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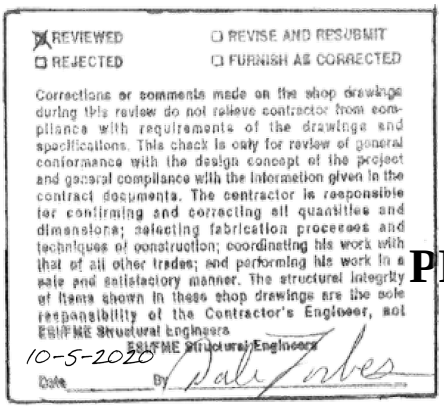

TRUSS PLACEMENT PLAN
AND
CALCULATIONS

PROJECT: Highlands Estates
Lot 10

LOCATION: San Mateo, CA

DEVELOPER: The Chamberlain Group

CUSTOMER: CKL Construction

Project No: 31053

2800 Tully Road, Hughson, CA 95326
(209) 883-8000 phone / (209) 883-8001 fax

DATE: September 8th, 2020

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2800 Tully Road, Hughson, CA 95326 (209) 883-8000 Phone / (209) 883-8001 Fax

Structural Truss Calculations

PROJECT: Highlands Estates

Lot 10

LOCATION: San Mateo, CA

DEVELOPER: The Chamberlain Group

CUSTOMER: CKL Construction

Date: 09/08/2020

AHMADI, Mohammad

My license renewal date for the state of California is December 31, 2020.

NOTES:

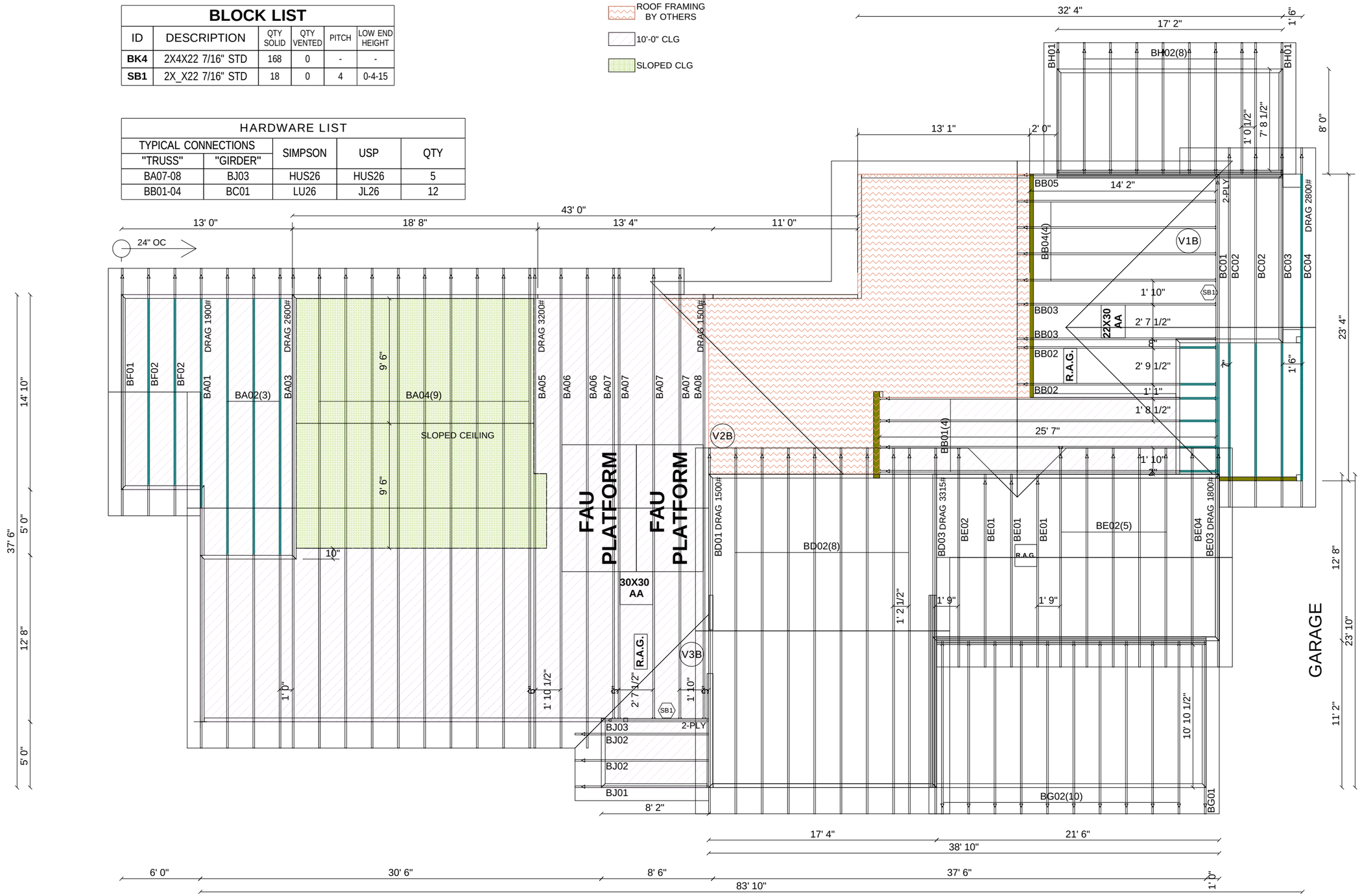
Truss Engineer's responsibility is solely for the design of individual trusses based upon the design parameters as shown on the referenced truss drawings. Parameters have not been verified as appropriate for any use. Any location identification specified is for file reference only and has not been used in preparing design. Suitability of truss designs for any particular building is the responsibility of the building designer/Engineer of Record, not truss Engineer, per ANI/TPI-1 Chapter 2.

The bound truss design drawings, having an electronic seal and signature printed on each page, have been reviewed and approved by the truss design engineer as indicated by the Engineer's seal and wet signature on this cover page. This review and approval apply solely to the attached truss design drawing pages that are bound together.

LOT 10

BLOCK LIST					
ID	DESCRIPTION	QTY SOLID	QTY VENTED	PITCH	LOW END HEIGHT
BK4	2X4X22 7/16" STD	168	0	-	-
SB1	2X_X22 7/16" STD	18	0	4	0-4-15

HARDWARE LIST				
TYPICAL CONNECTIONS		SIMPSON	USP	QTY
"TRUSS"	"GIRDER"			
BA07-08	BJ03	HUS26	HUS26	5
BB01-04	BC01	LU26	JL26	12



THIS LAYOUT IS FOR PLACEMENT PURPOSES ONLY AND IS NOT INTENDED AS A STRUCTURAL ENGINEERING DOCUMENT.
ALL BEAM SIZES NOTED PER STRUCTURAL PLAN SET.

CTF California TrusFrame LLC
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23665 CAJALCO ROAD
PERRIS, CA 92570
TEL 951-657-7491 FAX 951-940-5176
www.CalTrusFrame.com

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer.

Framer is responsible for accurate spacing of trusses as designed and called out on placement plan. All trusses spaced at 24" oc unless noted otherwise.

SYMBOL LEGEND

A.A.	Attic Access
	Recessed Lights
RAG	Return Air Grill
X/12	Slope & Direction
Sxx	Hip Framing label
Vxx	Valley Framing label

DEVELOPER: CKL Construction

Highland Estates

LOCATION: San Mateo, CA.

PLAN: Lot 10

SCALE: 1/8"=1'-0"

PROJECT No: 31053

DESIGNER: LG

DATE	8/7/2020

REVISIONS

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA01	Common Structural Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:09 2020 Page 1
ID:q9YMN05thQ4LkgJdt00jWiyoaDE-mIO8Z2f?8IKC3O77VFaXbYdGBWg8GANFiAgcwWygfC0

-2-0-0	6-3-2	11-1-4	16-3-0	21-4-12	26-4-1	32-6-0	34-6-0
2-0-0	6-3-2	4-10-2	5-1-12	5-1-12	4-11-5	6-1-15	2-0-0

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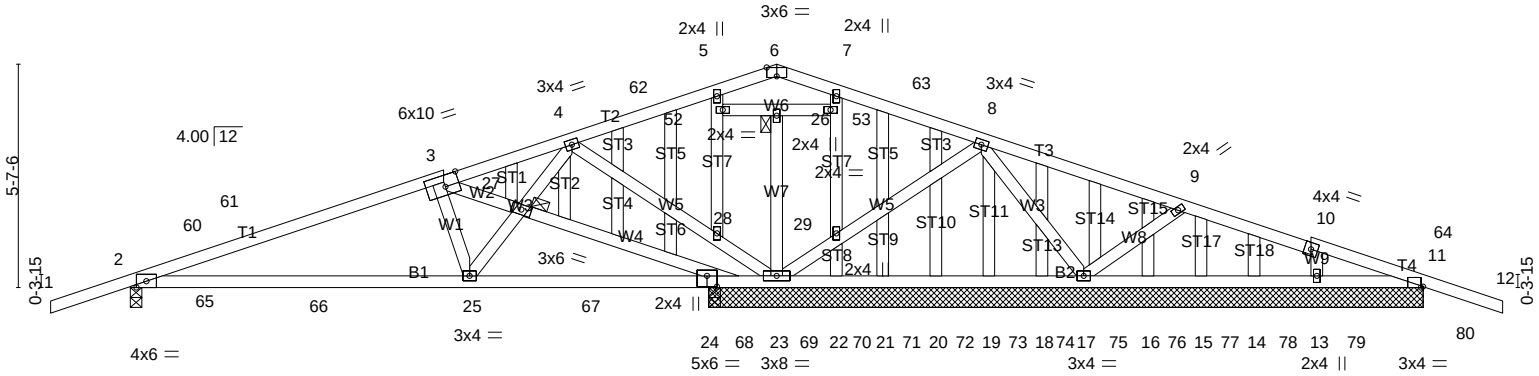
Camber = 7/16 in



8-6-6	14-6-8	16-3-0	23-11-10	32-6-0
8-6-6	6-0-2	1-8-8	7-8-10	8-6-6

Plate Offsets (X,Y)-- [3:0-4-4,Edge], [6:0-3-0,Edge], [11:0-0-10,Edge], [24:0-3-0,0-3-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.69	Vert(LL)	-0.10	25-56	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.77	Vert(CT)	-0.52	25-56	>335	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.04	11	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 201 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G *Except*
W6: 2x4 DF No.2 G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 3-11-8 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 24-25,23-24.
JOINTS
1 Brace at Jt(s): 26, 27

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

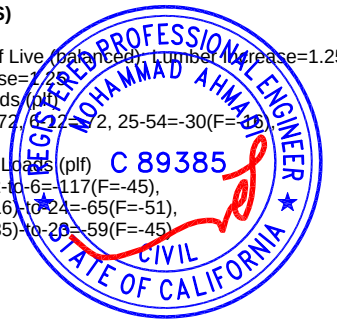
REACTIONS. All bearings 17-11-8 except (jt=length) 2=0-3-8.
(lb) - Max Horz
2= -96(LC 17)
Max Uplift
All uplift 100 lb or less at joint(s) 13 except 17=-261(LC 28), 11=-122(LC 9)
Max Grav
All reactions 250 lb or less at joint(s) 13, 22, 21, 20, 19, 18, 16, 15, 14 except 2=943(LC 1), 23=1003(LC 1), 17=621(LC 25), 11=342(LC 30), 24=559(LC 3), 24=519(LC 1), 11=340(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-60=-1665/240, 60-61=-1646/225,
3-61=-1293/0, 3-4=-776/31,
7-63=-175/324, 8-63=-398/493,
8-9=-106/287, 9-10=-400/276,
10-64=-377/369, 11-64=-504/411
Continued on page 2

TOP CHORD
2-60=-1665/240, 60-61=-1646/225,
3-61=-1293/0, 3-4=-776/31,
7-63=-175/324, 8-63=-398/493,
8-9=-106/287, 9-10=-400/276,
10-64=-377/369, 11-64=-504/411
BOT CHORD
2-65=-83/540, 2-66=-220/1542,
25-66=-40/1362, 25-67=0/1099,
24-67=0/1099, 24-68=0/433,
23-68=0/433, 17-74=-279/265,
14-77=-194/287, 14-78=-248/333,
13-78=-294/370, 13-79=-355/420,
11-79=-409/474
WEBS
23-26=-448/0, 23-29=-464/303,
8-29=-428/307, 8-17=-616/413,
9-17=-379/126, 4-28=-629/0,
23-28=-717/0, 25-27=0/390, 4-27=0/396,
3-27=-723/0, 24-27=-720/0,
5-52=-349/0, 7-53=-283/1

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-3-0, Interior(1) 1-3-0 to 16-3-0, Exterior(2R) 16-3-0 to 19-6-0, Interior(1) 19-6-0 to 34-6-0 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) Gable studs spaced at 1-4-0 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) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss has been designed for a total seismic drag load of 1900 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 32-6-0 for 58.5 plf.
12) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
13) 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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-72, 61-62=-72, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-72-to-6=-117(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)



LOAD CASE(S)

Standard

2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-62, 6-12=-62, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-62-to-6=-107(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-50(F=-16), 23-57=-34
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-50(F=-16)-to-24=-85(F=-51), 24=-69(F=-35)-to-23=-79(F=-45)

4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=50, 2-60=25, 60-61=18, 6-63=27, 11-63=18, 11-12=13, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-66, 2-60=-42, 6-60=-35, 6-63=44, 11-63=35, 11-12=30
Trapezoidal Loads (plf)
Vert: 61=18-to-6=-27(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=13, 2-61=18, 6-64=18, 11-64=25, 11-12=50, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-30, 2-62=-35, 6-62=-44, 6-64=35, 11-64=42, 11-12=66
Trapezoidal Loads (plf)
Vert: 61=18-to-62=-10(F=-28), 62=-1(F=-28)-to-6=-18(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-23, 2-61=-46, 6-11=-46, 11-12=-41, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-9, 2-6=14, 6-11=-14, 11-12=-9
Trapezoidal Loads (plf)
Vert: 61=-46-to-6=-91(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-41, 2-61=-46, 6-11=-46, 11-12=-23, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=9, 2-6=14, 6-11=-14, 11-12=9
Trapezoidal Loads (plf)
Vert: 61=-46-to-6=-91(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 2-61=21, 6-11=9, 11-12=3, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-50, 2-6=-37, 6-11=25, 11-12=20
Trapezoidal Loads (plf)
Vert: 61=21-to-6=-24(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-61=9, 6-11=21, 11-12=33, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-20, 2-6=-25, 6-11=37, 11-12=50
Trapezoidal Loads (plf)
Vert: 61=9-to-6=-36(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

Continued on page 3

Standard

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-61=-5, 6-11=-17, 11-12=-12, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-32, 2-6=-27, 6-11=15, 11-12=20
Trapezoidal Loads (plf)
Vert: 61=-5-to-6=-50(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-61=-17, 6-11=-5, 11-12=-0, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-20, 2-6=-15, 6-11=27, 11-12=32
Trapezoidal Loads (plf)
Vert: 61=-17-to-6=-62(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-61=21, 6-11=4, 11-12=-1, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-32, 2-6=-37, 6-11=21, 11-12=16
Trapezoidal Loads (plf)
Vert: 61=21-to-6=-24(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-61=4, 6-11=21, 11-12=15, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-16, 2-6=-21, 6-11=37, 11-12=32
Trapezoidal Loads (plf)
Vert: 61=4-to-6=-41(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-61=9, 6-11=-0, 11-12=-6, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-21, 2-6=-26, 6-11=16, 11-12=11
Trapezoidal Loads (plf)
Vert: 61=9-to-6=-36(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-61=-0, 6-11=9, 11-12=4, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-11, 2-6=-16, 6-11=26, 11-12=21
Trapezoidal Loads (plf)
Vert: 61=-0-to-6=-45(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-61=-5, 6-11=-22, 11-12=-16, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-32, 2-6=-27, 6-11=10, 11-12=16
Trapezoidal Loads (plf)
Vert: 61=-5-to-6=-50(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-61=-22, 6-11=-5, 11-12=-0, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-16, 2-6=-10, 6-11=27, 11-12=32
Trapezoidal Loads (plf)

Standard

Vert: 61=-22-to-6=-67(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

18) Dead: Lumber Increase=0.90, Plate Increase=0.90
Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-61=-42, 6-11=-51, 11-12=-47, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-24, 2-6=-20, 6-11=11, 11-12=15
Trapezoidal Loads (plf)
Vert: 61=-42-to-6=-87(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-61=-51, 6-11=-42, 11-12=-38, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-15, 2-6=-11, 6-11=20, 11-12=24
Trapezoidal Loads (plf)
Vert: 61=-51-to-6=-96(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

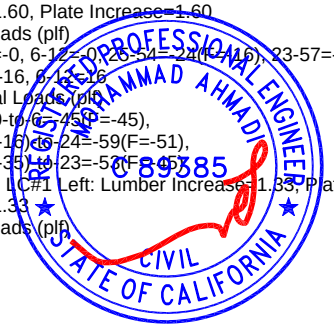
21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-61=-42, 6-11=-54, 11-12=-50, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-24, 2-6=-20, 6-11=8, 11-12=12
Trapezoidal Loads (plf)
Vert: 61=-42-to-6=-87(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-50, 2-61=-54, 6-11=-42, 11-12=-38, 25-54=-30(F=-16), 23-57=-14
Horz: 1-2=-12, 2-6=-8, 6-11=20, 11-12=24
Trapezoidal Loads (plf)
Vert: 61=-54-to-6=-99(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-61=-33, 6-12=-33, 25-54=-24(F=-16), 23-57=-8
Horz: 1-2=-16, 2-6=16, 6-12=-16
Trapezoidal Loads (plf)
Vert: 61=-33-to-6=-78(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-61=-0, 6-12=-0, 25-54=-24(F=-16), 23-57=-8
Horz: 1-6=-16, 6-12=16
Trapezoidal Loads (plf)
Vert: 61=-0-to-6=-45(F=-45), 25=-24(F=-16)-to-24=-59(F=-51), 24=-43(F=-35)-to-23=-53(F=-45)

25) Dead-Drag LC#1 Left: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)



LOAD CASE(S)

Standard
Uniform Loads (plf)
Vert: 1-2=-32, 2-55=-13, 55-61=-13, 6-9=-51, 9-10=-50, 10-58=-50, 11-58=-51, 11-12=-32, 25-54=-30(F=-16), 23-57=-14
Horz: 2-55=175, 3-55=180, 3-4=189, 4-6=175, 6-9=175, 9-10=187, 10-58=195, 11-58=175
Drag: 54-57=-58
Trapezoidal Loads (plf)
Vert: 61=-13-to-3=-15(F=-2), 3=-16(F=-2)-to-4=-33(F=-19), 4=-31(F=-19)-to-6=-58(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

26) Dead-Drag LC#1 Right: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-32, 2-55=-51, 55-61=-51, 6-9=-13, 9-10=-14, 10-58=-14, 11-58=-13, 11-12=-32, 25-54=-30(F=-16), 23-57=-14
Horz: 2-55=-175, 3-55=-180, 3-4=-189, 4-6=-175, 6-9=-175, 9-10=-187, 10-58=-195, 11-58=-175
Drag: 54-57=58
Trapezoidal Loads (plf)
Vert: 61=-51-to-3=-53(F=-2), 3=-52(F=-2)-to-4=-69(F=-19), 4=-70(F=-19)-to-6=-96(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

27) 0.6 Dead-Drag LC#1 Left: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-19, 2-55=0, 55-61=-0, 6-9=-39, 9-10=-37, 10-58=-37, 11-58=-39, 11-12=-19, 25-54=-18(F=-10), 23-57=-8
Horz: 2-55=175, 3-55=180, 3-4=189, 4-6=175, 6-9=175, 9-10=187, 10-58=195, 11-58=175
Drag: 54-57=-58
Trapezoidal Loads (plf)
Vert: 61=-0-to-3=-2(F=-1), 3=-3(F=-1)-to-4=-12(F=-11), 4=-11(F=-11)-to-6=-27(F=-27), 25=-18(F=-10)-to-24=-39(F=-30), 24=-29(F=-21)-to-23=-35(F=-27)

28) 0.6 Dead-Drag LC#1 Right: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-19, 2-55=-39, 55-61=-38, 6-9=0, 9-10=-1, 10-58=-2, 11-58=0, 11-12=-19, 25-54=-18(F=-10), 23-57=-8
Horz: 2-55=-175, 3-55=-180, 3-4=-189, 4-6=-175, 6-9=-175, 9-10=-187, 10-58=-195, 11-58=-175
Drag: 54-57=58
Trapezoidal Loads (plf)
Vert: 61=-38-to-3=-40(F=-1), 3=-39(F=-1)-to-4=-49(F=-11), 4=-50(F=-11)-to-6=-66(F=-27), 25=-18(F=-10)-to-24=-39(F=-30), 24=-29(F=-21)-to-23=-35(F=-27)

29) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-72, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-72-to-6=-117(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

30) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-72, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

31) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-62, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)

Continued on page 4

Standard
Vert: 61=-62-to-6=-107(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

32) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-62, 25-54=-30(F=-16), 23-57=-14
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

33) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 65=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

34) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 66=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

35) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 67=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

36) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 68=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

37) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 69=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

38) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 70=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

Standard

39) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 71=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

40) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 72=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

41) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 73=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

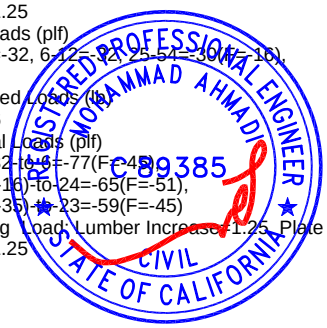
42) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 74=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

43) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 75=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

44) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 76=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

45) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 77=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

46) 14th Moving Load: Lumber Increase=1.25, Plate Increase=1.25



LOAD CASE(S)

Standard
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 78=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

47) 15th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 79=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

48) 16th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 80=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

49) 17th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 54=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

50) 18th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 56=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

51) 19th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 25=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

52) 20th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 24=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

53) 21st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 23=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

Standard

54) 22nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 22=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

55) 23rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 21=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

56) 24th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 20=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

57) 25th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 19=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

58) 26th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 18=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

59) 27th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 17=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

60) 28th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 16=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

61) 29th Moving Load: Lumber Increase=1.25, Plate Increase=1.25

Standard
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 15=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

62) 30th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 14=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

63) 31st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 13=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

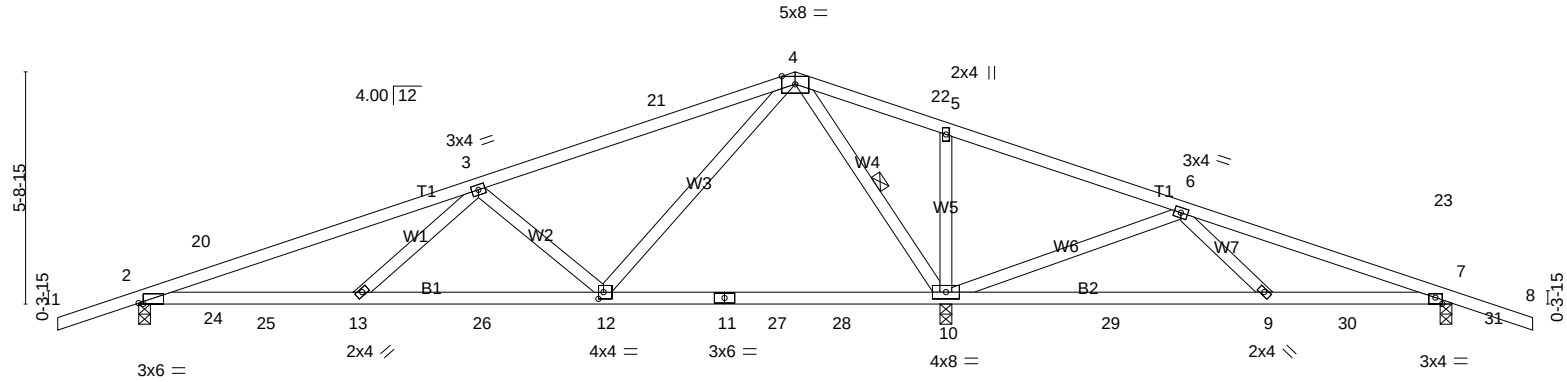
64) 32nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 59=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

65) 33rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-61=-32, 6-12=-32, 25-54=-30(F=-16), 23-57=-14
Concentrated Loads (lb)
Vert: 57=-6
Trapezoidal Loads (plf)
Vert: 61=-32-to-6=-77(F=-45), 25=-30(F=-16)-to-24=-65(F=-51), 24=-49(F=-35)-to-23=-59(F=-45)

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA02	Common	3	1	Job Reference (optional)

-2-0-0	8-4-14	11-6-1	16-3-0	21-4-12	25-9-8	26-6-8	32-6-0	34-6-0
2-0-0	8-4-14	3-1-3	4-8-15	5-1-12	4-4-12	0-9-0	5-11-8	2-0-0

Scale = 1:57.0
Camber = 5/16 in



5-6-6	11-6-1	12-4-8	19-11-12	21-3-0	25-9-8	27-10-5	32-6-0
5-6-6	5-11-11	0-10-7	7-7-4	1-3-4	4-6-8	2-0-12	4-7-11

Plate Offsets (X,Y)-- [2:0-1-6,Edge], [7:0-2-0,Edge], [12:0-1-8,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.85	Vert(LL)	-0.14	10-12	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.69	Vert(CT)	-0.47	10-12	>507	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.56	Horz(CT)	0.04	10	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 143 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 3-11-8 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS
1 Row at midpt 4-10

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

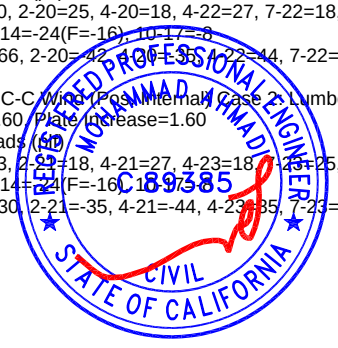
REACTIONS. (lb/size)
2 = 962/0-3-8 (min. 0-1-8)
10 = 2080/0-3-8 (min. 0-2-6)
7 = 361/0-3-8 (min. 0-1-8)
Max Horz
2 = 98(LC 16)
Max Uplift
2 = -31(LC 8)
7 = -176(LC 9)
Max Grav
2 = 998(LC 27)
10 = 2246(LC 2)
7 = 437(LC 26)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-20=-1800/0, 3-20=-1791/0, 3-21=-884/0, 4-21=-794/15, 4-22=0/1070, 5-22=0/1004, 5-6=0/1088, 6-23=-228/334, 7-23=-238/274
BOT CHORD
2-24=0/519, 2-25=0/1648, 13-25=0/1648, 13-26=-10/1344, 12-26=-10/1344, 10-29=-398/51, 9-29=-398/51, 9-30=-285/169, 7-30=-285/169
BOT CHORD
2-24=0/519, 2-25=0/1648, 13-25=0/1648, 13-26=-10/1344, 12-26=-10/1344, 10-29=-398/51, 9-29=-398/51, 9-30=-285/169, 7-30=-285/169
WEBS
4-12=0/1198, 4-10=-1592/0, 5-10=-357/122, 3-12=-844/158, 3-13=0/434, 6-10=-806/204, 6-9=0/327

Continued on page 2

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-3-0, Interior(1) 1-3-0 to 16-3-0, Exterior(2R) 16-3-0 to 19-6-0, Interior(1) 19-6-0 to 34-6-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 = 7.0psf.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-72, 10-14=-30(F=-16), 10-17=-14
2) Dead + 0.75 Roof Live (balanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-62, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-50(F=-16), 10-17=-34
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=50, 2-20=25, 4-20=18, 4-22=27, 7-22=18, 7-8=13, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-66, 2-20=-42, 4-20=-35, 4-22=44, 7-22=35, 7-8=30
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=13, 2-22=18, 4-21=27, 4-23=18, 7-23=25, 7-8=50, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-30, 2-21=-35, 4-21=-44, 4-23=35, 7-23=42, 7-8=66



LOAD CASE(S)

Standard

6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-23, 2-4=-46, 4-7=-46, 7-8=-41, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=-9, 2-4=14, 4-7=-14, 7-8=-9

7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-41, 2-4=-46, 4-7=-46, 7-8=-23, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=9, 2-4=14, 4-7=-14, 7-8=9

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 2-4=21, 4-7=9, 7-8=3, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-50, 2-4=-37, 4-7=25, 7-8=20

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-4=9, 4-7=21, 7-8=33, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-20, 2-4=-25, 4-7=37, 7-8=50

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-7=-17, 7-8=-12, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=-32, 2-4=-27, 4-7=15, 7-8=20

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-4=-17, 4-7=-5, 7-8=-0, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=-20, 2-4=-15, 4-7=27, 7-8=32

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-4=21, 4-7=4, 7-8=-1, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-32, 2-4=-37, 4-7=21, 7-8=16

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-4=4, 4-7=21, 7-8=15, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-16, 2-4=-21, 4-7=37, 7-8=32

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-4=9, 4-7=-0, 7-8=-6, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-21, 2-4=-26, 4-7=16, 7-8=11

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-4=-0, 4-7=9, 7-8=4, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-11, 2-4=-16, 4-7=26, 7-8=21

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-7=-22, 7-8=-16, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=-32, 2-4=-27, 4-7=10, 7-8=16

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-4=-22, 4-7=-5, 7-8=-0, 10-14=-30(F=-16), 10-17=-14
Horz: 1-2=-16, 2-4=-10, 4-7=27, 7-8=32

18) Dead + Uninhabitable Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 11-14=-50(F=-16), 11-28=-70(F=-16), 10-28=-50(F=-16), 10-17=-34

Standard

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=-38, 2-4=-42, 4-7=-51, 7-8=-47, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29
Horz: 1-2=-24, 2-4=-20, 4-7=11, 7-8=15

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=-47, 2-4=-51, 4-7=-42, 7-8=-38, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29
Horz: 1-2=-15, 2-4=-11, 4-7=20, 7-8=24

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=-38, 2-4=-42, 4-7=-54, 7-8=-50, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29
Horz: 1-2=-24, 2-4=-20, 4-7=8, 7-8=12

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=-50, 2-4=-54, 4-7=-42, 7-8=-38, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29
Horz: 1-2=-12, 2-4=-8, 4-7=20, 7-8=24

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-33, 4-8=-33, 10-14=-24(F=-16), 10-17=-8
Horz: 1-2=-16, 2-4=16, 4-8=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-0, 4-8=-0, 10-14=-24(F=-16), 10-17=-8
Horz: 1-4=-16, 4-8=16

25) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-32, 10-14=-30(F=-16), 10-17=-14

26) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-72, 10-14=-30(F=-16), 10-17=-14

27) 3rd Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-32, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29

28) 4th Dead + 0.75 Roof Live (unbalanced) + 0.75 Uninhab. Attic Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-62, 11-14=-45(F=-16), 11-28=-60(F=-16), 10-28=-45(F=-16), 10-17=-29

29) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 24=-6

30) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 25=-6

31) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14

Standard

Concentrated Loads (lb)
Vert: 26=-6

32) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 27=-6

33) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 29=-6

34) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 30=-6

35) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 31=-6

36) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 14=-6

37) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 16=-6

38) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 13=-6

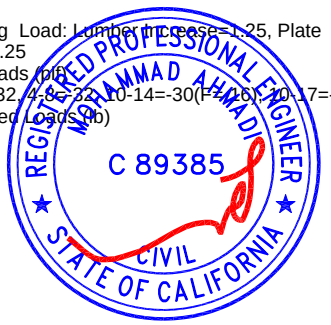
39) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 12=-6

40) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 10=-6

41) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 9=-6

42) 14th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 19=-6

43) 15th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-14=-30(F=-16), 10-17=-14
Concentrated Loads (lb)
Vert: 17=-6



Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA03	COMMON	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:10 2020 Page 1
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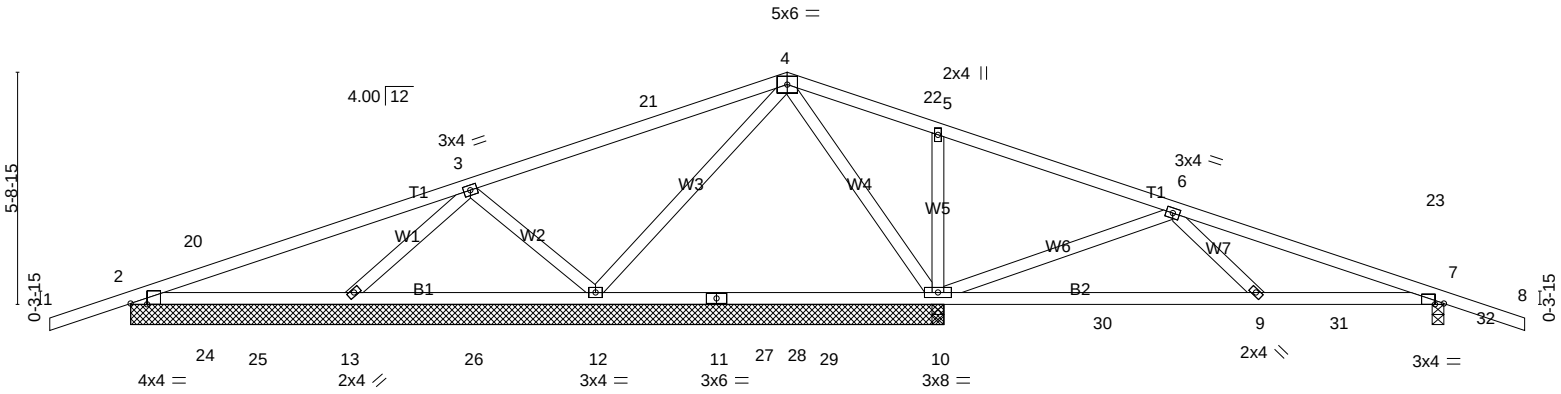
-2-0-0	5-6-6	8-4-14	11-6-1	16-3-0	21-4-12	25-9-8	27-10-3	32-6-0	34-6-0
2-0-0	5-6-6	2-10-9	3-1-3	4-8-15	5-1-12	4-4-12	2-0-11	4-7-13	2-0-0

Scale = 1:57.0
Camber = 1/8 in



5-6-6	8-4-14	11-6-1	16-3-0	20-1-8	25-9-8	27-10-3	32-6-0
5-6-6	2-10-9	3-1-3	4-8-15	3-10-8	5-8-0	2-0-11	4-7-13

Plate Offsets (X,Y)-- [2:0-4-14,Edge], [7:0-2-10,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.76	Vert(LL)	-0.12	10-12	>832	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.44	Vert(CT)	-0.23	10-12	>448	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.01	7	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 143 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-10-7 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.

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

REACTIONS. All bearings 20-1-8 except (jt=length) 7=0-3-8.
(lb) - Max Horz
2= 98(LC 12)
Max Uplift
All uplift 100 lb or less at joint(s) except 2=-118(LC 8), 10=-131(LC 13), 12=-105(LC 12), 13=-287(LC 27), 7=-136(LC 9)
Max Grav
All reactions 250 lb or less at joint(s) except 2=431(LC 29), 10=1287(LC 2), 10=1191(LC 1), 12=656(LC 31), 13=578(LC 26), 7=564(LC 25), 2=428(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-20=-520/430, 3-20=-478/395, 3-21=-461/545, 4-21=-89/300, 4-22=-317/697, 5-22=-55/399, 5-6=-231/531, 6-23=-1101/587, 7-23=-1142/621
BOT CHORD
2-25=-426/462, 13-25=-244/280, 13-26=-445/604, 12-26=-83/274, 11-12=-575/486, 11-27=-301/212, 27-28=-262/158, 10-30=-34/373, 9-30=-383/665, 9-31=-339/792, 7-31=-604/1050, 7-32=-235/336
WEBS
5-10=-355/122, 4-10=-794/364, 4-12=-513/422, 3-12=-570/196, 3-13=-691/524, 6-10=-811/193, 6-9=0/339

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-3-0, Interior(1) 1-3-0 to 16-3-0, Exterior(2R) 16-3-0 to 19-6-0, Interior(1) 19-6-0 to 34-6-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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 = 7.0psf.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss has been designed for a total seismic drag load of 2600 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 32-6-0 for 80.0 plf.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA04	Roof Special	9	1	Job Reference (optional)

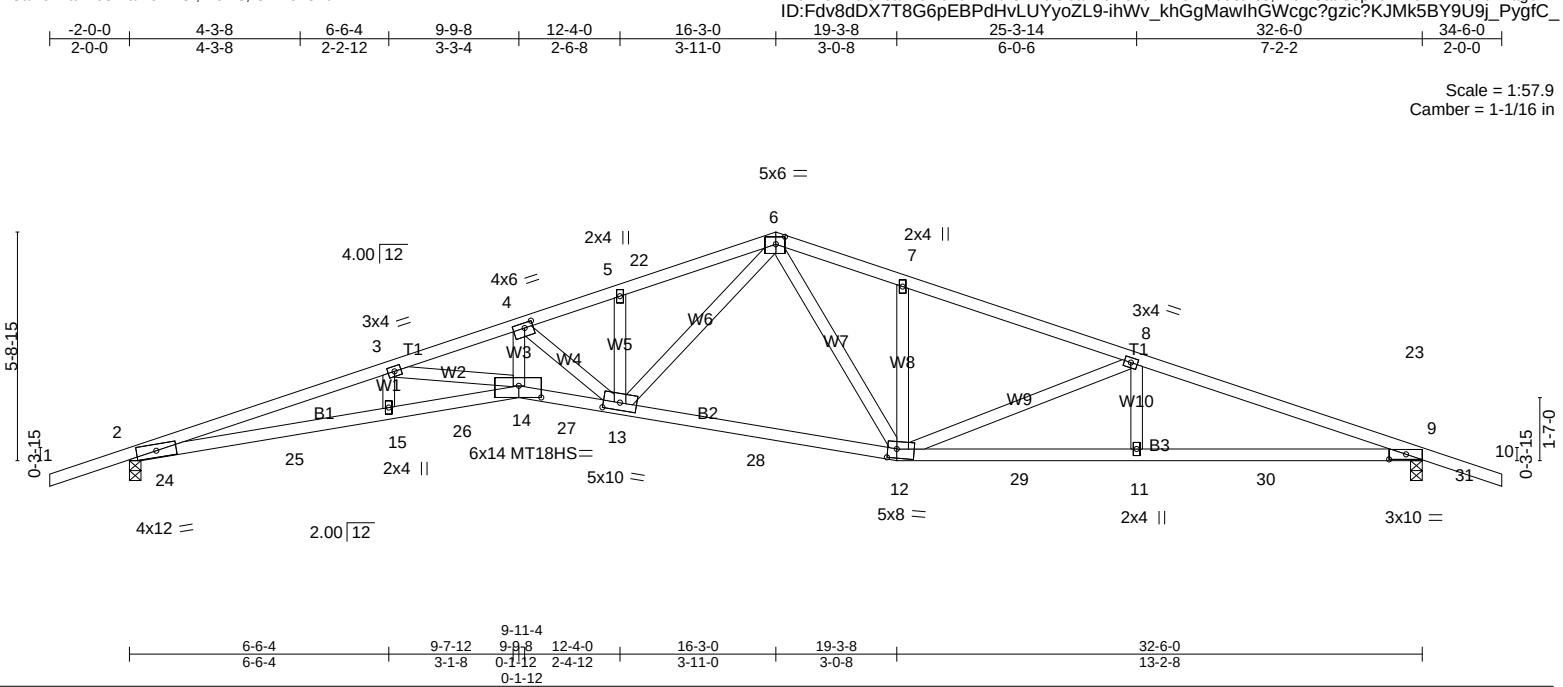


Plate Offsets (X,Y)-- [4:0-2-8,0-1-8], [6:0-2-12,0-2-4], [9:0-5-2,0-1-8], [12:0-2-12,0-2-12], [13:0-5-0,0-2-4], [14:0-6-12,0-3-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.67	Vert(LL)	-0.42	14	>926	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.92	Vert(CT)	-1.40	14	>278	180	MT18HS	220/195
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.53	9	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 144 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.1&Btr G
BOT CHORD 2x4 DF No.1&Btr G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 2-2-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 1542/0-3-8 (min. 0-1-10)
9 = 1542/0-3-8 (min. 0-1-10)
Max Horz
2 = 98(LC 12)
Max Uplift
2 = -211(LC 8)
9 = -211(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-6395/761, 3-4=-5807/700,
4-5=-3783/502, 5-22=-3814/536,
6-22=-3769/555, 6-7=-2650/456,
7-8=-2690/405, 8-23=-3517/462,
9-23=-3527/429
BOT CHORD
2-24=-162/1759, 2-25=-637/6080,
15-25=-630/6084, 15-26=-637/6086,
14-26=-635/6092, 14-27=-533/5555,
13-27=-534/5550, 13-28=-175/2310,
12-28=-180/2302, 12-29=-357/3283,
11-29=-357/3283, 11-30=-357/3283,
9-30=-357/3283, 9-31=-95/1025
WEBS
4-14=-208/2049, 7-12=-338/121,
8-12=-872/167, 3-14=-597/144,
6-12=-156/523, 6-13=-225/1935,
5-13=-266/102, 4-13=-2487/282

