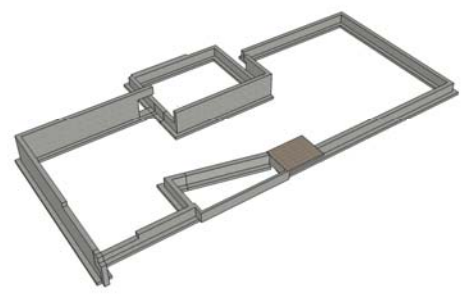


### Floor Plan



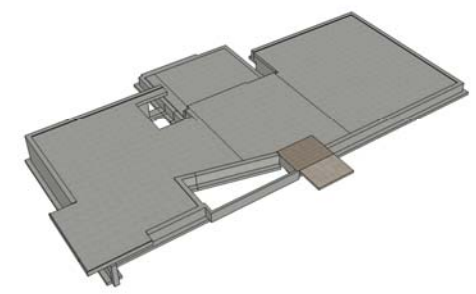
### M.O.S.S. Classroom Facility

+foundation



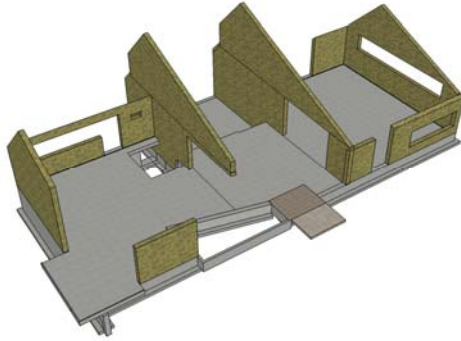
### M.O.S.S. Classroom Facility

+foundation  
+floor slabs



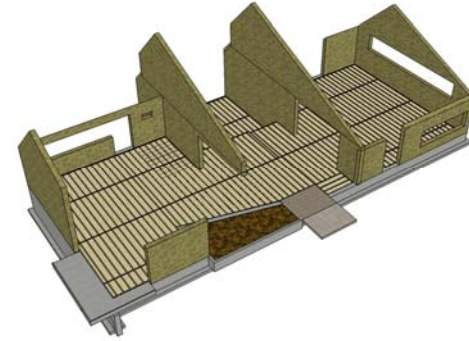
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls



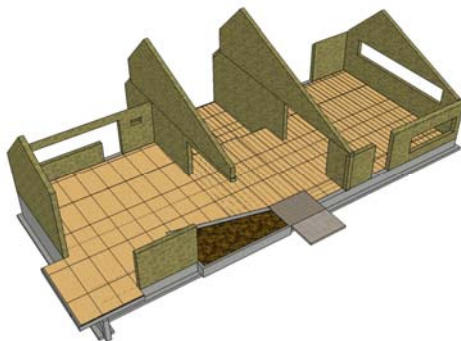
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation



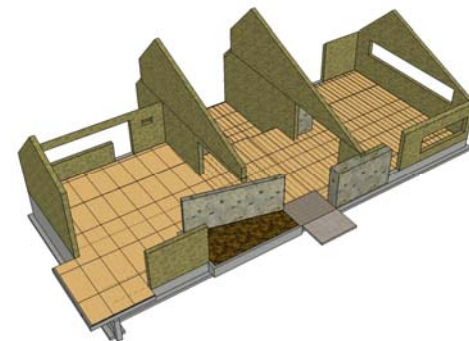
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish



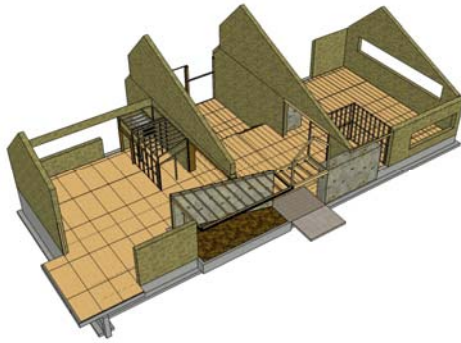
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry



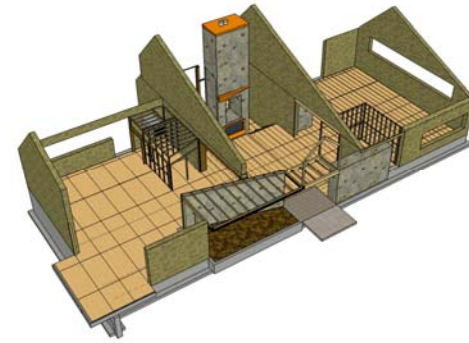
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing



