

Home Energy Rating Certificate

Projected Report

Rating Date: 2018-06-06

Registry ID:

Ekotrope ID: 6LAnjWRd

HERS® Index Score:

20

Your home's HERS score is a relative performance score. The lower the number, the more energy efficient the home. To learn more, visit www.hersindex.com

Annual Savings

\$11,674

*Relative to an average U.S. home

Home:

29 Mill House Way
West Tisbury, MA 02568

Builder:

Rosebeck

Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	29.1	\$1,802
Cooling	0.7	\$43
Hot Water	5.4	\$336
Lights/Appliances	45.2	\$2,692
Service Charges		\$0
Generation (e.g. Solar)	44.1	-\$2,730
Total:	80.5	\$2,143

This home meets or exceeds the criteria of the following:

2015 International Energy Conservation Code

Rating Completed by:

Energy Rater: Chris Mazzola

RESNET ID: 8873503

Rating Company: Home Energy Raters LLC

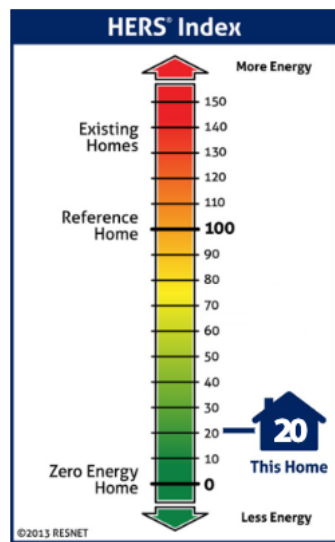
180 State Rd, Suite 2U Sagamore Beach MA 02562
508-833-3100

Rating Provider: Energy Raters of Massachusetts

2 Woodlawn Street Amesbury, MA 01913
978-270-3911

Chris Mazzola, Certified Energy Rater

Date: 1/28/21 at 7:55 AM



Home Feature Summary:

Home Type:	Single family detached
Model:	N/A
Community:	N/A
Conditioned Floor Area:	6,847 ft ²
Number of Bedrooms:	6
Primary Heating System:	Air Source Heat Pump • Electric • 2.96 COP
Primary Cooling System:	Air Source Heat Pump • Electric • 15 SEER
Primary Water Heating:	Water Heater • Electric • 2.73 UEF
House Tightness:	1177 CFM50 (0.99 ACH50)
Ventilation:	105 CFM, 105 CFM • 96 Watts, 96 Watts
Duct Leakage to Outside:	10 CFM @ 25Pa (0.43 / 100 s.f.)
Above Grade Walls:	R-20
Ceiling:	Vaulted Roof, R-52
Window Type:	U-Value: 0.29, SHGC: 0.18
Foundation Walls:	R-20



Building Specification Summary

Property 29 Mill House Way West Tisbury, MA 02568 Mill House Way 29 - main house - 6LANjWRd 29 Mill House way Main House UPDATED	Organization Home Energy Raters LLC Chris Mazzola 508-833-3100 Builder Rosebeck	Inspection Status Results are projected
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Building Information

Conditioned Area [ft²]	6,847.00
Conditioned Volume [ft³]	71,385.00
Thermal Boundary Area [ft²]	13,715.00
Number Of Bedrooms	6
Housing Type	Single family detached

Rating

HERS Index	20
HERS Index w/o PV	45

Building Shell

Ceiling w/ Attic	None	Windows (largest)	U-Value: 0.29, SHGC: 0.18
Vaulted Ceiling	R52,HDF,8",10x16,G1,C U-0.02	Window / Wall Ratio	0.23
Above Grade Walls	R21,HDF,3",6x16,G1 U-0.05	Infiltration	1177 CFM50 (0.99 ACH50)
Found. Walls	R20,HDF,3",Continuous R-20	Duct Lkg to Outside	10 CFM @ 25Pa (0.43 / 100 s.f.)
Framed Floors	R30,FG,10x16,G2 R-30	Total Duct Leakage	199 CFM @ 25Pa (Post-Construction)
Slabs	Uninsulated R-0		

Mechanical Systems

Heating	Air Source Heat Pump • Electric • 2.96 COP
Cooling	Air Source Heat Pump • Electric • 15 SEER
Water Heating	Water Heater • Electric • 2.73 UEF
Programmable Thermostat	Yes
Ventilation System	105 CFM, 105 CFM • 96 Watts, 96 Watts

Lights and Appliances

Percent Interior LED	100%	Clothes Dryer Fuel	Electric
Percent Exterior LED	100%	Clothes Dryer CEF	2.6
Refrigerator (kWh/yr)	745.0	Clothes Washer LER (kWh/yr)	152.0
Dishwasher Efficiency	270 kWh	Clothes Washer Capacity	4.2
Ceiling Fan	None	Range/Oven Fuel	Propane

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General Building Information