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-4-5, Interior(1) 1-4-5 to 16-3-0, Exterior(2R) 16-3-0 to 19-5-4, Interior(1) 19-5-4 to 34-6-0 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.
6) A plate rating reduction of 20% has been applied for the green lumber members.
7) 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.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA05	Roof Special	1	1	Job Reference (optional)

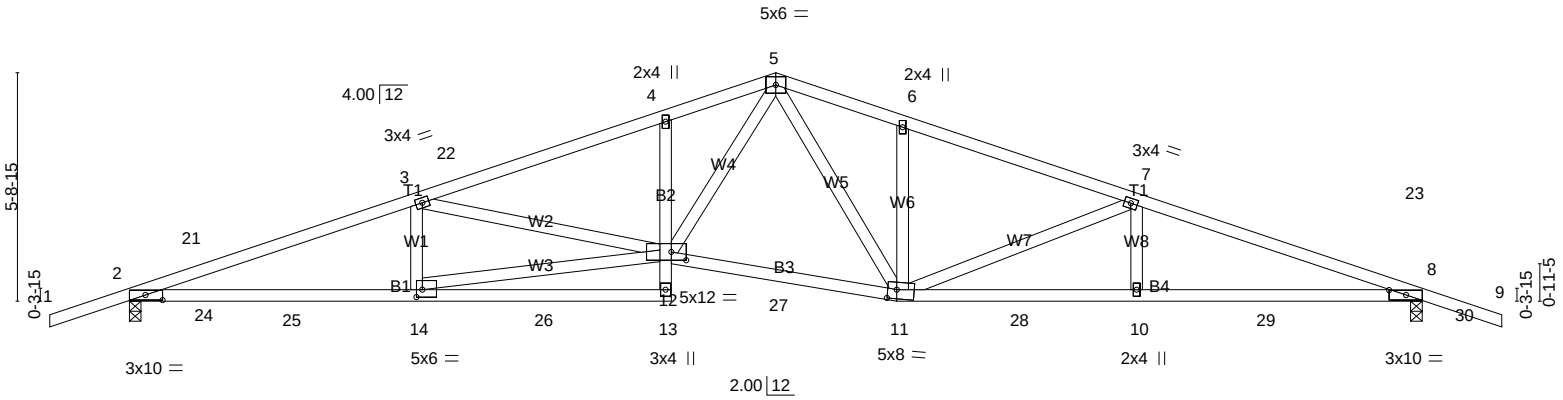
California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:12 2020 Page 1

ID:OcsBx_aXZA2AtFUZ3PznINyoX0c-At4HB4huRginwrriAN7EDAFobji7TcehO8uGWrygfBz

-2-0-0	7-2-10	13-7-8	16-3-0	19-3-8	25-3-14	32-6-0	34-6-0
2-0-0	7-2-10	6-4-14	2-7-8	3-0-8	6-0-6	7-2-2	2-0-0

Scale = 1:57.9
Camber = 9/16 in



7-2-10	13-7-8	19-3-8	25-5-14	32-6-0
7-2-10	6-4-14	5-8-0	6-2-6	7-0-2

Plate Offsets (X,Y)-- [2:0-5-2,0-1-8], [8:0-5-2,0-1-8], [11:0-2-12,0-2-12], [12:0-4-8,0-2-8], [14:0-1-12,0-2-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.61	Vert(LL)	-0.23	11-12	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.76	Vert(CT)	-0.79	11-12	>492	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.23	8	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 153 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G *Except*
B2: 2x4 DF Stud/Std G
WEBS 2x4 DF Stud/Std G *Except*
W3: 2x4 DF No.2 G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 2-7-5 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 1542/0-3-8 (min. 0-1-10)
8 = 1542/0-3-8 (min. 0-1-10)
Max Horz
2 = -98(LC 17)
Max Uplift
2 = -212(LC 8)
8 = -212(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-21=-3529/429, 3-21=-3519/463, 3-22=-3292/457, 4-22=-3151/459, 4-5=-3275/511, 5-6=-2655/458, 6-7=-2691/406, 7-23=-3517/462, 8-23=-3527/428
BOT CHORD
2-24=-163/1019, 2-25=-340/3286, 14-25=-340/3286, 14-26=-557/733, 13-26=-177/425, 4-12=-349/127, 12-27=-171/2289, 11-27=-175/2284, 11-28=-356/3283, 10-28=-356/3283, 10-29=-356/3283, 8-29=-356/3283, 8-30=-163/1019
WEBS
3-14=-363/110, 12-14=-327/3121, 3-12=-372/130, 5-12=-201/1544, 5-11=-160/540, 6-11=-344/124, 7-11=-871/167

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-3-0, Interior(1) 1-3-0 to 16-3-0, Exterior(2R) 16-3-0 to 19-5-4, Interior(1) 19-5-4 to 34-6-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss has been designed for a total seismic drag load of 3200 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 32-6-0 for 98.5 plf.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

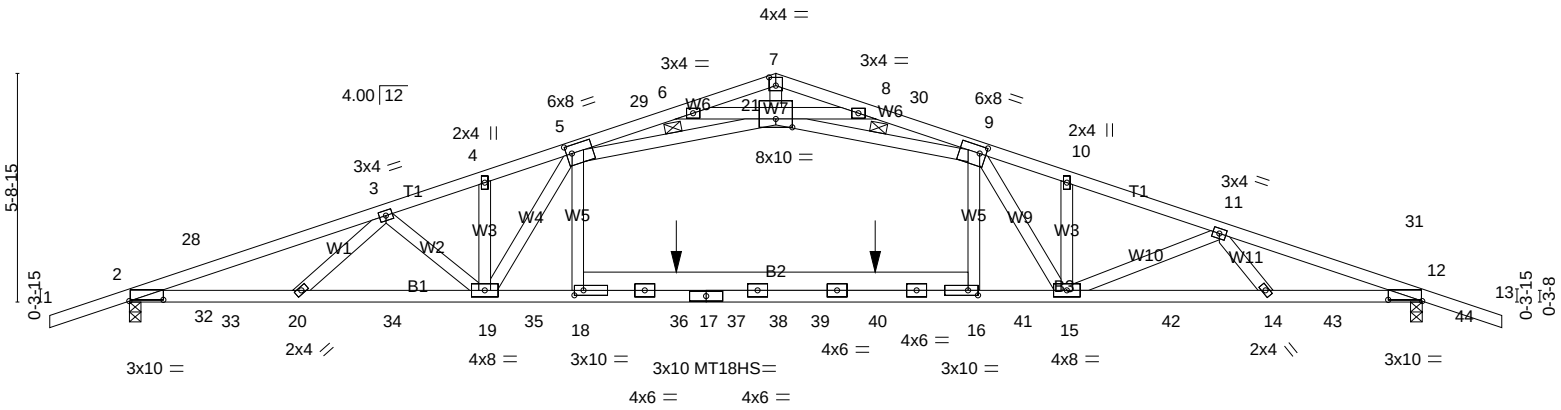
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA06	COMMON	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:12 2020 Page 1
ID:bTI0WaNYLXe1bzYI9bVGGhyoWrF-At4HB4huRginwrriAN7EDAFo8jgcTaShO8uGWrygfBz

-2-0-0	4-3-14	6-5-6	8-11-3	11-5-0	16-3-0	21-1-0	23-6-13	27-4-13	28-6-12	32-6-0	34-6-0
2-0-0	4-3-14	2-1-8	2-5-13	2-5-13	4-10-0	4-10-0	2-5-13	3-10-0	1-1-15	3-11-4	2-0-0

Scale = 1:57.9
Camber = 11/16 in



4-3-14	6-5-6	8-11-3	11-5-0	16-3-0	21-1-0	23-6-13	27-4-13	28-6-12	32-6-0
4-3-14	2-1-8	2-5-13	2-5-13	4-10-0	4-10-0	2-5-13	3-10-0	1-1-15	3-11-4

Plate Offsets (X,Y)-- [2:0-10-4,0-0-6], [5:0-1-10,0-2-8], [7:0-2-0,0-2-8], [9:0-1-14,0-2-4], [12:0-10-4,0-0-6], [16:0-3-0,0-1-8], [18:0-2-12,0-1-8], [21:0-5-0,0-2-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.58	Vert(LL)	-0.34	18-19	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.85	Vert(CT)	-1.01	16-18	>387	180	MT18HS	220/195
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.18	12	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 182 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.1&Btr G
BOT CHORD 2x4 DF No.1&Btr G *Except*
B2: 2x6 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 2-11-4 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS
1 Row at midpt 5-21, 9-21

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

REACTIONS. (lb/size)
2 = 1604/0-3-8 (min. 0-1-13)
12 = 1604/0-3-8 (min. 0-1-13)
Max Horz
2 = 98(LC 16)
Max Uplift
2 = -149(LC 8)
12 = -149(LC 9)
Max Grav
2 = 1681(LC 2)
12 = 1681(LC 2)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-28=-4094/228, 3-28=-4086/258, 3-4=-3606/252, 4-5=-3650/270, 5-29=-393/454, 6-29=-340/478, 6-7=0/1434, 7-8=0/1434, 8-30=-338/487, 9-30=-391/464, 9-10=-3678/280, 10-11=-3631/249, 11-31=-4093/261, 12-31=-4137/240
BOT CHORD
2-32=-27/1211, 2-33=-151/3831, 20-33=-151/3831, 20-34=-180/3686, 19-34=-180/3686, 19-35=-59/3058, 18-35=-59/3058, 18-36=-58/3062, 17-36=-54/3066, 17-37=-53/3073, 37-38=-54/3072, 38-39=-54/3071, 39-40=-54/3070, 16-40=-56/3068, 16-41=-60/3059, 15-41=-60/3059, 15-42=-212/3803, 14-42=-212/3803, 14-43=-183/3883, 12-43=-183/3883, 12-44=-36/1216
WEBS
5-18=-59/526, 9-16=-66/515, 11-15=-426/105, 3-19=-405/114, 6-21=-1387/196, 8-21=-1380/200, 5-21=-3166/42, 9-21=-3175/38, 7-21=-840/0, 4-19=-353/57, 10-15=-457/100, 5-19=-255/929, 9-15=-268/969

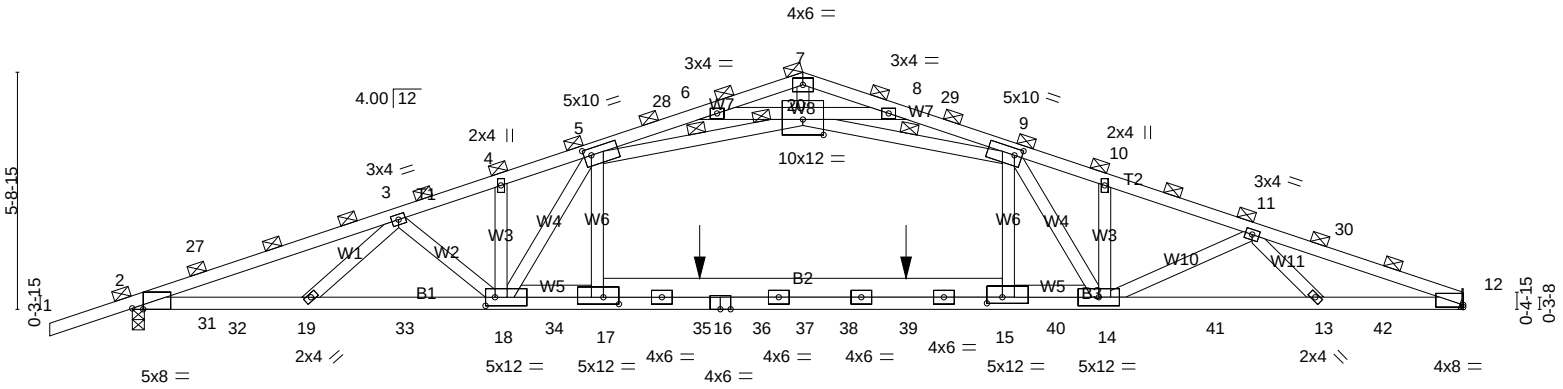
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-3-0, Interior(1) 1-3-0 to 16-3-0, Exterior(2R) 16-3-0 to 19-6-0, Interior(1) 19-6-0 to 34-6-0 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) 125.0lb AC unit load placed on the bottom chord, 16-3-0 from left end, supported at two points, 5-0-0 apart.
4) All plates are MT20 plates 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 = 7.0psf.
7) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA07	Common	4	1	Job Reference (optional)

-2-0-0	6-5-7	8-11-4	11-1-811-5-0	16-3-0	21-1-0	23-6-12	27-1-10	32-3-0
2-0-0	6-5-7	2-5-13	2-2-4 0-3-8	4-10-0	4-10-0	2-5-12	3-6-14	5-1-6

Scale = 1:55.8
Camber = 11/16 in



11-5-0	16-3-0	21-1-0	28-7-15	32-3-0
11-5-0	4-10-0	4-10-0	7-6-15	3-7-1

Plate Offsets (X,Y)-- [2:0-3-3,Edge], [5:0-2-2,0-2-0], [9:0-2-2,0-2-0], [12:0-0-0,0-0-10], [15:0-4-8,0-1-12], [17:0-4-8,0-2-0], [18:0-2-12,0-2-8], [20:0-6-0,0-4-8]

LOADING (psf)		**SPACING-** 2-3-12		**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	20.0	Plate Grip DOL	1.25	TC	0.75	Vert(LL)	-0.31	15-17	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.73	Vert(CT)	-1.00	15-17	>389	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.82	Horz(CT)	0.18	12	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 184 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.1&Btr G
BOT CHORD 2x4 DF No.1&Btr G *Except*
B2: 2x6 DF No.2 G
WEBS 2x4 DF Stud/Std G *Except*
W5: 2x4 DF No.2 G

BRACING-
TOP CHORD
2-0-0 oc purlins (2-7-10 max.)
(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS
1 Row at midpt 5-20, 9-20
JOINTS
1 Brace at Jt(s): 7, 20

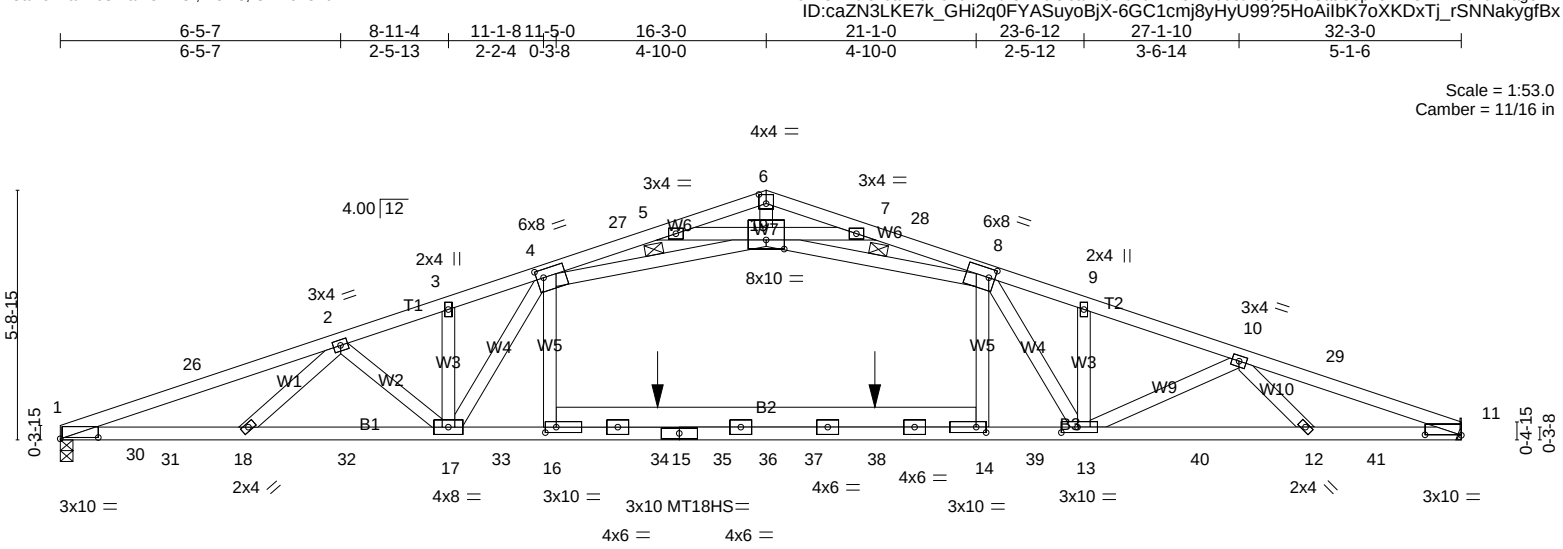
REACTIONS. (lb/size)
12 = 1661/Mechanical
2 = 1837/0-3-8 (min. 0-2-1)
Max Horz
2 = 128(LC 12)
Max Uplift
12 = -100(LC 9)
2 = -182(LC 8)
Max Grav
12 = 1774(LC 2)
2 = 1925(LC 2)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-27=-4665/309, 3-27=-4655/343,
3-4=-4129/329, 4-5=-4182/349,
5-28=-276/450, 6-28=-215/478,
6-7=0/1737, 7-8=0/1737, 8-29=-225/482,
9-29=-286/455, 9-10=-4173/363,
10-11=-4102/332, 11-30=-4441/369,
12-30=-4503/354
BOT CHORD
2-31=-68/1382, 2-32=-267/4364,
19-32=-267/4364, 19-33=-295/4214,
BOT CHORD
2-31=-68/1382, 2-32=-267/4364,
19-32=-267/4364, 19-33=-295/4214,
18-33=-295/4214, 18-34=-136/3619,
17-34=-134/3626, 17-35=-123/3663,
16-35=-125/3660, 16-36=-126/3658,
36-37=-126/3659, 37-38=-126/3659,
38-39=-126/3659, 15-39=-125/3661,
15-40=-134/3625, 14-40=-136/3618,
14-41=-322/4175, 13-41=-322/4175,
13-42=-293/4213, 12-42=-293/4213
WEBS
5-17=0/790, 9-15=0/825, 5-18=-272/833,
9-14=-297/833, 4-18=-358/32,
10-14=-463/76, 3-18=-466/144,
11-14=-395/147, 6-20=-1558/205,
8-20=-1560/206, 7-20=-1011/3,
5-20=-3809/60, 9-20=-3807/75

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 1-2-11, Interior(1) 1-2-11 to 16-3-0, Exterior(2R) 16-3-0 to 19-5-11, Interior(1) 19-5-11 to 32-3-0 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) 125.0lb AC unit load placed on the bottom chord, 16-3-0 from left end, supported at two points, 5-0-0 apart.
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 = 7.0psf.
6) A plate rating reduction of 20% has been applied for the green lumber members.
7) Refer to girder(s) for truss to truss connections.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BA08	Common	1	1	Job Reference (optional)



11-5-0	16-3-0	21-1-0	28-7-15	32-3-0
11-5-0	4-10-0	4-10-0	7-6-15	3-7-1

Plate Offsets (X,Y)-- [1:0-10-8,0-0-6], [4:0-1-14,0-2-4], [6:0-2-0,0-2-8], [8:0-1-10,0-2-8], [11:0-10-0,0-0-2], [13:0-4-8,0-1-8], [14:0-2-12,0-1-8], [16:0-3-0,0-1-8], [19:0-5-0,0-2-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.70	Vert(LL)	-0.35	16-17	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.97	Vert(CT)	-0.99	14-16	>391	180	MT18HS	220/195
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.17	11	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 176 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.1&Btr G
BOT CHORD 2x4 DF No.1&Btr G *Except*
B2: 2x6 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 2-10-5 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS
1 Row at midpt 4-19, 8-19

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

REACTIONS. (lb/size)
1 = 1449/0-3-8 (min. 0-1-10)
11 = 1450/Mechanical
Max Horz
1 = 89(LC 12)
Max Uplift
1 = -81(LC 8)
11 = -79(LC 9)
Max Grav
1 = 1545(LC 2)
11 = 1546(LC 2)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
1-26=-4154/295, 2-26=-4100/312, 2-3=-3614/276, 3-4=-3659/290, 4-27=-416/426, 5-27=-363/450, 5-6=0/1423, 6-7=0/1424, 7-28=-323/509, 8-28=-376/502, 8-9=-3617/293, 9-10=-3564/267, 10-29=-3890/296, 11-29=-3944/283
BOT CHORD
1-30=-111/1391, 1-31=-235/3890, 18-31=-235/3890, 18-32=-249/3718, 17-32=-249/3718, 17-33=-104/3041, 16-33=-104/3041, 16-34=-103/3043, 15-34=-99/3047, 15-35=-98/3054, 35-36=-98/3054, 36-37=-98/3053, 37-38=-98/3052, 14-38=-100/3050, 14-39=-104/3040, 13-39=-104/3040, 13-40=-259/3641, 12-40=-259/3641, 12-41=-231/3690, 11-41=-231/3690
WEBS
4-16=-79/507, 8-14=-53/533, 4-17=-260/971, 8-13=-267/921, 3-17=-356/55, 9-13=-436/93, 2-17=-446/131, 10-13=-333/118, 5-19=-1408/200, 7-19=-1348/202, 6-19=-835/0, 4-19=-3115/58, 8-19=-3183/59

