CLIMATE ZONE	ZONE 3A	ZONE 4A	ZONE 5A
FENESTRATION U-FACTOR	0.35	0.35	0.35
SKYLIGHT U-FACTOR	0.55	0.55	0.55
GLAZED FENESTRATION SHGC	0.30	0.30	0.30
CEILING R-VALUE	38 or 30ci	38 or 30ci	38 or 30ci
WALL R-VALUE	15	15	19
FLOOR R-VALUE	19	19	30
* BASEMENT WALL R-VALUE	5/13	10/15	10/15
** SLAB R-VALUE	0	10	10
* CRAWL SPACE WALL R-VALUE	5/13	10/15	10/19

\* "10/13" MEANS R-10 SHEATHING INSULATION OR R-13 CAVITY INSULATION

\*\* INSULATION DEPTH WITH MONOLITHIC SLAB 24" OR FROM INSPECTION GAP TO BOTTOM OF FOOTING; INSULATION DEPTH WITH STEM WALL SLAB 24" OR TO BOTTOM OF FOUNDATION WALL

DESIGNED FOR WIND SPEED OF 120 MPH, 3 SECOND GOST (93 FASTEST MILE) EXPOSORE B										
COMPONENT	& CLA	DDING	DESIG	NED FO	R THE	FOLLO	WING	LOADS		
MEAN ROOF	UP T	O 30'	30'-1"	TO 35'	35'-1"	TO 40'	40'-1"	TO 45'		
ZONE 1	14.2	-15.0	14.9	-15.8	15.5	-16.4	15.9	-16.8		
ZONE 2	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2		
ZONE 3	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2		
ZONE 4	15.5	-16.0	16.3	16.8	16.9	-17.4	17.4	-17.9		
ZONE 5	15.5	-20.0	16.3	21.0	16.9	-21.8	17.4	-22.4		
PERIODIED FOR HIND OPEN OF 100 MINU O CECOND CHIEF (101 FACTER MINUS) EVEN CHIEF INITIAL										

DESIGNED FOR WIN	D SPEED	OF 130 MF	H, 3 SECC	עאוע GUST	(101 FAS	LEZI MITE	:) EXPUSU	IKF "R"
COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS								
MEAN ROOF	N ROOF   UP TO 30'   30'-1" TO 35'   35'-1" TO 40'   40'-1" TO 45'						TO 45'	
ZONE 1	16.7	-18.0	17.5	-18.9	18.2	-19.6	18.7	-20.2
ZONE 2	16.7	-21.0	17.5	-22.1	18.2	-22.9	18.7	-23.5
ZONE 3	16.7	-21.0	17.5	-22.1	18.2	-22.9	18.7	-23.5
ZONE 4	18.2	-19.0	19.1	-20.0	19.8	-20.7	20.4	-21.3
ZONE 5	18.2	-24.0						

## **ROOF VENTILATION**

 $\textbf{R806.1 Ventilation required.} \ \textbf{Enclosed} \ \textit{attics} \ \textbf{and} \ \textbf{enclosed rafter spaces}$ formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7.

**R806.2 Minimum area.** The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.

1. Enclosed attic/rafter spaces requiring less than 1 square foot (0.0929 m2) of ventilation may be vented with continuous soffit ventilation only. 2. Enclosed attic/rafter spaces over unconditioned space may be vented with continuous soffit vent only.

SQUARE FOOTAGE OF ROOF TO BE VENTED = 2,294 SQ.FT. NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 15.29 SQ.FT. WITH 50% TO 80% OF VENTING 3'-0" ABOVE EAVE; OR WITH CLASS I OR II VAPOR RETARDER ON WARM-IN-WINTER SIDE OF CEILING = 7.65 SQ.FT.

## **GUARD RAIL NOTES**

## **SECTION R312**

**R312.1 Where required.** *Guards* shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a

**R312.2 Height.** Required *guards* at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

### Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.

2. Where the top of the *guard* also serves as a handrail on the open sides of stairs, the top of the *guard* shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

**R312.3 Opening limitations.** Required *guards* shall not have openings from the walking surface to the required *guard* height which allow passage of a sphere 4 inches (102 mm)in diameter. Exceptions:

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.

2. *Guards* on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

RIDGE VENT AS REQUIRED



RAIL AS NEEDED PER CODE

# **FRONT ELEVATION**

### SCALE 1/4" = 1'-0"

## **AIR LEAKAGE**

### Section N1102.4

N1102.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed with an air barrier system to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. For all homes, where present, the following shall be caulked, gasketed, weather stripped or otherwise sealed with an air barrier material or solid material consistent with Appendix E-2.4 of this code:

- 1. Blocking and sealing floor/ceiling systems and under knee walls open to unconditioned or exterior space.
- 2. Capping and sealing shafts or chases, including flue shafts. 3. Capping and sealing soffit or dropped ceiling areas.



**SQUARE FOOTAGE** HEĂTED

FIRST FLOOR TOTAL **UNHEATED** FRONT PORCH

GARAGE

TOTAL

**REAR PORCH** 

1952 SQ.FT. 1952 SQ.FT.

116 SQ.FT. 528 SQ.FT. 144 SQ.FT 788 SQ.FT

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Braxton

**REAR ELEVATIONS** 

య

**FRONT** 

SQUARE FOOTAGE
HEATED
FIRST FLOOR 1952 SQ.FT.
TOTAL 1952 SQ.FT.

