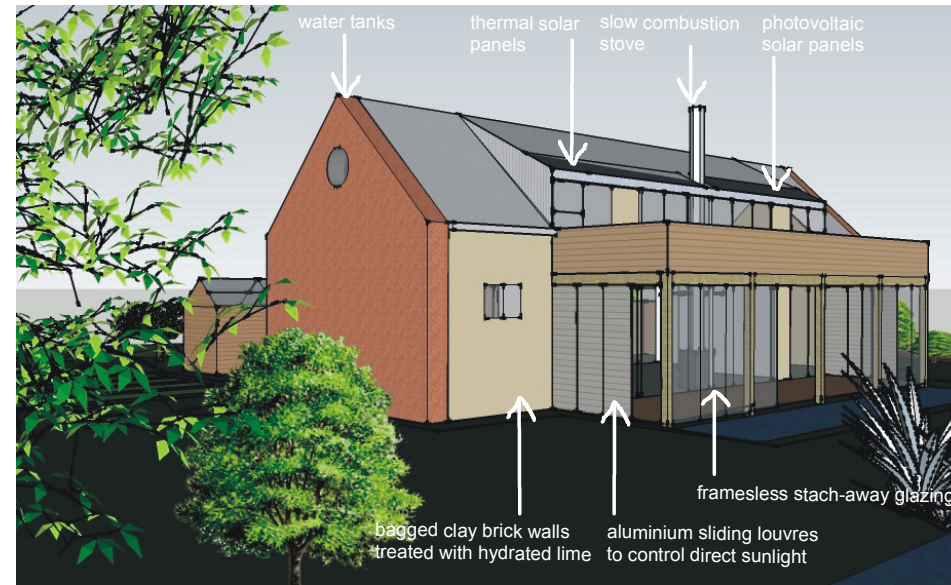


Isometric (South-West) First Floor Plan



Perspective North-East

2 Barnhouse Concept cottage

project

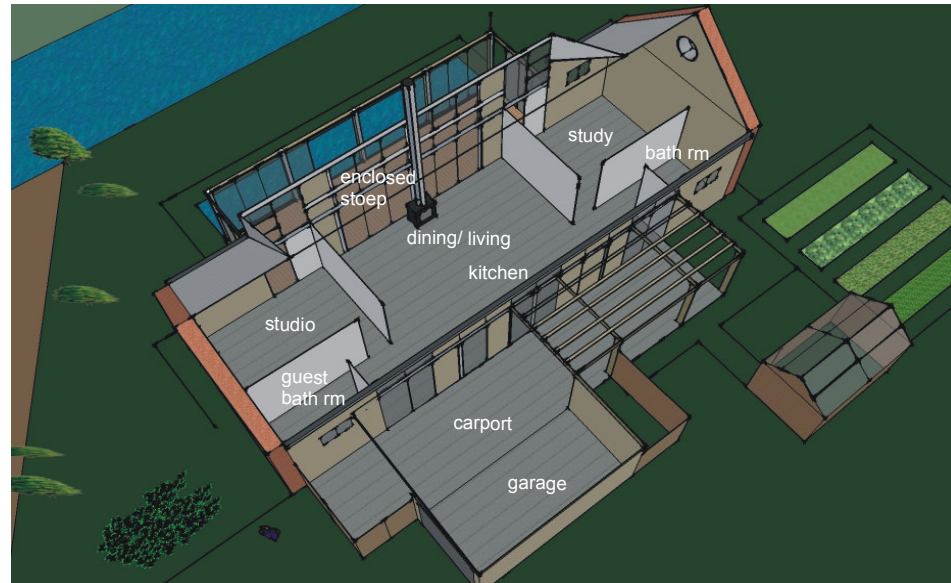
Location Erf 5058, Senecio Close, Betty's Bay, Western Cape
 Client L.Botha
 Occupancy class H4 - Dwelling house
 Concept created 2010

Parameters
 Erf size 1250 square meters
 Total floor area: Ground Fl 176 sq, First Fl 52 sq = 228 square meters
 Floor area ratio 18%
 Total height 5 meters

Materials
 280mm Cavity clay brick walls treated with hydrated lime. Gable walls to be of treated mild steel water tanks of 500mm wide. Treated mild steel framed structure in some areas. Aluminium window & door frames with thermal glazing. Cliplock zink-alume metal roof covering. Polished concrete granu floors. Aluminium gutters.

Description: Scope and nature
 This barnhouse concept offers a smaller footprint than most building forms due to the double pitch roof which provides extra living space with an intermediate mezzanine floor. The main design driver behind this concept is to create a cost effective, low maintenance self sustaining unit which blends in to its semi-rural environment. This is achieved by means of various material and technological interventions and specifications such as: maximising passive energy with large North facing windows regulated by means of sliding aluminium louvres. Plastic piping under the metal roof sheeting will pre-heat the thermal solar geysers. Photovoltaic solar panels, mounted on the north roof slope, with vertical axis wind turbines on the flat garage roof, will provide DC power for 12V energy saving lighting and other electrical needs. Gas will be used for cooking. Under floor thermal piping will circulate hot water under the concrete floor. The metal water tank gables, made from Cor-Ten coloured Steel integrates rainwater harvested storage into the building form while providing pressure due to its vertical design. To reduce the carbon footprint further, no plaster rendering will be done as it will be replaced by hydrated lime.