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-0-0 to 3-2-11, Interior(1) 3-2-11 to 16-3-0, Exterior(2R) 16-3-0 to 19-5-11, Interior(1) 19-5-11 to 32-3-0 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) 125.0lb AC unit load placed on the bottom chord, 16-3-0 from left end, supported at two points, 5-0-0 apart.
4) All plates are MT20 plates 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 =
7) A plate rating reduction of 20% has been applied for the green lumber members.
8) Refer to girder(s) for truss to truss connections.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss has been designed for a total seismic drag load of 1500 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 32-3-0 for 46.5 plf.
12) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

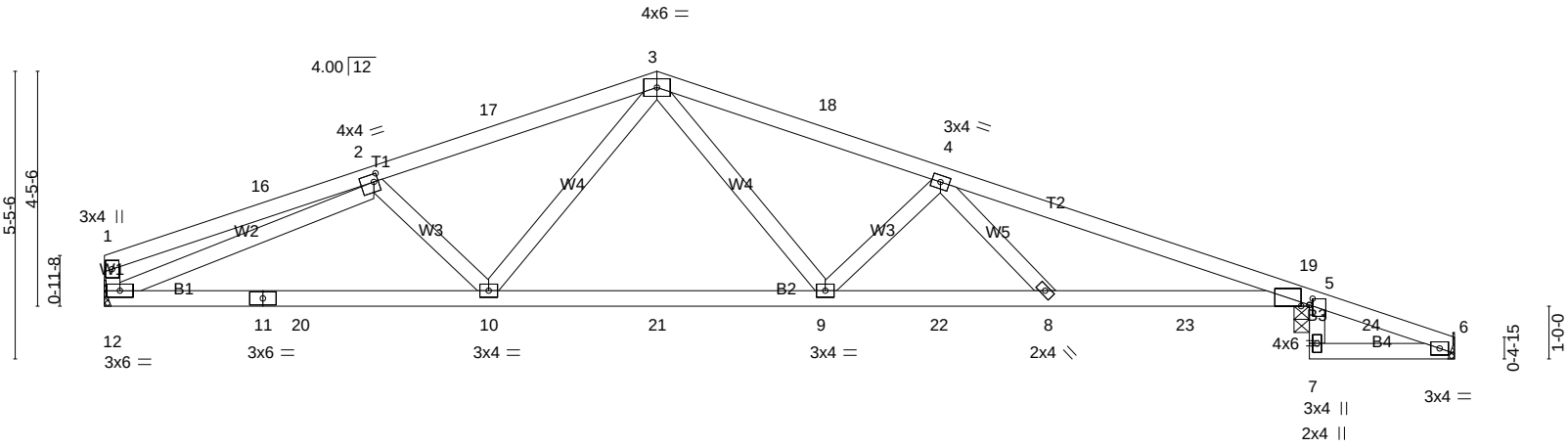
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BB01	Roof Special	4	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:15 2020 Page 1
ID:MvxFOPmYHb7SyEBYt2nJPuyoDVs-bSmPp5kmjb4LnJaHrWhxqptJGxpmgvh7467x6AygfBw

5-1-4	10-5-10	15-10-2	22-10-0	25-7-0
5-1-4	5-4-6	5-4-8	6-11-14	2-9-0

Scale = 1:42.7
Camber = 3/16 in



7-3-6	13-7-15	22-8-4	22-10-0	25-7-0
7-3-6	6-4-9	9-0-5	0-1-12	2-9-0

Plate Offsets (X,Y)-- [2:0-1-0,0-1-12], [5:0-1-7,0-0-12], [5:0-1-14,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.59	Vert(LL)	-0.08	9	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.44	Vert(CT)	-0.29	9-10	>933	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.09	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 106 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G *Except*
B3: 2x4 DF Stud/Std G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 3-7-11 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.

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

REACTIONS. (lb/size)
6 = 3/Mechanical
5 = 1259/0-3-8 (min. 0-1-8)
12 = 967/Mechanical
Max Horz
12 = -102(LC 13)
Max Uplift
5 = -123(LC 9)
12 = -93(LC 8)
Max Grav
6 = 26(LC 8)
5 = 1259(LC 1)
12 = 967(LC 1)

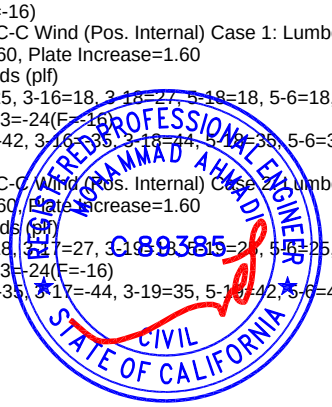
FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
1-16=-275/49, 2-17=-1650/266, 3-17=-1583/282, 3-18=-1767/314, 4-18=-1837/288, 4-19=-2265/302, 5-19=-2274/264
BOT CHORD
11-12=-177/1642, 11-20=-177/1642, 10-20=-177/1642, 10-21=-86/1315, 9-21=-86/1315, 9-22=-227/2032, 8-22=-227/2032, 8-23=-196/2077, 5-23=-196/2077

Continued on page 2

BOT CHORD
11-12=-177/1642, 11-20=-177/1642, 10-20=-177/1642, 10-21=-86/1315, 9-21=-86/1315, 9-22=-227/2032, 8-22=-227/2032, 8-23=-196/2077, 5-23=-196/2077
WEBS
2-10=-253/137, 3-10=-46/354, 3-9=-85/602, 4-9=-538/152, 2-12=-1584/236

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 1-9-12 to 4-9-12, Interior(1) 4-9-12 to 12-1-10, Exterior(2R) 12-1-10 to 15-1-10, Interior(1) 15-1-10 to 27-3-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) Refer to girder(s) for truss to truss connections.
7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
8) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
11) 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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-72, 3-5=-72, 5-6=-72, 5-12=-14, 7-13=-30(F=-16)
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-62, 3-5=-62, 5-6=-62, 5-12=-14, 7-13=-30(F=-16)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-34, 7-13=-50(F=-16)
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-16=25, 3-16=18, 3-18=27, 5-18=18, 5-6=18, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-16=-42, 3-16=35, 3-18=44, 5-18=35, 5-6=35, 1-12=17
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-17=18, 3-17=27, 3-19=36, 5-19=25, 5-6=25, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-17=-35, 3-17=-44, 3-19=35, 5-19=42, 5-6=42, 1-12=-31



LOAD CASE(S)

Standard

6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-46, 3-5=-46, 5-6=-46, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=14, 3-5=-14, 5-6=-14, 1-12=-20

7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-46, 3-5=-46, 5-6=-46, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=14, 3-5=-14, 5-6=-14, 1-12=28

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=21, 3-5=9, 5-6=9, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-37, 3-5=25, 5-6=25, 1-12=15

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=9, 3-5=21, 5-6=21, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-25, 3-5=37, 5-6=37, 1-12=-20

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-5, 3-5=-17, 5-6=-17, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-27, 3-5=15, 5-6=15, 1-12=26

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-17, 3-5=-5, 5-6=-5, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-15, 3-5=27, 5-6=27, 1-12=-9

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=21, 3-5=4, 5-6=4, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-37, 3-5=21, 5-6=21, 1-12=13

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=4, 3-5=21, 5-6=21, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-21, 3-5=37, 5-6=37, 1-12=-18

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=9, 3-5=-0, 5-6=-0, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-26, 3-5=16, 5-6=16, 1-12=7

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-0, 3-5=9, 5-6=9, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-16, 3-5=26, 5-6=26, 1-12=-14

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-5, 3-5=-22, 5-6=-22, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-27, 3-5=10, 5-6=10, 1-12=24

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-22, 3-5=-5, 5-6=-5, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-10, 3-5=27, 5-6=27, 1-12=-7

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-42, 3-5=-51, 5-6=-51, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-20, 3-5=11, 5-6=11, 1-12=19

Standard

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-51, 3-5=-42, 5-6=-42, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-11, 3-5=20, 5-6=20, 1-12=-7

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-42, 3-5=-54, 5-6=-54, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-20, 3-5=8, 5-6=8, 1-12=18

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-54, 3-5=-42, 5-6=-42, 5-12=-14, 7-13=-30(F=-16)
Horz: 1-3=-8, 3-5=20, 5-6=20, 1-12=-6

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-33, 3-5=-33, 5-6=-33, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=16, 3-5=-16, 5-6=-16, 1-12=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-3=-0, 3-5=-0, 5-6=-0, 5-12=-8, 7-13=-24(F=-16)
Horz: 1-3=-16, 3-5=16, 5-6=16, 1-12=16

25) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-72, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)

26) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-72, 5-6=-72, 5-12=-14, 7-13=-30(F=-16)

27) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-62, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)

28) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-62, 5-6=-62, 5-12=-14, 7-13=-30(F=-16)

29) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 20=-6

30) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 21=-6

31) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 22=-6

32) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)

Standard
Concentrated Loads (lb)
Vert: 23=-6

33) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 5=-6

34) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 24=-6

35) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

36) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 12=-6

37) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 10=-6

38) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 9=-6

39) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 8=-6

40) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

41) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-32, 3-5=-32, 5-6=-32, 5-12=-14, 7-13=-30(F=-16)
Concentrated Loads (lb)
Vert: 13=-6

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BB02	Roof Special	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570 Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:16 2020 Page 1
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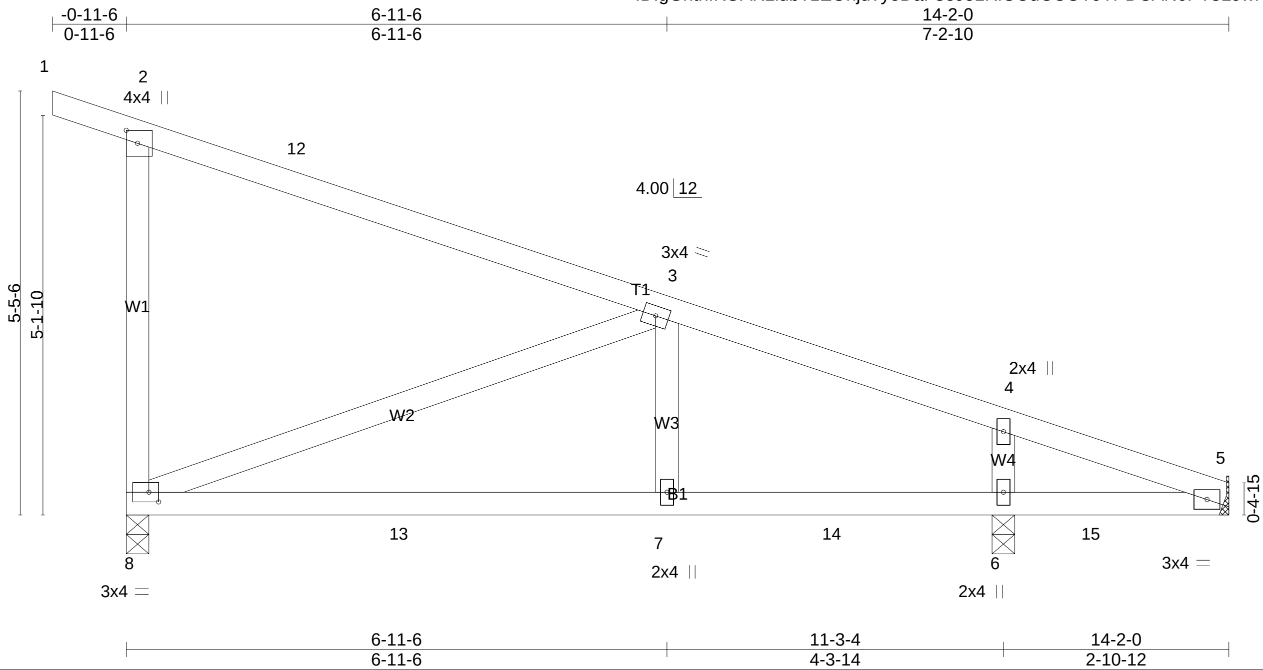

Plate Offsets (X,Y)-- [2:0-2-0,0-1-12], [8:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.65	Vert(LL)	-0.06	7-8	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.38	Vert(CT)	-0.17	7-8	>775	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.73	Horz(CT)	0.02	5	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 61 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
5 = 393/Mechanical
6 = 312/0-3-8 (min. 0-1-8)
8 = 625/0-3-8 (min. 0-1-8)
Max Horz
8 = -206(LC 8)
Max Uplift
5 = -1(LC 9)
6 = -29(LC 9)
8 = -111(LC 13)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-8=-302/156, 3-4=-847/114, 4-5=-830/61
BOT CHORD
8-13=-23/768, 7-13=-23/768,
7-14=-23/768, 6-14=-23/768,
6-15=-23/768, 5-15=-23/768
WEBS
3-8=-784/184

NOTES-

1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-11-6 to 2-0-10, Interior(1) 2-0-10 to 14-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Standard
Vert: 1-2=-72, 2-5=-72, 6-8=-14, 6-9=-30(F=-16)
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-62, 2-5=-62, 6-8=-14, 6-9=-30(F=-16)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-34, 6-9=-50(F=-16)
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=30, 2-12=35, 5-12=22, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=20, 1-2=47, 2-12=52, 5-12=39
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=43, 2-4=22, 4-5=35, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=-34, 1-2=60, 2-4=39, 4-5=52
6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-43, 2-5=-48, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=-23, 1-2=-11, 2-5=-16
7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-21, 2-5=-48, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=31, 1-2=11, 2-5=16
8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=21, 2-5=9, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=15, 1-2=38, 2-5=25
9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-5=21, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=-20, 1-2=32, 2-5=37

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Continued on page 2

LOAD CASE(S)

Standard

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-5=-17, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=26, 1-2=20, 2-5=15

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-5, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=-9, 1-2=32, 2-5=27

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-5=4, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=13, 1-2=16, 2-5=21

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-5=21, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=-18, 1-2=32, 2-5=37

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-5=-0, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=7, 1-2=11, 2-5=16

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-5=9, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=-14, 1-2=21, 2-5=26

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-5=-22, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=24, 1-2=16, 2-5=10

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-5, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=-7, 1-2=32, 2-5=27

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-5=-51, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=19, 1-2=15, 2-5=11

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-5=-42, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=-7, 1-2=24, 2-5=20

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-50, 2-5=-54, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=18, 1-2=12, 2-5=8

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-5=-42, 6-8=-14, 6-9=-30(F=-16)
Horz: 2-8=-6, 1-2=24, 2-5=20

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-33, 2-5=-33, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=-16, 1-2=-16, 2-5=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-0, 6-8=-8, 6-9=-24(F=-16)
Horz: 2-8=16, 1-2=16, 2-5=16

Standard

25) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 13=-6

26) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 14=-6

27) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

28) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-6

29) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 8=-6

30) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 7=-6

31) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 6=-6

32) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-6

33) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 2-5=-32, 6-8=-14, 6-9=-30(F=-16)
Concentrated Loads (lb)
Vert: 9=-6

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BB03	Roof Special	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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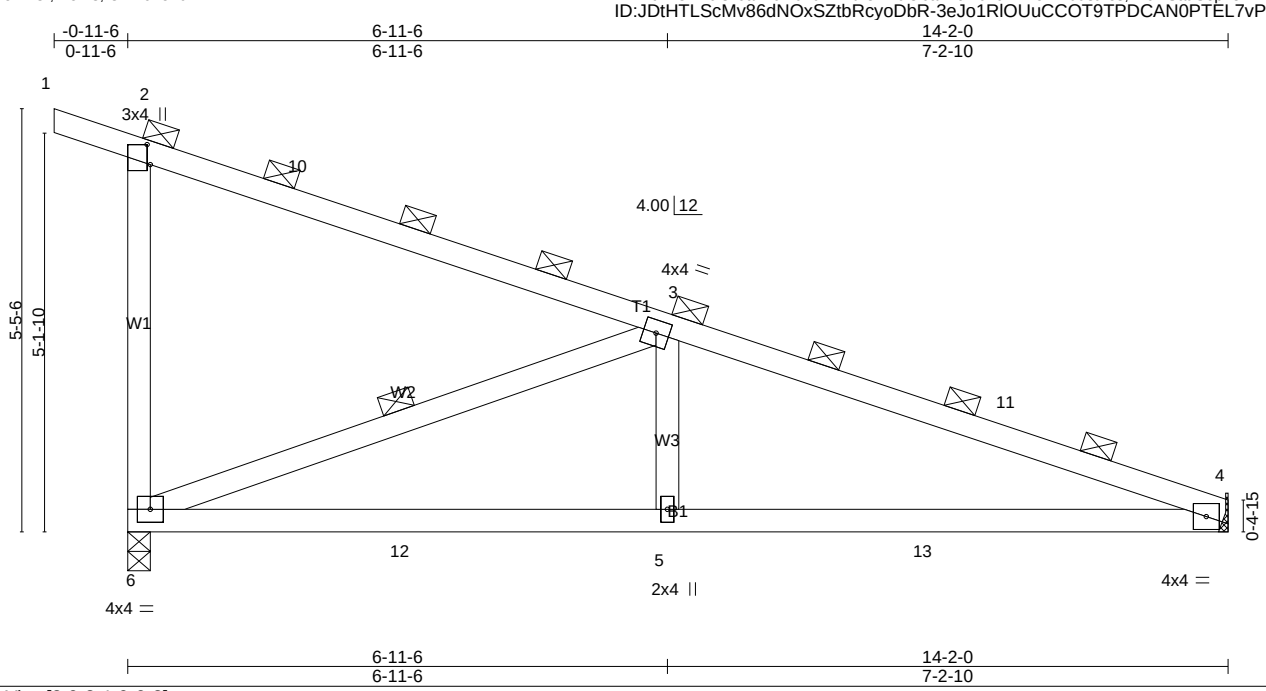

Plate Offsets (X,Y)-- [2:0-3-1,0-0-8]

LOADING (psf)		SPACING-	2-2-12	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.70	Vert(LL)	-0.06	5-9	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.51	Vert(CT)	-0.23	5-9	>729	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.34	Horz(CT)	0.02	4	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 59 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
2-0-0 oc purlins (4-11-0 max.), except end verticals (Switched from sheeted: Spacing > 2-0-0).
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS
1 Row at midpt 3-6

REACTIONS. (lb/size)
4 = 669/Mechanical
6 = 763/0-3-8 (min. 0-1-8)
Max Horz
6 = -229(LC 8)
Max Uplift
4 = -73(LC 9)
6 = -136(LC 13)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-6=-318/169, 3-11=-1176/198, 4-11=-1247/173
BOT CHORD
6-12=-104/1116, 5-12=-104/1116, 5-13=-104/1116, 4-13=-104/1116
WEBS
3-6=-1161/267, 3-5=0/308

