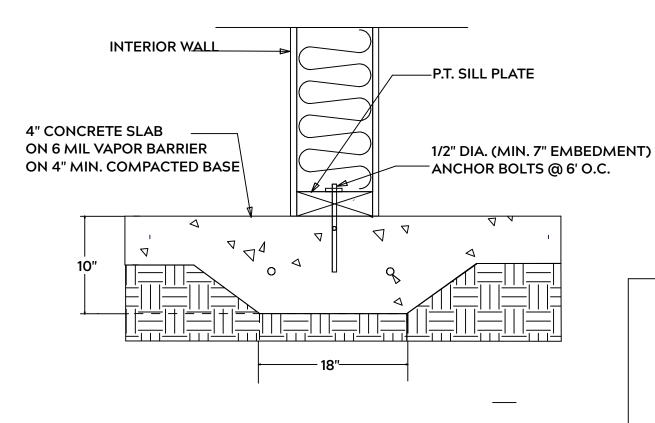
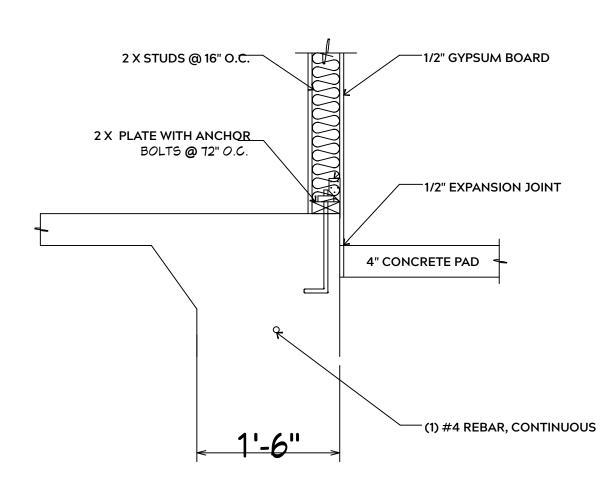


## **MONOLITHIC SLAB**



### **LUG FOOTING**



#### **FOUNDATION NOTES:**

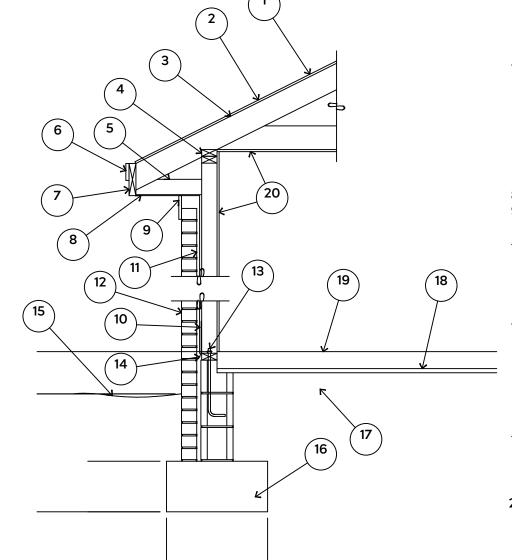
ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL THE 28 DAY COMPRESSIVE STRENGTH OF ALL **FOOTINGS IS 3000 PSI** 

PROVIDE WATER PROOFING AND PERIMTER **DRAINS AS REQUIRED** 

FOOTING WIDTHS ARE BASED ON A LOAD BEARING SOIL CAPACITY OF 2000 PSI

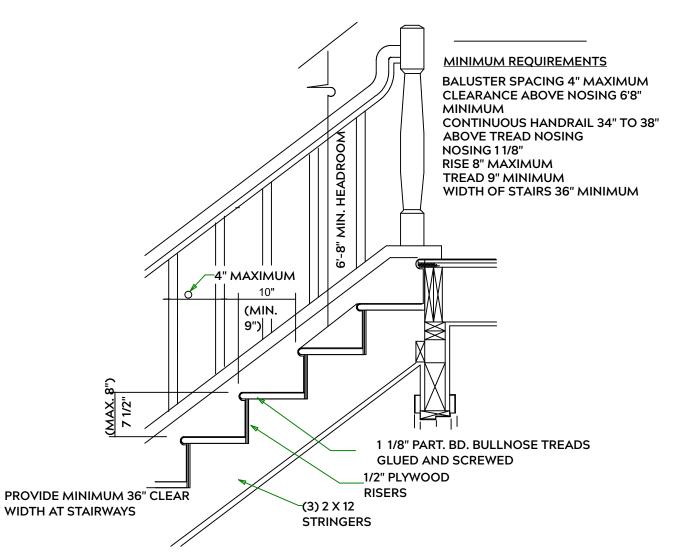
PROVIDE 6 MIL POLY VAPOR BARRIER TO COVER GROUND IN CRAWL SPACE AND **GROUND UNDER POURED CONCRETE** 

