

## CUSTOMIZE YOUR

## SMALL EARTHBAG DOUBLE CLASSROOM BUILDING Patti Stouter 10-22-2010

These plans (available at [www.EarthbagStructures.com](http://www.EarthbagStructures.com)) are meant to be adapted to your culture and climate, as well as to your local building materials and hazards.

The plans are for areas with medium and high risk of earthquake. To build safely you should get advice from a local architect or engineer, and have him or her check your building site. The same building in a low seismic risk area will need less reinforcing.

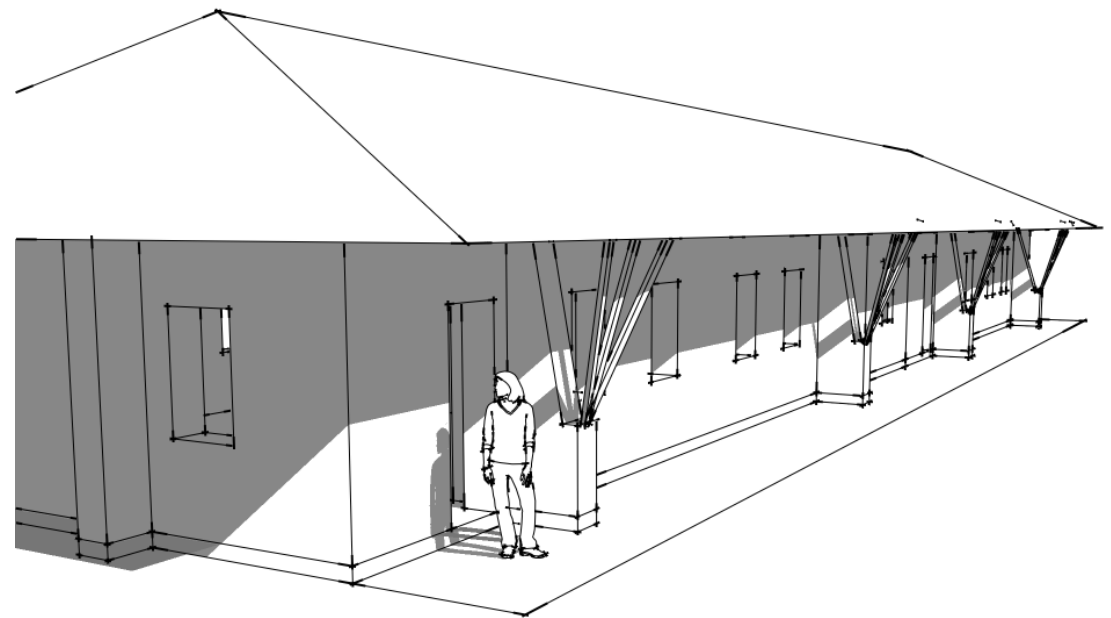
These plans show the basic spacing and the kind of construction needed to make buildings that can survive earthquakes. The reinforcing and locations of piers and buttresses are very important for strength.

But the size and shapes of windows can be changed. Screening walls can be added.

Doors and windows can be switched. And the building can be repeated in straight rows or turned to make other shapes.

You may be using a plan that didn't cost you much money. But you can still build wisely and beautifully.

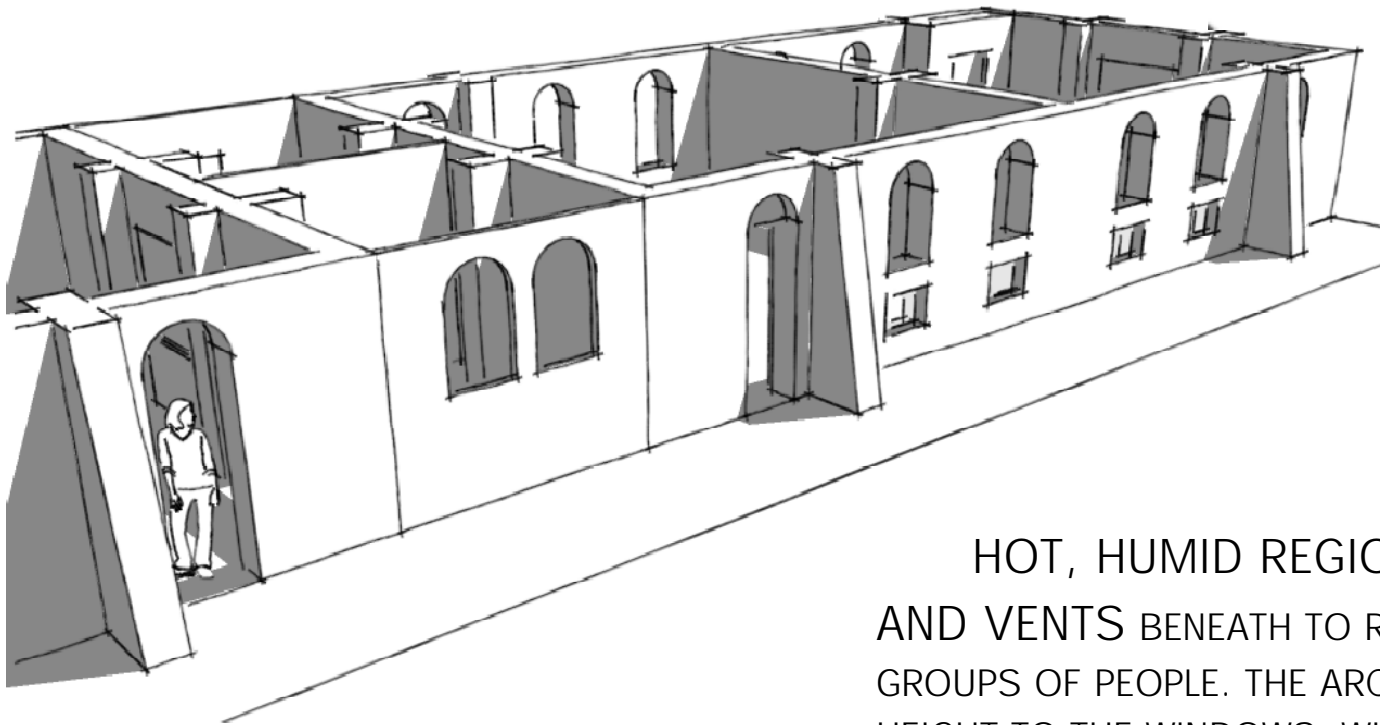
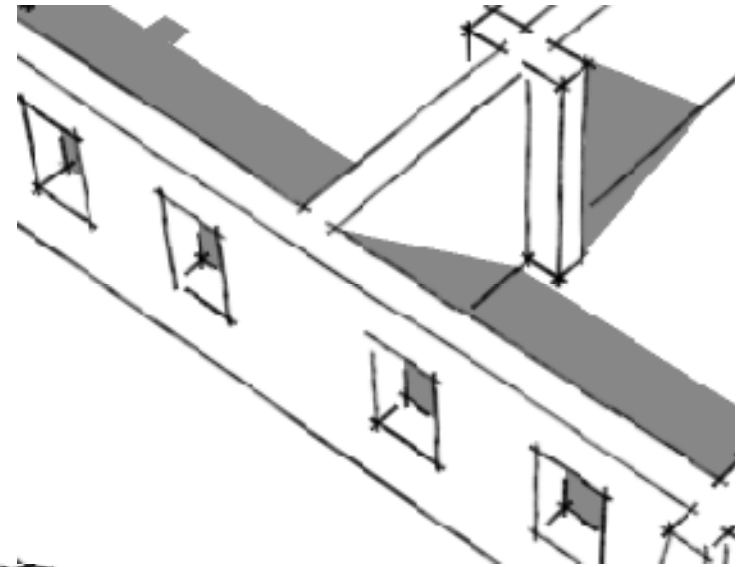
**MAKE IT YOUR OWN!**



GEIGER RESEARCH INSTITUTE OF SUSTAINABLE BUILDING  
[www.GRISB.org](http://www.GRISB.org) AND [www.EARTHBAG STRUCTURES.com](http://www.EARTHBAG STRUCTURES.com)  
[strawhouses@yahoo.com](mailto:strawhouses@yahoo.com); [SimpleEarthStructures@yahoo.com](mailto:SimpleEarthStructures@yahoo.com)

