



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

RB01 (Roof Beam)

Dry | 1 span | No cant.

October 28, 2019 09:36:05

BC CALC® Member Report

Build 7295

Job name:

File name:

Address:

Description:

City, State, Zip:

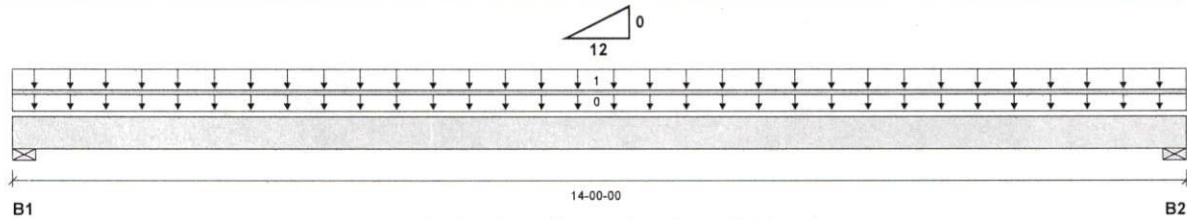
Specifier:

Customer:

Designer: TOM WALKER

Code reports: ESR-1040

Company: LONGLEAF TRUSS COMPANY



Total Horizontal Product Length = 14-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		1204 / 0	2240 / 0		2240 / 0
B2, 3-1/2"		1204 / 0	2240 / 0		2240 / 0

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-00-00	Top		12				00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	14-00-00	Top		10	20		20	16-00-00

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	11278 ft-lbs	46.1%	115%	5	07-00-00
End Shear	2814 lbs	31.0%	115%	5	01-03-06
Total Load Deflection	L/426 (0.381")	42.2%	n/a	4	07-00-00
Live Load Deflection	L/656 (0.248")	36.6%	n/a	6	07-00-00
Max Defl.	0.381"	76.2%	n/a	4	07-00-00
Span / Depth	13.7				

Bearing Supports

	Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate 3-1/2" x 3-1/2"	3444 lbs	66.2%	37.5%	Spruce-Pine-Fir
B2	Wall/Plate 3-1/2" x 3-1/2"	3444 lbs	66.2%	37.5%	Spruce-Pine-Fir

Cautions

For roof members with slope (1/4)/12 or less final design must ensure that ponding instability will not occur.

For roof members with slope (1/2)/12 or less final design must account for Rain-on-Snow surcharge load.

Notes

- Design meets Code minimum (L/180) Total load deflection criteria.
- Design meets Code minimum (L/240) Live load deflection criteria.
- Design meets arbitrary (0.5") Maximum Total load deflection criteria.
- Calculations assume member is fully braced.
- BC CALC® analysis is based on IBC 2009.
- Design based on Dry Service Condition.



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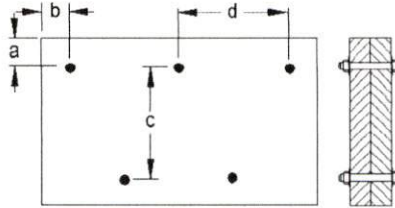
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Company: LONGLEAF TRUSS COMPANY

