

**PLANS DESIGNED TO THE
2018 NORTH CAROLINA STATE
RESIDENTIAL BUILDING CODE**

MEAN ROOF HEIGHT: 19'-9"		HEIGHT TO RIDGE: 27'-5"		
CLIMATE ZONE	ZONE 3A	ZONE 4A	ZONE 5A	
PENETRATION L-FACOR	0.35	0.35	0.35	
SKYLIGHT L-FACOR	0.55	0.55	0.55	
GLAZED PENETRATION SHGC	0.20	0.20	0.20	
FLOOR R-VALUE	38 or 30ci	38 or 30ci	38 or 30ci	
WALL R-VALUE	15	15	15	
FLOOR R-VALUE	19	19	19	
* 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 24" WITH STEEL W/ SUB 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	15.1	-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

DESIGNED FOR WIND SPEED OF 130 MPH, 3 SECOND GUST (101 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	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	19.1	-25.2	19.8	-26.2	20.4	-26.9

REV1

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.

ROOF VENTILATION

SECTION R806

SQUARE FOOTAGE OF ROOF TO BE VENTED = 2,477 SQ.FT.

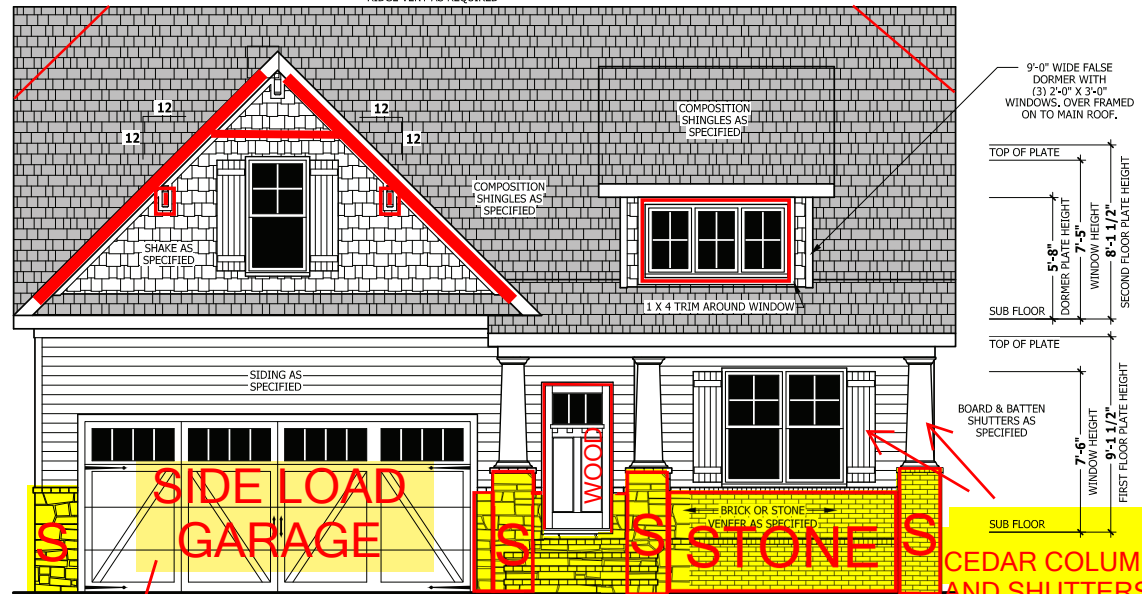
NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 16.51 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 = 8.26 SQ.FT.

**3 CAR GARAGE
TUDOR HIP ROOF
COVERED PORCH W/ PATIO**

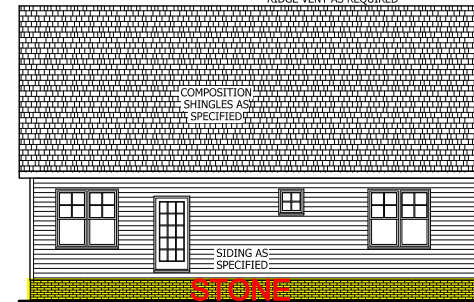
1X2 ON FASCIA-SOFFIT LIGHTING

**ELBRIDGE FARM - LOT 3A
31 GRIFFIN ROAD
LILLINGTON, NC 27546**



FRONT ELEVATION

SCALE 1/4" = 1'-0"



REAR ELEVATION

SCALE 1/8" = 1'-0"

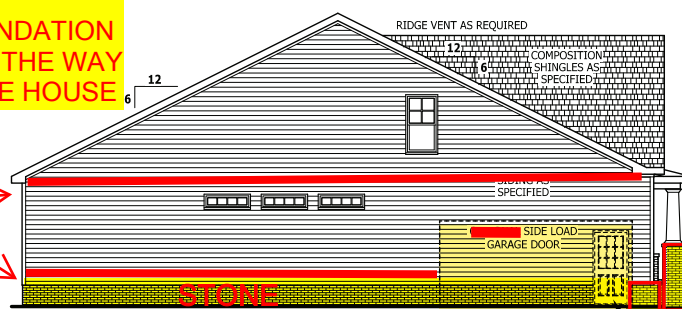


RIGHT SIDE ELEVATION

SCALE 1/8" = 1'-0"



WINDOWS WITH SIDE LOAD



LEFT SIDE ELEVATION

SCALE 1/8" = 1'-0"

**STONE FOUNDATION
HEIGHT ALL THE WAY
AROUND THE HOUSE**

1x10

1x10

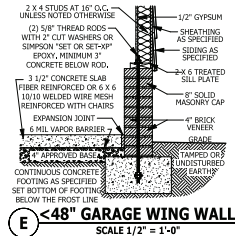
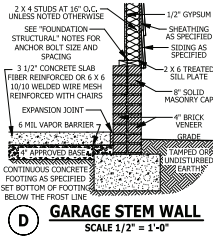
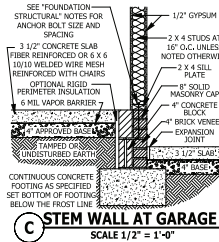
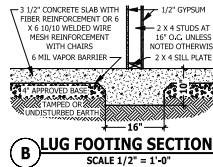
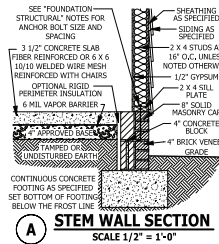
ELEVATION

The Lauren H

HAYNES WEAVER
HOME PLANS, INC.
 910.670.2100 • 919.006.4696
 P.O. Box 702, Wake Forest, NC 27588 919.456.4180 Fax 919.456.4180

SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
PLAYROOM	400 SQ.FT.
TOTAL	2166 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
GARAGE	488 SQ.FT.
TOTAL	676 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	160 SQ.FT.
DECK / PATIO	108 SQ.FT.
THIRD GARAGE	292 SQ.FT.
TOTAL	560 SQ.FT.

3 CAR SIDELOAD GARAGE TUDOR HIP ROOF COVERED PORCH W/ PATIO

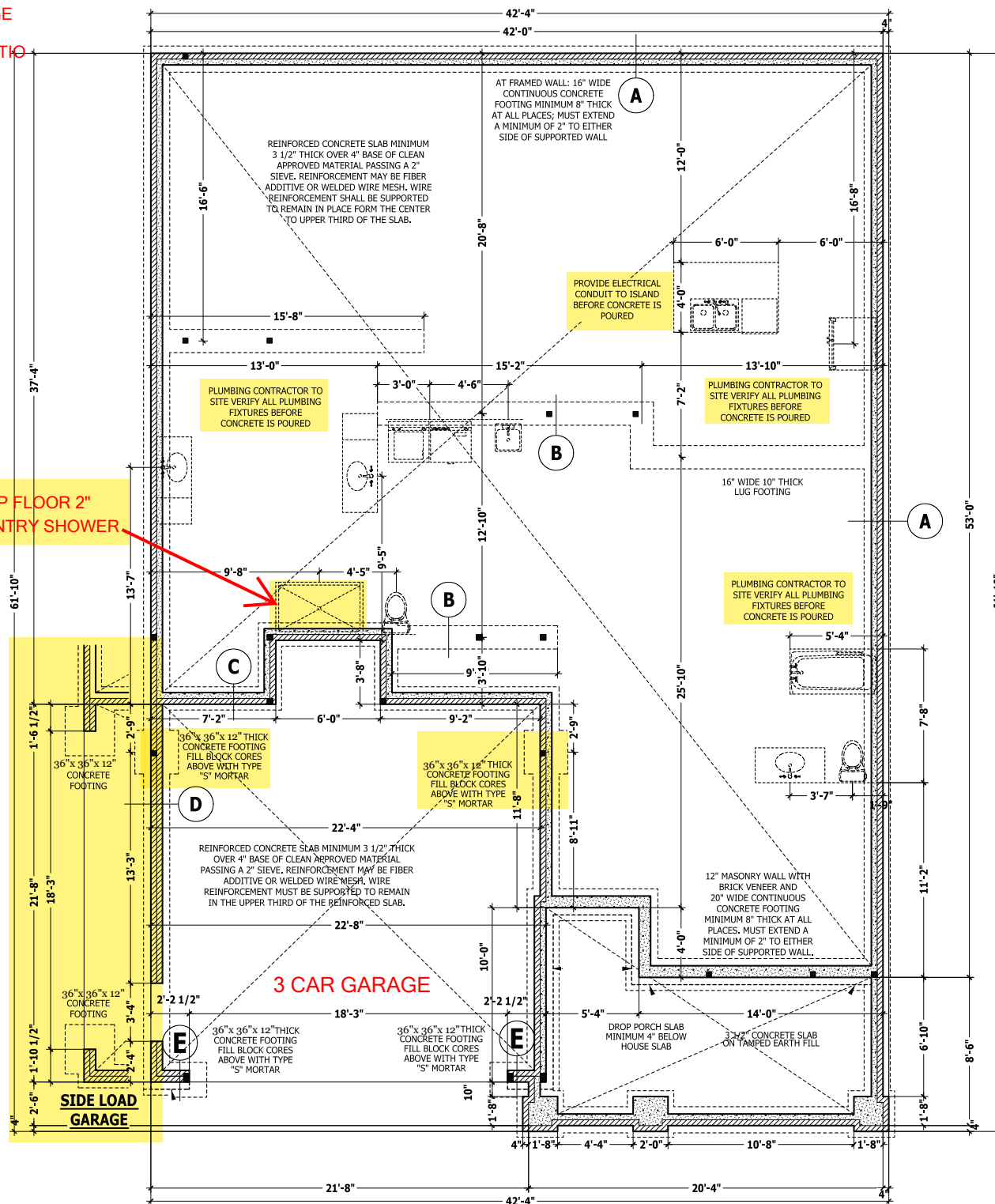


FOUNDATION STRUCTURAL

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 extend 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 DRAWINGS ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

STEM WALL SLAB PLAN
The Lauren H

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 1000 Wagon Wheel, Reynoldsburg, NC 27688

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 P.O. Box 702, Wake Forest, NC 27888 919-455-6180 Fax 1-866-491-4036

SQUARE FOOTAGE	
HEATED	
1ST FLOOR	1766 SQ.FT.
2ND FLOOR	400 SQ.FT.
TOTAL	2166 SQ.FT.
HEATED OPTIONAL	
SCREENED PORCH	188 SQ.FT.
RECREATION ROOM	324 SQ.FT.
TOTAL	420 SQ.FT.
UNHEATED	
1ST FLOOR	188 SQ.FT.
2ND FLOOR	400 SQ.FT.
TOTAL	588 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	188 SQ.FT.
DECK / PATIO	202 SQ.FT.
3RD FLOOR	188 SQ.FT.
TOTAL	980 SQ.FT.

