

RE: MP41

DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE

Trenco 818 Soundside Rd Edenton, NC 27932

**Site Information:** 

Customer: Project Name: MP41

Lot/Block: Model:
Address: Subdivision:
City: State:

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

Design Code: IRC2015/TPl2014 Design Program: MiTek 20/20 8.6

Wind Code: ASCE 7-10 Wind Speed: 120 mph Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 16 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date
1	160652646	A01G	9/11/2023
2	160652647	A02	9/11/2023
3	160652648	A03	9/11/2023
4	160652649	A04V	9/11/2023
5	160652650	A05V	9/11/2023
6	160652651	A06VG	9/11/2023
7	160652652	B01G	9/11/2023
8	160652653	B02GR	9/11/2023
9	160652654	P01G	9/11/2023
10	160652655	P02	9/11/2023
11	160652656	V01	9/11/2023
12	160652657	V02	9/11/2023
13	160652658	V03	9/11/2023
14	160652659	V04	9/11/2023
15	160652660	V05	9/11/2023
16	160652661	V06	9/11/2023

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision

based on the parameters provided by Builders FirstSource-Apex,NC.

Truss Design Engineer's Name: Gilbert, Eric

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

North Carolina COA: C-0844

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 TRENCO. Any project specific information included is for TRENCO customers file reference purpose only, and was not taken into account in the preparation of these designs. 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.



September 11, 2023

Job Truss Truss Type Qty Ply DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE 160652646 MP41 A01G **GABLE** 99 Job Reference (optional) Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:12 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f 21-0-0 21-0-0 41-8-8 20-8-8 Scale = 1:74.1 5x6 = 6.00 12 13 14 <sup>15</sup> 49 48 3x6 / 10 17<sup>3x6 ≈</sup> 18 8 20 21 22 23 3x6 || 18-0 3x8 || 45 43 42 37 36 35 34 29 28 26 25 33 32 40 3x6 =3x6 = 41-8-8 41-8-8 Plate Offsets (X,Y)--[2:0-3-8,Edge] LOADING (psf) SPACING-2-0-0 CSI. DEFL. (loc) I/defl L/d **PLATES** GRIP **TCLL** 20.0 Plate Grip DOL 1.15 TC 0.10 Vert(LL) -0.00 n/r 120 MT20 244/190 TCDL 10.0 Lumber DOL 1.15 BC 0.08 Vert(CT) 0.00 120 n/r WB **BCLL** 0.0 Rep Stress Incr NO 0.14 Horz(CT) 0.01 25 n/a n/a BCDL Code IRC2015/TPI2014 Matrix-S Weight: 297 lb FT = 20% 10.0

**BRACING-**

TOP CHORD

BOT CHORD

WEBS

LUMBER-TOP CHORD

2x4 SP No 2 BOT CHORD 2x4 SP No.2

2x4 SP No.3 WFBS **OTHERS** 2x4 SP No.3

WEDGE Left: 2x4 SP No.3

REACTIONS. All bearings 41-8-8. Max Horz 2=146(LC 12) (lb) -

Max Uplift All uplift 100 lb or less at joint(s) 2, 37, 38, 39, 41, 42, 43, 44, 45,

46, 35, 34, 33, 31, 30, 29, 28, 27, 26

Max Grav All reactions 250 lb or less at joint(s) 25, 2, 36, 37, 38, 39, 41, 42, 43,

44, 45, 46, 35, 34, 33, 31, 30, 29, 28, 27, 26

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown. TOP CHORD 11-12=-104/280, 12-13=-116/313, 13-14=-116/307, 14-15=-104/274

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) -0-8-0 to 4-1-10. Exterior(2) 4-1-10 to 21-0-0. Corner(3) 21-0-0 to 25-9-10. Exterior(2) 25-9-10 to 41-6-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) All plates are 2x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* 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.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 37, 38, 39, 41, 42, 43, 44, 45, 46, 35, 34, 33, 31, 30, 29, 28, 27, 26.
- 10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.



Structural wood sheathing directly applied or 6-0-0 oc purlins,

13-36, 12-37, 11-38, 14-35, 15-34

Rigid ceiling directly applied or 10-0-0 oc bracing.

except end verticals.

1 Row at midpt

September 11,2023



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/TP11 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.sbcacomponents.com)



Job Truss Truss Type Qty Ply DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE 160652647 MP41 COMMON 99 A02 Job Reference (optional) Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:14 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f 14-0-8 21-0-0 6-11-8 27-11-8 34-11-0 41-8-8 7-0-15 6-11-8 6-11-8 6-9-8 Scale = 1:74.1 5x6 = 6.00 12 6 4x6 🖊 4x6 < 3x6 / 3x6 <> 11-0-11 2x4 \\ 2x4 // 4x6 > 10 0-6-11 17 16 30 15 14 33 13 34 12 4x6 = 3x10 MT20HS = 4x6 = 3x6 =4x6 = 5x6 || 5x6 =4x6 = 16-4-9 25-7-8 41-8-8 8-4-9 8-0-0 9-3-0 7-11-13 8-1-2 [2:0-0-0,0-1-6] Plate Offsets (X,Y)--LOADING (psf) SPACING-2-0-0 CSI. DEFL. (loc) I/defI L/d **PLATES** GRIP **TCLL** 20.0 Plate Grip DOL 1.15 TC 0.97 Vert(LL) -0.33 14-15 >999 360 MT20 244/190 TCDL MT20HS 187/143 10.0 Lumber DOL 1.15 BC 0.85 Vert(CT) -0.61 14-15 >827 240

Horz(CT)

Wind(LL)

**BRACING-**

TOP CHORD

**BOT CHORD** 

0.15

0.10 15-17

11

n/a

>999

n/a

240

Structural wood sheathing directly applied.