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-11-6 to 2-0-10, Interior(1) 2-0-10 to 14-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BB04	Roof Special	4	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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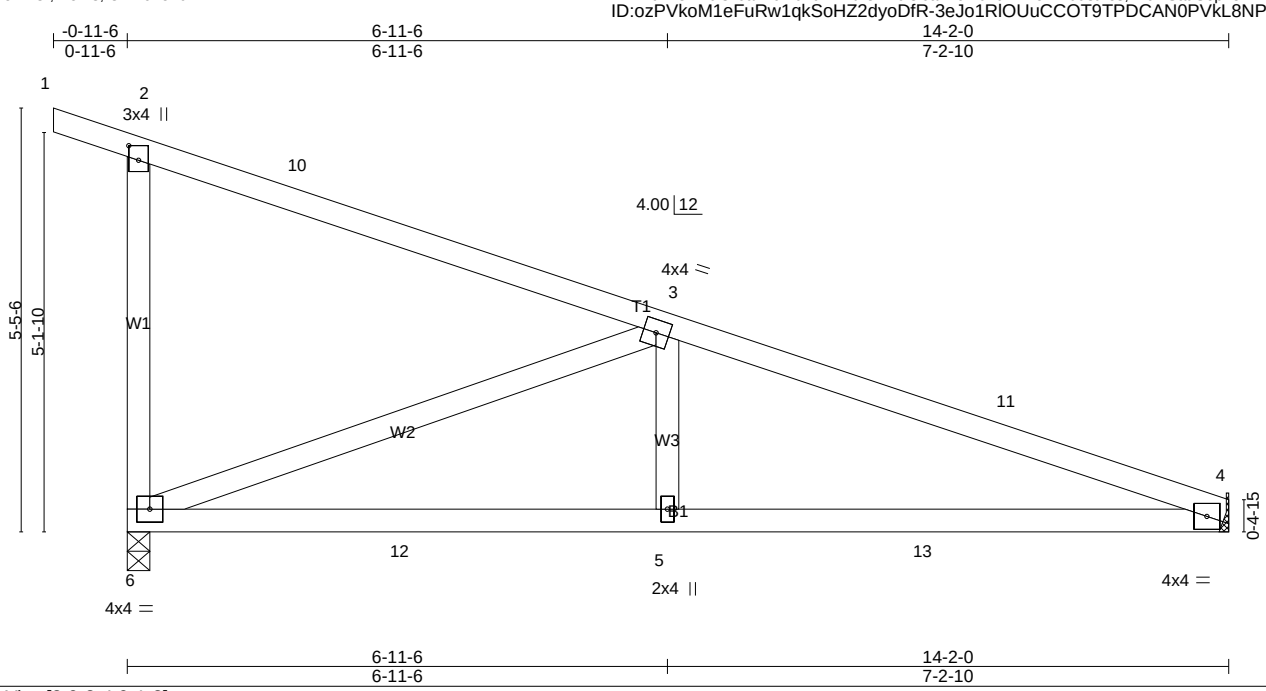

Plate Offsets (X,Y)-- [2:0-2-4,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	-0.06	5-9	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.42	Vert(CT)	-0.21	5-9	>812	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.02	4	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 59 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-3-11 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
4 = 600/Mechanical
6 = 685/0-3-8 (min. 0-1-8)
Max Horz
6 = -206(LC 8)
Max Uplift
4 = -66(LC 9)
6 = -122(LC 13)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-6=-285/152, 3-11=-1055/178, 4-11=-1119/155
BOT CHORD
6-12=-93/1001, 5-12=-93/1001, 5-13=-93/1001, 4-13=-93/1001
WEBS
3-6=-1041/239, 3-5=0/276

NOTES-

1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-11-6 to 2-0-10, Interior(1) 2-0-10 to 14-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BB05	Roof Special Supported Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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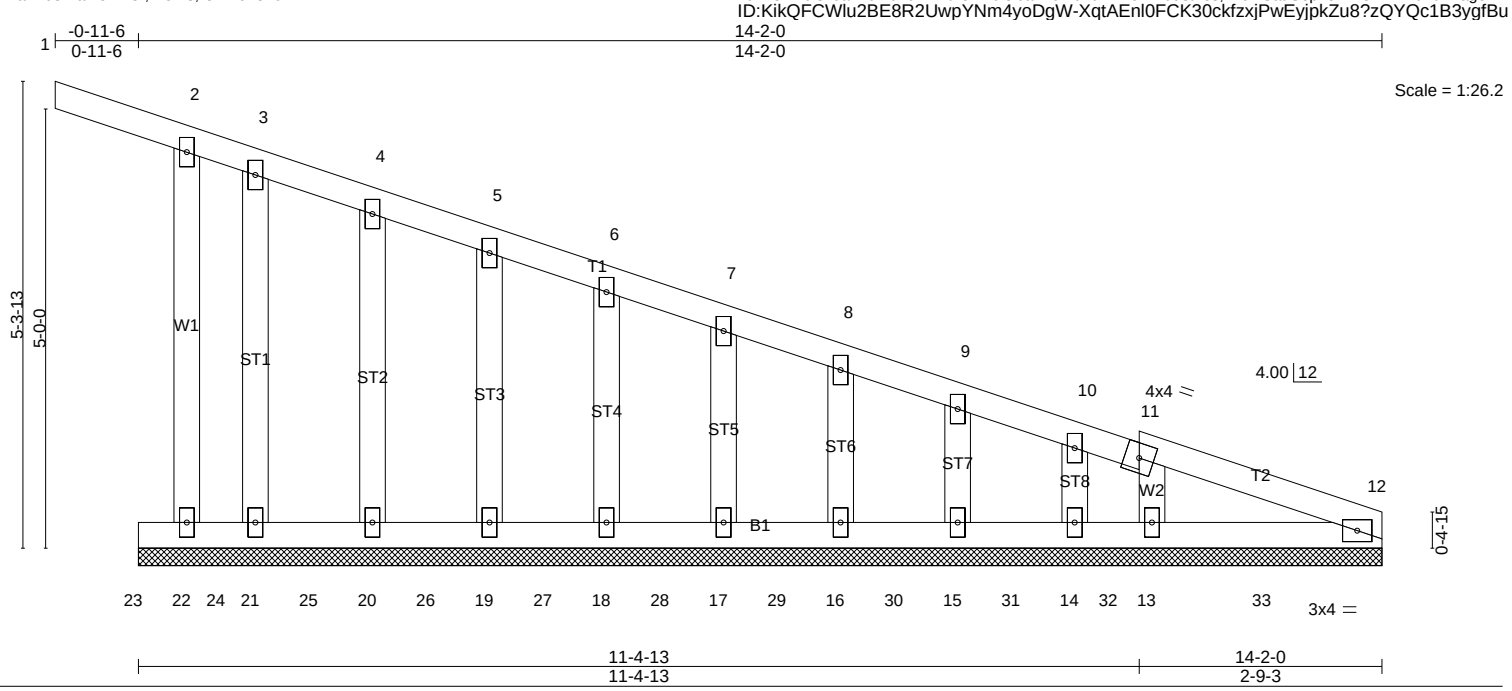

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.33	Vert(LL)	0.01	1	n/r	120	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.08	Vert(CT)	-0.02	1-2	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	12	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-SH							Weight: 74 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 22-23.

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

REACTIONS. All bearings 14-2-0.
(lb) - Max Horz
23=-203(LC 8)
Max Uplift
All uplift 100 lb or less at joint(s)
22, 23, 20, 19, 18, 17, 16, 15, 13
Max Grav
All reactions 250 lb or less at joint(s)
22, 12, 23, 21, 20, 19, 18, 17, 16, 15, 14 except 13=259(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
9-10=-276/133, 10-11=-283/124, 11-12=-361/181
BOT CHORD
22-23=-205/388, 22-24=-142/341, 21-24=-142/341, 21-25=-142/341, 20-25=-142/341, 20-26=-142/341, 19-26=-142/341, 19-27=-142/341, 18-27=-142/341, 18-28=-142/341, 17-28=-142/341, 17-29=-142/341, 16-29=-142/341, 16-30=-142/341, 15-30=-142/341, 15-31=-142/341, 14-31=-142/341, 14-32=-142/341, 13-32=-142/341, 13-33=-164/363,
BOT CHORD
22-23=-205/388, 22-24=-142/341, 21-24=-142/341, 21-25=-142/341, 20-25=-142/341, 20-26=-142/341, 19-26=-142/341, 19-27=-142/341, 18-27=-142/341, 18-28=-142/341, 17-28=-142/341, 17-29=-142/341, 16-29=-142/341, 16-30=-142/341, 15-30=-142/341, 15-31=-142/341, 14-31=-142/341, 14-32=-142/341, 13-32=-142/341, 13-33=-164/363, 12-33=-164/363

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-11-6 to 2-0-10, Exterior(2N) 2-0-10 to 14-2-0 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
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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 1-4-0 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) A plate rating reduction of 20% has been applied for the green lumber members.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BC01	Common Girder	1	2	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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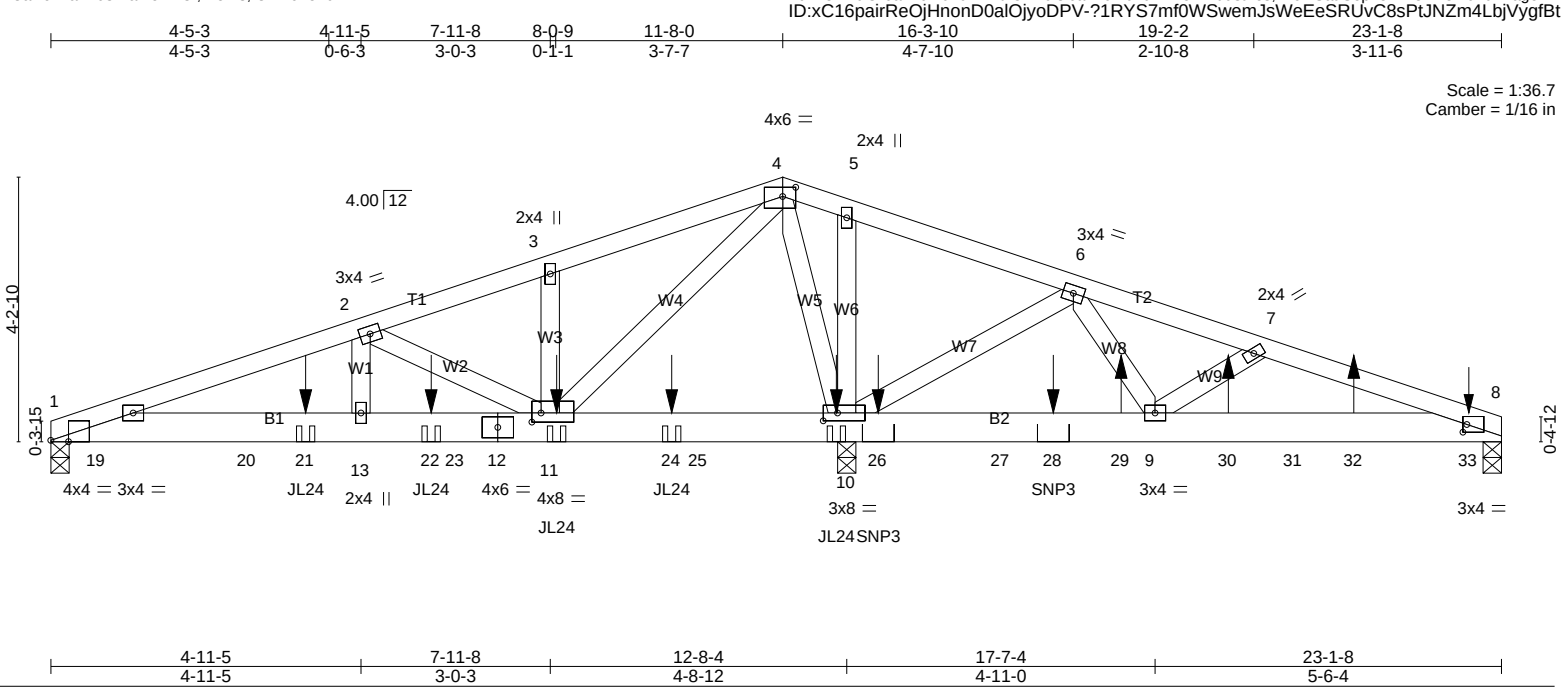


Plate Offsets (X,Y)-- [1:0-3-6,Edge], [4:0-2-8,0-1-12], [8:0-0-12,0-1-8], [10:0-2-12,0-1-8], [11:0-1-12,0-1-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.29	Vert(LL)	-0.03	13	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.32	Vert(CT)	-0.09	13-15	>999	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.61	Horz(CT)	0.01	10	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 237 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x6 DF No.2 G
WEBS 2x4 DF Stud/Std G

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

REACTIONS. (lb/size)
1 = 1083/0-3-8 (min. 0-1-8)
8 = 24/0-3-8 (min. 0-1-8)
10 = 4852/0-3-8 (min. 0-2-9)
Max Horz
1 = 62(LC 8)
Max Uplift
1 = -170(LC 8)
8 = -140(LC 21)
10 = -331(LC 4)
Max Grav
1 = 1119(LC 21)
8 = 287(LC 17)
10 = 4852(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
1-2=-2745/444, 2-3=-1231/270,
3-4=-1240/316, 4-5=-83/1785,
5-6=-111/1858, 6-7=-316/869,
7-8=-393/752
BOT CHORD
1-19=-318/1838, 1-20=-438/2578,
20-21=-438/2578, 13-21=-438/2578,
13-22=-438/2578, 22-23=-438/2578,
12-23=-438/2578, 11-12=-438/2578,
11-24=-1064/137, 24-25=-1064/137,
10-25=-1064/137, 10-26=-1099/241,
26-27=-1099/241, 27-28=-1099/241,
28-29=-1099/241, 9-29=-1099/241,

Continued on page 2

BOT CHORD
1-19=-318/1838, 1-20=-438/2578,
20-21=-438/2578, 13-21=-438/2578,
13-22=-438/2578, 22-23=-438/2578,
12-23=-438/2578, 11-12=-438/2578,
11-24=-1064/137, 24-25=-1064/137,
10-25=-1064/137, 10-26=-1099/241,
26-27=-1099/241, 27-28=-1099/241,
28-29=-1099/241, 9-29=-1099/241,
9-30=-692/374, 30-31=-692/374,
31-32=-692/374, 8-32=-692/374,
8-33=-324/285
WEBS
4-10=-2537/294, 5-10=-307/75,
6-9=0/687, 7-9=-291/75,
4-11=-437/3009, 2-11=-1636/233,
2-13=-94/992, 6-10=-851/9

NOTES-
1) 2-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 0-9-0 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 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; 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) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) Use USP JL24 (With 4-16d nails into Girder & 2-10d x 1-1/2 nails into Truss) or equivalent spaced at 2-7-8 oc max. starting at 4-0-12 from the left end to 12-6-4 to connect truss(es) BB04 (1 ply 2x4 DF), BB03 (1 ply 2x4 DF) to front face of bottom chord.
12) Use USP SNP3 (With 6-8d x 1-1/2 nails into Girder & 6-8d x 1-1/2 nails into Truss) or equivalent spaced at 2-9-8 oc max. starting at 13-2-4 from the left end to 15-11-12 to connect truss(es) BB02 (1 ply 2x4 DF) to front face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.
14) A minimum of (6) 8d x 1-1/2" nails are required into each member for SNP3 installation. All nailing is required in face of supported chords. For skewed applications, flanges may protrude above or below truss chords. Bending of extended flanges is permitted.
15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 6 lb down and 3 lb up at 17-0-12, and 6 lb down and 3 lb up at 18-9-4, and 6 lb down and 3 lb up at 20-7-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

NOTES-

16) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)

Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-72, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-586(F) 10=-653(F) 21=-586(F) 22=-586(F) 24=-653(F) 26=-379(F) 28=-379(F) 29=3 30=3 32=3 33=-1

2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-62, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-516(F) 10=-575(F) 21=-516(F) 22=-516(F) 24=-575(F) 26=-336(F) 28=-336(F) 29=2 30=2 32=2 33=-1

3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-34, 10-16=-50(F=-16)
Concentrated Loads (lb)
Vert: 11=-427(F) 10=-476(F) 21=-427(F) 22=-427(F) 24=-476(F) 26=-275(F) 28=-275(F) 29=-0 30=-0 32=-0 33=-3

4) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=21, 4-8=9, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-37, 4-8=25
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

5) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=9, 4-8=21, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-25, 4-8=37
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

6) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-5, 4-8=-17, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-27, 4-8=15
Concentrated Loads (lb)
Vert: 11=80(F) 10=89(F) 21=80(F) 22=80(F) 24=89(F) 26=15(F) 28=15(F) 29=-0 30=-0 32=-0 33=-3

7) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-17, 4-8=-5, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-15, 4-8=27
Concentrated Loads (lb)
Vert: 11=80(F) 10=89(F) 21=80(F) 22=80(F) 24=89(F) 26=15(F) 28=15(F) 29=-0 30=-0 32=-0 33=-3

8) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=21, 4-8=4, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-37, 4-8=21
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

9) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=4, 4-8=21, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-21, 4-8=37
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

10) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60

Continued on page 3

Standard

Uniform Loads (plf)
Vert: 1-4=9, 4-8=-0, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-26, 4-8=16
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

11) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-0, 4-8=9, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=-16, 4-8=26
Concentrated Loads (lb)
Vert: 11=74(F) 10=83(F) 21=74(F) 22=74(F) 24=83(F) 26=10(F) 28=10(F) 29=-6 30=-6 32=-6 33=-8

12) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-5, 4-8=-22, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-27, 4-8=10
Concentrated Loads (lb)
Vert: 11=80(F) 10=89(F) 21=80(F) 22=80(F) 24=89(F) 26=15(F) 28=15(F) 29=-0 30=-0 32=-0 33=-3

13) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-22, 4-8=-5, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-10, 4-8=27
Concentrated Loads (lb)
Vert: 11=80(F) 10=89(F) 21=80(F) 22=80(F) 24=89(F) 26=15(F) 28=15(F) 29=-0 30=-0 32=-0 33=-3

14) Dead: Lumber Increase=0.90, Plate Increase=0.90
Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

15) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-42, 4-8=-51, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-20, 4-8=11
Concentrated Loads (lb)
Vert: 11=19(F) 10=22(F) 21=19(F) 22=19(F) 24=22(F) 26=-18(F) 28=-18(F) 29=-0 30=-0 32=-0 33=-3

16) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-51, 4-8=-42, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-11, 4-8=20
Concentrated Loads (lb)
Vert: 11=19(F) 10=22(F) 21=19(F) 22=19(F) 24=22(F) 26=-18(F) 28=-18(F) 29=-0 30=-0 32=-0 33=-3

17) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-42, 4-8=-54, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-20, 4-8=8
Concentrated Loads (lb)
Vert: 11=19(F) 10=22(F) 21=19(F) 22=19(F) 24=22(F) 26=-18(F) 28=-18(F) 29=-0 30=-0 32=-0 33=-3

18) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-54, 4-8=-42, 1-10=-14, 10-16=-30(F=-16)
Horz: 1-4=-8, 4-8=20
Concentrated Loads (lb)

Standard

Vert: 11=19(F) 10=22(F) 21=19(F) 22=19(F) 24=22(F) 26=-18(F) 28=-18(F) 29=-0 30=-0 32=-0 33=-3

19) Dead + 0.6 MWFRS Wind Min. Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-19, 4-8=-17, 1-10=-8, 10-16=-24(F=-16)
Horz: 1-4=3
Concentrated Loads (lb)
Vert: 11=37(F) 10=41(F) 21=37(F) 22=37(F) 24=41(F) 26=-12(F) 28=-12(F) 29=-6 30=-6 32=-6 33=-8

20) Dead + 0.6 MWFRS Wind Min. Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-17, 4-8=-19, 1-10=-8, 10-16=-24(F=-16)
Horz: 4-8=-3
Concentrated Loads (lb)
Vert: 11=37(F) 10=41(F) 21=37(F) 22=37(F) 24=41(F) 26=-12(F) 28=-12(F) 29=-6 30=-6 32=-6 33=-8

21) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-586(F) 10=-653(F) 21=-586(F) 22=-586(F) 24=-653(F) 26=-379(F) 28=-379(F) 29=3 30=3 32=3 33=-1

22) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-72, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-586(F) 10=-653(F) 21=-586(F) 22=-586(F) 24=-653(F) 26=-379(F) 28=-379(F) 29=3 30=3 32=3 33=-1

23) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-516(F) 10=-575(F) 21=-516(F) 22=-516(F) 24=-575(F) 26=-336(F) 28=-336(F) 29=2 30=2 32=2 33=-1

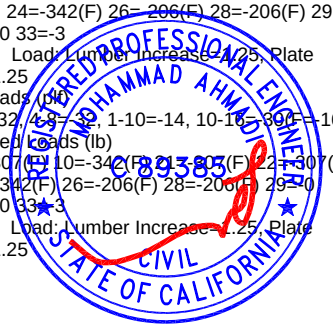
24) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-62, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-516(F) 10=-575(F) 21=-516(F) 22=-516(F) 24=-575(F) 26=-336(F) 28=-336(F) 29=2 30=2 32=2 33=-1

25) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 19=-6 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

26) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 20=-6 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

27) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-9=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 23=-6 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

28) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25



LOAD CASE(S)

Standard
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 25=-6 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

29) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 27=-6 28=-206(F) 29=-0 30=-0 32=-0 33=-3

30) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 31=-6 32=-0 33=-3

31) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-9

32) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 1=-6 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

33) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 15=-6 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

34) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 13=-6 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

35) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-313(F=-307) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

36) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-348(F=-342) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

37) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 9=-6 11=-307(F) 10=-342(F) 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

Standard

38) 14th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 18=-6 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

39) 15th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 1-10=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-307(F) 10=-342(F) 16=-6 21=-307(F) 22=-307(F) 24=-342(F) 26=-206(F) 28=-206(F) 29=-0 30=-0 32=-0 33=-3

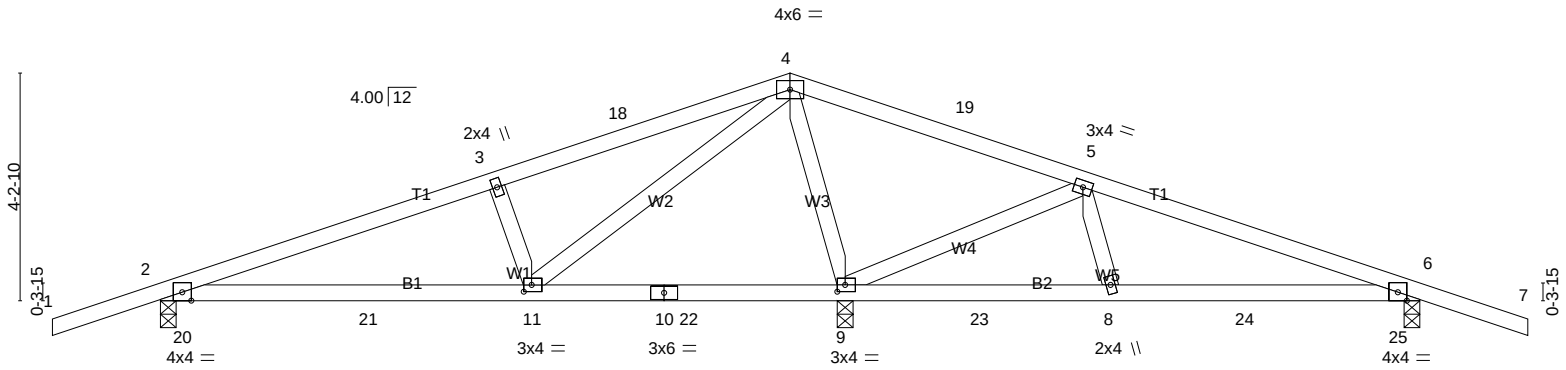
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BC02	Common	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:19 2020 Page 1
ID:pBkDysDVBAozuUg0Qz8MBVyoDkn-TD?wfTnHnpanFwu24Lmt?e1?KYCucpmj?k58FxygfBs

-2-0-0	6-2-14	11-8-0	17-1-2	23-4-0	25-4-0
2-0-0	6-2-14	5-5-2	5-5-2	6-2-14	2-0-0

Scale = 1:42.7
Camber = 1/8 in



6-10-9	12-8-4	17-7-4	23-4-0
6-10-9	5-9-11	4-11-0	5-8-12

Plate Offsets (X,Y)-- [9:0-1-12,0-1-8], [11:0-1-12,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.52	Vert(LL)	-0.04	11-14	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.30	Vert(CT)	-0.15	11-14	>999	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.00	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 96 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

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

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

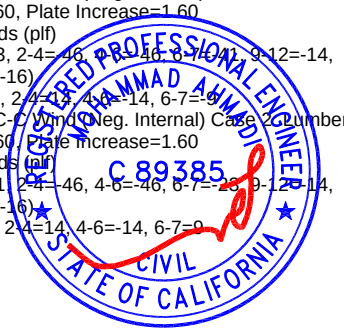
REACTIONS. (lb/size)
2 = 534/0-3-8 (min. 0-1-8)
9 = 1429/0-3-8 (min. 0-1-8)
6 = 502/0-3-8 (min. 0-1-8)
Max Horz
2 = 73(LC 12)
Max Uplift
2 = -148(LC 8)
6 = -66(LC 9)
Max Grav
2 = 564(LC 25)
9 = 1429(LC 1)
6 = 548(LC 26)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-583/171, 3-18=-462/184,
4-18=-390/200, 4-19=0/676, 5-19=0/564,
5-6=-445/20
BOT CHORD
2-21=-148/505, 11-21=-148/505,
10-11=-342/69, 10-22=-342/69,
9-22=-342/69, 9-23=-12/324,
8-23=-12/324, 8-24=0/375, 6-24=0/375
WEBS
3-11=-434/141, 4-11=-139/815,
4-9=-986/123, 5-9=-869/36, 5-8=0/300
Continued on page 2

WEBS
3-11=-434/141, 4-11=-139/815,
4-9=-986/123, 5-9=-869/36, 5-8=0/300

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 11-8-0, Exterior(2R) 11-8-0 to 14-8-0, Interior(1) 14-8-0 to 25-4-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-7=-72, 9-12=-14, 9-15=-30(F=-16)
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-7=-62, 9-12=-14, 9-15=-30(F=-16)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-34, 9-15=-50(F=-16)
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=50, 2-13=26, 4-13=18, 4-19=28, 6-19=18, 6-7=13, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-67, 2-13=-43, 4-13=-35, 4-19=45, 6-19=35, 6-7=30
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=13, 2-18=18, 4-18=28, 4-16=18, 6-16=26, 6-7=50, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-30, 2-18=-35, 4-18=-45, 4-16=35, 6-16=43, 6-7=67
6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-23, 2-4=-46, 4-6=-46, 6-7=-23, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-9, 2-4=-14, 4-6=-14, 6-7=-9
7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-41, 2-4=-46, 4-6=-46, 6-7=-23, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=9, 2-4=14, 4-6=-14, 6-7=9



LOAD CASE(S)

Standard

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 2-4=21, 4-6=9, 6-7=3, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-50, 2-4=-37, 4-6=25, 6-7=20

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-4=9, 4-6=21, 6-7=33, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-20, 2-4=-25, 4-6=37, 6-7=50

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-6=-17, 6-7=-12, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-32, 2-4=-27, 4-6=15, 6-7=20

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-4=-17, 4-6=-5, 6-7=-0, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-20, 2-4=-15, 4-6=27, 6-7=32

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-4=21, 4-6=4, 6-7=-1, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-32, 2-4=-37, 4-6=21, 6-7=16

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-4=4, 4-6=21, 6-7=15, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-16, 2-4=-21, 4-6=37, 6-7=32

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-4=9, 4-6=-0, 6-7=-6, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-21, 2-4=-26, 4-6=16, 6-7=11

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-4=-0, 4-6=9, 6-7=4, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-11, 2-4=-16, 4-6=26, 6-7=21

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-6=-22, 6-7=-16, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-32, 2-4=-27, 4-6=10, 6-7=16

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-4=-22, 4-6=-5, 6-7=-0, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-16, 2-4=-10, 4-6=27, 6-7=32

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-4=-42, 4-6=-51, 6-7=-47, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-24, 2-4=-20, 4-6=11, 6-7=15

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-4=-51, 4-6=-42, 6-7=-38, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-15, 2-4=-11, 4-6=20, 6-7=24

Standard

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-4=-42, 4-6=-54, 6-7=-50, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-24, 2-4=-20, 4-6=8, 6-7=12

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-50, 2-4=-54, 4-6=-42, 6-7=-38, 9-12=-14, 9-15=-30(F=-16)
Horz: 1-2=-12, 2-4=-8, 4-6=20, 6-7=24

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-33, 4-7=-33, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-2=-16, 2-4=16, 4-7=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-0, 4-7=-0, 9-12=-8, 9-15=-24(F=-16)
Horz: 1-4=-16, 4-7=16

25) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)

26) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-72, 9-12=-14, 9-15=-30(F=-16)

27) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)

28) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-62, 9-12=-14, 9-15=-30(F=-16)

29) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 20=-6

30) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 21=-6

31) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 22=-6

32) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 23=-6

33) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 24=-6

34) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 25=-6

35) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 12=-6

Standard

36) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 14=-6

37) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-6

38) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 9=-6

39) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 8=-6

40) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 17=-6

41) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-7=-32, 9-12=-14, 9-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BC03	Common	1	1	Job Reference (optional)

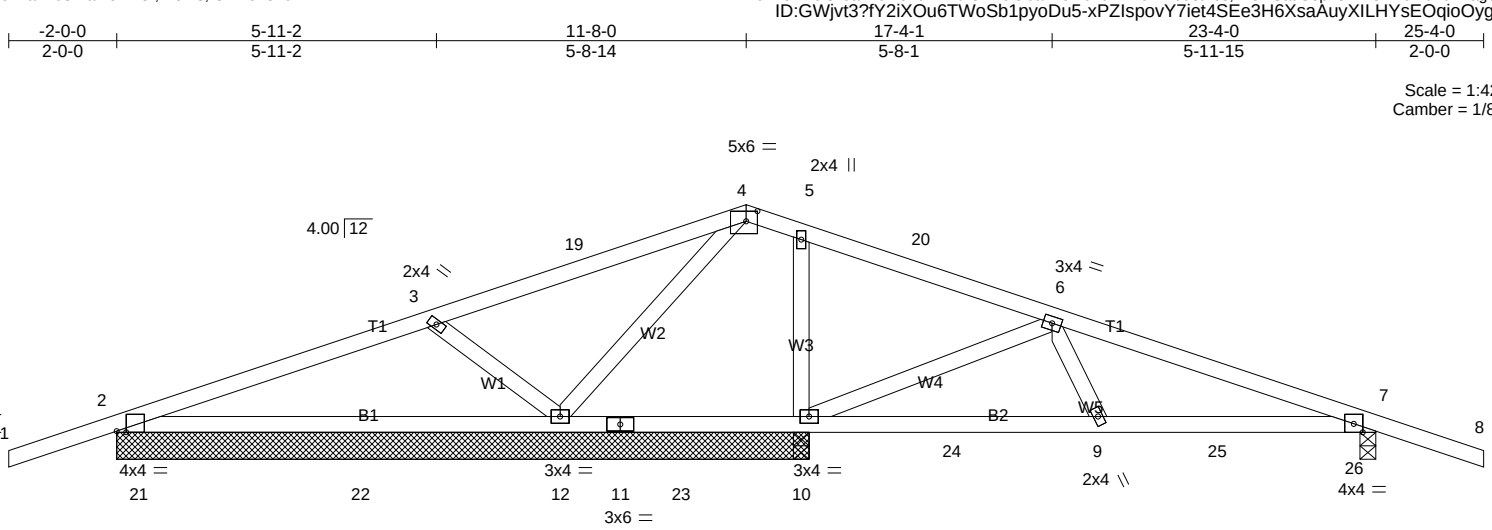


Plate Offsets (X,Y)-- [2:0-2-2,Edge], [4:0-2-8,0-2-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.53	Vert(LL)	-0.08	12-15	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.35	Vert(CT)	-0.22	12-15	>458	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.38	Horz(CT)	0.01	7	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 95 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

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

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

REACTIONS. All bearings 12-10-0 except (jt=length) 7=0-3-8.
(lb) - Max Horz
2= 73(LC 12)
Max Uplift
All uplift 100 lb or less at joint(s)
7 except 2=-120(LC 8), 12=-113(LC 12)
Max Grav
All reactions 250 lb or less at joint(s)
except 2=411(LC 25), 10=713(LC 26), 10=668(LC 1), 12=764(LC 1), 7=647(LC 1), 2=387(LC 1)

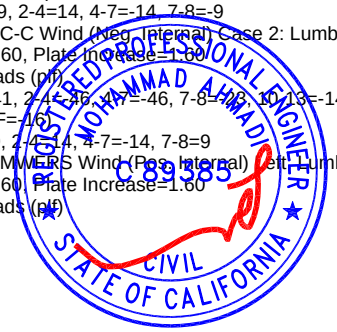
FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
3-19=0/408, 4-19=0/476, 6-7=-783/0
BOT CHORD
10-24=0/602, 9-24=0/602, 9-25=0/693, 7-25=0/693
WEBS
5-10=-297/77, 6-10=-781/29, 4-12=-434/75, 3-12=-540/162, 6-9=0/330

NOTES-
1) Unbalanced roof live loads have been considered for this design.

Continued on page 2

2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 11-8-0, Exterior(2R) 11-8-0 to 14-8-0, Interior(1) 14-8-0 to 25-4-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-72, 10-13=-14, 10-16=-30(F=-16)
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-62, 10-13=-14, 10-16=-30(F=-16)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-34, 10-16=-50(F=-16)
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=50, 2-14=26, 4-14=18, 4-20=28, 7-20=18, 7-8=13, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-67, 2-14=-43, 4-14=-35, 4-20=45, 7-20=35, 7-8=30
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=13, 2-19=18, 4-19=28, 4-17=18, 7-17=26, 7-8=50, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-30, 2-19=-35, 4-19=-45, 4-17=35, 7-17=43, 7-8=67
6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-23, 2-4=-46, 4-7=-46, 7-8=-41, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-9, 2-4=14, 4-7=-14, 7-8=-9
7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-41, 2-4=-46, 4-7=-46, 7-8=-23, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=9, 2-4=14, 4-7=-14, 7-8=9
8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)



LOAD CASE(S)

Standard
Uniform Loads (plf)
Vert: 1-2=33, 2-4=21, 4-7=9, 7-8=3, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-50, 2-4=-37, 4-7=25, 7-8=20

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-4=9, 4-7=21, 7-8=33, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-20, 2-4=-25, 4-7=37, 7-8=50

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-7=-17, 7-8=-12, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-32, 2-4=-27, 4-7=15, 7-8=20

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-4=-17, 4-7=-5, 7-8=-0, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-20, 2-4=-15, 4-7=27, 7-8=32

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-4=21, 4-7=4, 7-8=-1, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-32, 2-4=-37, 4-7=21, 7-8=16

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-4=4, 4-7=21, 7-8=15, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-16, 2-4=-21, 4-7=37, 7-8=32

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-4=9, 4-7=-0, 7-8=-6, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-21, 2-4=-26, 4-7=16, 7-8=11

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-4=-0, 4-7=9, 7-8=4, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-11, 2-4=-16, 4-7=26, 7-8=21

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-5, 4-7=-22, 7-8=-16, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-32, 2-4=-27, 4-7=10, 7-8=16

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-4=-22, 4-7=-5, 7-8=-0, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-16, 2-4=-10, 4-7=27, 7-8=32

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-4=-42, 4-7=-51, 7-8=-47, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-24, 2-4=-20, 4-7=11, 7-8=15

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-4=-51, 4-7=-42, 7-8=-38, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-15, 2-4=-11, 4-7=20, 7-8=24

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Standard
Uniform Loads (plf)
Vert: 1-2=-38, 2-4=-42, 4-7=-54, 7-8=-50, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-24, 2-4=-20, 4-7=8, 7-8=12

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-50, 2-4=-54, 4-7=-42, 7-8=-38, 10-13=-14, 10-16=-30(F=-16)
Horz: 1-2=-12, 2-4=-8, 4-7=20, 7-8=24

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-4=-33, 4-8=-33, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-2=-16, 2-4=16, 4-8=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-4=-0, 4-8=-0, 10-13=-8, 10-16=-24(F=-16)
Horz: 1-4=-16, 4-8=16

25) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-72, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)

26) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-72, 10-13=-14, 10-16=-30(F=-16)

27) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-62, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)

28) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-62, 10-13=-14, 10-16=-30(F=-16)

29) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 21=-6

30) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 22=-6

31) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 23=-6

32) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 24=-6

33) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 25=-6

34) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 26=-6

35) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Standard
Vert: 13=-6

36) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

37) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 12=-6

38) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 10=-6

39) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 9=-6

40) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 18=-6

41) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-4=-32, 4-8=-32, 10-13=-14, 10-16=-30(F=-16)
Concentrated Loads (lb)
Vert: 16=-6

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BC04	Common Structural Gable	1	1	Job Reference (optional)

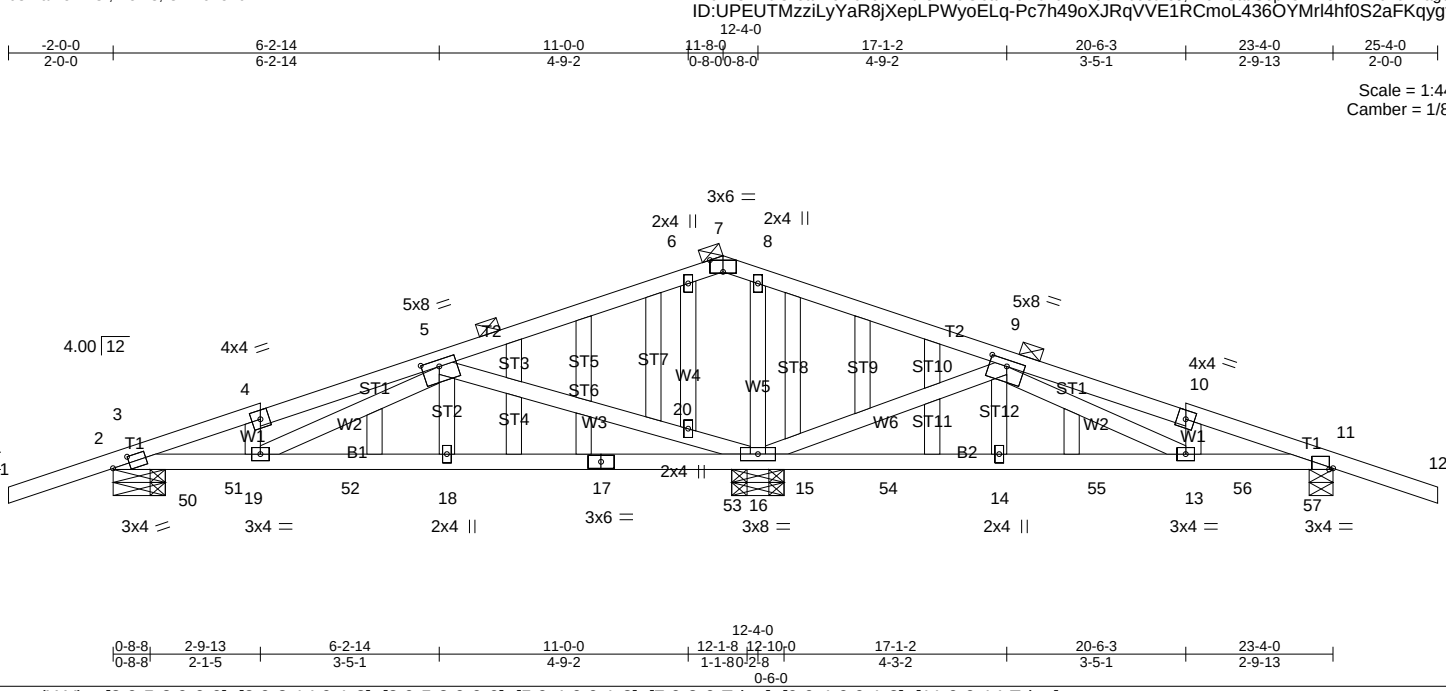


Plate Offsets (X,Y)-- [2:0-5-2,0-0-0], [2:0-3-14,0-1-8], [3:0-5-2,0-0-0], [5:0-4-0,0-1-8], [7:0-3-0,Edge], [9:0-4-0,0-1-8], [11:0-0-14,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.34	Vert(LL)	-0.01	13-45	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.47	Vert(CT)	-0.11	16-18	>999	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.51	Horz(CT)	0.01	11	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 131 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins. Except:
1 Row at midpt 4-7, 7-11
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

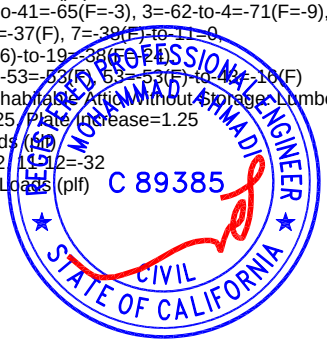
REACTIONS. All bearings 1-0-0 except (jt=length) 11=0-5-8, 3=0-3-8, 15=0-3-8.
(lb) - Max Horz
2= 115(LC 28)
Max Uplift
All uplift 100 lb or less at joint(s) except 2=-190(LC 8), 15=-146(LC 37)
Max Grav
All reactions 250 lb or less at joint(s) except 2=310(LC 1), 16=1084(LC 37), 16=1065(LC 1), 11=288(LC 30), 3=334(LC 3)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
3-4=-562/38, 4-5=-361/0, 5-6=0/277, 6-7=0/269, 8-9=0/294, 9-10=-411/0, 10-11=-394/0
BOT CHORD
3-51=0/478, 19-51=0/342, 19-52=0/324, 18-52=0/324, 17-18=0/336, 17-53=0/336, 16-53=0/336, 13-56=0/425, 11-56=0/425, 11-57=-100/276
WEBS
8-16=-300/0, 9-16=-422/0, 5-20=-581/0,
Continued on page 2

WEBS
8-16=-300/0, 9-16=-422/0, 5-20=-581/0, 16-20=-602/0, 9-13=0/297

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-8-8, Interior(1) 0-8-8 to 2-9-13, Exterior(2E) 23-4-0 to 25-4-0 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) Gable studs spaced at 1-4-0 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) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss has been designed for a total seismic drag load of 2800 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 23-4-0 for 120.0 plf.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
14) 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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-72, 11-12=-72
Trapezoidal Loads (plf)
Vert: 2=-72-to-41=-75(F=-3), 3=-72-to-4=-81(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-62, 11-12=-62
Trapezoidal Loads (plf)
Vert: 2=-62-to-41=-65(F=-3), 3=-62-to-4=-71(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Trapezoidal Loads (plf)



