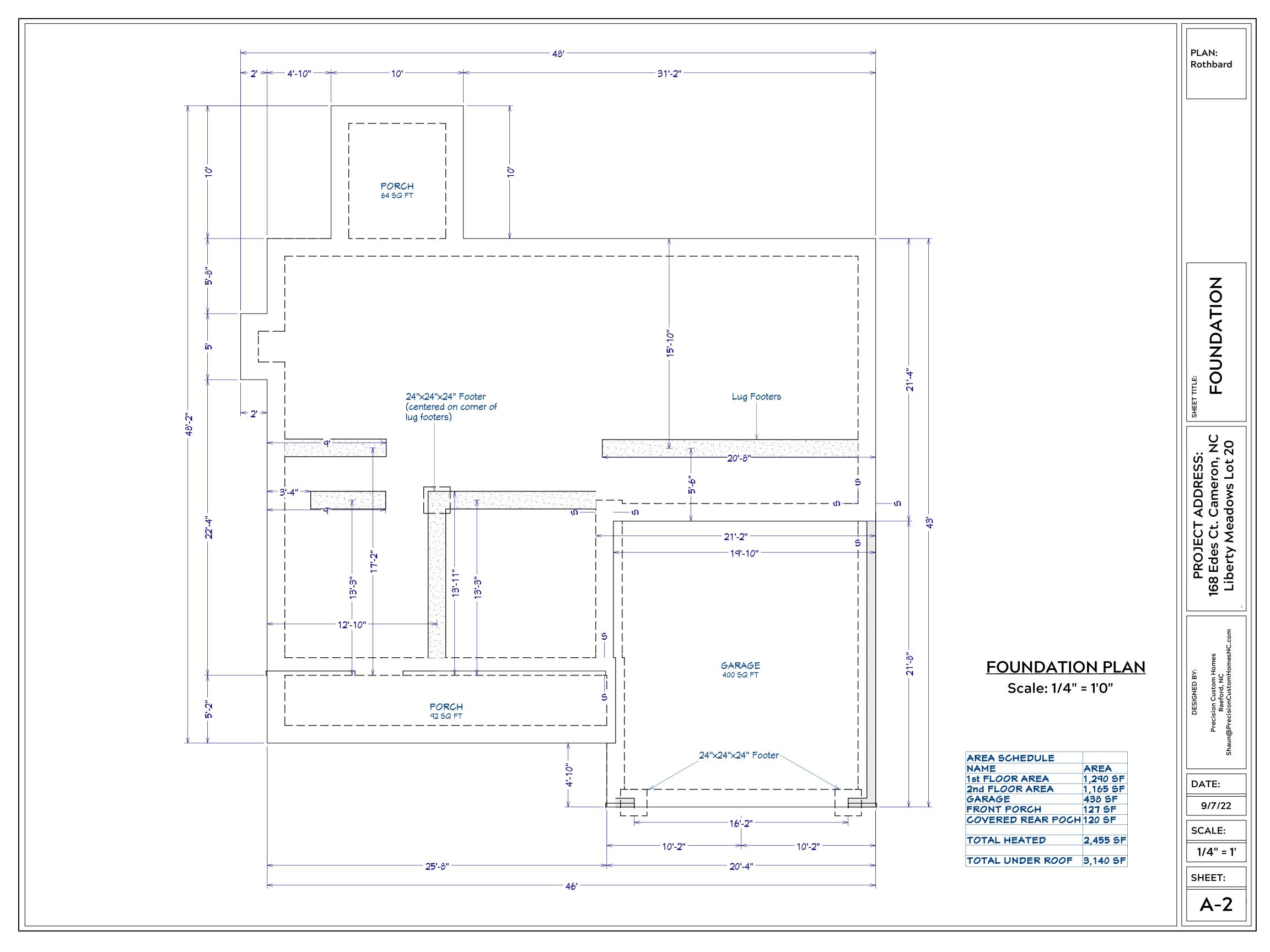
