

**Trenco**  
818 Soundside Rd  
Edenton, NC 27932

Re: J0323-1063  
Blackwell Pole Barn

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Comtech, Inc - Fayetteville.

Pages or sheets covered by this seal: I57291711 thru I57291714

My license renewal date for the state of North Carolina is December 31, 2023.

North Carolina COA: C-0844



March 21, 2023

Gilbert, Eric

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	Blackwell Pole Barn	157291711
J0323-1063	A1	COMMON	48	1		

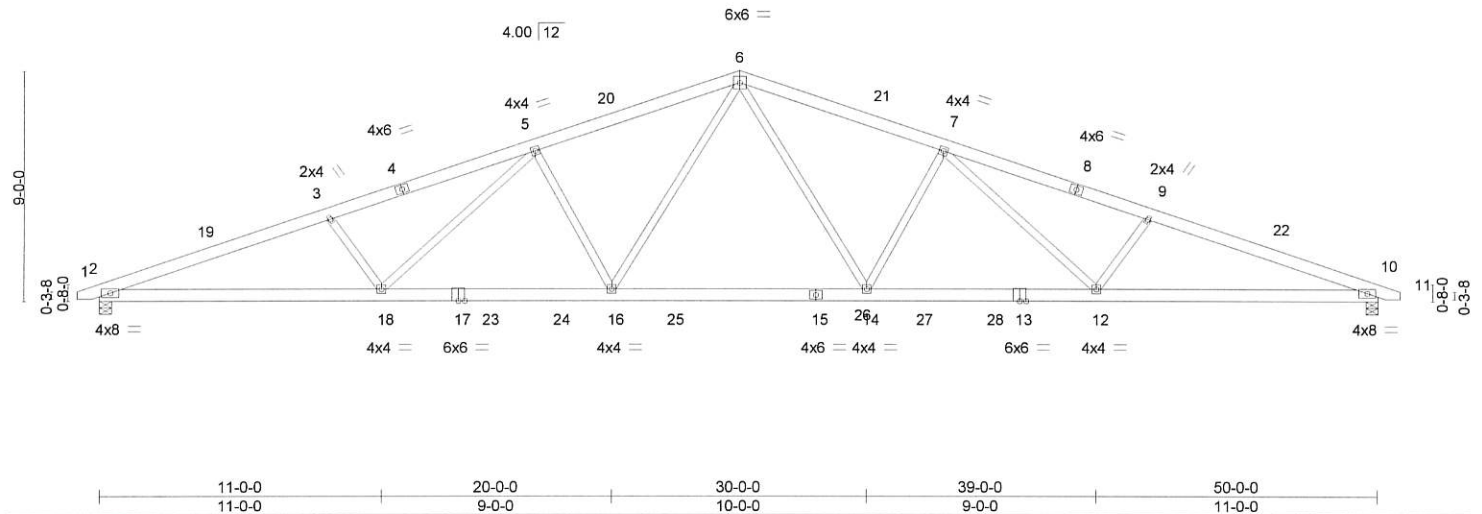
Comtech, Inc., Fayetteville, NC - 28314,

8.430 s Jan 6 2022 MiTek Industries, Inc. Tue Mar 21 09:10:19 2023 Page 1

ID: QIPTOEKJ7EVp\_7FWxEI97RzajZS-GDPxn5Ky9xUh6c1uhmZMFKqpRhQQnSRkmDh022zYlqo

0-10-8 9-0-0 17-0-0 25-0-0 33-0-0 41-0-0 50-0-0 50-10-8  
 0-10-8 9-0-0 8-0-0 8-0-0 8-0-0 8-0-0 9-0-0 0-10-8

Scale = 1:86.8



LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.75	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.15	BC 0.48	Vert(LL) -0.34 14-16 >999 360		
BCLL 0.0 *	Lumber DOL 1.15	WB 0.62	Vert(CT) -0.63 14-16 >941 240		
BCDL 10.0	Rep Stress Incr YES	Matrix-S	Horz(CT) 0.15 10 n/a n/a		
	Code IRC2015/TPI2014		Wind(LL) 0.19 16 >999 240	Weight: 325 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 2-11-4 oc purlins.
BOT CHORD 2x6 SP 2400F 2.0E	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 2x4 SP No.2	

