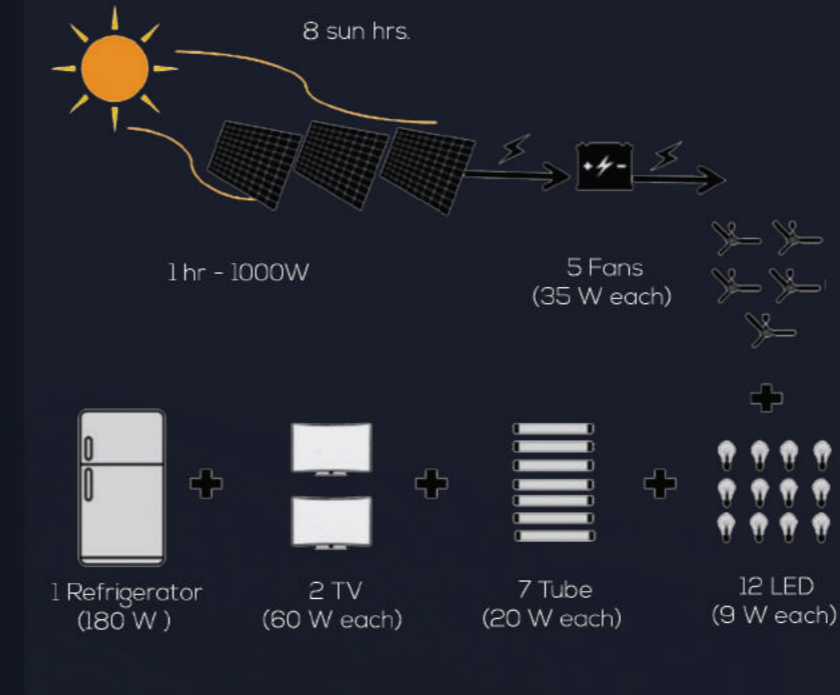
**RECYCLED WOOD & METAL**  
Recycled materials can be used for making furniture and other window panels.

**LOWERS**  
Angle of Louvers is site specific in order to maximize solar benefit.

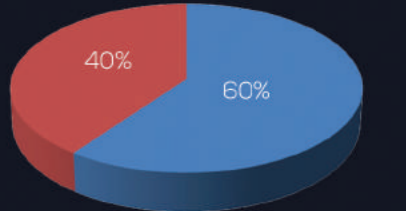
**RAINWATER HARVESTING**  
Water is collected along the roof and into a cistern which can be used for various purpose.

Reduction of energy consumption due to passive systems.

**SOLAR POWER GENERATION**



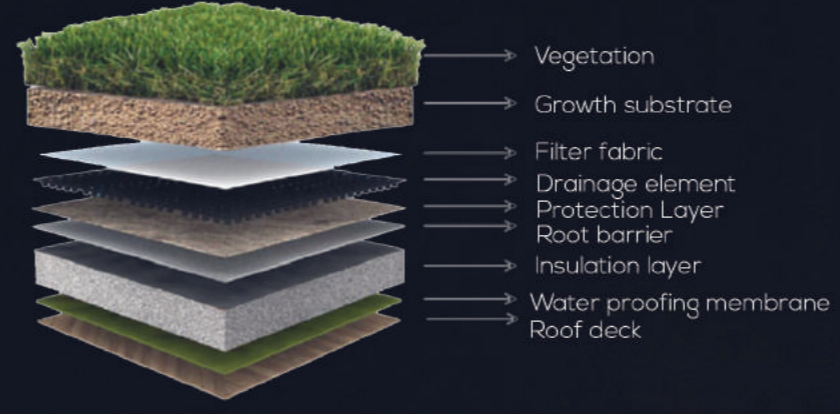
As per the annual climatological analysis of Amravati, the region receives an average of 8.8 sun hours per day. The broad span of 8.8 sun hours in a daily basis is a great potential to capture the solar energy for the generation of household electricity.



1 sun hour = 1000W  
ie 8.8 sun hour-8000W Approx.  
The proportion of electricity generation to sun hour duration is as 1000W for 1 sun hour respectively.