ALL WOOD SHELVING

Enclosed/Conditioned Sunroom
w/T&G Ceiling

7' 0" INTERIOR
DOORS

T&G MASTER, LIVING
ROOM, AND SUNROOM

Cubbies in WIC

2X8
WALL

HEATED TILE FLOOR
TILE FLOOR, SHOWER
BIDET

ADD RECEPTACLE IN PANTRY
ADD CABINET IN PANTRY

GAS TANKLESS WATER HEATER

WIC-SWING OPPOSITE

Camera Drops/Ring

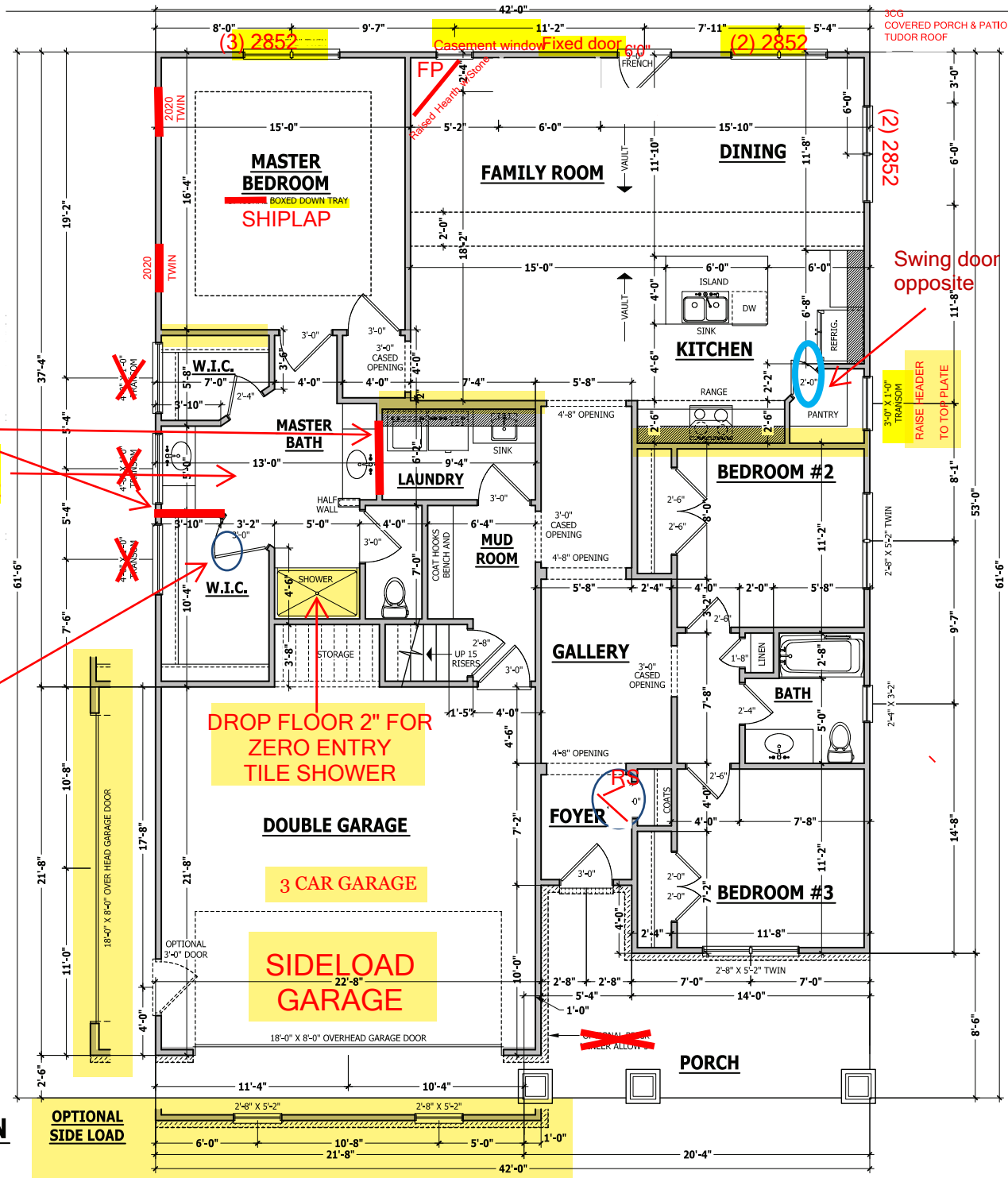
Gas Tankless Water Heater

SQUARE FOOTAGE

HEATED	
FIRST FLOOR	1766 SQ.FT.
PLAYROOM	400 SQ.FT.
TOTAL	2166 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
GARAGE	488 SQ.FT.
TOTAL	676 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	160 SQ.FT.
DECK / PATIO	108 SQ.FT.
THIRD GARAGE	292 SQ.FT.
TOTAL	560 SQ.FT.

FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"



FIRST FLOOR PLAN
The Lauren H

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SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
SHED	400 SQ.FT.
TOTAL	2166 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
GARAGE	488 SQ.FT.
TOTAL	676 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	160 SQ.FT.
DECK / PATIO	108 SQ.FT.
THIRD GARAGE	292 SQ.FT.
TOTAL	560 SQ.FT.

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2/24/2020
200219B
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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 contractor 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 (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=2600 PSI, Fv=285 PSI, E=2.0x10⁶ PSI
Unlimited strand lumber (USL) = Fb=2250 PSI, Fv=400 PSI, E=1.5x10⁶ PSI
Install all connectors per manufacturer's instructions.

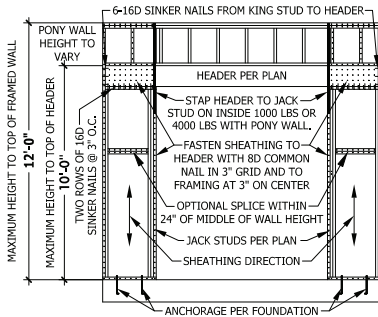
TRUSS AND I-JOIST MEMBERS:

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 manufacturer'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.



PF PORTAL FRAME AT OPENING
(METHOD PF PER FIGURE AND SECTION R602.10.1)
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 Haynes Home Plans, Inc. attention before construction begins.

KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown turned 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 responsibility 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**

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.

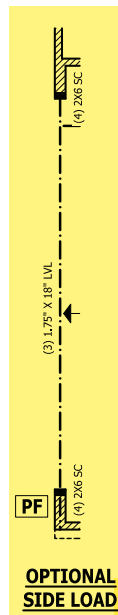
REQUIRED LENGTH OF BRACING: Required brace wall length for each side of the circumscribed rectangle are interpolated per table R602.10.3. Methods CS-WSP and CS-SFB contribute their actual length. Method GB contributes 0.5 it's actual length. Method PF contributes 1.5 times its actual length.
HD: 800 lbs hold down hold down device fastened to the edge of the brace wall panel closest to the corner.

Methods Per Table R602.10.1

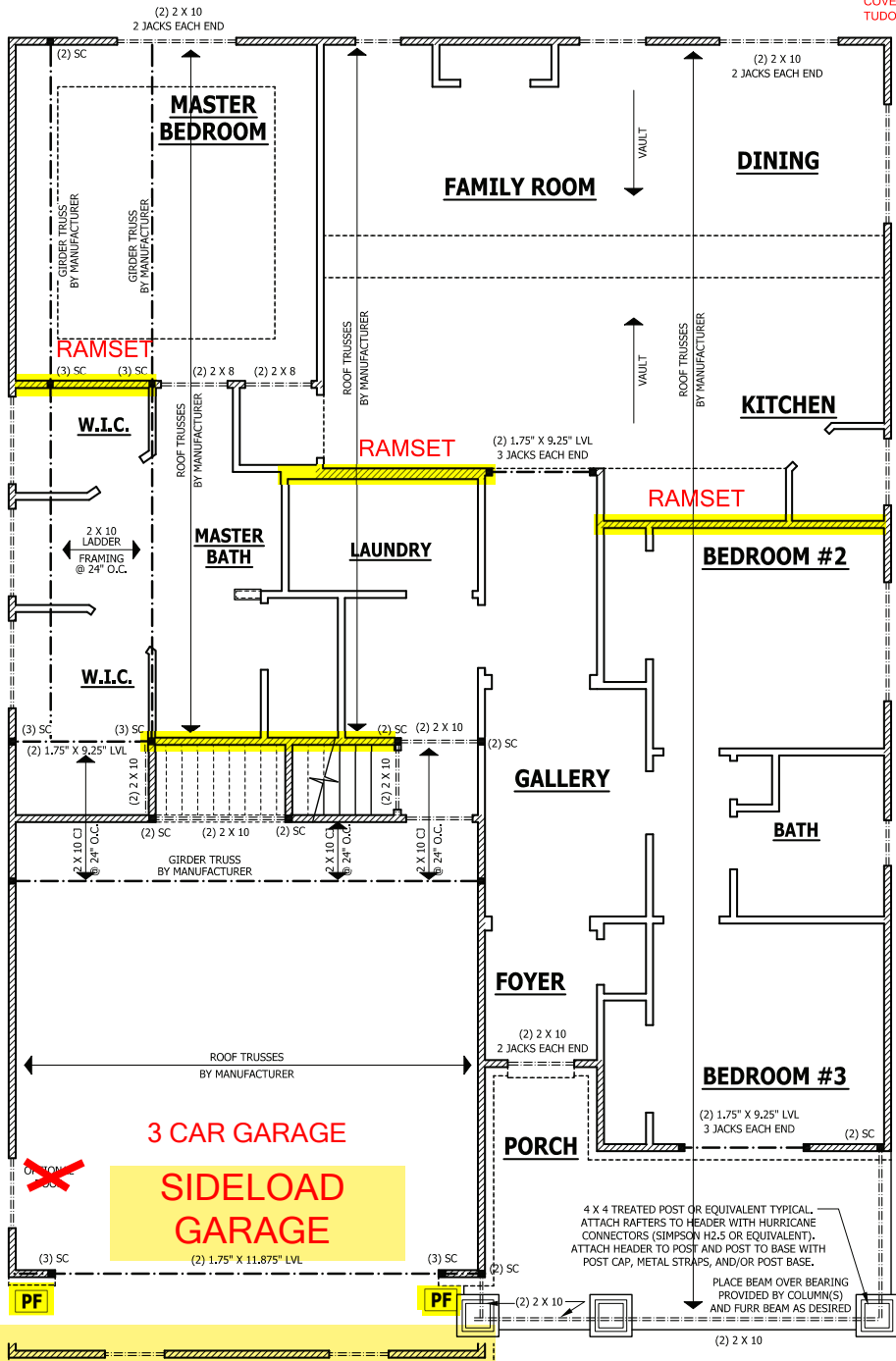
CS-WSP: Shall be minimum 3/8" OSB or CDX nailed at 6" on center at edges and 12" on center at intermediate supports with 6d common nails or 8d(2 1/2" long x 0.113" diameter).
CS-SFB: Shall be minimum 1/2" structural fiber board nailed at 3" on center at edges and 3" on center at intermediate supports 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 frame per figure R602.10.1



OPTIONAL SIDE LOAD



FIRST FLOOR STRUCTURAL

SCALE 1/4" = 1'-0"

3CG
COVERED PORCH & PATIO
TUDOR ROOF

FIRST FLOOR STRUCTURAL

The Lauren H

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SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1786 SQ.FT.
CLAYTON	480 SQ.FT.
TOTAL	2266 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
SCREENED PORCH	188 SQ.FT.
DECK	188 SQ.FT.
THIRD GARAGE	252 SQ.FT.
TOTAL	560 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 Plans, 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 responsibility 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.