**REACTIONS.** (size) 2=0-5-8, 10=0-5-8  
 Max Horz 2=102(LC 17)  
 Max Uplift 2=185(LC 8), 10=185(LC 9)  
 Max Grav 2=2031(LC 1), 10=2031(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-4989/975, 3-5=-4782/944, 5-6=-3939/836, 6-7=-3939/836, 7-9=-4782/944, 9-10=-4989/975  
 BOT CHORD 2-18=-823/4637, 16-18=-639/3992, 14-16=-414/3065, 12-14=-637/3992, 10-12=-825/4638  
 WEBS 6-14=-178/1218, 7-14=-838/297, 7-12=-109/781, 9-12=-400/237, 6-16=-178/1218, 5-16=-838/297, 5-18=-109/781, 3-18=-400/237

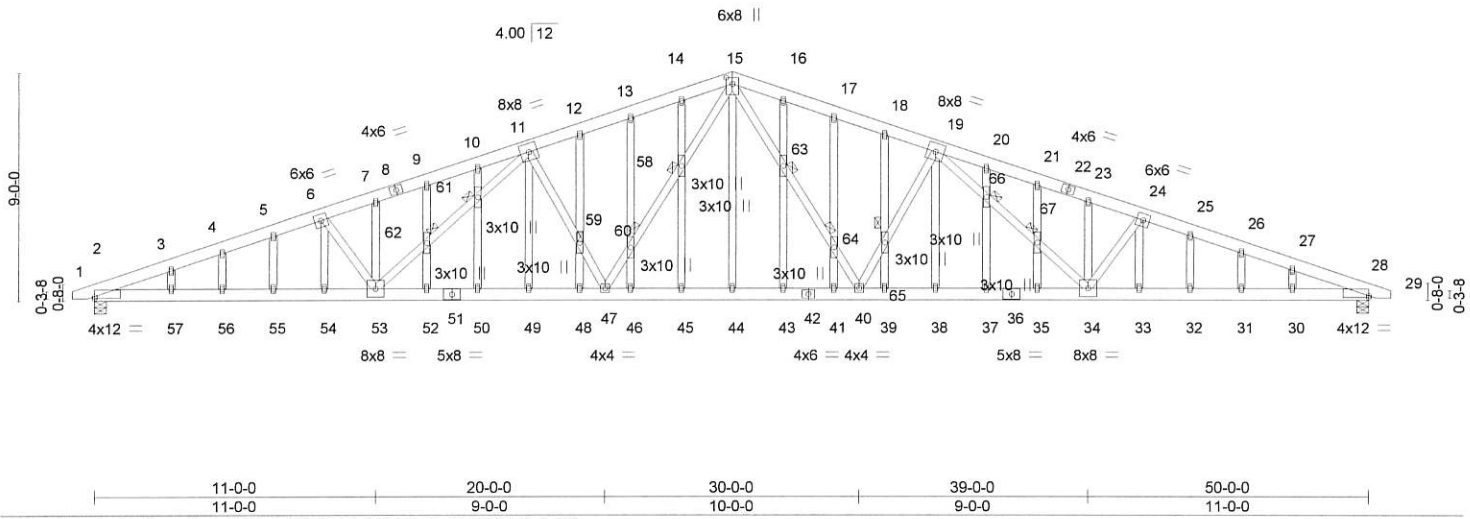
- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) 0-0-7-1 to 4-4-15, Interior(1) 4-4-15 to 25-0-0, Exterior(2) 25-0-0 to 30-0-0, Interior(1) 30-0-0 to 50-7-1 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 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 30.0psf 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, with BCDL = 10.0psf.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 185 lb uplift at joint 2 and 185 lb uplift at joint 10.





Job J0323-1063	Truss A1GE	Truss Type GABLE	Qty 3	Ply 1	Blackwell Pole Barn I57291712
Comtech, Inc. Fayetteville, NC - 28314,					8,430 s Jan 6 2022 MiTek Industries, Inc. Tue Mar 21 09:10:22 2023 Page 1
-0-10-8 9-0-0 17-0-0 25-0-0 33-0-0 41-0-0 50-0-0 50-10-8					ID: QIPTOEKJ7EVp_7FWxEI97RzajZS-hn44P7NqSstFz3mTNv73sySMnuS6_t0ASBwgfNzYlqI
0-10-8 9-0-0 8-0-0 8-0-0 8-0-0 8-0-0 9-0-0 0-10-8					

Scale = 1:87.1



<b>LOADING</b> (psf)	<b>SPACING-</b>	2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL	1.15	TC 0.61	Vert(LL)	-0.25	41	>999	MT20	244/190
TCDL 10.0	Lumber DOL	1.15	BC 0.48	Vert(CT)	-0.51	41	>999		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.31	Horz(CT)	0.14	28	n/a		
BCDL 10.0	Code IRC2015/TPI2014		Matrix-S	Wind(LL)	0.26	46	>999		
								Weight: 468 lb	FT = 20%