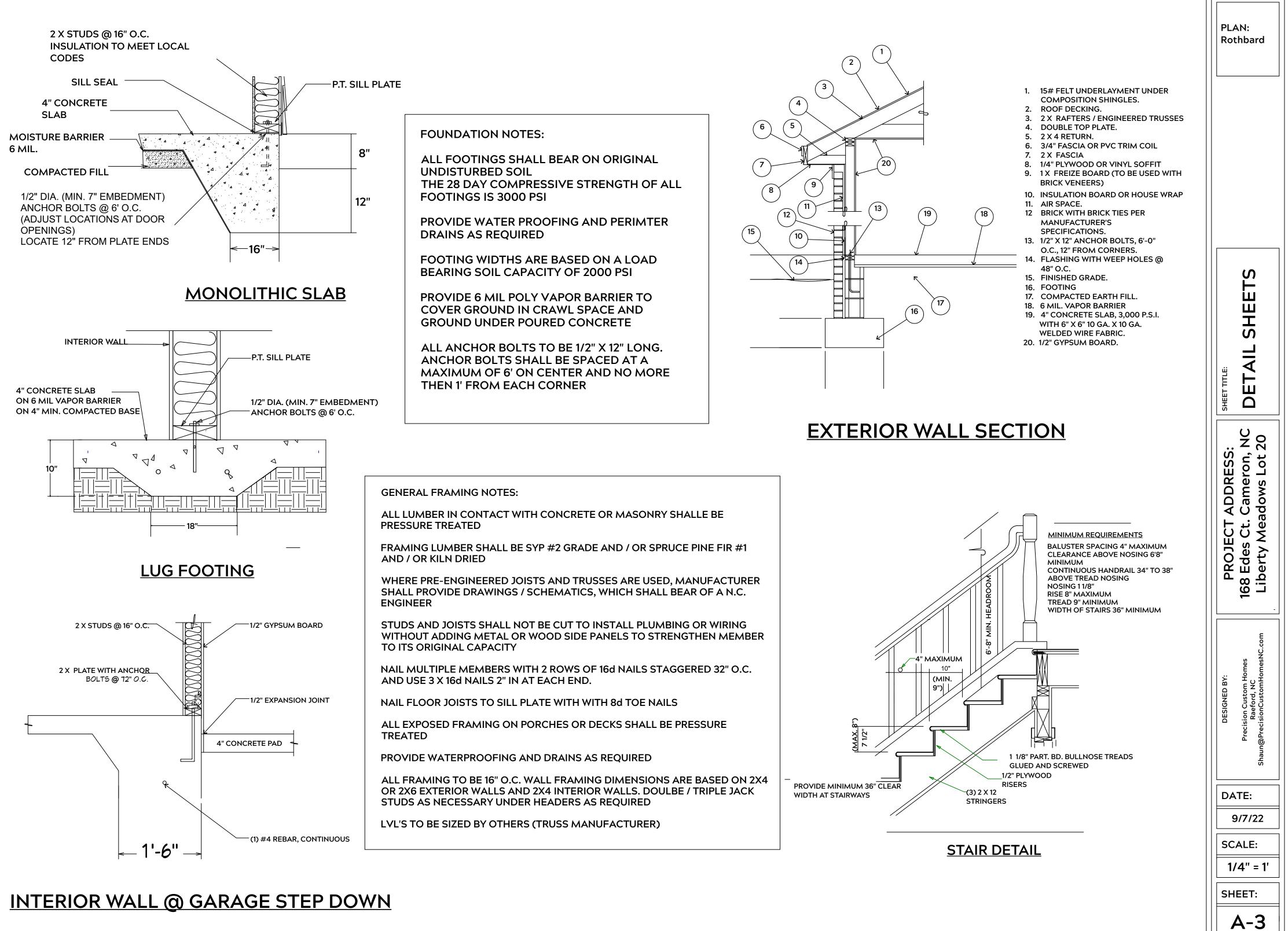