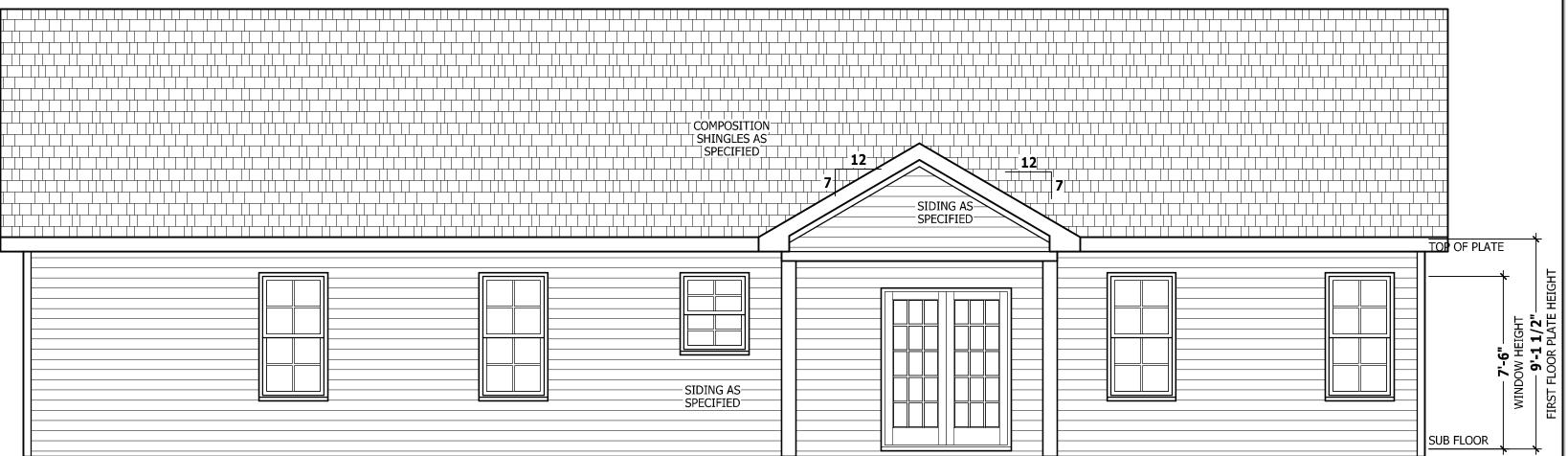
UNHEATED GARAGE REAR PORCH

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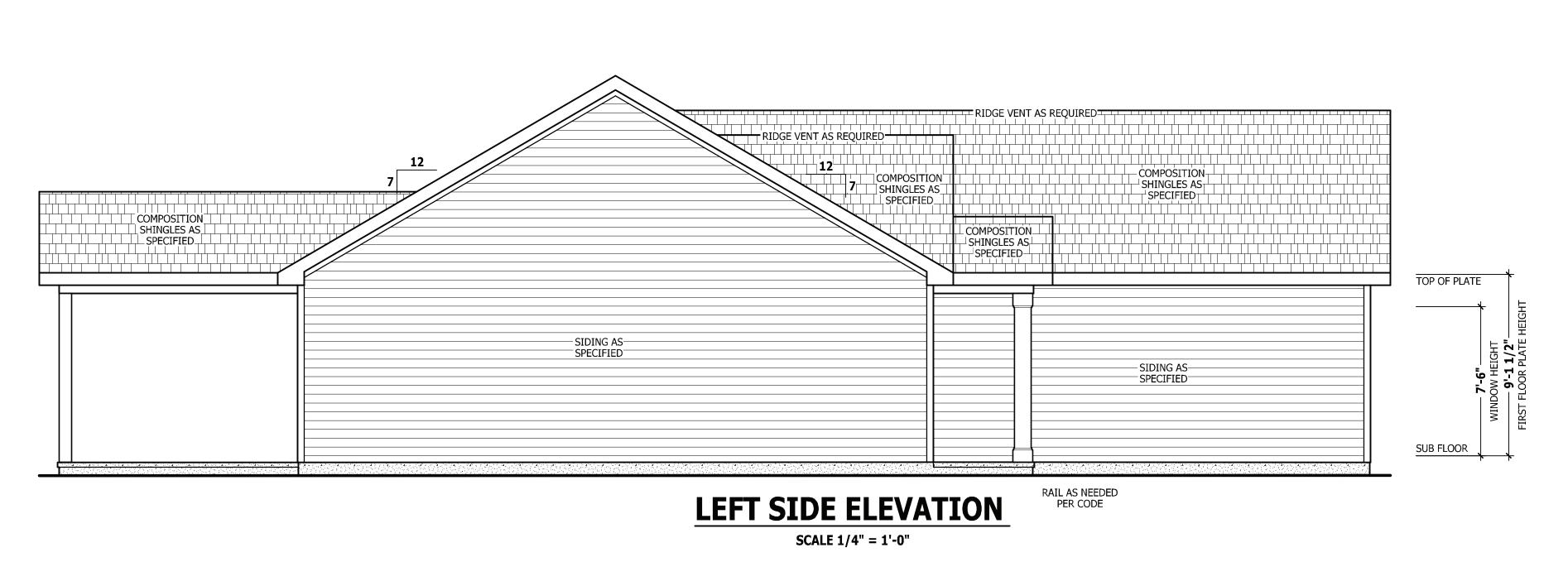
PAGE 1 OF 7

