

PHOTO VOLTAIC INTEGRATED ROOF to harvest solar energy at elevated level to utilise terrace for services.

ELEVATED KITCHEN & DINING to accommodate RWST also provides better visual access and higher plinth prevents flooding.

The aim is to **RETAIN ARCHITECTURAL CHARACTER OF A NEIGHBOURHOOD** which is often lost for small scale plots (100 to 210 sq.m).

Daylighting through optimised fenestrations

Ideal Building **ENVELOPE** to **OPTIMISE VISUAL, THERMAL and ACOUSTIC COMFORT**

Use of **Passive design strategies** like **COURTYARD PLANNING, EFFICIENT SHADING**
DEVICE DESIGN, sufficient amount of **OPENABLE FENESTRATIONS** to facilitate natural ventilation, optimising fenestration size to provide both visual and thermal comfort etc.

Use of **LOW COMPOUND U-VALUE** (Thermal transmittance) components like use of AAC brick walls, Double glazed argon filled glass with PVC frame etc.

Manduva Logillu, traditional housing typology of Andhra Pradesh (East and West Godavari, Nellore, Guntur, Kadapa, and Vijayanagaram). Manduva houses typically had a common space that was open to the sky. This allowed light and air to stream into the house. During the rainy season, the water is drained off with a pit and pipe drainage system that is usually installed. Balance traditionalism with practicality.



Vernacular style

"The key idea is to revive **SOCIALLY ENGAGED ARCHITECTURE** through **INCREMENTAL HOUSING STRATEGY** thereby creating a more **PERSONALISED RESIDENCE** without compromising the architectural character leading to a **WHOLISTIC NEIGHBOURHOOD**"

BEDROOMS - NIGHT ZONES (used only during night), placed on top to reduce the heat gain through roof in living spaces - Day Zones (used extensively during day time)

Locally available **GRANITE** for flooring which is more durable and **LIMESTONE** for **EXTERNAL CLADDING** can be used. **COUNTRY MADE CLAY TILES** for roofing can be used.

Introduction of **VOIDS** to enhance **VISUAL AND THERMAL COMFORT** within the building envelope.



CONTEXTUAL APPROACH



PASSIVE DESIGN STRATEGIES



RENEWABLE ENERGY

PROMOTING HEALTH



MINIMISE ENERGY CONSUMPTION

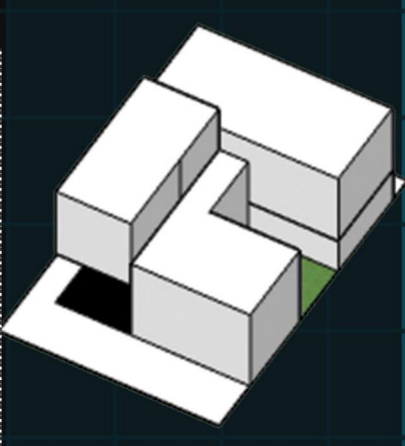


INCREMENTAL DESIGN

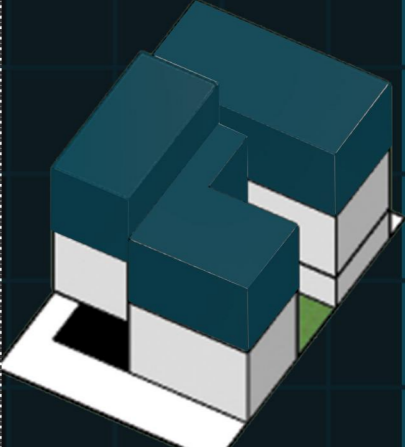


Architectural Character
 Sustainable Environment
 sense of Belongingness
 sense of community
 Local culture, Arts, & Crafts
 Natural Landscape

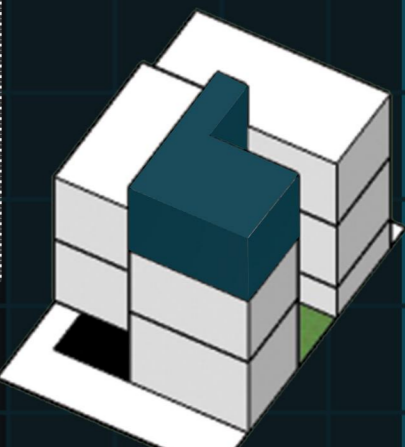
1 Core Model with living, kitchen, dining and bedroom.



