

# MCCALL FIELD CAMPUS CABIN DESIGN

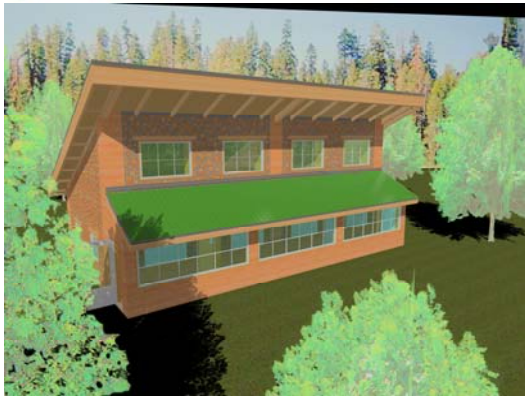


Summer Smith - Arch 553 - Fall 2006

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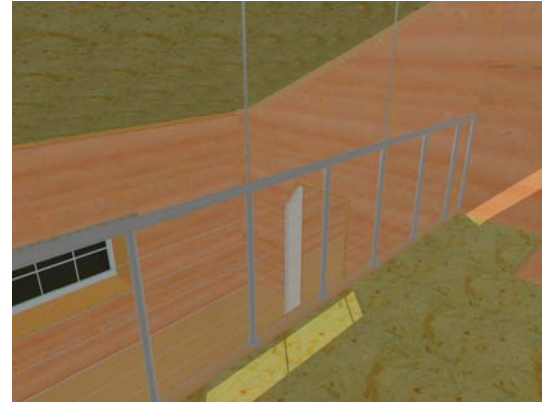
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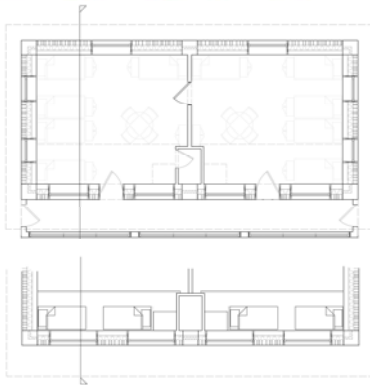
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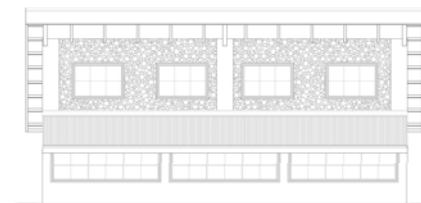
Duplex Style Cabins holds up to 24 people with 5 bunk beds per room and two twin beds in the loft.

A double wall system consisting of 8" blown in cellulose sandwiched between an 8" cordwood exterior and an 8" rammed earth interior keeps the room temperatures regulated.

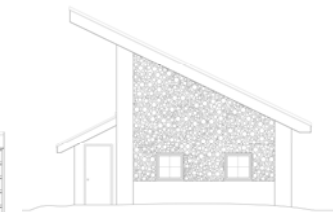
The double entry space serves as a sheltered porch.

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The double shed roof keeps snow out of circulation pathways.



Front Elevation



Right Elevation

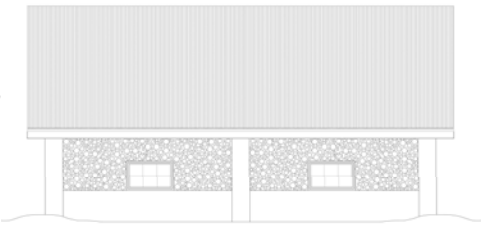
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A 3' tall rammed earth base runs around the perimeter of the building to keep snow from piling up against the cordwood.