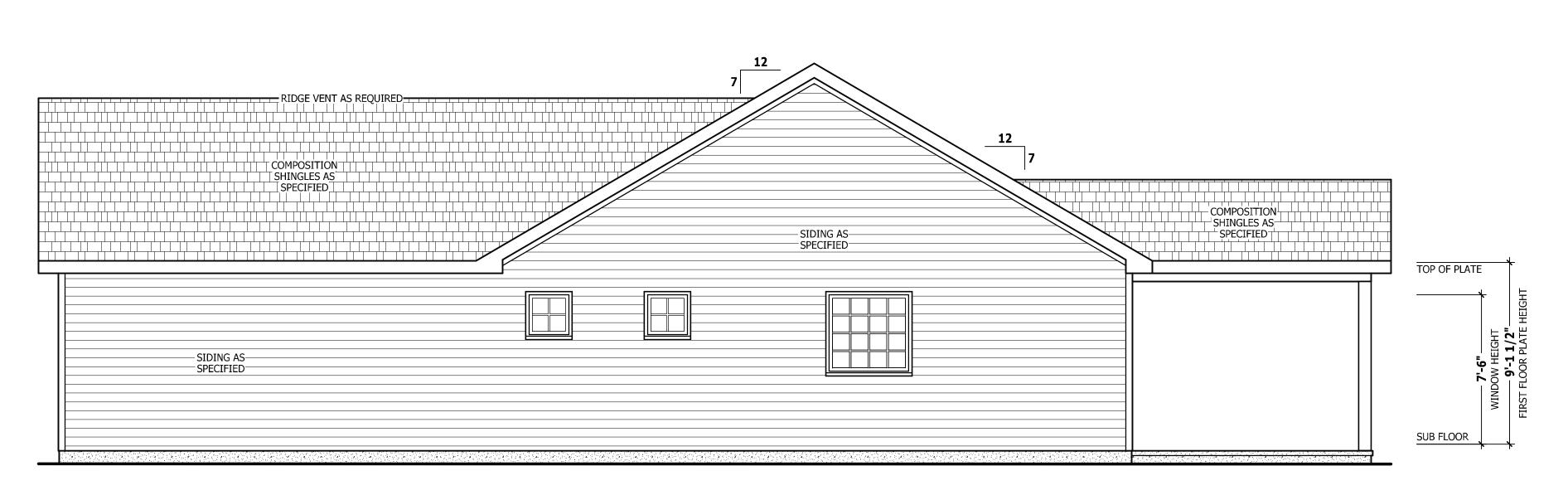
RIDGE VENT AS REQUIRED



# **REAR ELEVATION**

SCALE 1/4" = 1'-0"





# RIGHT SIDE ELEVATION

SCALE 1/4" = 1'-0"

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RIGHT ELEVATIONS **Braxton** 

**∞**ŏ LEFT



 SQUARE FOOTAGE

 HEATED

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 1952 SQ.FT.

 TOTAL
 1952 SQ.FT.

 UNHEATED
 FRONT PORCH
 116 SQ.FT.

 GARAGE
 528 SQ.FT.

 TOTAL
 788 SQ.FT.

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**PLAN** 

**Braxton FOUNDATION** 



SQUARE FOOTAGE HEATED UNHEATED GARAGE REAR PORCH

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PERTY OF THE DESIGN

T FLOOR PLAN

Braxton

**FIRST** 

| SEALEY | SEALEY | Construction



SQUARE FOOTAGE
HEATED
FIRST FLOOR 1952 SQ.FT.
TOTAL 1952 SQ.FT.
UNHEATED
EDON'T PORCH 116 SO FT.

IRST FLOOR OTAL JNHEATED RONT PORCH IARAGE EAR PORCH OTAL

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## **STRUCTURAL NOTES**

All construction shall conform to the latest requirements of the 2018 North Carolina Residential Building Code, plus all local codes and regulations. This document in no way shall be construed to supersede the code.

JOB SITE PRACTICES AND SAFETY: Haynes Home Plans, Inc. assumes no liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTION
USE	(PSF)	(PSF)	(LL)
Attics without storage	10		L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200		
Guardrail in-fill components	50		
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40		L/360
Snow	20		

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise.

### **ENGINEERED WOOD BEAMS:**

Laminated veneer lumber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x106 PSI Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x106 PSI Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x106 PSI Install all connections per manufacturers instructions.

TRUSS AND I-JOIST MEMBERS: All roof truss and I-joist layouts shall be prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Homes Plans, Inc. **LINTELS:** Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6'-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9'-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18'-0" unless noted otherwise. FLOOR SHEATHING: OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing. **ROOF SHEATHING:** OSB or CDX roof sheathing minimum 3/8" thick for 16" on center rafters and 7/16" for 24" on center rafters. **CONCRETE AND SOILS:** See foundation notes.

## **BRACE WALL PANEL NOTES**

**EXTERIOR WALLS:** All exterior walls to be sheathed with CS-WSP or CS-SFB in accordance with section R602.10.3 unless noted otherwise.

**GYPSUM:** All interior sides of exterior walls and both sides interior walls to have 1/2" gypsum installed. When not using method GB gypsum to be fastened per table R702.3.5. Method GB to be fastened per table R602.10.1.

REQUIRED LENGTH OF BRACING: Required brace wall length for each side of the circumscribed rectangle are interpolated per table R602.10.3. Methods CS-WSP and CS-SFB contribute their actual length. Method GB contributes 0.5 it's actual length. Method PF contributes 1.5 times its actual length.

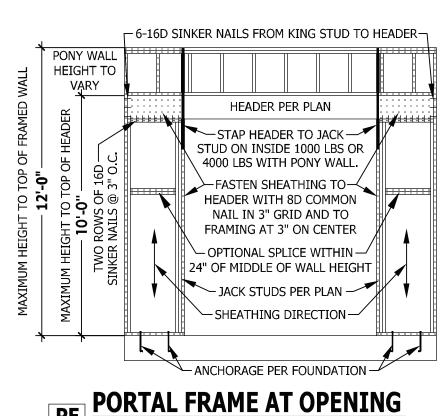
**HD:** 800 lbs hold down hold down device fastened to the edge of the brace wall panel closets to the corner.

