



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

RE: 3807908 - JBS - CARLTON - CHURCH

**MiTek, Inc.**

16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
314.434.1200

**Site Information:**

Customer Info: CARLTON CONST. Project Name: Bethlehem Baptist Church Model: Custom

Lot/Block: N/A

Subdivision: N/A

Address: 2115 SR 100, N/A

City: Columbia Cty

State: FL

**Name Address and License # of Structural Engineer of Record, If there is one, for the building.**

Name:

License #:

Address:

City:

State:

**General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):**

Design Code: FBC2023/TPI2014

Design Program: MiTek 20/20 8.7

Wind Code: ASCE 7-22

Wind Speed: 130 mph

Roof Load: 37.0 psf

Floor Load: N/A psf

This package includes 2 individual, Truss Design Drawings and 0 Additional Drawings.

With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	T32662893	T01	1/19/24
2	T32662894	T02	1/19/24



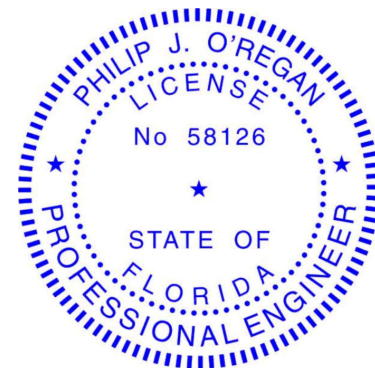
This item has been digitally signed and sealed by ORegan, Philip, PE on the date adjacent to the seal.

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The truss drawing(s) referenced above have been prepared by  
MiTek USA, Inc. under my direct supervision based on the parameters  
provided by Builders FirstSource-Lake City, FL.

Truss Design Engineer's Name: ORegan, Philip

My license renewal date for the state of Florida is February 28, 2025.



Philip J. O'Regan PE No.58126  
MiTek Inc. DBA MiTek USA FL Cert 6634  
16023 Swingley Ridge Rd. Chesterfield, MO 63017  
Date:

**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.

January 19, 2024

ORegan, Philip

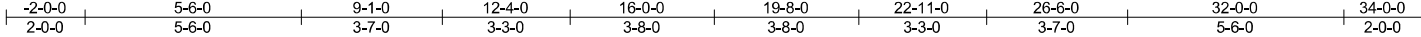
1 of 1

Job	Truss	Truss Type	Qty	Ply	JBS - CARLTON - CHURCH	T32662893
3807908	T01	SCISSORS	22	1	Job Reference (optional)	

Builders FirstSource (Lake City,FL), Lake City, FL - 32055,

8.730 s Jan 4 2024 MiTek Industries, Inc. Wed Jan 17 16:16:38 2024 Page 1

ID:003OsoWp48tQbhGKBYMi?y6qKJ-2h\_YfE4EhugyBPLpByDQhyhkVrF18xEbTmHp2zuOut



Scale = 1:58.6

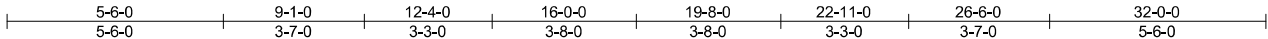
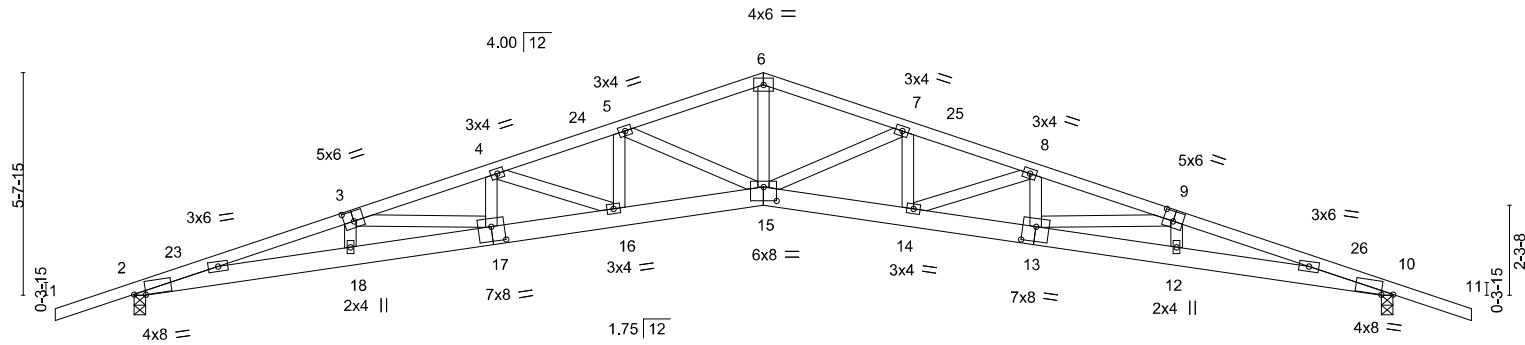