LOAD CASE(S)

Standard
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-50(F=-16)-to-19=-58(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=50, 11-12=21
Horz: 1-2=-67, 2-41=-43, 3-47=-43, 4-47=-35, 11-12=37
Trapezoidal Loads (plf)
Vert: 2=26-to-41=23(F=-3), 3=26-to-47=24(F=-2), 47=16(F=-2)-to-4=9(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=13, 11-12=50
Horz: 1-2=-30, 2-41=-45, 3-4=-45, 11-12=67
Trapezoidal Loads (plf)
Vert: 2=28-to-41=26(F=-3), 3=28-to-4=19(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-23, 11-12=-41
Horz: 1-2=-9, 2-41=14, 3-4=14, 11-12=-9
Trapezoidal Loads (plf)
Vert: 2=-46-to-41=-49(F=-3), 3=-46-to-4=-55(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-41, 2-3=-9, 11-12=-23
Horz: 1-2=9, 2-41=14, 3-4=14, 11-12=9
Trapezoidal Loads (plf)
Vert: 2=-46-to-41=-49(F=-3), 3=-46-to-4=-55(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 2-3=32, 11-12=3
Horz: 1-2=-50, 2-41=-37, 3-4=-37, 11-12=20
Trapezoidal Loads (plf)
Vert: 2=21-to-41=18(F=-3), 3=21-to-4=11(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-3=20, 11-12=33
Horz: 1-2=-20, 2-41=-25, 3-4=-25, 11-12=50
Trapezoidal Loads (plf)
Vert: 2=9-to-41=6(F=-3), 3=9-to-4=-0(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-3=32, 11-12=-12
Horz: 1-2=-32, 2-41=-27, 3-4=-27, 11-12=20
Trapezoidal Loads (plf)
Vert: 2=-5-to-41=-8(F=-3), 3=-5-to-4=-14(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)

Continued on page 3

Standard
Vert: 1-2=-12, 2-3=20, 11-12=-0
Horz: 1-2=-20, 2-41=-15, 3-4=-15, 11-12=32
Trapezoidal Loads (plf)
Vert: 2=-17-to-41=-20(F=-3), 3=-17-to-4=-26(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-3=32, 11-12=-1
Horz: 1-2=-32, 2-41=-37, 3-4=-37, 11-12=16
Trapezoidal Loads (plf)
Vert: 2=21-to-41=18(F=-3), 3=21-to-4=11(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-3=16, 11-12=15
Horz: 1-2=-16, 2-41=-21, 3-4=-21, 11-12=32
Trapezoidal Loads (plf)
Vert: 2=4-to-41=2(F=-3), 3=4-to-4=-5(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-3=21, 11-12=-6
Horz: 1-2=-21, 2-41=-26, 3-4=-26, 11-12=11
Trapezoidal Loads (plf)
Vert: 2=9-to-41=7(F=-3), 3=9-to-4=0(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-3=11, 11-12=4
Horz: 1-2=-11, 2-41=-16, 3-4=-16, 11-12=21
Trapezoidal Loads (plf)
Vert: 2=-0-to-41=-3(F=-3), 3=-0-to-4=-9(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-3=32, 11-12=-16
Horz: 1-2=-32, 2-41=-27, 3-4=-27, 11-12=16
Trapezoidal Loads (plf)
Vert: 2=-5-to-41=-8(F=-3), 3=-5-to-4=-14(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-3=16, 11-12=-0
Horz: 1-2=-16, 2-41=-10, 3-4=-10, 11-12=32
Trapezoidal Loads (plf)
Vert: 2=-22-to-41=-24(F=-3), 3=-22-to-4=-31(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

18) Dead: Lumber Increase=0.90, Plate Increase=0.90
Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Standard
Uniform Loads (plf)
Vert: 1-2=-38, 2-3=24, 11-12=-47
Horz: 1-2=-24, 2-41=-20, 3-4=-20, 11-12=15
Trapezoidal Loads (plf)
Vert: 2=-42-to-41=-45(F=-3), 3=-42-to-4=-51(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-3=15, 11-12=-38
Horz: 1-2=-15, 2-41=-11, 3-4=-11, 11-12=24
Trapezoidal Loads (plf)
Vert: 2=-51-to-41=-54(F=-3), 3=-51-to-4=-60(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-3=24, 11-12=-50
Horz: 1-2=-24, 2-41=-20, 3-4=-20, 11-12=12
Trapezoidal Loads (plf)
Vert: 2=-42-to-41=-45(F=-3), 3=-42-to-4=-51(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

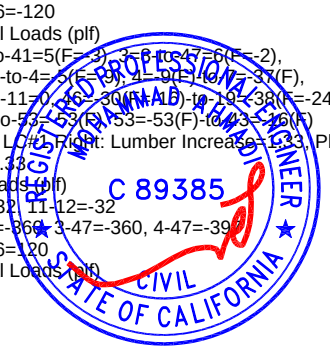
22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-50, 2-3=12, 11-12=-38
Horz: 1-2=-12, 2-41=-8, 3-4=-8, 11-12=24
Trapezoidal Loads (plf)
Vert: 2=-54-to-41=-57(F=-3), 3=-54-to-4=-63(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 11-12=-33
Horz: 1-2=-16, 2-41=16, 3-4=16, 11-12=-16
Trapezoidal Loads (plf)
Vert: 2=-33-to-41=-36(F=-3), 3=-33-to-4=-42(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 11-12=-0
Horz: 1-41=-16, 3-4=-16, 11-12=16
Trapezoidal Loads (plf)
Vert: 2=-0-to-41=-3(F=-3), 3=-0-to-4=-10(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-24(F=-16)-to-19=-33(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

25) Dead-Drag LC#1 Left: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Horz: 2-41=360, 3-47=360, 4-47=397
Drag: 19-46=-120
Trapezoidal Loads (plf)
Vert: 2=8-to-41=5(F=-3), 3=8-to-47=6(F=-2), 47=2(F=-2)-to-4=-5(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

26) Dead-Drag LC#1 Right: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Horz: 2-41=-360, 3-47=-360, 4-47=-397
Drag: 19-46=-120
Trapezoidal Loads (plf)



LOAD CASE(S)

Standard
Trapezoidal Loads (plf)
Vert: 2=-72-to-41=-75(F=-3), 3=-72-to-47=-74(F=-2), 47=-71(F=-2)-to-4=-77(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

27) 0.6 Dead-Drag LC#1 Left: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-19, 11-12=-19
Horz: 2-41=360, 3-47=360, 4-47=397
Drag: 19-46=-120
Trapezoidal Loads (plf)
Vert: 2=21-to-41=19(F=-2), 3=21-to-47=19(F=-1), 47=16(F=-1)-to-4=12(F=-5), 4=-5(F)-to-7=-22(F), 7=-23(F)-to-11=0, 46=-18(F=-10)-to-19=-23(F=-15), 19=-15(F)-to-53=-32(F), 53=-32(F)-to-43=-10(F)

28) 0.6 Dead-Drag LC#1 Right: Lumber Increase=1.33, Plate Increase=1.33
Uniform Loads (plf)
Vert: 1-2=-19, 11-12=-19
Horz: 2-41=-360, 3-47=-360, 4-47=-397
Drag: 19-46=120
Trapezoidal Loads (plf)
Vert: 2=-59-to-41=-61(F=-2), 3=-59-to-47=-61(F=-1), 47=-57(F=-1)-to-4=-61(F=-5), 4=-5(F)-to-7=-22(F), 7=-23(F)-to-11=0, 46=-18(F=-10)-to-19=-23(F=-15), 19=-15(F)-to-53=-32(F), 53=-32(F)-to-43=-10(F)

29) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-72, 11-12=-32
Trapezoidal Loads (plf)
Vert: 2=-72-to-41=-75(F=-3), 3=-72-to-4=-81(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

30) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-72
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

31) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-62, 11-12=-32
Trapezoidal Loads (plf)
Vert: 2=-62-to-41=-65(F=-3), 3=-62-to-4=-71(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

32) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-62
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

33) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 50=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

34) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)

Continued on page 4

Standard
Vert: 48=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

35) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 51=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

36) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 52=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

37) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 17=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

38) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 16=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

39) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 54=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

40) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 55=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

41) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 56=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

42) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 57=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

43) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 46=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

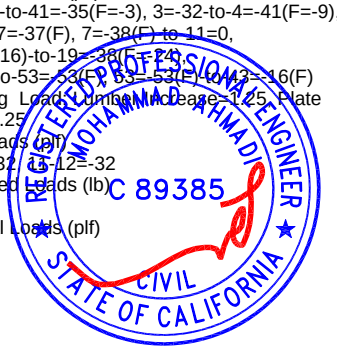
44) 12th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 48=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

45) 13th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 48=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

46) 14th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 19=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

47) 15th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 18=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

48) 16th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 16=-6
Trapezoidal Loads (plf)



LOAD CASE(S)

Standard

Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

49) 17th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 15=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

50) 18th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 14=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

51) 19th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 13=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

52) 20th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 45=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

53) 21st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-2=-32, 11-12=-32
Concentrated Loads (lb)
Vert: 43=-6
Trapezoidal Loads (plf)
Vert: 2=-32-to-41=-35(F=-3), 3=-32-to-4=-41(F=-9), 4=-9(F)-to-7=-37(F), 7=-38(F)-to-11=0, 46=-30(F=-16)-to-19=-38(F=-24), 19=-24(F)-to-53=-53(F), 53=-53(F)-to-43=-16(F)

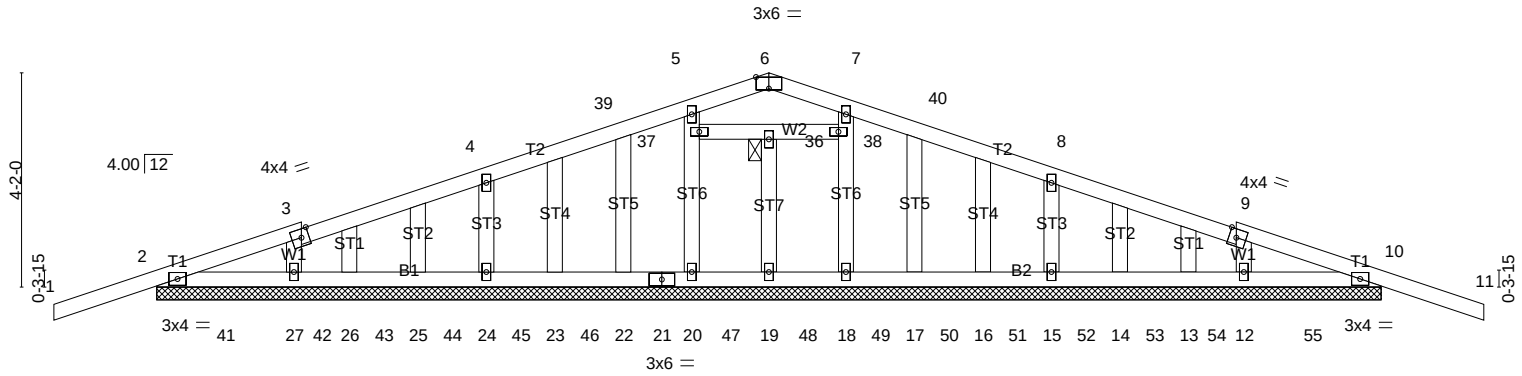
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BD01	Common Supported Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:22 2020 Page 1
ID:ss8PXrMH86skRCVMY5JKB5yoH8o-toh3HVp94kyM7OcdlUJadHfbnlGnpFZ9hiKosGygfBp

-2-0-0	2-9-13	11-11-0	21-0-3	23-10-0	25-10-0
2-0-0	2-9-13	9-1-3	9-1-3	2-9-13	2-0-0

Scale = 1:44.8



2-9-13	23-10-0
2-9-13	21-0-3

Plate Offsets (X,Y)-- [3:0-1-12,Edge], [6:0-3-0,Edge], [9:0-1-12,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.25	Vert(LL)	-0.02	11	n/r	180	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.16	Vert(CT)	-0.04	11	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.01	19	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-SH		Wind(LL)	0.02	11	n/r	120	Weight: 114 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS
1 Brace at Jt(s): 36

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

REACTIONS. All bearings 23-10-0.
(lb) - Max Horz
2= 73(LC 12)
Max Uplift
All uplift 100 lb or less at joint(s)
20, 18, 24, 26, 15, 13, 27, 12 except
2=-156(LC 27), 10=-156(LC 28)
Max Grav
All reactions 250 lb or less at joint(s)
22, 23, 25, 26, 17, 16, 14, 13, 19, 27,
12 except 2=379(LC 26), 20=258(LC 29),
18=258(LC 30), 24=314(LC 29),
15=314(LC 30), 10=379(LC 25)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-790/785, 3-4=-621/589,
4-39=-391/349, 8-40=-391/349,
8-9=-621/589, 9-10=-790/785
BOT CHORD
2-41=-761/743, 27-41=-632/598,
27-42=-579/580, 26-42=-518/552,
26-43=-511/518, 25-43=-469/443,
25-44=-427/435, 24-44=-385/393,
24-45=-343/351, 23-45=-302/309,
23-46=-260/267, 16-50=-260/267,
16-51=-302/309, 15-51=-343/351,
15-52=-385/393, 14-52=-427/435,
14-53=-469/443, 13-53=-511/518,
13-54=-518/552, 12-54=-579/580,
12-55=-632/598, 10-55=-761/743
WEBS
4-24=-294/123, 8-15=-294/124

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 11-11-0, Corner(3R) 11-11-0 to 14-11-0, Exterior(2N) 14-11-0 to 25-10-0 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 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
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) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) This truss has been designed for a total seismic drag load of 1500 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 23-10-0 for 62.9 plf.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

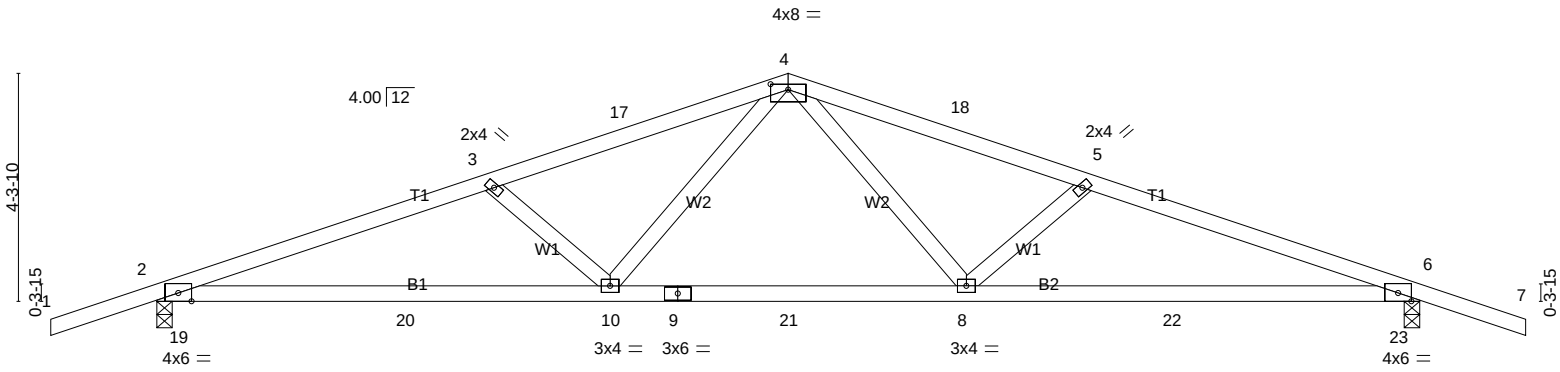
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BD02	Common	8	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:23 2020 Page 1
ID:H?qwtrKq9G?Q8ub8kiNQ6LyoGh8-M_ERVrqnr25DkXBpJBqp9UCjM9U8YgQJwM3MOjygfBo

-2-0-0	6-4-6	11-11-0	17-5-10	23-10-0	25-10-0
2-0-0	6-4-6	5-6-10	5-6-10	6-4-6	2-0-0

Scale = 1:43.5
Camber = 5/16 in



8-6-11	15-3-5	23-10-0
8-6-11	6-8-11	8-6-11

Plate Offsets (X,Y)-- [4:0-4-0,0-1-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.39	Vert(LL)	-0.12	10-13	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.60	Vert(CT)	-0.43	8-16	>672	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.10	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 94 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 3-8-5 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 1169/0-3-8 (min. 0-1-8)
6 = 1169/0-3-8 (min. 0-1-8)
Max Horz
2 = 75(LC 16)
Max Uplift
2 = -174(LC 8)
6 = -174(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-2410/356, 3-17=-2058/296, 4-17=-1987/311, 4-18=-1987/311, 5-18=-2058/295, 5-6=-2410/356
BOT CHORD
2-19=-46/637, 2-20=-246/2250, 10-20=-246/2250, 9-10=-115/1512, 9-21=-115/1512, 8-21=-115/1512, 8-22=-263/2250, 6-22=-263/2250, 6-23=-53/637
WEBS
4-8=-65/592, 5-8=-505/162, 4-10=-64/592, 3-10=-505/162

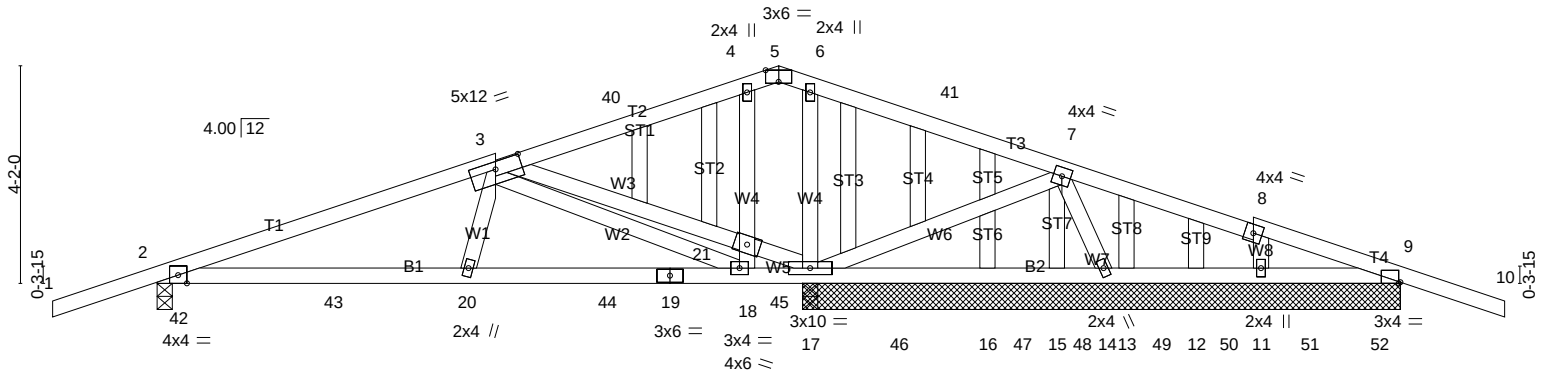
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 11-11-0, Exterior(2R) 11-11-0 to 14-11-0, Interior(1) 14-11-0 to 25-10-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BD03	Common Structural Gable	1	1	Job Reference (optional)

-2-0-0	6-5-14	11-11-0	17-4-2	21-0-3	23-10-0	25-10-0
2-0-0	6-5-14	5-5-2	5-5-2	3-8-1	2-9-13	2-0-0

Scale = 1:44.2
Camber = 1/16 in



5-11-11	8-2-9	12-8-0	15-7-7	18-1-12	21-0-3	23-10-0
5-11-11	2-2-15	4-5-7	2-11-7	2-6-5	2-10-7	2-9-13

Plate Offsets (X,Y)-- [3:0-6-0,0-1-12], [5:0-3-0,Edge], [9:0-0-6,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.38	Vert(LL)	-0.03	20-36	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.29	Vert(CT)	-0.10	20-36	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.02	16	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 129 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 4-8-15 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 6-0-0 oc bracing.

