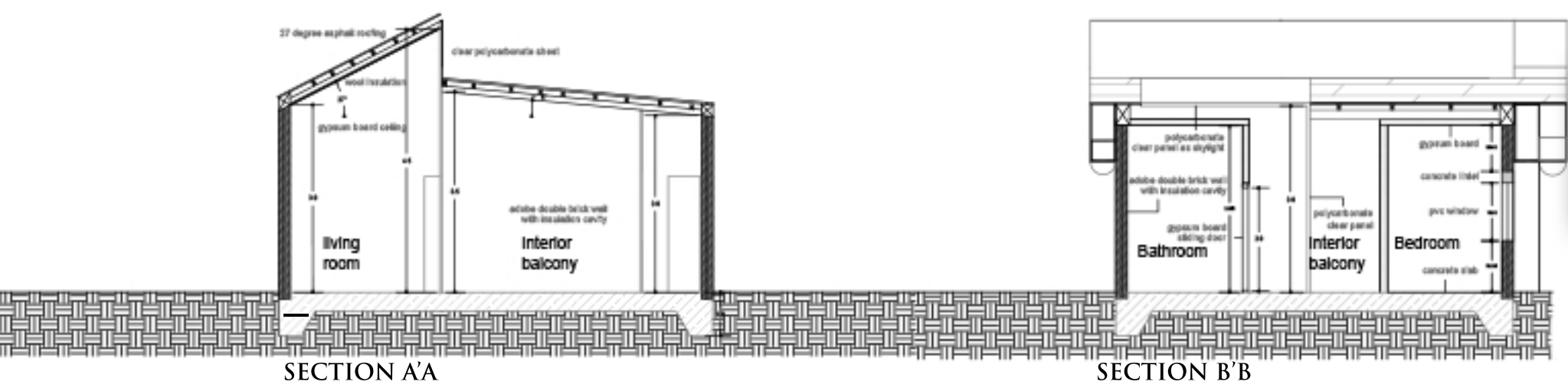
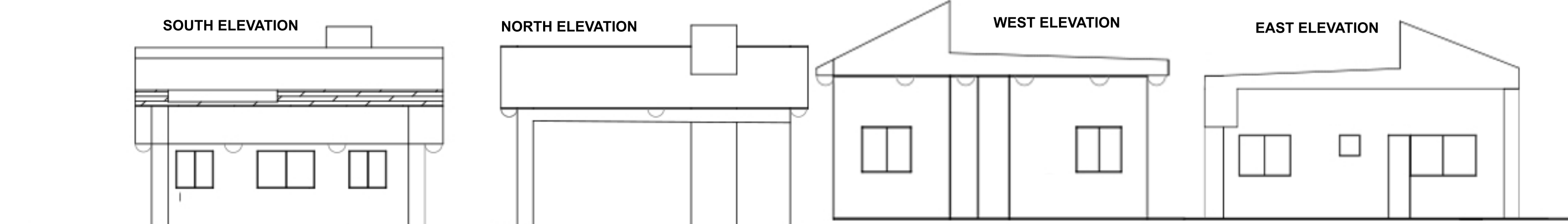
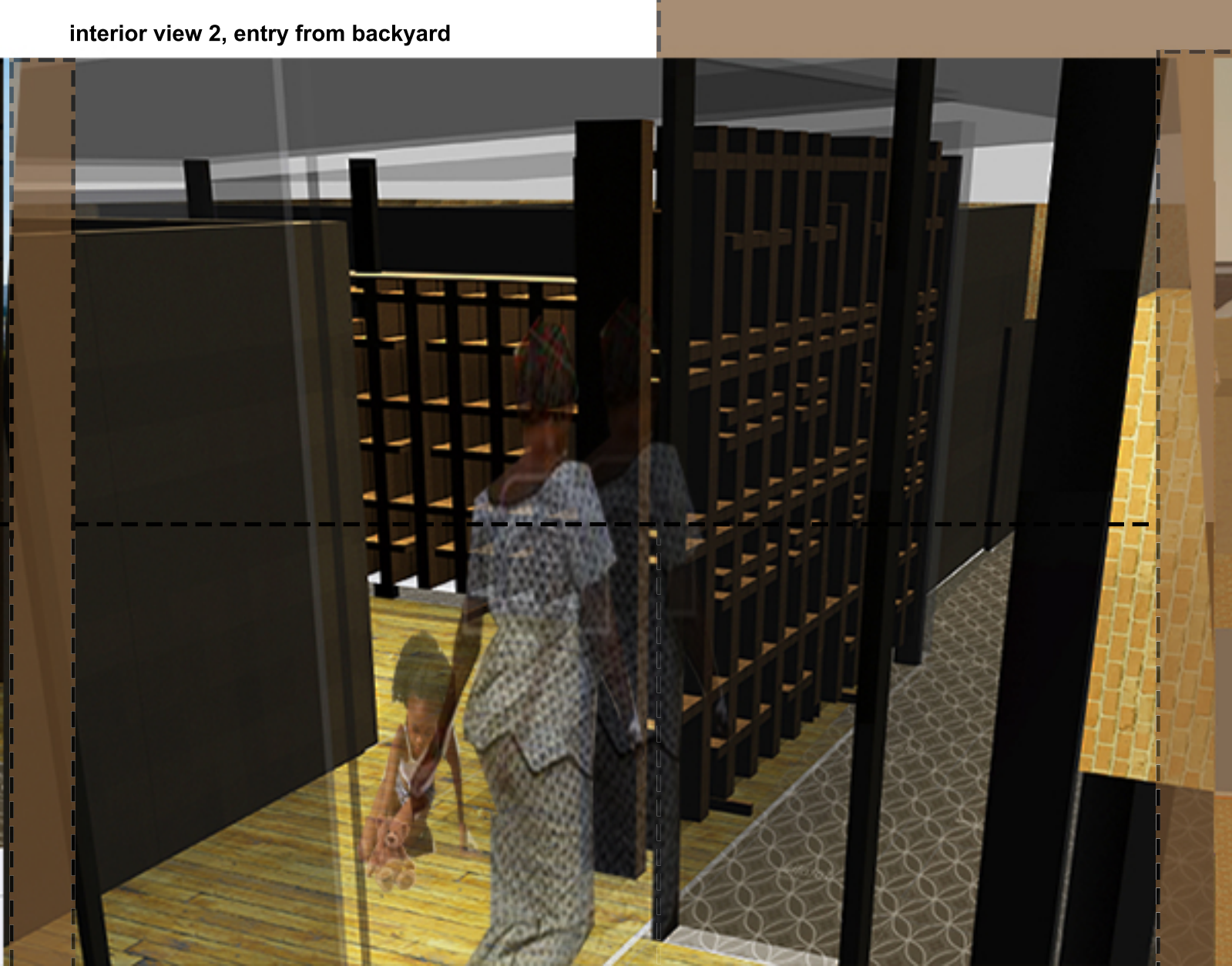
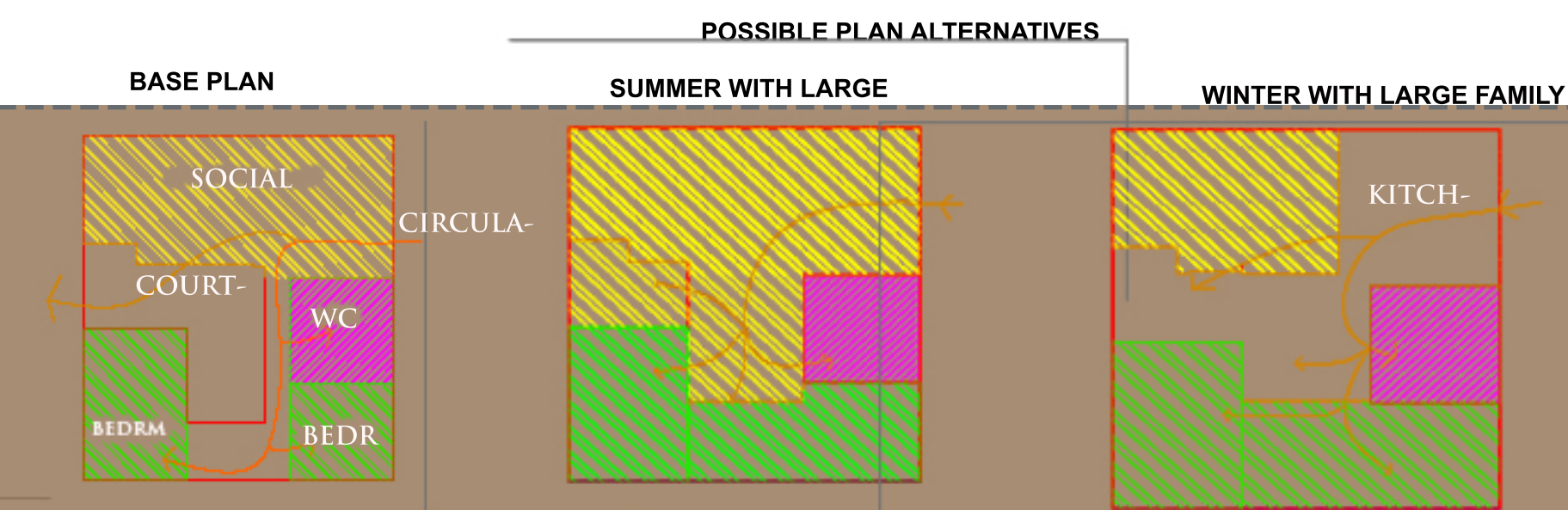
