

**CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD**
**CF1R-PRF-01**
**Project Name:** EAA Example 3

**Calculation Date/Time:** 16:05, Fri, Apr 14, 2017

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**Calculation Description:** Ex HVAC Altered DHW

**Input File Name:** EAAExample3.ribd16

GENERAL INFORMATION					
01	Project Name	EAA Example 3			
02	Calculation Description	Addition 225 ft2			
03	Project Location	1420 Ninth St.			
04	City	Burbank, CA	05	Standards Version	Compliance 2017
06	Zip Code	91504	07	Software Version	CBECC-Res 2016.2.1 (868)
08	Climate Zone	CZ9	09	Front Orientation (deg/Cardinal)	180
10	Building Type	Single Family	11	Number of Dwelling Units	1
12	Project Scope	Addition and/or Alteration		13	Number of Bedrooms
14	New Construction/Addition Cond. Floor Area (ft <sup>2</sup> )	225	15	Number of Stories	1
16	Existing Cond. Floor Area (ft <sup>2</sup> )	1440	17	Natural Gas Available	Yes
18	Total Cond. Floor Area(ft <sup>2</sup> )	1665	19	Glazing Percentage (%)	13.6%

**COMPLIANCE RESULTS**

01	Building Complies with Computer Performance
02	This building DOES NOT require HERS Verification
03	This building incorporates one or more Special Features shown below

**ENERGY USE SUMMARY**

04	05	06	07	08
Energy Use (kTDV/ft <sup>2</sup> -yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	23.28	24.18	-0.90	-3.9%
Space Cooling	134.92	132.94	1.98	1.5%
IAQ Ventilation	0.00	0.00	0.00	0.0%
Water Heating	10.06	10.06	0.00	0.0%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	168.26	167.18	1.08	0.6%

**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

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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 components tables below.						
<b>Building-level Verifications:</b> • --None-- <b>Cooling System Verifications:</b> • -- None -- <b>HVAC Distribution System Verifications:</b> • -- None -- <b>Domestic Hot Water System Verifications:</b> • -- None --						

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft <sup>2</sup> )	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
EAA Example 3	1665	1	3	2	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft <sup>2</sup> )	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
House	Conditioned	Ex System	1440	8	Tankless	n/a
Addition	Conditioned	Ex System	225	9	Tankless	n/a

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OPAQUE SURFACES									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup> )	Window & Door Area (ft <sup>2</sup> )	Tilt (deg)	Status	Verified Existing Condition
Ex Wall Front	House	Wall R0	180	Front	320	76	90	Existing	No
Ex Wall Left	House	Wall R0	270	Left	288	40	90	Existing	No
Ex Wall Back	House	Wall R0	0	Back	200	59	90	Existing	No
Ex Wall Right	House	Wall R0	90	Right	288	36	90	Existing	No
Wall to Addition	House>>Addition	Interior R0			120	0		New	n/a
Ceiling (below attic)	House	Ceiling R11			1440			Existing	No
Floor Over Crawlspc	House	Raised Crawl R0			1440			Existing	No
Add Wall Left	Addition	R-19 + R5	270	Left	120	16	90	New	n/a
Add Back Wall	Addition	R-19 + R5	0	Back	120	33.35	90	New	n/a
Add Wall Right	Addition	R-19 + R5	90	Right	120	6	90	New	n/a
Addition Ceiling	Addition	R-38 Ceiling			225			New	n/a

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic	Asphalt Shingle Roof	Ventilated	5	0.1	0.85	No	No	Existing	No
Addtn Attic	Asphalt RB	Ventilated	5	0.1	0.85	Yes	No	New	No

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FENESTRATION / GLAZING											
01	02	03	04	05	06	07	08	09	10	11	
Name	Surface (Orientation-Azimuth)	Width (ft)	Height (ft)	Multiplier	Area (ft <sup>2</sup> )	U-factor	SHGC	Exterior Shading	Status	Verified Existing Condition	
Alter F1	Ex Wall Front (Front-180)	6.0	4.0	1	24.0	0.32	0.25	Insect Screen (default)	Altered	n/a	
Alter F2	Ex Wall Front (Front-180)	8.0	4.0	1	32.0	0.32	0.25	Insect Screen (default)	Altered	n/a	
Ex L1	Ex Wall Left (Left-270)	4.0	4.0	1	16.0	0.99	0.74	Insect Screen (default)	Existing	No	
Ex L2	Ex Wall Left (Left-270)	6.0	4.0	1	24.0	0.99	0.74	Insect Screen (default)	Existing	No	
Alter B1	Ex Wall Back (Back-0)	6.0	5.0	1	30.0	0.32	0.25	Insect Screen (default)	Altered	n/a	
Alter B2	Ex Wall Back (Back-0)	3.0	3.0	1	9.0	0.32	0.25	Insect Screen (default)	Altered	n/a	
Ex R1	Ex Wall Right (Right-90)	3.0	4.0	1	12.0	0.99	0.74	Insect Screen (default)	Existing	No	
Ex R2	Ex Wall Right (Right-90)	6.0	4.0	1	24.0	0.99	0.74	Insect Screen (default)	Existing	No	
Add L1	Add Wall Left (Left-270)	4.0	4.0	1	16.0	0.32	0.25	Insect Screen (default)	New	n/a	
Add B1 SGD	Add Back Wall (Back-0)	5.0	6.7	1	33.4	0.30	0.22	Insect Screen (default)	New	n/a	
Add R1	Add Wall Right (Right-90)	3.0	2.0	1	6.0	0.32	0.25	Insect Screen (default)	New	n/a	

