

# North Carolina 2018 - Simulated Performance Alternative (N1105)

<b>Property</b> TBD Osgood Street 14 Angier, NC 27501 Model: Telfair Community: Cambridge Reserve  \\Mungo Homes Cambridge Reserve 14 TBD Osgood Street 14	<b>Organization</b> Builder i Group, LLC Mark Osborne  <b>Builder</b> Mungo Homes	<b>Inspection Status</b> Results are projected
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**This report is based on a proposed design and does not confirm field enforcement of design elements.**

## Annual Energy Cost

Design	North Carolina 2018 Performance	As Designed
Heating	\$858	\$857
Cooling	\$278	\$222
Water Heating	\$302	\$303
Mechanical Ventilation	\$0	\$0
<b>SubTotal - Used to determine compliance</b>	<b>\$1,438</b>	<b>\$1,382</b>
Lights & Appliances w/out Ventilation	\$629	\$629
Onsite generation	\$0	\$0
<b>Total</b>	<b>\$2,067</b>	<b>\$2,010</b>


Source Energy Exception: The proposed home uses 6.04 MBtu LESS source energy than the reference home.

## Requirements

	R405.3	Performance-based compliance passes by 5.5%	The proposed house meets the North Carolina 2018 Performance reference energy bill requirement by \$56.47 (6.04 MBtu).
	R402.4.2.2	Air Leakage Testing	
	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.19. The maximum allowed value is [No Limit].
	R402.5	Area-weighted average fenestration U-Factor	
	R404.1	Lighting Equipment	
	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2015 IECC Mandatory Checklist must be checked as complete.
	R403.3.1	Duct Insulation	Duct insulation meets the requirements specified in North Carolina 2018 Code Section 403.3.1.

## Design exceeds requirements for North Carolina 2018 Performance compliance by 5.5%.

As a 3rd party extension of the code jurisdiction utilizing these reports, I certify that this energy code compliance document has been created in accordance with the requirements of Chapter 4 of the adopted International Energy Conservation Code based on HARNETT County. If rating is Projected, I certify that the building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. If rating is Confirmed, I certify that the address referenced above has been inspected/tested and that the mandatory provisions of the IECC have been installed to meet or exceed the intent of the IECC or will be verified as such by another party.

Name:	Mark Osborne	Signature:	
Organization:	Builder i Group, LLC	Digitally signed:	10/30/25 at 9:04 AM

### Ekotrope RATER - Version 5.2.1.3735

North Carolina 2018 Performance 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

Property	Organization	Inspection Status
TBD Osgood Street 14 Angier, NC 27501 Model: Telfair Community: Cambridge Reserve	Builder i Group, LLC Mark Osborne	Results are projected
\Mungo Homes Cambridge Reserve 14 TBD Osgood Street 14		

## Mechanical Ventilation

None Present

## Mechanical Equipment

- ☐ Heating Equipment • Natural Gas • 100% Heating Load @ 80 AFUE
- ☐ Cooling Equipment • Electric • 100% Cooling Load @ 14 SEER
- ☐ Water Heater • Natural Gas • 100% Hot Water Load @ 0.81 Energy Factor

## Air Leakage Control

- ☐ Test Status: Blower-door tested  
House is air-sealed as to achieve 2,116 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.
- 2021 IECC Infiltration limit for the design home is 5 ACH50.
- 2024 IECC Infiltration limit for the design home is 4 ACH50.

Note: Under IECC 2021 and later, this home is considered to be in Climate Zone 3

## Duct Leakage

- Duct System 1
  - NOT entirely within conditioned space, testing required
  - Leakage to Outside specified as: 4 CFM25 / 100 ft<sup>2</sup>
  - Total Leakage specified as: 6 CFM25 / 100 ft<sup>2</sup> (Post-Construction)

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## Property

TBD Osgood Street 14  
Angier, NC 27501  
Model: Telfair  
Community: Cambridge Reserve

## Organization

Builder i Group, LLC  
Mark Osborne

## Inspection Status

Results are projected

## Builder

Mungo Homes

\Mungo Homes Cambridge Reserve 14  
TBD Osgood Street 14

## Duct Leakage Code Requirements for IECC

2009 IECC:

Postconstruction Leakage Test: Duct Leakage to Outdoors  $\leq 8 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

Rough in Test with AHU: Total Duct Leakage  $\leq 6 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

Rough in Test without AHU: Total Duct Leakage  $\leq 4 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

2012 IECC Mandatory, 2015, 2018, & 2021 IECC Prescriptive Paths:

Postconstruction Leakage Test: Total Duct Leakage  $\leq 4 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

Rough in Test with AHU: Total Duct Leakage  $\leq 4 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

Rough in Test without AHU: Total Duct Leakage  $\leq 3 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$ .

\* Note: IECC 2021 requires Total Duct Leakage  $\leq 8 \text{ CFM}_{25} / 100 \text{ sq ft CFA}$  when all ducts and air handlers are within the building thermal envelope.

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.

## Project Notes

Added guest room converts from flex space. No change in takeoff. Change to 5 bedrooms