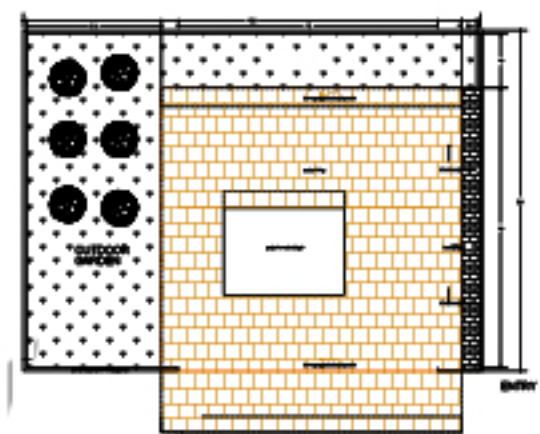
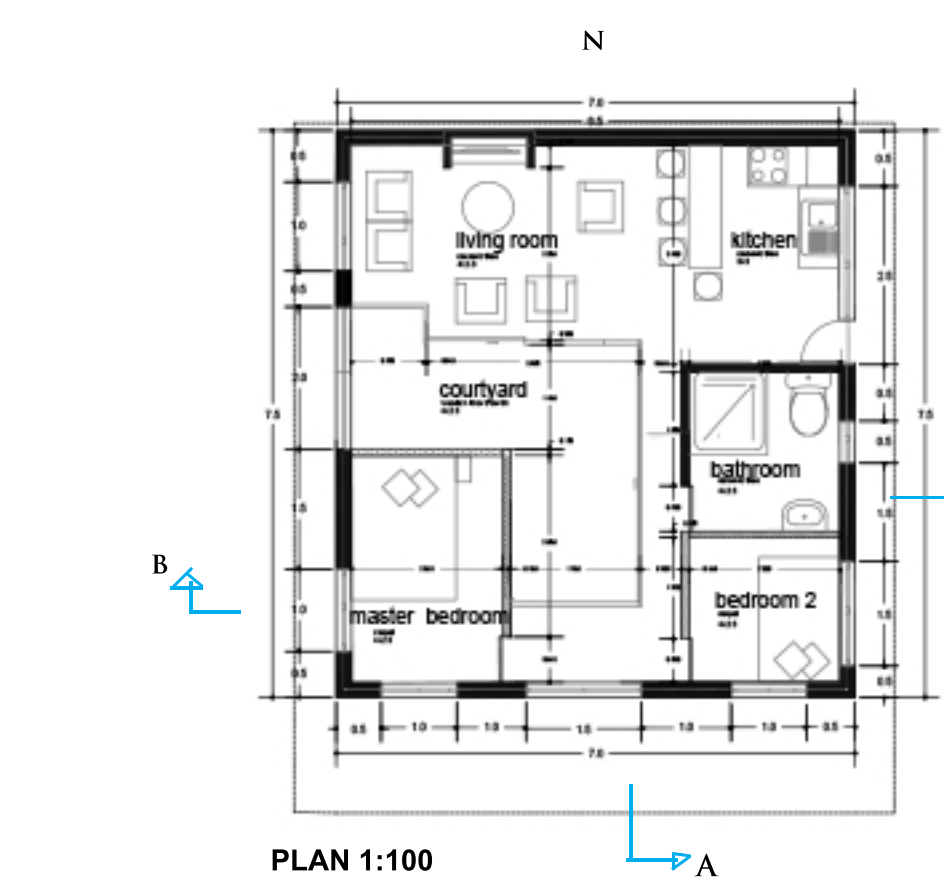
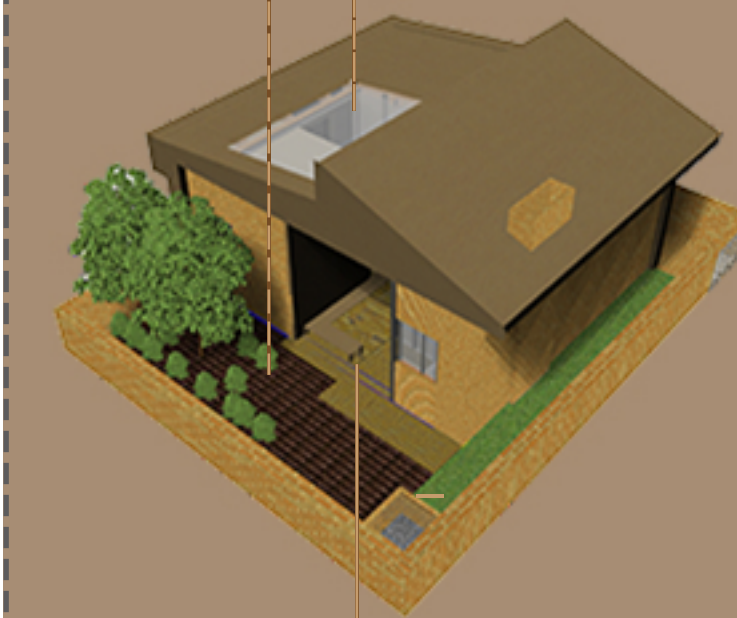
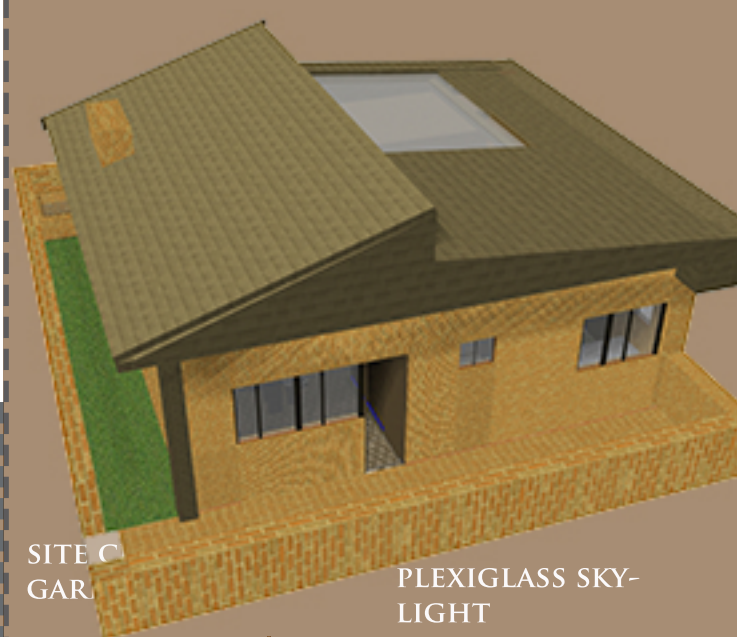


