PLANS DESIGNED TO THE 2018 NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE

MEAN ROOF HEIGHT: 19'-6" HEIGHT TO RIDGE: 26'-1"

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 GUST (93 FASTEST MILE) EXPOSURE "B"

COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS								
MEAN ROOF	UP TO 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

ROOF VENTILATION

SECTION R806

R806.1 Ventilation required. Enclosed *attics* and 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.

Exceptions:

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 = 2,182 SQ.FT.

NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 14.55 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 = 7.27 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 *guard*.

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:

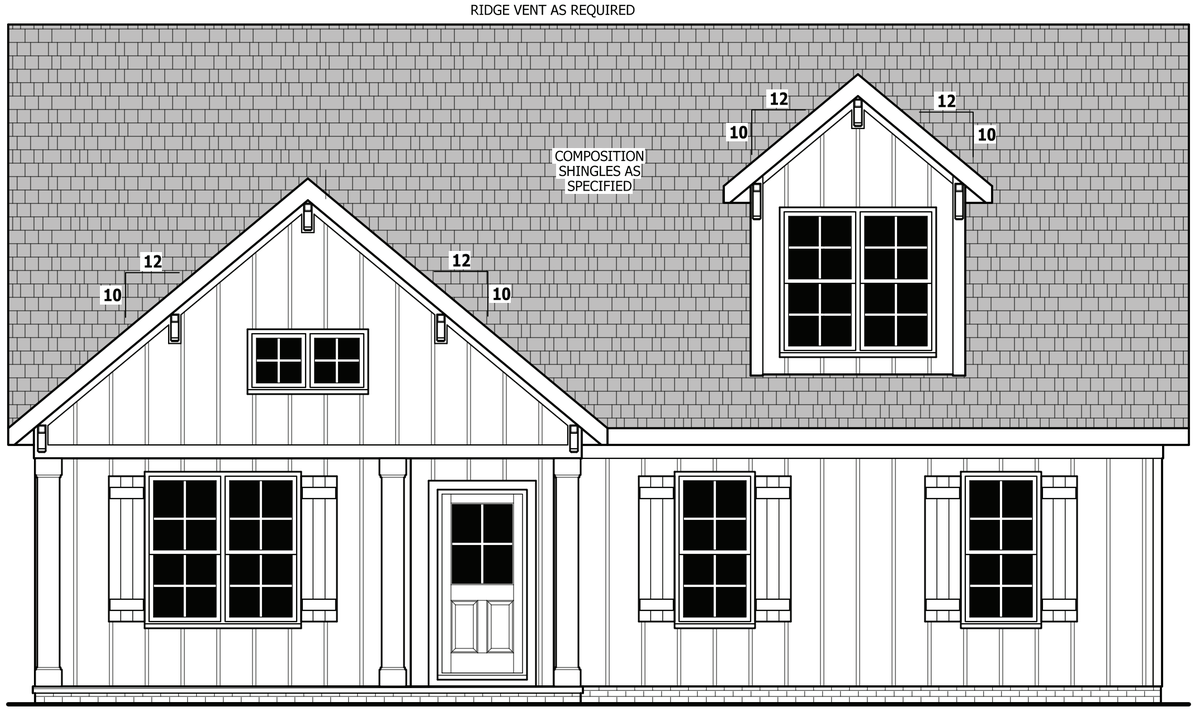
1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. *Guards* on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

AIR LEAKAGE

Section N1102.4

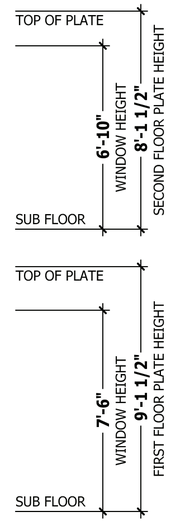
N1102.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed with an air barrier system to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. For all homes, where present, the following shall be caulked, 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.



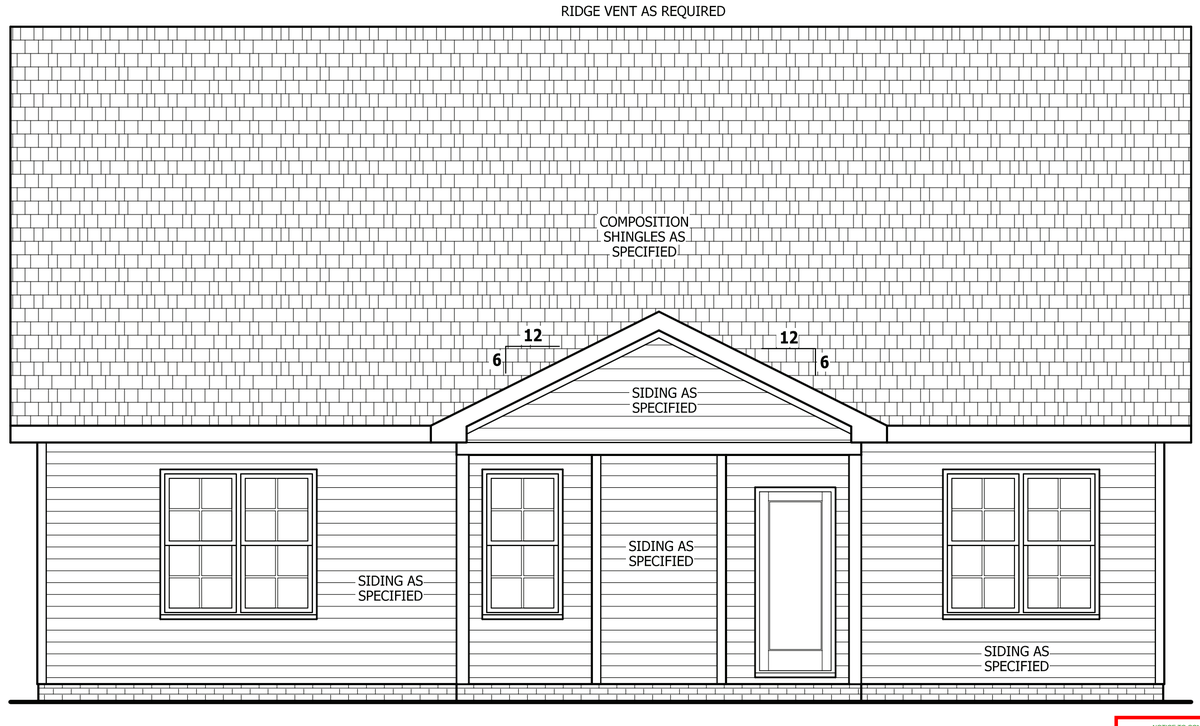
FRONT ELEVATION

SCALE 1/4" = 1'-0"



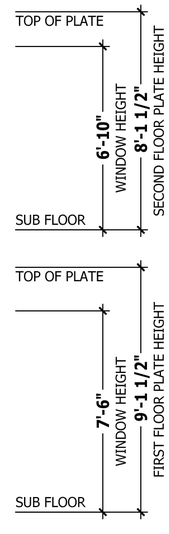
SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1780 SQ.FT.
TOTAL	1780 SQ.FT.
OPTIONAL	
PLAYROOM	425 SQ.FT.
BATH ON 2ND	59 SQ.FT.
STORAGE	271 SQ.FT.
TOTAL	755 SQ.FT.
UNHEATED	
GARAGE	539 SQ.FT.
FRONT PORCH	139 SQ.FT.
REAR PORCH	170 SQ.FT.
TOTAL	848 SQ.FT.



REAR ELEVATION

SCALE 1/4" = 1'-0"



NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

06/04/2021

Harnett COUNTY NORTH CAROLINA

FRONT & REAR ELEVATIONS

Ruffin

SIGNATURE HOME BUILDERS, INC.

HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

SQUARE FOOTAGE
HEATED
FIRST FLOOR 1780 SQ.FT.
TOTAL 1780 SQ.FT.
OPTIONAL
PLAYROOM 425 SQ.FT.
BATH ON 2ND 59 SQ.FT.
STORAGE 271 SQ.FT.
TOTAL 755 SQ.FT.
UNHEATED
GARAGE 539 SQ.FT.
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5/3/2021

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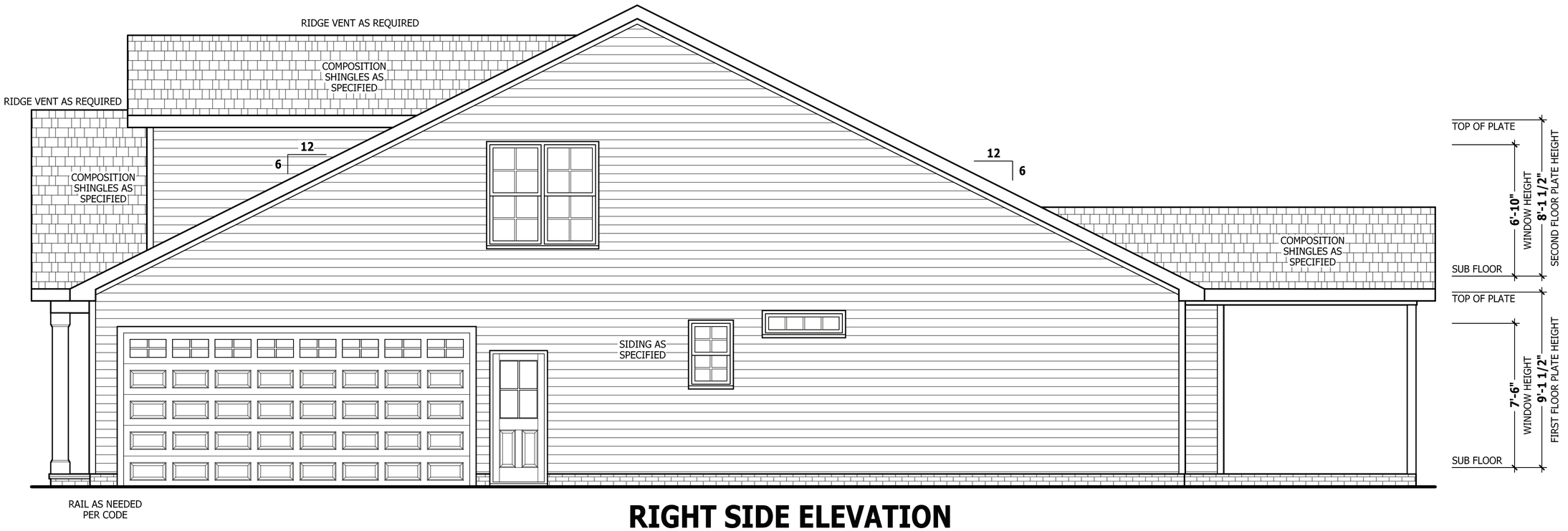

RIGHT SIDE ELEVATION

SCALE 1/4" = 1'-0"

LEFT SIDE ELEVATION

SCALE 1/4" = 1'-0"