### **Methods** Per Table R602.10.1

**CS-WSP**: Shall be minimum 3/8" OSB or CDX nailed at 6" on center at edges and 12" on center at intermediate supports with 6d common nails or 8d(2 1/2" long x 0.113" diameter). **CS-SFB:** Shall be minimum 1/2" structural fiber board nailed at 3" on center at edges and 3" on center at intermediate supports with 1 1/2" long x 0.12" diameter galvanized roofing

**GB:** Interior walls show as GB are to have minimum 1/2" gypsum board on both sides of the wall fastened at 7" on center at edges and 7" on center at intermediate supports with minimum 5d cooler nails or #6 screws.

**PF**: Portal fame per figure R602.10.1



METHOD PF PER FIGURE AND SECTION R602.10.1 )

SCALE 1/4" = 1'-0"

## **EXTERIOR HEADERS** - (2) 2 X 6 WITH 1 JACK STUD EACH END

**UNLESS NOTED OTHERWISE** 

- KING STUDS EACH END PER TABLE BELOW HEADER SPAN < 3' 3'-4' 4'-8' 8'-12' 12'-16' KING STUD(S) 1 2 3 5 6

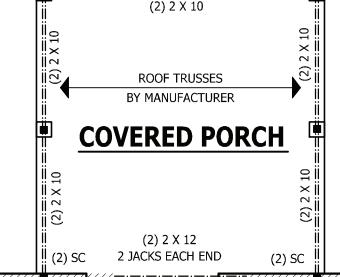
## **INTERIOR HEADERS**

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END **UNLESS NOTED OTHERWISE** 

(2) 2 X 8

- NON LOAD BEARING HEADERS TO BE LADDER FRAMED

(2) 2 X 8



=:=:=:=:=:=:=:=:=:=:=:=:=:=:=:=:**:** 

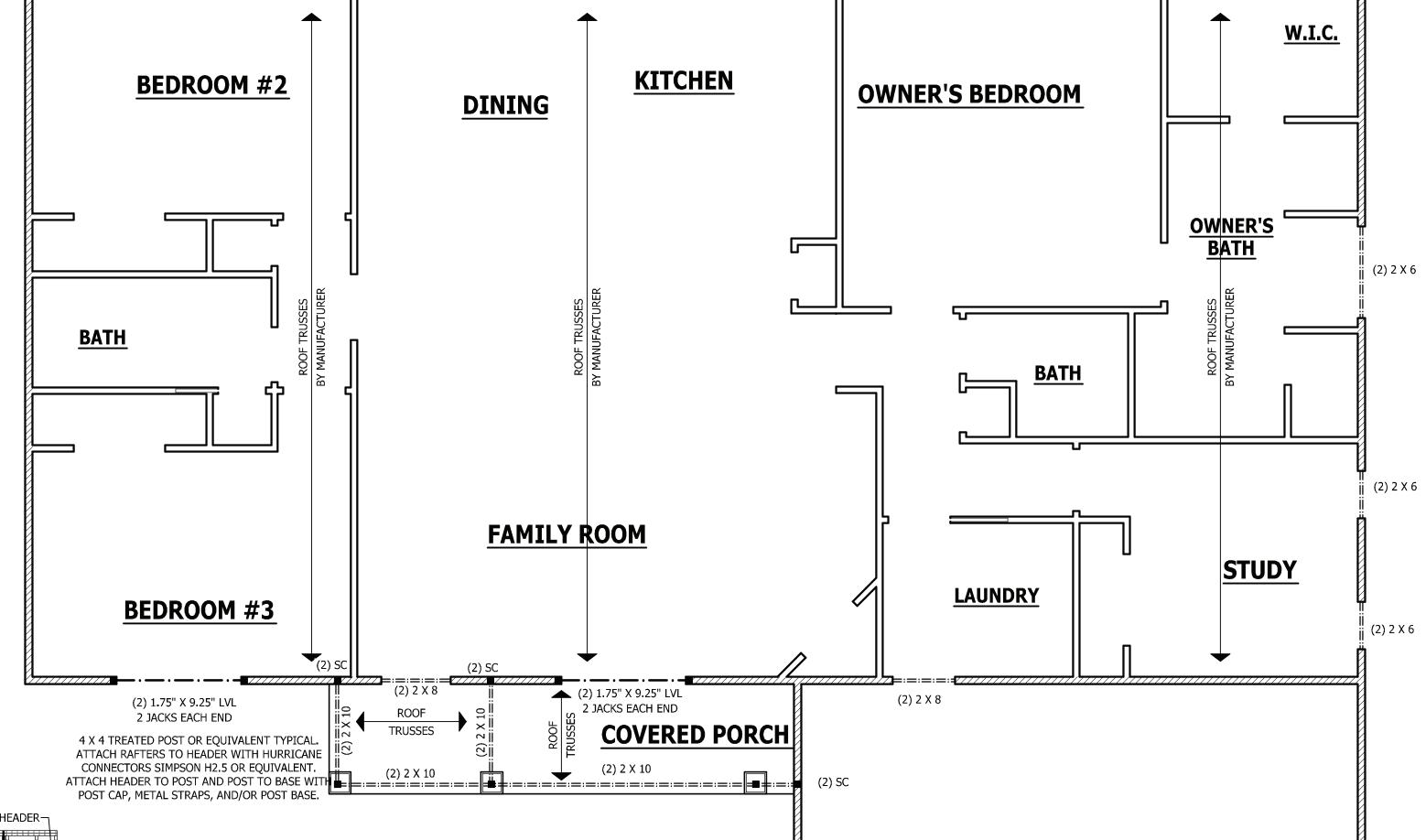
4 X 4 TREATED POST OR EQUIVALENT TYPICAL. ATTACH RAFTERS TO HEADER WITH HURRICANE CONNECTORS SIMPSON H2.5 OR EQUIVALENT. ATTACH HEADER TO POST AND POST TO BASE WITH POST CAP, METAL STRAPS, AND/OR POST BASE.