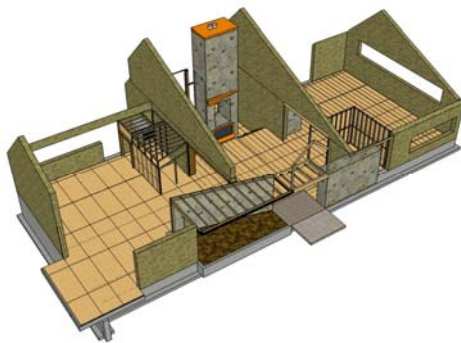
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace



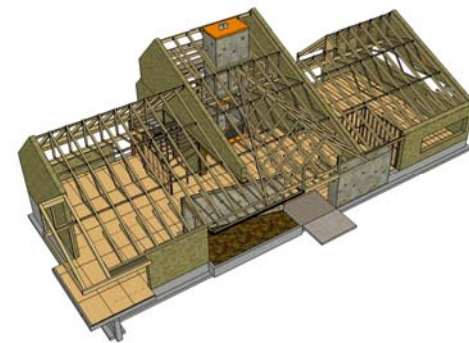
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood



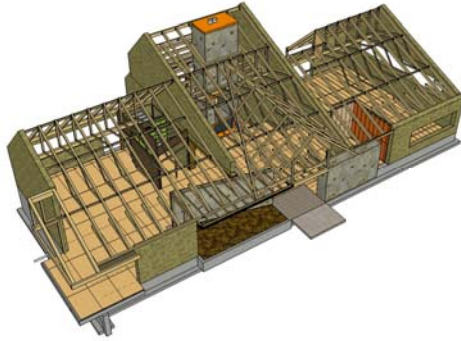
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof traming



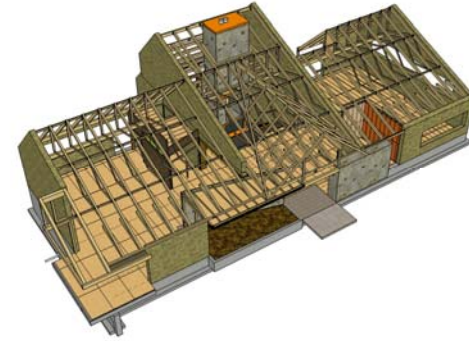
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems



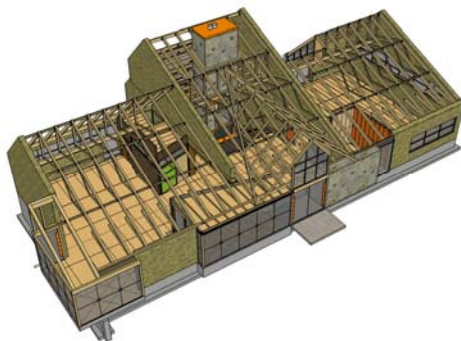
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs



### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors



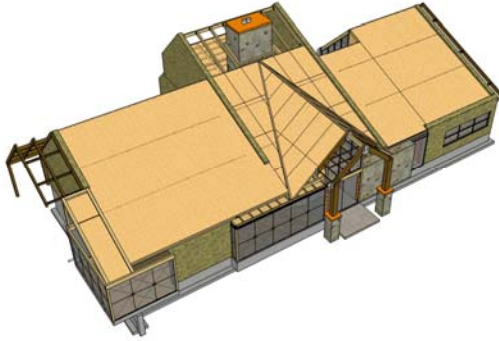
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame



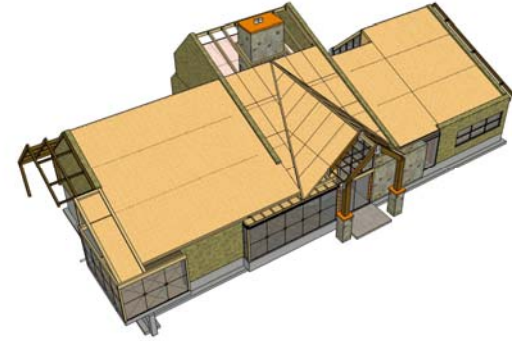
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board