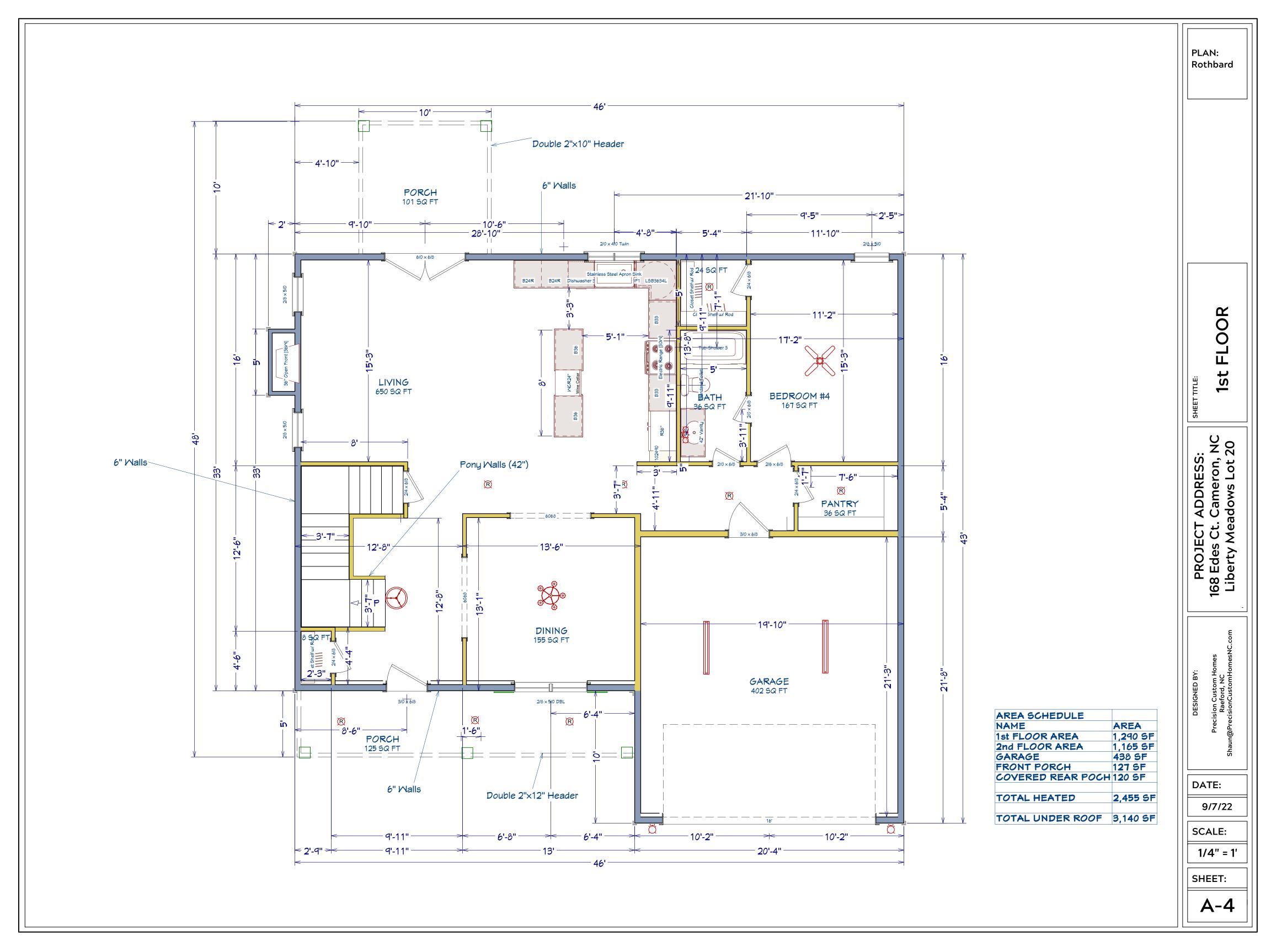