SIDE ELEVATIONS

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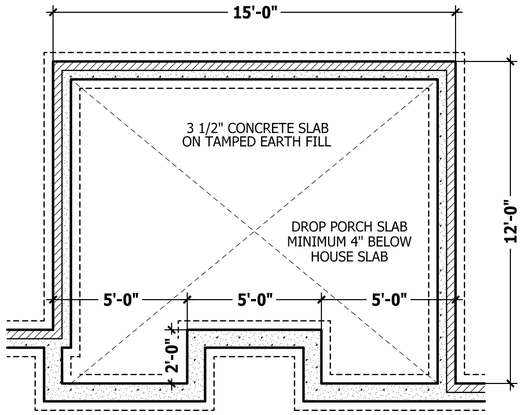
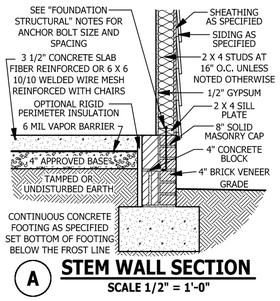
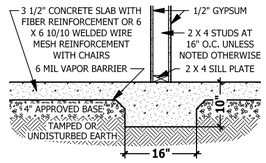
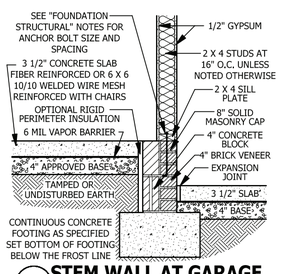




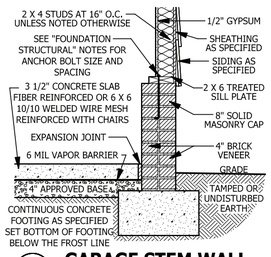
A **STEM WALL SECTION**
SCALE 1/2" = 1'-0"



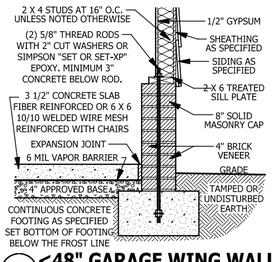
B **LUG FOOTING SECTION**
SCALE 1/2" = 1'-0"



C **STEM WALL AT GARAGE**
SCALE 1/2" = 1'-0"



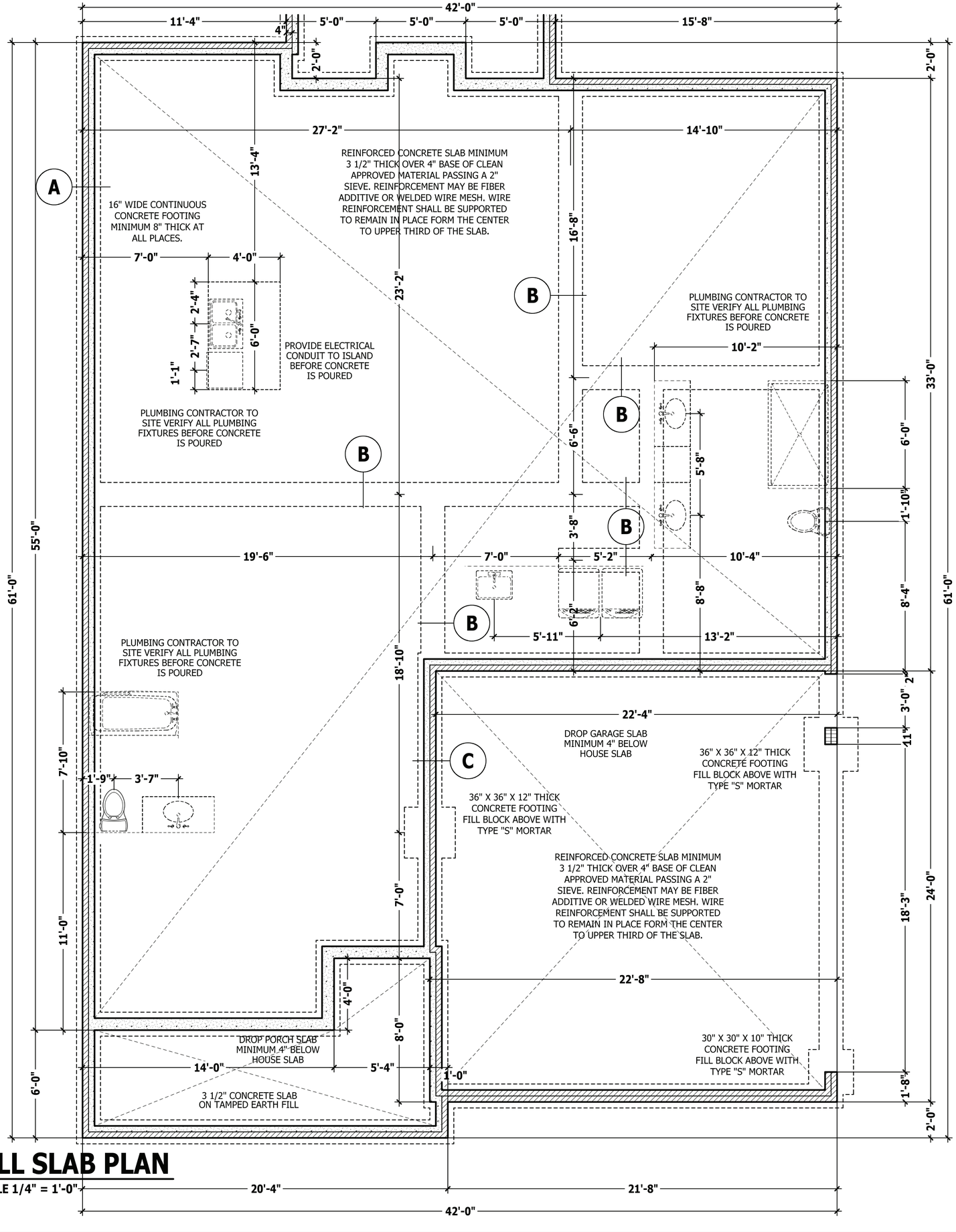
D **GARAGE STEM WALL**
SCALE 1/2" = 1'-0"



E **<48" GARAGE WING WALL**
SCALE 1/2" = 1'-0"

FOUNDATION STRUCTURAL

115 to 130 mph wind zone (1 1/2 to 2 1/2 story)
CONTINUOUS FOOTING: 16" wide and 8" thick minimum. 20" wide minimum at brick veneer. Must extended 2" to either side of supported wall.
GIRDERS: (3) 2 X 10 girder unless noted otherwise.
PIERS: 16" X 16" piers with 8" solid masonry cap on 30" X 30" X 10" concrete footing with maximum pier height of 64" with hollow masonry and 160" with solid masonry.
POINT LOADS: ■ designates significant point load and should have solid blocking to pier, girder or foundation wall.
115 and 120 MPH ANCHORS BOLTS: 1/2" diameter anchor bolts embedded minimum 7", maximum 6'-0" on center, within 12" of plate ends, and minimum two anchor bolts per plate.
130 MPH ANCHORS BOLTS: 1/2" diameter anchor bolts embedded minimum 15", maximum 4'-0" on center, within 12" of plate ends, and minimum two anchor bolts per plate.
CONCRETE: Concrete shall have a minimum 28 day strength of 3000 psi and a maximum 5" slump. Air entrained per table 402.2. All concrete shall be in accordance with ACI standards. All samples for pumping shall be taken from the exit end of the pump.
SOILS: Allowable soil bearing pressure assumed to be 2000 PSF. The contractor must contact a geotechnical engineer and a structural engineer if unsatisfactory subsurface conditions are encountered. The surface area adjacent to the foundation wall shall be provided with adequate drainage, and shall be graded so as to drain surface water away from foundation walls.



STEM WALL SLAB PLAN
SCALE 1/4" = 1'-0"

PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS.
HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES.
CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION.
THESE DRAWING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

STEM WALL SLAB PLAN
Ruffin

SIGNATURE HOME BUILDERS, INC.

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P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

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STORAGE	271 SQ.FT.
TOTAL	755 SQ.FT.
UNHEATED	
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FRONT PORCH	139 SQ.FT.
REAR PORCH	170 SQ.FT.
TOTAL	848 SQ.FT.

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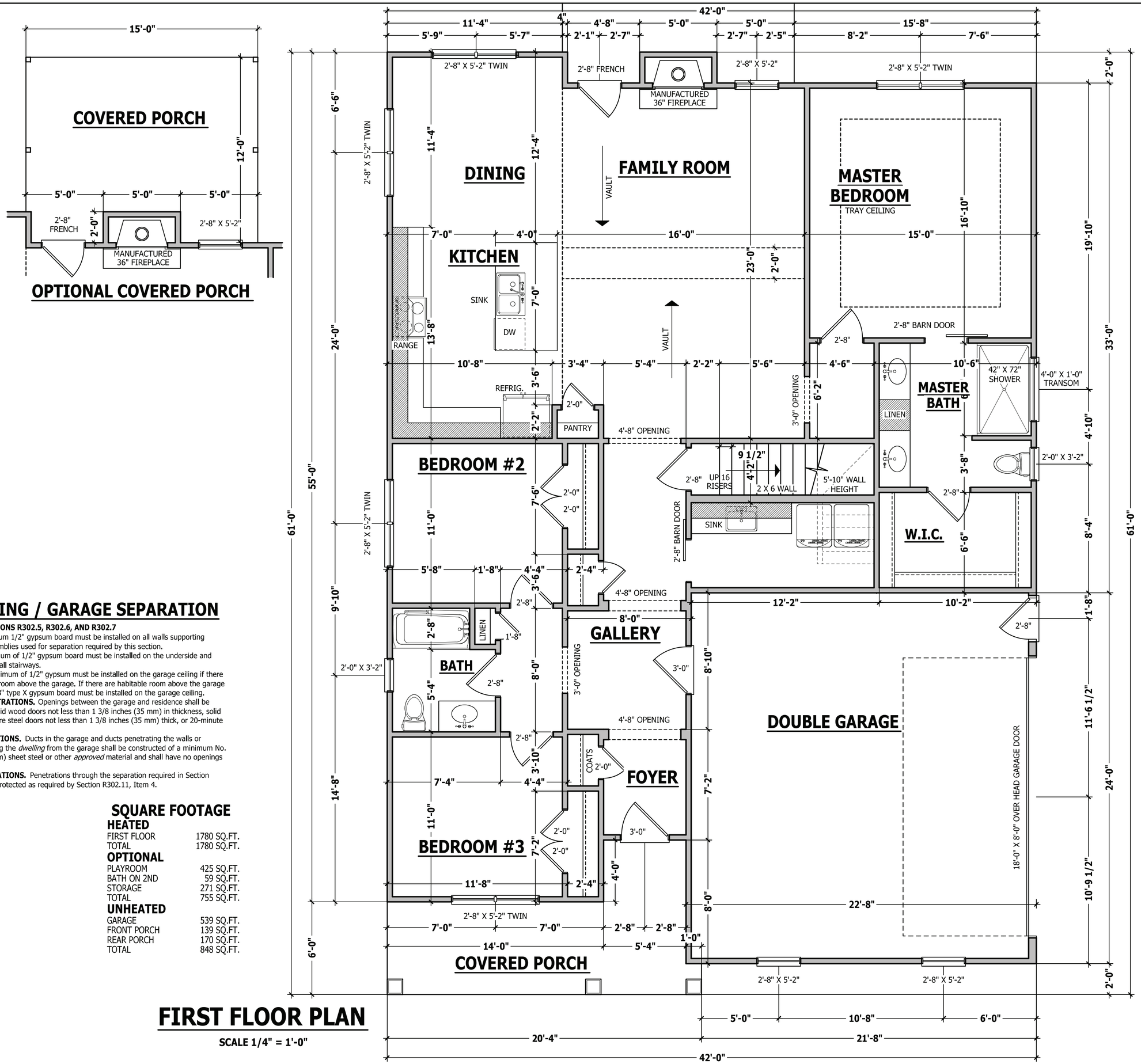
OPTIONAL COVERED PORCH



DWELLING / GARAGE SEPARATION

REFER TO SECTIONS R302.5, R302.6, AND R302.7

WALLS. A minimum 1/2" gypsum board must be installed on all walls supporting floor/ceiling assemblies used for separation required by this section.

STAIRS. A minimum of 1/2" gypsum board must be installed on the underside and exposed sides of all stairways.

CEILINGS. A minimum of 1/2" gypsum must be installed on the garage ceiling if there are no habitable room above the garage. If there are habitable room above the garage a minimum of 5/8" type X gypsum board must be installed on the garage ceiling.

OPENING PENETRATIONS. Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

DUCT PENETRATIONS. Ducts in the garage and ducts penetrating the walls or ceilings separating the *dwelling* from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall have no openings into the garage.

OTHER PENETRATIONS. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

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FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

FIRST FLOOR PLAN

Ruffin

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P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

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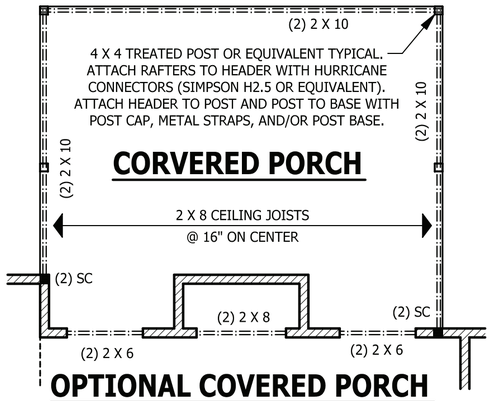


ROOF TRUSS REQUIREMENTS

TRUSS DESIGN. Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes 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.

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

USE	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (LL)
Attics without storage	10	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.
CONCRETE AND SOILS: See foundation notes.

EXTERIOR HEADERS

- (2) 2 X 6 WITH 1 JACK STUD EACH END UNLESS NOTED OTHERWISE
- KING STUDS EACH END PER TABLE BELOW

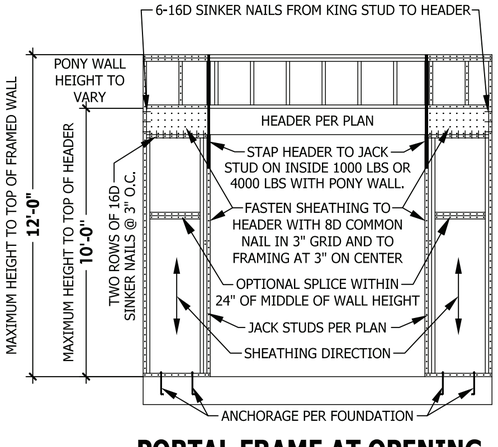
HEADER SPAN	< 3'	3'-4'	4'-8'	8'-12'	12'-16'
KING STUD(S)	1	2	3	5	6

INTERIOR HEADERS

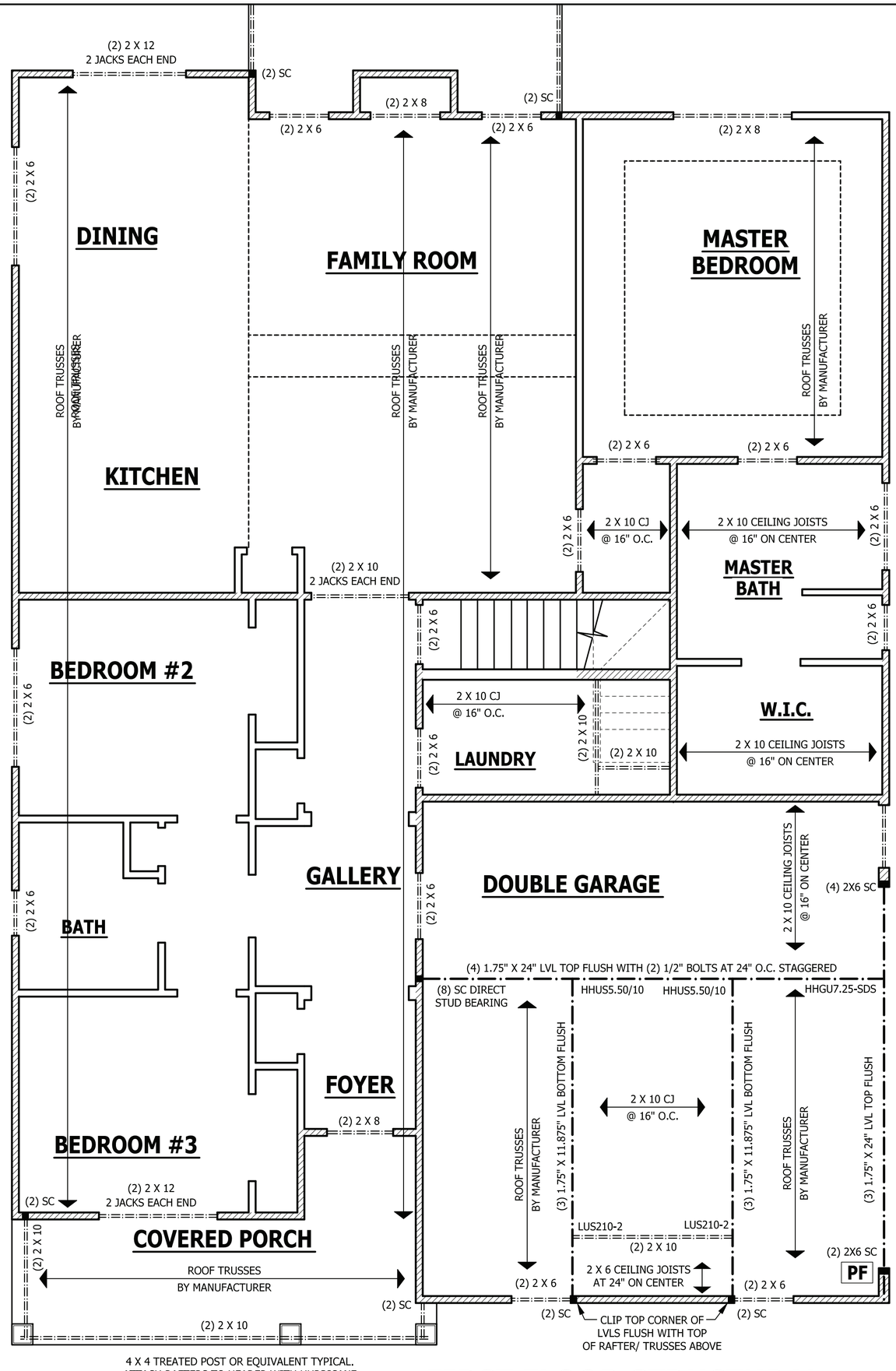
- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END UNLESS NOTED OTHERWISE
- NON LOAD BEARING HEADERS TO BE LADDER FRAMED

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 nails.
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



PF **PORTAL FRAME AT OPENING**
(METHOD PF PER FIGURE AND SECTION R602.10.1)
SCALE 1/4" = 1'-0"



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.

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

FIRST FLOOR STRUCTURAL
Ruffin

SIGNATURE HOME BUILDERS, INC.
HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

SQUARE FOOTAGE

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TOTAL	1780 SQ.FT.
OPTIONAL	
PLAYROOM	425 SQ.FT.
BATH ON 2ND	59 SQ.FT.
STORAGE	271 SQ.FT.
TOTAL	755 SQ.FT.
UNHEATED	
GARAGE	539 SQ.FT.
FRONT PORCH	139 SQ.FT.
REAR PORCH	170 SQ.FT.
TOTAL	848 SQ.FT.

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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=1.9x10^6 PSI
Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x10^6 PSI
Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x10^6 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 14" on center rafters.

CONCRETE AND SOILS: See foundation notes.

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 Haynes 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.

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

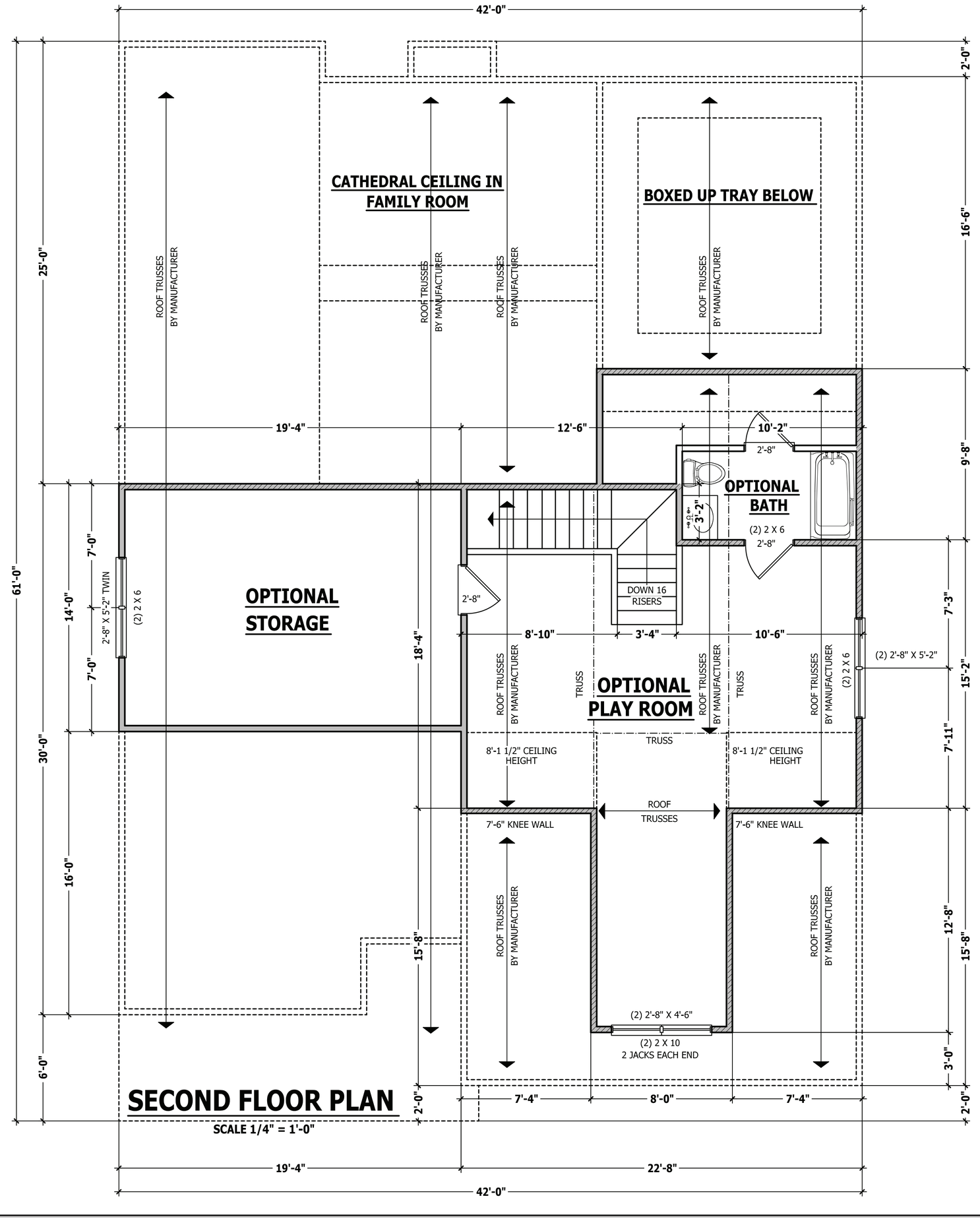
- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END UNLESS NOTED OTHERWISE
- NON LOAD BEARING HEADERS TO BE LADDER FRAMED

ATTIC ACCESS

SECTION R807

R807.1 Attic access. An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m2) and have a vertical height of 60 inches (1524 mm) or greater. The net clear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other readily accessible location. A 30-inch (762 mm) minimum unobstructed headroom in the attic space shall be provided at some point above the access opening. See Section M1305.1.3 for access requirements where mechanical equipment is located in attics.