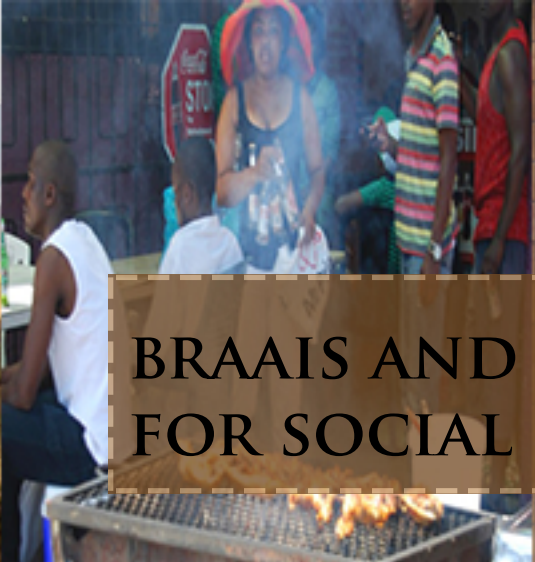
earthen flooring



A flexible sotho domesticity

The design of the project aimed to express traditional Sotho domestic ways through sustainable solutions such as orientation and the use of vernacular material sourced from within the country. Priority was to reduce energy costs by insulating the square volume using locally sourced wool, orientation and materials with high thermal mass qualities. The use of exposed adobe flooring takes advantage of the vernacular methods of building while saving costs tremendously. New materials such as the movable gypsum boards and chipboard screens achieve flexibility in plan allowing expansion and contraction to either retain heat or accommodate social functions.