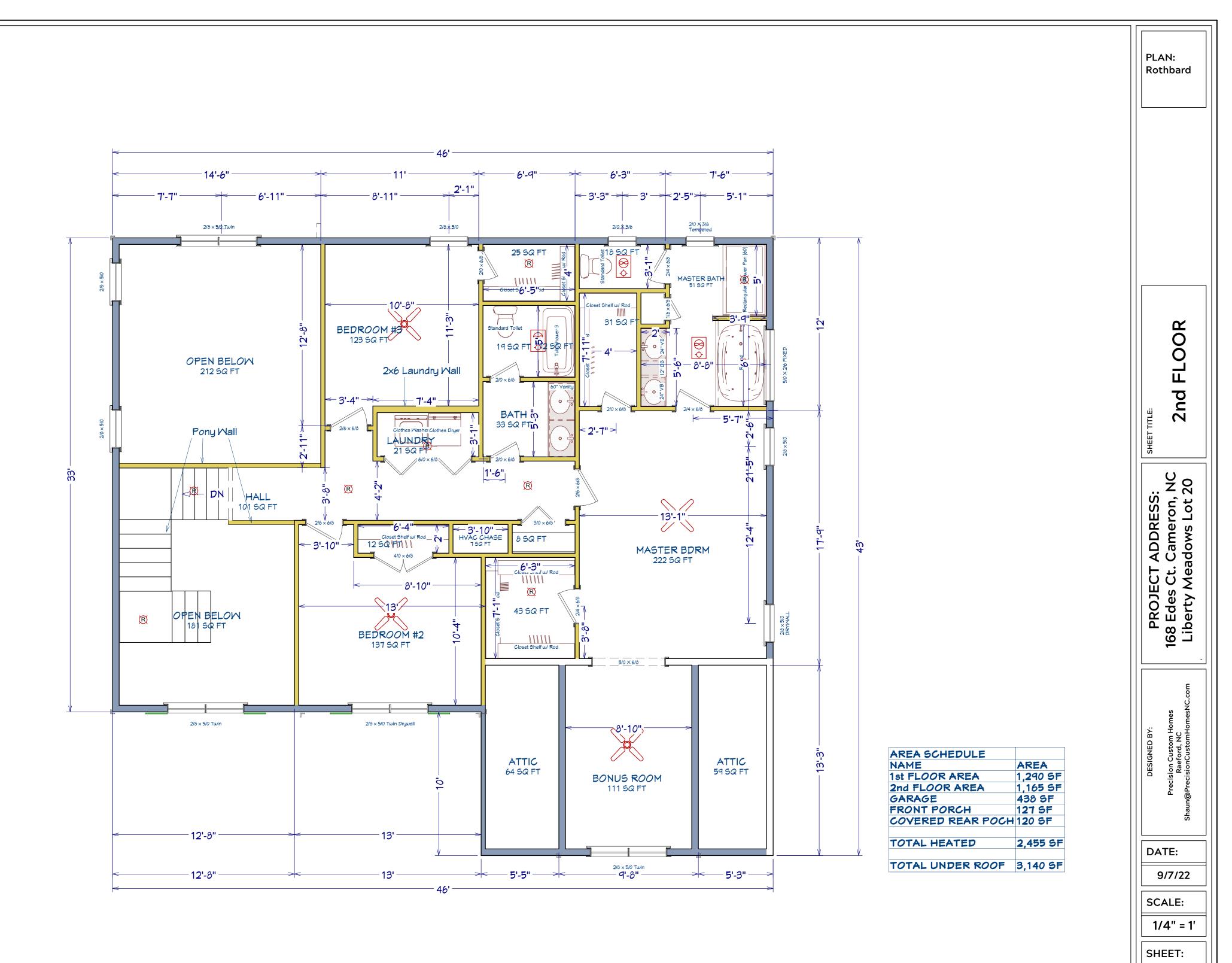
LEFT ELEVATION

Scale: 1/8" = 1'0"