Rigid ceiling directly applied or 10-0-0 oc bracing.

Weight: 230 lb

FT = 20%

LUMBER-

**BCLL** 

BCDL

2x4 SP No.2 \*Except\* TOP CHORD 8-11: 2x4 SP No.1

**BOT CHORD** 2x4 SP No.1 **WEBS** 2x4 SP No.3

0.0

10.0

WEDGE

Left: 2x4 SP No.3

SLIDER Right 2x4 SP No.3 1-11-12

REACTIONS. (size) 2=0-3-8, 11=Mechanical

Max Horz 2=139(LC 12)

Max Grav 2=1709(LC 1), 11=1668(LC 1)

Rep Stress Incr

Code IRC2015/TPI2014

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

TOP CHORD  $2-3=-3068/146,\ 3-5=-2946/198,\ 5-6=-2417/230,\ 6-7=-2406/228,\ 7-9=-2848/208,$ 

**BOT CHORD** 2-17=-60/2661, 15-17=-23/2259, 14-15=0/1698, 12-14=-10/2239, 11-12=-64/2557 **WEBS** 3-17=-344/159, 5-17=-79/581, 5-15=-673/171, 6-15=-63/988, 6-14=-62/964,

YES

7-14=-646/171, 7-12=-84/492, 9-12=-287/158

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 3) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-8-0 to 4-1-10, Interior(1) 4-1-10 to 21-0-0, Exterior(2) 21-0-0 to 27-11-8, Interior(1) 27-11-8 to 41-8-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

WB

Matrix-MS

0.76

- 3) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) \* 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, with BCDL = 10.0psf.
- 6) Refer to girder(s) for truss to truss connections.
- 7) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



September 11,2023

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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/TP11 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.sbcacomponents.com)



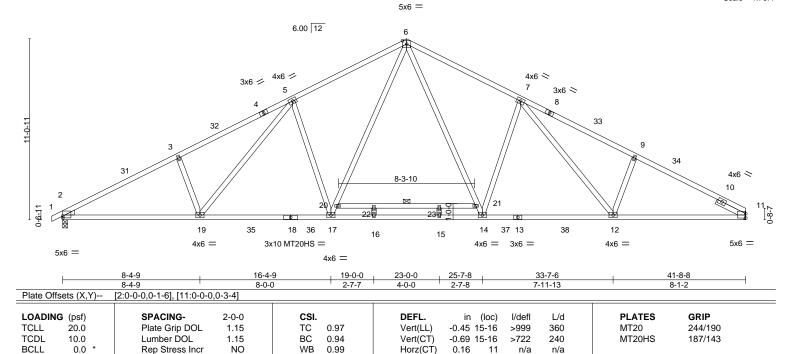
Job Truss Type Qty Ply 160652648 MP41 COMMON 99 A03 Job Reference (optional) Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:15 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f 14-0-8 21-0-0

6-11-8

41-<u>8-8</u> 27-11-8 34-11-0 6-11-8 6-9-8

DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE

Scale = 1:70.4



Wind(LL)

**BRACING-**

TOP CHORD

**BOT CHORD** 

WFBS

0.09 17-19

>999

1 Row at midpt

240

Structural wood sheathing directly applied.

Rigid ceiling directly applied or 10-0-0 oc bracing.

20-21

Weight: 244 lb

FT = 20%

LUMBER-

BCDL

TOP CHORD 2x4 SP No 2 \*Except\*

Truss

7-0-15

1-4: 2x4 SP No.1, 8-11: 2x4 SP SS

**BOT CHORD** 2x4 SP No.1

10.0

**WEBS** 2x4 SP No.3

WEDGE

Left: 2x4 SP No.3

SLIDER Right 2x4 SP No.3 1-11-12

REACTIONS. (size) 2=0-3-8, 11=Mechanical

Max Horz 2=139(LC 12)

Max Grav 2=1732(LC 2), 11=1701(LC 2)

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

Code IRC2015/TPI2014

TOP CHORD  $2\text{-}3\text{-}3160/145, 3\text{-}5\text{--}3037/198, 5\text{-}6\text{--}2508/231, 6\text{-}7\text{--}2497/229, 7\text{-}9\text{--}2921/207,}$ 

9-11=-3030/155

**BOT CHORD** 2-19=-59/2742, 17-19=-24/2341, 16-17=0/1827, 15-16=0/1827, 14-15=0/1827,

12-14=-10/2320, 11-12=-64/2634

**WEBS** 3-19=-343/160, 5-19=-77/585, 5-17=-673/169, 17-20=-70/962, 6-20=-63/1033,

6-21=-62/1008, 14-21=-69/937, 7-14=-646/170, 7-12=-83/496, 9-12=-286/159

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-8-0 to 4-1-10, Interior(1) 4-1-10 to 21-0-0, Exterior(2) 21-0-0 to 27-11-8, Interior(1) 27-11-8 to 41-8-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

Matrix-MS

- 3) All plates are MT20 plates unless otherwise indicated.
- 4) All plates are 2x4 MT20 unless otherwise indicated.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) \* 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, with BCDL = 10.0psf.
- 7) Refer to girder(s) for truss to truss connections.
- 8) N/a
- 9) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building
- 10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

## ORTH

September 11,2023

MARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE

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Job	Truss	Truss Type	Qty	Ply	DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE	
						160652648
MP41	A03	COMMON	99	1		
					Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523,

8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:15 2023 Page 2 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

### LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: 1-6=-60, 6-11=-60, 24-27=-20

2) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15 Uniform Loads (plf)

Vert: 1-6=-50, 6-11=-50, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F) 3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25

Uniform Loads (plf)