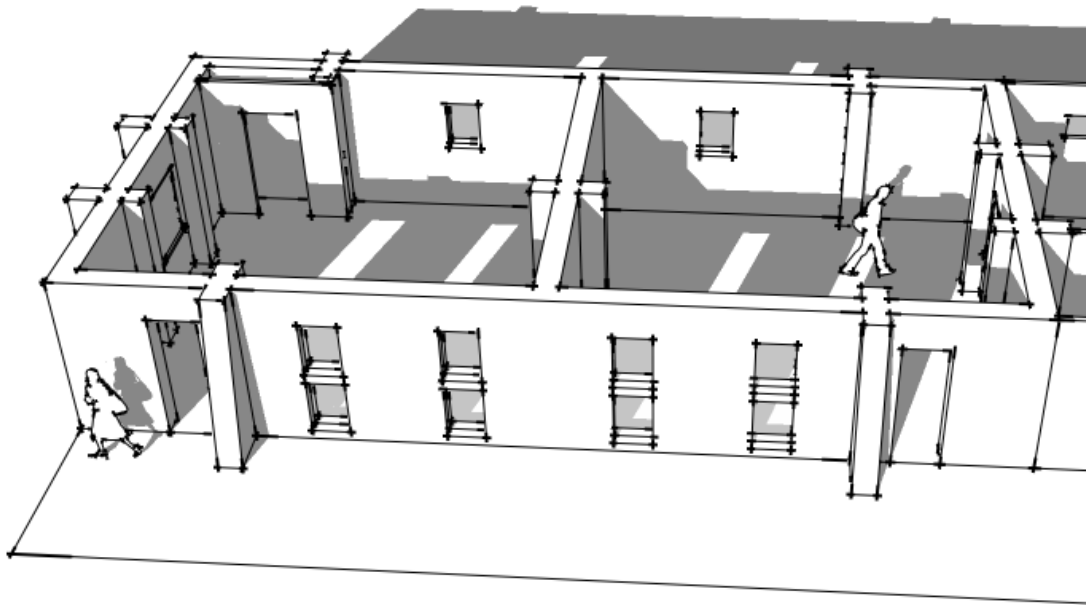
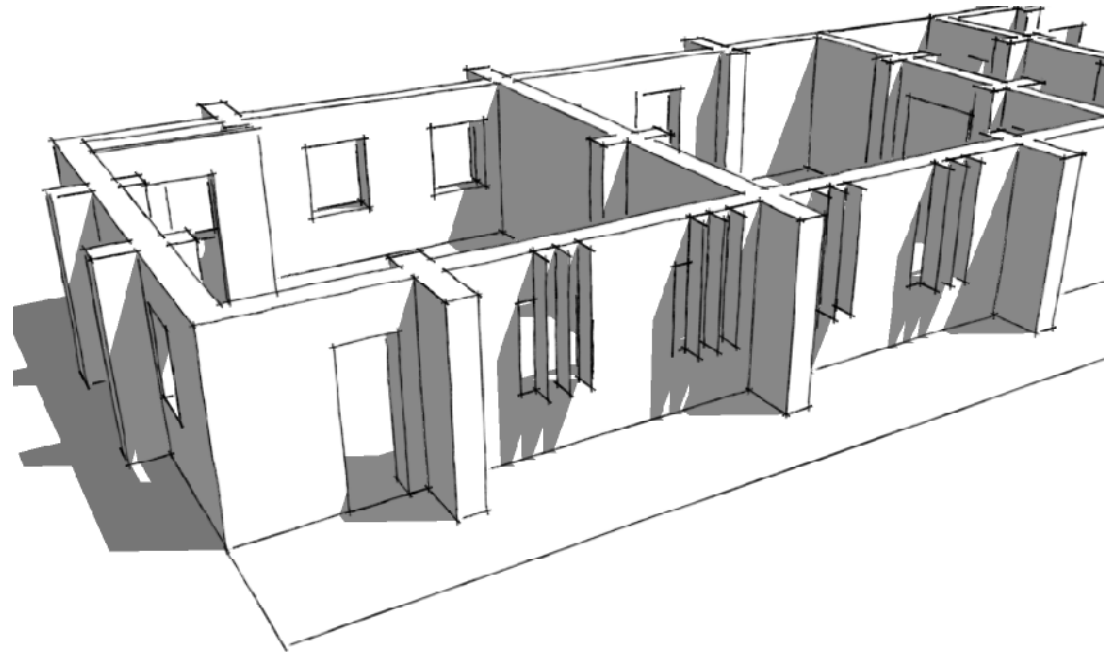
WINDOWS SHOULD BE SIZED FOR THE CLIMATE.