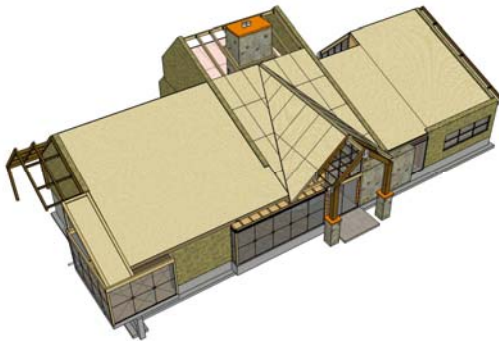
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad



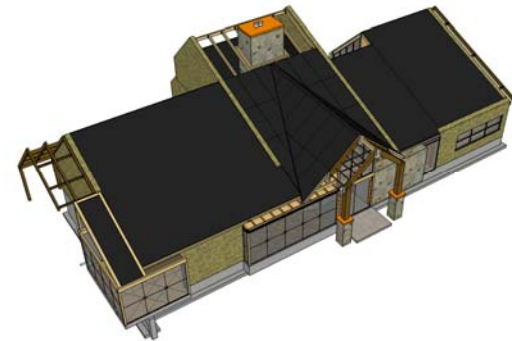
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation



### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing



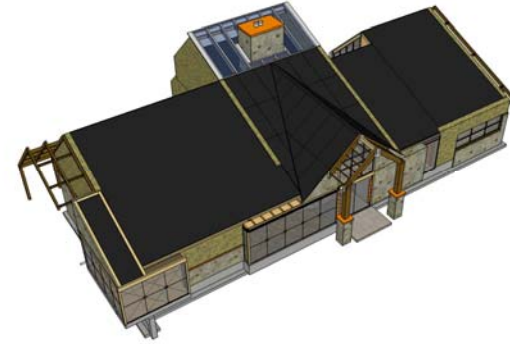
### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing
- +solar glazing



### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing
- +solar glazing
- +stone decor



### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing
- +solar glazing
- +stone decor
- +metal roofing



### M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing
- +solar glazing
- +stone decor
- +metal roofing
- +decking



## M.O.S.S. Classroom Facility

- +foundation
- +floor slabs
- +cast earth walls
- +floor insulation
- +flooring finish
- +stone masonry
- +interior framing
- +finnish fireplace
- +interior plywood
- +roof framing
- +interior systems
- +interior stairs
- +windows/doors
- +overhang frame
- +roofing board
- +heating pad
- +roof insulation
- +waterproofing
- +solar glazing
- +stone decor
- +metal roofing
- +decking
- +deck railing

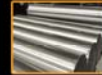


## Materials



### Cast Earth

+A COMBINATION OF SOIL AND ~15% CALCIUM SULFATE (PLASTER OF PARIS). NATURAL RETARDANTS ARE USED TO DELAY SETTING TIME. NO STRUCTURAL REINFORCEMENT IS NEEDED AFTER HARDENED. EXCELLENT TENSILE STRENGTH, HARDNESS, AND EROSION RESISTANCE. NATURAL WATERPROOFING AGENTS CAN BE MIXED IN.



### Recycled Aluminum

+CORRUGATED ROOFING, PURLINS, RAILING, WINDOW CASEMENTS, AND OTHER RESOURCES ARE SPECIFIED TO BE RECYCLED ALUMINUM. RECYCLED ALUMINUM PRODUCTS REQUIRE APPROXIMATELY 5% OF THE ENERGY TO PRODUCE THAN VIRGIN ALUMINUM PRODUCTS.



### Biofiber MeadowBoard

+FINE-FIBRE COMPOSITE PANEL IS MADE FROM WHEAT STRAW, AN ABUNDANT AGRICULTURAL RESIDUE. OUT GASSING SOLVENTS ARE NOT ADDED DURING MANUFACTURING SO THERE ARE NO EMISSIONS TO THE ATMOSPHERE DURING THE LIFETIME OF THE PRODUCT.



### Sunway POWERcell

+OVER 16% OF LIGHT IS CONVERTED INTO ELECTRICAL POWER. UP TO 30% TRANSPARENT. TRANSMITTED LIGHT IS WHITE, BUT A WIDE RANGE OF COLORS ARE AVAILABLE. PROCESS OF TEXTURING AVOIDS THE USE OF CHEMICALS. LESS EXPENSIVE THAN SOLAR PANNELLING, CAN BE ADDED TO ANY APERTURE INTENDED TO INTRODUCE LIGHT.