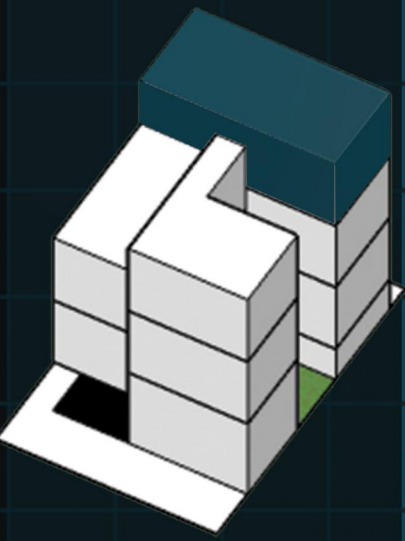
2 Addition of multipurpose rooms/ bedrooms as per user requirement.



3 Additions in response to the household's needs and the availability of resources.



4 The ideation promotes incremental growth with the scope of interventions thereby transforming their houses as per their priorities creating a sense of belongingness.



VIEWS

DESIGN INTERVENTIONS

WEST
SOUTH
EAST
NORTH

AVERAGE TEMPERATURE: 23°C (Min. 15°C & Max. 48°C)



Need to MINIMISE HET GAIN IN SUMMERS, WINTERS ARE COMFORTABLE.

RELATIVE HUMIDITY: Over 50% on average



NEED FOR CROSS VENTILATION.

WIND SPEED: 23-27kmph



Facilitates ventilation & evaporative cooling To be controlled in extreme summers.

AVERAGE ANNUAL RAINFALL: 808mm



Oppurtunity to REUSE RAINWATER FOR LAUNDRY, TOILETS, AND LANDSCAPING.

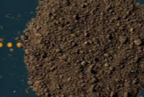
GROUND WATER LEVEL: 2m to 5m



Need for DAMP PROOFING and HIGHER PLINTH Substructure construction will be expensive.

SOIL TYPE:

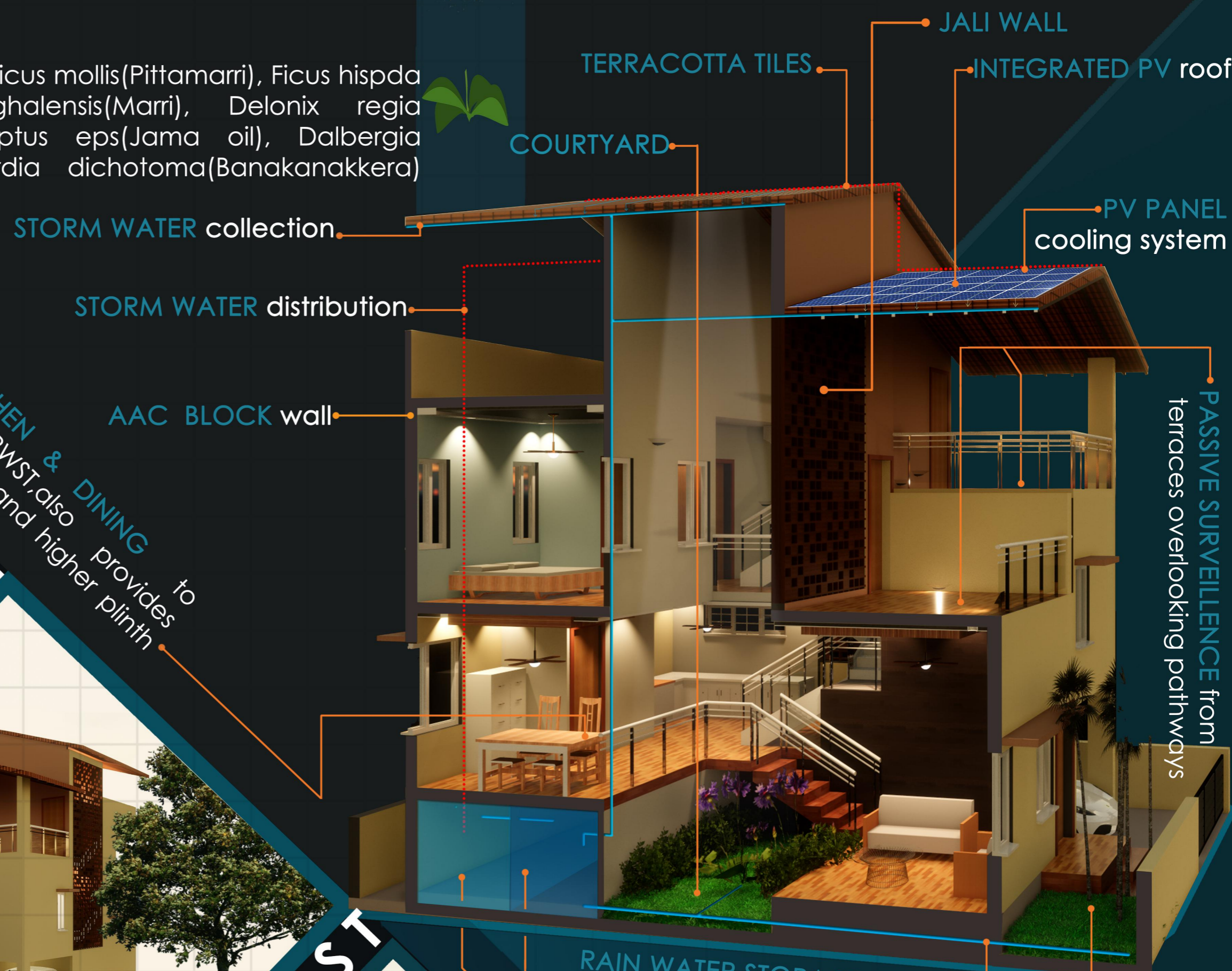
Red gravel, Black Cotton, Sandy alluvial, Sand clay loams and Red loams