**LUMBER-**  
TOP CHORD 2x6 SP No.1  
BOT CHORD 2x6 SP 2400F 2.0E  
WEBS 2x4 SP No.2  
OTHERS 2x4 SP No.2

**BRACING-**  
TOP CHORD Structural wood sheathing directly applied or 3-5-11 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 8-7-5 oc bracing.  
JOINTS 1 Brace at Jt(s): 58, 59, 60, 61, 62, 63, 64, 65, 66, 67

**REACTIONS.** (size) 2=0-5-8, 28=0-5-8  
Max Horz 2=-172(LC 17)  
Max Uplift 2=-503(LC 8), 28=-505(LC 9)  
Max Grav 2=2031(LC 1), 28=2031(LC 1)

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

**TOP CHORD**  
2-3=-4849/1639, 3-4=-4728/1646, 4-5=-4700/1671, 5-6=-4678/1696, 6-7=-4566/1666,  
7-9=-4585/1705, 9-10=-4564/1733, 10-11=-4546/1760, 11-12=-3640/1405,  
12-13=-3631/1440, 13-14=-3615/1469, 14-15=-3602/1499, 15-16=-3580/1490,  
16-17=-3613/1468, 17-18=-3631/1440, 18-19=-3639/1405, 19-20=-4546/1760,  
20-21=-4564/1733, 21-23=-4585/1705, 23-24=-4566/1665, 24-25=-4678/1696,  
25-26=-4700/1671, 26-27=-4729/1646, 27-28=-4849/1639

**BOT CHORD**  
2-5=-1469/4439, 56-57=-1469/4439, 55-56=-1469/4439, 54-55=-1469/4439,  
53-54=-1469/4441, 52-53=-1164/3787, 50-52=-1164/3787, 49-50=-1164/3787,  
48-49=-1164/3791, 47-48=-1164/3791, 46-47=-791/2915, 45-46=-791/2915,  
44-45=-791/2915, 43-44=-792/2917, 41-43=-792/2917, 40-41=-792/2917,  
39-40=-1164/3791, 38-39=-1164/3791, 37-38=-1164/3787, 35-37=-1164/3787,  
34-35=-1164/3787, 33-34=-1469/4441, 32-33=-1469/4439, 31-32=-1469/4439,  
30-31=-1469/4439, 28-30=-1469/4439

**WEBS**  
15-63=-411/1021, 63-64=-406/1005, 40-64=-439/1091, 40-65=-836/361, 19-65=-737/318,  
19-66=-340/823, 66-67=-310/750, 34-67=-322/781, 24-34=-288/160, 47-59=-440/1088,  
58-59=-407/1003, 15-58=-436/1078, 11-60=-738/318, 47-60=-836/361, 53-62=-322/781,  
61-62=-310/750, 11-61=-340/823, 6-53=-289/157

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TC DL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; C-C for members and forces & MWFRS for reactions shown; 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.
  - All plates are 2x4 MT20 unless otherwise indicated.
  - 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide



Job	Truss	Truss Type	Qty	Ply	Blackwell Pole Barn	I57291712
J0323-1063	A1GE	GABLE	3	1	Job Reference (optional)	

Comtech, Inc, Fayetteville, NC - 28314,

8.430 s Jan 6 2022 MiTek Industries, Inc. Tue Mar 21 09:10:22 2023 Page 2  
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**NOTES-**

8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 503 lb uplift at joint 2 and 505 lb uplift at joint 28.

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MIL-7473 rev. 5/19/2020 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSITP11 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



818 Soundside Road  
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Job	Truss	Truss Type	Qty	Ply	Blackwell Pole Barn	I57291713
J0323-1063	B1	COMMON	3	1		

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8.430 s Jan 6 2022 MiTek Industries, Inc. Tue Mar 21 09:10:23 2023 Page 1  
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Scale = 1:31.2