### Composite Floor Tile

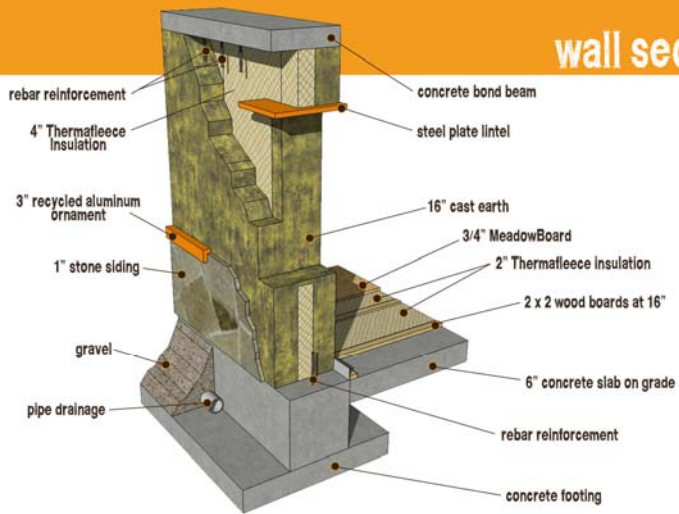
+COMBINES INSULATION PROPERTIES OF WOOD WITH THE MOISTURE RESISTANCE OF PLASTIC. FORMED FROM WASTE WOOD AND PLASTIC. SURFACE TEXTURES AND SHAPES PROVIDE EXCELLENT TRACTION IN WET CONDITIONS. FIRE RESISTANT ADDITIVES ALLOW FURTHER USES OUTSIDE OF THE BATHROOM.



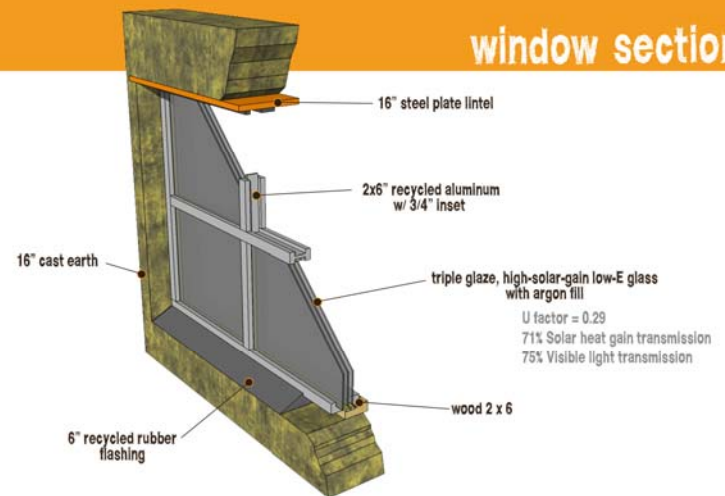
### Thermafleece insulation

+MADE FROM SHEEP'S-WOOL, THEY CAN BE LAYERED ACCORDING TO INSULATION NEEDS IN WALLS, ROOFS, OR FLOORS. THERMAL CONDUCTIVITY (K) IS 0.039. REQUIRES MUCH LESS ENERGY TO MANUFACTURE THAN GLASS-FIBRE OR MOST OTHER INSULATIONS. NATURAL ADDITIVES FOR INSECT AND FIRE PROOFING (NO FORMALDEHYDES OR PESTICIDES).

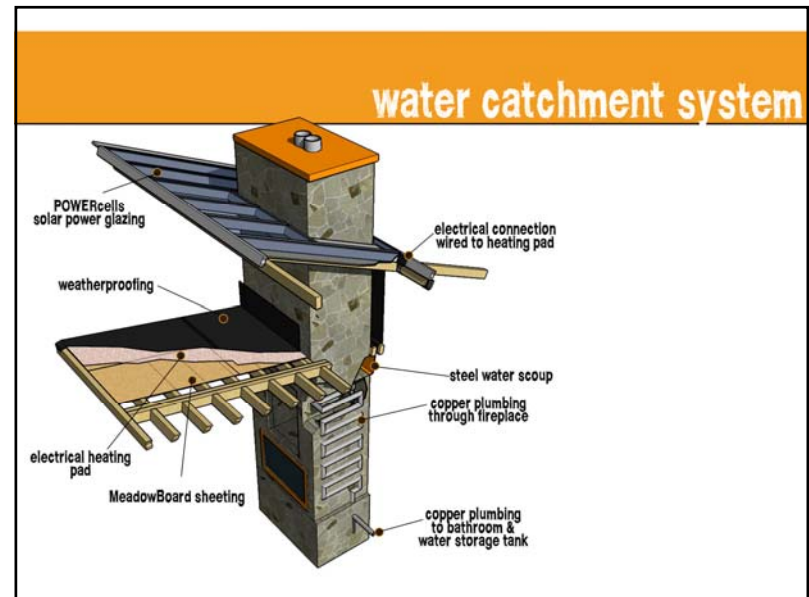
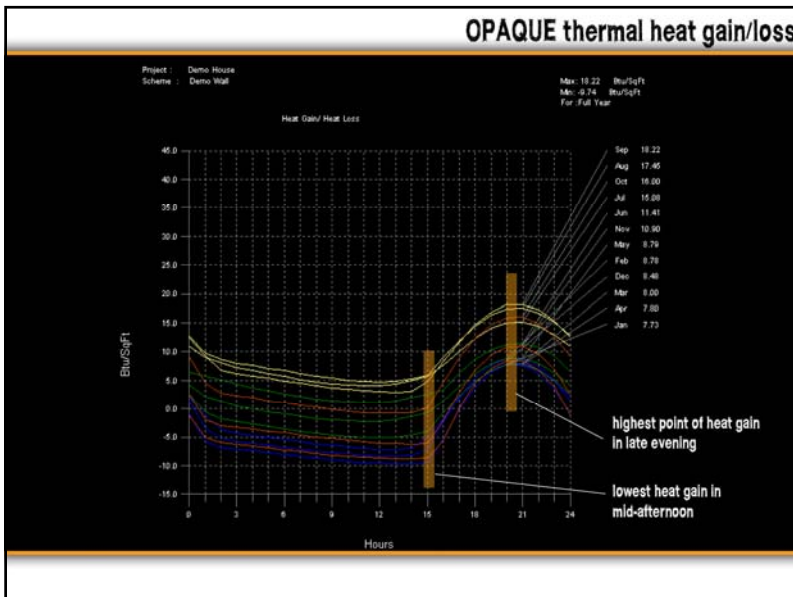
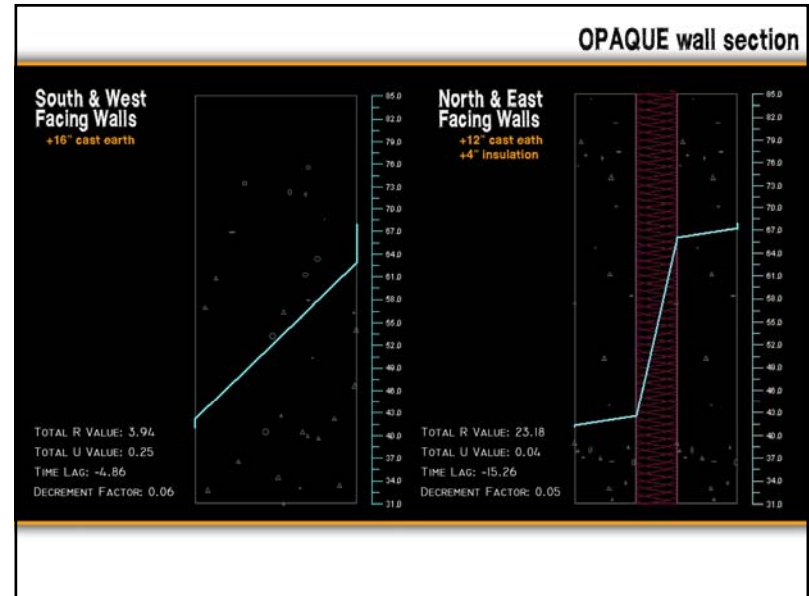
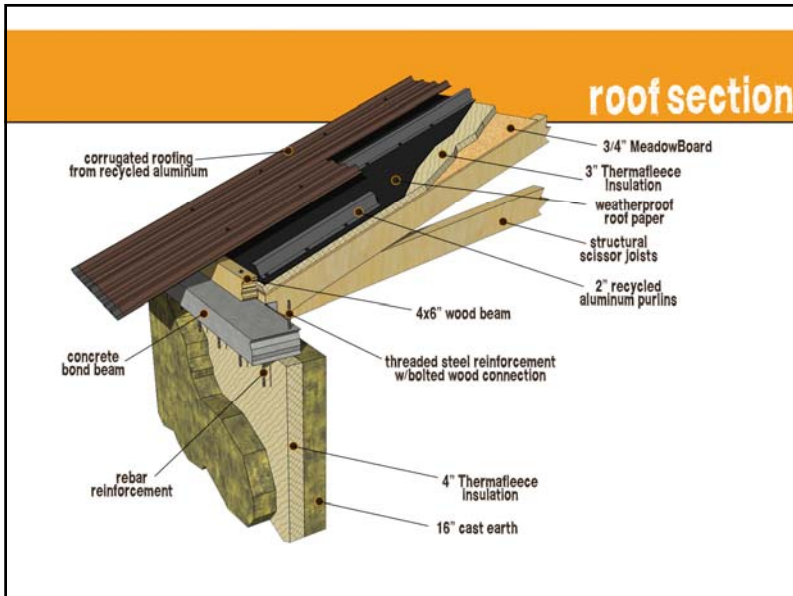
## wall section



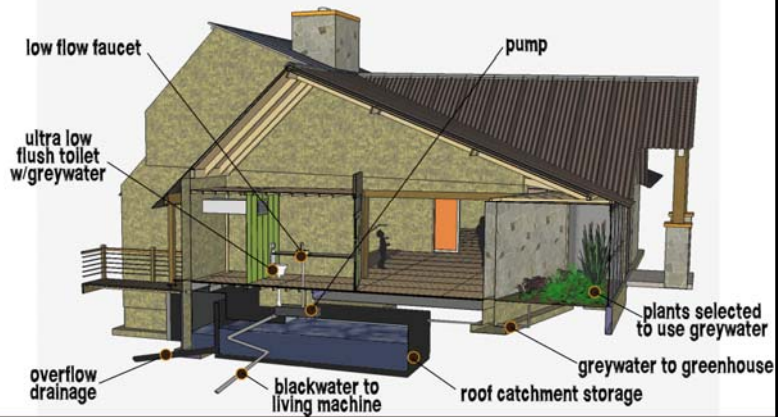
## window section







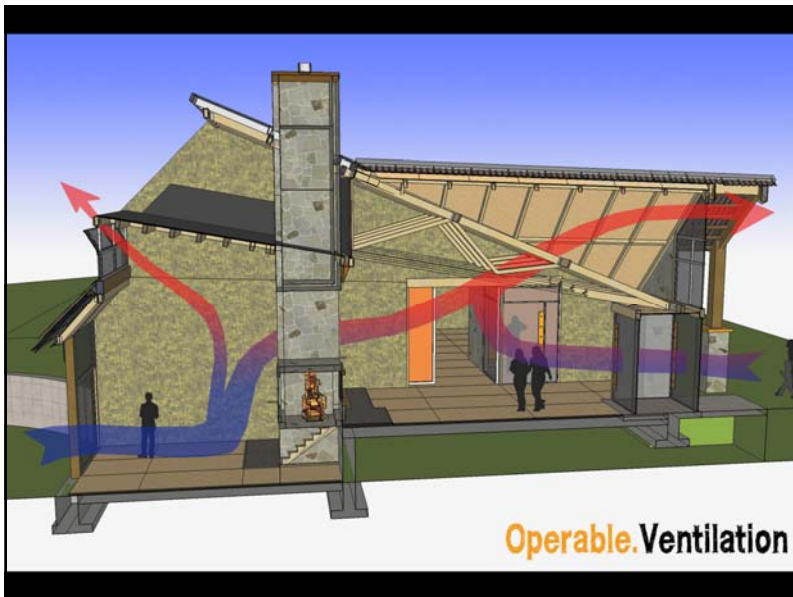
## Water Storage/Reuse System



## Rear Facade

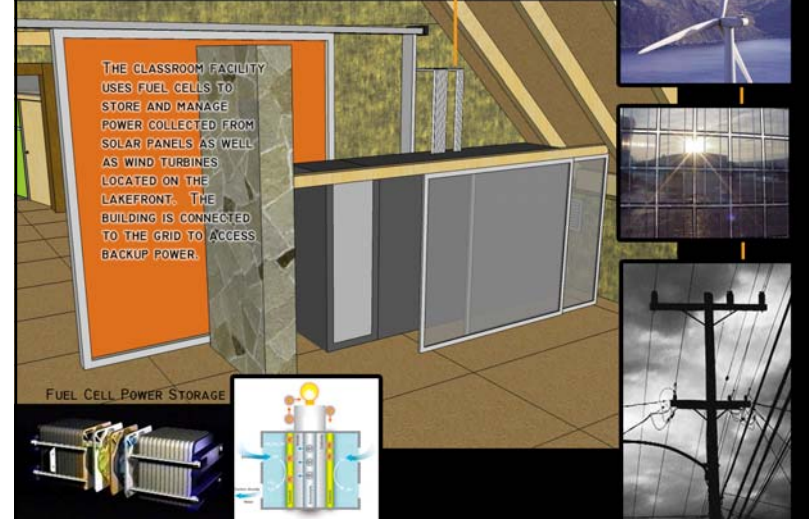


**Operable. Transitional.**

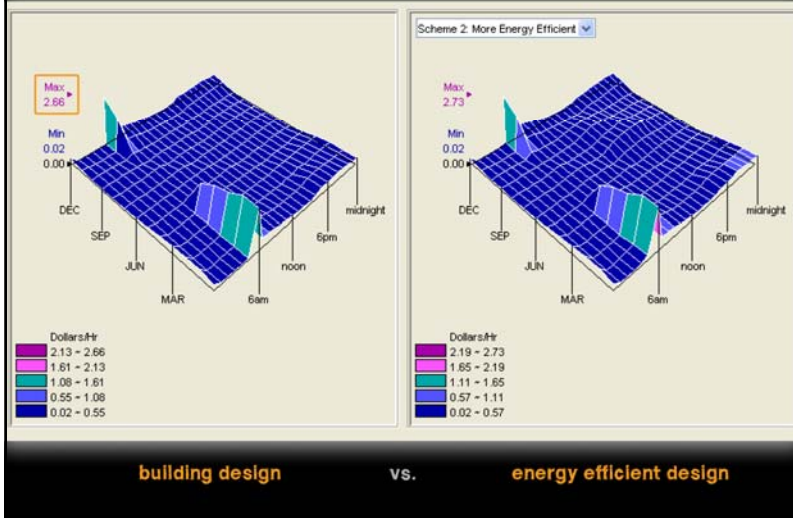


**Operable. Ventilation**

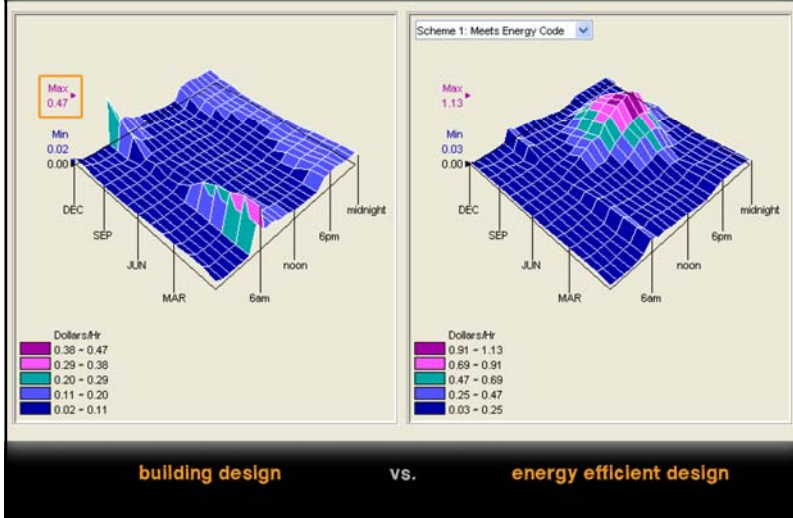
## Power Sources/Storage



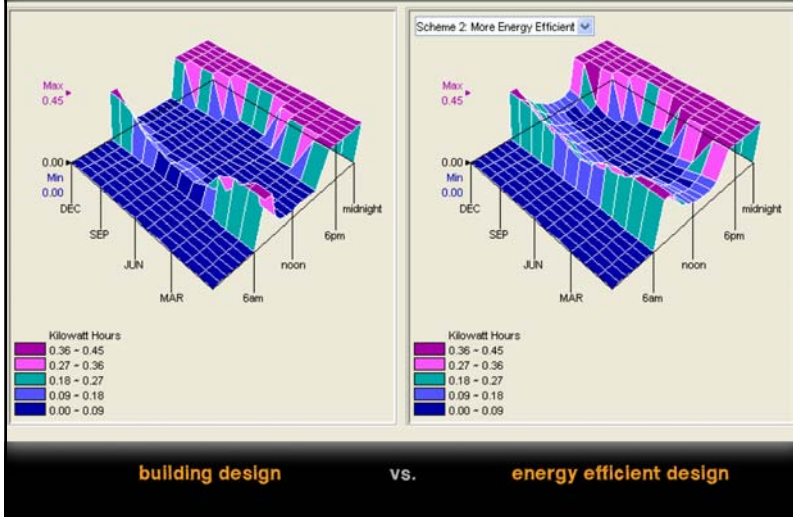
### HEED total energy cost evaluation



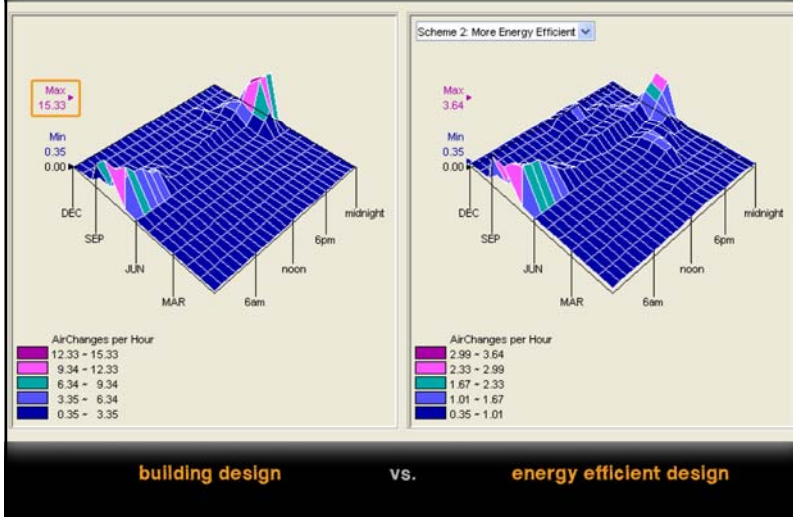
### HEED electricity costs



### HEED artificial lighting usage



### HEED ventilation/ air changes



# EnergyStar Performance



Target Energy Performance Results (estimated)			
