



# Compliance Certificate

Project **POWDER MOUNTAIN HOUSE**

Energy Code: **Utah Energy Conservation Code**  
 Location: **Elwood, Utah**  
 Construction Type: **Single-family**  
 Project Type: **New Construction**  
 Orientation: **Bldg. faces 0 deg. from North**  
 Conditioned Floor Area: **5,151 ft2**  
 Glazing Area: **29%**  
 Climate Zone: **6 (6833 HDD)**  
 Permit Date:  
 Permit Number:

**PLAN REVIEW ACCEPTANCE**

FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input type="checkbox"/> ACCESSIBILITY	<input type="checkbox"/> FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.

BY: MEM DATE: 02/25/19

**WEST COAST CODE CONSULTANTS, INC.**

Construction Site:  
 8645 East Copper Crest  
 Eden, UT 84310

Owner/Agent:  
 TOM BUTTGENBACH  
 TOM WISCOMBE ARCHITECT  
 2404 WILSHIRE BLVD  
 LOS ANGELES, CA 90057  
 213-647-7238

Designer/Contractor:  
 MARK SHAMIM  
 SHAMIM ENGINEERING  
 CONSULTANT INC.  
 5530 CORBIN AVE.  
 TARZANA, CA 91356  
 818-188-6778  
 MARK@SHAMIMENGINEERING.COM

## Compliance: Passes using UA trade-off

Compliance: **3.0% Better Than Code** Maximum UA: **1897** Your UA: **1840**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

## Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Cathedral Ceiling	2,078	52.0	0.0	0.020	39
Skylight 1: Metal Frame with Thermal Break:Triple Pane with Low-E	135			0.550	74
Ceiling 2: Flat Ceiling or Scissor Truss	397	54.0	0.0	0.025	10
Ceiling 3: Flat Ceiling or Scissor Truss	1,248	54.0	0.0	0.025	31
Wall 1: Wood Frame, 16" o.c. Orientation: Front	955	26.0	9.0	0.033	28
Window 1: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Front	40			0.320	13
Door 1: Solid Orientation: Front	30			0.710	21
Door 2: Solid Orientation: Front	23			0.710	16
Wall 2: Wood Frame, 16" o.c. Orientation: Front	745	32.0	9.0	0.031	23
Wall 3: Wood Frame, 16" o.c. Orientation: Right side	970	26.0	9.0	0.033	17
Window 3: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Right side	465			0.320	149

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Wall 4: Wood Frame, 16" o.c. Orientation: Right side	475	32.0	9.0	0.031	15
Wall 5: Wood Frame, 16" o.c. Orientation: Back	2,000	26.0	9.0	0.033	23
Window 5: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Back	1,290			0.320	413
Wall 6: Wood Frame, 16" o.c. Orientation: Back	300	32.0	9.0	0.031	9
Wall 7: Wood Frame, 16" o.c. Orientation: Left side	340	26.0	9.0	0.033	8
Window 6: Metal Frame with Thermal Break:Triple Pane with Low-E Orientation: Unspecified	100			0.320	32
Wall 8: Wood Frame, 16" o.c. Orientation: Left side	750	32.0	9.0	0.031	23
Basement Wall 1: Solid Concrete or Masonry Orientation: Front Wall height: 12.0' Depth below grade: 12.0' Insulation depth: 12.0'	1,193	1.6	15.0	0.035	42
Basement Wall 2: Solid Concrete or Masonry Orientation: Right side Wall height: 12.0' Depth below grade: 12.0' Insulation depth: 12.0'	750	1.6	15.0	0.035	26
Basement Wall 3: Solid Concrete or Masonry Orientation: Left side Wall height: 12.0' Depth below grade: 12.0' Insulation depth: 12.0'	840	1.6	15.0	0.035	29
Floor 1: Slab-On-Grade:Heated Insulation depth: 1.0'	904		15.0	0.884	799

## Mechanical Equipment

Description	Fuel type	Efficiency
Air Source		8.2 HSPF, 14 SEER
Other (Except Gas-Fired Steam)		96 AFUE

*Compliance Statement:* The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the Utah Energy Conservation Code requirements in REScheck Version 4.6.5 and to comply with the mandatory requirements listed in the REScheck Inspection Checklist.

\_\_\_\_\_  
Name - Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





# Inspection Checklist

Energy Code: Utah Energy Conservation Code

Requirements: 94.0% were addressed directly in the REScheck software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1] <sup>1</sup> 	Construction drawings and documentation demonstrate energy code compliance for the building envelope.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
302.1, 403.6 [PR2] <sup>2</sup> 	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr _____ Cooling: Btu/hr _____	Heating: Btu/hr _____ Cooling: Btu/hr _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

**Additional Comments/Assumptions:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1 [FO1] <sup>1</sup>	Slab edge insulation R-value.	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.2, 402.2.9 [FO2] <sup>1</sup>	Slab edge insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
402.1.1 [FO3] <sup>1</sup>	Slab edge insulation depth/length.	____ ft	____ ft	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
402.1.1 [FO4] <sup>1</sup>	Conditioned basement wall insulation R-value. Where interior insulation is used, verification may need to occur during Insulation Inspection. Not required in warm-humid locations in Climate Zone 3.	R-____ R-____	R-____ R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.2 [FO5] <sup>1</sup>	Conditioned basement wall insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
402.2.8 [FO6] <sup>1</sup>	Conditioned basement wall insulation depth of burial or distance from top of wall.	____ ft	____ ft	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.2.1 [FO11] <sup>2</sup>	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.8 [FO12] <sup>2</sup>	Snow- and ice-melting system controls installed.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.