(2) 2 X 8 (2) 2 X 8 (2) 2 X 8

(2) SC

PF

(2) 1.75" X 11.875" LVL



## FIRST FLOOR STRUCTURAL SCALE 1/4" = 1'-0"

## **ROOF TRUSS REQUIREMENTS** TRUSS DESIGN. Trusses to be designed and engineered in accordance

with these drawings. Any variation with these drawings must be brought to Havnes Home Plan. Inc. attention before construction begins. KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown furred down 10" from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished ceiling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the reasonability of the truss manufacturer. ANCHORAGE. All required anchors for trusses due to uplift or bearing

shall meet the requirements as specified on the truss schematics. **BEARING.** All trusses shall be designed for bearing on SPF #2 plates or ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights and floor system thicknesses.

**DOUBLE GARAGE ROOF TRUSSES** BY MANUFACTURER

(2) SC

PF

SQUARE FOOTAGE HEATED UNHEATED GARAGE REAR PORCH

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STRUCTURAL

FLOOR

FIRST

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ROOF PLAN

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 SQUARE FOOTAGE

 HEATED

 FIRST FLOOR
 1952 SQ.FT.

 TOTAL
 1952 SQ.FT.

 UNHEATED
 FRONT PORCH
 116 SQ.FT.

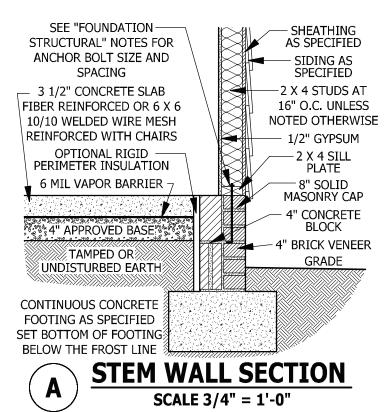
 GARAGE
 528 SQ.FT.
 REAR PORCH
 144 SQ.FT.

 TOTAL
 788 SQ.FT.
 788 SQ.FT.

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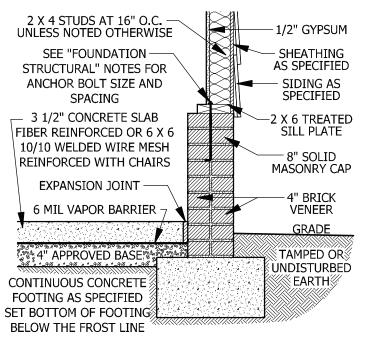
PAGE 6 OF 7



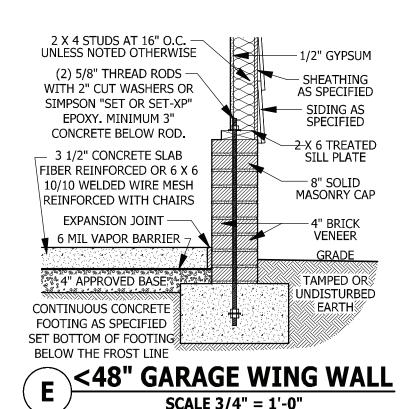
FIBER REINFORCEMENT OR 6 - 2 X 4 STUDS AT X 6 10/10 WELDED WIRE MESH REINFORCEMENT 16" O.C. UNLESS **NOTED OTHERWISE** WITH CHAIRS 2 X 4 SILL PLATE 6 MIL VAPOR BARRIER 4" APPROVED BASE TAMPED OR ÛNDISTURBED EARTH **- 16"** -**.UG FOOTING SECTION** SCALE 3/4" = 1'-0"

SEE "FOUNDATION-1/2" GYPSUM STRUCTURAL" NOTES FOR ANCHOR BOLT SIZE AND SPACING -2 X 4 STUDS AT 3 1/2" CONCRETE SLAB 16" O.C. UNLESS FIBER REINFORCED OR 6 X 6 **NOTED OTHERWISE** 10/10 WELDED WIRE MESH - 2 X 4 SILL REINFORCED WITH CHAIRS PLATE OPTIONAL RIGID 8" SOLID PERIMETER INSULATION MASONRY CAP 6 MIL VAPOR BARRIER 4" CONCRETE BLOCK -4" BRICK VENEER الْمُؤْدُّةُ APPROVED BASE وَالْمُوْدُونِهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ ال **EXPANSION** JOINT TAMPED OR 3 1/2" SLAB" UNDISTURBED EARTH 🦓 4" BASE, CONTINUOUS CONCRETE FOOTING AS SPECIFIED SET BOTTOM OF FOOTING BELOW THE FROST LINE

STEM WALL AT GARAGE SCALE 3/4" = 1'-0'





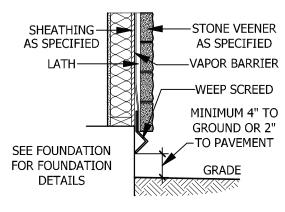


## **CARBON MONOXIDE ALARMS**

R315.1 Carbon monoxide alarms. In new construction, dwelling units shall be provided with an approved carbon monoxide alarm installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s) as directed by the alarm manufacturer.

**R315.2** Where required in existing dwellings. In existing dwellings, where interior alterations, repairs, fuel-fired appliance replacements, or additions requiring a permit occurs, or where one or more sleeping rooms are added or created, carbon monoxide alarms shall be provided in accordance with Section

**R315.3 Alarm requirements.** The required carbon monoxide alarms shall be audible in all bedrooms over background noise levels with all intervening doors closed. Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions



**WEEP SCREED** SCALE 3/4" = 1'-0"

# **WEEP SCREEDS**

All weep screeds and stone veneer to be installed per manufactures instructions and per the 2012 North Carolina Residential Building code.