ALL ANCHOR BOLTS TO BE 1/2" X 12" LONG. ANCHOR BOLTS SHALL BE SPACED AT A MAXIMUM OF 6' ON CENTER AND NO MORE THEN 1' FROM EACH CORNER



- 15# FELT UNDERLAYMENT UNDER COMPOSITION SHINGLES.
- 2. ROOF DECKING.
- 3. 2 X RAFTERS / ENGINEERED TRUSSES
- DOUBLE TOP PLATE.
- 5. 2 X 4 RETURN. 6. 3/4" FASCIA OR PVC TRIM COIL
- 7. 2 X FASCIA 1/4" PLYWOOD OR VINYL SOFFIT
- 9. 1X FREIZE BOARD (TO BE USED WITH **BRICK VENEERS)**
- 10. INSULATION BOARD OR HOUSE WRAP
- 11. AIR SPACE.
- 12 BRICK WITH BRICK TIES PER MANUFACTURER'S SPECIFICATIONS.
- 13. 1/2" X 12" ANCHOR BOLTS, 6'-0" O.C., 12" FROM CORNERS.
- 4. FLASHING WITH WEEP HOLES @ 48" O.C.
- 15. FINISHED GRADE.
- 16. FOOTING
- 17. COMPACTED EARTH FILL
- 18. 6 MIL. VAPOR BARRIER
- 19. 4" CONCRETE SLAB, 3,000 P.S.I. WITH 6" X 6" 10 GA. X 10 GA. WELDED WIRE FABRIC.
- 20. 1/2" GYPSUM BOARD.

# **EXTERIOR WALL SECTION**



**STAIR DETAIL** 

**GENERAL FRAMING NOTES:** 

ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALLE BE PRESSURE TREATED

FRAMING LUMBER SHALL BE SYP #2 GRADE AND / OR SPRUCE PINE FIR #1 AND / OR KILN DRIED

WHERE PRE-ENGINEERED JOISTS AND TRUSSES ARE USED, MANUFACTURER SHALL PROVIDE DRAWINGS / SCHEMATICS, WHICH SHALL BEAR OF A N.C. **ENGINEER** 

STUDS AND JOISTS SHALL NOT BE CUT TO INSTALL PLUMBING OR WIRING WITHOUT ADDING METAL OR WOOD SIDE PANELS TO STRENGTHEN MEMBER TO ITS ORIGINAL CAPACITY

NAIL MULTIPLE MEMBERS WITH 2 ROWS OF 16d NAILS STAGGERED 32" O.C. AND USE 3 X 16d NAILS 2" IN AT EACH END.

NAIL FLOOR JOISTS TO SILL PLATE WITH WITH 8d TOE NAILS

ALL EXPOSED FRAMING ON PORCHES OR DECKS SHALL BE PRESSURE **TREATED** 

PROVIDE WATERPROOFING AND DRAINS AS REQUIRED

ALL FRAMING TO BE 16" O.C. WALL FRAMING DIMENSIONS ARE BASED ON 2X4 OR 2X6 EXTERIOR WALLS AND 2X4 INTERIOR WALLS. DOULBE / TRIPLE JACK STUDS AS NECESSARY UNDER HEADERS AS REQUIRED

LVL'S TO BE SIZED BY OTHERS (TRUSS MANUFACTURER)

INTERIOR WALL @ GARAGE STEP DOWN

PLAN: Ragnar

> SHEETS AIL ET

ESS: Lot 12

PROJECT ADDRESS iberty Meadows Lot TBD Edes Ct. Liberty / TB

Precision Custom Hor Raeford, NC @PrecisionCustomHor

DATE:

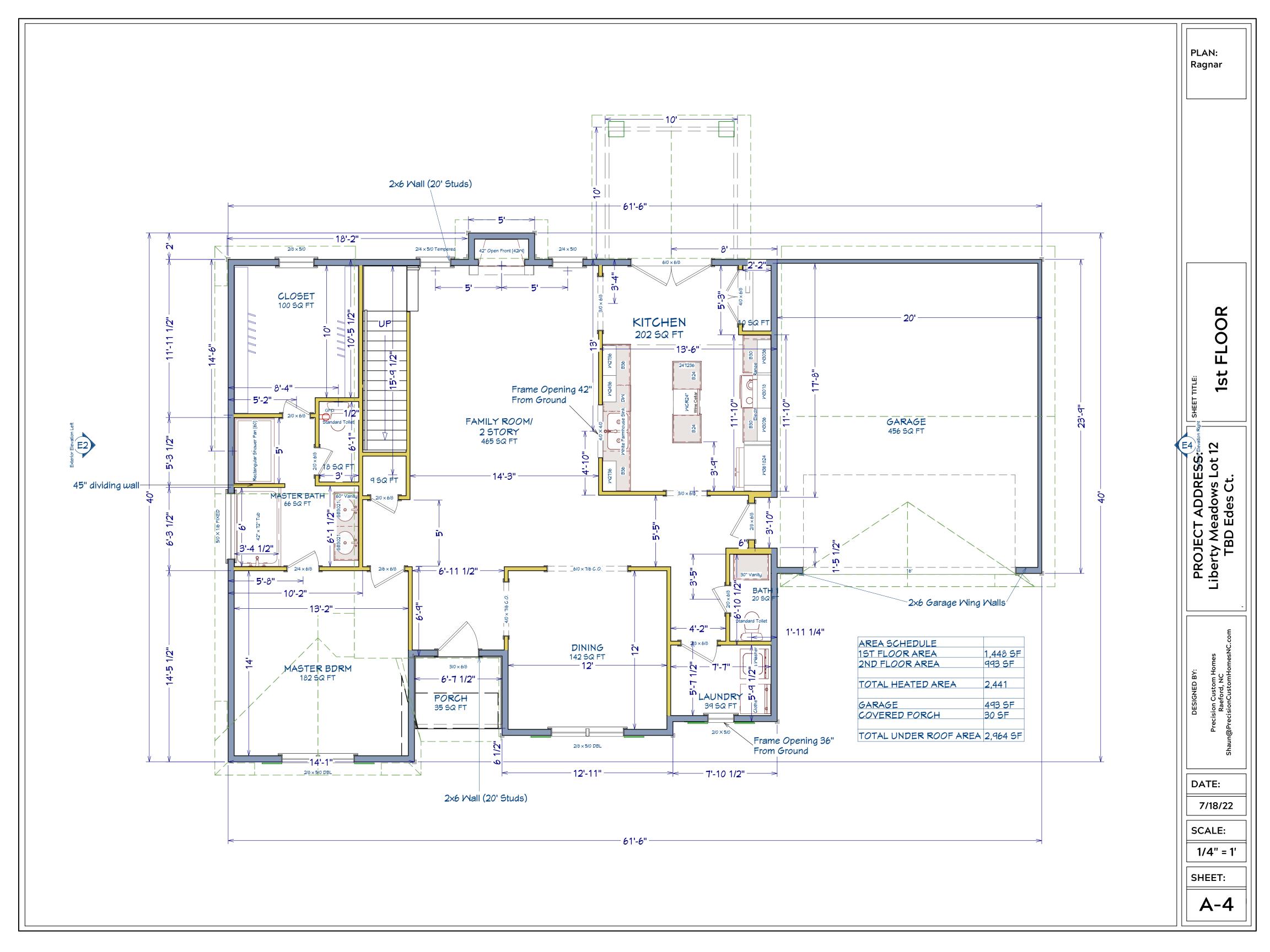
SCALE:

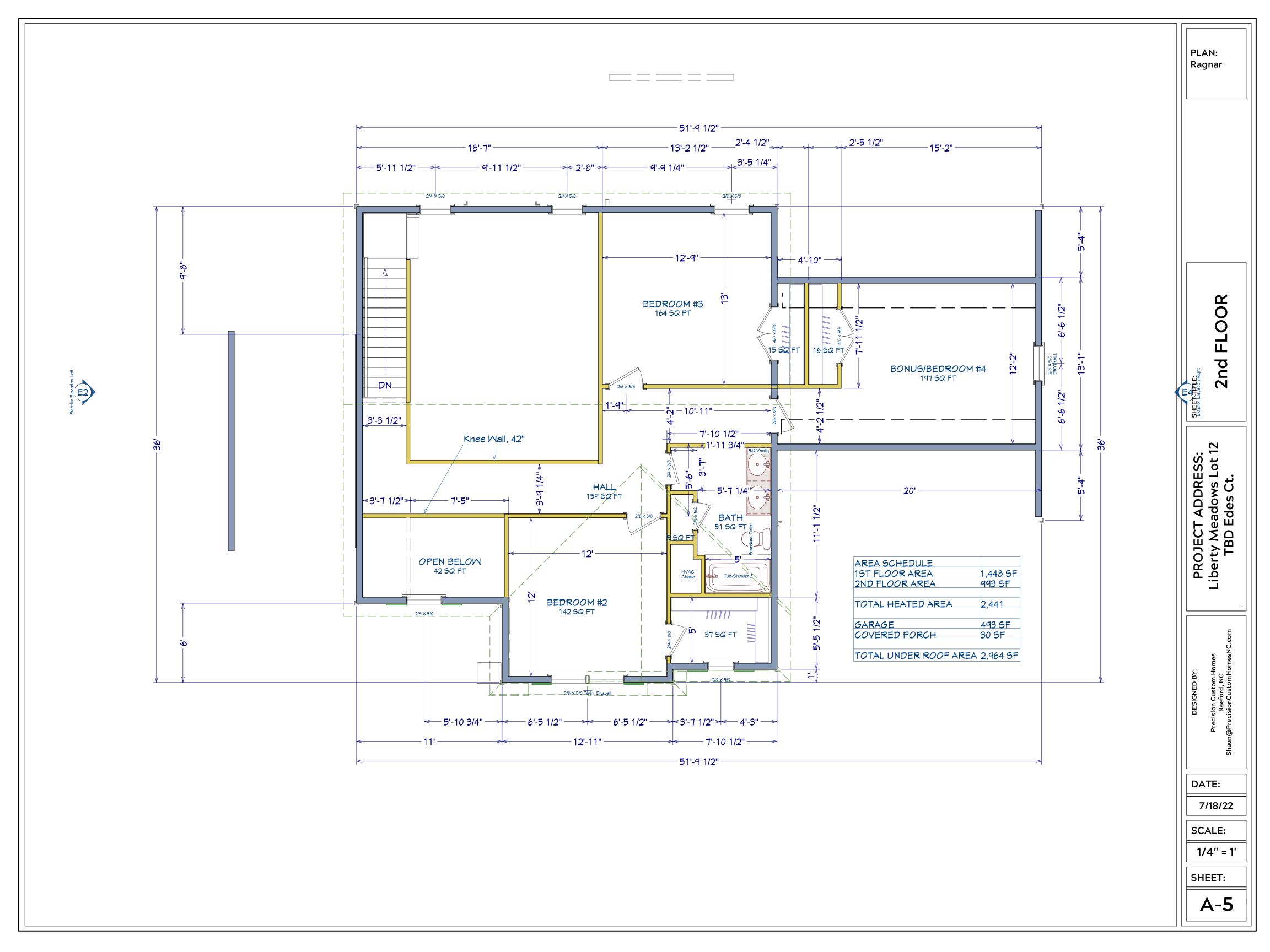
7/18/22

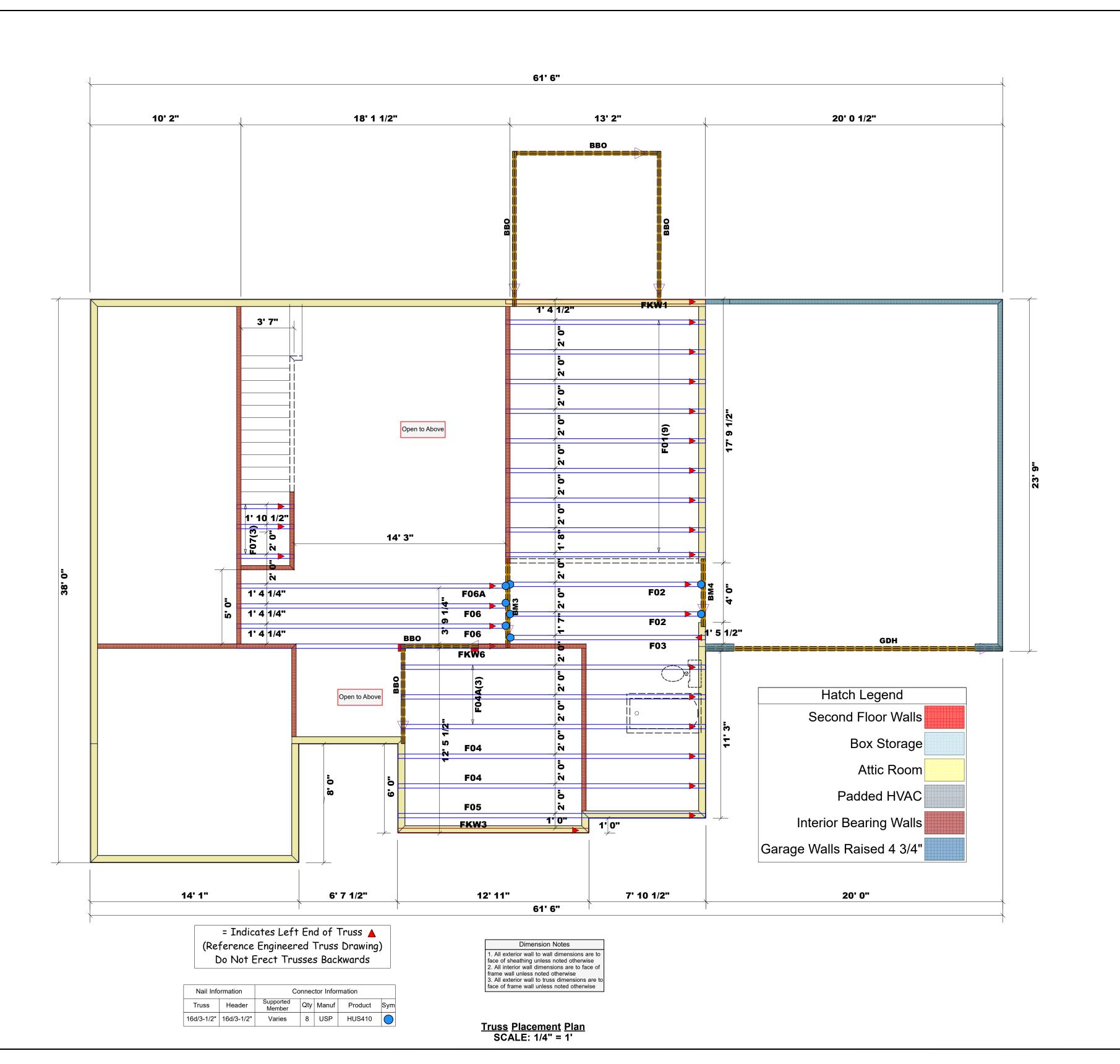
1/4" = 1'

SHEET:

**A-3** 









Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed \$1000#

Signatur

Hampton Horrocks

LOAD CHART FOR JACK STUDS

Precision Custom Homes	KINNOO	Harnett
Lot 19 Liberty Meadow	ADDRESS	Lot 19 Liberty Meadow
Ragnar 2.0 w/CP	MODEL	Floor
02/05/20	DATE REV.	07/05/22
Quote #	DRAWN BY	DRAWN BY Hampton Horrocks
J1021-6181	SALESMAN	SALESMAN Neil Baggett

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.