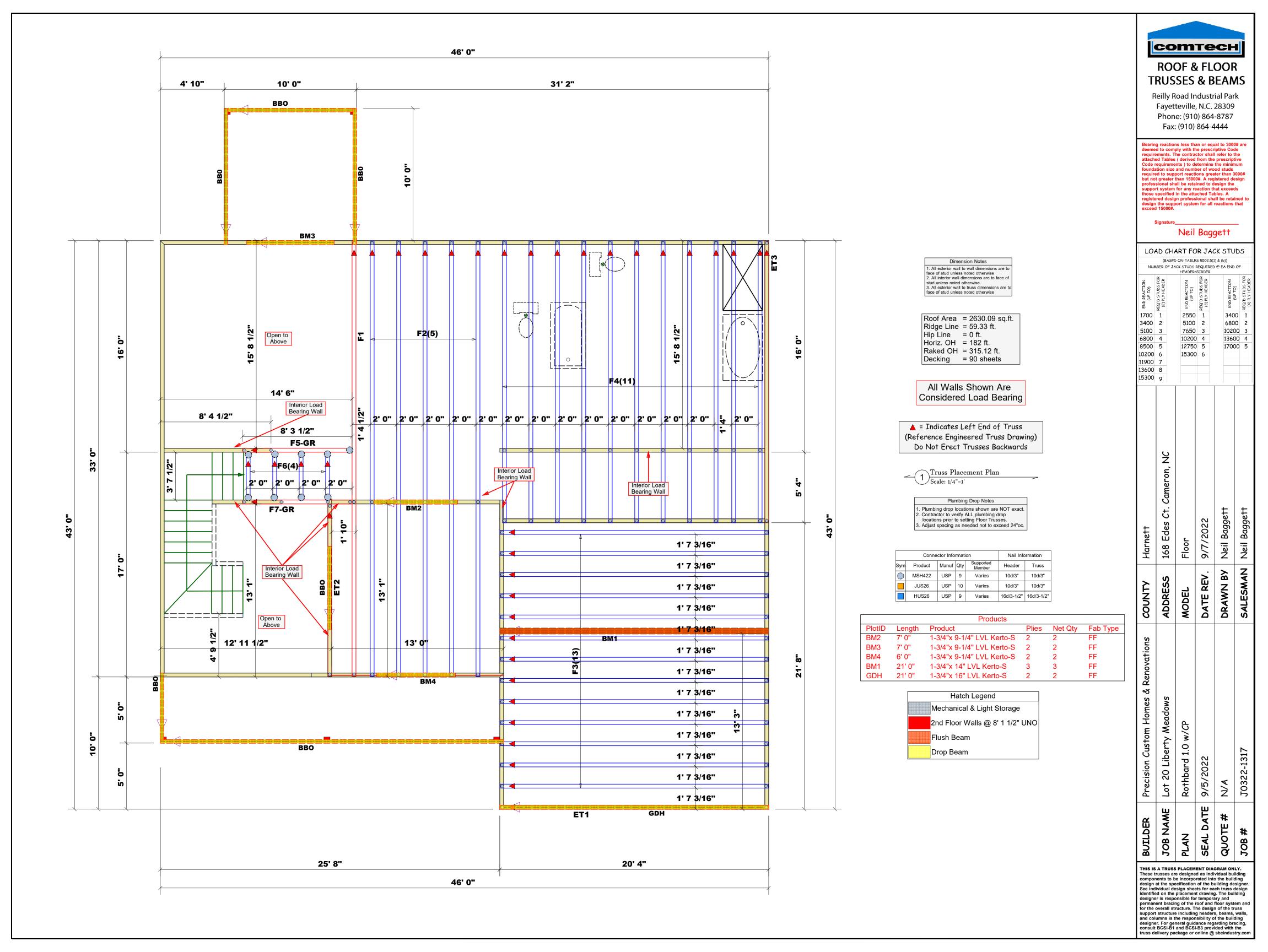


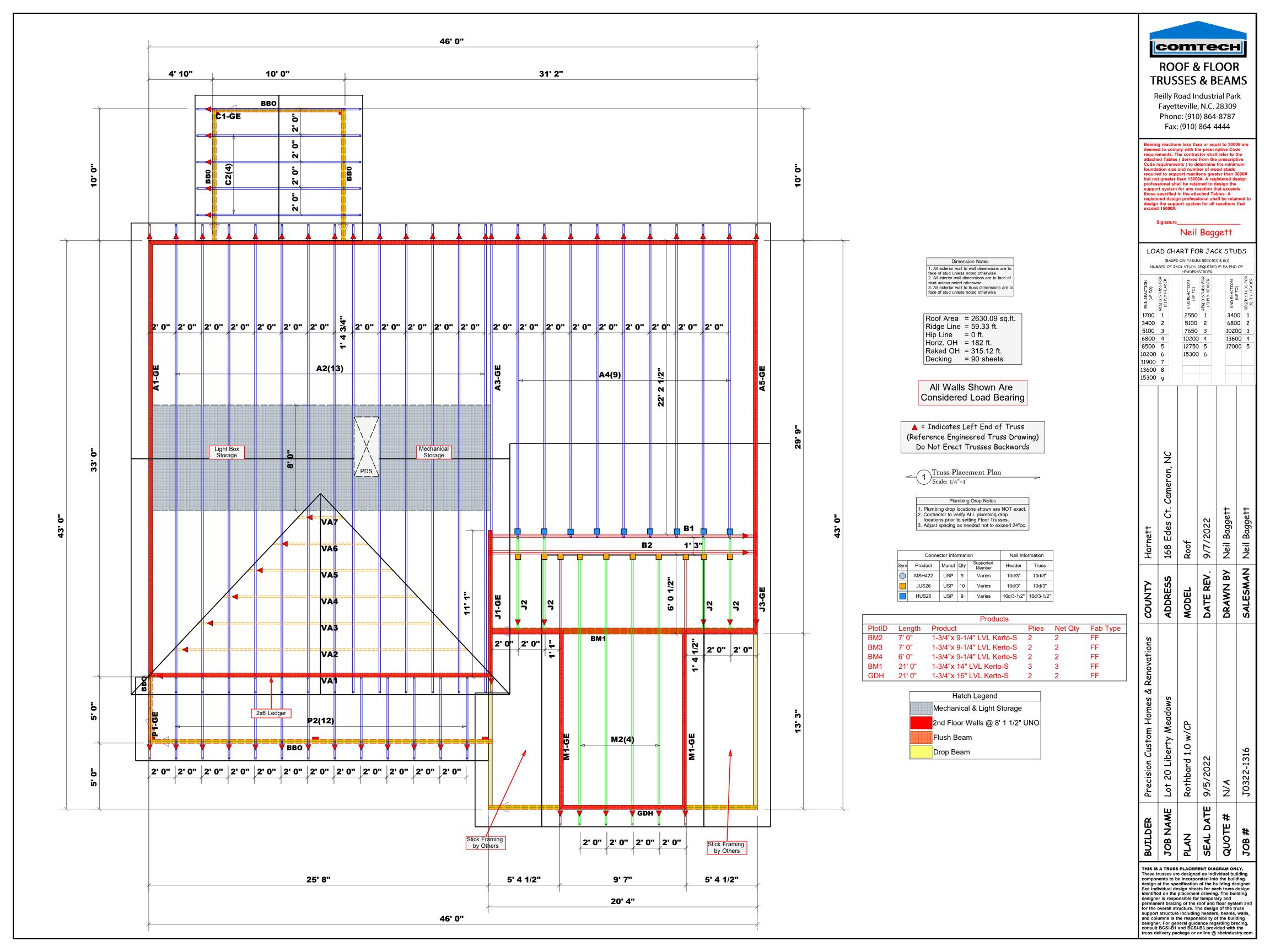






A-5





## North Carolina 2018 - R402.1.5 Total UA

### Property

168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab -Liberty Meadows Lot 20 Organization

Southern Energy Manager Justin Smith

Inspection Status Results are projected



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SMG Precision Properties

### 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	47.3	44.9
Above-Grade Walls	195.7	145.3
Windows, Doors and Skylights	126.2	113.8
Slab Floor:	76.4	99.6
Framed Floors	13.5	14.7
Foundation Walls	0.0	0.0
Rim Joists	8.8	7.1
Overall UA (Design must be equal or lower):	467.9	425.4

### Requirements

$\bigcirc$	402.1.5	Total UA alternative compliance passes by 9.1%.	
$\bigcirc$	402.3.2	Average SHGC: 0.28 Max SHGC: 0.30	
$\bigcirc$	R402.4.2.2	Air Leakage Testing	Air sealing is 4.80 ACH at 50 Pa. It must not exceed 5.00 ACH at 50 Pa.
$\bigcirc$	R402.5	Area-weighted average fenestration SHGC	
$\bigcirc$	R402.5	Area-weighted average fenestration U-Factor	
$\bigcirc$	R404.1	Lighting Equipment Efficiency	
$\bigcirc$	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	
$\bigcirc$	R403.3.1	Duct Insulation	
$\bigcirc$	403.3.3	Duct Testing	

## Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 9.1%.

Name:	Justin Smith	Signature:	Justin Smith
Organization:	Southern Energy Management	Digitally signed:	9/2/22 at 12:56 PM

