

**CERTIFICATE OF COMPLIANCE**  
 Project Name: Matangi Residence  
 Calculation Date/Time: 2021-06-10T20:15:13-07:00  
 Input File Name: 0210447\_Matangi\_Residence.rbt19x

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01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16		
01	Project Name	Matangi Residence	02	Run Time	1hr 24 mins	03	Project Location	04	City	Santa Clara	05	Standards Version	2019	06	Zip code	95054	
07	Climate Zone	4	08	Front Orientation (deg/ Cardinal)	135	09	Software Version	Enghaffo 8.2	10	Building Type	Single Family	11	Number of Dwelling Units	1	12	Project Scope	Admission/Alteration
13	Addition Cond. Floor Area (ft²)	0	14	Number of Stories	1	15	Existing Cond. Floor Area (ft²)	1770	16	Penetration Average U-factor	0.3	17	Total Cond. Floor Area (ft²)	1770	18	Glazing Percentage (%)	17.22%
19	ADU Bedroom Count	n/a	20	ADU Conditioned Floor Area	n/a	21	Is Natural Gas Available?	Yes	22	Compliance Results	01	Building Complies with Computer Performance	02	Building does not require field testing or HERS verification	03	This building incorporates one or more special features shown below	

ENERGY USE SUMMARY				
Energy Use (kWh/yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	48.23	46.64	1.59	3.3
Space Cooling	55.19	56.93	-2.36	-3.8
MV Ventilation	0	0	0	0
Water Heating	16.89	16.89	0	0
Soft Utilization/Flexibility Credit	n/a	n/a	0	n/a
<b>Compliance Energy Total</b>	<b>124.31</b>	<b>120.46</b>	<b>3.85</b>	<b>3.1</b>

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**REQUIRED SPECIAL FEATURES**  
 The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.  
 \* New ductwork added is less than 40 ft. in length

**HERS FEATURE SUMMARY**  
 The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building files below. Registered CPDs and CPDs are required to be completed in the HERS Registry.  
 Building Level Verifications:  
 \* None  
 Cooling System Verifications:  
 \* None  
 Heating System Verifications:  
 \* None  
 HVAC Distribution System Verifications:  
 \* None  
 Domestic Hot Water System Verifications:  
 \* None

01	02	03	04	05	06	07														
01	Project Name	Matangi Residence	02	Conditioned Floor Area (ft²)	1770	03	Number of Dwelling Units	1	04	Number of Bedrooms	1	05	Number of Zones	1	06	Number of Ventilation Cooling Systems	1	07	Number of Water Heating Systems	1

BUILDING - FEATURES INFORMATION																				
01	02	03	04	05	06	07														
01	Project Name	Matangi Residence	02	Conditioned Floor Area (ft²)	1770	03	Number of Dwelling Units	1	04	Number of Bedrooms	1	05	Number of Zones	1	06	Number of Ventilation Cooling Systems	1	07	Number of Water Heating Systems	1

ZONE INFORMATION																		
01	02	03	04	05	06	07												
01	Zone Name	1st Floor	02	Zone Type	Conditioned	03	HVAC System Name	04	Zone Floor Area (ft²)	1770	05	Avg. Ceiling Height	8	06	Water Heating System 1	07	Water Heating System 2	N/A

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01	Name	Zone	Construction	04	Orientation	05	Gross Area (ft²)	06	Window and Door Area (ft²)	07	Tilt (deg)	08	Wall Exceptions	09	Status	10	Verified Existing Condition	11	Existing Construction
12	Front Wall	1st Floor	R-0 Wall	135	Front	224	72.1	90	none	10	none	11	Existing	12	No	13	Existing	14	No
15	Left Wall	1st Floor	R-0 Wall	225	Left	328	71.62	90	none	10	none	11	Existing	12	No	13	Existing	14	No
17	Rear Wall	1st Floor	R-0 Wall	315	Back	320	143.97	90	none	10	none	11	Existing	12	No	13	Existing	14	No
19	Right Wall	1st Floor	R-0 Wall	45	Right	423	32.4	90	none	10	none	11	Existing	12	No	13	Existing	14	No
21	Roof 2	1st Floor	R-19 Roof ABC	n/a	n/a	1560	n/a	n/a	n/a	10	n/a	11	Existing	12	No	13	Existing	14	No
23	Raised Floor	1st Floor	R-0 Floor Crawlspace	n/a	n/a	1970	n/a	n/a	n/a	10	n/a	11	Existing	12	No	13	Existing	14	No

OPAQUE SURFACES - CATHEDRAL CEILINGS																				
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16					
01	Name	Zone	Construction	04	Orientation	05	Gross Area (ft²)	06	Window and Door Area (ft²)	07	Tilt (deg)	08	Wall Exceptions	09	Status	10	Verified Existing Condition	11	Existing Construction	
12	Roof	1st Floor	R-19 Roof Attic	180	n/a	321	30	2	0.1	0.85	90	None	10	Existing	11	No	12	Existing	13	No