**Additional Comments/Assumptions:**

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1] <sup>1</sup>	Door U-factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
402.1.1, 402.3.1, 402.3.3, 402.3.6, 402.5 [FR2] <sup>1</sup>	Glazing U-factor (area-weighted average).	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.1.3 [FR4] <sup>1</sup>	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
402.1.1, 402.3.3, 402.3.6, 402.5 [FR5] <sup>1</sup>	Skylight U-factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
402.4.3 [FR20] <sup>1</sup>	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Site-built window, skylights, and doors.
402.4.4 [FR16] <sup>2</sup>	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.2.1 [FR12] <sup>1</sup>	Supply ducts in attics are insulated to ≥R-8. All other ducts in unconditioned spaces or outside the building envelope are insulated to ≥R-6.	R-____ R-____	R-____ R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
403.2.2 [FR13] <sup>1</sup>	All joints and seams of air ducts, air handlers, and filter boxes are sealed.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.3 [FR17] <sup>2</sup>	HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F are insulated to ≥R-3.	R-____	R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.3.1 [FR24] <sup>2</sup>	Protection of insulation on HVAC piping.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.4.2 [FR18] <sup>2</sup>	Hot water pipes are insulated to ≥R-3.	R-____	R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.5 [FR19] <sup>2</sup>	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1)    2 Medium Impact (Tier 2)    3 Low Impact (Tier 3)

**Additional Comments/Assumptions:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13] <sup>2</sup>	All installed insulation is labeled or the installed R-values provided.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
402.1.1, 402.2.5, 402.2.6 [IN3] <sup>1</sup>	Wall insulation R-value. If this is a mass wall with at least 1/2 of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R-_____ <input type="checkbox"/> Wood <input type="checkbox"/> Mass <input type="checkbox"/> Steel	R-_____ <input type="checkbox"/> Wood <input type="checkbox"/> Mass <input type="checkbox"/> Steel	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.2 [IN4] <sup>1</sup>	Wall insulation is installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.





**Additional Comments/Assumptions:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.6 [FI1] <sup>1</sup>	Ceiling insulation R-value.	R-____ <input type="checkbox"/> Wood <input type="checkbox"/> Steel	R-____ <input type="checkbox"/> Wood <input type="checkbox"/> Steel	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
303.1.1.1, 303.2 [FI2] <sup>1</sup>	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft <sup>2</sup> .			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
402.2.3 [FI22] <sup>2</sup>	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
402.2.4 [FI3] <sup>1</sup>	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R-____	R-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
402.4.2 [FI8] <sup>2</sup>	Wood-burning fireplaces have tight fitting flue dampers and outdoor air for combustion.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.2.2 [FI4] <sup>1</sup>	Duct tightness test result of ≤10 cfm/100 ft <sup>2</sup> across the system or ≤7.5 cfm/100 ft <sup>2</sup> without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	____ cfm/100 ft <sup>2</sup>	____ cfm/100 ft <sup>2</sup>	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.2.2.1 [FI24] <sup>1</sup>	Air handler leakage designated by manufacturer at ≤2% of design air flow.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.1.1 [FI9] <sup>2</sup>	Programmable thermostats installed on forced air furnaces.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.1.2 [FI10] <sup>2</sup>	Heat pump thermostat installed on heat pumps.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.4.1 [FI11] <sup>2</sup>	Circulating service hot water systems have automatic or accessible manual controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.5.1 [FI25] <sup>2</sup>	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.9.1 [FI12] <sup>3</sup>	Readily accessible switch on heaters for swimming pools or permanent in-ground spas.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 High Impact (Tier 1)    2 Medium Impact (Tier 2)    3 Low Impact (Tier 3)



Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.9.2 [FI19] <sup>3</sup> 	Timer switches on heaters and pumps serving pools and permanent spas.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
403.9.3 [FI20] <sup>3</sup> 	Heated pools and permanent spas have a vapor retardant cover.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
401.3 [FI7] <sup>2</sup> 	Compliance certificate posted.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
303.3 [FI18] <sup>3</sup> 	Manufacturer manuals for mechanical and water heating systems have been provided.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

**Additional Comments/Assumptions:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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# Utah Energy Conservation Code Energy Efficiency Certificate

Insulation Rating	R-Value
<b>Above-Grade Wall</b>	<b>35.00</b>
<b>Below-Grade Wall</b>	<b>16.60</b>
<b>Floor</b>	<b>15.00</b>
<b>Ceiling / Roof</b>	<b>52.00</b>
<b>Ductwork (unconditioned spaces):</b>	_____

Glass & Door Rating	U-Factor	SHGC
<b>Window</b>	<b>0.32</b>	
<b>Door</b>	<b>0.71</b>	
<b>Skylight</b>	<b>0.55</b>	

Heating & Cooling Equipment	Efficiency
<b>Air Source</b>	<b>8.2 HSPF,</b>
<b>Other (Except Gas-Fired Steam)</b>	<b>96 AFUE</b>
<b>Water Heater:</b> _____	_____

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Comments**