HOT, DRY REGIONS CAN USE SMALL WINDOWS IF THERE IS ELECTRICITY OR IF SKYLIGHTS CAN LIGHT THE CLASSROOMS. THESE ARE 75 cm WIDE.



HOT, HUMID REGIONS NEED TALL WINDOWS AND VENTS BENEATH TO REMOVE EXTRA HUMIDITY FROM GROUPS OF PEOPLE. THE ARCHES AT LEFT ADD EXTRA HEIGHT TO THE WINDOWS, WHICH ARE 1m WIDE.

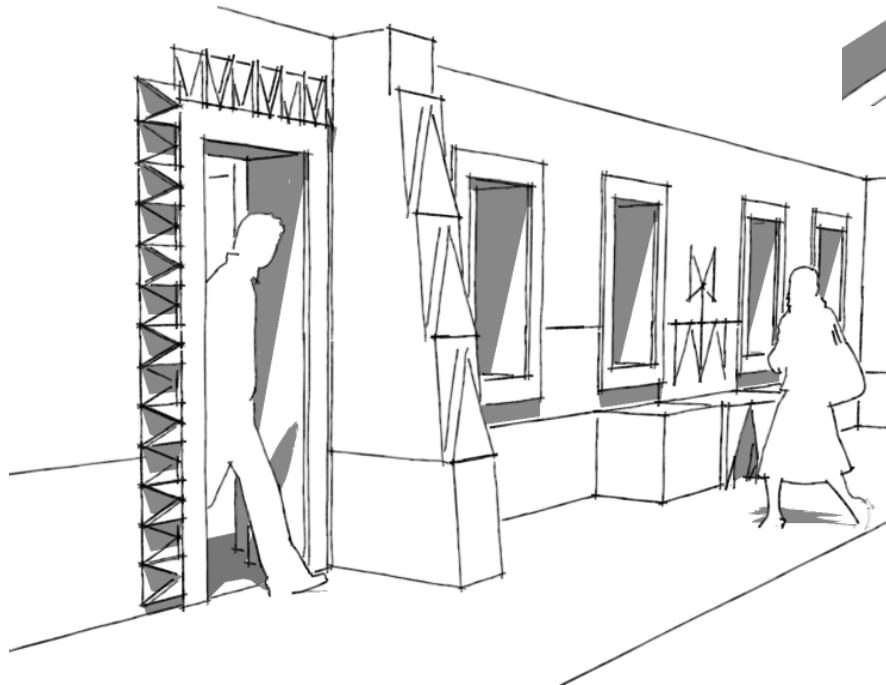
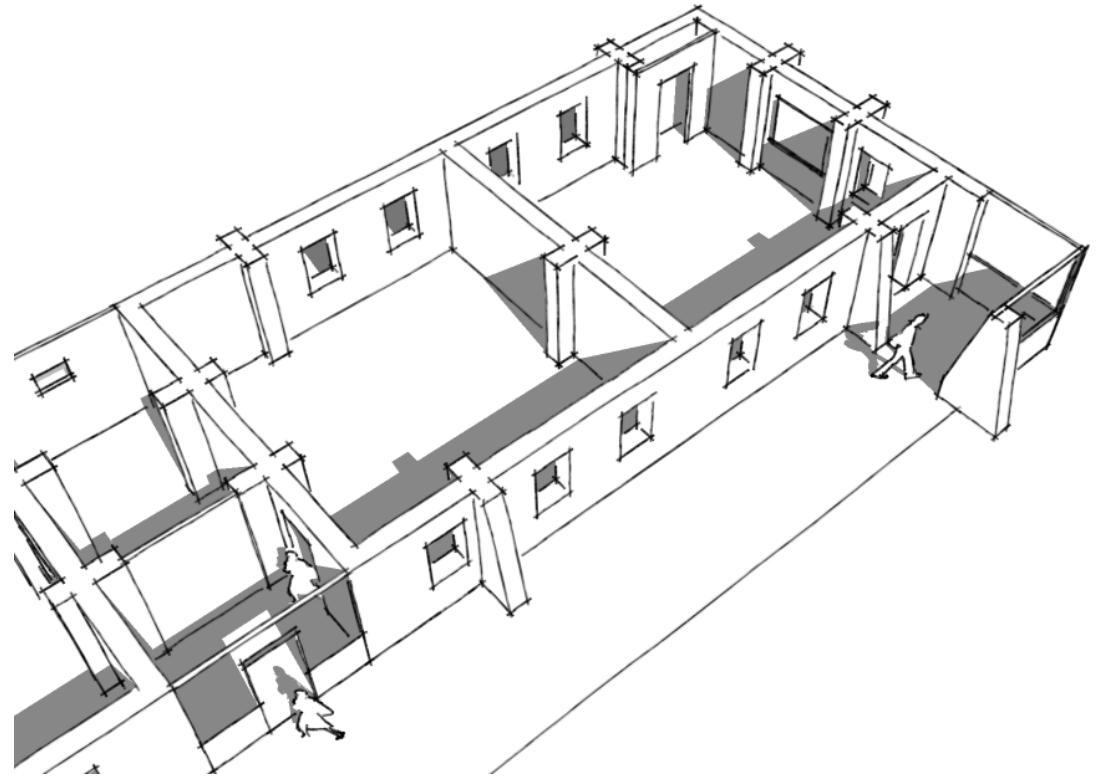
SOME LOCATIONS WILL NEED **BLINDS** TO KEEP SUNLIGHT OUT OF THE BUILDING. VERTICAL BLINDS AND PIERS CAN HELP CAPTURE BREEZES AND DIRECT THEM INTO THE BUILDINGS, AS WELL AS MAKE COOLING SHADE.