BORROWING FROM THE HIGHLANDS

BRAAIS AND THE NEED FOR SOCIAL SPACES

BACKYARD GARDENS OFTEN WITH CORN PLANTATIONS
THE NEED TO ACCOMMODATE SMALL ACTIVITY



ADOBE HUTS

LARGE SUPPLY OF WOOL FOR TRADITIONAL BLANKETS WORN IN THE HIGHLANDS



BORROWING FROM MASERU



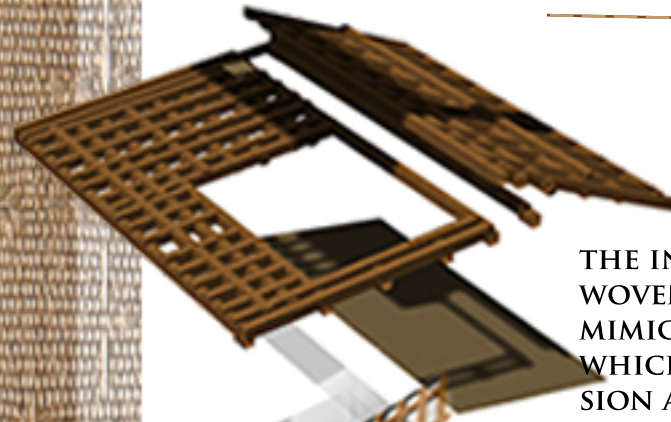
WEAVING



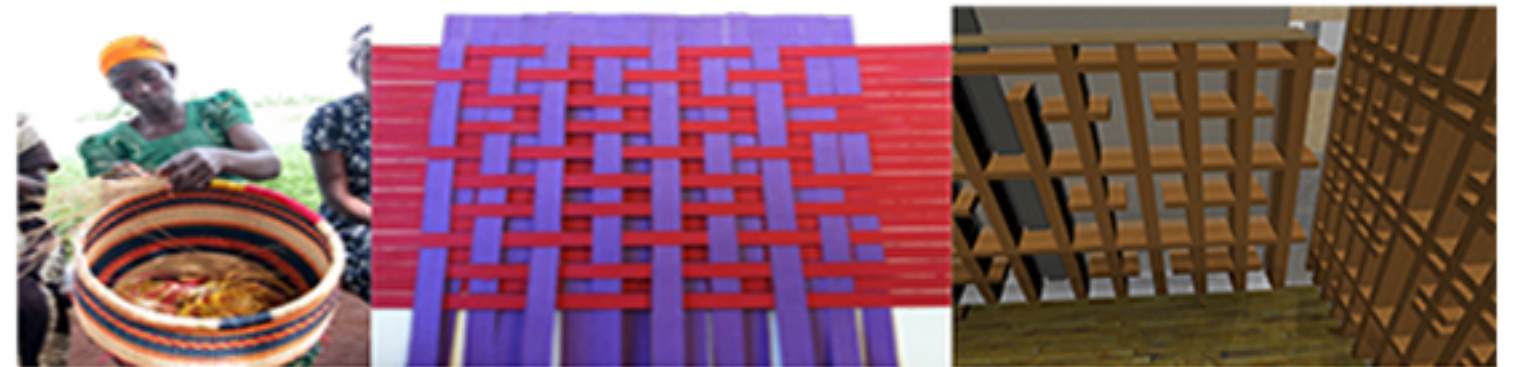
MATERIALITY AND THE LOCAL CONDITIONS



DARK ASPHALT ROOF SHINGLES WILL BE USED AS CHEAPER AND MORE ORGANIC ALTERNATIVE. THE MATERIALS (AS ASSUMED) CAN BE SOURCED LOCALLY WITH COSTS APPLYING TO LABOUR



THE INTERIOR PARTITIONS ARE WOVEN PLYWOOD SHINGLES THAT MIMIC A WEAVING TECHNIQUE WHICH SHOULD ALLOW EXPANSION AND RETRACTION IN ORDER TO SERVE AS SPACES FOR STORAGE AS WELL AS PARTITION BETWEEN THE COURTYARD SPACES AND LIVING AREAS