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DESIGN LOADS	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (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 manufacturer's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Home 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.

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.

EXTERIOR HEADERS

- (2) 2 X 6 WITH 1 JACK STUD EACH END
UNLESS NOTED OTHERWISE

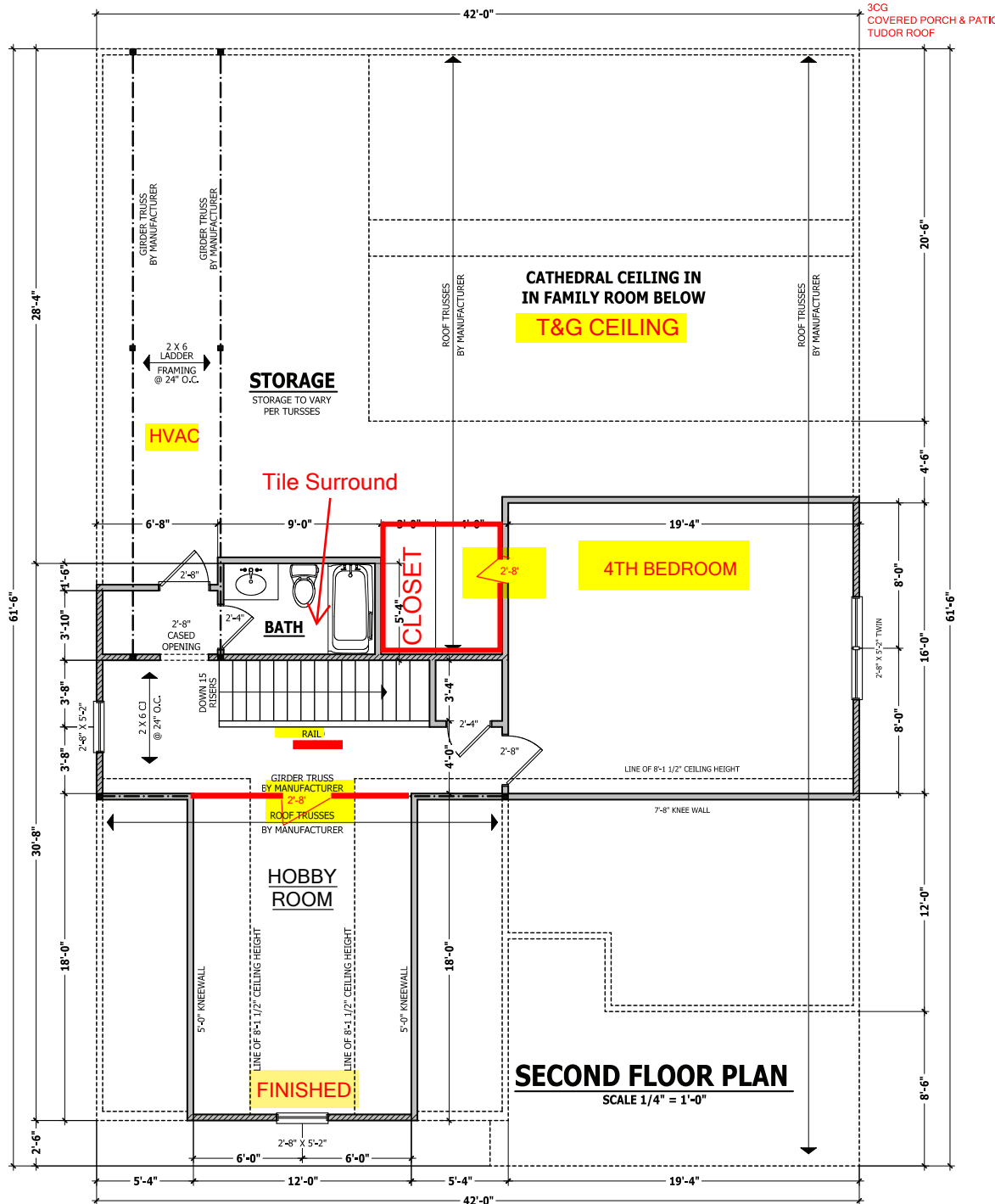
- KING STUDS EACH END PER TABLE BELOW

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



PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS.
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SECOND FLOOR PLAN

The Lauren H

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P.O. BOX 702, WAKE FOREST, NC 27888 919-435-6180 Fax 1-888-81-14396

HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27888 919-435-6180 Fax 1-888-81-14396

SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
CLAYTON	480 SQ.FT.
TOTAL	2246 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
GAZEBO	480 SQ.FT.
TOTAL	668 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	160 SQ.FT.
DECK PATIO	108 SQ.FT.
THIRD GARAGE	252 SQ.FT.
TOTAL	520 SQ.FT.

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TUDOR HIP ROOF
COVERED PORCH
W/ PATIO
3 CAR GARAGE

Tech Shield on Roof

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 Plans, Inc. attention before construction begins.

KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown turned 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 responsibility of the truss manufacturer.

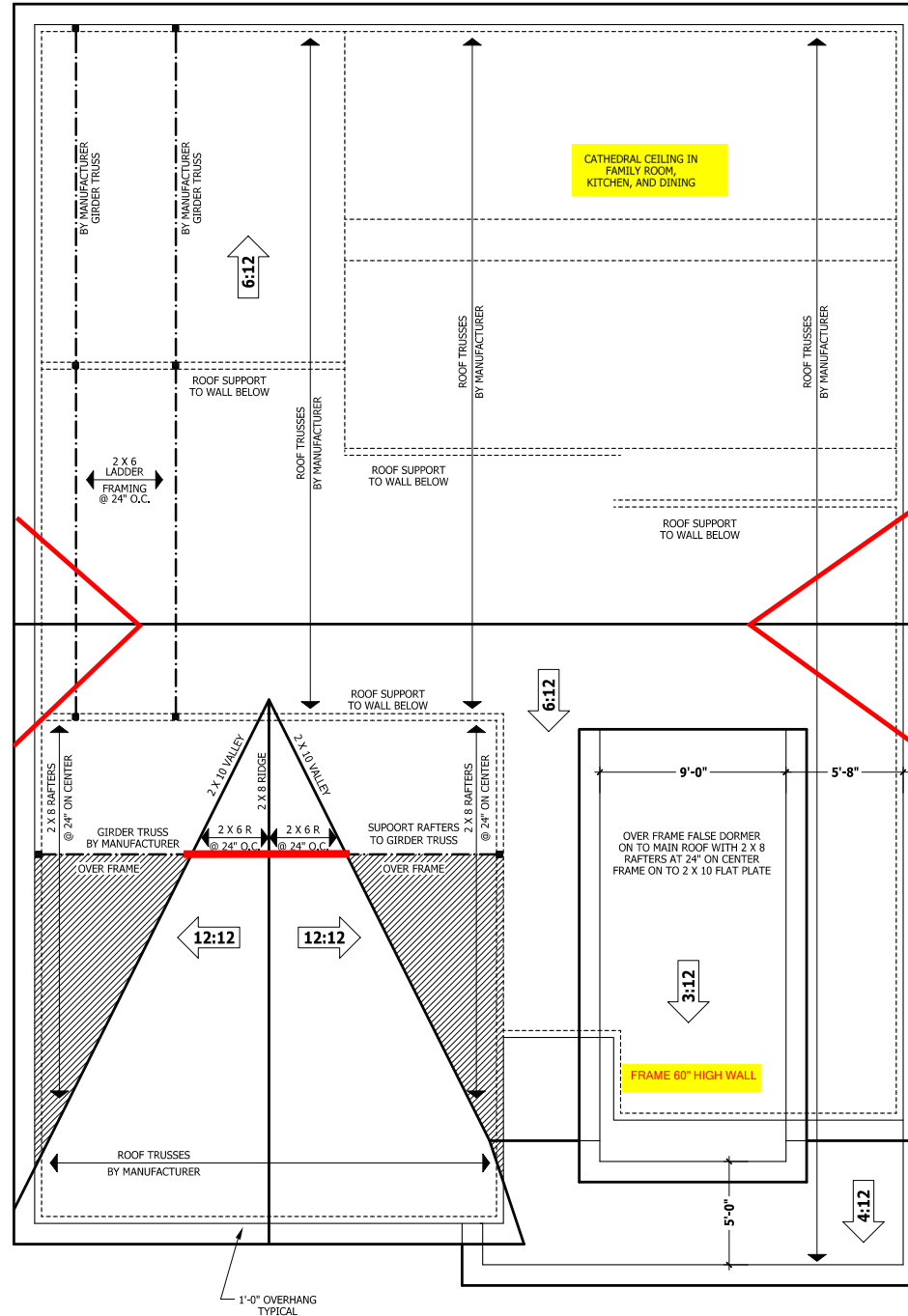
ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics.

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
SCALE 1/4" = 1'-0"

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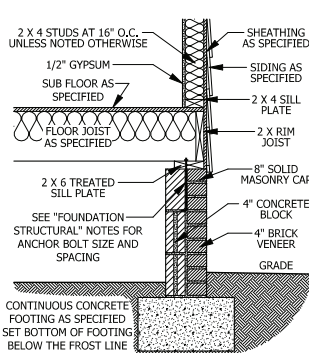
ROOF PLAN

The Lauren H

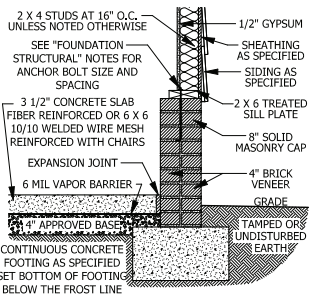
HAYNES HOME PLANS, INC.
P.O. BOX 702, WAKE FOREST, NC 27588 919-435-6180 Fax 919-435-6189
910.630.2100 • 919.606.4696
Call Haynes Home Plans, Inc. for more information.

SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
CLAYTON	480 SQ.FT.
TOTAL	2246 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
FRONT PORCH	188 SQ.FT.
GARAGE	488 SQ.FT.
TOTAL	676 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	160 SQ.FT.
DECK PATIO	108 SQ.FT.
THIRD GARAGE	252 SQ.FT.
TOTAL	520 SQ.FT.