**R703.6.2.1** - A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of 31/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

## **SMOKE ALARMS**

R314.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

R314.2 Smoke detection systems. Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with

**Exception:** Where smoke alarms are provided meeting the requirements of Section R314.4.

**R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room,

2. Outside each separate sleeping area in the immediate vicinity of

3. On each additional *story* of the *dwelling*, including *basements* and habitable attics (finished) but not including crawl spaces, uninhabitable (unfinished) attics and uninhabitable (unfinished) attic-stories. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

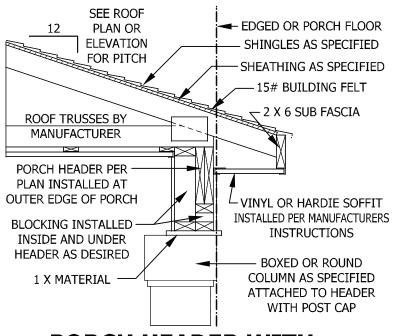
When more than one smoke alarm is required to be installed within an individual *dwelling* unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

**R314.4 Power source.** Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected.

### SEE ROOF ■ EDGED OR PORCH FLOOR PLAN OR **ELEVATION** SHINGLES AS SPECIFIED FOR PITCH SHEATHING AS SPECIFIED - 15# BUILDING FELT **ROOF TRUSSES BY MANUFACTURER** PORCH HEADER PER -PLAN INSTALLED OVER CENTER OF COLUMN BASE -VINYL OR HARDIE SOFFIT INSTALLED PER MANUFACTURERS BLOCKING INSTALLED INSTRUCTIONS ON BOTH SIDES & UNDER HEADER AS DESIRED TAPERED COLUMN OVER 1 X MATERIAL -MASONRY BASE ATTACHED TO HEADER CENTER LINE OF HEADER WITH POST CAP AND COLUMN **PORCH HEADER WITH**

# **TAPERED COLUMN**

SCALE 3/4" = 1'-0"



## **PORCH HEADER WITH BOXED OR ROUND COLUMN**

SCALE 3/4" = 1'-0"

## **STAIRWAY NOTES**

R311,7

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

R311.7.4 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners, **R311,7,4,1 Riser height.** The maximum riser height shall be 8 1/4 inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads.

R311.7.4.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimu of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 4 inches (102 mm) at any point.

R311.7.4.3 Profile. The radius of curvature at the nosing shall be no greater than 9/16 inch (14 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid

R311.7.7 Handrails. Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

R311,7,7,1 Height, Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm)and not more than 38 inches (965 mm).

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.

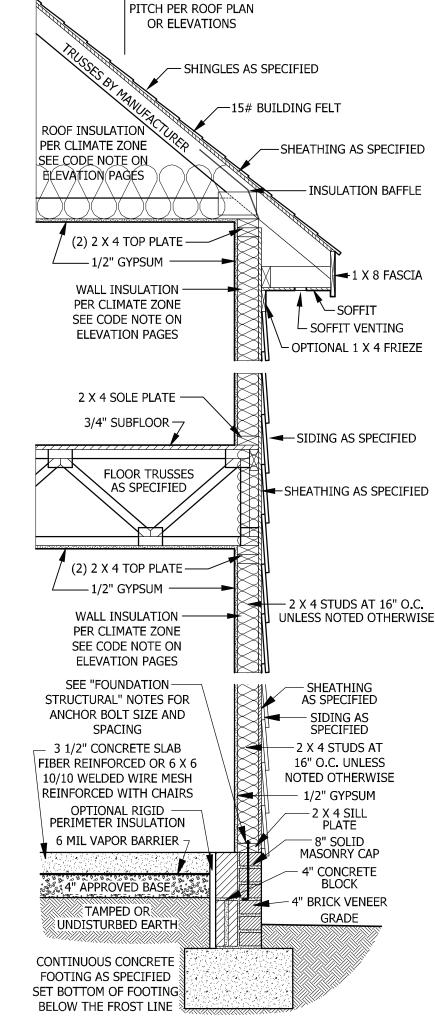
2. When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrail to guardrail, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

R311.7.7.2 Continuity. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 11/2 inch (38 mm) between the wall and the handrails.

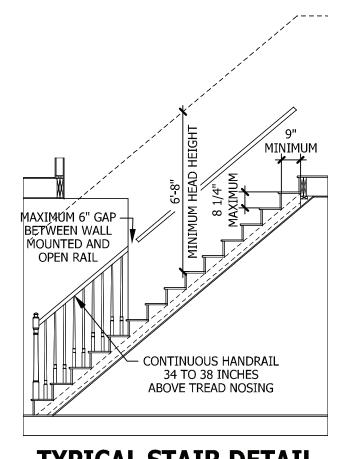
Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post. 2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

3. Two or more separate rails shall be considered continuous if the termination of the rails occurs within 6 inches (152 mm) of each other. If transitioning between a wall-mounted handrail and a guardrail/handrail, the wall-mounted rail must return into the wall.



## **TYPICAL WALL DETAIL SCALE 3/4" = 1'-0"**



TYPICAL STAIR DETAIL SCALE 1/4" = 1'-0"

5/28/2021 210519B

PAGE 7 OF 7

PURCHASER MUST VERIFY ALL EFORE CONSTRUCTION BEGINS

HAYNES HOME PLANS, INC.

ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND

CODES AND CONDITIONS MAY

ARY WITH LOCATION. A LOCAL

IGINEER SHÓULD BE CONSULTED

DESIGNER, ARCHITECT OR

BEFORE CONSTRUCTION.