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.

Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

Canaral Building Informati

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Justin Smith	

SMG Precision Properties

Inspection Status Results are projected



General Building Information	n
Number Of Bedrooms	4
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	2,455
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	Yes
Conditioned Volume [cu. ft.]	25,604
Total Units in Building	1
Residence Type	Single family detached
Number of Floors in Building	-
Floor Number	-
Model	Rothbard
Community	Liberty Meadows
RESNET/IECC 2006 Climate Zone	4A
IECC 2021 Climate Zone	3A

Builder

## **Foundation Wall**

None Present

**Foundation Wall Library List** 

Slab									
	Name	Library Type	Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
	slab	Uninsulated	158	On Grade	1	0	1,290.0 ft²	Exposed Exterior	Conditioned Space

Slab Library List							
Name	Wall Construction Type	Slab Completely Insulated?	Underslab Insulation Width [ft]	Perimeter Insulation Depth [ft]	Perimeter Insulation R Value	Thermal Break	Effective R-value
Uninsulated	Wood Frame / Other	No	0	0	0	No	0.00

Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

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Framed Floo	r				
Name	Library Type	Carpet R	Floor Grade	e Surface Area	Location
over garage	R 19, 16"OC G1 Carpet	0	Above Grade	287.0 ft²	Unconditioned, attached garage