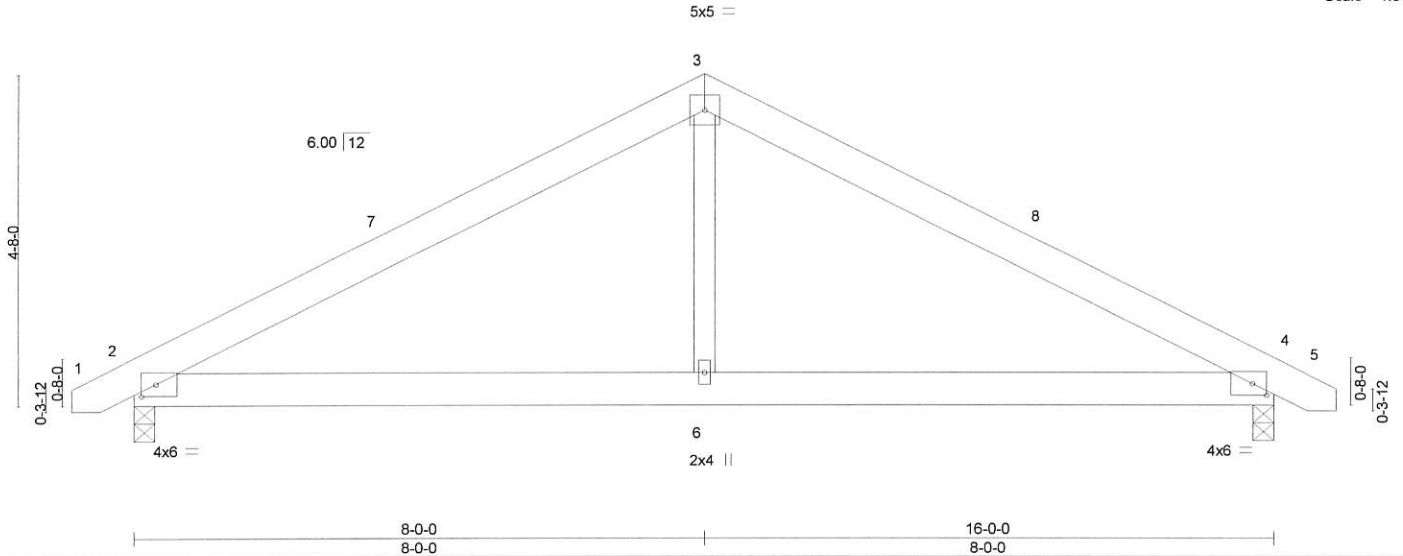


Plate Offsets (X, Y)--	[2:0-2-6,0-2-0], [4:0-2-6,0-2-0]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.29	Vert(LL) 0.06 4-6 >999 240	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.24	Vert(CT) -0.05 2-6 >999 240		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.13	Horz(CT) 0.01 4 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S		Weight: 90 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x6 SP No.1	TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD 2x6 SP No.1	BOT CHORD Rigid ceiling directly applied or 9-5-7 oc bracing.
WEBS 2x4 SP No.2	

**REACTIONS.** (size) 2=0-3-8, 4=0-3-8  
 Max Horz 2=56(LC 11)  
 Max Uplift 2=-142(LC 9), 4=-142(LC 8)  
 Max Grav 2=678(LC 1), 4=678(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
 TOP CHORD 2-3=-878/848, 3-4=-878/845  
 BOT CHORD 2-6=-623/682, 4-6=-623/682  
 WEBS 3-6=-478/381

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2) -0-8-2 to 3-8-11, Interior(1) 3-8-11 to 8-0-0, Exterior(2) 8-0-0 to 12-4-13, Interior(1) 12-4-13 to 16-8-2 zone; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 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 30.0psf 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 142 lb uplift at joint 2 and 142 lb uplift at joint 4.
  - See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.





Job	Truss	Truss Type	Qty	Ply	Blackwell Pole Barn	I57291714
J0323-1063	B1GE	GABLE	1	1		

Comtech, Inc. Fayetteville, NC - 28314,

8.430 s Jan 6 2022 MiTek Industries, Inc. Tue Mar 21 09:10:25 2023 Page 1

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Job Reference (optional)