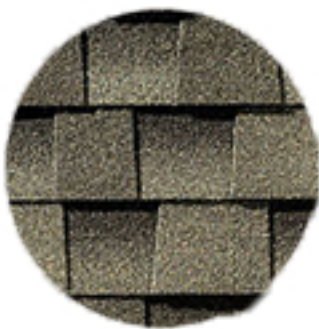
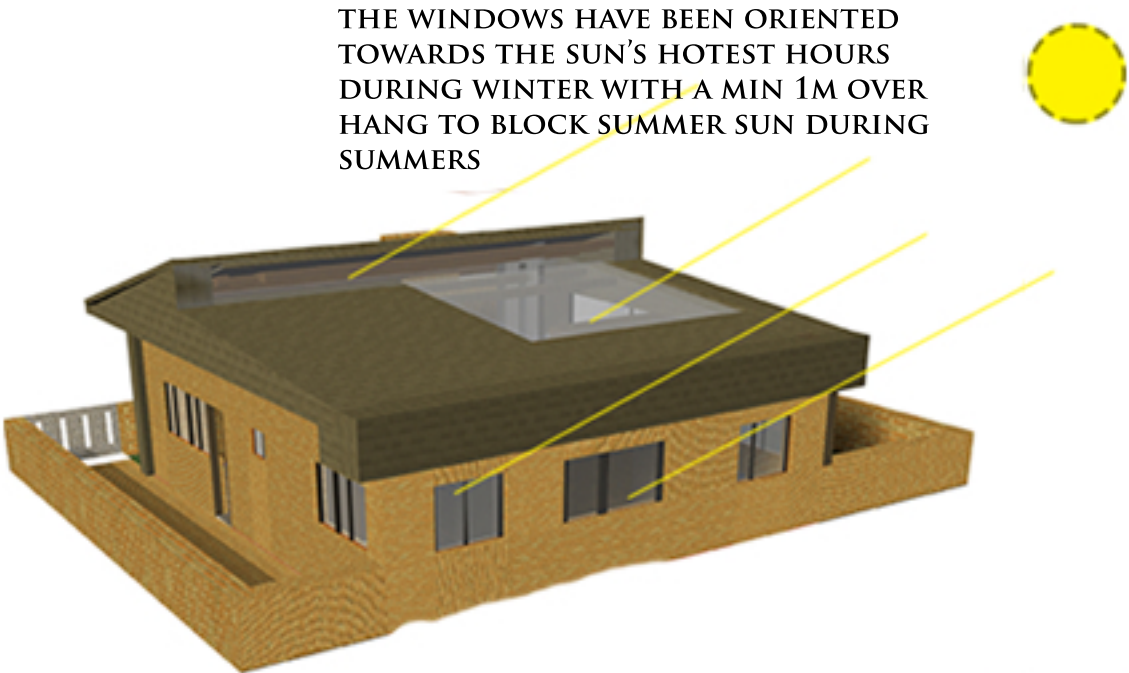
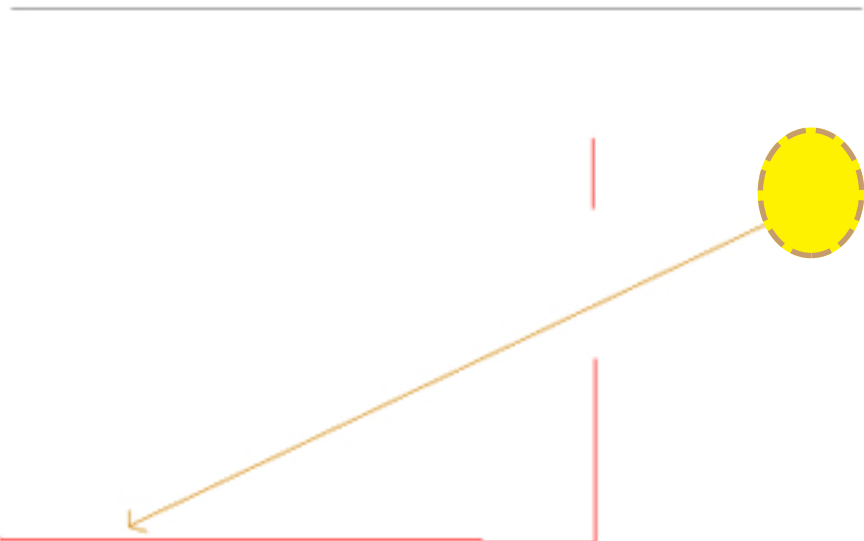
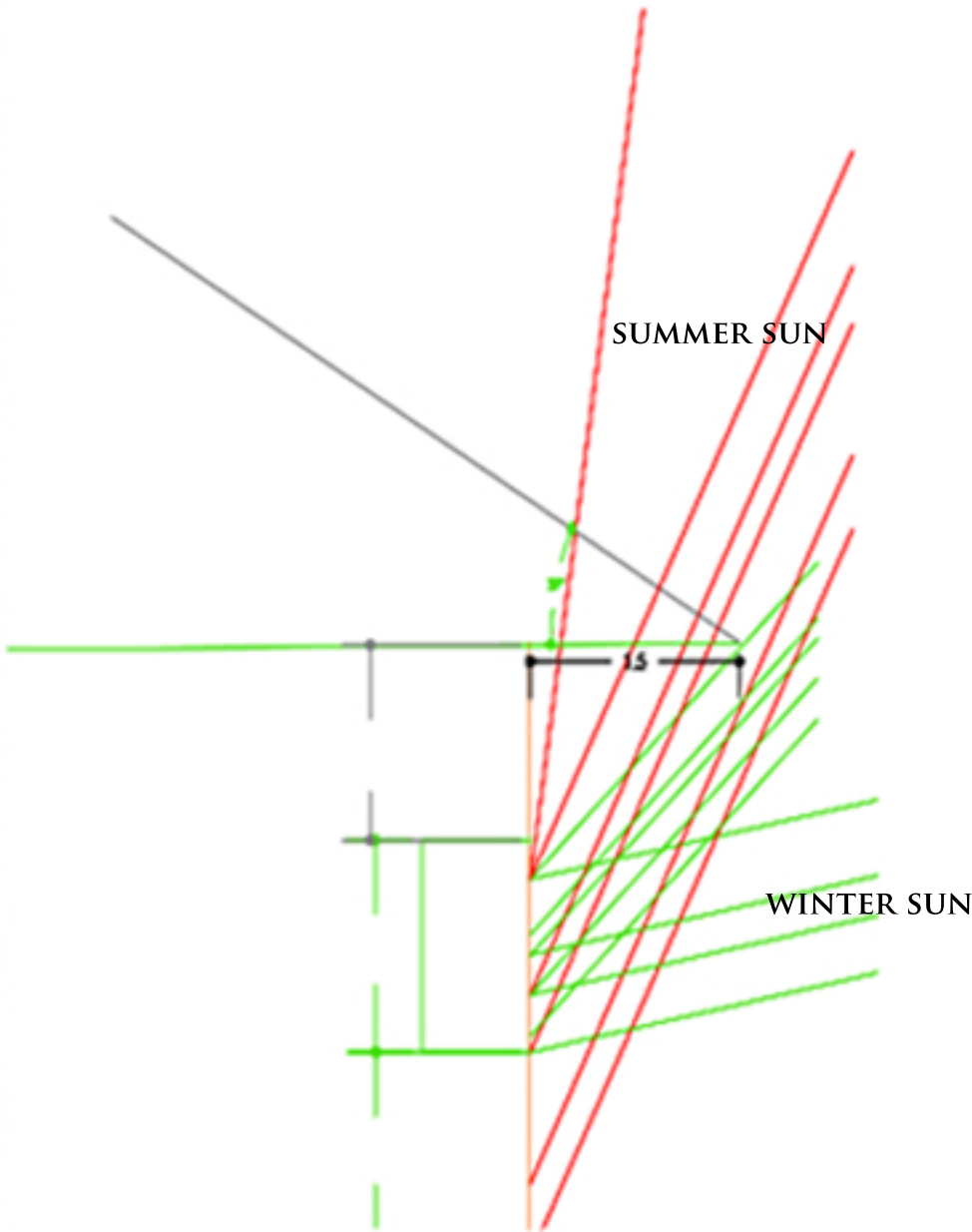
ADOBE BRICK IS A MATERIAL THAT CAN EASILY BE MADE LOCALLY ON SITE



LESOTHO IS A DRY AREA WITH MILD SUMMERS AND HARSH WINTERS. THE USE OF HEAVY EXPOSED ADOBE FLOORING, THERMAL MASS CAN ASSIST IN REDUCING HEATING COSTS