These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

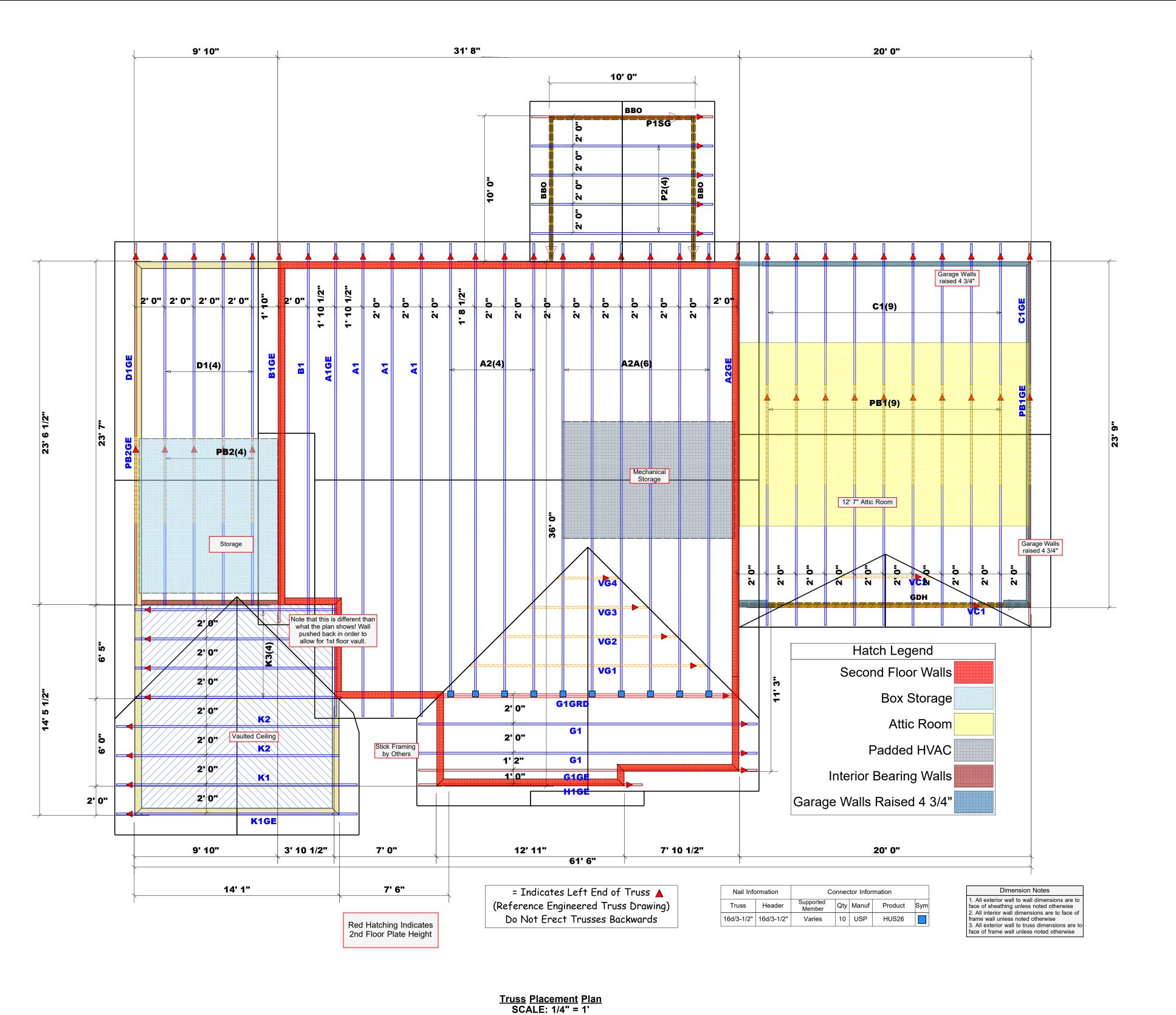
PLAN

SEAL DATE

QUOTE# JOB#

JOB NAME

BUILDER



ROOF & FLOOR TRUSSES & BEAMS

> Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444

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Signature\_

Hampton Horrocks

LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))

NU	MBER C	STUDS R HEADER/		A END OF	•
END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

Precision Custom Homes	COUNTY	Harnett	13600 15300
Lot 19 Liberty Meadow	ADDRESS	Lot 19 Liberty Meadow	8 9
Ragnar 2.0 w/CP	WODEL	Roof	
02/05/20	DATE REV.	07/05/22	
Quote #	DRAWN BY	Hampton Horrocks	
J1021-6180	SALESMAN	SALESMAN Neil Baggett	

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PLAN

SEAL DATE

QUOTE # JOB #

JOB NAME

BUILDER

#### North Carolina 2018 - R402.1.5 Total UA

**Property** 

Cameron, NC 28326 Model: Ragnar

Community: Liberty Meadows

Organization

Southern Energy Manager Justin Smith

Inspection Status
Results are projected



Builder

**SMG Precision Properties** 

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab -Liberty Meadows lot 12

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	51.5	48.9
Above-Grade Walls	209.1	155.3
Windows, Doors and Skylights	100.0	89.4
Slab Floor:	84.7	110.5
Framed Floors	12.6	13.7
Foundation Walls	0.0	0.0
Rim Joists	6.8	5.5
Overall UA (Design must be equal or lower):	464.7	423.3

#### Requirements

402.1.5	Total UA alternative compliance passes by 8.9%.	
402.3.2	Average SHGC: 0.28 Max SHGC: 0.30	
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.
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 8.9%.

