

Project Summit Powder Mountain House Lot14R

Energy Code: 2015 IECC

Location: Salt Lake City, Utah

Construction Type: Single-family
Project Type: New Construction

Orientation: Bldg. faces 180 deg. from North

Conditioned Floor Area: **4,375 ft2** Glazing Area **15%** 

Climate Zone: **5 (5765 HDD)** 

Permit Date: Permit Number:

Construction Site: 7719 E. Horizon Run Eden, UT 84310 Owner/Agent:

PLAN REVIEW ACCEPTANCE FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW. BUILDING X STRUCTURAL **X** PLUMBING MECHANICAL X ELECTRICAL **X** ENERGY ACCESSIBILITY FIRE PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS. \_ DATE: 08/22/18 BY: MEM WEST COAST CODE CONSULTANTS, INC.

Designer/Contractor: Brigham Wilcox Edge Builders PO Box 17404

Salt lake City, UT 84117 801-879-6200

brigham@edgebuildersutah.com

## Compliance: Passes using UA trade-off

Compliance: 15.5% Better Than Code Maximum UA: 920 Your UA: 777

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	Or .	Cavity R-Value	Cont. R-Value	U-Factor	UA
Oval Roof 1: Steel Truss	2,272 <	36.0	8.0	0.024	55
Oval Roof 2: Cathedral Ceiling	658	36.0	8.0	0.023	15
Garage Roof: Flat Ceiling or Scissor Truss	7,050	36.0	12.0	0.023	23
Window 16 (Skylight): Metal Frame with Thermal Break:Double Pane with Low-E	52	•		0.290	15
Oval North Wall: Wood Frame, 24" o .c. Orientation: Back	862	36.0	12.0	0.026	20
Window 13: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	22			0.290	6
Window 15: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	61			0.290	18
Oval East Wall: Wood Frame, 24" o .c. Orientation: Right side	472	20.0	12.0	0.033	13
Window 7: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	8			0.290	2
Window 8: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	64			0.290	19
Oval South Wall 1: Wood Frame, 24" o .c. Orientation: Front	806	36.0	12.0	0.026	10

Project Title: Summit Powder Mountain House Lot14R

Data filename: H:\1452-17 Summit Lot 14\1.4 CDs\1.4.3 Construction Documents\1.4.3.8

REScheck\20180529\_REScheck\Lot 14R\_20180517.rck

Report date: 07/12/18 Page 1 of11

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Window 4: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	239			0.290	69
Window 5: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	83			0.290	24
Window 6: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	96			0.290	28
Oval South Wall 2: Wood Frame, 24" o .c. Orientation: Front	107	20.0	12.0	0.033	4
Oval West Wall: Wood Frame, 24" o .c. Orientation: Left side	472	20.0	12.0	0.033	12
Window 3: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	13			0.290	4
Sliding Door (Window 3): Glass Orientation: Unspecified	81			0.370	30
Garage North Wall: Wood Frame, 24" o .c. Orientation: Back	376	19.0	12.0	0.033	9
Door aa: Solid Orientation: Unspecified	75			0.090	7
Door (Window 14): Glass Orientation: Unspecified	23			0.440	10
Garage East Wall: Wood Frame, 24" o .c. Orientation: Right side	403	19.0	12.0	0.033	13
Garage West Wall: Wood Frame, 24" o .c. Orientation: Left side	403	19.0	12.0	0.033	12
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	33			0.290	10
Door bb: Solid Orientation: Unspecified	19			0.090	2
Core North Wall: Solid Concrete or Masonry:Interior Insulation Orientation: Back	488	22.0	8.0	0.039	19
Core East Wall: Solid Concrete or Masonry:Interior Insulation Orientation: Right side	610	22.0	0.0	0.056	34
Core South Wall: Solid Concrete or Masonry:Interior Insulation Orientation: Back	488	22.0	0.0	0.056	19
Window 9: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	39			0.290	11
Window 10: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	39			0.290	11
Window 11: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	39			0.290	11
Window 12: Metal Frame with Thermal Break:Double Pane with Low-E Orientation: Unspecified	39			0.320	12
Core West Wall: Solid Concrete or Masonry:Interior Insulation Orientation: Left side	610	22.0	0.0	0.056	33
Door (Window 2): Glass Orientation: Unspecified	23	$\sim$		0.440	10
Floor 1: All-Wood Joist/Truss:Over Outside Air	1,742	40.0	0.0	0.025	44
Floor 2: Steel Frame, 24" o.c.:2x10, Over Outside Air	588	36.0	مهم (	$\mathcal{L}$	41
Floor 3: Slab-On-Grade:Heated Insulation depth: 0.3'	103		8.0	0.986 (ر	102