Left Elevation

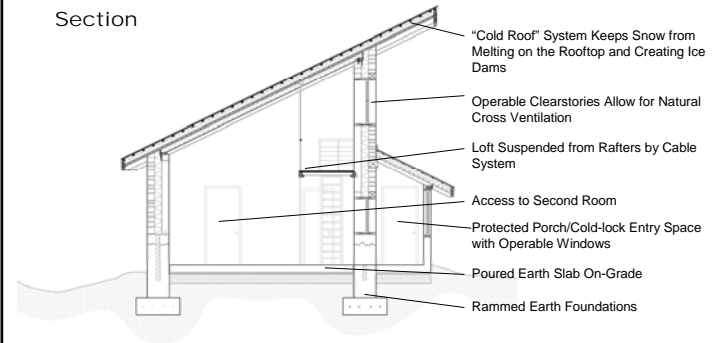


Rear Elevation

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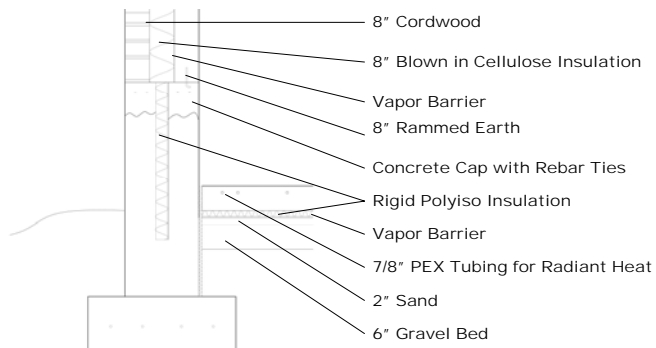
Section



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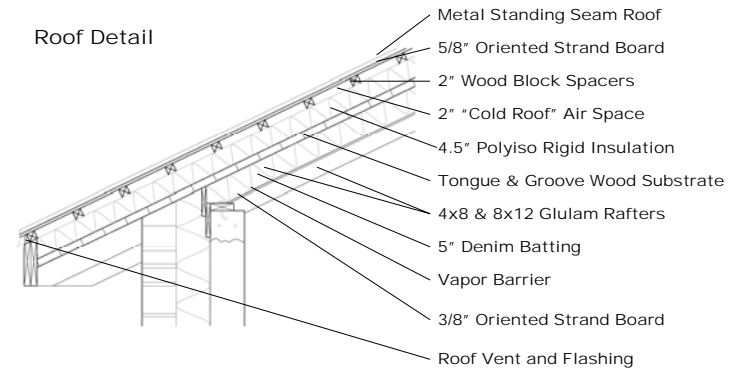
Footing Detail



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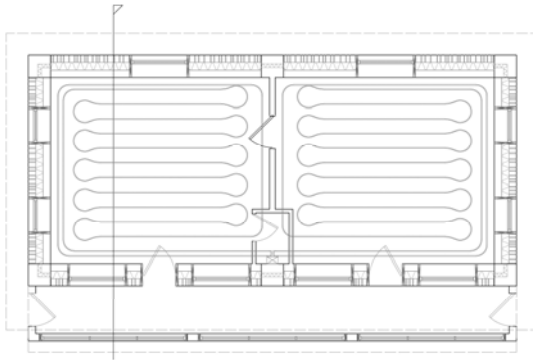


Roof Detail





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Radiant Heat Laid within Poured Earth Slab  
 7/8" PEX Tubing  
 2 Manifolds Control the Two Rooms  
 Closed Loop System

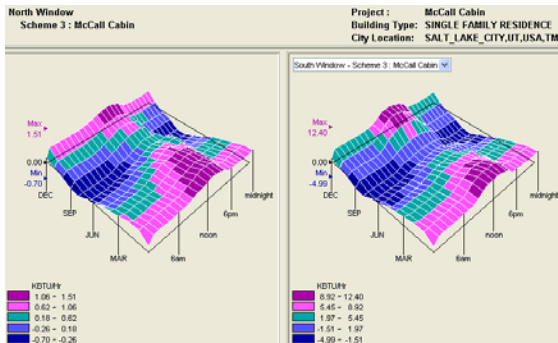
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Radiant Heat Controlled by On-Demand Electric Mini Boiler which runs at 2.5KW/hr and puts out 7,850 BTU/hr