Scale = 1:29.4

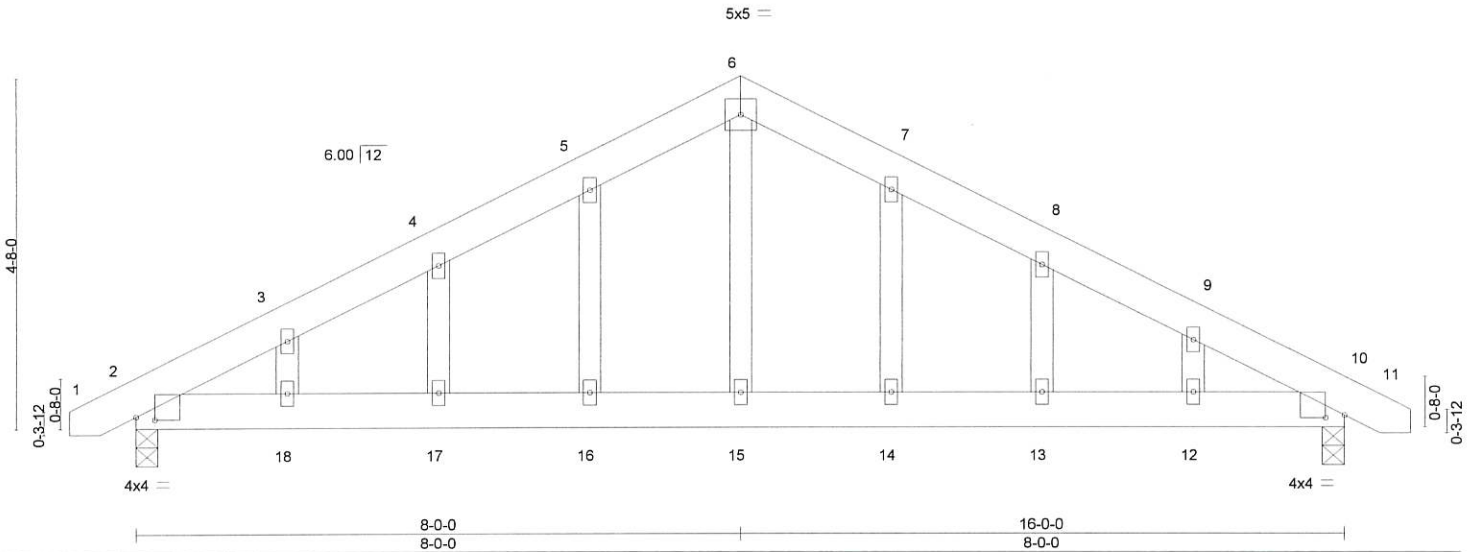


Plate Offsets (X,Y)--	[2:0-3-0,0-0-7], [10:0-3-0,0-0-7]				
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.15	TC 0.19	Vert(LL) -0.04 13 >999 360	MT20	244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.28	Vert(CT) -0.06 13 >999 240		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.15	Horz(CT) 0.01 10 n/a n/a		
BCDL 10.0	Code IRC2015/TPI2014	Matrix-S	Wind(LL) 0.05 13 >999 240		
				Weight: 106 lb	FT = 20%

**LUMBER-**

TOP CHORD 2x6 SP No.1  
 BOT CHORD 2x6 SP No.1  
 WEBS 2x4 SP No.2  
 OTHERS 2x4 SP No.2

**BRACING-**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 8-9-10 oc bracing.

**REACTIONS.**

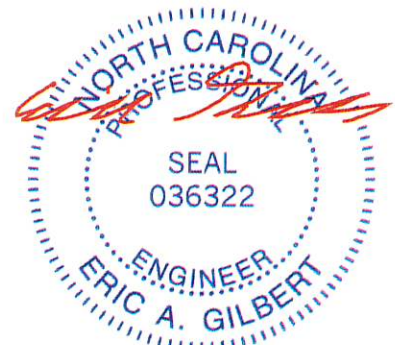
(size) 2=0-3-8, 10=0-3-8  
 Max Horz 2=88(LC 16)  
 Max Uplift 2=182(LC 9), 10=182(LC 8)  
 Max Grav 2=678(LC 1), 10=678(LC 1)

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

TOP CHORD 2-3=880/902, 3-4=812/891, 4-5=778/905, 5-6=759/937, 6-7=759/937, 7-8=778/905,  
 8-9=812/891, 9-10=880/902  
 BOT CHORD 2-18=685/696, 17-18=685/696, 16-17=685/696, 15-16=685/696, 14-15=685/696,  
 13-14=685/696, 12-13=685/696, 10-12=685/696  
 WEBS 6-15=535/372

**NOTES-**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- 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 30.0psf 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 182 lb uplift at joint 2 and 182 lb uplift at joint 10.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



March 21, 2023

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

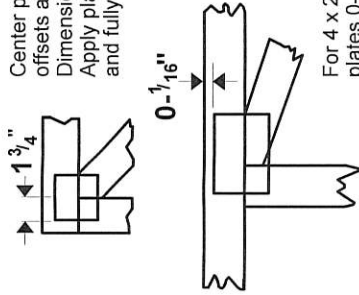


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## Symbols

### PLATE LOCATION AND ORIENTATION

Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- $\frac{1}{16}$ " from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.



\* Plate location details available in MiTek 20/20 software or upon request.