Exceptions:
1. Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc. are not required to have access.
2. Pull down stair treads, stringers, handrails, and hardware may protrude into the net clear opening.



SECOND FLOOR PLAN

SCALE 1/4" = 1'-0"

PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS.

HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES.

CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION.

THESE DRAWING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

SECOND FLOOR PLAN

Ruffin

SIGNATURE HOME BUILDERS, INC.

HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1780 SQ.FT.
TOTAL	1780 SQ.FT.
OPTIONAL	
PLAYROOM	425 SQ.FT.
BATH ON 2ND	59 SQ.FT.
STORAGE	271 SQ.FT.
TOTAL	755 SQ.FT.
UNHEATED	
GARAGE	539 SQ.FT.
FRONT PORCH	139 SQ.FT.
REAR PORCH	170 SQ.FT.
TOTAL	848 SQ.FT.

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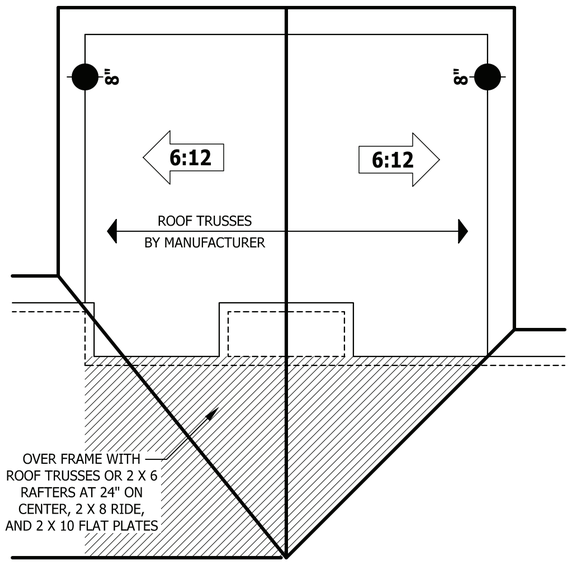


ROOF TRUSS REQUIREMENTS

TRUSS DESIGN. Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes 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.

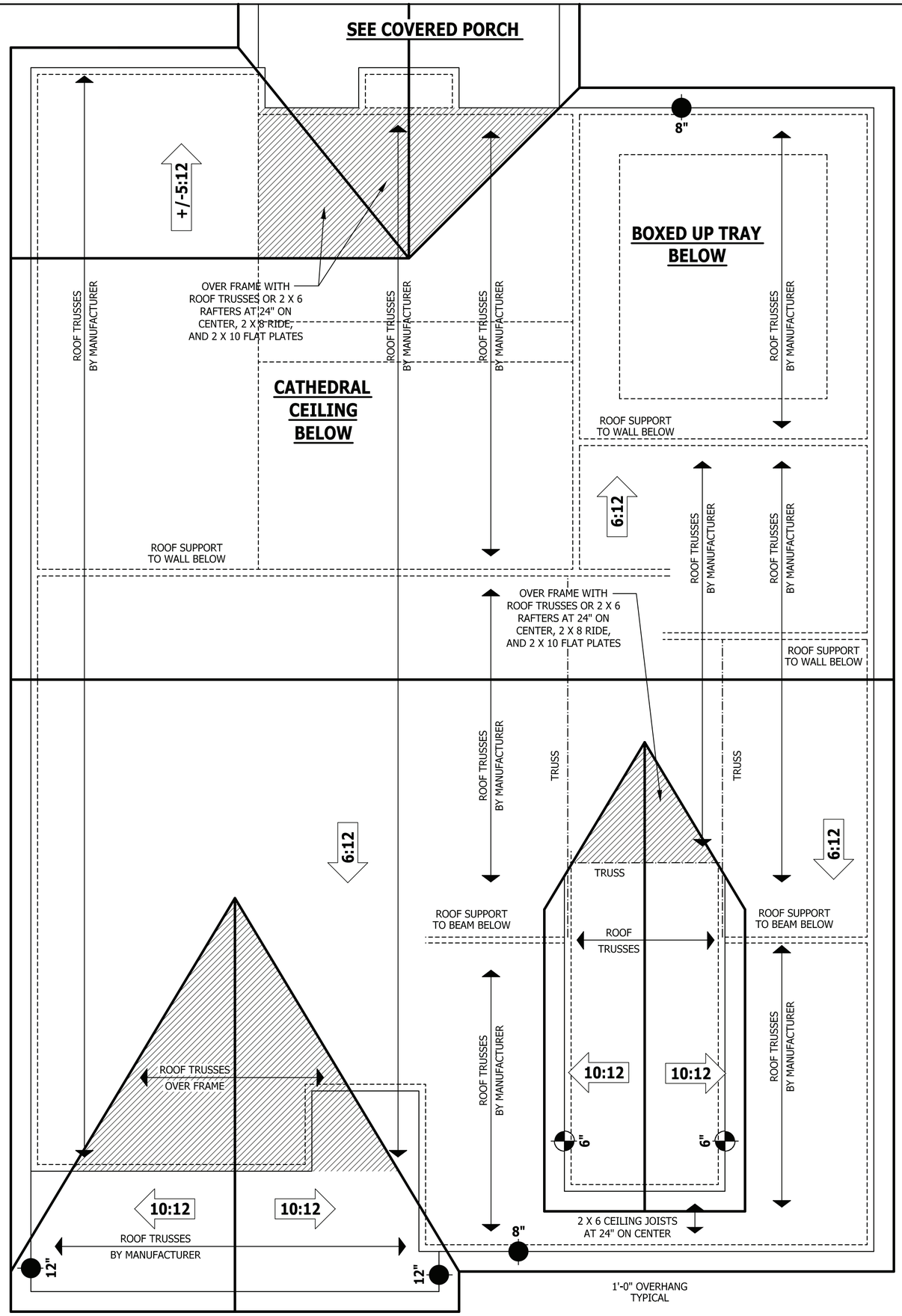
ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics.

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.

HEEL HEIGHT ABOVE FIRST FLOOR PLATE

HEEL HEIGHT ABOVE SECOND FLOOR PLATE



ROOF PLAN

Ruffin

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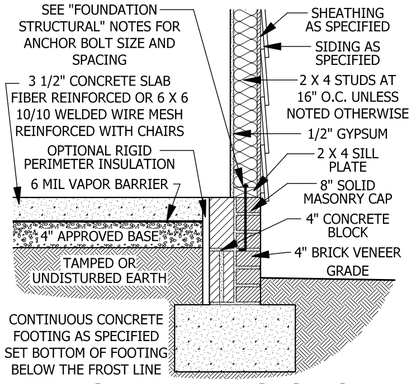
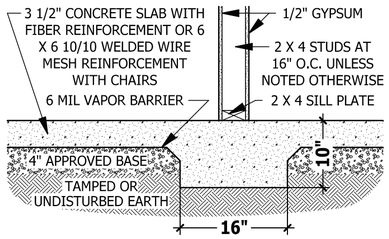


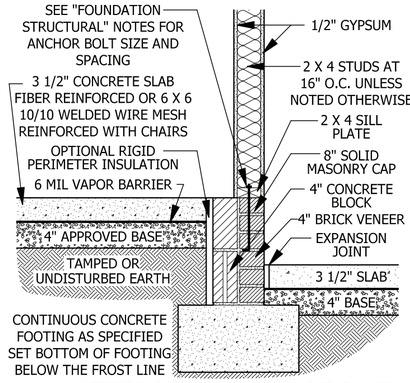
A STEM WALL SECTION

SCALE 3/4" = 1'-0"



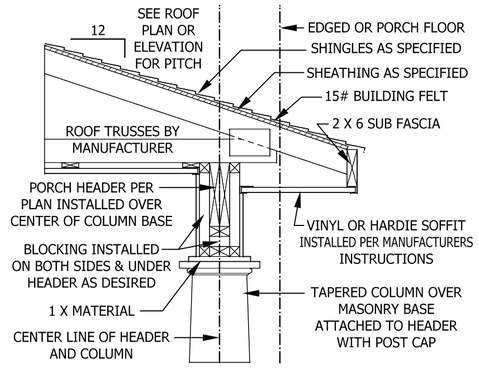
B LUG FOOTING SECTION

SCALE 3/4" = 1'-0"



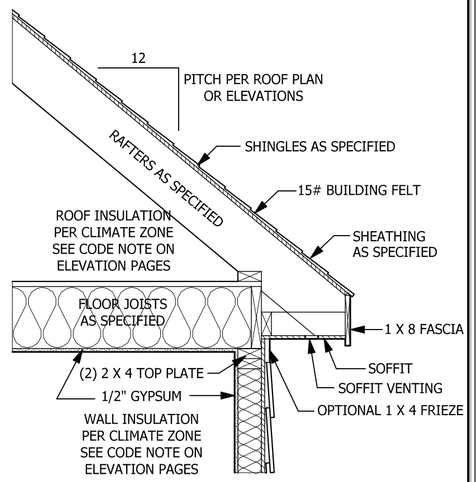
C STEM WALL AT GARAGE

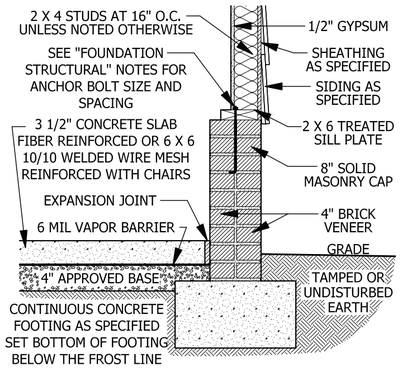
SCALE 3/4" = 1'-0"



PORCH HEADER WITH TAPERED COLUMN

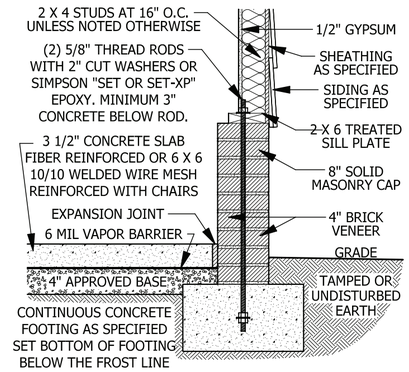
SCALE 3/4" = 1'-0"





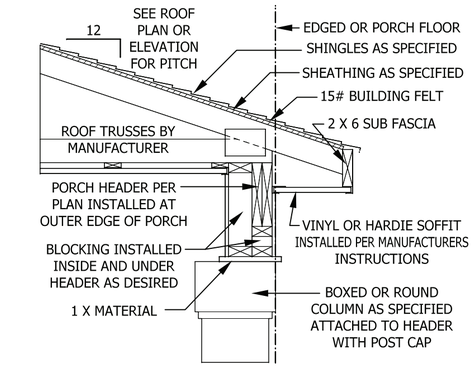
D GARAGE STEM WALL

SCALE 3/4" = 1'-0"



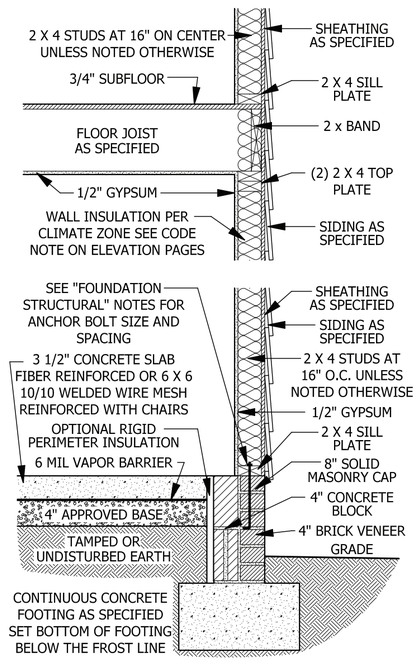
E <48" GARAGE WING WALL

SCALE 3/4" = 1'-0"



PORCH HEADER WITH BOXED OR ROUND COLUMN

SCALE 3/4" = 1'-0"



TYPICAL WALL DETAIL

SCALE 3/4" = 1'-0"

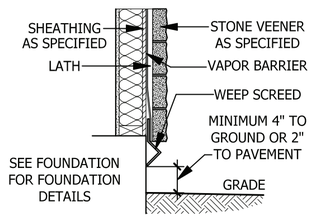
CARBON MONOXIDE ALARMS

SECTION R315

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 315.1.