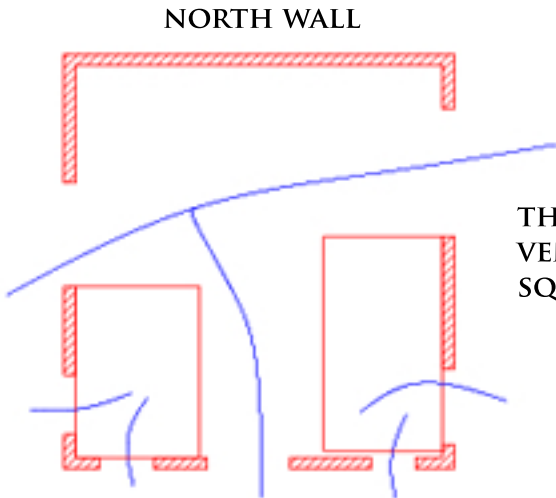
REDUCED HEATING COSTS DURING WINTERS



THE BEDROOM CUBES ARE FULLY ENCLOSED WITHIN TO RETAIN HEAT ABSORBED DURING THE DAY

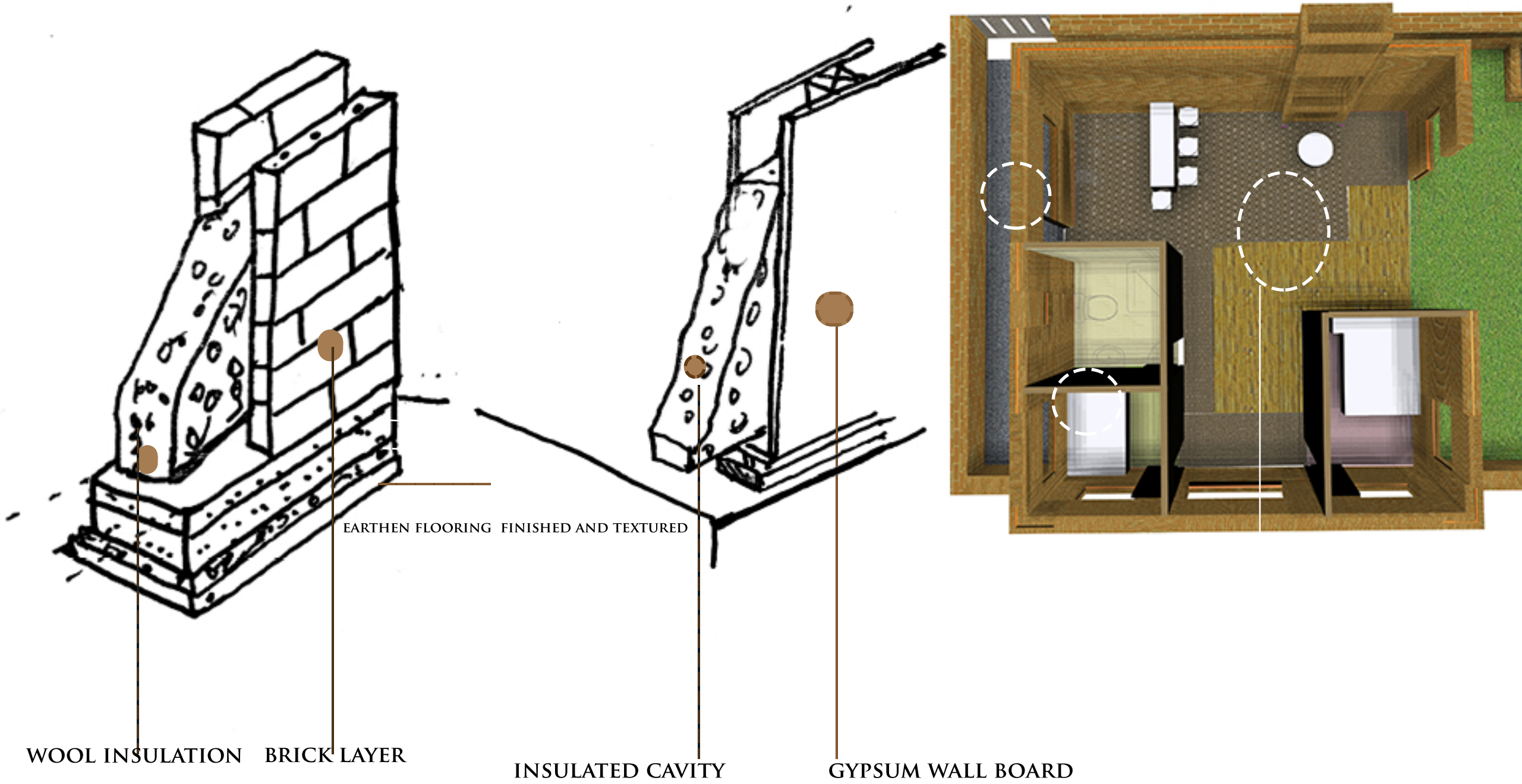


IT IS EASY TO SOURCE GET WOOL FROM SHEPARDS IN LESOTHO WHICH CAN BE PROCESSED SIMPLY AND USED AS INSULATION WITHIN HTE HOUSE



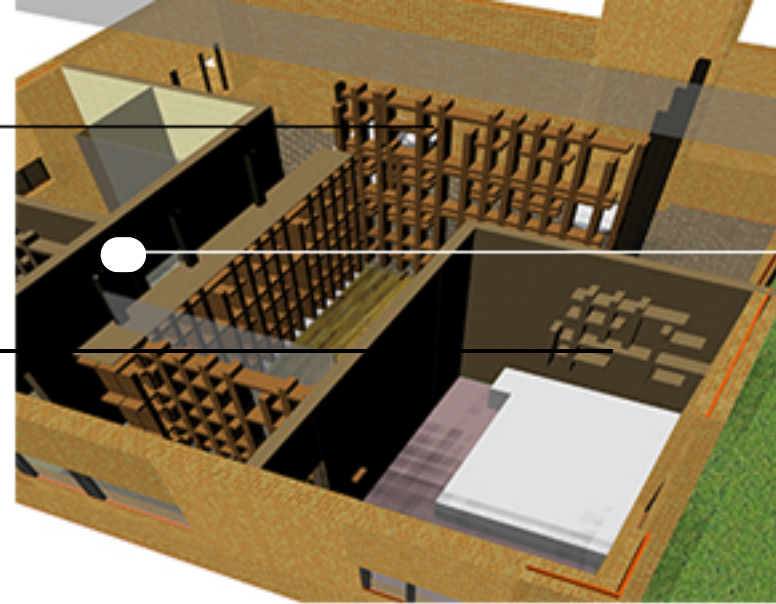
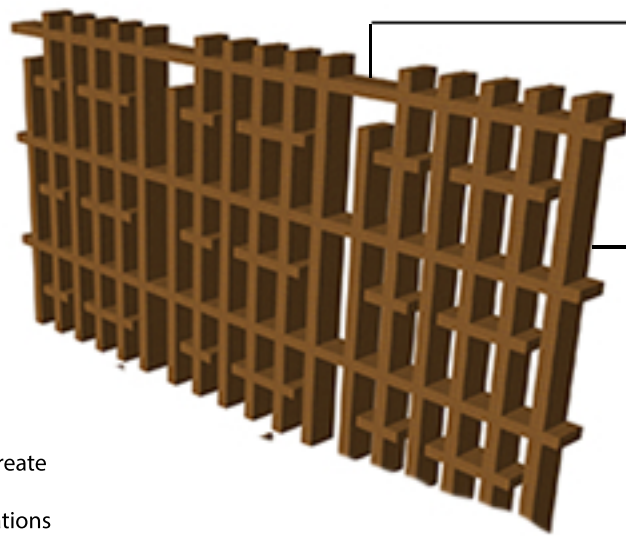
THE OPEN PLAN ALLOWS FOR VENTILATION WITHIN THE SQUARE VOLUMET