**The other scenario:**  
Suppose the dwelling unit is using 2x Air conditioners (2400W x 2) along with the pre discussed table of electronic appliances, the generated electricity might fall short to meet the needs. Thus there is necessity to depend on the grid electricity source to meet the demand. In such a scenario the share of electricity usage is as follows

**ROOF GARDEN**



**DEWATS**

- 4 stage system
- 1- Sedimentation and primary treatment in sedimentation ponds and septic tanks.
  - 2- Secondary anaerobic treatment in baffled reactors.
  - 3- Secondary and tertiary aerobic/anaerobic treatment in constructed wetlands.
  - 4- Secondary and tertiary aerobic/anaerobic treatment

**WATER CONSERVATIONAL ASPECTS**

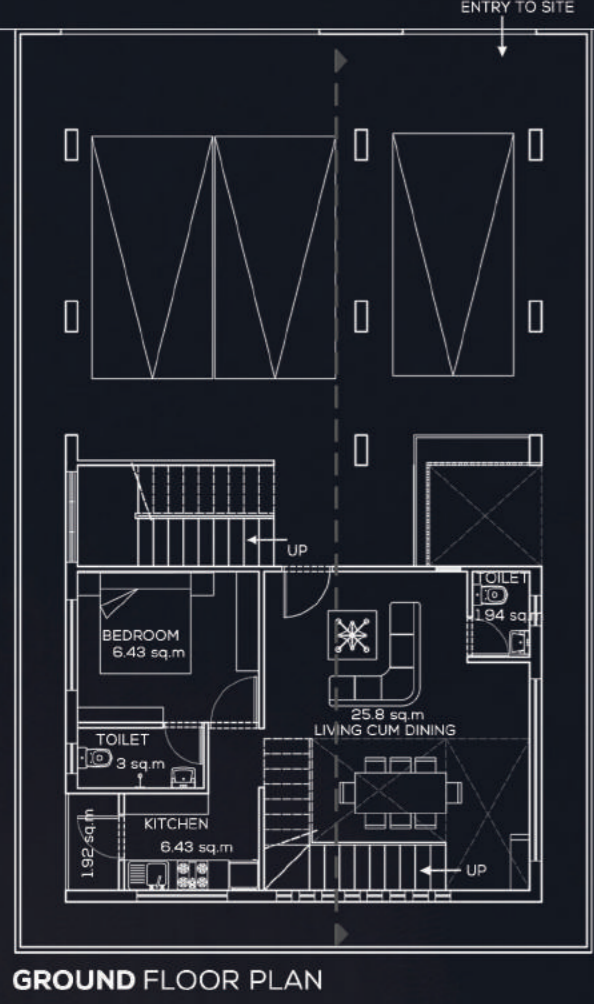
**Water Efficient Plumbing**  
- Aerators fitted with taps.  
- Water closets with dual flush.  
Advantages:  
-Reduces water consumption.  
-Reduces the need to over-draw groundwater resources.

**Advantages of terrace garden:**  
-Natural insulation.  
-Natural comfort.  
-Noise cancellation.  
-Better environment