### **Rim Joist** Name Library Type Surface Area Location 1st floor ambient R 19 G1, 16"OC 126.0 ft2 Exposed Exterior 1st floor garage R 19 G1, 16"OC 32.0 ft<sup>2</sup> Unconditioned, attached garage

tim Joist Libi	-	
	Name	Effective Insulation R-value
R 19 G1	I, 16"OC	17.30
Mall		

Wall				
Name	Library Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,135.0 ft²	Exposed Exterior
1st floor garage	R 19 Adv. Framing G1 16" O.C	Medium	287.0 ft²	Unconditioned, attached garage
2nd floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,158.0 ft²	Exposed Exterior
2nd floor attic	R 19 Adv. Framing G1 16" O.C	Medium	322.0 ft²	Attic

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perties			

Wall Library List		
Name	Effective R-value	
R 19 Adv. Framing G1 16" O.C	17.492	

### Glazing

5									
Name	Library Type	Wall Assignment	Foundation Wall Assignment	is Operable	Overhang Depth	Overhang Ft To O Top	overhang Ft To Bottom	Orientation	Surface Area
front 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	West	81.0 ft²
front shaded	33/28	1st floor ambient		Yes	5	1	6	West	27.0 ft²
left 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	North	27.0 ft²
left unshaded	33/28	1st floor ambient		Yes	0	0	0	North	27.0 ft²
rear 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	East	54.5 ft²
rear shaded	33/28	1st floor ambient		Yes	10	2	9	East	40.2 ft²
rear unshaded	33/28	1st floor ambient		Yes	0	0	0	East	29.5 ft²
right 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	South	34.5 ft²

Glazing Libra	ary List		
Name	e Shg	c U-factor	
33/28	0.28	0.330	

Skylight

None Present

Skylight Library List

Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

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Opaque Door								
Name	Library Type	Wall Assignment	Foundation Wall Assignment		Solar Absorptance	Surface Color	Surface Area	Location
front entry	Fiberglass R-5	1st floor ambient		0.9	0.75	Medium	20.0 ft²	Exposed Exterior
garage entry	Fiberglass R-5	1st floor garage		0.9	0.75	Medium	20.0 ft²	Unconditioned, attached garage

Opaqu	e Door Library List	:
	Name	Effective U-factor
	Fiberglass R-5	0.200
L		

l	Roof Insulation	on					
	Name	Library Type	Attic Exterior Area [ft <sup>2</sup> ]	Clay or Concrete Roof Tiles		Surface Area	Location
	attic	R 38 Attic BLOWN FG G1 2x10 24"OC NO Padiant Barrier	2,318.19	No	Dark	1,577.0 ft²	Attic

Roof Insulation Library List				
Name	Has Radiant Barrier	Effective R-value		
R 38 Attic BLOWN FG G1 2x10 24"OC NO Badiant Barriar	No	35.115		
Whole House Infiltra	ation			
Infiltration	Measurement Type	Shelter Class		
2048 CFM at 50 Pa	Blower-door tested	4		

**Mechanical Ventilation** 

Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

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Lighting					
% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting		% Garage Fluorescent Lighting	% Garage LED Lighting
0	90	0	0	0	0

**Onsite Generation** 

None Present

**Onsite Generation Library List** 

None Present

**Solar Generation** 

None Present

## Dehumidifier

None Present

**Dehumidifier Library List** 

None Present

Whole House Fan

Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

Whole House Fan Library List

None Present

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## **Conditioning Equipment**

Name	Library Type	Serial Number	Heating Percent Load	Cooling Percent Load	Hot Water Percent Load	
1st floor heat pump	z 24k 14 SEER 8.0hspf		52%	52%	0%	Attic
2nd floor heat pump	z 24k 14 SEER 8.0hspf		48%	48%	0%	Attic
Water Heating	z 50 gal. 0.95 EF Elec		0%	0%	100%	Unconditioned Garage

Equipment Type: 2 24K 14 SEER 8.0nspt		
Equipment Type	Air Source Heat Pump	
Fuel Type	Electric	
Distribution Type	Forced Air	

Motor Type	PSC (Single Speed)
Heating Efficiency	8 HSPF
Heating Capacity [kBtu/h]	24
Backup Fuel Type	Electric
Switchover Temperature [°F]	0
Backup Heating Efficiency	1 COP
Use default Supplemental Heat	Yes
Cooling Efficiency	14 SEER
Cooling Capacity [kBtu/h]	24

## Equipment Type: z 24k 14 SEER 8.0hspf

Equipment Type	Air Source Heat Pump
Fuel Type	Electric
Distribution Type	Forced Air
Motor Type	PSC (Single Speed)
Heating Efficiency	8 HSPF
Heating Capacity [kBtu/h]	24
Backup Fuel Type	Electric
Switchover Temperature [°F]	0
Backup Heating Efficiency	1 COP
Use default Supplemental Heat	Yes
Cooling Efficiency	14 SEER
Cooling Capacity [kBtu/h]	24



Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

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Equipment Type: z 50 ga	I. 0.95 EF Elec
Equipment Type	Residential Water Heater
Fuel Type	Electric
Distribution Type	Hydronic Delivery (Radiant)
Hot Water Efficiency	0.95 Energy Factor
Tank Capacity (gal.)	50
Hot Water Capacity [kBtu/h]	40
Recovery Efficiency	0.98

Distribution System	
Distribution Type	Forced Air
Heating Equipment	1st floor heat pump
Cooling Equipment	1st floor heat pump
Sq. Feet Served	1,290
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft <sup>2</sup> ]	348.3
Return Duct Area [ft <sup>2</sup> ]	129
Leakage to Outdoors	51 CFM @ 25Pa (3.95 / 100 ft <sup>2</sup> )
Total Leakage	51 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	
Duct Location	Attic (well vented)
Percent Supply Area	70
Percent Return Area	70
Duct 2	
Duct Location	Conditioned Space
Percent Supply Area	30
Percent Return Area	30
Duct 3	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 4	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 5	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0
Duct 6	
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

### Property

168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

### **Distribution System**

Distribution Type Forced Air Heating Equipment 2nd floor heat pump Cooling Equipment 2nd floor heat pump Sq. Feet Served 1,165 # Return Grilles 2 Supply Duct R Value 8 8 Return Duct R Value 314.55 Supply Duct Area [ft2] Return Duct Area [ft<sup>2</sup>] 116.5 Leakage to Outdoors 46 CFM @ 25Pa (3.95 / 100 ft2) Total Leakage 46 CFM25 Total Leakage Duct Test Conditions Post-Construction Use Default Flow Rate Yes Duct 1 Duct Location Attic (well vented) Percent Supply Area 100 Percent Return Area 100 Duct 2 Duct Location Conditioned Space Percent Supply Area 0 Percent Return Area 0 Duct 3 Duct Location Conditioned Space Percent Supply Area 0 0 Percent Return Area Duct 4 Duct Location Conditioned Space Percent Supply Area 0 Percent Return Area 0 Duct 5 Duct Location Conditioned Space Percent Supply Area 0 Percent Return Area 0 Duct 6 Duct Location Conditioned Space Percent Supply Area 0 Percent Return Area 0

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### **HVAC Grading**

HVAC Grading Not Conducted

### **Ceiling Fan**

Has Ceiling Fan Cfm Per Watt No 100

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Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

## Water Distribution

Water Fixture Type	Low-flow
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	79
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	20
Drain Water Heat Recovery?	No

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### **Clothes Dryer**

Cef	3.01
Fuel Type	Electric
Field Utilization	Timer Controls
Is Outside Conditioned Space	No
Clothes Dryer Available	Yes
Defaults Type	HERS Reference

### **Clothes Washer**

Label Energy Rating	153 kWh/Year
Annual Gas Cost	\$12.00
Electric Rate	\$0.11/kWh
Gas Rate	\$1.22/Therm
Capacity	3.31
Imef	2.1547
Defaults Type	Custom
Load Type	Front-load
Loads Per Week	6
Is Outside Conditioned Space	No
Clothes Washer Available	Yes

Dishwasher	
Dishwasher Efficiency	270 kWh
Dishwasher Size	Standard
Annual Gas Cost	\$22.23
Electric Rate	\$0.12/kWh
Gas Rate	\$1.09/Therm
Is Outside Conditioned Space	No

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Property 168 Edes Ct. Cameron, NC 28326 Model: Rothbard Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows Lot 20 - CZ 4 slab - ecoSelect Liberty Meadows Lot 20

## **Appliances and Controls**

Thermostat Cooling Setpoint	* * * * 75.0
Thermostat Heating Setpoint	* * * * 70.0
Range/Oven Fuel	Electric
Convection Oven?	No
Induction Range?	No
Range/Oven Outside Conditioned Space?	No
Refrigerator Consumption	538 kWh/Year
Refrigerator Outside Conditioned Space?	No

Builder

### Notes

Initial Inputs \_\_\_\_\_JS 09/02/22\_

-confirm HVAC specs -confirm water heater specs -confirm ventilation entry -modeled to worst case orientation -confirm cfl lighting %

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SMG Precision Properties