### PLATE SIZE

4 X 4

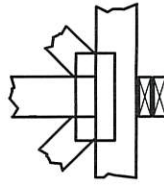
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

### LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

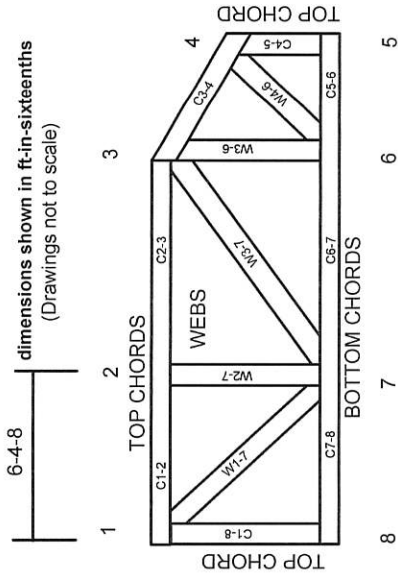
### BEARING



### Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

## Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

### PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988  
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

## General Safety Notes

### Failure to Follow Could Cause Property Damage or Personal Injury

- Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
- Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Torl bracing should be considered.
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.
- Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
- Cut members to bear tightly against each other.
- Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
- Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
- Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
- Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
- Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
- Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
- Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
- Top chords must be sheathed or purfins provided at spacing indicated on design.
- Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
- Connections not shown are the responsibility of others.
- Do not cut or alter truss member or plate without prior approval of an engineer.
- Install and load vertically unless indicated otherwise.
- Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
- Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
- Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
- The design does not take into account any dynamic or other loads other than those expressly stated.



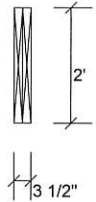
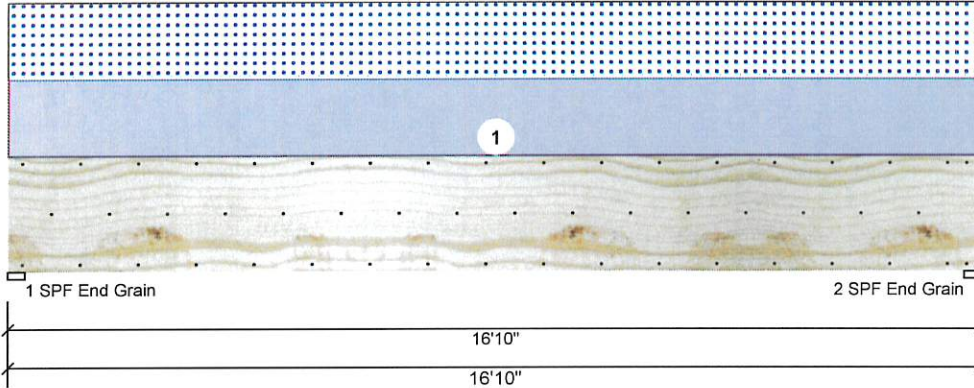


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH Kerto-S LVL 1.750" X 24.000" 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 - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	4433	4276	0	0
2	Vertical	0	4433	4276	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	85%	4433 / 4276	8708	L	D+S
2 - SPF End Grain	3.500"	Vert	85%	4433 / 4276	8708	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	34768 ft-lb	8'5"	84163 ft-lb	0.413 (41%)	D+S	L
Unbraced	34768 ft-lb	8'5"	34928 ft-lb	0.995 (100%)	D+S	L
Shear	6375 lb	14'6 1/2"	20608 lb	0.309 (31%)	D+S	L
LL Defl inch	0.126 (L/1563)	8'5 1/16"	0.410 (L/480)	0.307 (31%)	S	L
TL Defl inch	0.256 (L/768)	8'5 1/16"	0.547 (L/360)	0.469 (47%)	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 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 5'1 1/8" o.c.
- 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	508 PLF	0 PLF	508 PLF	0 PLF	0 PLF	A1
	Self Weight				19 PLF					

<p><b>Notes</b></p> <p>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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>1. Dry service conditions, unless noted otherwise</li> <li>2. LVL not to be treated with fire retardant or corrosive chemicals</li> </ol>	<p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>1. LVL beams must not be cut or drilled</li> <li>2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>3. Damaged Beams must not be used</li> <li>4. Design assumes top edge is laterally restrained</li> <li>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol>	<p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p><b>Manufacturer info</b></p> <p>Metsä Wood          301 Merritt 7 Building, 2nd Floor          Norwalk, CT 06851          (800) 622-5850          www.metsawood.com/us</p>	<p>Comtech          Reilly Road Industrial Park P.O. Box 40408, NC USA          28309          910-864-8787</p>
			<p>This design is valid until 11/3/2024</p>	



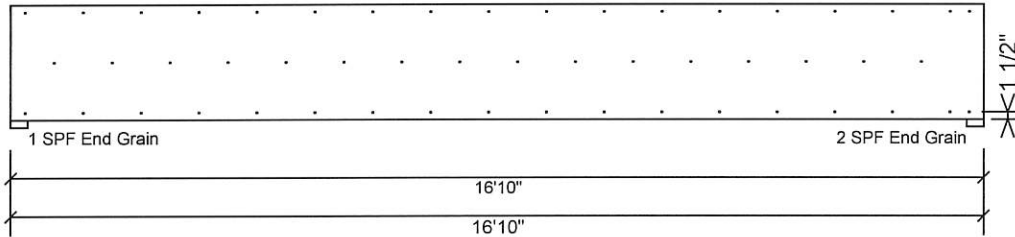


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH Kerto-S LVL 1.750" X 24.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 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	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

**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**

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

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 USA  
 28309  
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This design is valid until 11/3/2024

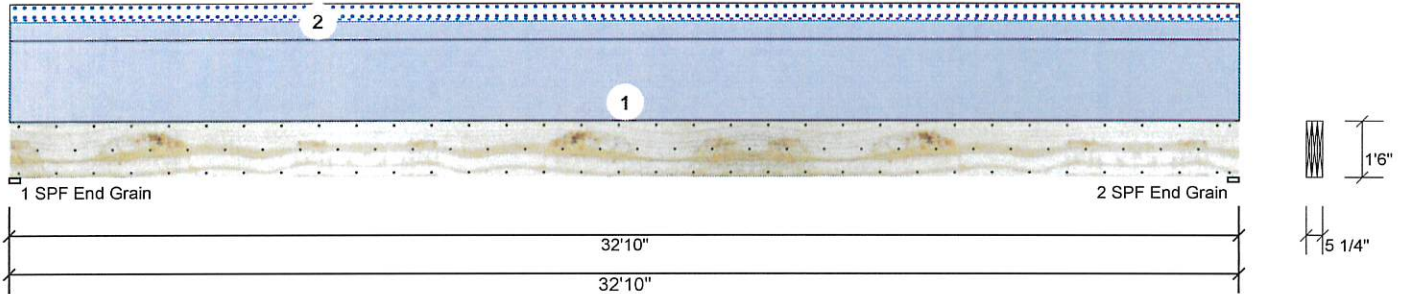


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH2 Kerto-S LVL 1.750" X 18.000" 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 - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1412	328	0	0
2	Vertical	0	1412	328	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	11%	1412 / 328	1740	L	D+S
2 - SPF End Grain	3.500"	Vert	11%	1412 / 328	1740	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment Unbraced	11282 ft-lb	16'5"	60346 ft-lb	0.187 (19%)	D	Uniform
Shear	1289 lb	1'9 1/2"	18144 lb	0.071 (7%)	D	Uniform
LL Defl inch	0.100 (L/3875)	16'5 1/16"	0.810 (L/480)	0.124 (12%)	S	L
TL Defl inch	0.532 (L/731)	16'5 1/16"	1.080 (L/360)	0.492 (49%)	D+S	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 15'9 1/16" o.c.
- 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	45 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
2	Tie-In Far	0-0-0 to 32-10-0	1-0-0	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof
2	Tie-In Near	0-0-0 to 32-10-0	0-0-0	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof
	Self Weight				21 PLF					

<p><b>Notes</b></p> <p>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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>1. Dry service conditions, unless noted otherwise</li> <li>2. LVL not to be treated with fire retardant or corrosive chemicals</li> </ol>	<p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>1. LVL beams must not be cut or drilled</li> <li>2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>3. Damaged Beams must not be used</li> <li>4. Design assumes top edge is laterally restrained</li> <li>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol>	<p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p><b>Manufacturer Info</b></p> <p>Metsä Wood          301 Merritt 7 Building, 2nd Floor          Norwalk, CT 06851          (800) 622-5850  <a href="http://www.metsawood.com/us">www.metsawood.com/us</a></p>	<p>Comtech          Reilly Road Industrial Park P.O. Box 40408, NC USA          28309          910-864-8787</p>
			<p>This design is valid until 11/3/2024</p>	



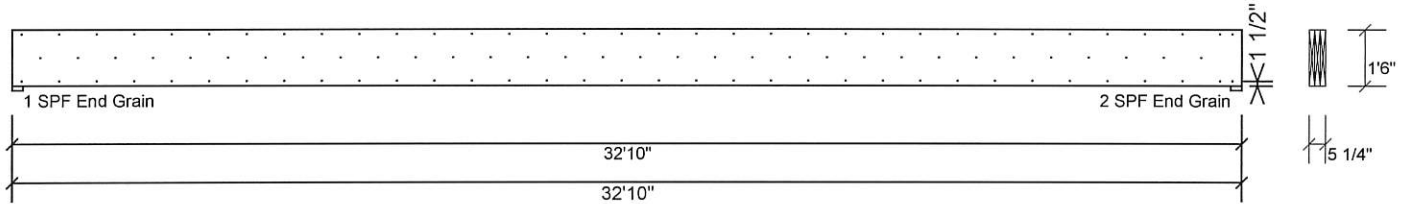


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH2 Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. 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