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A CRAWL SPACE WALL
SCALE 3/4" = 1'-0"



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

DECK STAIR NOTES

SECTION AM110

AM110.1 Stairs shall be constructed per Figure AM110. Stringer spans shall be no greater than 7' foot span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each Stringer shall have minimum 3 1/2 inches between step cut and back of stringer. If used, suspended headers shall be attached with 3/8 inch galvanized bolts with nuts and washers to securely support stringers at the top.

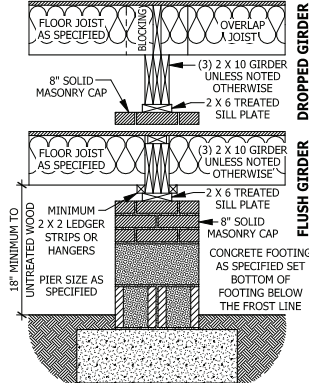
DECK BRACING

SECTION AM109

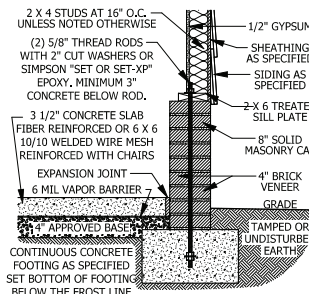
AM109.1 Deck bracing. Decks shall be braced to provide lateral stability. The following are acceptable means to provide lateral stability.
AM109.1.1 When the deck floor height is less than 4'-0" above finished grade per Figure AM109 and the deck is attached to the structure in accordance with Section AM104, lateral bracing is not required.
AM109.1.2 4 x 4 wood knee braces may be provided on each column in both directions. The knee braces shall attach to each post at a point not less than 1/2 of the post length from the top of the post, and the braces shall be angled between 45 degrees and 60 degrees from the horizontal. Knee braces shall be bolted to the post and the girder/double band with one 5/8 inch hot dipped galvanized bolt with nut and washer at both ends of the brace per Figure AM109.1.
AM109.1.3 For freestanding decks without knee braces or diagonal bracing, lateral stability may be provided by embedding the post in concrete with Figure AM109.2 and the following:

POST SIZE	MAX. TYPICAL DECK HEIGHT	MAX. POST EMBEDMENT DEPTH	CONCRETE DIAMETER
4 X 4	48 SF	4'-0"	2'-6"
4 X 6	120 SF	6'-0"	3'-6"

AM109.1.4 2 x 6 diagonal vertical cross bracing may be provided in two perpendicular directions for freestanding decks or parallel to the structure at the exterior column line for attached decks. The 2 x 6's shall be attached to the posts with one 5/8 inch hot dipped galvanized bolt with nut and washer at each end of each bracing member per Figure AM109.3.
AM109.1.5 For embedment of piles in Coastal Regions, see Chapter 45.



B DROPPED/ FLUSH PIER
SCALE 3/4" = 1'-0"



E <48\"/>

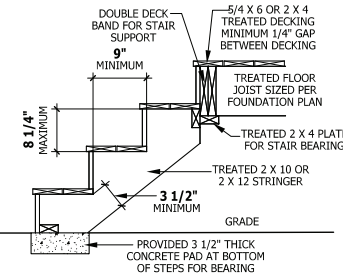
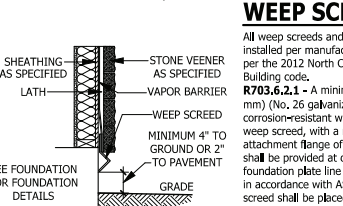
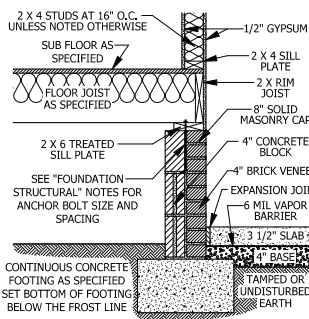


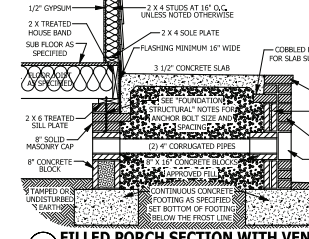
FIGURE AM110 TYPICAL DECK STAIR DETAIL
SCALE 3/4" = 1'-0"



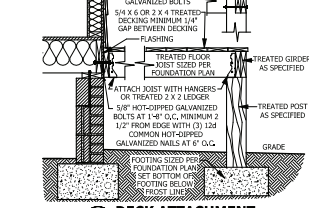
WEEP Screenshot
SCALE 3/4" = 1'-0"



C CRAWL SPACE AT GARAGE
SCALE 3/4" = 1'-0"



F FILLED PORCH SECTION WITH VENT
SCALE 1/2" = 1'-0"



F DECK ATTACHMENT
SCALE 1/2" = 1'-0"

SMOKE ALARMS

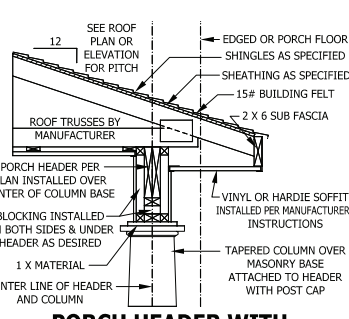
SECTION R314

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.

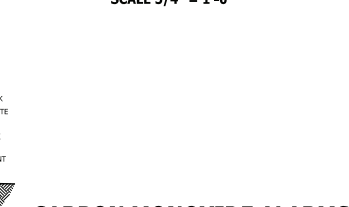
R314.3 Location. Smoke alarms shall be installed in the following locations:

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) attics, in dwellings or dwellings 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.



G PORCH HEADER WITH TAPERED COLUMN
SCALE 3/4" = 1'-0"



H CARBON MONOXIDE ALARMS
SCALE 3/4" = 1'-0"

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 215.1.
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 2094 and shall be installed in accordance with this code and the manufacturer's installation instructions.

STAIRWAY NOTES

R311.7

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall be not 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 dimensions 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.

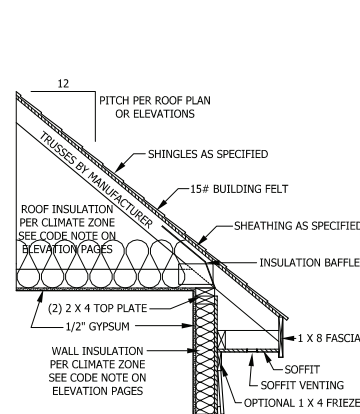
R311.7.4.3 Profile. The radius of curvature at the nosing shall be no greater than 9/16 inch (14 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid risers.

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).

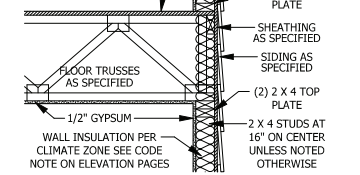
Exceptions:
1. The use of a volute, turnout, starting easing shall be allowed over the lowest tread.
2. When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrail to guardrail, or used at the start of a flight, the handrail height at the 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 attached to a wall shall have a space of not less than 1 1/2 inch (38 mm) between the wall and the handrails.

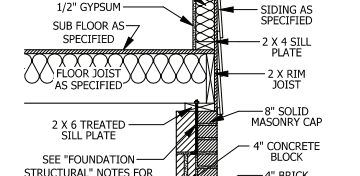
Exceptions:
1. Handrails shall be permitted to be interrupted by a newel post.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.
3. Two or more separate rails shall be considered continuous if the termination of the rails occurs within 6 inches (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.



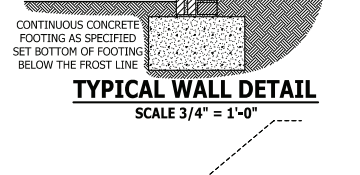
I TYPICAL WALL DETAIL
SCALE 3/4" = 1'-0"



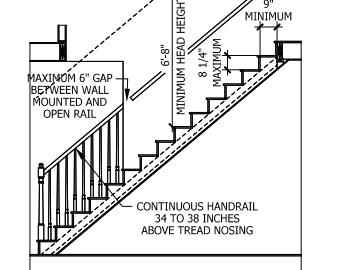
J TYPICAL WALL DETAIL
SCALE 3/4" = 1'-0"



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



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



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

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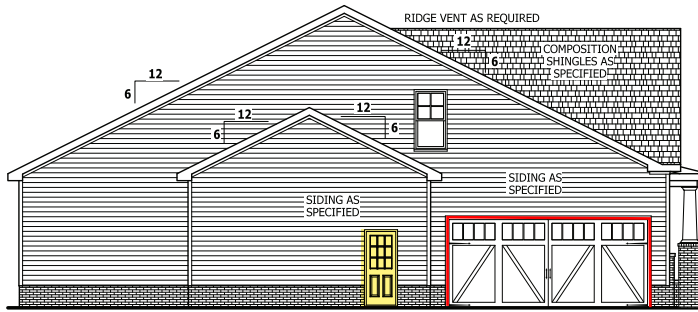
TYPICAL DETAILS
The Lauren H

HAYNES WE AVER HOMES
910.630.2100 • 919.606.4696
401 W. 10TH STREET, SUITE 100, WILMINGTON, NC 28401

HAYNES HOME PLANS, INC.
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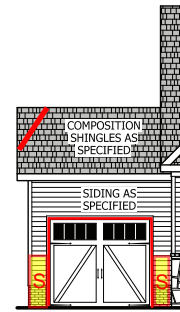
SQUARE FOOTAGE	
HEATED	UNHEATED
FIRST FLOOR	1766 SQ.FT.
SECOND FLOOR	483 SQ.FT.
THIRD FLOOR	2196 SQ.FT.
TOTAL	4445 SQ.FT.
UNHEATED	445 SQ.FT.
FRONT PORCH	188 SQ.FT.
REAR PORCH	483 SQ.FT.
SCREENED PORCH	108 SQ.FT.
SCREENED PATIO	108 SQ.FT.
THIRD GARAGE	252 SQ.FT.
TOTAL	960 SQ.FT.

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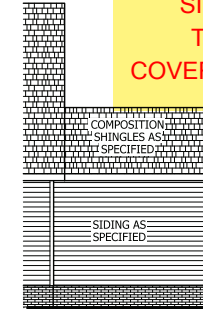
SIDE ELEVATION

SCALE 1/8" = 1'-0"



FRONT ELEVATION

SCALE 1/8" = 1'-0"



REAR ELEVATION

SCALE 1/8" = 1'-0"

**SIDELOAD GARAGE
TUDOR HIP ROOF
COVERED VAULTED PORCH
W/ PATIO**

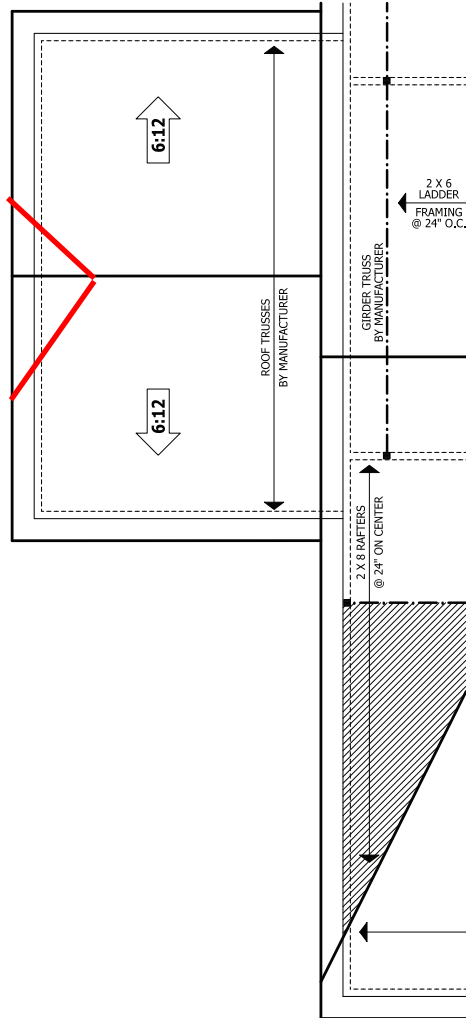
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FRONT LOAD THIRD CAR
The Lauren H

HAYNES WEAVER
HOME PLANS, INC.
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P.O. Box 702, Wake Forest, NC 27886 919-455-6180 FAX 919-455-4936

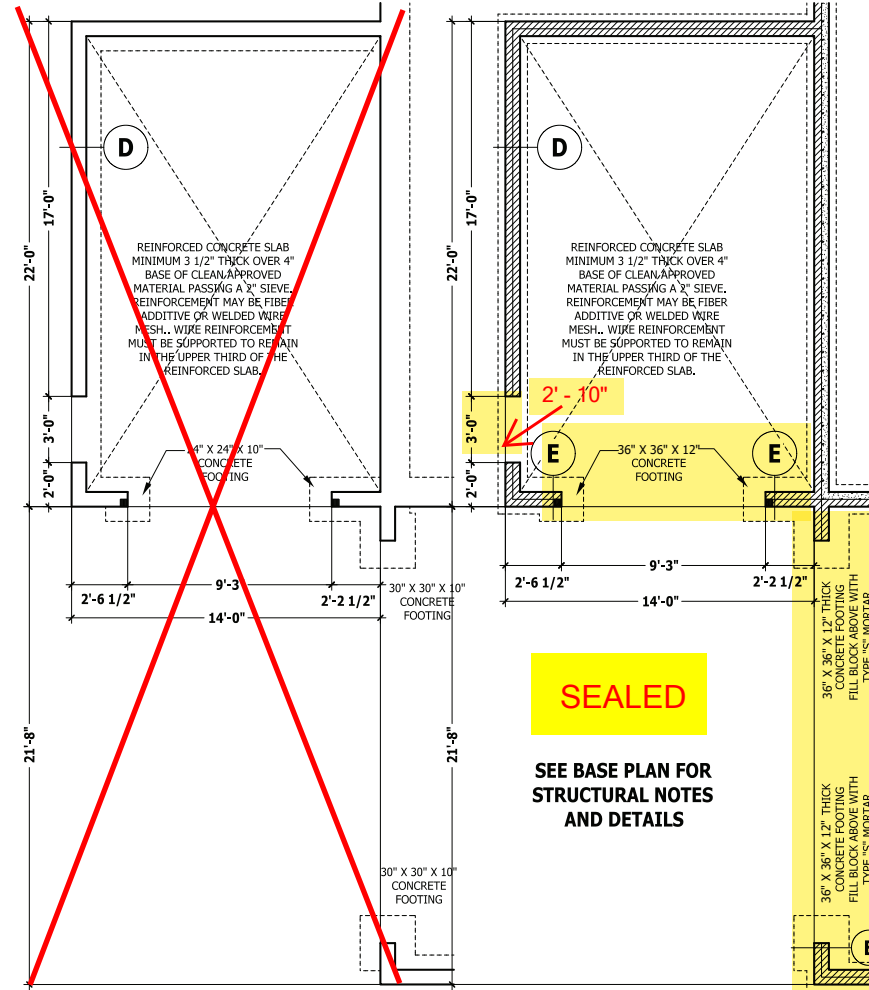
SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
SECOND FLOOR	400 SQ.FT.
TOTAL	2166 SQ.FT.
HEATED OPTIONAL	
CLOSET ROOM	188 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	492 SQ.FT.
UNHEATED	
PORCH	188 SQ.FT.
GARAGE	488 SQ.FT.
TOTAL	676 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	188 SQ.FT.
DECK / PATIO	188 SQ.FT.
THIRD GARAGE	202 SQ.FT.
TOTAL	580 SQ.FT.

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ADDENDUM



ROOF PLAN

SCALE 1/4" = 1'-0"

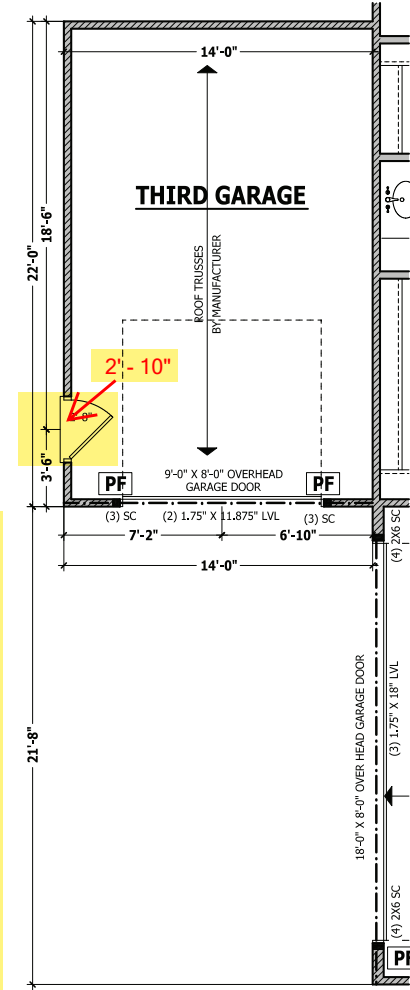


MONOLITHIC SLAB PLAN

SCALE 1/4" = 1'-0"

CRAWL SPACE / STEM WALL

SCALE 1/4" = 1'-0"



FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

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SCREENED PORCH ADDENDUM

The Lauren H

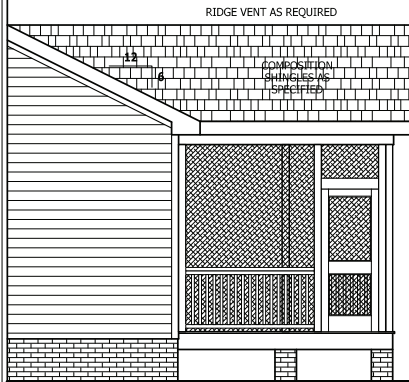
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Call for Haynes Home Plans, Inc. 919.606.4696

SQUARE FOOTAGE	
HEATED	
FIRST FLOOR	1766 SQ.FT.
CLAYTON	460 SQ.FT.
TOTAL	2226 SQ.FT.
HEATED OPTIONAL	
CAROLINA ROOM	148 SQ.FT.
RECREATION ROOM	304 SQ.FT.
TOTAL	452 SQ.FT.
UNHEATED	
SCREENED PORCH	188 SQ.FT.
TOTAL	640 SQ.FT.
UNHEATED OPTIONAL	
SCREENED PORCH	188 SQ.FT.
SCREENED PORCH	188 SQ.FT.
SCREENED PORCH	188 SQ.FT.
SCREENED PORCH	188 SQ.FT.
TOTAL	728 SQ.FT.

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ADDENDUM

3 CAR GARAGE
COVERED PORCH W/ PATIO
TUDOR HIP ROOF

SIDELOAD



RIGHT SIDE ELEVATION

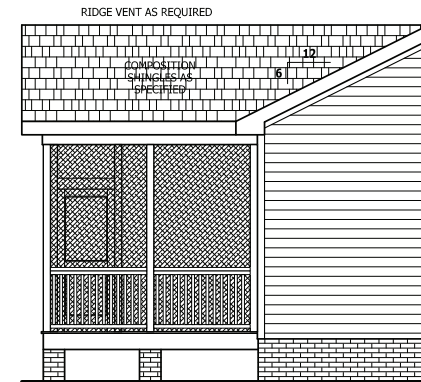
SCALE 1/4" = 1'-0"



REAR ELEVATION

SCALE 1/4" = 1'-0"

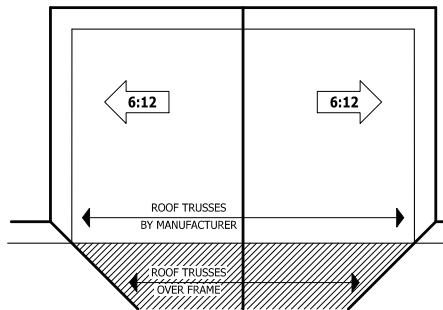
RAIL AS NEEDED
PER CODE



LEFT SIDE ELEVATION

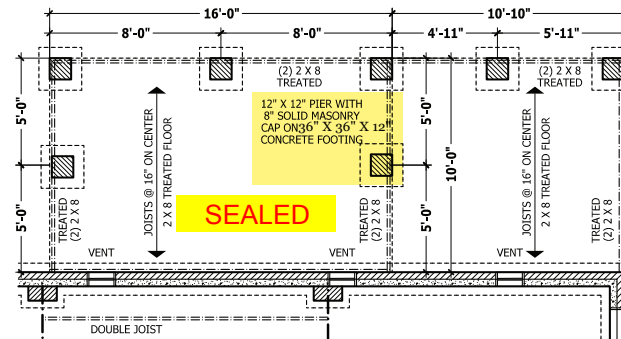
SCALE 1/4" = 1'-0"

SEE BASE PLAN FOR
NOTES AND DETAILS



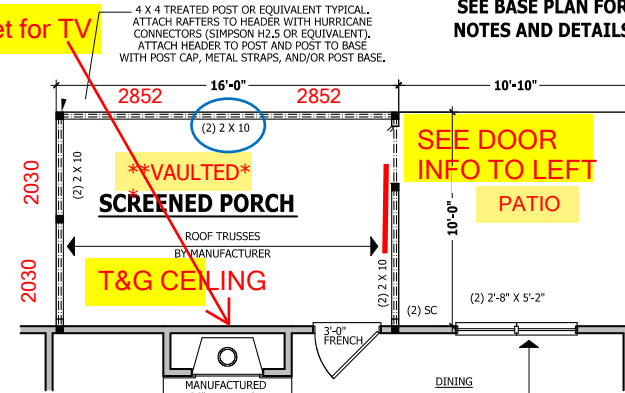
ROOF PLAN

SCALE 1/8" = 1'-0"



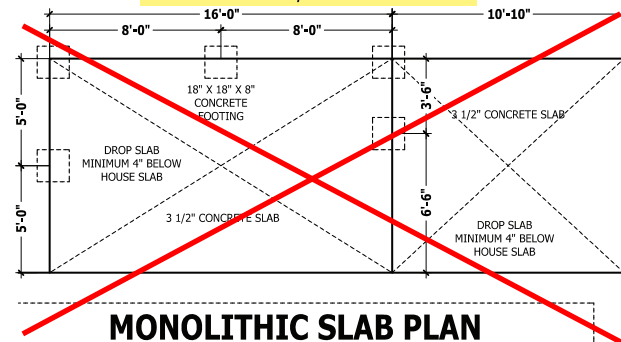
CRAWL SPACE PLAN

SCALE 1/4" = 1'-0"



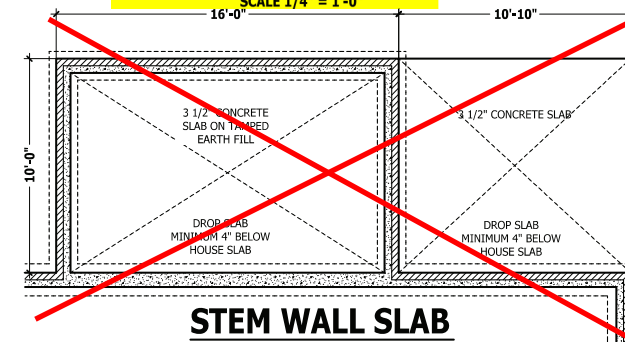
FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"



MONOLITHIC SLAB PLAN

SCALE 1/4" = 1'-0"



STEM WALL SLAB

SCALE 1/4" = 1'-0"

Vaulted Screened Porch
: Centered Door
Can be a slider or 30 French
door with a fixed door
Donald Tillman is aware.
Meeting today on 6.6.25

Electrical outlet for TV

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.

**VAULTED*

SCREENED PORCH

T&G CEILING

SEE DOOR
INFO TO LEFT

PATIO



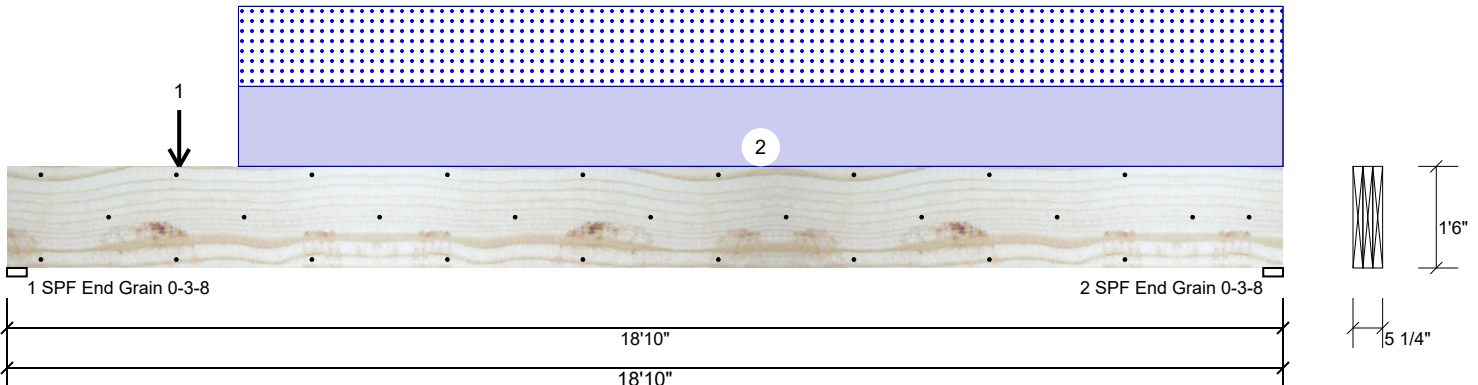
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

Page 1 of 14

GDH (Side Load) Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Member Information

Type: Girder
Plies: 3
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IBC 2012
Load Sharing: Yes
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	4290	4092	0	0
2	Vertical	0	3868	3670	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	54%	4290 / 4092	8382	L	D+S
2 - SPF End Grain	3.500"	Vert	49%	3868 / 3670	7538	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	35311 ft-lb	9' 3/8"	77108 ft-lb	0.458 (46%)	D+S	L
Unbraced	35311 ft-lb	9' 3/8"	35414 ft-lb	0.997 (100%)	D+S	L
Shear	8375 lb	1'9 1/2"	23184 lb	0.361 (36%)	D+S	L
LL Defl inch	0.229 (L/964)	9'3 3/8"	0.613 (L/360)	0.373 (37%)	S	L
TL Defl inch	0.470 (L/470)	9'3 3/8"	0.920 (L/240)	0.510 (51%)	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 Fasten all plies using 3 rows of SDW22500 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 5'7 1/4" o.c.
- 8 Bottom must be laterally braced at end 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	Point	2-6-8		Top	1996 lb	0 lb	1996 lb	0 lb	0 lb	B4
	Bearing Length	0-3-8								
2	Part. Uniform	3-5-0 to 18-10-0		Top	374 PLF	0 PLF	374 PLF	0 PLF	0 PLF	B3
	Self Weight				21 PLF					

Notes

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.

Lumber

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

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 6/28/2026

Manufacturer Info

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



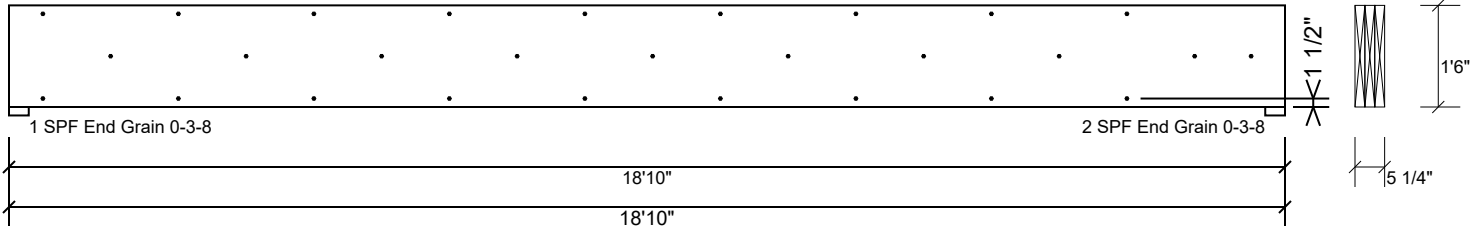
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

Page 2 of 14

GDH (Side Load) Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22500 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	382.5 PLF
Yield Limit per Fastener	255.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Notes

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.

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 6/28/2026

Manufacturer Info

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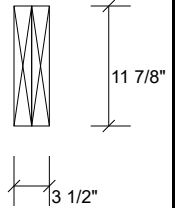
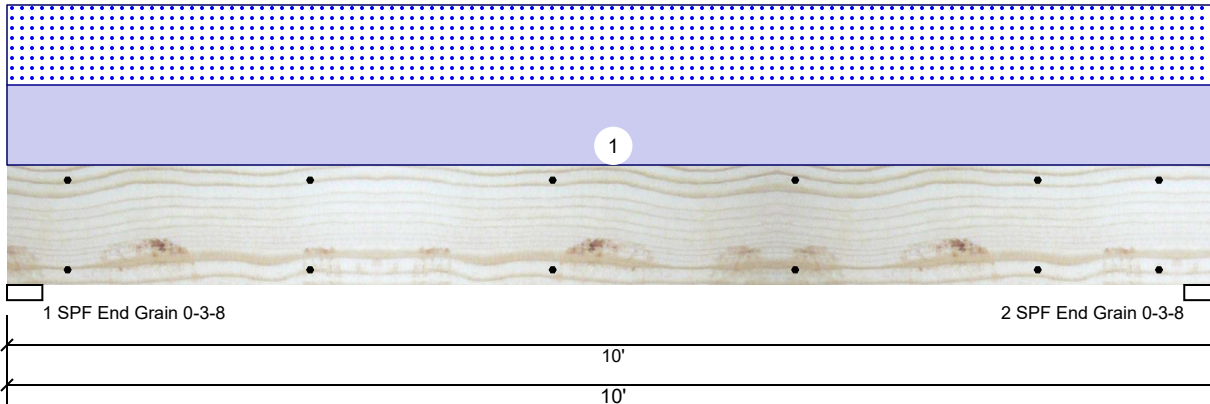
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

Page 3 of 14

GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IBC 2012
Load Sharing: No
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1196	1150	0	0
2	Vertical	0	1196	1150	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	23%	1196 / 1150	2346	L	D+S
2 - SPF End Grain	3.500"	Vert	23%	1196 / 1150	2346	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5340 ft-lb	5'	22897 ft-lb	0.233 (23%)	D+S	L
Unbraced	5340 ft-lb	5'	9721 ft-lb	0.549 (55%)	D+S	L
Shear	1754 lb	8'8 5/8"	10197 lb	0.172 (17%)	D+S	L
LL Defl inch	0.051 (L/2238)	5'	0.318 (L/360)	0.161 (16%)	S	L
TL Defl inch	0.104 (L/1097)	5'	0.477 (L/240)	0.219 (22%)	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 Fasten all plies using 2 rows of SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 end bearings.
- 8 Bottom must be laterally braced at end 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	Uniform			Top	230 PLF	0 PLF	230 PLF	0 PLF	0 PLF	G1
	Self Weight				9 PLF					

Notes

Calculated Structural 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.

Lumber

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

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 6/28/2026

Manufacturer Info

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



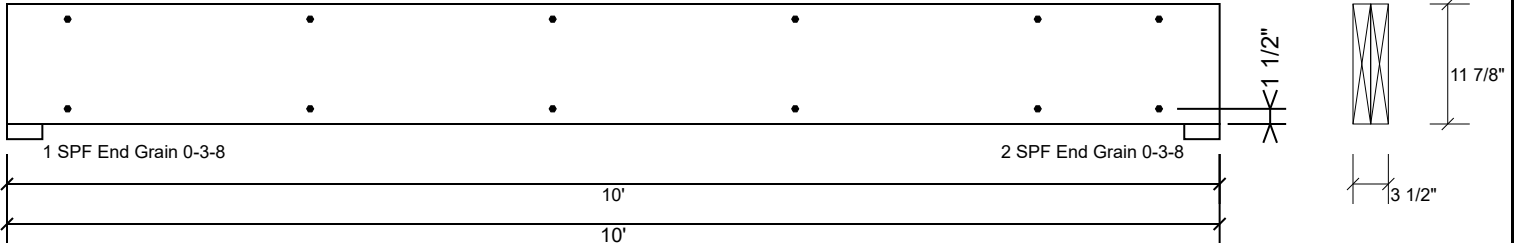
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Notes

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.