Plate Offsets (X,Y)--		[2:0-3-8,0-0-9], [3:0-3-0,0-3-0], [9:0-3-0,0-3-0], [10:0-3-8,0-0-9], [13:0-4-0,0-4-8], [15:0-4-0,0-4-4], [17:0-4-0,0-4-8]										
<b>LOADING</b> (psf)		<b>SPACING-</b>	2-0-0	<b>CSI.</b>		<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>	
TCLL	20.0	Plate Grip DOL	1.25	TC	0.52	Vert(LL)	-0.53	15	>728	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.43	Vert(CT)	-0.98	15	>391	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.40	10	n/a	n/a		
BCDL	10.0	Code	FBC2023/TPI2014		Matrix-MS						Weight: 178 lb	FT = 20%

<b>LUMBER-</b>	<b>BRACING-</b>
TOP CHORD 2x4 SP No.2	TOP CHORD Structural wood sheathing directly applied or 2-2-12 oc purlins.
BOT CHORD 2x6 SP M 26	BOT CHORD Rigid ceiling directly applied or 8-9-2 oc bracing.
WEBS 2x4 SP No.3	

**REACTIONS.** (size) 2=0-3-8, 10=0-3-8  
Max Horz 2=-100(LC 17)  
Max Uplift 2=-421(LC 8), 10=-421(LC 9)  
Max Grav 2=1292(LC 1), 10=1292(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-4943/1314, 3-4=-4719/1246, 4-5=-4060/1044, 5-6=-3343/814, 6-7=-3343/820, 7-8=-4060/975, 8-9=-4719/1176, 9-10=-4943/1254  
BOT CHORD 2-18=-1257/4717, 17-18=-1267/4741, 16-17=-1150/4513, 15-16=-913/3874, 14-15=-780/3874, 13-14=-996/4513, 12-13=-1123/4741, 10-12=-1114/4717  
WEBS 6-15=-428/1893, 7-15=-776/302, 7-14=-95/375, 8-14=-680/257, 8-13=-53/270, 9-13=-298/153, 5-15=-776/301, 5-16=-95/375, 4-16=-680/257, 4-17=-52/270, 3-17=-298/141

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-22; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=20ft; Cat. II; Exp B; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Zone3 -2-0-0 to 1-2-6, Zone1 1-2-6 to 16-0-0, Zone2 16-0-0 to 20-6-5, Zone1 20-6-5 to 34-0-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
  - 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.
  - Bearing at joint(s) 2, 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 421 lb uplift at joint 2 and 421 lb uplift at joint 10.

This item has been digitally signed and sealed by O'Regan, Philip, PE on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Philip J. O'Regan PE No.58126  
MiTek Inc. DBA MiTek USA FL Cert 6634  
16023 Swingley Ridge Rd. Chesterfield, MO 63017  
Date:

January 19,2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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 and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**  
16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	JBS - CARLTON - CHURCH	T32662894
3807908	T02	MOD. QUEEN	1	1	Job Reference (optional)	

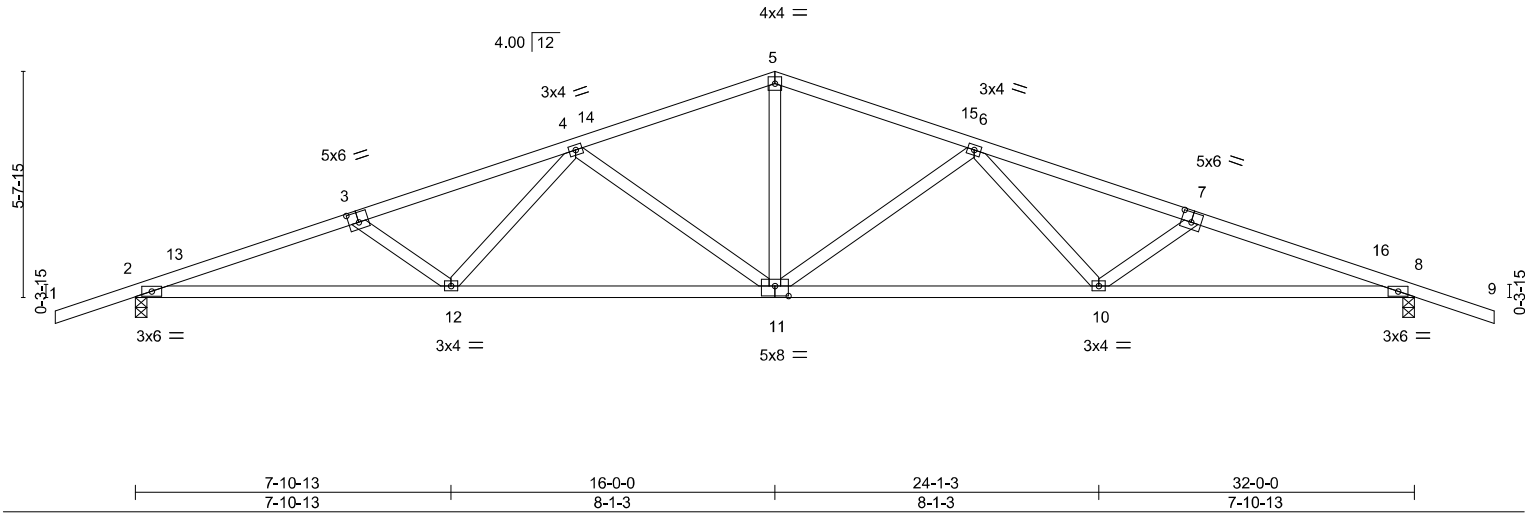
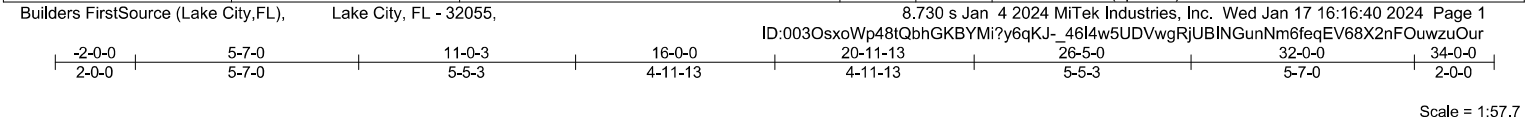


Plate Offsets (X,Y)--		[3:0-3-0,0-3-0], [7:0-3-0,0-3-0], [11:0-4-0,0-3-0]									
LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in (loc)	I/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.41	Vert(LL)	-0.22 11-12	>999	240	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.88	Vert(CT)	-0.45 11-12	>838	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.13 8	n/a	n/a		
BCDL	10.0	Code	FBC2023/TPI2014	Matrix-S						Weight: 152 lb	FT = 20%

LUMBER-		BRACING-	
TOP CHORD	2x4 SP No.2	TOP CHORD	Structural wood sheathing directly applied or 3-0-11 oc purlins.
BOT CHORD	2x4 SP No.2	BOT CHORD	Rigid ceiling directly applied or 6-8-15 oc bracing.
WEBS	2x4 SP No.3		

**REACTIONS.** (size) 2=0-3-8, 8=0-3-8  
Max Horz 2=100(LC 12)  
Max Uplift 2=425(LC 8), 8=425(LC 9)  
Max Grav 2=1289(LC 1), 8=1289(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-2965/799, 3-4=-2717/714, 4-5=-1884/510, 5-6=-1884/510, 6-7=-2717/715, 7-8=-2965/800  
BOT CHORD 2-12=-761/2755, 11-12=-567/2250, 10-11=-481/2250, 8-10=-676/2755  
WEBS 3-12=-290/196, 4-12=-91/493, 4-11=-644/284, 5-11=-210/920, 6-11=-644/285, 6-10=-91/493, 7-10=-290/196

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-22; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=3.0psf; h=20ft; Cat. II; Exp B; Encl., GCpi=0.18; MWFRS (envelope) gable end zone and C-C Zone3 -2-0-0 to 1-2-6, Zone1 1-2-6 to 16-0-0, Zone2 16-0-0 to 20-6-5, Zone1 20-6-5 to 34-0-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
  - 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.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 425 lb uplift at joint 2 and 425 lb uplift at joint 8.

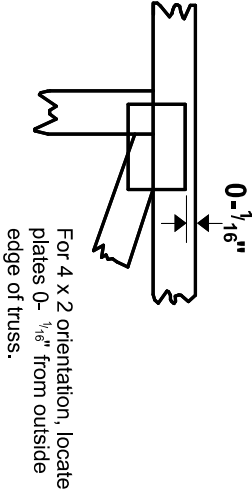
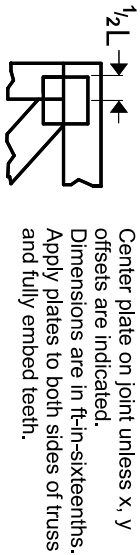
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# Symbols

## PLATE LOCATION AND ORIENTATION



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

\* Plate location details available in MITek software or upon request.

## PLATE SIZE

**4 X 4**

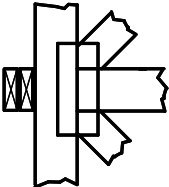
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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.

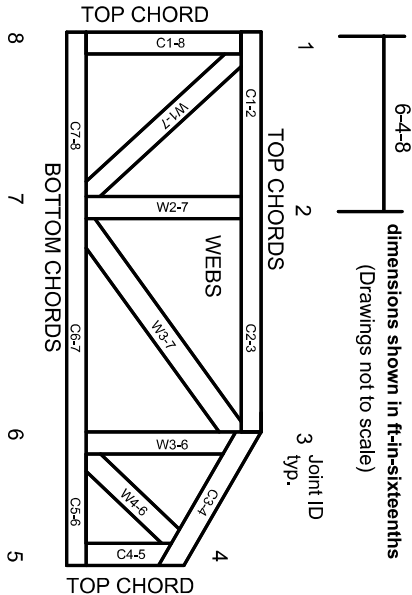
## BEARING



Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

**Industry Standards:**  
ANSI/TFP 1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & 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-1988, ESR-2362, ESR-2685, ESR-3282  
ESR-4722, ESL-1388

## Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.  
Lumber design values are in accordance with ANSI/TFP 1 section 6.3. These truss designs rely on lumber values established by others.

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# General Safety Notes

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

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