DETAILING SKETCHES AND INDICATIONS OF FLOOR FINISHES



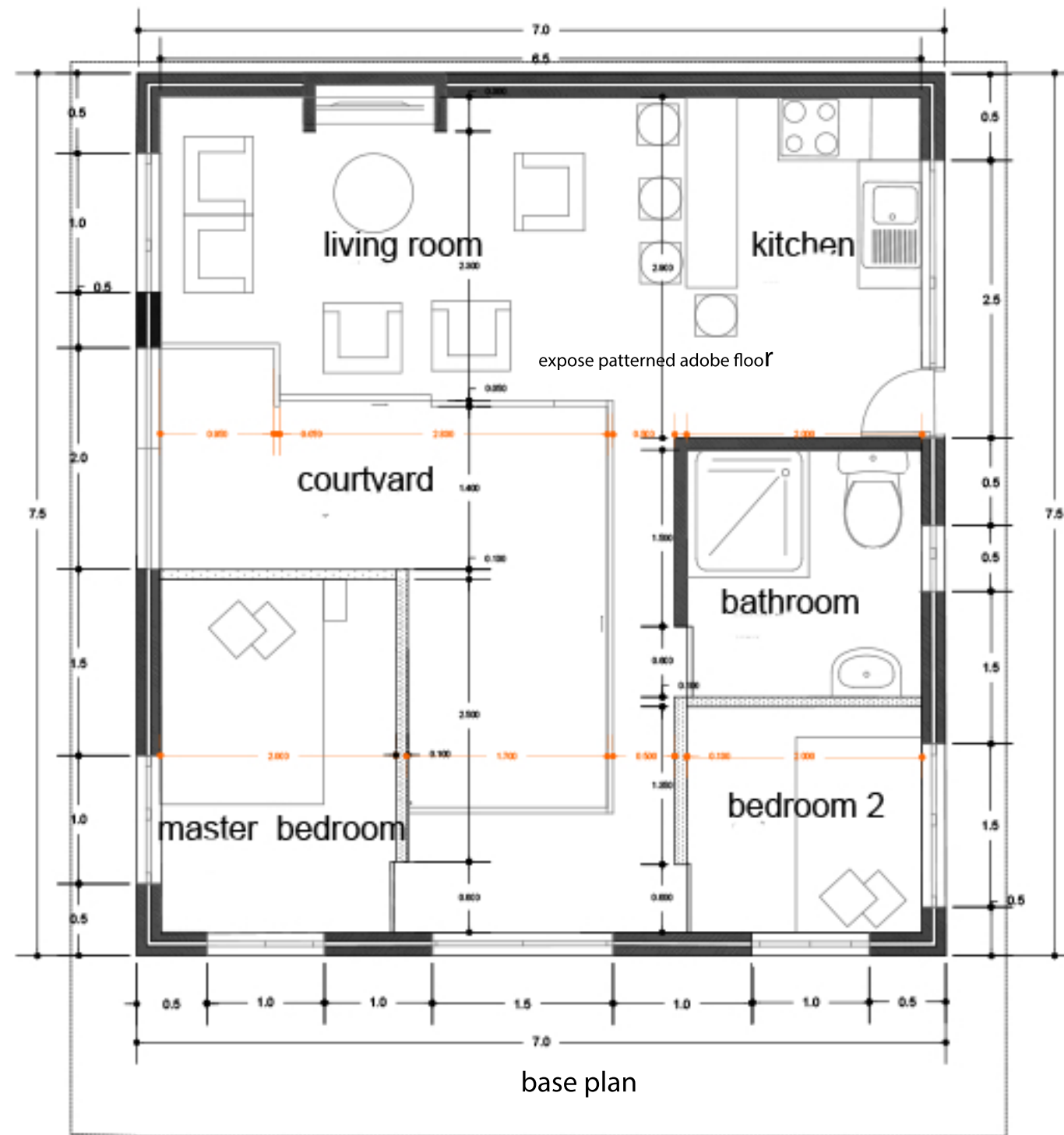
EARTHEN FLOOR CAN BE PATTERNED INTO DIFFERING FLOORING PATTERNS AS DESIRED
DARK FINISHES WILL BE PREFERRED IN ORDER TO ABSORB MORE HEAT DURING THE WINTER