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

SECTION R314

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 NFPA 72.

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 the bedrooms.
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.

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 minimum tread depth 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 risers.

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).

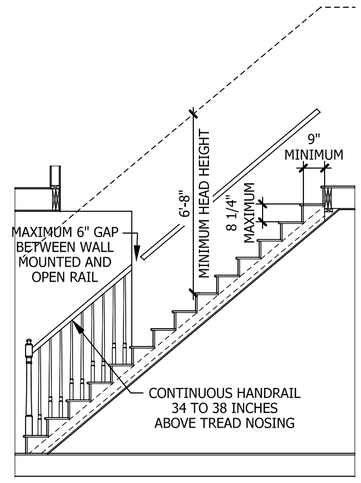
Exceptions:

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 STAIR DETAIL

SCALE 1/4" = 1'-0"

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TYPICAL DETAILS

Ruffin

SHB SIGNATURE HOME BUILDERS, INC.

HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 FAX 1-866-491-0396

SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1780 SQ.FT.
TOTAL	1780 SQ.FT.
OPTIONAL	
PLAYROOM	425 SQ.FT.
BATH ON 2ND	59 SQ.FT.
STORAGE	271 SQ.FT.
TOTAL	755 SQ.FT.
UNHEATED	
GARAGE	539 SQ.FT.
FRONT PORCH	139 SQ.FT.
REAR PORCH	170 SQ.FT.
TOTAL	848 SQ.FT.

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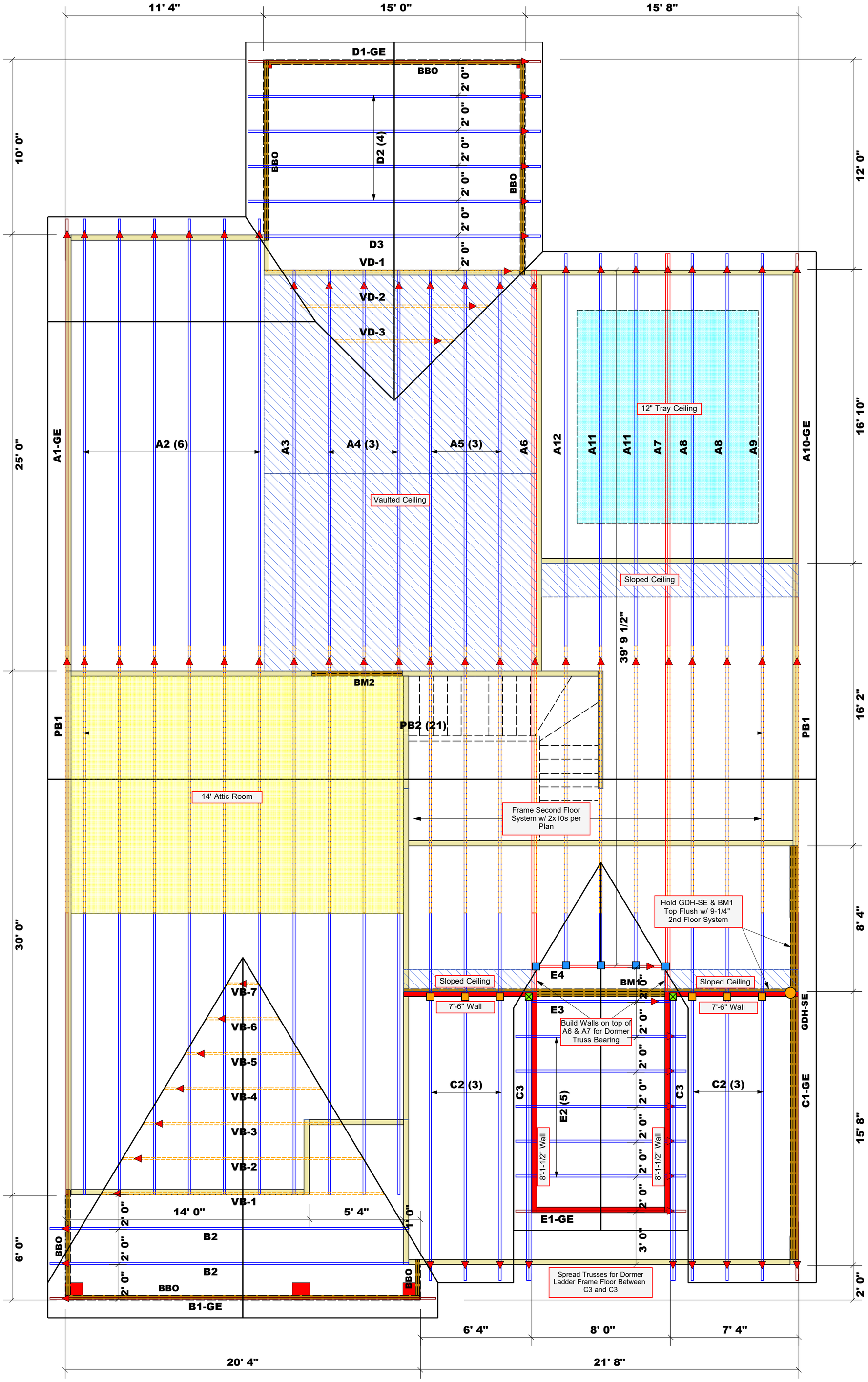

Truss Placement Plan
SCALE: NTS

Beam Schedule				
PlotID	Length	Product	Plies	Net Qty
BM2	6' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2
GDH-SE	24' 0"	1-3/4"x 23-7/8" LVL Kerto-S	3	3
BM1	23' 0"	1-3/4"x 23-7/8" LVL Kerto-S	3	3

Connector Information					Nail Information	
Sym	Product	Manuf	Qty	Supported Member	Header	Truss
	JUS26	USP	6	Varies	10d/3"	10d/3"
	HUS26	USP	5	Varies	16d/3-1/2"	16d/3-1/2"
	THDH28-2	USP	2	Varies	16d/3-1/2"	16d/3-1/2"
	HGU550	USP	1	Varies	WS3 Screws	WS3 Screws

Plumbing Drop Notes

1. Plumbing drop locations shown are NOT exact.
2. Contractor to verify ALL plumbing drop locations prior to setting Floor Trusses.
3. Adjust spacing as needed not to exceed 24"oc.

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 = 3244.51 sq.ft.
Ridge Line = 106.16 ft.
Hip Line = 0 ft.
Horiz. OH = 90.1 ft.
Raked OH = 230.02 ft.
Decking = 112 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
- 2nd Floor Brg. Wall
- Non-Bearing Walls

LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

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				

BUILDER	Signature Home Builders	**COUNTY**	Harnett County
JOB NAME	Sherrod Residence	**ADDRESS**	1504 Gregory Circle/Lillington, NC
PLAN	The Ruffin / Modified (Chris' House)	**MODEL**	Roof
SEAL DATE	Plan Date: 5/3/21	**DATE REV.**	5/10/21
QUOTE #	NA	**DRAWN BY**	Anthony Williams
JOB #	J0421-2748	**SALESMAN**	Anthony Williams

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

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_____

Sales Area

COMTECH
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444

Reaction Summary of Order

ComTech ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park P.O. Box 40408
Fayetteville, N.C. 28309 (910) 864-TRUS

REQ. QUOTE DATE	/ /	**ORDER #**	J0421-2748
ORDER DATE	04/30/21	**QUOTE #**	
DELIVERY DATE	/ /	**CUSTOMER ACCT #**	0000006897
DATE OF INVOICE	/ /	**CUSTOMER PO #**	
ORDERED BY	Chris Sherrod	**INVOICE #**	
COUNTY	Harnett	**TERMS**	
SUPERINTENDANT	Chris Sherrod	**SALES REP**	Anthony Williams
JOBSITE PHONE #	(910) 985-1136	**SALES AREA**	Anthony Williams

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1209 N. Main Street
Fayetteville, NC 27546
(910) 892-9299

SHIP TO
Signature Home Builders
1504 Gregory Circle
Lillington, NC

JOB NAME: 1504 Gregory Circle **LOT #** 1504 **SUBDIV:** Gregory Circle
MODEL: Roof **TAG:** HHP / Ruffin (210223B) **JOB CATEGORY:** Residential - Roof

DELIVERY INSTRUCTIONS:

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BUILDING DEPARTMENT
Roof Order

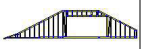
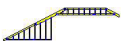
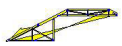
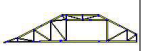
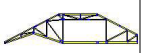
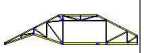
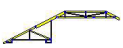
OVERHANG INFO		HEEL HEIGHT	00-06-08	REQ. LAYOUTS		REQ. ENGINEERING			BY	DATE
END CUT	RETURN									
PLUMB	NO	GABLE STUDS	16 IN. OC	JOBSITE	1	JOBSITE	1	QUOTE	aw	05/10/21
								LAYOUT	aw	05/10/21
								CUTTING	aw	05/10/21

ROOF TRUSSES

LOADING INFORMATION

TCLL-TCDL-BCLL-BCDL	STRESS INCR.
20.0,10.0,0.0,10.0	1.15

ROOF TRUSS SPACING: 24.0 IN. O.C. (TYP.)