COOLER REGIONS MAY NEED BIG WINDOWS AND DOORS ONLY ON THE SOUTH SIDE TO BRING THE WARMTH OF SUNLIGHT INSIDE. ONLY A FEW SMALL WINDOWS SHOULD GO ON THE NORTH WALL.

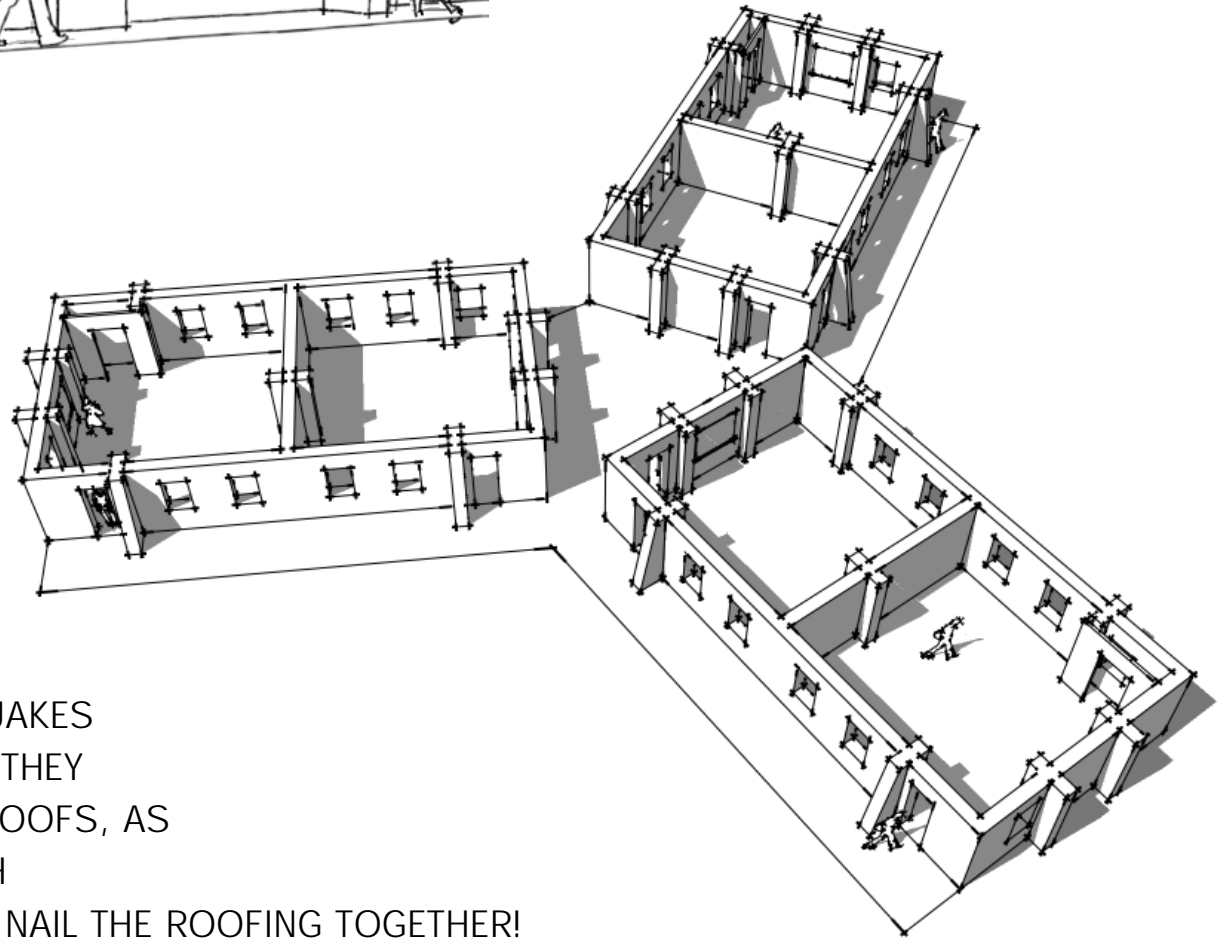
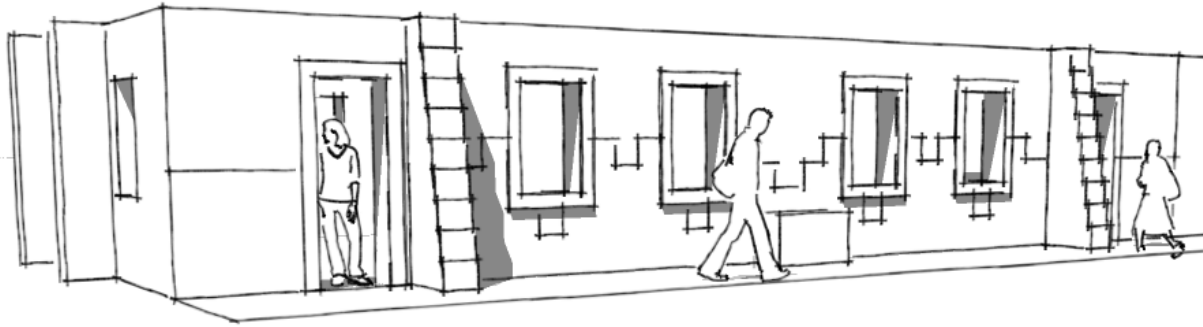
DIFFERENT CULTURES ALSO MARK ENTRANCES IN DIFFERENT WAYS.