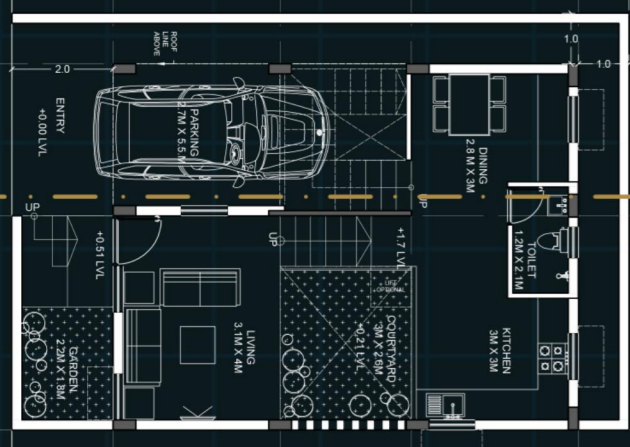
Highly fertile soils SUPPORTING WIDE VARIETY OF FLORA.

FLORA:

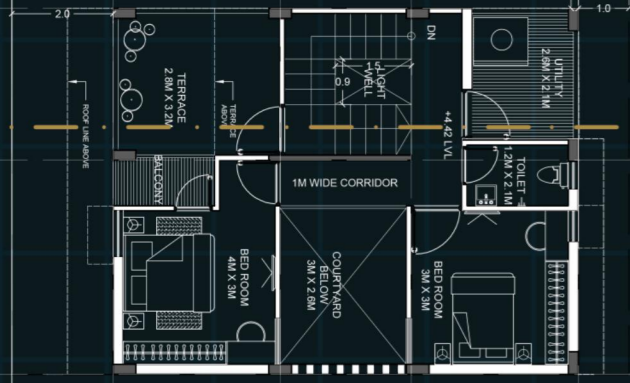
Ficus religiosa(Ravi), Ficus mollis(Pittamarri), Ficus hispda (Atti), Ficus benghalensis(Marri), Delonix regia (Gulmohar), Eucalyptus eps(Jama oil), Dalbergia sissoo(Seesam), Cordia dichotoma(Banakanakera)