OPAQUE DOORS					
01	02	03	04	05	06
Name	Side of Building	Area (ft <sup>2</sup> )	U-factor	Status	Verified Existing Condition
Entry	Ex Wall Front	20.0	0.50	Existing	No
Bdoor	Ex Wall Back	20.0	0.50	Existing	No

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OPAQUE SURFACE CONSTRUCTIONS						
01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-factor	Assembly Layers
Asphalt Shingle Roof	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	<ul style="list-style-type: none"> <li>Cavity / Frame: no insul. / 2x4 Top Chrd</li> <li>Roof Deck: Wood Siding/sheathing/decking</li> <li>Roofing: Light Roof (Asphalt Shingle)</li> </ul>
Ceiling R11	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O.C.	R 11	0.083	<ul style="list-style-type: none"> <li>Inside Finish: Gypsum Board</li> <li>Cavity / Frame: R-9.1 / 2x4</li> <li>Over Ceiling Joists: R-1.9 insul.</li> </ul>
Wall R0	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.361	<ul style="list-style-type: none"> <li>Inside Finish: Gypsum Board</li> <li>Cavity / Frame: no insul. / 2x4</li> <li>Exterior Finish: 3 Coat Stucco</li> </ul>
Raised Crawl R0	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O.C.	none	0.220	<ul style="list-style-type: none"> <li>Floor Surface: Carpeted</li> <li>Floor Deck: Wood Siding/sheathing/decking</li> <li>Cavity / Frame: no insul. / 2x6</li> </ul>
Interior R0	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.277	<ul style="list-style-type: none"> <li>Inside Finish: Gypsum Board</li> <li>Cavity / Frame: no insul. / 2x4</li> <li>Other Side Finish: Gypsum Board</li> </ul>
R-38 Ceiling	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O.C.	R 38	0.025	<ul style="list-style-type: none"> <li>Inside Finish: Gypsum Board</li> <li>Cavity / Frame: R-9.1 / 2x4</li> <li>Over Ceiling Joists: R-28.9 insul.</li> </ul>
R-19 + R5	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 19	0.055	<ul style="list-style-type: none"> <li>Inside Finish: Gypsum Board</li> <li>Cavity / Frame: R-19 / 2x4</li> <li>Sheathing / Insulation: R1 Sheathing</li> <li>Exterior Finish: R4 Synthetic Stucco</li> </ul>
Asphalt RB	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	<ul style="list-style-type: none"> <li>Cavity / Frame: no insul. / 2x4 Top Chrd</li> <li>Roof Deck: Wood Siding/sheathing/decking</li> <li>Roofing: Light Roof (Asphalt Shingle)</li> </ul>

SLAB FLOORS								
01	02	03	04	05	06	07	08	09
Name	Zone	Area (ft <sup>2</sup> )	Perimeter (ft)	Edge Insul. R-value	Carpeted Fraction	Heated	Status	Verified Existing Condition
Slab On Grade	Addition	225	45	None	0.8	No	New	No

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BUILDING ENVELOPE - HERS VERIFICATION			
01	02	03	04
Quality Insulation Installation (QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

WATER HEATING SYSTEMS							
01	02	03	04	05	06	07	08
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)	Status	Verified Existing Condition
Tankless	DHW	Standard	Tankless 0.82	1	n/a	Altered	No

WATER HEATERS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Uniform Energy Factor / Energy Factor / Efficiency	Input Rating / Pilot / Thermal Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss / Recovery Eff	First Hour Rating / Flow Rate	NEEA Heat Pump Brand / Model	Tank Location or Ambient Condition
Tankless 0.82	Gas	Small Instantaneous	1	0	0.82 EF	200,000 Btu/hr	0	n/a	n/a	n/a	

SPACE CONDITIONING SYSTEMS							
01	02	03	04	05	06	07	08
SC Sys Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Status	Verified Existing Condition
Ex System	Other Heating and Cooling System	Ex Furnace	Ex Cooling	HVAC Fan	Ducts	Existing	No

HVAC - HEATING UNIT TYPES			
01	02	03	04
Name	System Type	Number of Units	Efficiency
Ex Furnace	CntrlFurnace	1	75 AFUE

HVAC - COOLING UNIT TYPES							
01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER SEER		Zonally Controlled	Compressor Type	HERS Verification
Ex Cooling	SplitAirCond	1	7.06	8	Not Zonal	Single Speed	Ex Cooling-hers-cool

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HVAC COOLING - HERS VERIFICATION					
01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Ex Cooling-hers-cool	Not Required	n/a	Not Required	Not Required	Not Required

HVAC - DISTRIBUTION SYSTEMS									
01	02	03	04	05	06	07	08	09	10
Name	Type	Duct Leakage	Insulation R-value	Supply Duct Location	Return Duct Location	Bypass Duct	Status	Verified Existing Condition	HERS Verification
Ducts	Ducts located in attic (Ventilated and Unventilated)	Existing (not specified)	6.0	Attic	Attic	None	Existing + New	No	n/a

IAQ (Indoor Air Quality) FANS				
01	02	03	04	05
Name	IAQ CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
SFam IAQVentRpt	0	Default	0	Not Required

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/HERS Certification Identification (If applicable):
City/State/Zip:	Phone:
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California: <ol style="list-style-type: none"><li>1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.</li><li>2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li><li>3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.</li></ol>	
Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed:
Address:	License:
City/State/Zip:	Phone:

Registration Number:

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