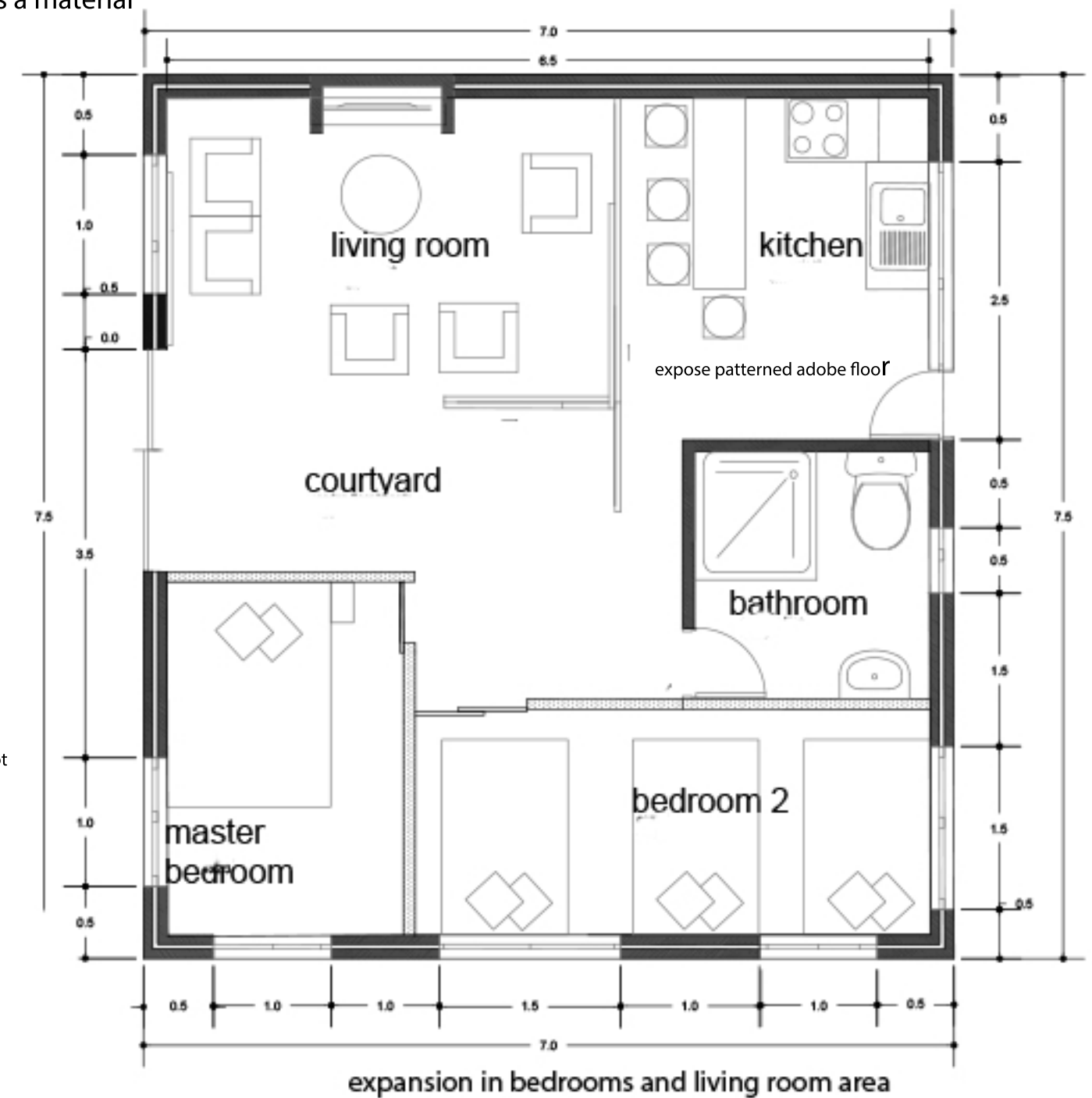
movable chipboard panels around bedroom 2

flexibility in plan is possible through the use of movable interior partitions that will use chipboard as a material



open space plan
allows for airflow

master bedroom not
connected to
bedroom 2 for
privacy in base plan



Labour:		labour type	worker category and no.	time taken	price total
FOUNDATION				2 weeks	
sand:	locally sourced		unskilled gen.x2		
clay:	l.c				
gravel:	n/a				
finishes	M100		unskilled gen. x1		M2526
FIBREBOARD		carpenter		2 weeks (parallel)	
Price per board(2.5x 1m)	M110				
no. boards (1x3m)	57		unskilled gen.x1		M842
total	6270				
BRICK WORK					
NO. bricks for perimeter (standard brick layout) full standard SA brick size	5000 full bricks	brick moulder	unskilled x1	1 WEEK	M421
Price per 1000 bricks:	M1000	brick layer	skilled x2	2 WEEKS	M842
cement bags needed :	15				
price per cement bag 50kg from cashbuild	M78				
total:	M6170				
INTERIOR PARTITIONS:		carpenter	skilled x 1	2 weeks (parallel)	
cost per unit (0.4x 0.5m):	M84				M1248
number of acrylic plexiglass units needed:					
windows 7 - 1X1m - 28 units	M2352				
skylight area (16 units)	M1344				
courtyard doors (16 units)	M2016				
Wooden fiber boards needed: depending on screen pattern (shelf chipboard used)					
total:	5712				
INSULATION		skilled installer	skilled x1	3 days	
price for 50mmx1200mmx10m	M307				M438
area needed for roof ceilings:					
for fiber board infills:2	M614				
perimeter external wall: 3	M921				
below floor : 6	M1842				
total	3377				
ROOFING (38 X38cm RAFTERS= Maloti 52) (purlins 50x76xm Maloti 147each)		roof carpenter	skilled gen. x3	1 week	
south roof					M1872
no. of purlins :3	M441				
no. of rafters : 6 of 6m	M312				
north roof					
no. of purlins:3	M441				
no.of rafters :6 of 3.6m (each Maloti 30)	M180				
asphalt mix:	sourced				
total :	1374				
TOTAL MATERIAL:		M23003			M8189
FINAL TOTAL:			M31192		

DISCLAIMER: The budget has been created approximately . The prices have been based on websites found online such as cashbuild.za. based on the assumption that if materials are not within the cashbuild branch in esotho, they can be sourced within nearby areas such as bloemfontein or even ladybrand within the same price range but with transport costs included. Further, because some elements such as services or dpc membranes etc . or even gravel have not been included due to lack of enough information online about the local market, a tolerance has been left in the budget of about 15000 Maloti to accomate what has not been included within the budget if necessary. Some items may be found cheaply or for free such as wool from local sheperds or even bricks and one pays for labour. The labour costs are also based on a minimum wage document published from 2014, this may have changed.

(a) Construction Machine Operator, and Certificated (Bricklayer, Carpenter, Steel Fixer, Welder, Electrician and Plumber)

2,643.00 624.00 146.00

995

(b) Construction Worker (unskilled heavy physical worker)

1,679.00 421.00 89.00