**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 11/3/2024

**Manufacturer Info**

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

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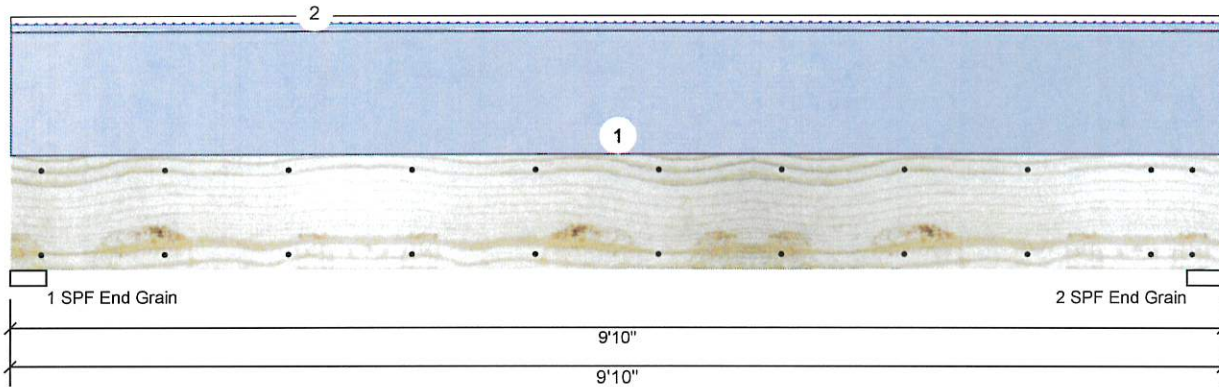


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH3 S-P-F #2 2.000" X 12.000" 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 - II	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	910	98	0	0
2	Vertical	0	910	98	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	23%	910 / 98	1008	L	D+S
2 - SPF End Grain	3.500"	Vert	23%	910 / 98	1008	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2032 ft-lb	4'11"	4153 ft-lb	0.489 (49%)	D	Uniform
Unbraced	2252 ft-lb	4'11"	3714 ft-lb	0.606 (61%)	D+S	L
Shear	682 lb	8'7 1/4"	2734 lb	0.250 (25%)	D	Uniform
LL Defl inch (L/16128)	0.007	4'11"	0.234 (L/480)	0.030 (3%)	S	L
TL Defl inch (L/1573)	0.071	4'11"	0.312 (L/360)	0.229 (23%)	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 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 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 end 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	165 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
2	Tie-In Far	0-0-0 to 9-10-0	1-0-0	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof
2	Tie-In Near	0-0-0 to 9-10-0	0-0-0	Top	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	Roof

**Manufacturer Info**

Comtech  
 Reilly Road Industrial Park P.O. Box 40408, NC  
 USA  
 28309  
 910-864-8787



This design is valid until 11/3/2024



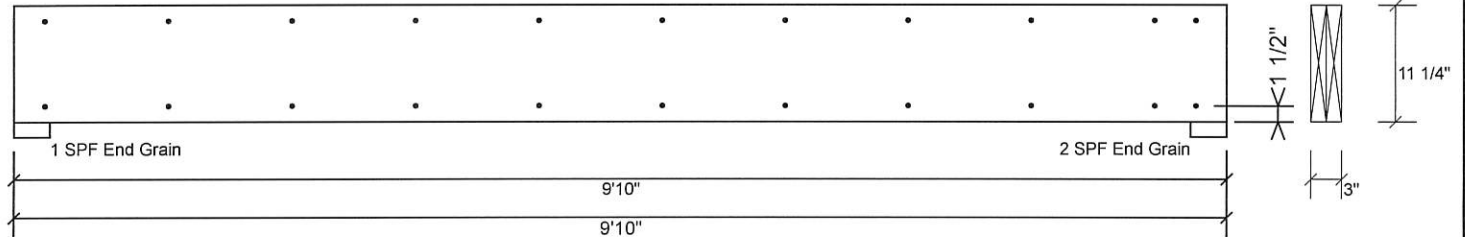


Client: Weaver Development Co. Inc.  
 Project:  
 Address:

Date: 3/21/2023  
 Input by: David Landry  
 Job Name: Blackwell Pole Barn  
 Project #: J0323-1063

**GDH3 S-P-F #2 2.000" X 12.000" 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	157.4 PLF
Yield Limit per Fastener	78.7 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

<b>Manufacturer Info</b>	Comtech Reilly Road Industrial Park P.O. Box 40408, NC USA 28309 910-864-8787

This design is valid until 11/3/2024