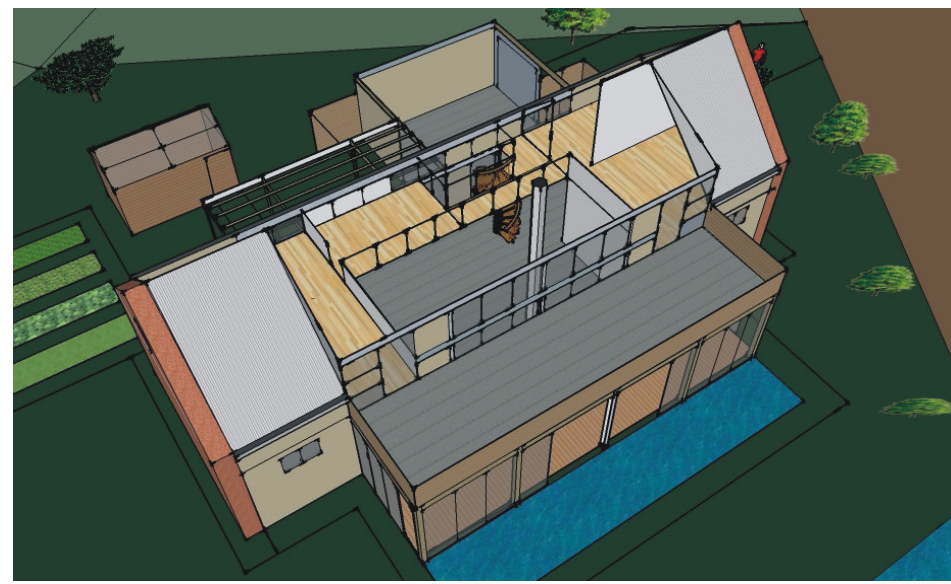
Involvement
 Identified the need for such a building model. Established the brief and developed concept. Computer generated modelling.



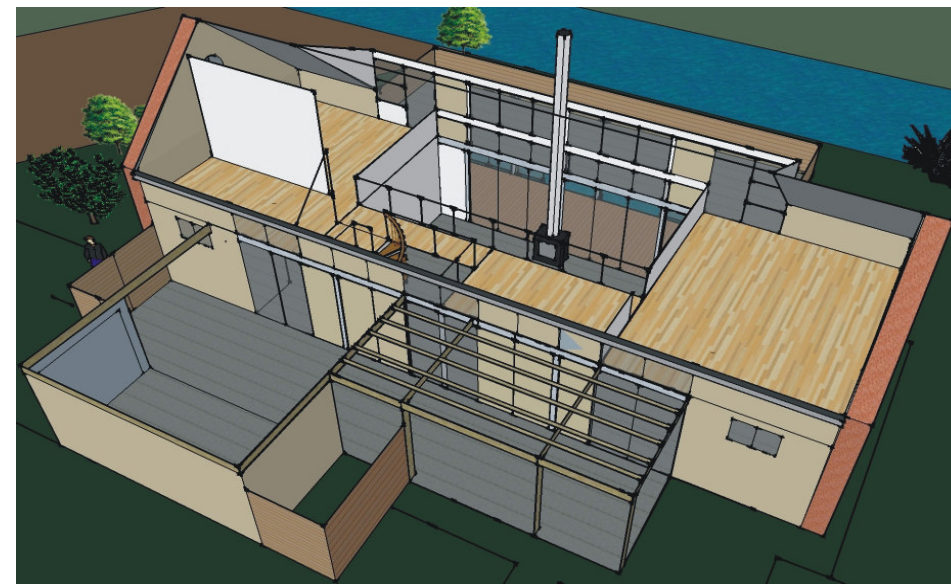
Isometric (South-West) Ground Floor Plan



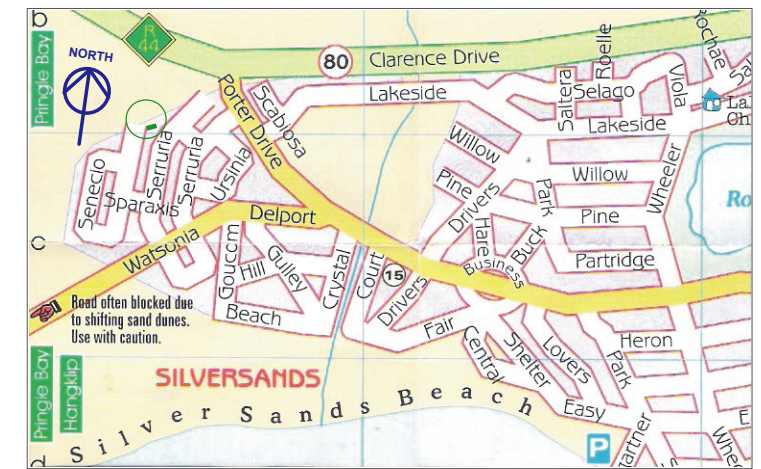
Perspective South-East



Isometric (North-East) First Floor Plan



Isometric (South-East) First Floor Plan



Location Map

