



Envelope Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: Millcreek Commons - Ice Support
Location: Murray, Utah
Climate Zone: 5b
Project Type: New Construction
Vertical Glazing / Wall Area: 24%

Construction Site:

Owner/Agent:

Designer/Contractor:

Additional Efficiency Package(s)

High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Building Area

Floor Area

1-Retail : Nonresidential

2134

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor ^(a)
Floor 1: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - Retail] (c)	200	---	10.0	0.540	0.540
Upper Roof: Insulation Entirely Above Deck, [Bldg. Use 1 - Retail]	1306	---	34.8	0.028	0.032
Outdoor Deck: Attic Roof with Wood Joists, [Bldg. Use 1 - Retail]	782	0.0	20.5	0.045	0.027
NORTH					
North Framed Wall: Wood-Framed, 16" o.c., [Bldg. Use 1 - Retail]	880	0.0	13.3	0.059	0.064
Window B: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.35, VT 0.26, [Bldg. Use 1 - Retail] (b)	90	---	---	0.380	0.380
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Door 108: Insulated Metal, Swinging, [Bldg. Use 1 - Retail]	21	---	---	0.360	0.370
North CMU Foundation Wall: Concrete Block:8", Unreinforced, Cells Empty, Normal Density, Furring: None, [Bldg. Use 1 - Retail]	480	---	10.0	0.080	0.090
EAST					
East Framed Wall: Wood-Framed, 16" o.c., [Bldg. Use 1 - Retail]	308	0.0	13.3	0.059	0.064
East CMU Wall: Concrete Block:8", Unreinforced, Cells Empty, Normal Density, Furring: None, [Bldg. Use 1 - Retail]	401	---	13.3	0.063	0.090
East CMU Foundation Wall: Concrete Block:8", Unreinforced, Cells Empty, Normal Density, Furring: None, [Bldg. Use 1 - Retail]	70	---	10.0	0.080	0.090
SOUTH					
South Framed Wall: Wood-Framed, 16" o.c., [Bldg. Use 1 - Retail]	1359	0.0	13.3	0.059	0.064

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor ^(a)
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Window E: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.52, VT 0.26, [Bldg. Use 1 - Retail] (b)	70	---	---	0.380	0.380
Window B: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.36, VT 0.26, [Bldg. Use 1 - Retail] (b)	90	---	---	0.380	0.380
Window C: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.36, VT 0.26, [Bldg. Use 1 - Retail] (b)	45	---	---	0.380	0.380
Window D: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.36, VT 0.26, [Bldg. Use 1 - Retail] (b)	25	---	---	0.380	0.380
Door 112: Insulated Metal, Swinging, [Bldg. Use 1 - Retail]	21	---	---	0.360	0.370
Door 110: Insulated Metal, Swinging, [Bldg. Use 1 - Retail]	21	---	---	0.360	0.370
Door 104: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.36, VT 0.26, [Bldg. Use 1 - Retail] (b)	20	---	---	0.380	0.770
Door 113: Insulated Metal, Non-Swinging, [Bldg. Use 1 - Retail]	100	---	---	0.360	0.179
WEST					
West Framed Wall: Wood-Framed, 16" o.c., [Bldg. Use 1 - Retail]	733	0.0	13.3	0.059	0.064
Window A: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.38, VT 0.26, [Bldg. Use 1 - Retail] (b)	76	---	---	0.380	0.380
Window A: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 0.38, VT 0.26, [Bldg. Use 1 - Retail] (b)	76	---	---	0.380	0.380
Window F: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 1.50, VT 0.26, [Bldg. Use 1 - Retail] (b)	84	---	---	0.380	0.380
Window G: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 1.50, VT 0.26, [Bldg. Use 1 - Retail] (b)	64	---	---	0.380	0.380
Door 201: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Product ID N/A, SHGC 0.36, PF 1.50, VT 0.26, [Bldg. Use 1 - Retail] (b)	21	---	---	0.380	0.770

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 2% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



Inspection Checklist

Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck 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	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1] ¹	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.4.1 [PR10] ¹	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.4.1 [PR11] ¹	The skylight area <= 3 percent of the gross roof area.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.4.2 [PR14] ¹	In enclosed spaces > 2,500 ft ² directly under a roof with ceiling heights > 15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<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	Footings / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4] ²	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.
C303.2.1 [FO6] ¹	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.2.4 [FO3] ²	Slab edge insulation R-value.	<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.
C402.2.4 [FO7] ²	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or ≥ 10 inches of soil.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. See the Envelope Assemblies table for values.
C402.2.6 [FO12] ³	Radiant heating systems panels insulated to $\geq R-3.5$ on face opposite space being heated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply. See the Envelope Assemblies table for values.

Additional Comments/Assumptions:

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

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12] ²	Fenestration products rated in accordance with NFRC.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C303.1.3 [FR13] ¹	Fenestration products are certified as to performance labels or certificates provided.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.4.3 [FR10] ¹	Vertical fenestration SHGC value.	<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.
C402.4.3, C402.4.3.4 [FR8] ¹	Vertical fenestration U-Factor.	<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.
C402.4.4 [FR14] ²	U-factor of opaque doors associated with the building thermal envelope meets requirements.	<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.
C402.5.1.2.1 [FR19] ¹	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability ≤ 0.004 dfm/ft ² . Air barrier penetrations are sealed in an approved manner.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.2, C402.5.4 [FR18] ³	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.7 [FR17] ³	Vestibules are installed on all building entrances. Doors have self-closing devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Doors that open directly from a space ≥ 3000 ft ² .

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	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3] ³	Stair and elevator shaft vents have motorized dampers that automatically close. Refernece section C403.7.7 for operational details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

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	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.7 [EL27] ²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.8.2, C405.8.2.1 [EL28] ²	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.9 [EL29] ²	Total voltage drop across the combination of feeders and branch circuits $\leq 5\%$.	<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	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3] ¹	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is ≤ 3 in 12.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.2.1 [IN20] ¹	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for roof/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C303.1 [IN10] ²	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C303.2 [IN7] ¹	Above-grade 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.
C303.2.1 [IN14] ²	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.1.3 [IN19] ³	Non-swinging opaque doors have R-4.75 insulation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.2.3 [IN6] ¹	Above-grade wall insulation R-value.	<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.
C402.2.3 [IN8] ²	Floor insulation R-value.	<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.
C402.2.6 [IN18] ³	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.2.2 [IN2] ¹	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	<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.
C402.5.1.1 [IN1] ¹	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	<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)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.5.6 [FI37] ¹	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.6 [FI37] ¹	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.6 [FI37] ¹	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.6 [FI37] ¹	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C402.5.8 [FI26] ³	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.1.1 [FI57] ¹	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<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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