

North Carolina 2018 - R402.1.5 Total UA

Property

55 Walker Grove Lane
Lillington, NC 27546
Model: 1756 Montcrest E-F2B_2
Community: Walkers Grove

Walkers Grove 2
True_Walkers Grove 2_1756
Montcrest E-

Organization

Performance Point, LLC.
Rick Blair
704-614-7175

Builder

True Homes

Inspection Status

Results are projected

This report is based on a proposed design and does not confirm field enforcement of design elements.

Building UA

Elements	NC Reference	As Designed
Ceilings	66.0	57.7
Above-Grade Walls	172.8	176.6
Windows, Doors and Skylights	121.3	105.2
Slab Floor:	105.1	105.1
Framed Floors	11.0	11.1
Foundation Walls	0.0	0.0
Rim Joists	1.7	1.7
Overall UA (Design must be equal or lower):	477.9	457.4

Requirements

✓	402.1.5	Total UA alternative compliance passes by 4.3%.
✓	402.3.2 Glazed Fenestration SHGC	Average SHGC: 0.30 Max SHGC: 0.30
✓	R402.4.2.2	Air Leakage Testing Air sealing is 0.24 CFM50 / ft ² Shell Area. It must not exceed 0.30 CFM50 / ft ² Shell Area.
✓	R402.5	Area-weighted average fenestration SHGC
✓	R402.5	Area-weighted average fenestration U-Factor
✓	R404.1	Lighting Equipment Efficiency
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.
✓	R403.3.1	Duct Insulation
✓	403.3.3	Duct Testing

Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 4.3%.

Name: Rick Blair

Signature: 

Organization: Performance Point, LLC.

Digitally signed: 7/8/21 at 8:55 AM

Ekotrope RATER - Version 4.0.0.2705

North Carolina 2018 Prescriptive compliance results calculated using Ekotrope RATER's energy and code compliance algorithm, including appropriate amendments. Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users. Ekotrope disclaims all liability for the information shown on this report.

Energy Code Inspection Checklist

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General Building Information

Conditioned Area (sq ft)	2,207
Conditioned Volume (cubic ft)	20,247
Insulated Shell Area (sq ft)	6,963.4

The building energy model in Ekotrope reflects the building assemblies and energy features listed below. Sometimes energy features will change in the field from what has been modeled. The inspection process should identify any changes and ensure that the home continues to meet the applicable energy code.

Slab



Name: House Slab (1,907 s.f., 211.4 ft. exterior perimeter)
R-10 perimeter insulation, R-0 under slab insulation.

Framed Floor



Name: Over Garage (235 s.f.)
R-0 continuous insulation, R-19 cavity insulation
Insulation Grade: I

Foundation Wall

None Present

Above Grade Wall



Name: 2x4 Ambient (1,771.5 s.f.)
R-0 continuous insulation, R-15 cavity insulation
Insulation Grade: I



Name: Niche (2 s.f.)
R-3 continuous insulation, R-0 cavity insulation
Insulation Grade: I



Name: 2x4 Garage (146.1 s.f.)
R-0 continuous insulation, R-15 cavity insulation
Insulation Grade: I

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 Name: 2x4 Kneewall (560.7 s.f.)
R-0 continuous insulation, R-15 cavity insulation
Insulation Grade: I

 Name: 2x6 Garage (96.8 s.f.)
R-0 continuous insulation, R-19 cavity insulation
Insulation Grade: I


 Name: 2x6 Kneewall (13.3 s.f.)
R-0 continuous insulation, R-19 cavity insulation
Insulation Grade: I


Rim Joist


 Name: Attic (11.6 s.f.)
R: 13.30

 Name: Garage (19.4 s.f.)
R: 13.30

Ceiling / Roof

 Name: 1st FI Ceiling (1,877 s.f.)
R-28.5 continuous insulation, R-9.5 cavity insulation
Insulation Grade: I

 Name: 2nd FI Ceiling (176 s.f.)
R-0 continuous insulation, R-38 cavity insulation
Insulation Grade: I

 Name: 2nd FI Vault (147 s.f.)
R-0 continuous insulation, R-38 cavity insulation
Insulation Grade: I

Opaque Door

 Name: Front Door (20 s.f.)
R: 7.00

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Name: Garage Entry - 2x6wall (17.8 s.f.)
R: 7.00

Name: Smurf Door (x2) (16 s.f.)
R: 5.00

Glazing

Name: Front - BR4 (15 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH_EAST