THESE DRAWING ARE

AS SUCH SHALL REMAIN

PROPERTY OF THE DESIGNER.

Braxton

onstruction

DETAIL

**TYPICAL** 

NSTRUMENTS OF SERVICE AND

SQUARE FOOTAGE HEATED 1952 SQ.FT. 1952 SQ.FT. UNHEATED GARAGE REAR PORCH

> © Copyright 2021 laynes Home Plans, Inc.



Client: Project:

McDonald Lumber Company

Address:

3921 Cullerton Street, Hope Mills NC

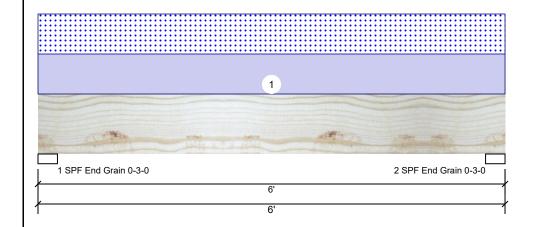
Date: 9/17/2024 Input by:

Johnnie Baggett Job Name: Lot 84 South Creek

Project #: J623-3140

1.750" X 9.250" 2-Ply - PASSED Kerto-S LVL BM1

Level: Level



Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

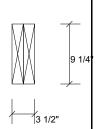
Floor

ASD

No

**IBC/IRC 2015** 

Not Checked



Page 1 of 2

### Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	240
Importance:	Normal - II
T	

Temperature: Temp <= 100°F

### Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1090	1068	0	0
2	Vertical	0	1090	1068	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2844 ft-lb	3'	14423 ft-lb	0.197 (20%)	D+S	L
Unbraced	2844 ft-lb	3'	10944 ft-lb	0.260 (26%)	D+S	L
Shear	1429 lb	4'11 3/4"	7943 lb	0.180 (18%)	D+S	L
LL Defl inch	0.022 (L/3016)	3'	0.141 (L/480)	0.159 (16%)	S	L
TL Defl inch	0.045 (L/1493)	3'	0.281 (L/240)	0.161 (16%)	D+S	L

### **Bearings**

Grain

0 PLF

356 PLF

Bearing Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.000" End Grain	Vert	24%	1090 / 1068	2158	L	D+S
2 - SPF 3.000" End	Vert	24%	1090 / 1068	2158	L	D+S

### **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at end bearings.

Uniform

- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID Load Type Location Trib Width Side Dead 0.9 Wind 1.6 Const. 1.25 Comments Live 1 Snow 1.15

356 PLF

Top

Self Weight 7 PLF

1

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive

- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

0 PLF

0 PLF

	CCD
This design is valid until 6/28/2026	



Client:

McDonald Lumber Company

Project:

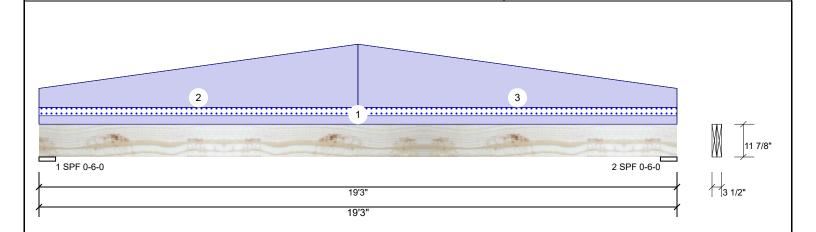
Address: 3921 Cullerton Street, Hope Mills NC 9/17/2024

Input by: Johnnie Baggett Job Name: Lot 84 South Creek Page 2 of 2

Project #: J623-3140

1.750" X 11.875" **Kerto-S LVL** 2-Ply - PASSED **GDH** 

Level: Level



Member Inform	nation			Read	ctions UNP	ATTERN	ED lb (Upli	ft)		
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow	Wind	Const
Plies:	2	Design Method:	ASD	1	Vertical	0	1220	193	0	0
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015	2	Vertical	0	1220	193	0	0
Deflection LL:	480	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal - II									
Temperature:	Temp <= 100°F			-						
				Bea	rings					
				Bea	aring Length	Dir.	Cap. React D	/L lb Tota	I Ld. Case	Ld. Comb.
				1 -	SPF 6.000"	Vert	16% 1220	/ 193 1412	2 L	D+S
A l . d . D lt				2 -	SPF 6.000"	Vert	16% 1220	/ 193 1412	2 L	D+S

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6155 ft-lb	9'7 1/2"	17919 ft-lb	0.343 (34%)	D	Uniform
Unbraced	6999 ft-lb	9'7 1/2"	7003 ft-lb	0.999 (100%)	D+S	L
Shear	1106 lb	17'9 1/8"	7980 lb	0.139 (14%)	D	Uniform
LL Defl inch	0.055 (L/4020)	9'7 9/16"	0.459 (L/480)	0.119 (12%)	S	L
TL Defl inch	0.448 (L/492)	9'7 9/16"	0.919 (L/240)	0.487 (49%)	D+S	L

### **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 14'2 1/8" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width.

		g p.,								
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	20 PLF	0 PLF	20 PLF	0 PLF	0 PLF	roof
2	Tapered Start	0-0-0		Тор	45 PLF	0 PLF	0 PLF	0 PLF	0 PLF	gable
	End	9-7-8			150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
3	Tapered Start	9-7-8		Тор	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	gable
	End	19-3-0			45 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				9 PLF					