Compliance Statement: The proposed be calculations submitted with the permit a REScheck Version 4.6.5 and to comply w	uilding design described here is consistent with the pplication. The proposed building has been design ith the mandatory requirements listed in the RESc	e building plans, specifications, and other led to meet the 2015 IECC requirements in theck Inspection Checklist.
Name - Title	Signature	Date

Report date: 07/12/18

Page 3 of11

## **REScheck Software Version 4.6.5 Inspection Checklist** Energy Code: 2015 IECC

Requirements: 100.0% 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. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.  Location on plans/spec: See A001
103.1, 103.2, 403.7 [PR3] <sup>1</sup>	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Mechanical/Electrical Drawings
302.1, 403.7 [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	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

**Additional Comments/Assumptions:** 

Report date: 07/12/18

Page 4 of 11

Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.2 [FO1] <sup>1</sup>	Slab edge insulation R-value.	R Unheated Heated	R Unheated Heated	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.2 [FO3] <sup>1</sup>	Slab edge insulation depth/length.	ft	ft	□Complies □Does Not □Not Observable □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.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.9 [FO12] <sup>2</sup>	Snow- and ice-melting system controls installed.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specifications: 10-F

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

Section # & Reg.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	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.1, 402.3.1, 402.3.3, 402.5 [FR2] <sup>1</sup>	Glazing U-factor (area-weighted average).	U	U	□Complies □Does Not □Not Observable □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.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 8-B-6 and 8-C-4
402.1.1, 402.3.3, 402.3.6, 402.5 [FR5] <sup>1</sup>	Skylight U-factor.	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.4.1.1 [FR23] <sup>1</sup>	Air barrier and thermal barrier installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 07-B-1a and 07-C
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.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
402.4.5 [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.			□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement is not applicable.
403.3.1 [FR12] <sup>1</sup>	Supply and return ducts in attics insulated >= R-8 where duct is >= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 23-C-1
403.3.5 [FR15] <sup>3</sup>	Building cavities are not used as ducts or plenums.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.4 [FR17] <sup>2</sup>	HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F are insulated to ≥R-3.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.4.1 [FR24] <sup>1</sup>	Protection of insulation on HVAC piping.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

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

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.5.3 [FR18] <sup>2</sup>	Hot water pipes are insulated to ≥R-3.	R	R	□Complies □Does Not	Requirement will be met.
•			 	□Not Observable □Not Applicable	1 1 1 1 1
403.6 [FR19] <sup>2</sup>	Automatic or gravity dampers are installed on all outdoor air			□Complies □Does Not	Requirement will be met.
	intakes and exhausts.			□Not Observable □Not Applicable	Location on plans/spec: See Specification: 23-C-3

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

Report date: 07/12/18

Page 7 of 11

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.			□Complies □Does Not	Requirement will be met.
•				□Not Observable □Not Applicable	1 
402.1.1, 402.2.6 [IN1] <sup>1</sup>	Floor insulation R-value.	R ☐ Wood ☐ Steel	R Wood  Steel	□Complies □Does Not □Not Observable	See the Envelope Assemblies table for values.
<b>(</b>			<del></del>	□Not Applicable	
303.2, 402.2.7 [IN2] <sup>1</sup>	Floor insulation installed per manufacturer's instructions and in substantial contact with the underside of the subfloor, or floor framing cavity insulation is in contact with the top side of sheathing, or continuous insulation is installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See specification 07-C and sheets A502-503
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 ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R	R	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2 [IN4] <sup>1</sup>	Wall insulation is installed per manufacturer's instructions.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See specification 07-C