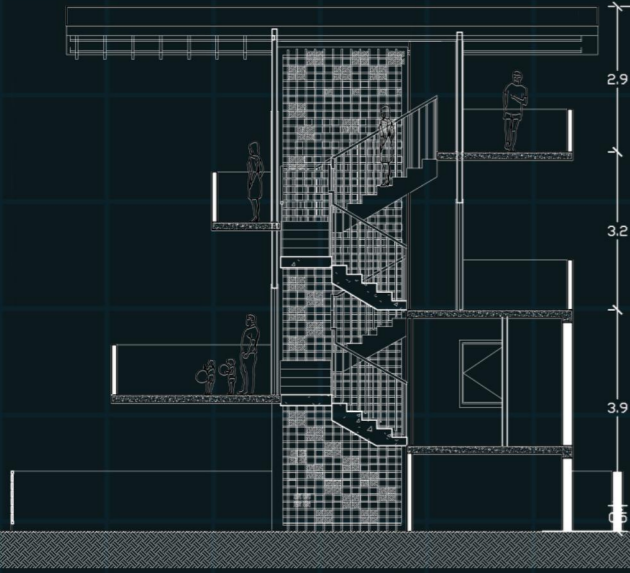
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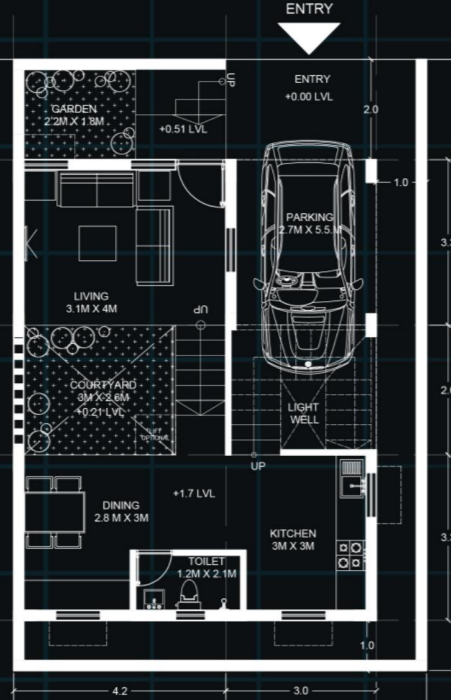
Ground Floor Plan



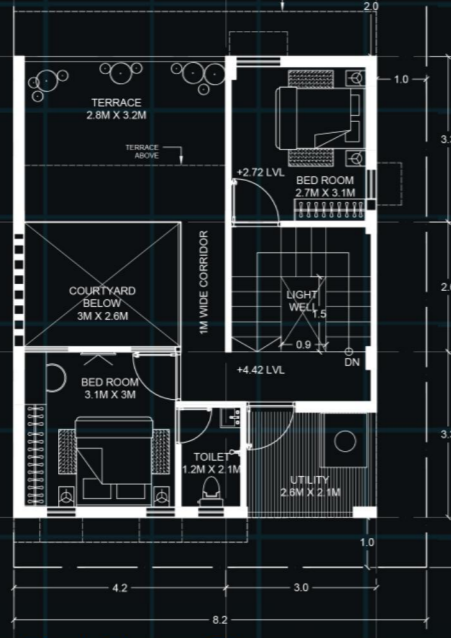
First Floor Plan



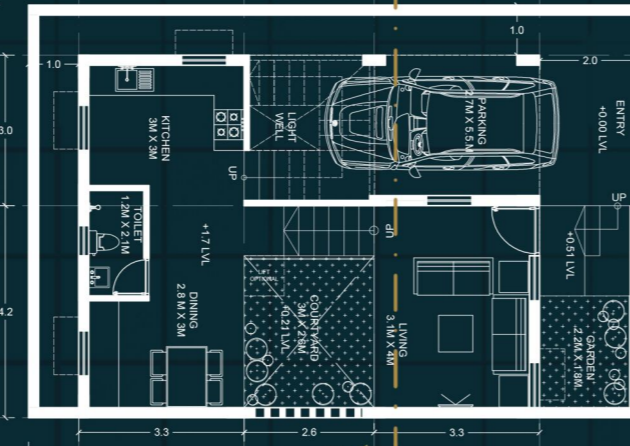
Section XX'



