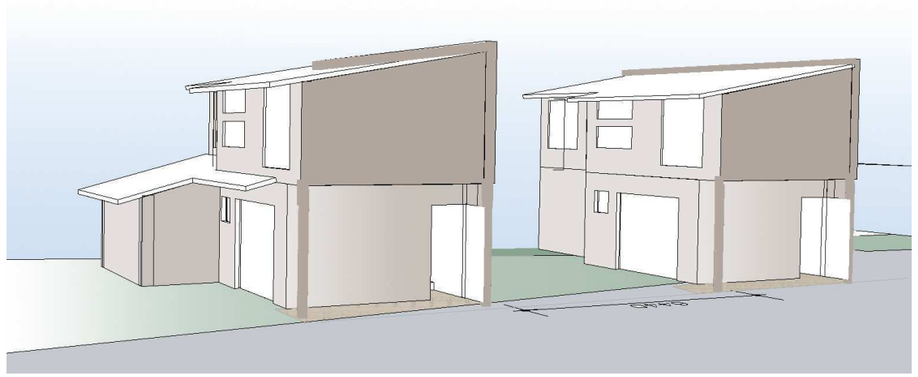
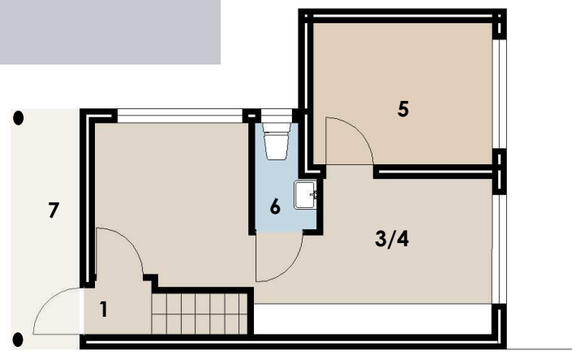
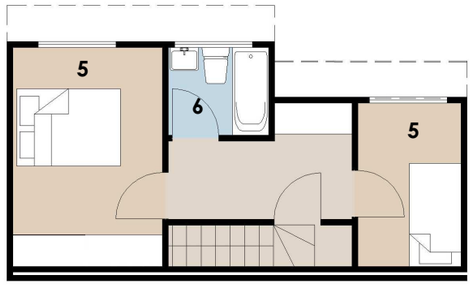


PERSPECTIVE - TWO ROW HOUSES

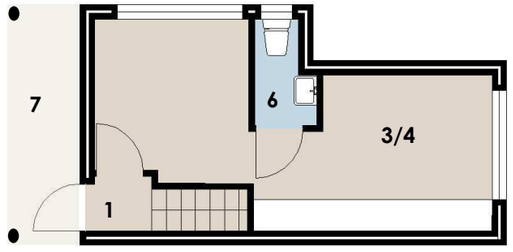
LEGEND:
1-ENTRANCE
2-LIVING ROOM
3-DINING ROOM
4-KITCHEN
5-BEDROOM
6-BATHROOM
7-COVERED ENTRANCE PORCH



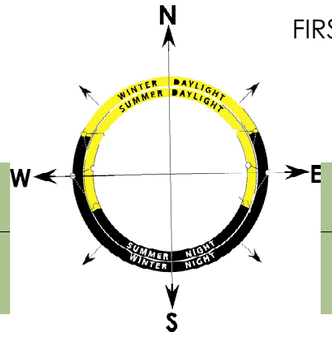
GROUND FLOOR PLAN- bedroom added



FIRST FLOOR PLAN



GROUND FLOOR PLAN



CLIMATIC ZONE 3: HOT INTERIOR

Makhado; Nelspruit
Data referenced
HOLM Lowveld
NAPIER Sub-tropical lowveld
VAN LENGEN Humid Tropics

CLIMATE = DESIGN PRINCIPLES

·**HUMIDITY :** High
·**RAIN**: Moderate to high rainfall = rain protection required
·**EQ window** = 19.4% of floor area
·**SOLAR ACCESS** for building spacing =aprox 1.4 height of adjacent building
·**TEMPERATURES:** High Summer temperatures and warm winters with low daily temperature variation
·Lightweight bedroom construction to cool during summer nights
·**WIND:** Summer & Winter= N predominantly; ventilation effective for summer cooling but additional mechanical ventilation may be required ie. fans
·**LANDSCAPING:** Due to high humidity shade offers little respite from heat in summer.