Number Of Bedrooms	6
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	6,847
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	No
Conditioned Volume [cu. ft.]	71,385
Total Units in Building	1
Residence Type	Single family detached
Floor Number	-
Model	
Community	
Climate Zone	5A

Foundation Wall

Name	Library Type	Height Above Grade	Depth Below Grade	Perimeter	Location	Enclosing
fd>ambient	R20,HDF,3",Continuous	1	7.9	240	Exposed Exterior	Conditioned Space

Foundation Wall Library List

Name	Feet From Wall Top To Continuous Insulation Top	Feet From Wall Top To Continuous Insulation Bottom	Is Fully Insulated	Continuous R-value	Cavity R-value	Effective Insulation R-value
R20,HDF,3",Continuous	N/A	N/A	Yes	N/A	N/A	20.41

Slab

Name	Library Type	Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
slab below grade	Uninsulated	240	Below Grade	0.05	0	2,207.0 ft²	Exposed Exterior	Conditioned Space

Slab Library List

Name	Wall Construction Type	Slab Completely Insulated?	Underslab Insulation Width [ft]	Perimeter Insulation Depth [ft]	Perimeter Insulation R Value	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	No	0.00

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Framed Floor

Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
>crawl space	R30,FG,10x16,G2	0.68	Above Grade	366.0 ft²	Unvented Crawl

Framed Floor Library List

Name	Effective R-value
R30,FG,10x16,G2	24.90

Rim Joist

Name	Library Type	Surface Area	Location
>ambient	R30	408.0 ft²	Exposed Exterior

Rim Joist Library List

Name	Effective Insulation R-value
R30	30.00

Wall

Name	Library Type	Surface Color	Surface Area	Location
>ambient	R21,HDF,3",6x16,G1	Medium	5,173.0 ft²	Exposed Exterior

Wall Library List

Name	Effective R-value
R21,HDF,3",6x16,G1	17.519

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Glazing

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Is Operable	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
Front AW	U:0.27,SHGC:0.24	>ambient		Yes	0	0	0	West	29.4 ft²
Front DH	U:0.29,SHGC:0.24	>ambient		Yes	0	0	0	West	143.1 ft²
Front DH - Shaded	U:0.29,SHGC:0.24	>ambient		Yes	10	0	5	West	15.4 ft²
Left AW	U:0.27,SHGC:0.24	>ambient		Yes	0	0	0	North	65.9 ft²
Left DH	U:0.29,SHGC:0.24	>ambient		Yes	0	0	0	North	97.4 ft²
Left SL	U:0.29,SHGC:0.18	>ambient		Yes	0	0	0	North	80.0 ft²
Rear AW	U:0.27,SHGC:0.24	>ambient		Yes	0	0	0	East	3.6 ft²
Rear DH	U:0.29,SHGC:0.24	>ambient		Yes	0	0	0	East	93.8 ft²
Rear SL	U:0.29,SHGC:0.18	>ambient		Yes	0	0	0	East	120.0 ft²
Rear SL - Shaded	U:0.29,SHGC:0.18	>ambient		Yes	10	0	7	East	240.0 ft²
Right AW	U:0.27,SHGC:0.24	>ambient		Yes	0	0	0	South	15.1 ft²
Right DH	U:0.29,SHGC:0.24	>ambient		Yes	0	0	0	South	61.0 ft²
Right SL	U:0.29,SHGC:0.18	>ambient		Yes	0	0	0	South	120.0 ft²
Right SL - Shaded	U:0.29,SHGC:0.18	>ambient		Yes	10	0	7	South	80.0 ft²

Glazing Library List

Name	Shgc	U-factor
U:0.27,SHGC:0.24	0.24	0.270
U:0.29,SHGC:0.18	0.18	0.290
U:0.29,SHGC:0.25	0.25	0.290

Skylight

None Present

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Skylight Library List

None Present

Opaque Door

Name	Library Type	Wall Assignment	Foundation Wall Assignment	Emittance	Solar Absorptance	Surface Color	Surface Area	Location
>front	ThermaTru,Opaque	>ambient		0.9	0.75	Medium	33.3 ft²	Exposed Exterior

Opaque Door Library List

Name	Effective R-value
ThermaTru,Opaque	7.143

Roof Insulation

Name	Library Type	Attic Exterior Area [ft²]	Clay or Concrete Roof Tiles	Surface Color	Surface Area	Location
Flat	R52,HDF,8",10x16,G1,C	543	No	Medium	543.0 ft²	Vaulted Roof
Sloped ceilings	R52,HDF,8",10x16,G1,C	2,882	No	Medium	2,882.0 ft²	Vaulted Roof

Roof Insulation Library List

Name	Has Radiant Barrier	Effective R-value
R52,HDF,8",10x16,G1,C	No	38.64

Whole House Infiltration

Infiltration	Measurement Type	Shelter Class
1177 CFM at 50 Pa	Blower-door tested	4