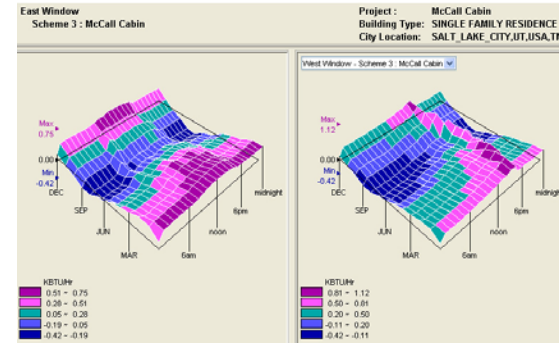
Wall R-Value = 42.88 = 1370.88 BTU/hr lost  
 Floor R-Value = 14.1 = 2264.64 BTU/hr lost  
 Ceiling R-Value = 48 = 647.04 BTU/hr lost  
 Heat Lost Through Windows = 3516.48 BTU/hr  
**TOTAL HEAT LOST = 7799.04 < 7850 BTU/hr**

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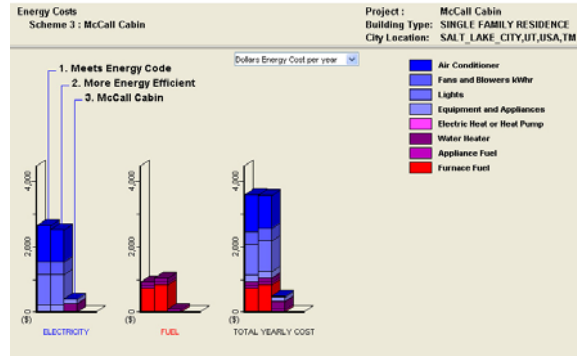
Heat Loss/Gain Through North and South Windows Calculated in HEED

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Heat Loss/Gain Through East and West Windows Calculated in HEED

# MCCALL FIELD CAMPUS CABIN DESIGN



HEED  
Energy  
Cost  
Analysis

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Summary Table

Project : McCall Cabin  
A 1 Square Foot SINGLE FAMILY RESIDENCE IN SALT LAKE CITY,UT,USA,TM

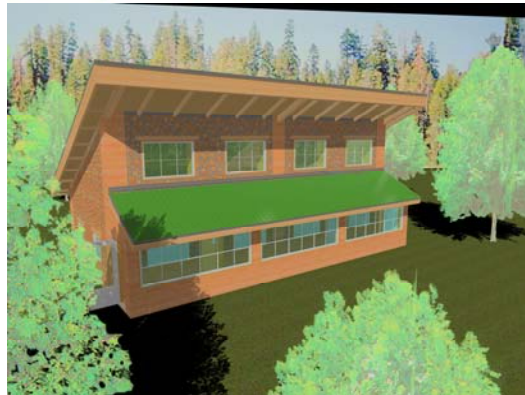
Scheme Name	Energy Costs			Savings Compared to Scheme 1
	Electricity	Gas	Total	
1. Meets Energy Code	\$2,644.11	\$911.57	\$3,555.68	
2. More Energy Efficient	\$2,499.09	\$1,039.30	\$3,538.39	0%
3. McCall Cabin	\$293.57	\$73.48	\$467.05	87%
4.				
5.				
6.				
7.				
8.				
9.				

Estimates only: The California Public Utilities Commission, the Regents of the University of California, and Constructive Technologies Group, make no warranty, expressed or implied, including but not limited to any warranty of merchantability or fitness for any particular use or application.

If you encounter problems or have comments, please email them to: [heed@ucleds.edu](mailto:heed@ucleds.edu)

HEED  
Energy  
Costs  
and  
Savings  
Summary

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Thank  
You!