DESIGN APPLICATION

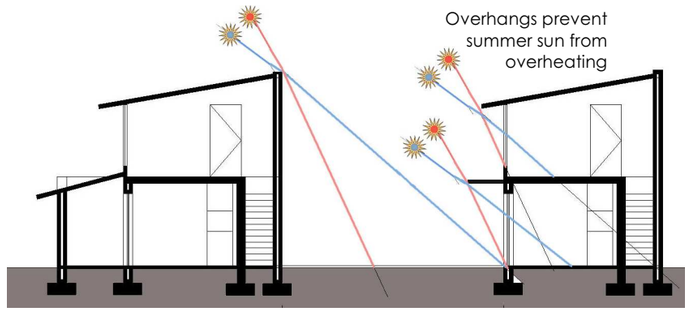
Even small houses or cottages can and should be designed to ameliorate the local climate and provide comfort. This house design assumes a row house typology with the distance between houses determined by the house height and solar angle to allow north light into the ground floor of every house.

This row house typology with defined spacing between houses provides the needed EQ windows to all rooms in the house, whilst allowing the house to also face the street.

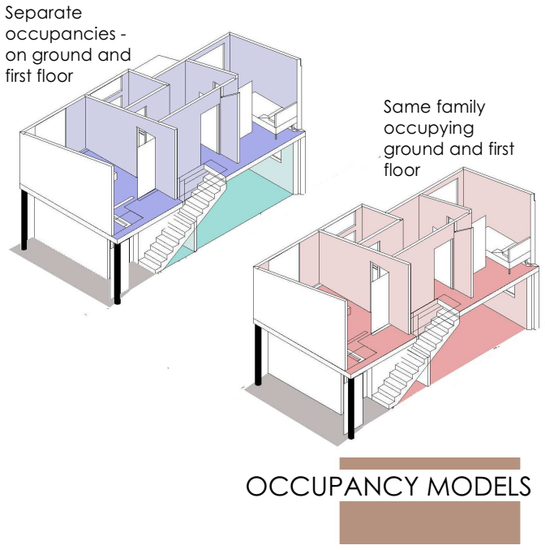
The bedrooms on the upper level are built in lightweight timber framing which has the advantage of cooling the bedrooms down in summer as well as being more cost effective to build.

Designed in order to allow incremental room add-ons to the house, the house can either be occupied by one family top and bottom, or by extended or different families - with the stair a separate element and an internal hall which divides access to ground and top floors. Alternatively, the ground floor could be an office/ shop scenario with upstiars living quarters.

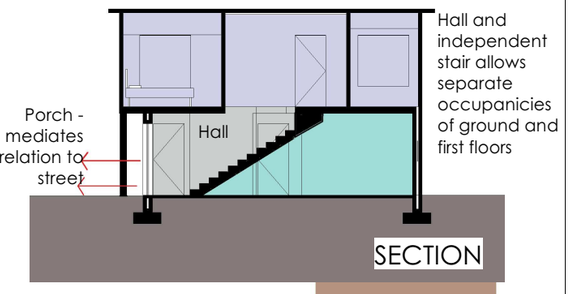
Note the first floor bedroom overhangs the ground creating a covered entrance porch.



SOLAR SECTION
Distance between row houses determined by solar angle and height- to allow EQ windows to all rooms



OCCUPANCY MODELS



SECTION

greenbrick Design cc

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