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- Handling & Installation

  1. UVI beams must not be cut or drilled

  2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

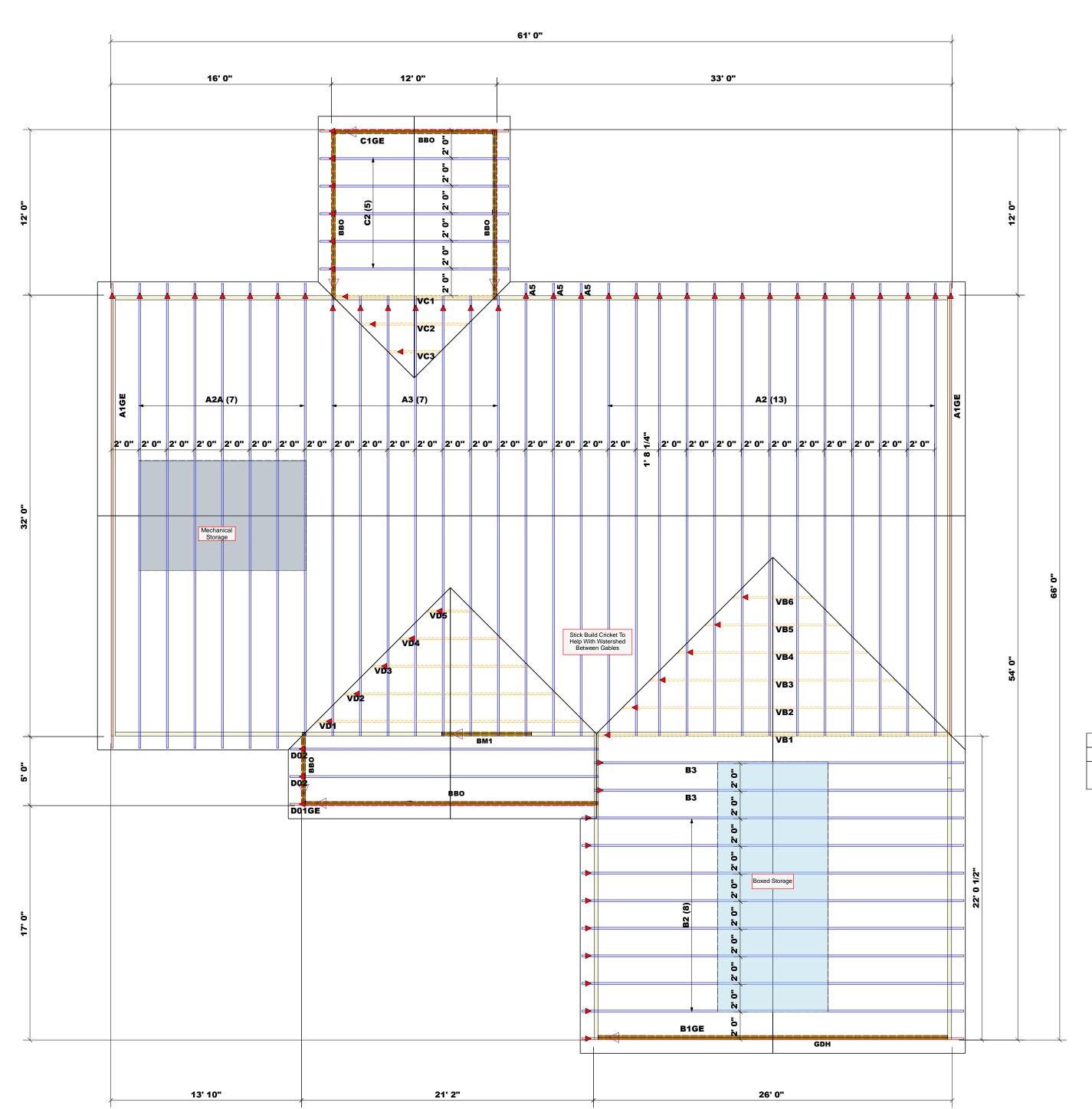
  5. Provide lateral support at bearing points to avoid lateral displacement and rotation

- 6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

Manufacturer Info Metsä Wood

Motou Wood	
301 Merritt 7 Building, 2nd Floor	
Norwalk, CT 06851	
(800) 622-5850	
www.metsawood.com/us	



Dimension Notes

1. All exterior wall to wall dimensions are to face of sheathing unless noted otherwise
2. All interior wall dimensions are to face of frame wall unless noted otherwise
3. All exterior wall to truss dimensions are to face of frame wall unless noted otherwise

Roof Area = 3497.33 sq.ft.
Ridge Line = 71.67 ft.
Hip Line = 0 ft.
Horiz. OH = 273.42 ft.
Raked OH = 174.18 ft.
Decking = 120 sheets

All Walls Shown Are Considered Load Bearing

▲ = Indicates Left End of Truss (Reference Engineered Truss Drawing) Do Not Erect Trusses Backwards

WALL SCHEDULE

1st Floor Brg. Wall

		Products		
PlotID	Length	Product	Plies	Net Qty
BM1	7' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2
GDH	26' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2

ROOF & FLOOR TRUSSES & BEAMS

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 15000#.

Signature\_

Hampton Horrocks

LOAD CHART FOR JACK STUDS

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

NUMBER OF JACK STUDS REQUIRED @ EA END OF

1101		1	HEADER/	SIRDER	5	,, ,,,,,	
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 (4) PLY HEADER
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						

COUNTY	Нагиетт
ADDRESS	Lot 102 South Creek, Lillington NC
WODEL	Roof
DATE REV.	9/17/24
DRAWN BY	DRAWN BY Johnnie Baggett
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

Quote#

QUOTE # JOB #

5/28/21

SEAL DATE

Lot 102 South Creek

JOB NAME

McDonald Lumber

BUILDER

Truss Placement Plan SCALE: 3/16" = 1' 0"