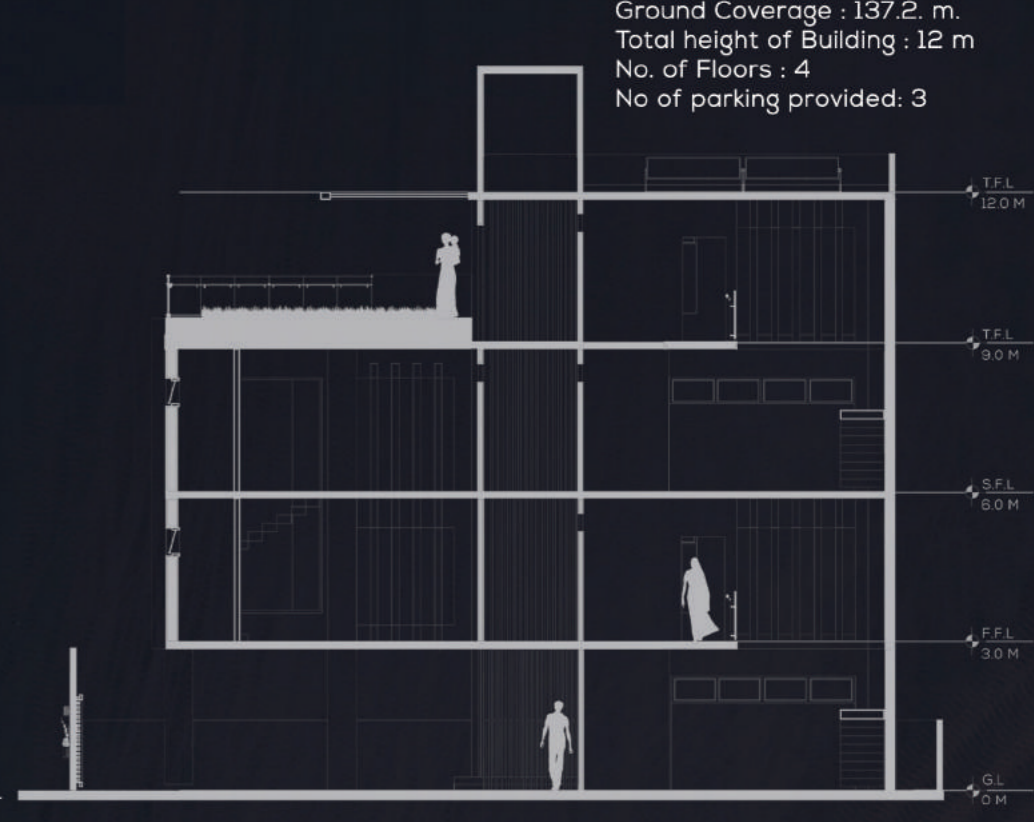
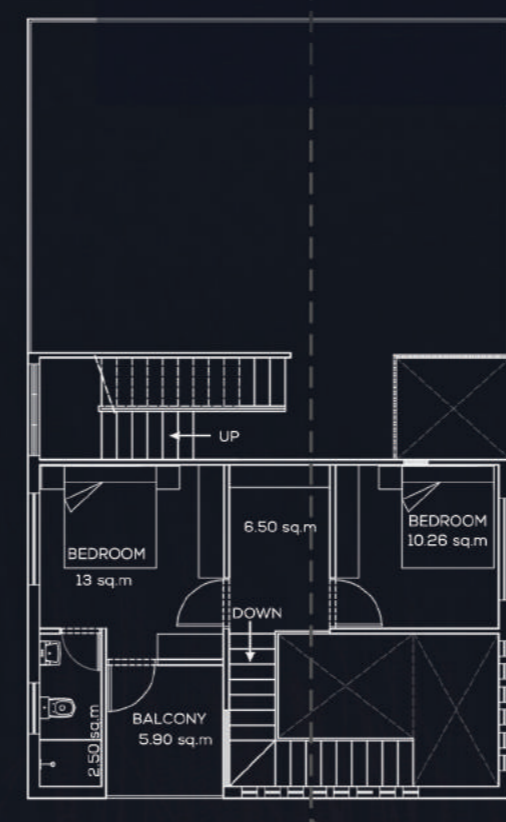
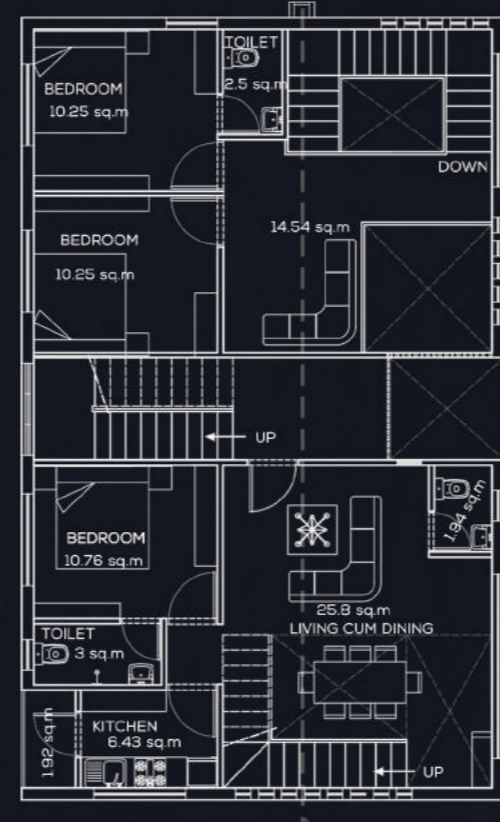
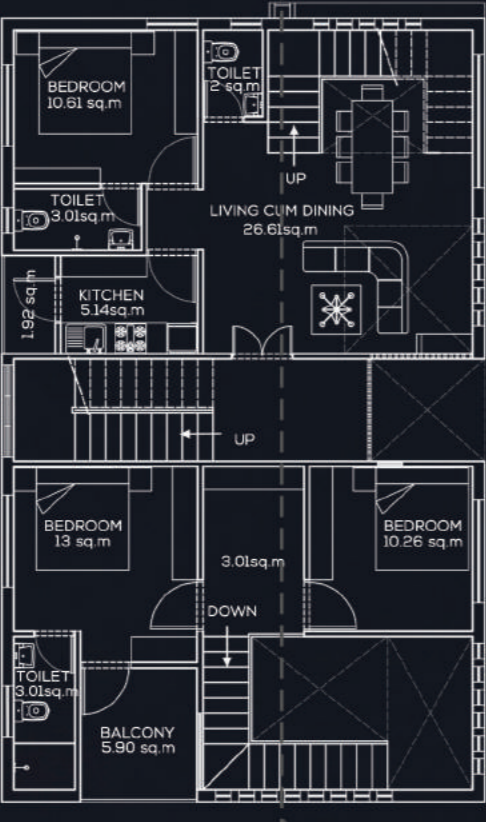
**Material and Resources**