ATTIC																				
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16					
01	Name	Zone	Construction	04	Orientation	05	Gross Area (ft²)	06	Window and Door Area (ft²)	07	Tilt (deg)	08	Wall Exceptions	09	Status	10	Verified Existing Condition	11	Existing Construction	
12	Attic	1st Floor	R-19 Roof Attic	180	n/a	321	30	2	0.1	0.85	90	None	10	Existing	11	No	12	Existing	13	No

REINTEGRATION / GLAZING																				
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16					
01	Name	Type	Surface	04	Orientation	05	Area (ft²)	06	Window and Door Area (ft²)	07	Tilt (deg)	08	Wall Exceptions	09	Status	10	Verified Existing Condition	11	Existing Construction	
12	Window	Window	Front Wall	Front	135		1	52.1	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F

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01	Name	Type	Surface	04	Orientation	05	Area (ft²)	06	Window and Door Area (ft²)	07	Tilt (deg)	08	Wall Exceptions	09	Status	10	Verified Existing Condition	11	Existing Construction	
12	Glass Door	Window	Front Wall	Front	135		1	20	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
15	Glass Doors	Window	Left Wall	Left	225		1	35.62	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
17	Window 2	Window	Left Wall	Left	225		1	12	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
19	Window new	Window	Left Wall	Left	225		1	24	0.3	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC
21	Window 3	Window	Rear Wall	Back	315		1	29.2	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
23	Window new	Window	Rear Wall	Back	315		1	53.39	0.58	Table 110.6.A	0.65	Table 110.6.B	0.65	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
25	Glass Door new	Window	Rear Wall	Back	315		1	37.81	0.58	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC
27	Window 4	Window	Right Wall	Right	45		1	12	0.3	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC	0.23	NFRC
29	Window new 2	Window	Right Wall	Right	45		1	30	1.3	Table 110.6.A	0.6	Table 110.6.B	0.6	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F
31	Skylight	Skylight	Roof		180		1	180	0.6	Table 110.6.A	0.6	Table 110.6.B	0.6	Table 110.6.C	0.6	Table 110.6.D	0.6	Table 110.6.E	0.6	Table 110.6.F

OPAQUE SURFACE CONSTRUCTIONS													
01	02	03	04	05	06	07	08						
01	Construction Name	Surface Type	Construction Type	04	Framing	05	Total Cavity R-value	06	Interior / Exterior Continuous R-value	07	U-factor	08	Assembly Layers
12	R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: n/a Insul. / 2x4 Exterior Finish: 3 Coat Stucco					

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01	02	03	04	05	06	07	08						
01	Construction Name	Surface Type	Construction Type	04	Framing	05	Total Cavity R-value	06	Interior / Exterior Continuous R-value	07	U-factor	08	Assembly Layers
12	R-19 Roof Attic	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-19	None / None	0.057	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-19 / 2x4 Inside Finish: Gypsum Board					
15	Attic Roof/1st Floor	Attic Rafters	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / None	0.044	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: n/a Insul. / 2x4					
17	R-0 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x4 @ 16 in. O.C.	R-0	None / None	0.32	Floor Surface: Carpeted Floor Deck: Wood Siding/Sheathing/Decking Cavity / Frame: n/a Insul. / 2x4					
19	R-19 Roof Attic	Ceilings (Below Attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-19	None / None	0.049	Over Ceiling Joists: R-19 Insul. Cavity / Frame: R-19 / 2x4 Inside Finish: Gypsum Board					

BUILDING ENVELOPE - HERS VERIFICATION			
01	02	03	04
01	Quality Insulation Installation (QI)	High R-value Spray Foam Insulation	CFM50
02	Not Required	Not Required	n/a

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01	02	03	04	05	06	07	08	09	10	11	12	13	14				
01	Name	System Type	Distribution Type	04	Water Heater Name (if any)	05	Solar Heating Systems	06	Compact Distribution	07	HERS Verification	08	Status	09	Verified Existing Condition	10	Existing Water Heating System
12	DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System		DHW Heater 1 (1)	n/a	None	n/a	None	n/a	Existing	No	13	Existing	14	No	

WATER HEATERS																								
01	02	03	04	05	06	07	08	09	10	11	12	13	14											
01	Name	Heating Element Type	02	Tank Type	03	# of Units	04	Tank Vol. (gal)	05	Energy Factor or Efficiency	06	Input Rating or Power (kW/FE)	07	Tank Standby Loss or Recovery Eff.	08	1st In. Rating or Flow Rate	09	NEA Heat Pump Brand or Model	10	Tank Location or Ambient Condition	11	Status	12	Verified Existing Condition
13	DHW Heater 1	Gas	Small Storage	1	50	0.69	47.5	1.1	n/a	n/a	n/a	n/a	14	Existing	15	No	16	Existing	17	No				

WATER HEATING - HERS VERIFICATION														
01	02	03	04	05	06	07	08							
01	Name	Pipe Insulation	02	Parallel Piping	03	Compact Distribution	04	Compact Distribution Type	05	Recirculation Control	06	Central DHW Distribution	07	Shower Drain Water Heat Recovery
13	DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	

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