PROFILE	QTY / PLY	PITCH TOP	PITCH BOT	TYPE ID	BASE O/A	LUMBER TOP	LUMBER BOT	OVERHANG LEFT	OVERHANG RIGHT	REACTIONS
	1	4.00	0.00	GABLE A1-GE	54-11-00 54-11-00	2 X 6	2 X 6	00-11-00		Joint 2 298.0 lbs. -138.7 lbs. Joint 36 901.4 lbs. -386.0 lbs. Joint 37 357.0 lbs. -666.2 lbs. Joint 38 185.8 lbs. -73.5 lbs. Joint 39 185.4 lbs. -65.3 lbs.
	1	6.00	0.00	GABLE A10-GE	40-00-07 40-00-07	2 X	2 X 6	00-11-00		Joint 2 200.9 lbs. 33.9 lbs. Joint 12 195.0 lbs. -108.2 lbs. Joint 23 260.3 lbs. -103.5 lbs. Joint 24 12.6 lbs. 2.3 lbs. Joint 25 198.0 lbs. -15.1 lbs.
	2	6.00	0.00	PIGGYBACK A11	41-07-00 39-09-08	2 X	2 X 6	00-11-00		Joint 2 638.4 lbs. 18.1 lbs. Joint 12 875.3 lbs. -61.9 lbs. Joint 17 1678.6 lbs. -209.8 lbs.
	1	6.00	0.00	PIGGYBACK A12	41-07-00 39-09-08	2 X	2 X 6	00-11-00		Joint 2 653.9 lbs. 13.1 lbs. Joint 11 886.2 lbs. -60.8 lbs. Joint 16 1652.2 lbs. -201.3 lbs.
	6	4.00	0.00	GIRDER A2	54-11-00 54-11-00	2 X 6	2 X 6	00-11-00		Joint 2 1773.8 lbs. 61.9 lbs. Joint 15 2324.7 lbs. 149.0 lbs. Joint 19 2455.6 lbs. 65.0 lbs.
	1	6.00	4.00	GIRDER A3	52-11-00 52-11-00	2 X 6	2 X 6			Joint 1 1139.4 lbs. 71.3 lbs. Joint 14 1952.1 lbs. 130.3 lbs. Joint 18 2605.1 lbs. 82.7 lbs.
	3	6.00	4.00	GIRDER A4	52-11-00 52-11-00	2 X 6	2 X 6			Joint 1 1013.7 lbs. 62.2 lbs. Joint 15 2122.9 lbs. 144.4 lbs. Joint 18 2553.6 lbs. 85.8 lbs.
	3	6.00	4.00	PIGGYBACK A5	40-00-07 40-00-07	2 X 6	2 X 6		01-06-08	Joint 1 753.4 lbs. -11.2 lbs. Joint 11 617.0 lbs. -63.1 lbs. Joint 15 2019.1 lbs. -163.5 lbs.
	1 2 Ply	6.00	4.00	PIGGYBACK A6	40-00-07 40-00-07	2 X 6	2 X 6		01-06-08	Joint 1 736.5 lbs. -19.4 lbs. Joint 11 2047.9 lbs. -179.6 lbs. Joint 15 2176.3 lbs. -176.3 lbs.
	1 2 Ply	6.00	0.00	PIGGYBACK A7	40-00-07 40-00-07	2 X	2 X 6	00-11-00		Joint 2 626.1 lbs. 8.8 lbs. Joint 12 2414.8 lbs. -176.6 lbs. Joint 17 1850.9 lbs. -209.6 lbs.
	2	6.00	0.00	PIGGYBACK A8	40-00-07 40-00-07	2 X	2 X 6	00-11-00		Joint 2 633.5 lbs. 12.4 lbs. Joint 12 942.6 lbs. -55.7 lbs. Joint 17 1750.5 lbs. -201.3 lbs.

Reaction Summary of Order

ComTech ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park P.O. Box 40408
Fayetteville, N.C. 28309 (910) 864-TRUS

REQ. QUOTE DATE	/ /	**ORDER #**	J0421-2748
ORDER DATE	04/30/21	**QUOTE #**	
DELIVERY DATE	/ /	**CUSTOMER ACCT #**	0000006897
DATE OF INVOICE	/ /	**CUSTOMER PO #**	
ORDERED BY	Chris Sherrod	**INVOICE #**	
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Lillington, NC

JOB NAME: 1504 Gregory Circle **LOT #** 1504 **SUBDIV:** Gregory Circle
MODEL: Roof **TAG:** HHP / Ruffin (210223B) **JOB CATEGORY:** Residential - Roof

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PLAN SEAL DATE:

BUILDING DEPARTMENT
Roof Order

OVERHANG INFO		HEEL HEIGHT	00-06-08	REQ. LAYOUTS		REQ. ENGINEERING			BY	DATE
END CUT	RETURN									
PLUMB	NO	GABLE STUDS	16 IN. OC	JOBSITE	1	JOBSITE	1	QUOTE	aw	05/10/21
								LAYOUT	aw	05/10/21
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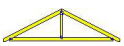
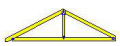
ROOF TRUSSES

LOADING INFORMATION

TCLL-TCDL-BCLL-BCDL	STRESS INCR.
20.0,10.0,0.0,10.0	1.15

ROOF TRUSS SPACING: 24.0 IN. O.C. (TYP.)

PROFILE	QTY / PLY	PITCH TOP	PITCH BOT	TYPE ID	BASE O/A	LUMBER TOP	LUMBER BOT	OVERHANG LEFT	OVERHANG RIGHT	REACTIONS
	1	6.00	0.00	PIGGYBACK A9	40-00-07 40-00-07	2 X	2 X 6	00-11-00		Joint 2 648.9 lbs. 7.4 lbs. Joint 11 952.7 lbs. -54.7 lbs. Joint 16 1725.0 lbs. -193.1 lbs.
	1	10.00	0.00	GABLE B1-GE	20-03-00 20-03-00	2 X 6	2 X 6	00-11-00	00-11-00	Joint 14 352.6 lbs. -28.3 lbs. Joint 15 255.2 lbs. -277.9 lbs. Joint 16 165.6 lbs. -112.8 lbs. Joint 17 228.7 lbs. -109.7 lbs. Joint 18 75.6 lbs. 21.5 lbs.
	2	10.00	0.00	COMMON B2	19-07-08 19-07-08	2 X 6	2 X 6	00-11-00		Joint 5 765.0 lbs. -86.0 lbs. Joint 8 829.8 lbs. -84.4 lbs.
	1	6.00	0.00	GABLE C1-GE	15-04-00 15-04-00	2 X 6	2 X 6	00-11-00		Joint 2 157.4 lbs. 45.9 lbs. Joint 11 20.3 lbs. -16.5 lbs. Joint 12 26.4 lbs. -13.1 lbs. Joint 13 124.8 lbs. -48.4 lbs. Joint 14 177.0 lbs. -79.0 lbs.
	6	6.00	0.00	MONOPITCH C2	15-04-00 15-04-00	2 X 6	2 X 6	00-11-00		Joint 2 649.1 lbs. 3.1 lbs. Joint 9 612.3 lbs. -143.5 lbs.
	2 2 Ply	6.00	0.00	MONOPITCH C3	15-04-00 15-04-00	2 X 6	2 X 10	00-11-00		Joint 2 5166.3 lbs. -484.7 lbs. Joint 9 5295.0 lbs. -643.6 lbs.
	1	6.00	0.00	GABLE D1-GE	14-11-00 14-11-00	2 X 6	2 X 6	00-11-00	00-11-00	Joint 2 639.7 lbs. -171.3 lbs. Joint 10 639.7 lbs. -171.3 lbs.
	4	6.00	0.00	COMMON D2	14-11-00 14-11-00	2 X 6	2 X 6	00-11-00	00-11-00	Joint 2 639.7 lbs. -133.0 lbs. Joint 4 639.7 lbs. -133.0 lbs.
	1	6.00	0.00	COMMON D3	14-11-00 14-11-00	2 X 6	2 X 6	00-11-00		Joint 2 641.3 lbs. -133.4 lbs. Joint 4 585.1 lbs. -128.6 lbs.
	1	10.00	0.00	GABLE E1-GE	07-11-00 07-11-00	2 X 6	2 X 6	00-11-00	00-11-00	Joint 2 151.7 lbs. -22.6 lbs. Joint 6 151.7 lbs. -16.6 lbs. Joint 8 198.8 lbs. -121.4 lbs. Joint 9 109.9 lbs. 26.9 lbs. Joint 10 200.4 lbs. -122.9 lbs.
	5	10.00	0.00	COMMON E2	07-11-00 07-11-00	2 X 6	2 X 6	00-11-00	00-11-00	Joint 2 368.8 lbs. -28.2 lbs. Joint 4 368.8 lbs. -28.2 lbs.

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ROOF TRUSSES

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TCLL-TCDL-BCLL-BCDL	STRESS INCR.
20.0,10.0,0.0,10.0	1.15

ROOF TRUSS SPACING: 24.0 IN. O.C. (TYP.)

PROFILE	QTY	PITCH		TYPE	BASE	LUMBER		OVERHANG		REACTIONS
	PLY	TOP	BOT	ID	O/A	TOP	BOT	LEFT	RIGHT	
	1	10.00	0.00	COMMON E3	07-11-00 07-11-00	2 X 6	2 X 6			Joint 1 305.0 lbs. -12.2 lbs. Joint 3 305.0 lbs. -12.2 lbs.
	1	10.00	0.00	COMMON E4	07-05-00 07-05-00	2 X 6	2 X 6			Joint 1 1577.1 lbs. -121.4 lbs. Joint 3 1583.1 lbs. -120.9 lbs.
	2	6.00	0.00	GABLE PB1	13-04-04 13-04-04	2 X 4	2 X 4			Joint 1 53.5 lbs. -41.7 lbs. Joint 2 189.5 lbs. -72.7 lbs. Joint 8 189.4 lbs. -54.6 lbs. Joint 9 21.2 lbs. -27.5 lbs. Joint 10 199.3 lbs. -83.7 lbs.
	21	6.00	0.00	PIGGYBACK PB2	13-04-04 13-04-04	2 X 4	2 X 4			Joint 2 286.7 lbs. -41.9 lbs. Joint 4 286.7 lbs. -50.1 lbs. Joint 6 576.8 lbs. 1.2 lbs.
	1	10.00	0.00	VALLEY VB-1	16-02-04 16-02-04	2 X 4	2 X 4			Joint 1 179.6 lbs. -14.6 lbs. Joint 5 165.3 lbs. 15.4 lbs. Joint 6 492.2 lbs. -141.9 lbs. Joint 7 403.7 lbs. 55.8 lbs. Joint 8 500.2 lbs. -146.7 lbs.
	1	10.00	0.00	VALLEY VB-2	13-09-07 13-09-07	2 X 4	2 X 4			Joint 1 120.6 lbs. -25.6 lbs. Joint 5 102.5 lbs. -1.6 lbs. Joint 6 343.4 lbs. -127.8 lbs. Joint 7 239.9 lbs. 55.1 lbs. Joint 8 343.6 lbs. -128.0 lbs.
	1	10.00	0.00	VALLEY VB-3	11-04-10 11-04-10	2 X 4	2 X 4			Joint 1 83.0 lbs. -66.6 lbs. Joint 5 64.5 lbs. -46.9 lbs. Joint 6 329.5 lbs. -126.1 lbs. Joint 7 241.1 lbs. 45.8 lbs. Joint 8 329.7 lbs. -126.3 lbs.
	1	10.00	0.00	VALLEY VB-4	08-11-13 08-11-13	2 X 4	2 X 4			Joint 1 189.2 lbs. -28.5 lbs. Joint 3 189.2 lbs. -36.0 lbs. Joint 4 276.0 lbs. 28.3 lbs.
	1	10.00	0.00	VALLEY VB-5	06-07-00 06-07-00	2 X 4	2 X 4			Joint 1 133.7 lbs. -20.2 lbs. Joint 3 133.7 lbs. -25.4 lbs. Joint 4 195.0 lbs. 20.0 lbs.
	1	10.00	0.00	VALLEY VB-6	04-02-04 04-02-04	2 X 4	2 X 4			Joint 1 78.2 lbs. -11.8 lbs. Joint 3 78.2 lbs. -14.9 lbs. Joint 4 114.0 lbs. 11.7 lbs.
	1	10.00	0.00	VALLEY VB-7	01-09-07 01-09-07	2 X 4	2 X 4			Joint 1 39.2 lbs. -1.7 lbs. Joint 3 39.2 lbs. -1.7 lbs.