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
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1] <sup>1</sup>	Ceiling insulation R-value.	R Wood Steel	R	□Complies □Does Not □Not Observable □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> .			Complies Does Not Not Observable Not Applicable	Requirement will be met.  Location on plans/spec: See specification 07-C
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.			Complies Does Not Not Observable 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	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: Requirement N/A
402.4.1.2 [FI17] <sup>1</sup>	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =	ACH 50 =	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
402.4.2 [FI8] <sup>2</sup>	Wood-burning fireplaces have tight fitting flue dampers and outdoor air for combustion.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 10-C-1 and 10-D-1
403.3.4 [FI4] <sup>1</sup>	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 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>	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 23-C-3
403.3.3 [FI27] <sup>1</sup>	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	cfm/100 ft <sup>2</sup>	cfm/100 ft <sup>2</sup>	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 23-C-3
403.3.2.1 [FI24] <sup>1</sup>	Air handler leakage designated by manufacturer at <=2% of design air flow.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.1.1 [FI9] <sup>2</sup>	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
403.1.2 [FI10] <sup>2</sup>	Heat pump thermostat installed on heat pumps.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)					ier 3)

Report date: 07/12/18

403.6.1 [FI25] <sup>2</sup> 403.2 [FI26] <sup>2</sup>	Circulating service hot water systems have automatic or accessible manual controls.  All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.  Hot water boilers supplying heat through one- or two-pipe heating		□Complies □Does Not □Not Observable □Not Applicable □Complies	Requirement will be met.
(FI25] <sup>2</sup> 403.2 (FI26] <sup>2</sup>	fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.  Hot water boilers supplying heat			
[FI26] <sup>2</sup>			□ Compiles □ Does Not □ Not Observable □ Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 23-C-1
	systems have outdoor setback control to lower boiler water temperature based on outdoor temperature.		☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
[FI28] <sup>2</sup>	Heated water circulation systems have a circulation pump. The system return pipe is a dedicated return pipe or a cold water supply pipe. Gravity and thermossyphon circulation systems are not present. Controls for circulating hot water system pumps start the pump with signal for hot water demand within the occupancy. Controls automatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
[Fl29] <sup>2</sup>	Electric heat trace systems comply with IEEE 515.1 or UL 515. Controls automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping.		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
[FI30] <sup>2</sup>	Water distribution systems that have recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe have a demand recirculation water system. Pumps have controls that manage operation of the pump and limit the temperature of the water entering the cold water piping to 104°F.		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.5.4 [FI31] <sup>2</sup>	Drain water heat recovery units tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units < 3 psi for individual units connected to one or two showers. Potable waterside pressure loss of drain water heat recovery units < 2 psi for individual units connected to three or more showers.		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
[FI6] <sup>1</sup>	75% of lamps in permanent fixtures or 75% of permanent fixtures have high efficacy lamps. Does not apply to low-voltage lighting.		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  Location on plans/spec: See Specification: 26-C-4

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
404.1.1 [FI23] <sup>3</sup>	Fuel gas lighting systems have no continuous pilot light.			□Complies □Does Not	<b>Exception:</b> Requirement is not applicable.
•				□Not Observable □Not Applicable	
401.3 [FI7] <sup>2</sup>	Compliance certificate posted.			□Complies □Does Not □Not Observable	Requirement will be met.
303.3 [FI18] <sup>3</sup>	Manufacturer manuals for mechanical and water heating systems have been provided.			□Not Applicable □Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

Report date: 07/12/18

Page 11 of 11



Insulation Rating	R-Value	
Above-Grade Wall	48.00	
Below-Grade Wall	0.00	
Floor	40.00	
Ceiling / Roof	44.00	
Ductwork (unconditioned spaces):		
Glass & Door Rating	U-Factor	SHGC
144	0.00	

Glass & Door Rating	U-Factor	SHGC
Window	0.29	
Door	0.37	
Skylight	0.29	
Heating & Cooling Equipment	Efficiency	
Heating System:		
Cooling System:		
Water Heater:		

**Comments** 

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