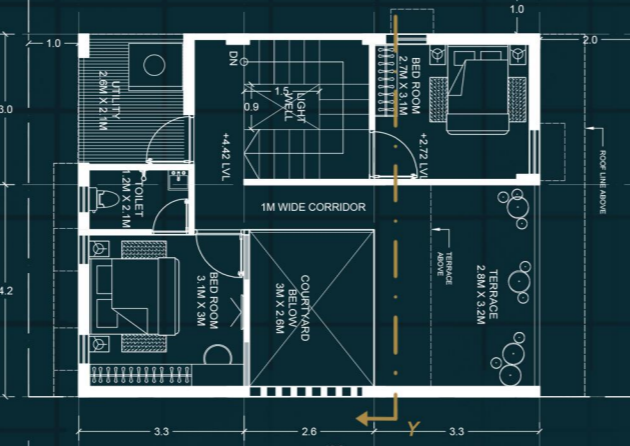
Ground Floor Plan



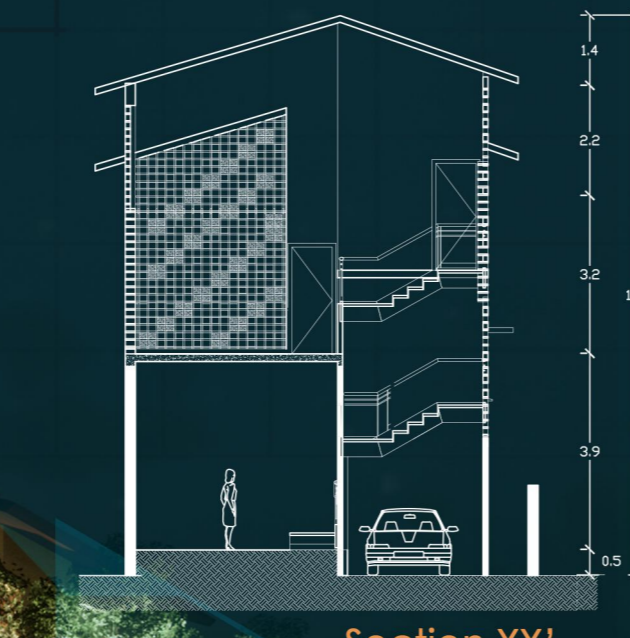
First Floor Plan



Ground Floor Plan



First Floor Plan



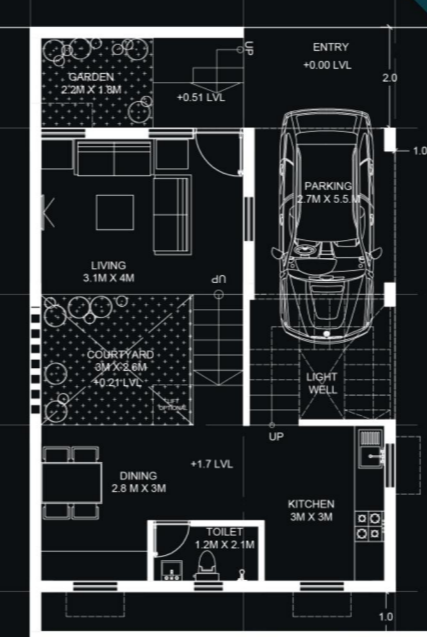
Section YY'



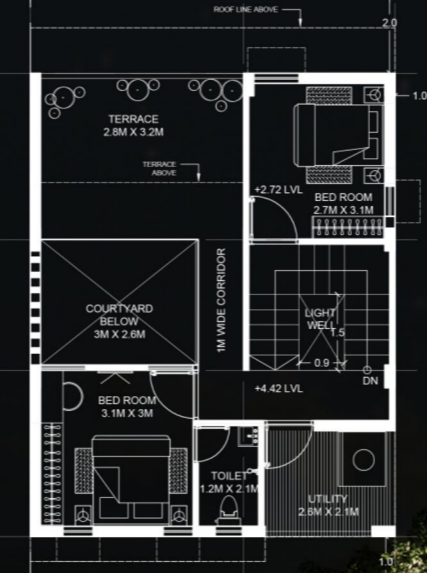
1:150

EAST

NORTH



Ground Floor Plan



First Floor Plan

AREA PROGRAMME

- Ground Floor = 50m²
- First Floor = 50 m²
- Living = 12.4 m²
- Kitchen = 09.0 m²
- Dining = 10.0 m²
- Toilet = 02.5 m²
- Bedroom = 12.0m²
- Courtyard = 08.0m²

Incremental allowance = 100 m²

ESTILAR

TREND OF THE FUTURE