-Low VOC materials  
-Locally manufactured, materials that comes from not far than 400 km.

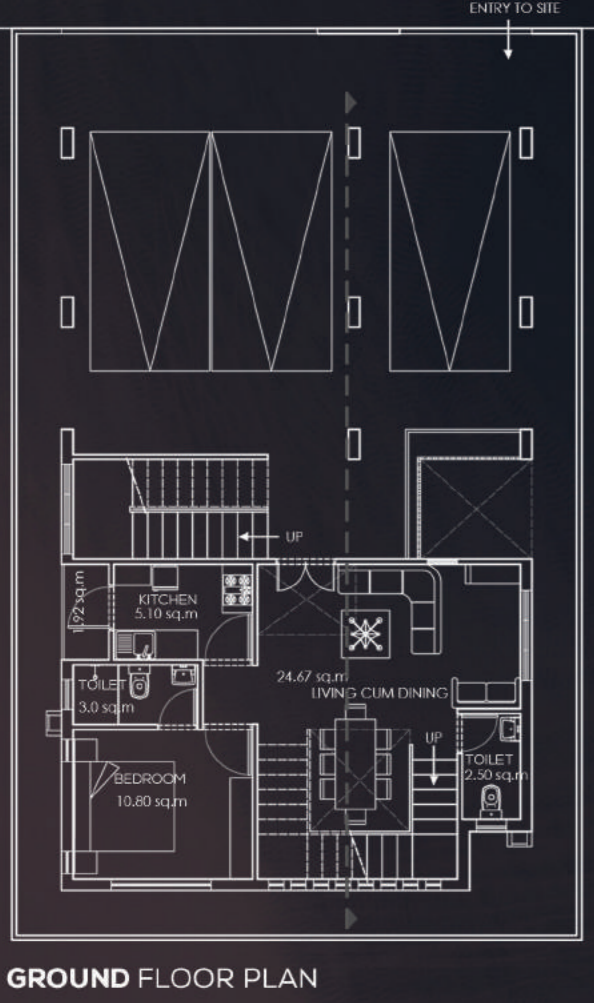
**Water Metering**  
Water meters help measure any deviation in water lines and can be diagnosed or corrected to reduce additional water cost.