SOME CULTURES LIKE PRIVACY. DOORWAYS FACE BLANK WALLS, AND THE ENTRANCE IS A PATH THAT TURNS. THIS CAN BE A BEAUTIFUL WAY TO EMPHASIZE THE DIFFERENCE BETWEEN INSIDE AND OUT. THE CENTRAL AREA BETWEEN TWO BUILDINGS CAN BE USED AS ENTRANCE FOYER.



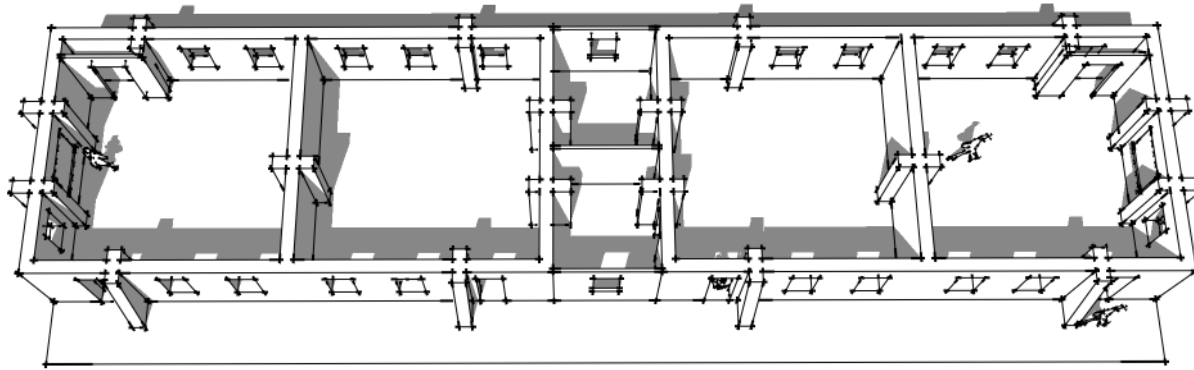
OTHER CULTURES WANT TO WALK STRAIGHT IN THROUGH A DECORATED DOOR. SOME PEOPLE SPEND A LOT OF TIME NEAR THE DOOR IN A PORCH OR VERANDAH AND MAKE IT BEAUTIFUL.