Name:	Justin Smith	Signature:	Justin Smith
Organization:	Southern Energy Management	Digitally signed:	8/9/22 at 11:16 AM

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Justin Smith Builder

SMG Precision Properties

Organization

Inspection Status Southern Energy Management Results are projected



General Building Information	
Number Of Bedrooms	4
Number Of Floors	2
Conditioned Floor Area [sq. ft.]	2,441
Has Electric Vehicle Ready Space	No
Unconditioned, attached garage?	Yes
Conditioned Volume [cu. ft.]	24,363
Total Units in Building	1
Residence Type	Single family detached
Number of Floors in Building	·
Floor Number	-
Model	Ragnar
Community	Liberty Meadows
RESNET/IECC 2006 Climate Zone	4A

ЗА

#### **Foundation Wall**

IECC 2021 Climate Zone

None Present

#### **Foundation Wall Library List**

None Present

Slab								
Nam	e Library Type	e Perimeter	Floor Grade	Carpet R	Exposed Masonry Area	Surface Area	Location	Enclosing
slat	Uninsulated	175	On Grade	1	0	1,448.0 ft²	Exposed Exterior	Conditioned Space

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

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management

Justin Smith

Builder

SMG Precision Properties





ı	Framed Floor					
ľ	Name	Library Type	Carpet R	Floor Grade	Surface Area	Location
	over garage	R 19, 16"OC G1 Carpet	0	Above Grade	268.0 ft²	Unconditioned, attached garage

Inspection Status

Results are projected

Framed Floo	or Library List	
	Name	Effective R-value
R 19, 16"OC	G1 Carpet	19.566

	Rim Joist			
	Name	Library Type	Surface Area	Location
ı	1st floor ambient	R 19 G1, 16"OC	102.0 ft²	Exposed Exterior
ı	1st floor garage	R 19 G1, 16"OC	20.0 ft²	Unconditioned, attached garage

Rim Joist Library I	List
Name	e Effective Insulation R-value
R 19 G1, 16"OC	17.30

Wall				
Name	Library Type	Surface Color	Surface Area	Location
1st floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	1,359.0 ft²	Exposed Exterior
1st floor garage	R 19 Adv. Framing G1 16" O.C	Medium	243.0 ft²	Unconditioned, attached garage
2nd floor ambient	R 19 Adv. Framing G1 16" O.C	Medium	816.0 ft²	Exposed Exterio
2nd floor attic	R 19 Adv. Framing G1 16" O.C	Medium	584.0 ft²	Attio

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder

SMG Precision Properties



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

Inspection Status

Results are projected

Glazing									
Name	Library Type	Wall Assignment	Foundation Wall Assignment	ls Operable	Overhang Depth	Overhang Ft To Top	Overhang Ft To Bottom	Orientation	Surface Area
front 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	East	50.1 ft²
front unshaded	33/28	1st floor ambient		Yes	0	0	0	East	63.4 ft²
left unshaded	33/28	1st floor ambient		Yes	0	0	0	South	7.5 ft²
rear 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	West	36.7 ft²
rear unshaded	33/28	1st floor ambient		Yes	0	0	0	West	76.7 ft²
right 2nd unshaded	33/28	2nd floor ambient		Yes	0	0	0	North	13.4 ft²

Glazing Library List			
Name	Shgc	U-factor	
33/28	0.28	0.330	

Skylight		
	None Present	

Skylight Library List	
	None Present

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder

SMG Precision Properties

Inspection Status Results are projected



Opaque Doo	r							
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	18.0 ft²	Unconditioned, attached garage

Opaque Door Libr	rary List
Nam	ne Effective U-factor
Fiberglass R-5	5 0.200

Roof Insulation	on					
Name	Library Type	Attic Exterior Area [ft²]	Clay or Concrete Roof Tiles		Surface Area	Location
attic	R 38 Attic BLOWN FG G1 2x10 24"OC NO Radiant Barrier	2,522.52	No	Dark	1,716.0 ft²	Attic

Roof Insulation	Library List	
Name	Has Radiant Barrier	Effective R-value
R 38 Attic BLOWN FG G1 2x10 24"OC NO	No	35.115

Whole House	Infiltration		
Infiltration	Measurement Type	Shelter Class	ss
1949 CFM at 50 Pa	Blower-door tested	4	4