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Mechanical Ventilation

Ventilation Type	Ventilation Rate [ft ³ / Minute]	Operational hours per day	Fan Watts	Runs once every three hours	Energy Recovery Percent
ERV	105 CFM	24	96 Watts	Yes	66
ERV	105 CFM	24	96 Watts	Yes	66

Lighting

% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
0	100	0	100	0	100

Onsite Generation

None Present

Onsite Generation Library List

None Present

Solar Generation

Name	Library Type	\$/kWh from Utility
Solar Generation	Solar Generation	0

Solar Generation Library List

Name	Track Mode	Nameplate Capacity (kWdc)	Derate Factor	Orientation (deg)	Tilt (deg)
Solar Generation	Fixed	12.0 kW	0.77	180°	35°

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Conditioning Equipment

Name	Library Type	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	Location
DHW	HPTU-80N 120,Electric	0%	0%	100%	Conditioned Space
Furnace (1)	MXZ-5C42NAHZ,DUCTED,ELECTR	50%	50%	0%	Conditioned Space
Furnace (2)	PUMY-P48NKMU*,DUCTED,ELECTR	50%	50%	0%	Conditioned Space

Equipment Type: HPTU-80N 120,Electric

Equipment Type	Water Heater
Fuel Type	Electric
Distribution Type	Hydronic Delivery (Radiant)
Hot Water Efficiency	2.73 UEF
Tank Capacity (gal.)	80

Equipment Type: MXZ-5C42NAHZ,DUCTED,ELECTRIC

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	ECM (Variable Speed)
Heating Efficiency	2.96 COP
Heating Capacity [kBtu/h]	48
Use default Supplemental Heat	Yes
Cooling Efficiency	15 SEER
Cooling Capacity [kBtu/h]	42

Equipment Type: PUMY-P48NKMU*,DUCTED,ELECTRIC

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	ECM (Variable Speed)
Heating Efficiency	3.22 COP
Heating Capacity [kBtu/h]	54
Use default Supplemental Heat	Yes
Cooling Efficiency	16.5 SEER
Cooling Capacity [kBtu/h]	48

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Distribution System

Distribution Type	Forced Air
Heating Equipment	Furnace (1)
Cooling Equipment	Furnace (1)
Sq. Feet Served	2192
# Return Grilles	2
Supply Duct R Value	6
Return Duct R Value	6
Supply Duct Area [ft²]	591.84
Return Duct Area [ft²]	219.2
Leakage to Outdoors	10 CFM @ 25Pa (0.46 / 100 s.f.)
Total Leakage	306 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	100
Percent Return Area	100
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

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Distribution System

Distribution Type	Forced Air
Heating Equipment	Furnace (2)
Cooling Equipment	Furnace (2)
Sq. Feet Served	2330
# Return Grilles	3
Supply Duct R Value	6
Return Duct R Value	6
Supply Duct Area [ft²]	629.1
Return Duct Area [ft²]	349.5
Leakage to Outdoors	10 CFM @ 25Pa (0.43 / 100 s.f.)
Total Leakage	199 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	50
Percent Return Area	50
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	50
Percent Return Area	50
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

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Distribution System

Distribution Type	Forced Air
Heating Equipment	Furnace (2)
Cooling Equipment	Furnace (2)
Sq. Feet Served	2325
# Return Grilles	3
Supply Duct R Value	6
Return Duct R Value	6
Supply Duct Area [ft ²]	627.75
Return Duct Area [ft ²]	348.75
Leakage to Outdoors	10 CFM @ 25Pa (0.43 / 100 s.f.)
Total Leakage	99 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Conditioned Space
Percent Supply Area	50
Percent Return Area	50
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	50
Percent Return Area	50
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

Ceiling Fan

Has Ceiling Fan	No
Cfm Per Watt	70.42254

Water Distribution

Water Fixture Type	Standard
Use Default Hot Water Pipe Length	Yes
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	170
Drain Water Heat Recovery?	No

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Clothes Dryer

Cef	2.6173913
Fuel Type	Electric
Field Utilization	Timer Controls
Is Outside Conditioned Space	No
Clothes Dryer Available	Yes
Defaults Type	HERS Reference

Clothes Washer

Label Energy Rating	152 kWh/Year
Annual Gas Cost	\$12.00
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Capacity	4.2
Imef	2.06
Defaults Type	ENERGY STAR
Is Outside Conditioned Space	No
Clothes Washer Available	Yes

Dishwasher

Dishwasher Efficiency	270 kWh
Dishwasher Size	Standard
Is Outside Conditioned Space	No

Appliances and Controls

Programmable thermostat?	Yes
Range/Oven Fuel	Propane
Convection Oven?	Yes
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	745 kWh/Year
Refrigerator Outside Conditioned Space?	No

Notes

Errors and Warnings have been Rater Reviewed.