Energy	Design	Target	Top 10%
Energy Performance Rating (1-100)	85	90	90
Energy Reduction (%)	27	33	33
Source Energy Use Intensity (kBtu/Sq. Ft./yr)	52.7	48.5	48.5
Site Energy Use Intensity (kBtu/Sq. Ft./yr)	17.5	16.1	16.1
Total Annual Source Energy (kBtu)	263,637.6	242,315.5	242,315.5
Total Annual Site Energy (kBtu)	87,500.0	80,423.3	80,423.3
Total Annual Energy Cost (\$)	\$ 7,000	\$ 6,339	\$ 6,339

Facility Information			
<b>MOSS Classroom Facility</b> McCall, ID 83638 United States			
<b>Facility Characteristics</b>		<b>Estimated Design Energy</b>	
Space Type	Gross Floor Area (Sq. Ft.)	Energy Source	Units
K-12 School	5,000	Electricity	kBtu
<b>Total Gross Floor Area</b>	5,000 <i>3,200 actual</i>	Estimated Total Annual Energy Use	Energy Rate (\$/Unit)
		87,500	\$ 0.080/kBtu

# Carbon Costs

Material	Production	Installation	Lifecycle
Cast Earth	Low	Medium	Low
Recycled Aluminum	Low	Medium	Low
Biofiber Meadowboard	Low	Low	Low
Steel Plating	High	Medium	Medium
Copper Plumbing	High	High	High
Thermafleece Insulation	Low	Low	Low
Sunway POWERcells	High	Low	Low
Glazing	High	High	High
Waterproofing paper	High	Medium	Medium
Recycled Aluminum Roofing	Medium	Medium	Medium
Composite Wood/Plastic Tile	High	Medium	Medium
Stone Decor	Medium	Medium	Medium



RENDERINGS



RENDERINGS