MANY CULTURES DECORATE BUILDINGS BECAUSE IT MAKES LIFE MORE PLEASANT AND VIBRANT.



LOCATE A GROUP OF BUILDINGS  
SO THAT THEY MAKE GOOD  
OUTDOOR SPACES.

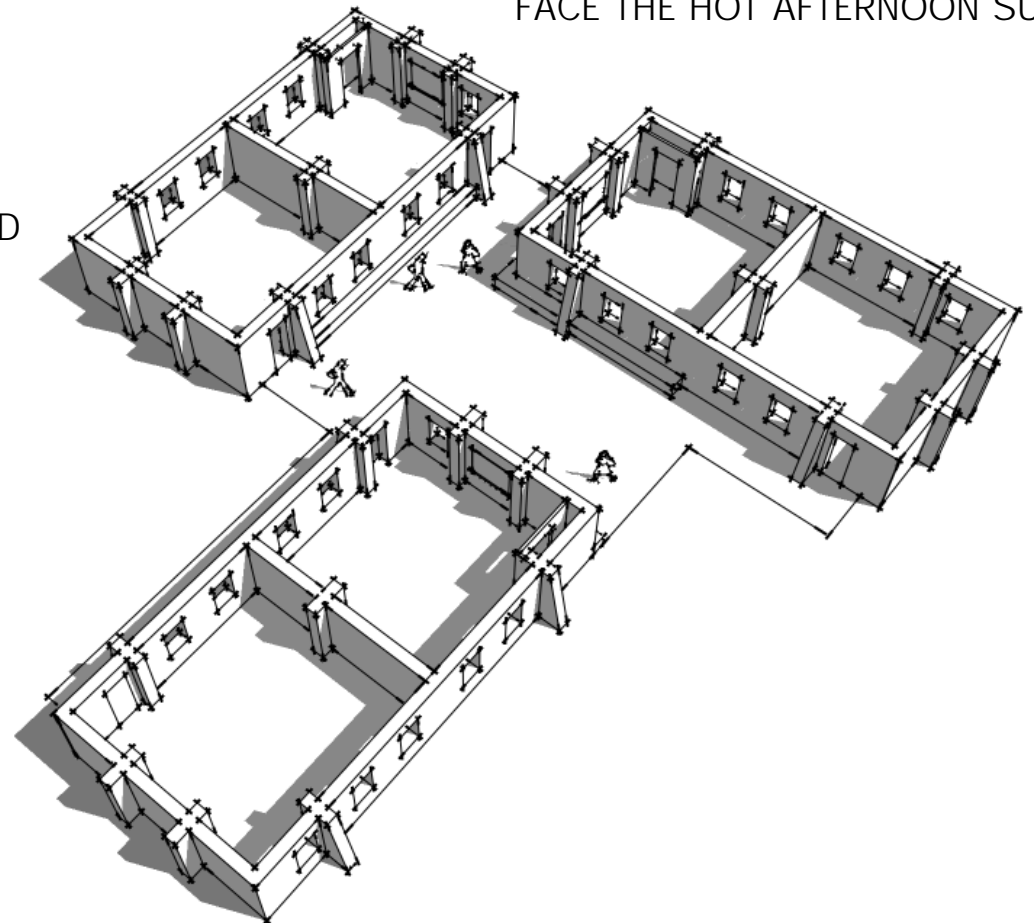
THESE BUILDINGS WILL SURVIVE EARTHQUAKES  
BETTER IF THEY ARE NOT TOUCHING. BUT THEY  
CAN BE NEAR, OR UNDER OVERLAPPING ROOFS, AS  
LONG AS THE STRUCTURE IS FAR ENOUGH  
APART. MAKE SURE THE WORKERS DON'T NAIL THE ROOFING TOGETHER!



IN HOT, HUMID PLACES  
CLASSROOM BUILDINGS ARE BEST  
LINED UP WITH THE LONG SIDES  
FACING NORTH AND SOUTH.  
THIS LETS BREEZES BLOW IN ONE  
SIDE AND OUT THE OTHER. AND  
ONLY VERY SHORT WALLS HAVE TO  
FACE THE HOT AFTERNOON SUN.