#### **Mechanical Ventilation**

None Present

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management

Inspection Status

Results are projected

Justin Smith

Builder

None Present

SMG Precision Properties



Liberty incudows for 12					
Lighting					
% Interior Fluorescent Lighting	% Interior LED Lighting	% Exterior Fluorescent Lighting	% Exterior LED Lighting	% Garage Fluorescent Lighting	% Garage LED Lighting
0	90	0	0	0	0
Onsite Genera	tion	_	_	_	_
Onsite General		one Present			
Onsite Genera	tion Library List				
	No	one Present			
Solar Generati	ion				
	No	one Present			
Dehumidifier					
	No	one Present			
Dehumidifier L		Paramet.			
	No	one Present			
Whole House I	Fan				

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder

SMG Precision Properties



#### Whole House Fan Library List

None Present

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 8.2hspf		59%	59%	0%	Attic
2nd floor heat pump	z 24k 14 SEER 8.2hspf		41%	41%	0%	Attic
Water Heating	z 50 gal. 0.95 EF Elec		0%	0%	100%	Unconditioned Garage

Inspection Status

Results are projected

Equipment Type: z 24k 14 SEER 8.2hspf		
Equipment Type	Air Source Heat Pump	
Fuel Type	Electric	
Distribution Type	Forced Air	
Motor Type	PSC (Single Speed)	
Heating Efficiency	8.2 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 50 gal. 0.95 EF Elec		
Residential Water Heater		
Electric		
Hydronic Delivery (Radiant)		
0.95 Energy Factor		
50		
40		
0.98		
	Residential Water Heater Electric Hydronic Delivery (Radiant) 0.95 Energy Factor 50 40	

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder

SMG Precision Properties

Inspection Status Results are projected



Distribution System	
Distribution Type	Forced Air
Heating Equipment	1st floor heat pump
Cooling Equipment	1st floor heat pump
Sq. Feet Served	1,448
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft²]	390.96
Return Duct Area [ft²]	144.8
Leakage to Outdoors	57 CFM @ 25Pa (3.94 / 100 ft²)
Total Leakage	57 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 Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization

Southern Energy Management Justin Smith

Builder

SMG Precision Properties





Distribution System	
Distribution Type	Forced Air
Heating Equipment	2nd floor heat pump
Cooling Equipment	2nd floor heat pump
Sa. Feet Served	993
# Return Grilles	2
Supply Duct R Value	8
Return Duct R Value	8
Supply Duct Area [ft²]	268 11
Return Duct Area [ft²]	99.3
Leakage to Outdoors	39 CFM @ 25Pa (3.93 / 100 ft²)
Total Leakage	39 CFM25
Total Leakage Duct Test Conditions	Post-Construction
Use Default Flow Rate	Yes
Duct 1	162
Duct Location	Attic (well vented)
Percent Supply Area	100
Percent Return Area	100
Duct 2	100
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Supply Area Percent Return Area	0
Duct 3	Ü
Duct Societion	Conditioned Space
	0
Percent Supply Area Percent Return Area	0
Duct 4	Ü
Duct Location	Conditioned Chase
	Conditioned Space
Percent Supply Area Percent Return Area	0
Duct 5	U
2 4 5 1	Conditioned Conso
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	U
Duct 6	Canditioned Chase
Duct Location	Conditioned Space
Percent Supply Area	0
Percent Return Area	0

#### **HVAC Grading**

HVAC Grading Not Conducted

Ceiling Fan		
Has Ceiling Fan	No	
Cfm Per Watt	100	

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization Southern Energy Management Justin Smith

Builder

SMG Precision Properties





Water Distribution	
Water Fixture Type	Low-flow
Use Default Hot Water Pipe Length	No
Hot Water Pipe Length [ft]	89
At Least R3 Pipe Insulation?	No
Hot Water Recirculation System?	No
Recirculation System Pipe Loop Length [ft]	20
Drain Water Heat Recovery?	No

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

Property Cameron, NC 28326 Model: Ragnar Community: Liberty Meadows

Template - SMG Precision - Liberty Meadows lot 12 - CZ 3 slab - ecoSelect Liberty Meadows lot 12

Organization

Southern Energy Management Justin Smith

Builder

SMG Precision Properties





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

#### **Notes**

Initial Inputs \_\_\_\_\_MS 07/01/22\_

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