Connection Diagram: Full Length of Member



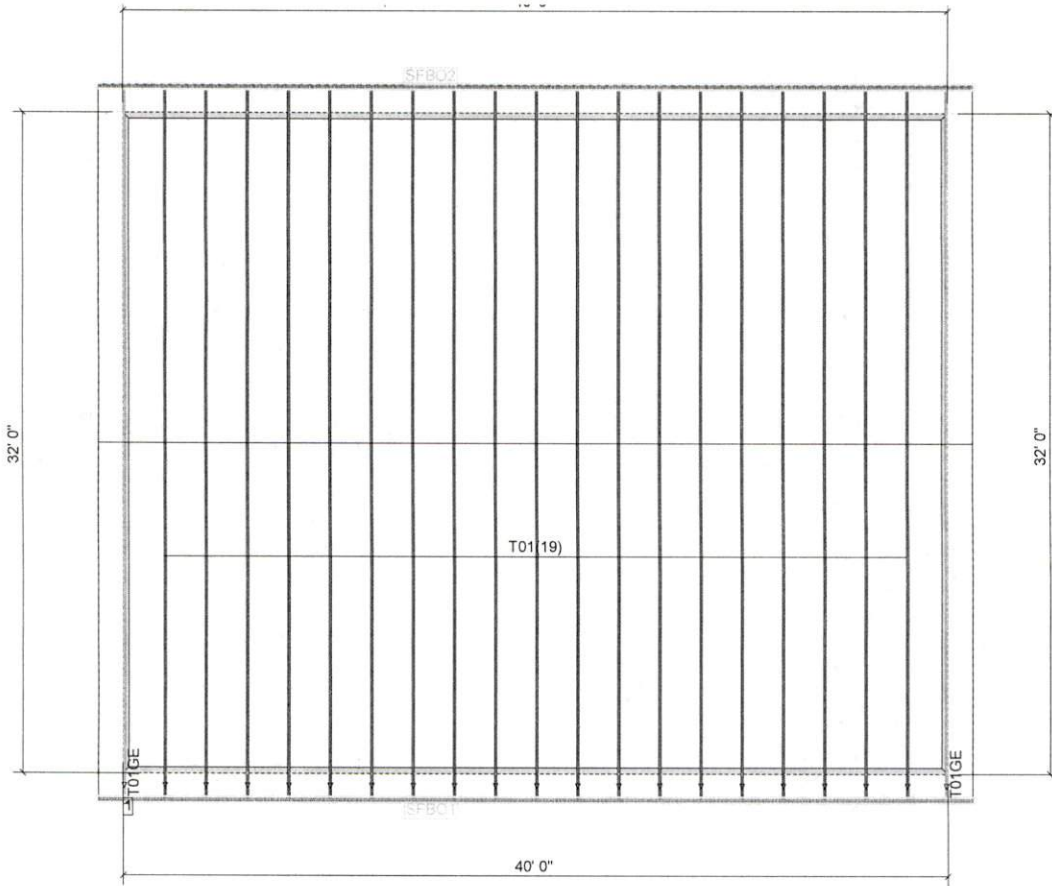
a minimum = 2" c = 7-7/8"
b minimum = 2-1/2" d = 24"

Bolts are assumed to be Grade A307 or Grade 2 or higher.
Connectors are: 1/2 in. Staggered Through Bolt

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®



ROOF TRUSS LAYOUT
1/4" = 1'-0"

Floor Area: 0 SF
Floor Perimeter: 0'
Roof Area: 1644.01 SF
Roof Perimeter: 30' 0"
Roof Slopes: 2/12 Squares

Project: SERVICE BUILDING SUPPLY SANF
Client: SHOP
Designer: SAMMY McNEIL
Date: / /
Drawing No: T19-08067P

LONGLEAF TRUSS CO.
4476 Hwy. 21 W
West End, NC 27376
(810) 872-4711

NOTE
IT IS THE RESPONSIBILITY OF THE ARCHITECT TO PROVIDE AN APPROPRIATE CONNECTION FOR TRUSSES TO SUPPORTING STRUCTURE PER SPECIFICATIONS. DESIGNER'S RESPONSIBILITY IS LIMITED TO THE TRUSS LAYOUT PROVIDED. TRUSS SPACE MUST BE DIMENSIONED BY ARCHITECT OR APPROVED TRUSS LAYOUT PRIOR TO FABRICATION. THE COMPANY IS A TRUSS MANUFACTURER. THESE RESPONSIBILITIES ARE LIMITED TO THOSE DESCRIBED IN THIS DRAWING. THE COMPANY DOES NOT PROVIDE DESIGN SERVICES FOR THE CONSTRUCTION. DESIGN CHANGES, OMISSIONS, AND/OR OVERTIGHTENING OF BOLTS SHALL BE THE RESPONSIBILITY OF THE ARCHITECT. THE COMPANY DOES NOT PROVIDE DESIGN SERVICES FOR THE CONSTRUCTION OF THE BUILDING. (TRUSSES MANUFACTURED BY THE COMPANY SET THE COMPANY'S COMPANY LOGO/TRADEMARK)

Job	Truss	Truss Type	Qty	Ply	SHOP
T19-08067P	T01	MOD. QUEEN	19	1	Job Reference (optional)

Longleaf Truss Company, West End, N.C.

Run: 8.310 s Jun 11 2019 Print: 8.320 s Oct 9 2019 MITek Industries, Inc. Fri Oct 25 12:11:38 2019 Page 2
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LOAD CASE(S) Standard

Job T19-08067P	Truss T01G	Truss Type GABLE	Qty 2	Ply 1	SHOP Job Reference (optional)
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Longleaf Truss Company, West End, N.C.