IN COOL AREAS BUILDINGS GROUPED AROUND  
COURTYARDS WILL WARM UP NICELY.

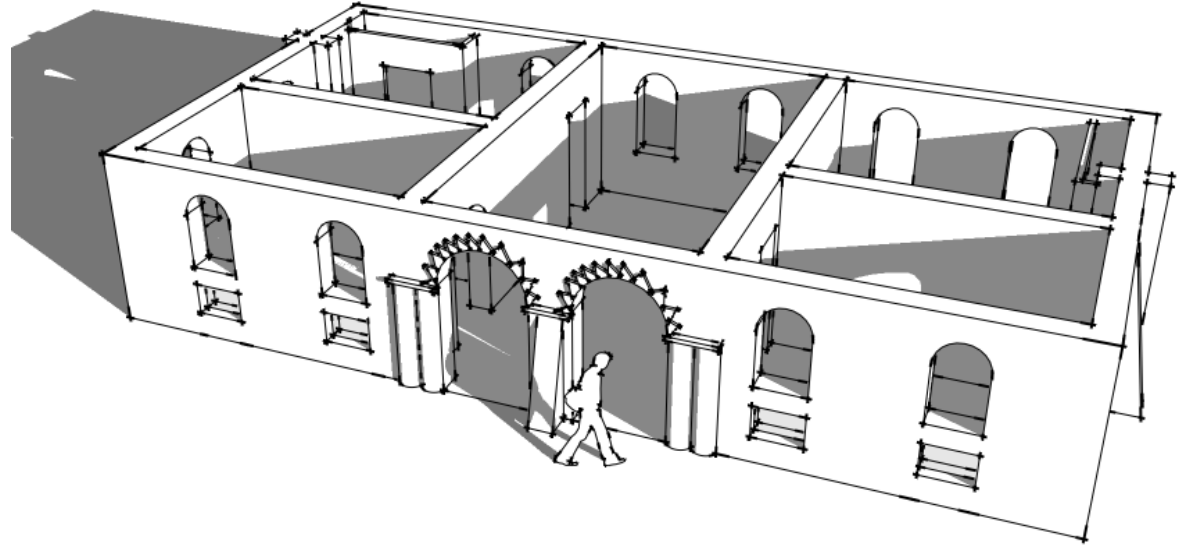
THE SPACE BETWEEN THESE BUILDINGS CAN BE  
A SMALL STORAGE AREA, A LARGER OFFICE,  
OR A GATHERING SPACE.  
BUILD ANY CONNECTING WALLS  
OUT OF WEAKER MATERIALS, AND LET THE  
EARTH BAG WALLS ON EITHER SIDE HOLD  
THE ROOF UP.



THIS BUILDING PLAN IS SIZED FOR CLASSROOMS. EVEN SMALL CLASSROOMS ARE LARGER THAN SMALL HOMES.

BUT WHEN EXTENDED FAMILIES LIVE TOGETHER, HOMES MUST BE GOOD SIZED.

THE BUILDING AT RIGHT IS CHANGED TO WORK FOR A LARGE FAMILY. BUT BECAUSE IT CONTAINS MORE, SMALLER ROOMS IT DOES NOT NEED AS MANY BUTTRESSES.



This building plan is the result of many hours of discussing and testing and searching for ways to make earthbag buildings safer in earthquakes. More engineering help would be greatly appreciated.

Build it carefully, and tell us how your building works for you. Send us a photo and tell us where and how you built it.

Short videos are available at Youtube from Owen Geiger showing how to build earthbag; search for his Natural Houses channel. Other plans are also available at our aid and development website [www.earthbagstructures.com](http://www.earthbagstructures.com).

In the future many builders and architects and engineers will know how to build earthbag well. But since it may be a new technology in your area, we try to help people avoid mistakes as they learn to build. If you would like this plan changed for your site or situation, Please contact us. Owen can be reached at [strawhouses@yahoo.com](mailto:strawhouses@yahoo.com), Kelly at [kellyhart@greenhomebuilding.com](mailto:kellyhart@greenhomebuilding.com), and I can be reached at [SimpleEarthStructures@yahoo.com](mailto:SimpleEarthStructures@yahoo.com).