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

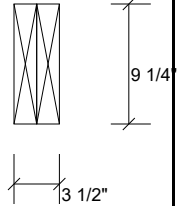
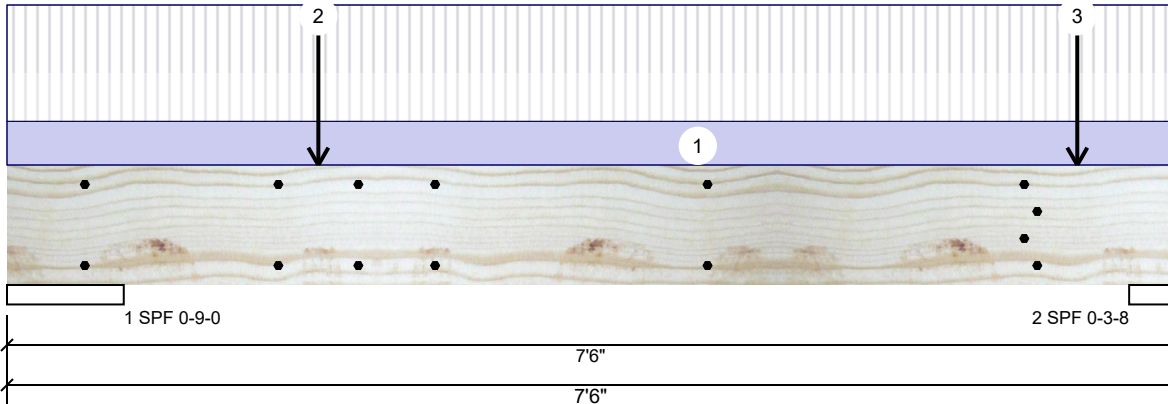
Manufacturer Info

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Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

This design is valid until 6/28/2026

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

Level: Level



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IBC 2012
Load Sharing: No
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	159	868	780	0	0
2	Vertical	141	1110	1032	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	9.000"	Vert	12%	868 / 780	1648	L	D+S
2 - SPF	3.500"	Vert	41%	1110 / 1032	2142	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2124 ft-lb	2'	14423 ft-lb	0.147 (15%)	D+S	L
Unbraced	2124 ft-lb	2'	10012 ft-lb	0.212 (21%)	D+S	L
Shear	2124 lb	6'5 1/4"	7943 lb	0.267 (27%)	D+S	L
LL Defl inch	0.018 (L/4389)	3'7 1/4"	0.219 (L/360)	0.082 (8%)	S	L
TL Defl inch	0.038 (L/2056)	3'7 5/8"	0.329 (L/240)	0.117 (12%)	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 Fasten all plies using 2 rows of SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 5 Simpson fasteners applied from a single side of the member use tip values where published.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at end bearings.
- 9 Bottom must be laterally braced at end bearings.
- 10 Lateral slenderness ratio based on single ply width.

Notes

Calculated Structural 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.

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 6/28/2026

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
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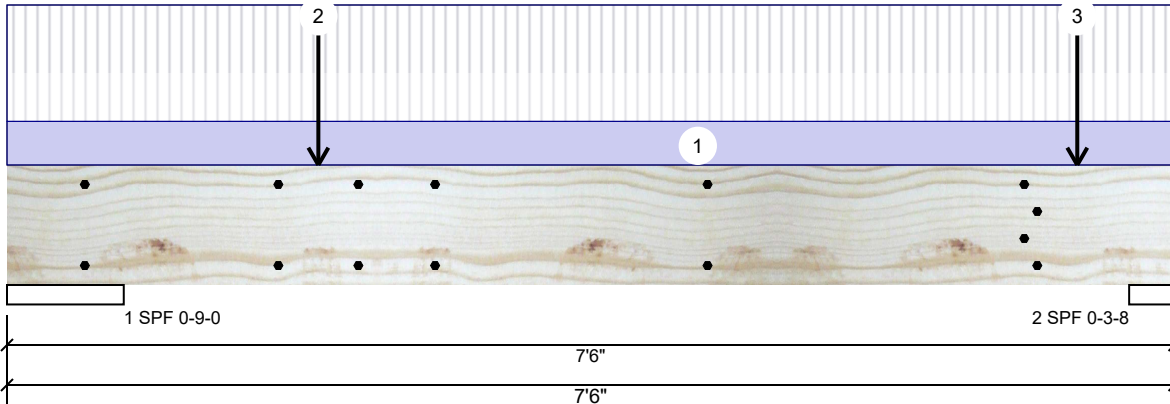
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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

Level: Level



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	15 PLF	40 PLF	0 PLF	0 PLF	0 PLF	Floor
2	Point	2-0-0		Far Face	906 lb	0 lb	906 lb	0 lb	0 lb	A6
3	Point	6-10-8		Far Face	906 lb	0 lb	906 lb	0 lb	0 lb	A6
	Self Weight				7 PLF					

Notes

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.

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

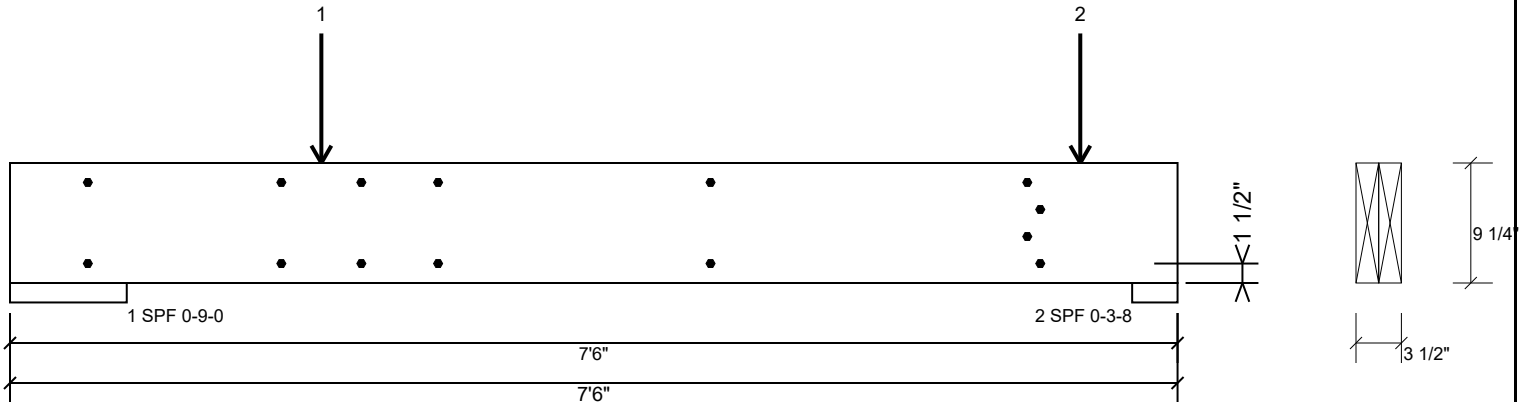
This design is valid until 6/28/2026

Manufacturer Info

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

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

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 12".

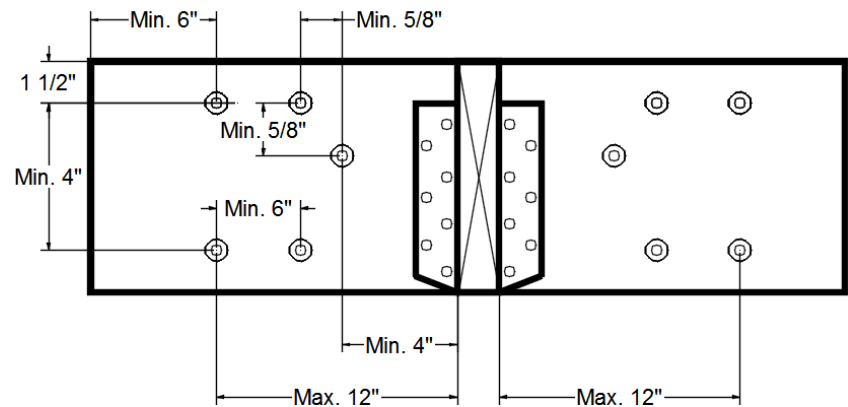
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 2-0-0 with a minimum of (4) – SDW22338 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	77.2 %
Load	906.0lb.
Total Yield Limit	1173.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	293.3 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

Calculated Structural 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.

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

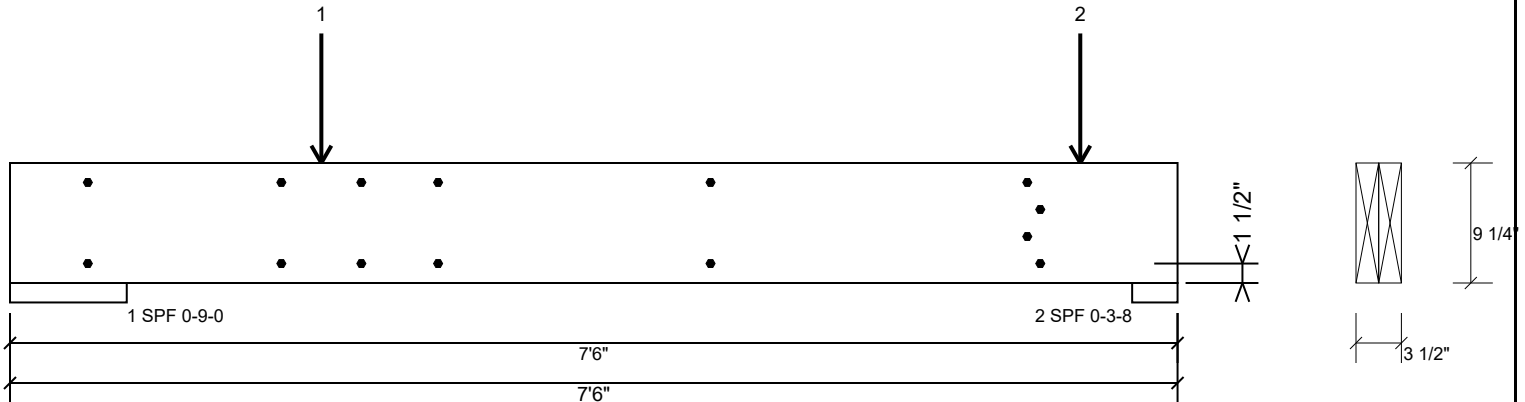
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Manufacturer Info

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

Level: Level



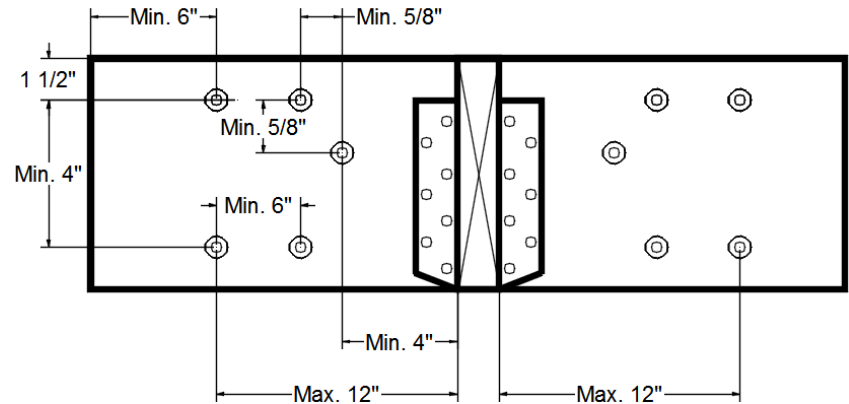
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 6-10-8 with a minimum of (4) – SDW22338 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	77.2 %
Load	906.0lb.
Total Yield Limit	1173.0 lb.
Cg	1.0000
Cm	1
Yield Limit per Fastener	293.3 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

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.

