# REScheck Software Version 4.6.3

# Compliance Certificate

## Project Reaves Residence

| | |
|---|---|
| Energy Code: | **2009 IECC** |
| Location: | **Portland, Maine** |
| Construction Type: | **Single-family** |
| Project Type: | **New Construction** |
| Conditioned Floor Area: | **1,522 ft2** |
| Glazing Area | **14%** |
| Climate Zone: | **6 (7378 HDD)** |
| Permit Date: | |
| Permit Number: | |

Construction Site:
Lot 33 Pamela Road
Portland, ME 04103

Owner/Agent:
Scott & Madeline Reaves

Designer/Contractor:
Bruce MacLeod
MacLeod Structural Engineers, PA
90 Bridge Street
suite 252
Westbrook, ME 04092
207-839-0980
bruce@macleodengineers.com

**Compliance: Passes using UA trade-off**

Compliance: **1.3% Better Than Code** Maximum UA: **310** Your UA: **306**

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 |
|---|---|---|---|---|---|
| Floor 1: All-Wood Joist/Truss:Over Unconditioned Space | 934 | 30.0 | 0.0 | 0.033 | 31 |
| Wall 1: Wood Frame, 16" o.c. | 952 | 21.0 | 0.0 | 0.057 | 43 |
| Window 1: Vinyl/Fiberglass Frame:Double Pane with Low-E | 140 | | | 0.350 | 49 |
| Door 1: Solid | 60 | | | 0.250 | 15 |
| Wall 2: Wood Frame, 16" o.c. | 1,280 | 21.0 | 0.0 | 0.057 | 63 |
| Window 2: Vinyl/Fiberglass Frame:Double Pane with Low-E | 177 | | | 0.350 | 62 |
| Ceiling 1: Flat Ceiling or Scissor Truss | 1,296 | 49.0 | 0.0 | 0.026 | 34 |
| Ceiling 2: Cathedral Ceiling | 256 | 30.0 | 0.0 | 0.034 | 9 |

*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 2009 IECC requirements in RES*check* Version 4.6.3 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Name - Title _____ Signature _____ Date _____

# RES*check* Software Version 4.6.3

# Inspection Checklist

Energy Code: 2009 IECC

Requirements: 0.0% were addressed directly in the RES*check* 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 |
|---|---|---|---|---|---|
| 103.2 [PR1][1] | Construction drawings and documentation demonstrate energy code compliance for the building envelope. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 103.2, 403.7 [PR3][1] | Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the commercial code. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.6 [PR2][2] | Heating and cooling equipment is sized per ACCA Manual S based on loads per ACCA Manual J or other approved methods. | Heating: Btu/hr____<br>Cooling: Btu/hr____ | Heating: Btu/hr____<br>Cooling: Btu/hr____ | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |

**Additional Comments/Assumptions:**

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

| Section # & Req.ID | Foundation Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| 303.2.1 [FO11][2] | A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade. | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.8 [FO12][2] | Snow- and ice-melting system controls installed. | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |

**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 | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 402.1.1, 402.3.4 [FR1][1] | 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][1] | 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][1] | 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 | |
| 402.4.4 [FR20][1] | 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 | |
| 402.4.5 [FR16][2] | 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 | |
| 403.2.1 [FR12][1] | 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-____ | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| 403.2.2 [FR13][1] | All joints and seams of air ducts, air handlers, filter boxes, and building cavities used as return ducts are sealed. | | | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| 403.2.3 [FR15][3] | Building cavities are not used for supply ducts. | | | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| 403.3 [FR17][2] | HVAC piping conveying fluids above 105 ºF or chilled fluids below 55 ºF are insulated to ≥R-3. | R-____ | R-____ | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| 403.4 [FR18][2] | Circulating service hot water pipes are insulated to R-2. | R-____ | R-____ | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |
| 403.5 [FR19][2] | Automatic or gravity dampers are installed on all outdoor air intakes and exhausts. | | | ☐Complies ☐Does Not ☐Not Observable ☐Not Applicable | |

**Additional Comments/Assumptions:**

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

| Section # & Req.ID | Insulation Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 303.1 [IN13][2] | All installed insulation is labeled or the installed R-values provided. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 402.1.1, 402.2.5, 402.2.6 [IN1][1] | Floor insulation R-value. | R-____<br>☐ Wood<br>☐ Steel | R-____<br>☐ Wood<br>☐ Steel | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | *See the Envelope Assemblies table for values.* |
| 303.2, 402.2.6 [IN2][1] | Floor insulation installed per manufacturer's instructions, and in substantial contact with the underside of the subfloor. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 402.1.1, 402.2.4, 402.2.5 [IN3][1] | 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. | R-____<br>☐ Wood<br>☐ Mass<br>☐ Steel | R-____<br>☐ Wood<br>☐ Mass<br>☐ Steel | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | *See the Envelope Assemblies table for values.* |
| 303.2 [IN4][1] | Wall insulation is installed per manufacturer's instructions. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |

**Additional Comments/Assumptions:**

| | | | | | |
|---|---|---|---|---|---|
| 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 [FI1][1] | Ceiling insulation R-value. Where > R-30 is required, R-30 can be used if insulation is not compressed at eaves. R-30 may be used for 500 ft² or 20% (whichever is less) where sufficient space is not available. | R-____<br>☐ Wood<br>☐ Steel | R-____<br>☐ Wood<br>☐ Steel | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | *See the Envelope Assemblies table for values.* |
| 303.1.1.1, 303.2 [FI2][1] | Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft². | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 402.2.3 [FI3][1] | Attic access hatch and door insulation ≥R-value of the adjacent assembly. | R-____ | R-____ | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 402.4.2, 402.4.2.1 [FI17][1] | Building envelope tightness verified by blower door test result of <7 ACH at 50 Pa. This requirement may instead be met via visual inspection, in which case verification may need to occur during Insulation Inspection. | ACH 50 =____ | ACH 50 =____ | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.2.2 [FI4][1] | Post construction duct tightness test result of ≤8 cfm to outdoors, or ≤12 cfm across systems. Or, rough-in test result of ≤6 cfm across systems or ≤4 cfm without air handler. Rough-in test verification may need to occur during Framing Inspection. | ____ cfm | ____ cfm | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.1.1 [FI9][2] | Programmable thermostats installed on forced air furnaces. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.1.2 [FI10][2] | Heat pump thermostat installed on heat pumps. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 403.4 [FI11][2] | Circulating service hot water systems have automatic or accessible manual controls. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 404.1 [FI6][1] | 50% of lamps in permanent fixtures are high efficacy lamps. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 401.3 [FI7][2] | Compliance certificate posted. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |
| 303.3 [FI18][3] | Manufacturer manuals for mechanical and water heating equipment have been provided. | | | ☐Complies<br>☐Does Not<br>☐Not Observable<br>☐Not Applicable | |

**Additional Comments/Assumptions:**

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

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

# 2009 IECC Energy Efficiency Certificate

| Insulation Rating | R-Value |
|---|---|
| Above-Grade Wall | 21.00 |
| Below-Grade Wall | 0.00 |
| Floor | 30.00 |
| Ceiling / Roof | 49.00 |
| Ductwork (unconditioned spaces): | _____ |

| Glass & Door Rating | U-Factor | SHGC |
|---|---|---|
| Window | 0.35 | |
| Door | 0.25 | |

| Heating & Cooling Equipment | Efficiency |
|---|---|
| Heating System:_____ | _____ |
| Cooling System:_____ | _____ |
| Water Heater:_____ | _____ |

**Name:** _____ **Date:**_____

**Comments**