Name: Front SHD (30 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH_EAST

Name: Right (60 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH_EAST

Name: Back (60 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH_WEST

Name: Back SHD (60 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH_WEST

Name: Back TR SHD/FXD (12 s.f.), U: 0.330, SHGC: 0.3, Orientation: NORTH_WEST

Name: Left (30 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH_WEST

Name: Left - MSTR BA 2'x4' (8 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH_WEST

Name: Left Door / Complete (17.8 s.f.), U: 0.330, SHGC: 0.3, Orientation: SOUTH_WEST

Skylight

None Present

Mechanical Ventilation

None Present

Mechanical Equipment

Water Heater • Electric • 100% Hot Water Load @ 0.95 Energy Factor

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 Heat Pump / All • Electric • 100% Heating Load @ 8.2 HSPF, 100% Cooling Load @ 14 SEER

Air Leakage Control

 Test Status: Blower-door tested
House is air-sealed as to achieve 1,687 CFM50 (5.00 ACH50) or less at final blower-door test.

Infiltration Requirements for IECC in Climate Zone 4

- 2009 IECC Infiltration limit for the design home is 7 ACH50.
- 2012 IECC Infiltration limit for the design home is 3 ACH50.
- 2015 IECC Infiltration limit for the design home is 3 ACH50.
- 2018 IECC Infiltration limit for the design home is 3 ACH50.

Duct Leakage

Duct System 1

- NOT entirely within conditioned space, testing required
- Leakage to Outside specified as: 4 CFM25 / 100 ft²
- Total Leakage specified as: 4 CFM25 / 100 ft² (Post-Construction)

Duct Leakage Code Requirements for IECC

2009 IECC:

- Postconstruction Leakage Test: Duct Leakage to Outdoors \leq 8 CFM25 / 100 sq ft CFA.
- Rough in Test with AHU: Total Duct Leakage \leq 6 CFM25 / 100 sq ft CFA.
- Rough in Test without AHU: Total Duct Leakage \leq 4 CFM25 / 100 sq ft CFA.

2012 IECC Mandatory, 2015 and 2018 IECC Prescriptive Paths:

- Postconstruction Leakage Test: Total Duct Leakage \leq 4 CFM25 / 100 sq ft CFA.
- Rough in Test with AHU: Total Duct Leakage \leq 4 CFM25 / 100 sq ft CFA.
- Rough in Test without AHU: Total Duct Leakage \leq 3 CFM25 / 100 sq ft CFA.

2015 and 2018 IECC Performance Paths (Cost Compliance):

- Leakage testing is required UNLESS all ducts and air handlers are located entirely within the thermal envelope.
- There is no pass/fail threshold for duct leakage on the performance path.

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Project Notes

HG_05/05/2021___N/S Performance Report
True_1756 Montcrest E-F2B_2

Worst Orientation (SE)

DG_05/06/2021
Revised

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Energy Specifications Label

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Ekotrope RATER - Version: 4.0.0.2705

Building Envelope Specs

Ceiling: R-38

Above Grade Walls: R-15

Foundation Walls: N/A

Exposed Floor: R-19

Slab: R-10

Infiltration: 5 ACH50

Duct Insulation: Supply: R8, Return: R8

Duct Lkg to Outdoors: 4 CFM25 / 100 ft²

Window & Door Specs

U-Value: 0.33, SHGC: 0.3

Door: R-7

Mechanical Equipment Specs

Heating: Air Source Heat Pump • Electric • 8.2

HSPF

Cooling: Air Source Heat Pump • Electric • 14

SEER

Hot Water: Water Heater • Electric • 0.95 Energy

Factor

Average Mechanical Ventilation: 0 CFM

Builder or Design Professional

Signature: _____

Builder Affidavit

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Important Notice to Builder

Builder affirms in this affidavit that all building characteristics described in the Building Summary Report accurately reflect this New Home. Builder agrees to allow the Home Energy Rating System (HERS) Provider and/or Rater to verify building characteristics of this New Home fully at the HERS Rater/Provider's discretion. The HERS Provider and Rater do not create or imply any duty or obligations to Builder or any subsequent owner. Builder is responsible for taking any actions necessary to protect Builder's interest. There is no guarantee or warranty whatsoever expressed or implied from the HERS Provider or Rater.

HERS® Index Score:81

Builder Name: True Homes

Builder Signature: Ashley Jones

Name: Rick Blair

Signature: RB

Organization: Performance Point, LLC.

Digitally signed: 7/8/21 at 8:55 AM