Vert: 1-6=-20, 6-11=-20, 24-27=-40, 20-21=-40(F)

18) Dead + Uninhabitable Attic Storage: Lumber Increase=1.25, Plate Increase=1.25

Uniform Loads (plf)

Vert: 1-6=-20, 6-11=-20, 24-35=-20, 35-36=-60, 36-37=-20, 37-38=-60, 27-38=-20, 20-21=-40(F)

19) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60 Uniform Loads (plf)

Vert: 1-2=-46, 2-6=-50, 6-11=-43, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F) Horz: 1-2=-4, 2-6=-0, 6-11=7

20) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60 Uniform Loads (plf)

Vert: 1-2=-39, 2-6=-43, 6-11=-50, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F) Horz: 1-2=-11, 2-6=-7, 6-11=0

21) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60 Uniform Loads (plf)

Vert: 1-2=-30, 2-32=-34, 6-32=-41, 6-11=-46, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F) Horz: 1-2=-20, 2-32=-16, 6-32=-9, 6-11=4

22) Dead + 0.75 Roof Live (bal.) + 0.75 Uninhab. Attic Storage + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60 Uniform Loads (plf)

Vert: 1-2=-43, 2-6=-46, 6-33=-41, 11-33=-34, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F) Horz: 1-2=-7, 2-6=-4, 6-33=9, 11-33=16

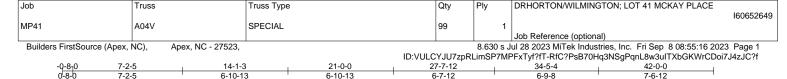
25) 3rd Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15 Uniform Loads (plf)

Vert: 1-6=-50, 6-11=-20, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F)

26) 4th Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.15, Plate Increase=1.15 Uniform Loads (plf)

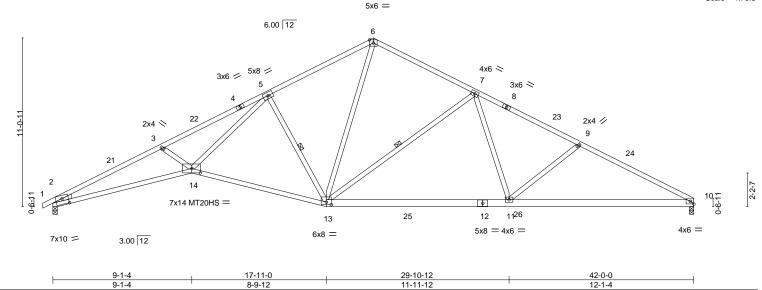
Vert: 1-6=-20, 6-11=-50, 24-35=-20, 35-36=-50, 36-37=-20, 37-38=-50, 27-38=-20, 20-21=-30(F)





Scale = 1:75.5

DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE



Tidle Offices (A, T)	[2.0 5 0,0 + 0], [15.0 + 0,0 2 0], [14.0 0	7 12,0 0 0]		
LOADING (psf)	SPACING- 2-0-0	CSI.	DEFL. in (loc) I/defl L/d	PLATES GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 0.93	Vert(LL) -0.44 11-13 >999 360	MT20 244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.86	Vert(CT) -0.94 13-14 >537 240	MT20HS 187/143
BCLL 0.0 *	Rep Stress Incr YES	WB 0.70	Horz(CT) 0.35 10 n/a n/a	
BCDL 10.0	Code IRC2015/TPI2014	Matrix-MS	Wind(LL) 0.21 13-14 >999 240	Weight: 236 lb FT = 20%

BRACING-

TOP CHORD

**BOT CHORD** 

WFBS

Structural wood sheathing directly applied.

1 Row at midpt

Rigid ceiling directly applied or 10-0-0 oc bracing.

5-13, 7-13

LUMBER-

Plate Offsets (X Y)--

TOP CHORD 2x4 SP SS \*Except\* 8-10: 2x4 SP No.2 2x6 SP No.2 \*Except\* **BOT CHORD** 

2-14: 2x4 SP SS, 13-14: 2x4 SP No.1

Truss

**WEBS** 2x4 SP No.3 \*Except\* 5-14: 2x4 SP No.2

WEDGE

Left: 2x4 SP No.3

REACTIONS. (size) 2=0-3-8, 10=0-3-8

Max Horz 2=137(LC 12)

Max Grav 2=1720(LC 1), 10=1680(LC 1)

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

TOP CHORD 2-3=-5379/193, 3-5=-5101/177, 5-6=-2199/214, 6-7=-1766/209, 7-9=-2728/155,

[2:0-5-0 0-4-8] [13:0-4-0 0-2-0] [14:0-6-12 0-3-8]

9-10=-3079/173

**BOT CHORD** 2-14=-124/4846, 13-14=-44/2602, 11-13=0/2193, 10-11=-72/2671

**WEBS** 3-14=-264/167, 5-14=0/2862, 5-13=-1377/170, 6-13=-69/1379, 7-13=-896/106,

7-11=0/671, 9-11=-410/164

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-8-0 to 4-1-10, Interior(1) 4-1-10 to 21-0-0, Exterior(2) 21-0-0 to 27-7-12, Interior(1) 27-7-12 to 42-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) \* 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, with BCDL = 10.0psf.
- 6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



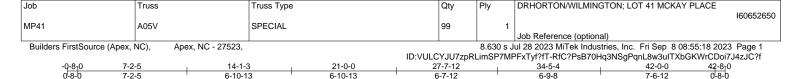
September 11,2023

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6-10-13

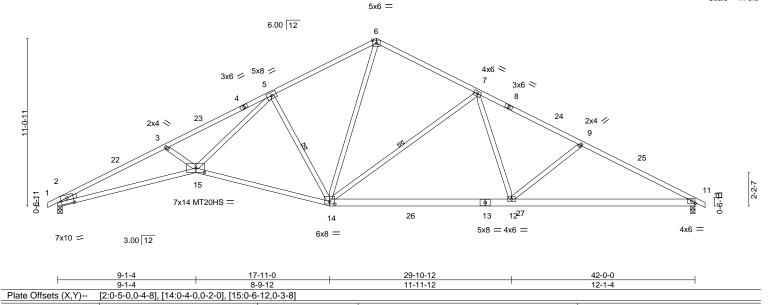
Ply

6-9-8

DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE

7-6-12

Scale = 1:75.9



DEFL.

Vert(LL)

Vert(CT)

Horz(CT)

Wind(LL)

**BRACING-**

TOP CHORD

**BOT CHORD** 

WFBS

(loc)

10

-0.43 12-14

-0.93 14-15

0.21 14-15

0.35

I/defI

>999

>542

>999

1 Row at midpt

n/a

L/d

360

240

n/a

240

Structural wood sheathing directly applied.

Rigid ceiling directly applied or 10-0-0 oc bracing.

5-14, 7-14

**PLATES** 

MT20HS

Weight: 237 lb

MT20

GRIP

244/190

187/143

FT = 20%

LUMBER-

LOADING (psf)

**TCLL** 

TCDL

**BCLL** 

BCDL

Job

TOP CHORD 2x4 SP SS

20.0

10.0

0.0

10.0

**BOT CHORD** 2x6 SP No.2 \*Except\*

2-15: 2x4 SP SS, 14-15: 2x4 SP No.1

SPACING-

Plate Grip DOL

Rep Stress Incr

Code IRC2015/TPI2014

Lumber DOL

Truss

Truss Type

6-10-13

**WEBS** 2x4 SP No.3 \*Except\*

5-15: 2x4 SP No.2

WEDGE Left: 2x4 SP No.3

REACTIONS. (size) 2=0-3-8, 10=0-3-8

Max Horz 2=134(LC 12)

Max Grav 2=1720(LC 1), 10=1720(LC 1)

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

TOP CHORD 2-3=-5378/187, 3-5=-5100/169, 5-6=-2199/213, 6-7=-1766/207, 7-9=-2726/148, 9-10=-3077/164

2-0-0

1.15

1.15

YES

TC

BC

WB

Matrix-MS

0.93

0.86

0.70

**BOT CHORD** 2-15=-93/4845, 14-15=-24/2601, 12-14=0/2191, 10-12=-48/2670

**WEBS** 3-15=-264/167, 5-15=0/2861, 5-14=-1377/164, 6-14=-67/1377, 7-14=-893/106,

7-12=0/671, 9-12=-412/164

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 3) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-8-0 to 4-1-10, Interior(1) 4-1-10 to 21-0-0, Exterior(2) 21-0-0 to 27-7-12, Interior(1) 27-7-12 to 42-8-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) \* 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, with BCDL = 10.0psf.
- 6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.



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Job Truss Truss Type Qty Ply DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE 160652651 MP41 A06VG **GABLE** 99 Job Reference (optional) Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:20 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f 21-8-0 42-8-0 43-4<sub>-</sub>0 0-8-0 21-0-0 21-0-0 Scale = 1:76.2 5x6 = 6.00 12 13 14 12 15 16 50 3x6 / 17<sup>3x6</sup> \ 49 9 8 51<sub>20</sub> 11-0-11 21 22 52 23 43 42 5x6 25 | 5 41 3x6 || 3x8 || 37 36 35 34 33 31 30 29 28 27 26 32 46 45 40 39 38 3x8 \\ 3x6 =3.00 12 3x6 =-0-8-0 0-8-0 18-7-0 42-8-0 43-4<sub>1</sub>0 24-1-0 9-1-4 8-9-12 Plate Offsets (X,Y)--[2:0-0-14,Edge], [2:0-1-8,0-9-8], [24:0-3-8,Edge], [38:0-3-0,0-0-12]

LOADIN	G (psf)	SPACING- 2-0	0-0	CSI.		DEFL.	in	(loc)	I/defI	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL 1.	.15	TC	0.09	Vert(LL)	0.00	25	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL 1.	.15	BC	0.07	Vert(CT)	0.00	25	n/r	120		
BCLL	0.0 *	Rep Stress Incr Y	ES	WB	0.14	Horz(CT)	0.01	24	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI201	14	Matri	x-S						Weight: 288 lb	FT = 20%

**BRACING-**

WFBS

TOP CHORD

BOT CHORD

LUMBER-

TOP CHORD 2x4 SP No 2 BOT CHORD 2x4 SP No 2

2x4 SP No 3 **OTHERS** 

WEDGE

Left: 2x4 SP No.3, Right: 2x4 SP No.3

REACTIONS. All bearings 42-0-0.

Max Horz 2=134(LC 12) (lb) -

Max Uplift All uplift 100 lb or less at joint(s) 43, 38, 2, 37, 39, 40, 41, 42, 44, 45, 46, 34, 33, 31, 30, 29,

28, 27, 26

Max Grav All reactions 250 lb or less at ioint(s) 43, 38, 2, 24, 36, 37, 39, 40, 41, 42, 44, 45, 46, 35, 34,

33, 31, 30, 29, 28, 27, 26

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

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) -0-8-0 to 4-1-10, Interior(1) 4-1-10 to 21-0-0, Exterior(2) 21-0-0 to 27-9-7, Interior(1) 27-9-7 to 42-8-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) All plates are 2x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* 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.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 43, 38, 2, 37, 39, 40, 41, 42, 44, 45, 46, 34, 33, 31, 30, 29, 28, 27, 26. 10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building



Structural wood sheathing directly applied or 6-0-0 oc purlins.

13-36, 12-37, 11-39, 14-35, 15-34

Rigid ceiling directly applied or 10-0-0 oc bracing.

1 Row at midpt

September 11,2023



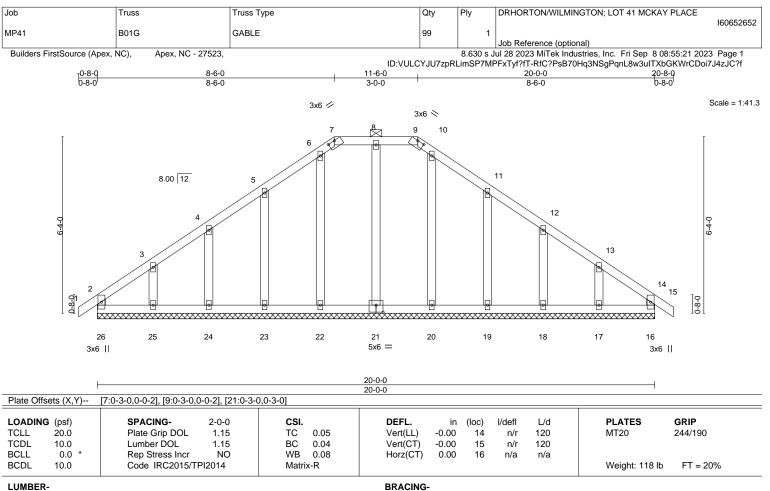
designer.

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TOP CHORD **BOT CHORD** 

2x4 SP No 2 2x4 SP No.2

2x4 SP No.2 WERS **OTHERS** 2x4 SP No.3

BRACING-TOP CHORD

Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-9. Rigid ceiling directly applied or 10-0-0 oc bracing.

BOT CHORD

REACTIONS. All bearings 20-0-0.

(lb) -Max Horz 26=134(LC 11)

Max Uplift All uplift 100 lb or less at joint(s) 26, 16, 21, 23, 24, 25, 19, 18, 17

Max Grav All reactions 250 lb or less at joint(s) 26, 16, 21, 22, 23, 24, 25, 20, 19, 18, 17

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

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) -0-8-0 to 4-0-0, Exterior(2) 4-0-0 to 8-6-0, Corner(3) 8-6-0 to 16-0-0, Exterior(2) 16-0-0 to 20-8-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Provide adequate drainage to prevent water ponding.
- 5) All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- 7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 8) Gable studs spaced at 2-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) \* 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.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 26, 16, 21, 23, 24, 25, 19, 18, 17,
- 12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



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Job Truss Truss Type Qty Plv DRHORTON/WILMINGTON: LOT 41 MCKAY PLACE 160652653 MP41 B02GR COMMON 99 Job Reference (optional) Builders FirstSource (Apex, NC), Apex, NC - 27523, 8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:23 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f 10-0-0 . 14-10-12 20-0-0 4-10-12 4-10-12 Scale = 1:43.4 4x6 || 15 3 16 8.00 12 3x8 // 3x8 <> 8 7 6 3x6 || 7x10 =3x6 || 6x8 < 10-0-0 14-10-12 20-0-0 5-1-4 5-1-4 4-10-12 4-10-12 Plate Offsets (X,Y)--[1:0-1-3,0-1-8], [5:0-1-3,0-1-8], [6:0-4-8,0-1-8], [7:0-5-0,0-4-8], [8:0-4-8,0-1-8]

**DEFL** 

Vert(LL)

Vert(CT)

Horz(CT)

Wind(LL)

**BRACING-**

TOP CHORD

**BOT CHORD** 

in (loc)

7-8

7-8

7-8

5

-0.10

-0.21

0.05

0.08

I/defI

>999

>999

>999

n/a

L/d

360

240

n/a

240

Rigid ceiling directly applied or 10-0-0 oc bracing.

LUMBER-

**TCLL** 

TCDL

**BCLL** 

BCDL

LOADING (psf)

TOP CHORD 2x4 SP No.2 BOT CHORD 2x6 SP DSS

20.0

10.0

0.0

10.0

WFBS 2x4 SP No.3 \*Except\* 3-7: 2x4 SP No.2

WEDGE

Left: 2x6 SP No.2 , Right: 2x6 SP No.2

REACTIONS. (size) 1=0-4-0, 5=0-4-0

Max Horz 1=-131(LC 4)

Max Uplift 1=-726(LC 8), 5=-726(LC 9) Max Grav 1=9300(LC 1), 5=9300(LC 1)

SPACING-

Plate Grip DOL

Rep Stress Incr

Code IRC2015/TPI2014

Lumber DOL

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown. 1-2=-12048/948, 2-3=-8468/713, 3-4=-8468/713, 4-5=-12048/948 TOP CHORD

BOT CHORD 1-8=-834/9933, 7-8=-834/9933, 6-7=-726/9933, 5-6=-726/9933

**WEBS**  $3-7=-717/8989,\ 4-7=-3678/402,\ 4-6=-284/3944,\ 2-7=-3678/401,\ 2-8=-284/3944$ 

2-0-0

1.15

1.15

NO

TC

BC

WB

Matrix-MS

0.50

0.49

0.74

### NOTES-

1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:

Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.

Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-4-0 oc. Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.

2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.

3) Unbalanced roof live loads have been considered for this design 4) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope)

gable end zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

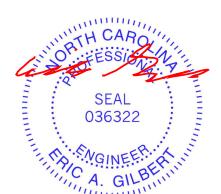
6) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.

7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=726, 5=726,

### LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15 Uniform Loads (plf)

Vert: 1-3=-60, 3-5=-60, 9-12=-870(F=-850)



**PLATES** 

Weight: 369 lb

MT20

Structural wood sheathing directly applied or 6-0-0 oc purlins.

GRIP

244/190

FT = 20%

September 11,2023





Job	Truss	Truss Type	Qty	Ply	DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE	
MD44	B04.0	GABLE	00	,		160652654
MP41	P01G	GABLE	99	1	Job Reference (optional)	

Builders FirstSource (Apex, NC), Apex, NC - 27523,

-0-8-0

0-8-0

8.630 s Jul 28 2023 MiTek Industries, Inc. Fri Sep 8 08:55:24 2023 Page 1 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Structural wood sheathing directly applied or 4-0-0 oc purlins,

Rigid ceiling directly applied or 10-0-0 oc bracing.

except end verticals.

Scale = 1:11.1

4-0-0

3 2x4 || 4.00 12 2 0-3-15 4 2x4 = 2x4 ||

LOADING (psf)	SPACING- 2-0-0	CSI.	<b>DEFL.</b> in	(loc)	l/defl	L/d	PLATES GRIP
TCLL 20.0	Plate Grip DOL 1.15	TC 0.26	Vert(LL) -0.00	1	n/r	120	MT20 244/190
TCDL 10.0	Lumber DOL 1.15	BC 0.18	Vert(CT) 0.01	1	n/r	120	
BCLL 0.0 *	Rep Stress Incr YES	WB 0.00	Horz(CT) 0.00	4	n/a	n/a	
BCDL 10.0	Code IRC2015/TPI2014	Matrix-P					Weight: 15 lb FT = 20%

**BRACING-**

TOP CHORD

**BOT CHORD** 

LUMBER-

REACTIONS.

WFBS

TOP CHORD 2x4 SP No.2 BOT CHORD 2x4 SP No.2

2x4 SP No.3

(size) 2=4-0-0, 4=4-0-0 Max Horz 2=47(LC 9)

Max Uplift 2=-31(LC 8), 4=-16(LC 12) Max Grav 2=198(LC 1), 4=151(LC 1)

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

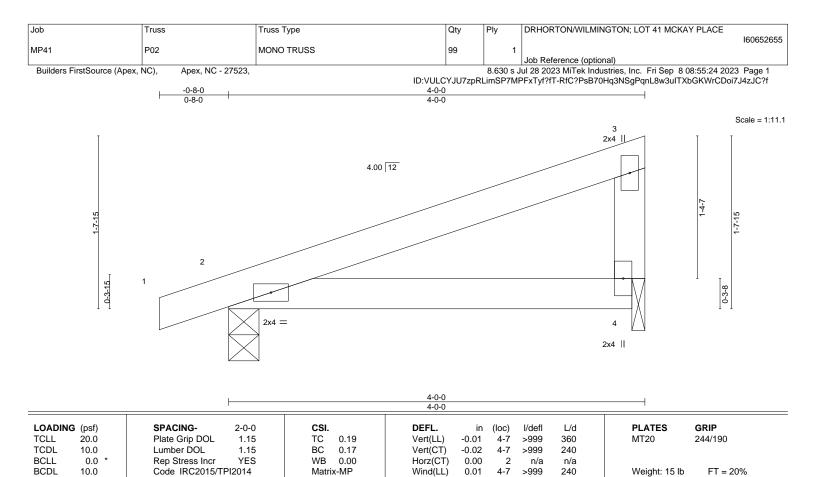
### NOTES-

- 1) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 2-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) \* 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.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.



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BRACING-

TOP CHORD

**BOT CHORD** 

LUMBER-

REACTIONS.

**WEBS** 

TOP CHORD 2x4 SP No.2 BOT CHORD 2x4 SP No.2

2x4 SP No.3

(size) 2=0-3-8, 4=0-1-8 Max Horz 2=47(LC 11)

Max Uplift 2=-31(LC 8), 4=-16(LC 12) Max Grav 2=198(LC 1), 4=151(LC 1)

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

### NOTES-

- 1) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.



Structural wood sheathing directly applied or 4-0-0 oc purlins,

Rigid ceiling directly applied or 10-0-0 oc bracing.

except end verticals.

September 11,2023





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.sbcacomponents.com)



Job Truss Type Qty DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE Truss 160652656 MP41 GABLE V01 99 Job Reference (optional)

8.630 s Feb 23 2023 MiTek Industries, Inc. Mon Sep 11 10:58:11 2023 Page 1
ID:VULCYJU7zpRLimSP7MPFxTyf?fT-PEylxrXy6hV?wyGDk5zQb\_kzoemAWNdjTrB2TryeuIg Apex, NC - 27523, Builders FirstSource (Apex, NC) 8-7-10 17-3-3 8-7-10 8-7-9 Scale = 1:35.9 3x6 =8.00 12 6 3x4 / 12 11 10 8 3x4 > 3x6 = 17-3-3 17-3-3 Plate Offsets (X,Y)--[4:0-3-0,Edge] LOADING (psf) SPACING-DEFL. **PLATES** GRIP CSI. 2-0-0 in (loc) I/defl I/d Plate Grip DOL TC 244/190 TCLL 20.0 1.15 0.36 Vert(LL) n/a n/a 999 MT20 ВС TCDL 10.0 Lumber DOL 1.15 0.21 Vert(CT) n/a n/a 999 **BCLL** 0.0 Rep Stress Incr YES WB 0.09 Horz(CT) 0.00 7 n/a BCDL 10.0 Code IRC2015/TPI2014 Matrix-S Weight: 76 lb FT = 20%

LUMBER-

TOP CHORD 2x4 SP No.3 **BOT CHORD** 2x4 SP No.3 **OTHERS** 2x4 SP No.3 BRACING-

TOP CHORD **BOT CHORD**  Structural wood sheathing directly applied or 6-0-0 oc purlins.

Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. All bearings 17-3-3.

(lb) -Max Horz 1=-108(LC 8)

Max Uplift All uplift 100 lb or less at joint(s) 8, 9, 12, 10

Max Grav All reactions 250 lb or less at joint(s) 1, 7, 9, 10 except 8=361(LC 20), 12=360(LC 19)

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

**WEBS** 6-8=-267/140, 2-12=-266/139

### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-5-6 to 5-3-0, Exterior(2) 5-3-0 to 8-7-10, Corner(3) 8-7-10 to 13-3-3, Exterior(2) 13-3-3 to 16-9-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) All plates are 2x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 4-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* 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.
- 9) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 8, 9, 12, 10.
- 11) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



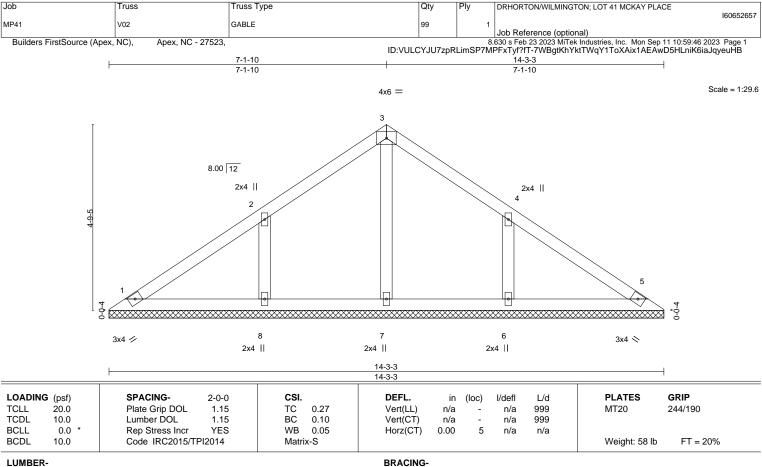
September 11,2023

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/TP11 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.sbcacomponents.com)





TOP CHORD

**BOT CHORD** 

LUMBER-TOP CHORD

2x4 SP No.3

2x4 SP No.2 **BOT CHORD OTHERS** 2x4 SP No.3

REACTIONS. All bearings 14-3-3. (lb) - Max Horz 1=88(LC 11)

Max Uplift All uplift 100 lb or less at joint(s) 1, 6, 8

Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7 except 6=330(LC 20), 8=331(LC 19)

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

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-5-6 to 5-3-0, Exterior(2) 5-3-0 to 7-1-10, Corner(3) 7-1-10 to 11-11-3, Exterior(2) 11-11-3 to 13-9-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 6, 8.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

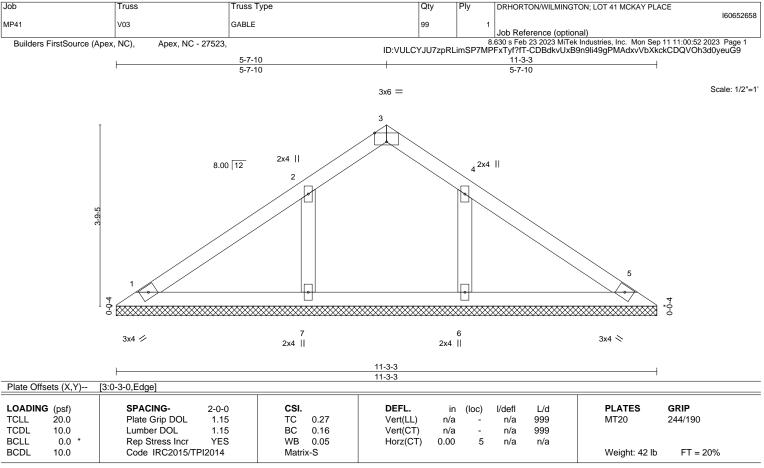


Structural wood sheathing directly applied or 6-0-0 oc purlins.

Rigid ceiling directly applied or 10-0-0 oc bracing.

September 11,2023





LUMBER-

TOP CHORD 2x4 SP No.3 2x4 SP No.3 **BOT CHORD** 2x4 SP No.3 **OTHERS** 

BRACING-

TOP CHORD **BOT CHORD**  Structural wood sheathing directly applied or 6-0-0 oc purlins.

Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. All bearings 11-3-3.

(lb) -Max Horz 1=68(LC 9)

Max Uplift All uplift 100 lb or less at joint(s) 6, 7

Max Grav All reactions 250 lb or less at joint(s) 1, 5 except 6=300(LC 20), 7=302(LC 19)

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

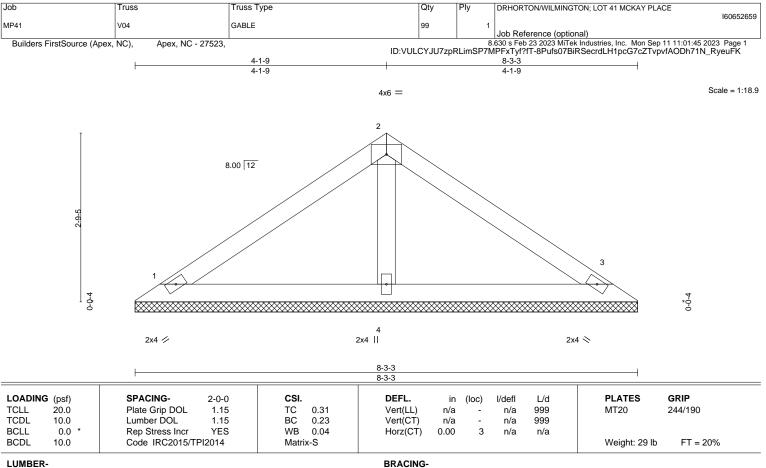
### NOTES-

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) 0-5-6 to 5-3-0, Exterior(2) 5-3-0 to 5-7-10, Corner(3) 5-7-10 to 10-5-3, Exterior(2) 10-5-3 to 10-9-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 6, 7.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



September 11,2023





TOP CHORD

**BOT CHORD** 

LUMBER-

2x4 SP No.3

TOP CHORD 2x4 SP No.3 **BOT CHORD OTHERS** 2x4 SP No.3

REACTIONS. (size) 1=8-3-3, 3=8-3-3, 4=8-3-3

Max Horz 1=48(LC 11)

Max Uplift 1=-13(LC 12), 3=-20(LC 13)

Max Grav 1=144(LC 1), 3=144(LC 1), 4=302(LC 1)

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

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 2-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



Structural wood sheathing directly applied or 6-0-0 oc purlins.

Rigid ceiling directly applied or 10-0-0 oc bracing.

September 11,2023



MP41 Job Reference (optional)
8.630 s Feb 23 2023 MiTek Industries, Inc. Mon Sep 11 11:03:02 2023 Page 1 Builders FirstSource (Apex, NC), Apex, NC - 27523 ID:VULCYJU7zpRLimSP7MPFxTyf?fT-OD1m0L3Ua59iLg08HihfuMlllx7DC?nYOcByBTyeuE7 2-7-10 5-3-3 2-7-10 2-7-9 Scale = 1:13.5 4x6 = 8.00 12 0-0-4 <del>-</del>0-2x4 / 2x4 || 2x4 < LOADING (psf) SPACING-2-0-0 CSI. DEFL. I/d **PLATES** GRIP in (loc) I/defI TCLL TC Vert(LL) 244/190 20.0 Plate Grip DOL 1.15 0.14 n/a n/a 999 MT20 TCDL 10.0 Lumber DOL 1 15 BC 0.08 Vert(CT) n/a n/a 999 **BCLL** 0.0 Rep Stress Incr YES WB 0.02 Horz(CT) 0.00 3 n/a n/a BCDL 10.0 Code IRC2015/TPI2014 Matrix-P Weight: 17 lb FT = 20% **BRACING-**

TOP CHORD

**BOT CHORD** 

Qty

99

DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE

Structural wood sheathing directly applied or 5-3-3 oc purlins.

Rigid ceiling directly applied or 10-0-0 oc bracing.

160652660

LUMBER-

Job

TOP CHORD 2x4 SP No.3 2x4 SP No.3

**BOT CHORD OTHERS** 2x4 SP No.3

REACTIONS. (size) 1=5-3-3, 3=5-3-3, 4=5-3-3

Truss

V05

Max Horz 1=-29(LC 8)

Max Uplift 1=-11(LC 12), 3=-15(LC 13) Max Grav 1=93(LC 1), 3=93(LC 1), 4=162(LC 1)

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

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

Truss Type

GABLE

- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 2-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1



September 11,2023



Job Truss Type Qty DRHORTON/WILMINGTON; LOT 41 MCKAY PLACE Truss 160652661 MP41 GABLE V06 99 | Job Reference (optional)

8.630 s Feb 23 2023 MiTek Industries, Inc. Mon Sep 11 11:03:30 2023 Page 1
ID:VULCYJU7zpRLimSP7MPFxTyf?fT-ackLuwO2\_ihki\_9XwaBE0GSZhDhWlf2gqzzQ9syeuDh Apex. NC - 27523 Builders FirstSource (Apex, NC) 1-1-10 1-1-10 1-1-10 Scale = 1:6.6 3x6 =8.00 12 0-0-4 0-0-4 2x4 // 2x4 × Plate Offsets (X,Y)-- [2:0-3-0,Edge]

LOADIN	G (psf)	SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	I/defI	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.01	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2015/TPI2	2014	Matri	x-P	, ,					Weight: 6 lb	FT = 20%

**BRACING-**

TOP CHORD

**BOT CHORD** 

LUMBER-

REACTIONS.

TOP CHORD 2x4 SP No.3

BOT CHORD 2x4 SP No.3

> Max Horz 1=-9(LC 8) Max Uplift 1=-1(LC 12), 3=-1(LC 13) Max Grav 1=55(LC 1), 3=55(LC 1)

(size) 1=2-3-3, 3=2-3-3

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

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=32ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 2-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* 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.
- 8) All bearings are assumed to be User Defined crushing capacity of 565 psi.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
- 10) This truss is designed in accordance with the 2015 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



Structural wood sheathing directly applied or 2-3-3 oc purlins.

Rigid ceiling directly applied or 10-0-0 oc bracing.

September 11,2023

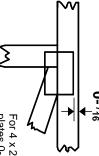


### Symbols

## 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- <sup>1</sup>/16" from outside edge of truss.

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

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

### PLATE SIZE

4 × 4

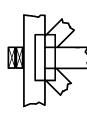
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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.

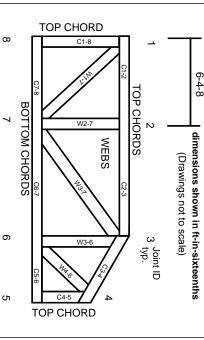
### Industry Standards:

National Design Specification for Metal Plate Connected Wood Truss Construction Design Standard for Bracing.

Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

ANSI/TPI1: DSB-22:

## 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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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### MiTek



MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

# ▲ 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 Tor I bracing should be considered.
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.

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- 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.

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- 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 purlins 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.
- 15. 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.