Run: 8.310 s Jun 11 2019 Print: 8.320 s Oct 9 2019 MiTek Industries, Inc. Fri Oct 25 12:11:40 2019 Page 1
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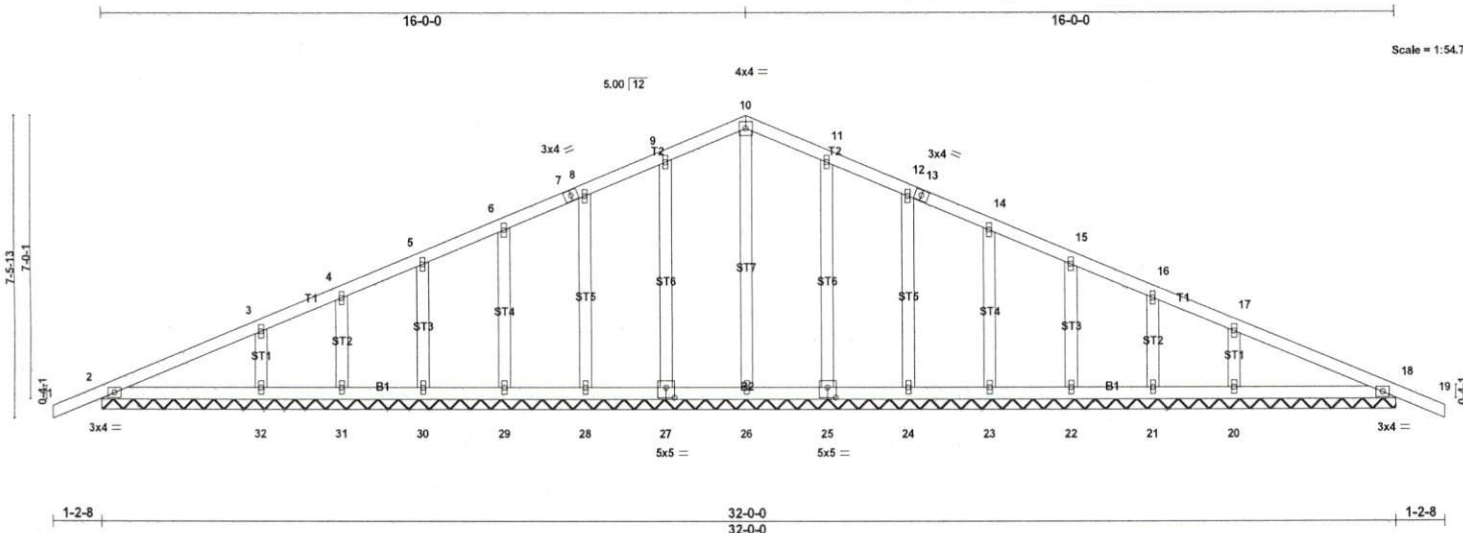


Plate Offsets (X,Y)-- [25:0-2-8,0-3-0], [27:0-2-8,0-3-0]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP	
TCLL 20.0	Plate Grip DOL	1.15	TC 0.12	Vert(LL)	0.00	19	n/r	120	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.08	Vert(CT)	0.01	19	n/r	120		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.09	Horz(CT)	0.00	18	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-S						Weight: 176 lb	FT = 20%

LUMBER-
 TOP CHORD 2x4 SP No.1
 BOT CHORD 2x4 SP No.1
 OTHERS 2x4 SP No.3

BRACING-
 TOP CHORD Sheathed or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. All bearings 32-0-0.
 (lb) - Max Horz 2=-120(LC 10)
 Max Uplift All uplift 100 lb or less at joint(s) 2, 18, 27, 28, 29, 30, 31, 32, 25, 24, 23, 22, 21, 20
 Max Grav All reactions 250 lb or less at joint(s) 2, 18, 26, 27, 28, 29, 30, 31, 25, 24, 23, 22, 21 except 32=303(LC 30), 20=303(LC 31)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

JOINT STRESS INDEX
 2 = -nan(ind), 3 = -nan(ind), 4 = -nan(ind), 5 = -nan(ind), 6 = -nan(ind), 7 = -nan(ind), 8 = -nan(ind), 9 = -nan(ind), 10 = -nan(ind), 11 = -nan(ind), 12 = -nan(ind), 13 = -nan(ind), 14 = -nan(ind), 15 = -nan(ind), 16 = -nan(ind), 17 = -nan(ind), 18 = -nan(ind), 20 = -nan(ind), 21 = -nan(ind), 22 = -nan(ind), 23 = -nan(ind), 24 = -nan(ind), 25 = -nan(ind), 26 = -nan(ind), 27 = -nan(ind), 28 = -nan(ind), 29 = -nan(ind), 30 = -nan(ind), 31 = -nan(ind) and 32 = -nan(ind)

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=12ft; B=45ft; L=32ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.00; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
 - All plates are 1.5x4 MT20 unless otherwise indicated.
 - Gable requires continuous bottom chord bearing.
 - Gable studs spaced at 2-0-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
 - All bearings are assumed to be User Defined crushing capacity of 425 psi.

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	SHOP
T19-08067P	T01G	GABLE	2	1	Job Reference (optional)

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NOTES-

- 13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 18, 27, 28, 29, 30, 31, 32, 25, 24, 23, 22, 21, 20.
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard