



HERS Rating & Home Energy Analysis

Address Ravine Rd., Storrs Mansfield, CT 06268
 Owner Paul Lewis Builder Wolfworks, Inc.

Rater T. Ziobron
 RIN # 6614443
 Date 1/5/2017
 Rating # 1504386

Conditioned Area	1895	Rating Type	Projected	HERS Index	-3	Weather site	Hartford
# Bedrooms	3	ENERGY STAR 3.0	Pass	HERS Index w/o PV	36	Heating Degree Days	6179
Housing Type	Indoor airPLUS	N/A		HERS Target Index with SAF	75	Heating Load (Btu/sf)	6.3
Single family detached	Builder Tax Credit	N/A		Reference Home Index	75	Cooling Load (sf/ton)	2,393.7

Annual Energy Cost Projections							
	Load (MMBthu/year)	Consumption (MMBthu/year)	Annual Cost (\$)	Annual Savings (\$)	Reference Home Cost (\$)	Annual Savings (%)	
Heating	13.4	5.9	309	1,353	1,662	81.4%	
Cooling	13.6	2.5	134	173	307	56.4%	
Hot Water	11.2	3.2	171	557	728	76.5%	
Other	18.3	18.3	964	303	1,267	23.9%	
Service charges			231		231	0.0%	
Photovoltaics			(1,662)	1,662	-		
Total	56.5	29.9	147	4,048	4,195	96.5%	

Actual energy costs and savings may differ considerably from above projections depending on number, lifestyle and habits of occupants. Percentage reductions provide a reasonable estimate of savings for a given household.

Mortgage Interest Rate	4.0%	Annual Energy Cost Inflation	5.0%
Marginal Tax Rate	30.0%	Capitalized Annual Savings	\$ 163,299

Capitalized Annual Savings is NPV of Annual Savings including inflation for 30 years discounted at after-tax mortgage rate

Utility Rates	Electric	0.21 \$/kwh	N Gas	1.19 \$/100cf	Propane	3.00 \$/gal	Oil	3.75 \$/gal
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Annual Load by Building Component (MMBthu/year)				
Heating		Cooling		
Component	Load	Component	Load	
Above Grade Walls	7.9	Internal gains	9.8	
Slab Floors	4.6	Windows/Skylights	8.9	
Infiltration	2.8			
Ceilings/roofs	2.7			
Mech. Vent.	2.1			
Windows/Skylights	1.1			
All other	1.2	Whl Hse Vent	(4.3)	
Internal Gains	(9.0)	All other	(0.8)	
Total	13.4	Total	13.6	

Equipment Sizing Summary	
Heating	MBtuh/hr
Peak Load	12.0
Spec Cap	14.0
Load/Cap	85.7%
Cooling	MBtuh/hr
Peak Load	9.5
Spec Cap	12.0
Load/Cap	79.2%

Infiltration Losses		Duct Losses		Ventilation	
	Heating	Cooling	Duct Leakage to Outside	Required* (CFM)	
ACH Nat	0.06	0.04	CFM@25 Pascals	38	Specified (CFM)
ACH50	1.00	1.00	CFM25/100sf	2.01	Specified (hrs)
CFM@50 Pascals	275	275	ELA	3.27	Sensible Recovery
CFM50/SF	0.15	0.15			Total Recovery
ELA/100sf shell	0.31	0.31			62%

**ASHRAE 62.2 -2003 defines minimum 24 hr continuous ventilation rate*

Building Specifications					
Thermal Envelope (dominant type if more than one)					
	Type	U	R	Basement Type	Slab on grade
Ceiling - Flat	R65, 21" Blown cell	0.015	66.7	Window/Wall Ratio	0.16
Ceiling - Vaulted	None		-	Mechanicals	
AG Walls	10" Dbl 2x6/PIB/2x4	0.030	33.3	Heating	MSHP, 10.2HSPF, 14kBtuh
Foundation Walls	None		-	Cooling	MSHP, 21.1 SEER, 12kBtuh
Frame Floors	None		-	DHW	HPHW, 50gal., 3.25EF
Slab Floors	R16P, R24U	0.024	41.7	PV	7kw
Windows	Triple, mixed SHGC	0.100	10.0		

Notes

This analysis was prepared from information contained in reports produced by REM/Rate v14.6.3 The Home Energy Rating Standard Disclosure for this home is available from the rating provider, Home Energy Technologies LLC, PO Box 364, Chester, CT 06412 Phone: (877) 800-6440