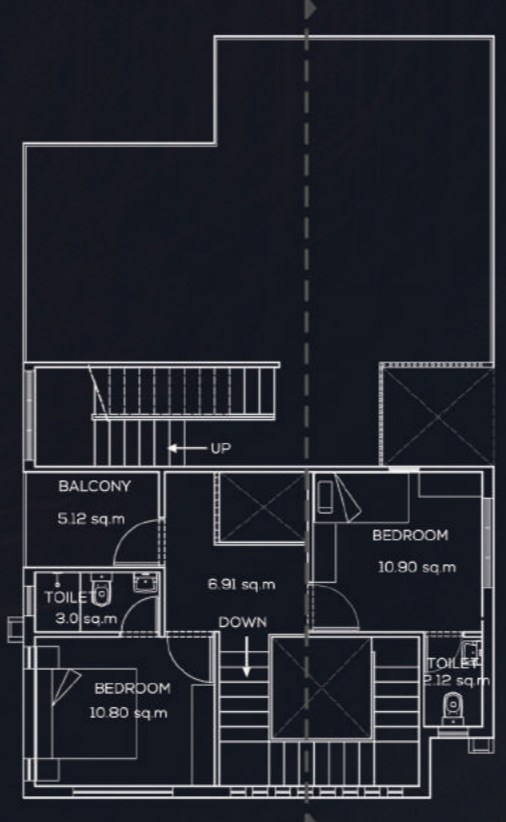
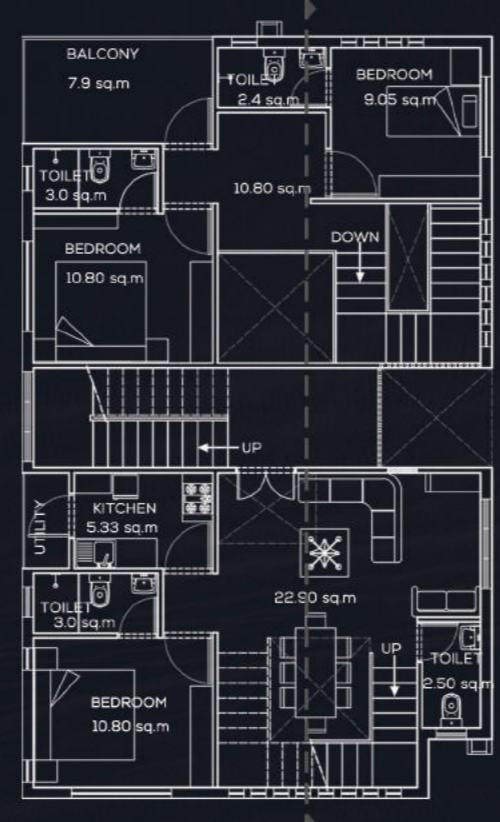
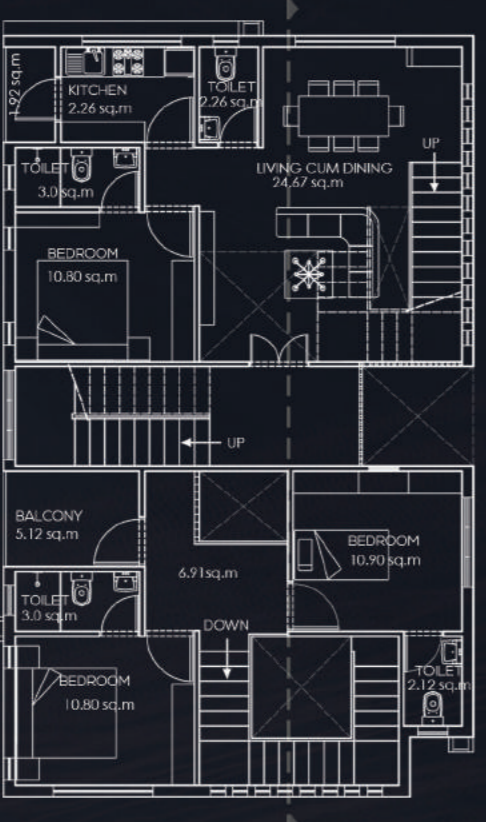
**WEST FACING PLAN**