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PLUMB	NO	**GABLE STUDS**	16 IN. OC			JOBSITE	1			JOBSITE	1	**LAYOUT**	aw	05/10/21
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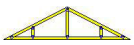
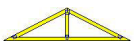
20.0,10.0,0.0,10.0	1.15

ROOF TRUSS SPACING: 24.0 IN. O.C. (TYP.)

PROFILE	QTY / PLY	PITCH TOP	PITCH BOT	TYPE ID	BASE O/A	LUMBER TOP	LUMBER BOT	OVERHANG LEFT	OVERHANG RIGHT	REACTIONS
	1	6.00	0.00	VALLEY VD-1	14-09-01 14-09-01	2 X 4	2 X 4			Joint 1 85.2 lbs. -3.2 lbs. Joint 5 85.2 lbs. 4.3 lbs. Joint 6 321.9 lbs. -72.8 lbs. Joint 7 279.8 lbs. 29.0 lbs. Joint 8 321.9 lbs. -72.9 lbs.
	1	6.00	0.00	VALLEY VD-2	10-09-01 10-09-01	2 X 4	2 X 4			Joint 1 176.0 lbs. -23.2 lbs. Joint 3 176.0 lbs. -28.6 lbs. Joint 4 412.9 lbs. 0.4 lbs.
	1	6.00	0.00	VALLEY VD-3	06-09-01 06-09-01	2 X 4	2 X 4			Joint 1 112.3 lbs. -17.9 lbs. Joint 3 112.3 lbs. -21.0 lbs. Joint 4 216.9 lbs. 9.2 lbs.

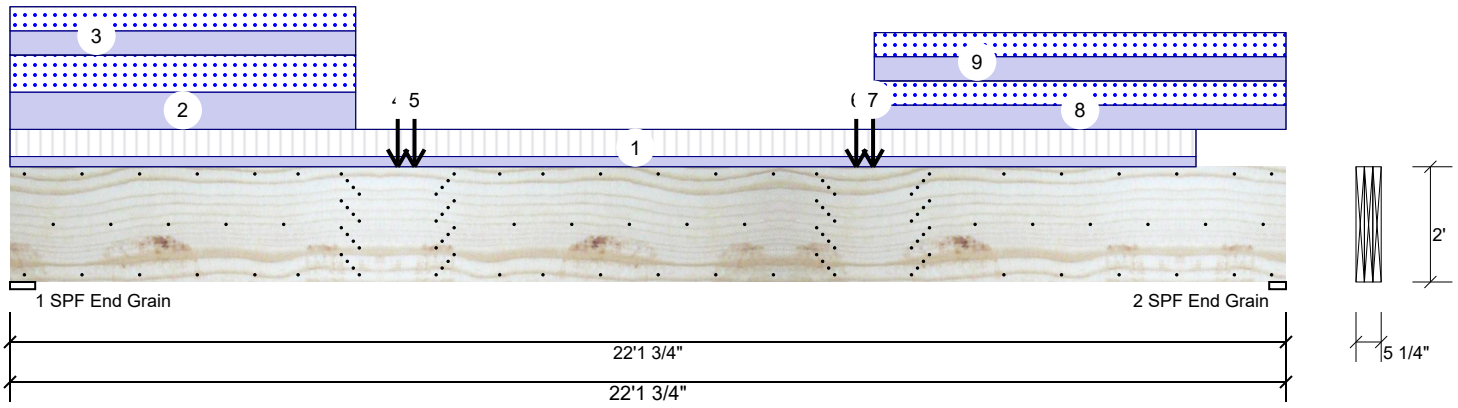
ITEMS

QTY	ITEM TYPE	SIZE	LENGTH FT-IN-16	PART NUMBER	NOTES
5	Hangers, USP	HUS 26			SIMPSON (HUS26)
6	Hangers, USP	JUS26			SIMPSON (LUS26)
2	LVL Beams (Sized)	LVL, 1-3/4" x 9-1/4" (S)	06-00-00		BM2
3	LVL Beams (Sized)	LVL, 1-3/4" x 24" (S)	24-00-00		24" LVL is <<ONLY>> sold in 20, 24, 28 or 48 foot lengths!!! (sm) / BM1
3	LVL Beams (Sized)	LVL, 1-3/4" x 24" (S)	24-00-00		24" LVL is <<ONLY>> sold in 20, 24, 28 or 48 foot lengths!!! (sm) GDH-SE
2	Hangers, USP	THDH28-2			SIMPSON (HGUS28-2)

Client:	Signature Home Builders	Date:	5/10/2021
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	1915	7318	6288	0	0
2	1635	6689	5768	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.250"	57%	7318 / 6288	13606	L	D+S
2 - SPF End Grain	3.500"	78%	6689 / 5768	12457	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	69806 ft-lb	13'2 11/16"	131295 ft-lb	0.532 (53%)	D+S	L
Unbraced	69806 ft-lb	13'2 11/16"	69899 ft-lb	0.999 (100%)	D+S	L
Shear	12201 lb	2'4 3/8"	30912 lb	0.395 (39%)	D+S	L
LL Defl inch	0.265 (L/976)	11'1 13/16"	0.539 (L/480)	0.490 (49%)	S	L
TL Defl inch	0.572 (L/452)	11'1 13/16"	0.719 (L/360)	0.800 (80%)	D+S	L

Design Notes

1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 3'8 5/8" o.c.
7 Bottom braced at bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In	0-0-0 to 20-7-0	4-3-12	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor
2	Part. Uniform	0-0-0 to 6-0-0		Top	236 PLF	0 PLF	236 PLF	0 PLF	0 PLF	A8
3	Part. Uniform	0-0-0 to 6-0-0		Near Face	153 PLF	0 PLF	153 PLF	0 PLF	0 PLF	C2
4	Point	6-8-12		Near Face	2648 lb	0 lb	2648 lb	0 lb	0 lb	C3

Continued on page 2...

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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 2/26/2023

Manufacturer Info

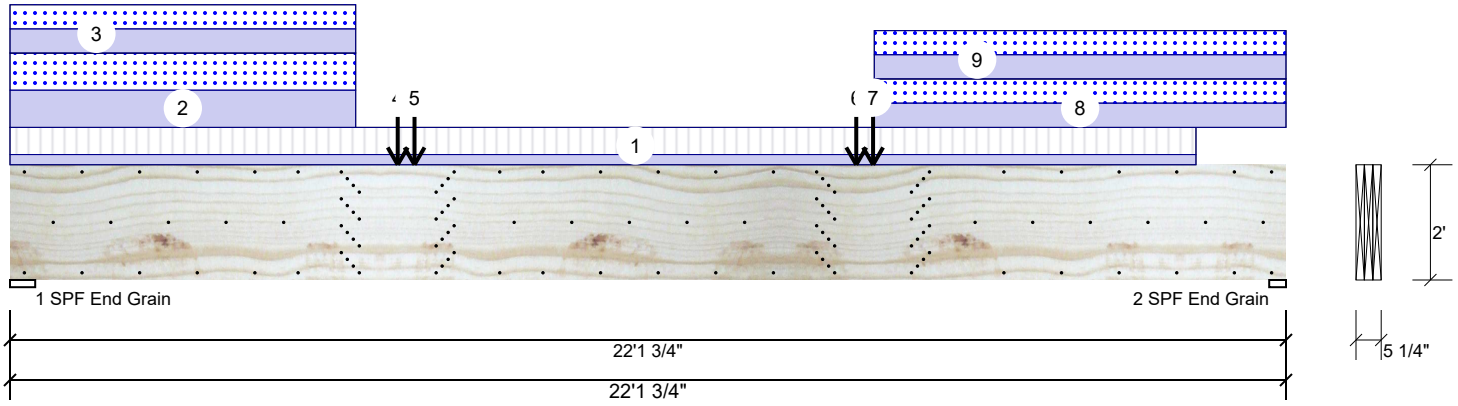
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	Signature Home Builders	Date:	5/10/2021
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED

Level: Level



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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
5	Point	7-0-4		Top	1208 lb	0 lb	1208 lb	0 lb	0 lb	A7
6	Point	14-8-4		Top	1024 lb	0 lb	1024 lb	0 lb	0 lb	A6
7	Point	14-11-12		Near Face	2648 lb	0 lb	2648 lb	0 lb	0 lb	C3
8	Part. Uniform	15-0-0 to 22-1-12		Top	154 PLF	0 PLF	154 PLF	0 PLF	0 PLF	A5
9	Part. Uniform	15-0-0 to 22-1-12		Near Face	153 PLF	0 PLF	153 PLF	0 PLF	0 PLF	C2
	Self Weight				28 PLF					

Notes

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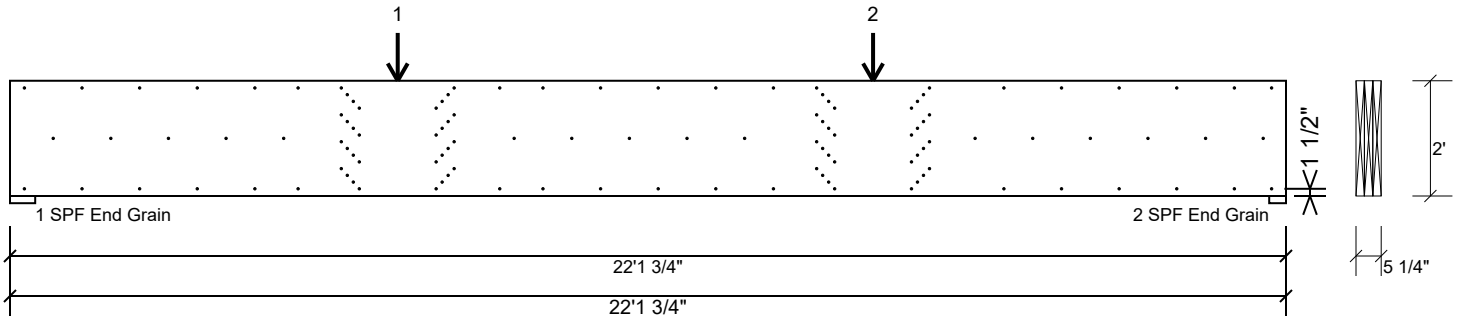
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening. Nail from both sides. Maximum end distance not to exceed 6"

Capacity	72.2 %
Load	204.0 PLF
Yield Limit per Foot	282.4 PLF
Yield Limit per Fastener	94.1 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+S
Duration Factor	1.15

Concentrated Load

Fasten at concentrated side load at 6-8-12 with a minimum of (32) – 12d Common nails (.148x3.25") in the pattern shown. Repeat fasteners on both sides.

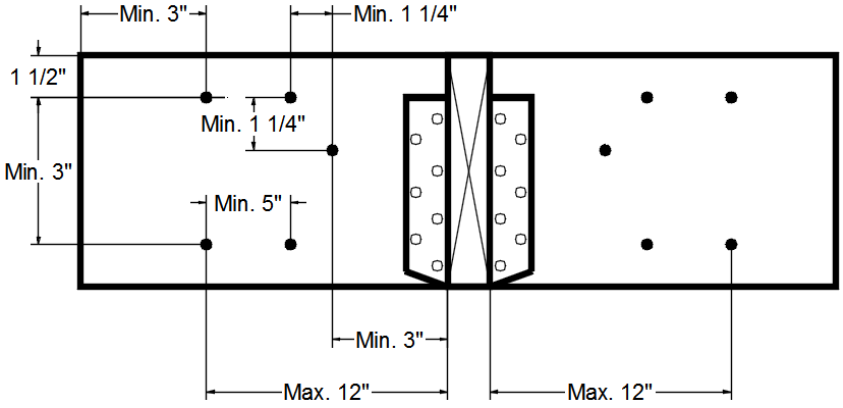
Capacity	90.3 %
Load	3530.7lb.
Total Yield Limit	3909.2 lb.
Cg	0.9993
Yield Limit per Fastener	122.3 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

Concentrated Load

Fasten at concentrated side load at 14-11-12 with a minimum of (32) – 12d Common nails (.148x3.25") in the pattern shown. Repeat fasteners on both sides.

Capacity	90.3 %
Load	3530.7lb.
Total Yield Limit	3909.2 lb.
Cg	0.9993
Yield Limit per Fastener	122.3 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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

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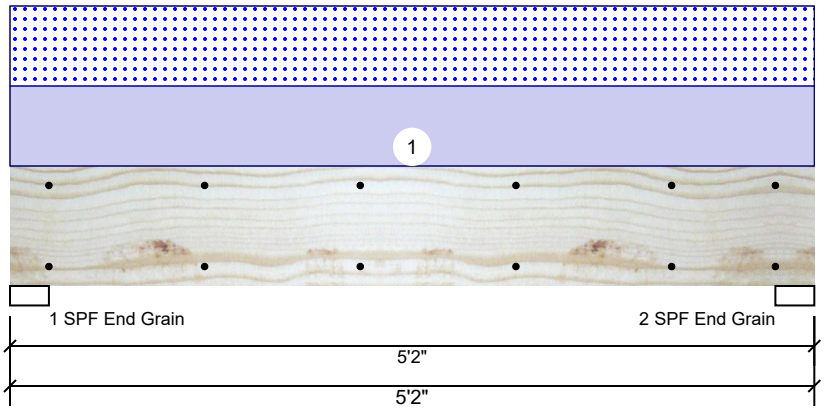
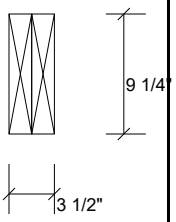
Client:	Signature Home Builders	Date:	5/10/2021
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1693	1674	0	0
2	0	1693	1674	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	37%	1693 / 1674	3367	L	D+S
2 - SPF End Grain	3.000"	37%	1693 / 1674	3367	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3740 ft-lb	2'7"	14423 ft-lb	0.259 (26%)	D+S	L
Unbraced	3740 ft-lb	2'7"	11910 ft-lb	0.314 (31%)	D+S	L
Shear	2118 lb	4'2 1/2"	7943 lb	0.267 (27%)	D+S	L
LL Defl inch	0.023 (L/2471)	2'7"	0.120 (L/480)	0.190 (19%)	S	L
TL Defl inch	0.047 (L/1229)	2'7"	0.160 (L/360)	0.290 (29%)	D+S	L

Design Notes

1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Girders are designed to be supported on the bottom edge only.
4 Top loads must be supported equally by all plies.
5 Top braced at bearings.
6 Bottom braced at bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	648 PLF	0 PLF	648 PLF	0 PLF	0 PLF	A4
	Self Weight				7 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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 2/26/2023

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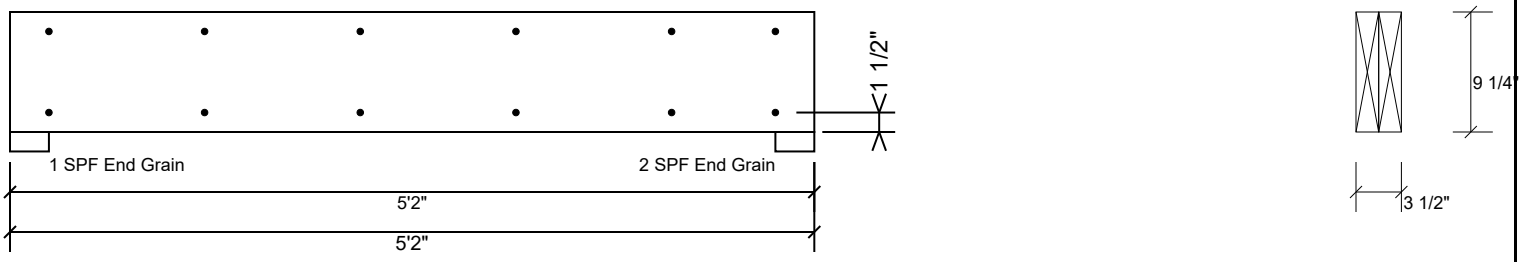
Client:	Signature Home Builders	Date:	5/10/2021
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL 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
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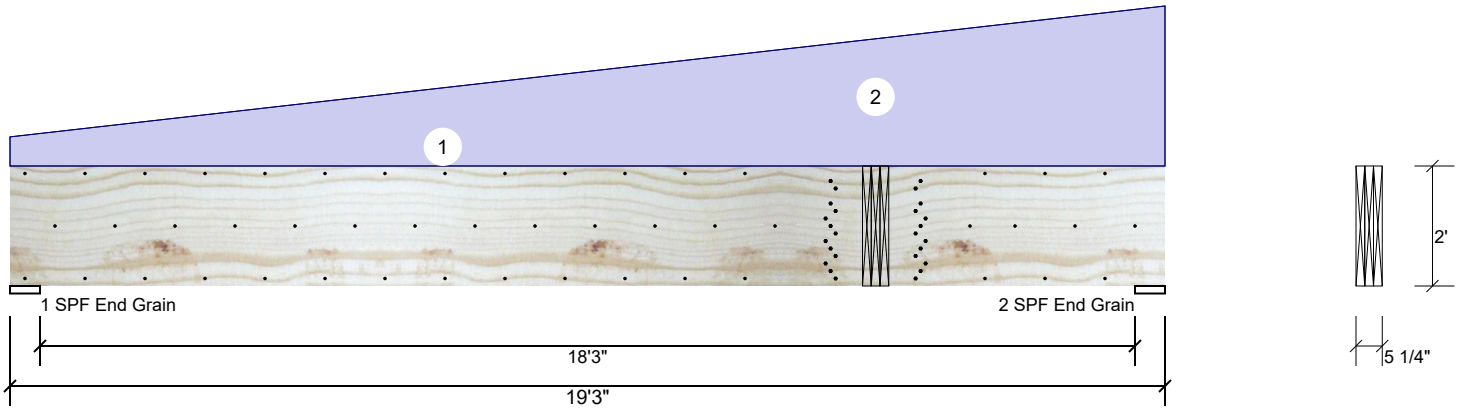
Project:		Input by:	Anthony Williams
Address:		Job Name:	Sherrod Residence
		Project #:	J0421-2748

GDH-SE Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	458	2731	1502	0	0
2	1458	7003	4785	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	6.000"	15%	2731 / 1502	4233	L	D+S
2 - SPF End Grain	6.000"	43%	7003 / 4785	11788	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	49724 ft-lb	14'5 1/8"	131295 ft-lb	0.379 (38%)	D+S	L
Unbraced	49724 ft-lb	14'5 1/8"	49884 ft-lb	0.997 (100%)	D+S	L
Shear	11341 lb	16'9 7/8"	30912 lb	0.367 (37%)	D+S	L
LL Defl inch	0.093 (L/2372)	11'4 1/8"	0.460 (L/480)	0.200 (20%)	S	L
TL Defl inch	0.232 (L/951)	11'1 1/2"	0.613 (L/360)	0.380 (38%)	D+S	L

Design Notes

1. Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2. Refer to last page of calculations for fasteners required for specified loads.
3. Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
4. Simpson fasteners applied from a single side of the member use tip values where published.
5. Girders are designed to be supported on the bottom edge only.
6. Top loads must be supported equally by all plies.
7. Top must be laterally braced at a maximum of 5'4 1/8" o.c.
8. Bottom braced at bearings.
9. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tapered Start	0-0-0		Top	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	End	19-3-0			165 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
2	Point	14-5-2		Near Face	7318 lb	1915 lb	6288 lb	0 lb	0 lb	BM1 Brg 1
	Self Weight				28 PLF					

Notes

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Lumber

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Handling & Installation

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GDH-SE Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED

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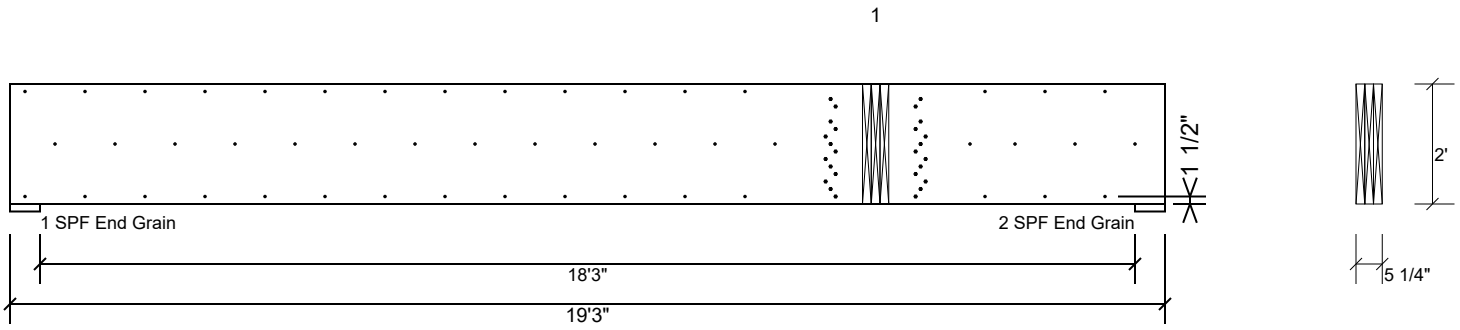


Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening. Nail from both sides. Maximum end distance not to exceed 6"

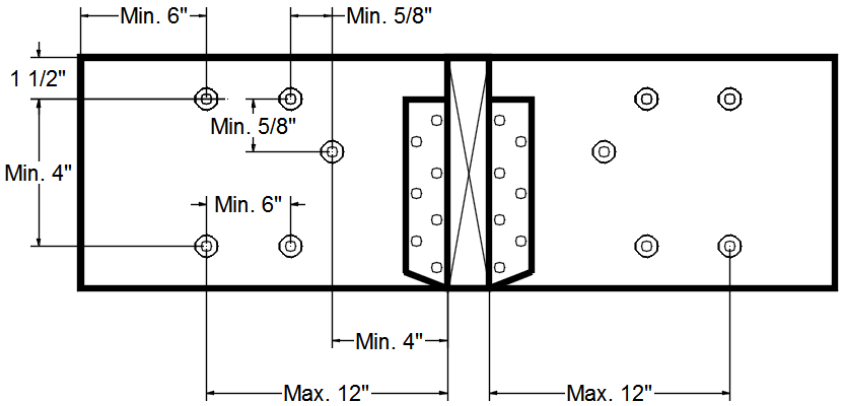
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 14-5-2 with a minimum of (26) – SDW22500 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	93.3 %
Load	9070.5lb.
Total Yield Limit	9717.5 lb.
Cg	1.0000
Yield Limit per Fastener	373.8 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



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