Lumber

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

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

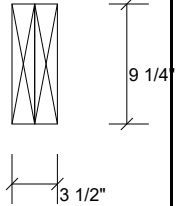
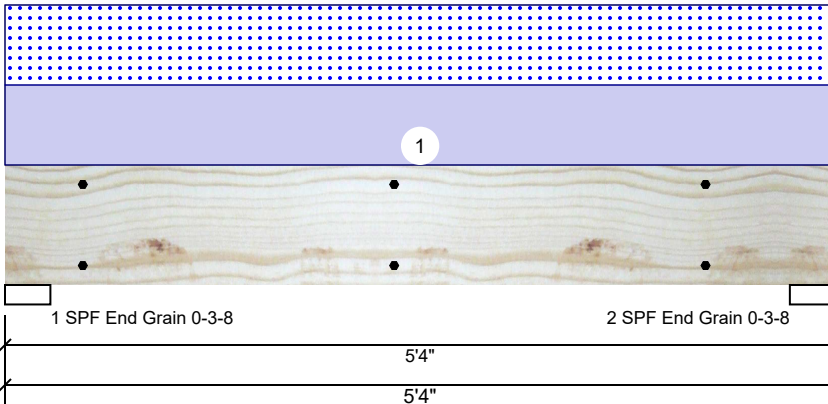
This design is valid until 6/28/2026

Manufacturer Info

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(800) 622-5850
www.metsawood.com/us

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

Level: Level



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IBC 2012
Load Sharing: No
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1942	1923	0	0
2	Vertical	0	1942	1923	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	38%	1942 / 1923	3865	L	D+S
2 - SPF End Grain	3.500"	Vert	38%	1942 / 1923	3865	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4305 ft-lb	2'8"	14423 ft-lb	0.298 (30%)	D+S	L
Unbraced	4305 ft-lb	2'8"	11811 ft-lb	0.365 (36%)	D+S	L
Shear	2330 lb	4'3 1/4"	7943 lb	0.293 (29%)	D+S	L
LL Defl inch	0.027 (L/2130)	2'8"	0.162 (L/360)	0.169 (17%)	S	L
TL Defl inch	0.055 (L/1060)	2'8"	0.244 (L/240)	0.226 (23%)	D+S	L

Design Notes

- 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.
- Fasten all plies using 2 rows of SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
- Refer to last page of calculations for fasteners required for specified loads.
- Simpson fasteners applied from a single side of the member use tip values where published.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at end bearings.
- Bottom must be laterally braced at end bearings.
- 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	721 PLF	0 PLF	721 PLF	0 PLF	0 PLF	A3
	Self Weight				7 PLF					

Notes

Calculated Structural 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.

Lumber

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

chemicals

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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
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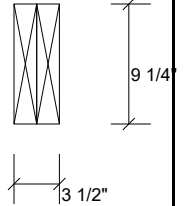
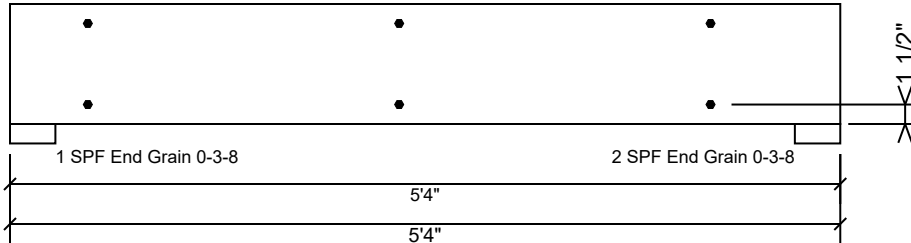
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structural 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.

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

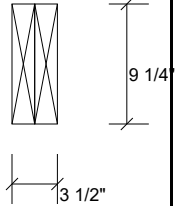
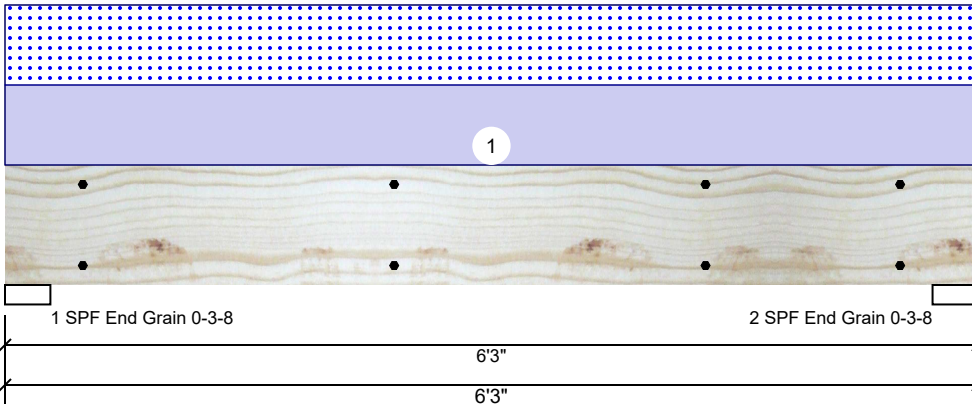
This design is valid until 6/28/2026

Manufacturer Info

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

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Header	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Header Supports:	No
Importance:	Normal - II	Glass:	
Temperature:	Temp <= 100°F	Deck:	Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2391	2369	0	0
2	Vertical	0	2391	2369	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	46%	2391 / 2369	4760	L	D+S
2 - SPF End Grain	3.500"	Vert	46%	2391 / 2369	4760	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6387 ft-lb	3'1 1/2"	14423 ft-lb	0.443 (44%)	D+S	L
Unbraced	6387 ft-lb	3'1 1/2"	10779 ft-lb	0.593 (59%)	D+S	L
Shear	3147 lb	1' 3/4"	7943 lb	0.396 (40%)	D+S	L
LL Defl inch	0.053 (L/1314)	3'1 1/2"	0.193 (L/360)	0.274 (27%)	S	L
TL Defl inch	0.106 (L/654)	3'1 1/2"	0.290 (L/240)	0.367 (37%)	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 Fasten all plies using 2 rows of SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 end bearings.
- 8 Bottom must be laterally braced at end 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	Uniform			Top	758 PLF	0 PLF	758 PLF	0 PLF	0 PLF	A2
	Self Weight				7 PLF					

Notes

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.

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 6/28/2026

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
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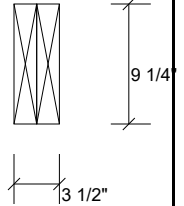
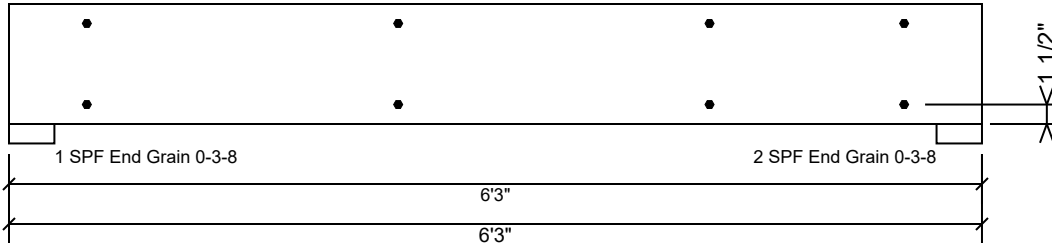
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structural 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.

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 6/28/2026

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
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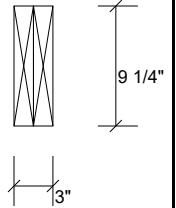
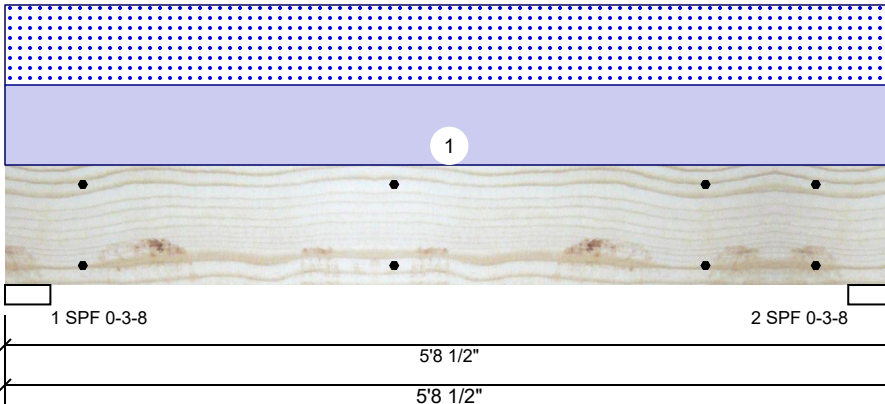
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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BM4 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

Level: Level



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IBC 2012
Load Sharing: No
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	756	756	0	0
2	Vertical	0	756	756	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	34%	756 / 756	1513	L	D+S
2 - SPF	3.500"	Vert	34%	756 / 756	1513	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1826 ft-lb	2'10 1/4"	3946 ft-lb	0.463 (46%)	D+S	L
Unbraced	1826 ft-lb	2'10 1/4"	3629 ft-lb	0.503 (50%)	D+S	L
Shear	1358 lb	1' 3/4"	2872 lb	0.473 (47%)	D+S	L
LL Defl inch	0.016 (L/3853)	2'10 1/4"	0.175 (L/360)	0.093 (9%)	S	L
TL Defl inch	0.033 (L/1926)	2'10 1/4"	0.262 (L/240)	0.125 (12%)	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 Fasten all plies using 2 rows of SDW22300 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end 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	Uniform			Far Face	265 PLF	0 PLF	265 PLF	0 PLF	0 PLF	A4

Manufacturer Info

This design is valid until 6/28/2026



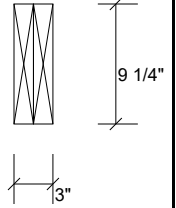
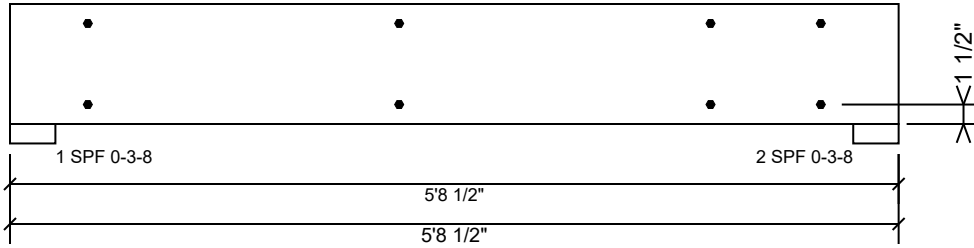
Client: Weaver Homes
Project:
Address:

Date: 6/11/2025
Input by: Curtis Quick
Job Name: The Lauren H Beams
Project #:

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BM4 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22300 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	90.4 %
Load	265.0 PLF
Yield Limit per Foot	293.3 PLF
Yield Limit per Fastener	293.3 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	D+S
Duration Factor	1.15

Manufacturer Info

This design is valid until 6/28/2026