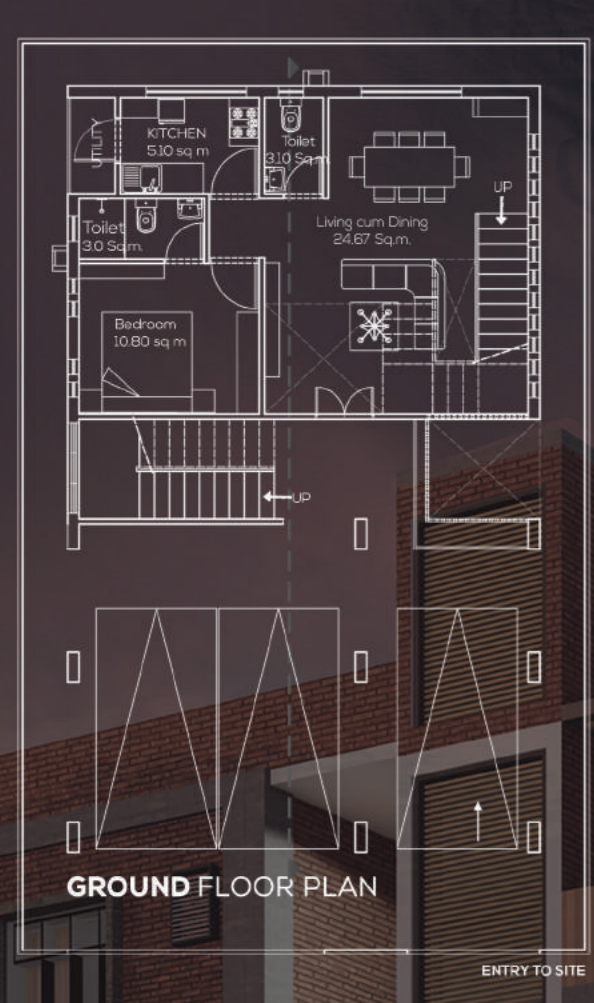
Total Built-up Area : 393.34 Sq. m.  
Front setback : 2m  
Setback from remaining side : 1m  
Ground Coverage : 137.2. m.  
Total height of Building : 12 m  
No. of Floors : 4  
No of parking provided: 3



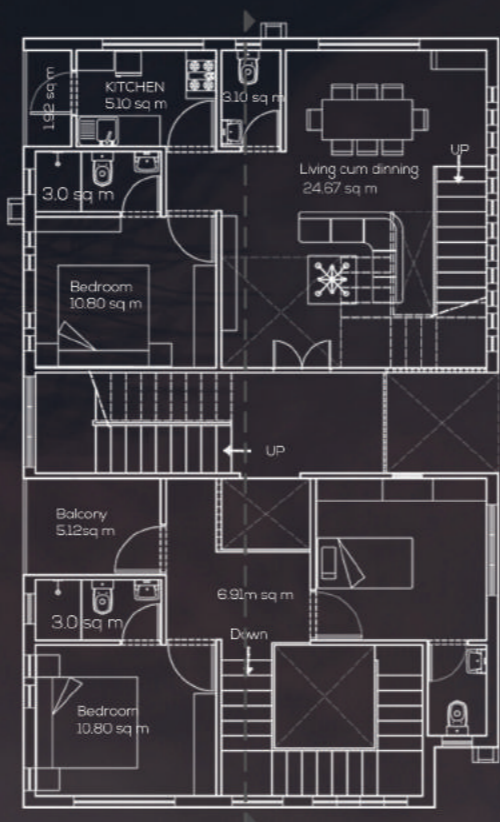
**NORTH FACING PLAN**



Total Built-up Area : 407.69 Sq. m.  
Front setback : 2m  
Setback from remaining side : 1m  
Ground Coverage : 133.9 Sq. m.  
Total height of Building : 12 m  
No. of Floors : 4  
No of parking provided: 3



**SOUTH FACING PLAN**



Total Built-up Area : 410Sq. m.  
Front Setback : 2m  
Setback from remaining sides : 1m  
Ground Coverage : 136 Sq. m.  
Total height of Building : 12 m  
No. of Floors : 4  
No of parking provided: 3



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