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

REACTIONS. All bearings 11-5-8 except (jt=length) 2=0-3-8.
(lb) - Max Horz
2= 73(LC 12)
Max Uplift
All uplift 100 lb or less at joint(s) 16, 15, 12, 11 except 2=-274(LC 27), 9=-221(LC 28), 17=-166(LC 27), 14=-667(LC 28)
Max Grav
All reactions 250 lb or less at joint(s) 16, 15, 13, 12, 11 except 2=750(LC 26), 9=420(LC 25), 17=1106(LC 1), 17=1106(LC 1), 14=721(LC 25), 9=265(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-1669/1017, 3-40=-414/639, 4-40=-31/394, 4-5=-166/449, 5-6=-260/489, 6-41=-606/659, 7-41=-1002/1251, 7-8=-518/558, 8-9=-795/848
BOT CHORD
2-42=-386/514, 2-43=-1018/1493, 20-43=-415/1208, 20-44=-362/827, 19-44=-74/566, 18-19=-74/566,
BOT CHORD
2-42=-386/514, 2-43=-1018/1493, 20-43=-415/1208, 20-44=-362/827, 19-44=-74/566, 18-19=-74/566, 18-45=-45/561, 17-45=-104/561, 17-46=-414/373, 15-47=-295/254, 15-48=-309/301, 14-48=-429/388, 13-49=-303/202, 12-49=-377/333, 12-50=-482/419, 11-50=-568/506, 11-51=-714/626, 9-51=-821/756, 9-52=-357/255
WEBS
6-17=-432/95, 7-17=-976/726, 7-14=-770/714, 3-21=-806/131, 17-21=-963/153

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 11-11-0, Exterior(2R) 11-11-0 to 14-11-0, Interior(1) 14-11-0 to 25-10-0 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) Gable studs spaced at 1-4-0 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) A plate rating reduction of 20% has been applied for the green lumber members.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) This truss has been designed for a total seismic drag load of 3315 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 23-10-0 for 139.1 plf.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BE01	Common	3	1	Job Reference (optional)

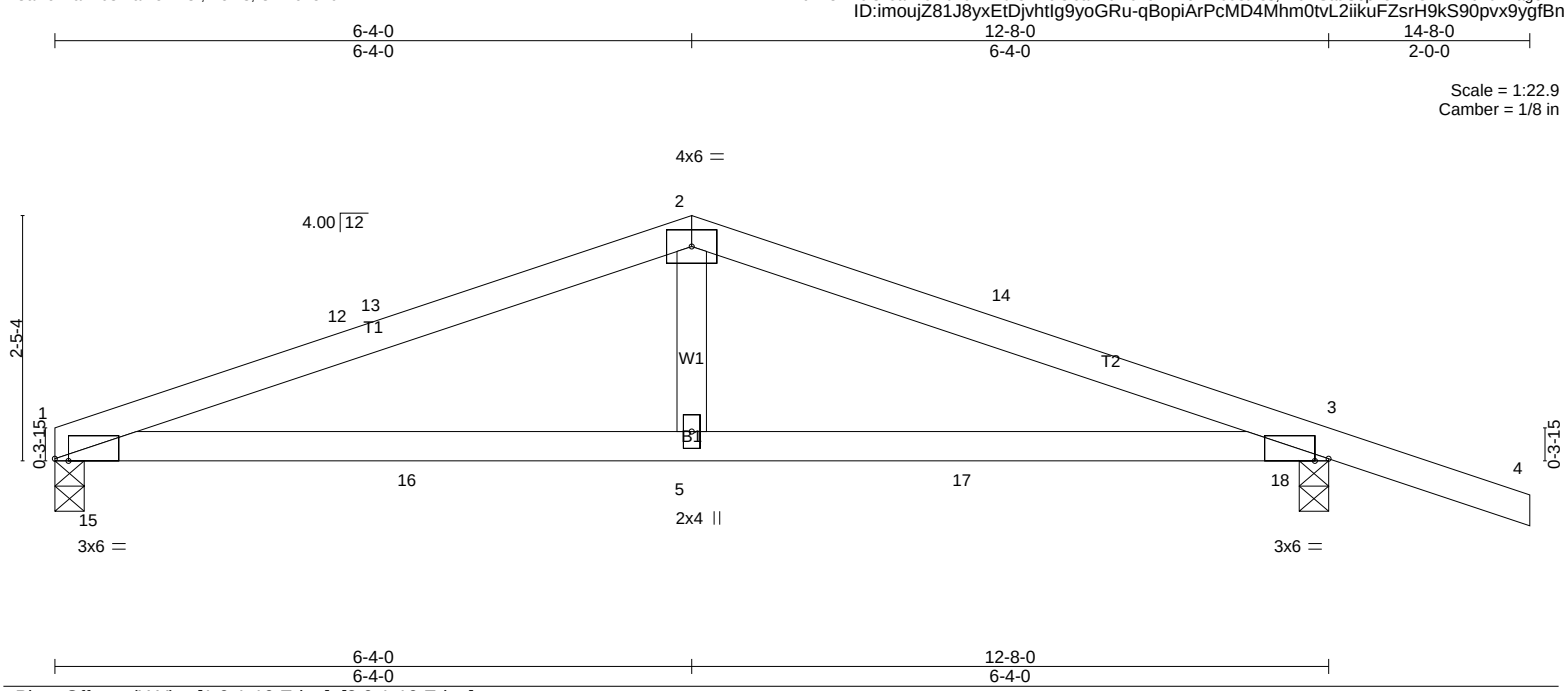


Plate Offsets (X,Y)-- [1:0-1-10,Edge], [3:0-1-10,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.44	Vert(LL)	-0.06	5-8	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.51	Vert(CT)	-0.18	5-8	>861	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.02	3	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 41 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-4-14 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
1 = 533/0-3-8 (min. 0-1-8)
3 = 700/0-3-8 (min. 0-1-8)
Max Horz
1 = -58(LC 9)
Max Uplift
1 = -55(LC 8)
3 = -128(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
1-12=-988/293, 12-13=-943/294, 2-13=-943/311, 2-14=-943/297, 3-14=-1004/281
BOT CHORD
1-15=-103/409, 1-16=-189/895, 5-16=-189/895, 5-17=-189/895, 3-17=-189/895, 3-18=-38/260
WEBS
2-5=0/264

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 6-4-0, Exterior(2R) 6-4-0 to 9-4-0, Interior(1) 9-4-0 to 14-8-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BE02	Common	6	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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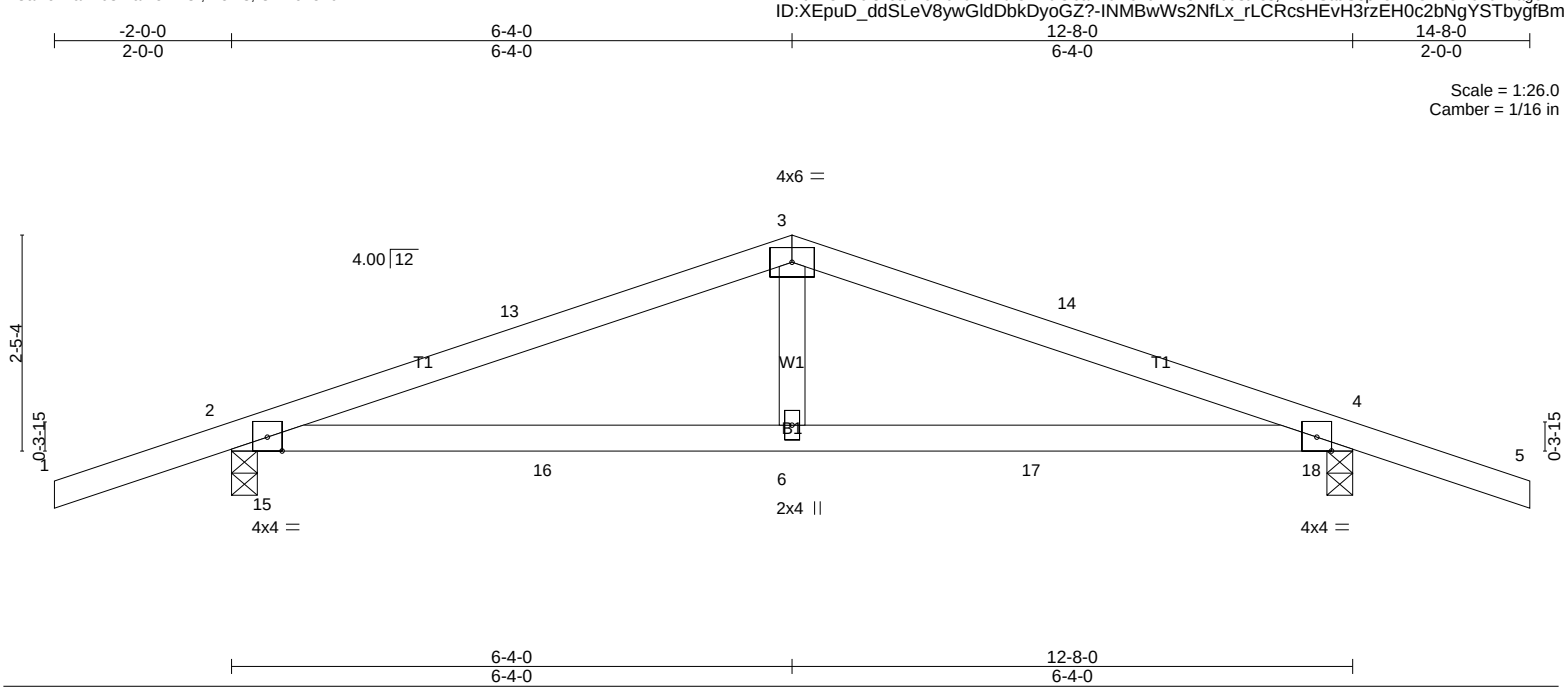


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.39	Vert(LL)	-0.04	6-12	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.36	Vert(CT)	-0.13	6-12	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.02	4	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 44 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-7-14 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 689/0-3-8 (min. 0-1-8)
4 = 689/0-3-8 (min. 0-1-8)
Max Horz
2 = -45(LC 17)
Max Uplift
2 = -127(LC 8)
4 = -127(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-13=-955/228, 3-13=-894/255, 3-14=-894/255, 4-14=-955/228
BOT CHORD
2-16=-130/849, 6-16=-130/849, 6-17=-130/849, 4-17=-130/849, 4-18=-23/252
WEBS
3-6=0/256

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 6-4-0, Exterior(2R) 6-4-0 to 9-4-0, Interior(1) 9-4-0 to 14-8-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

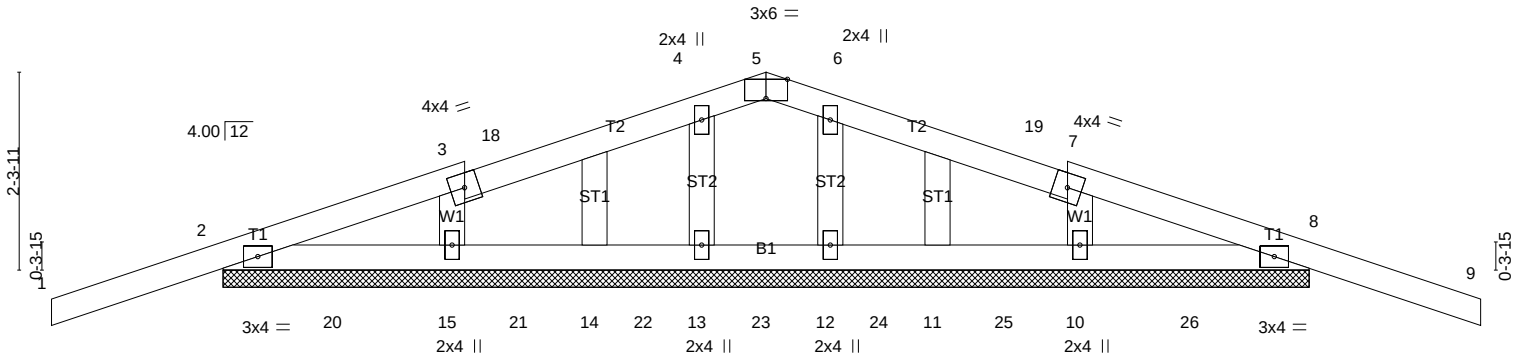
Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BE03	Common Supported Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:25 2020 Page 1
ID:oPW79t3jriOpA7ZTh1PL?0yoGb0-INMBwWs2NfLx_rLCRcsHEvH60zH90dsbNgYSTbygfBm

-2-0-0	2-9-13	6-4-0	9-10-3	12-8-0	14-8-0
2-0-0	2-9-13	3-6-3	3-6-3	2-9-13	2-0-0

Scale = 1:26.9



2-9-13	9-10-3	12-8-0
2-9-13	7-0-6	2-9-13

Plate Offsets (X,Y)-- [5:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.25	Vert(LL)	-0.02	9	n/r	180	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.18	Vert(CT)	-0.04	9	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	-0.00	12	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-SH		Wind(LL)	0.02	9	n/r	120	Weight: 50 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

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

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

REACTIONS. All bearings 12-8-0.
(lb) - Max Horz
2= -43(LC 9)
Max Uplift
All uplift 100 lb or less at joint(s)
13, 12, 14, 11, 15, 10 except
2=-204(LC 27), 8=-204(LC 28)
Max Grav
All reactions 250 lb or less at joint(s)
13, 12, 14, 11, 15, 10 except
2=427(LC 26), 8=427(LC 25)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-945/944, 3-18=-537/516,
4-18=-299/327, 6-19=-299/327,
7-19=-537/516, 7-8=-945/944
BOT CHORD
2-20=-915/891, 15-20=-642/701,
15-21=-521/496, 14-21=-403/402,
14-22=-285/284, 11-24=-285/284,
11-25=-403/402, 10-25=-521/496,
10-26=-642/701, 8-26=-915/891

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 6-4-0, Corner(3R) 6-4-0 to 9-4-0, Exterior(2N) 9-4-0 to 14-8-0 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) Gable requires continuous bottom chord bearing.
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.
6) A plate rating reduction of 20% has been applied for the green lumber members.
7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss has been designed for a total seismic drag load of 1800 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 12-8-0 for 142.1 plf.
10) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BE04	Common	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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-2-0-0	5-6-0	6-4-0	7-2-0	12-8-0	14-8-0
2-0-0	5-6-0	0-10-0	0-10-0	5-6-0	2-0-0

Scale = 1:26.0
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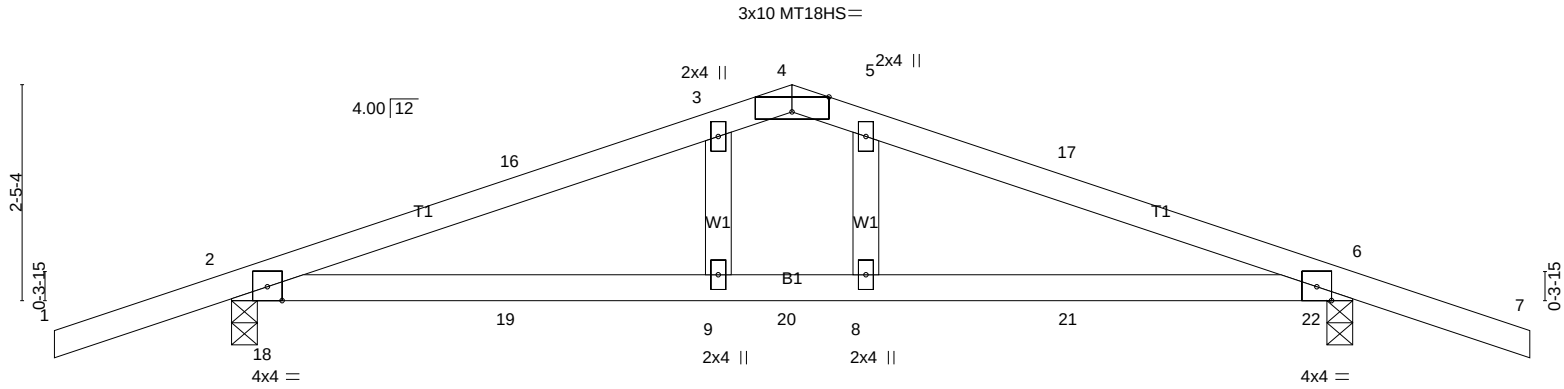

4-4-14	6-4-0	7-2-0	8-3-2	12-8-0
4-4-14	1-11-2	0-10-0	1-1-2	4-4-14

Plate Offsets (X,Y)-- [4:0-5-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.40	Vert(LL)	-0.05	9-12	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.31	Vert(CT)	-0.14	9-12	>999	180	MT18HS	220/195
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.02	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 46 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-9-6 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 689/0-3-8 (min. 0-1-8)
6 = 689/0-3-8 (min. 0-1-8)
Max Horz
2 = -45(LC 13)
Max Uplift
2 = -127(LC 8)
6 = -127(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-16=-976/239, 3-16=-918/261, 3-4=-845/266, 4-5=-845/266, 5-17=-918/261, 6-17=-976/239
BOT CHORD
2-19=-142/873, 9-19=-142/873, 9-20=-142/873, 8-20=-142/873, 8-21=-142/873, 6-21=-142/873, 6-22=-24/254

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 6-4-0, Exterior(2R) 6-4-0 to 9-4-0, Interior(1) 9-4-0 to 14-8-0 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.
6) A plate rating reduction of 20% has been applied for the green lumber members.
7) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BF01	Common Supported Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

Run: 8.240 s Jan 6 2020 Print: 8.240 s Jan 6 2020 MiTek Industries, Inc. Sat Sep 5 12:31:27 2020 Page 1
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-2-0-0	2-9-13	7-5-0	12-0-3	14-10-0	16-10-0
2-0-0	2-9-13	4-7-3	4-7-3	2-9-13	2-0-0

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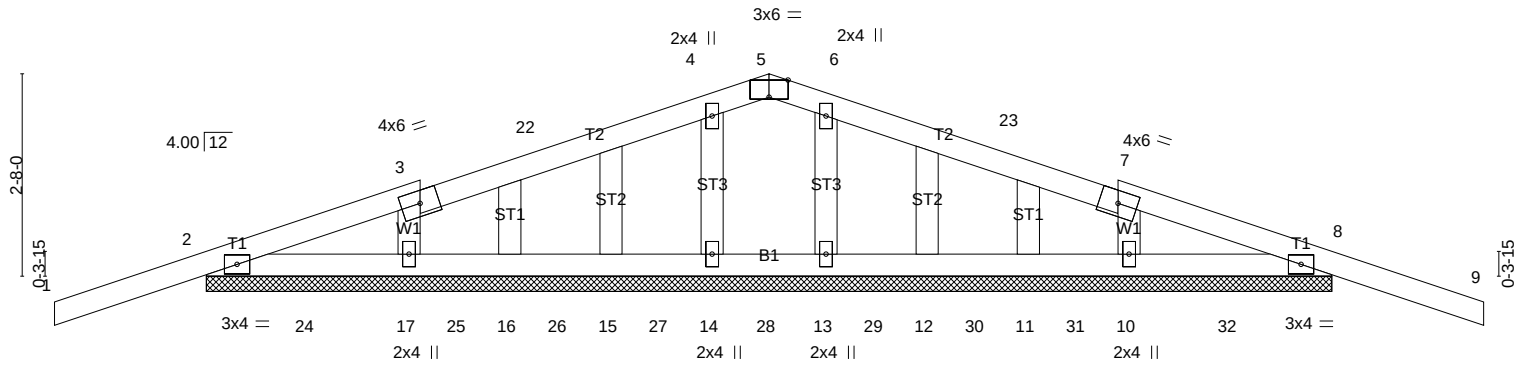

2-9-13	12-0-3	14-10-0
2-9-13	9-2-6	2-9-13

Plate Offsets (X,Y)-- [5:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.25	Vert(LL)	-0.02	9	n/r	180	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.11	Vert(CT)	-0.04	9	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	8	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-SH		Wind(LL)	0.02	9	n/r	120	Weight: 61 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

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

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

REACTIONS. All bearings 14-10-0.
(lb) - Max Horz
2= -49(LC 17)
Max Uplift
All uplift 100 lb or less at joint(s) 2, 14, 13, 16, 11, 17, 10 except 8=-101(LC 9)
Max Grav
All reactions 250 lb or less at joint(s) 14, 13, 15, 16, 12, 11, 17, 10 except 2=277(LC 25), 8=277(LC 26)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS
3-17=-256/178, 7-10=-256/178

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 7-5-0, Corner(3R) 7-5-0 to 10-5-0, Exterior(2N) 10-5-0 to 16-10-0 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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 1-4-0 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) A plate rating reduction of 20% has been applied for the green lumber members.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BF02	Common	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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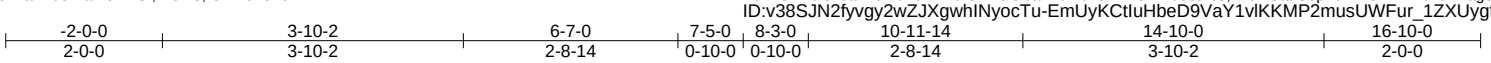

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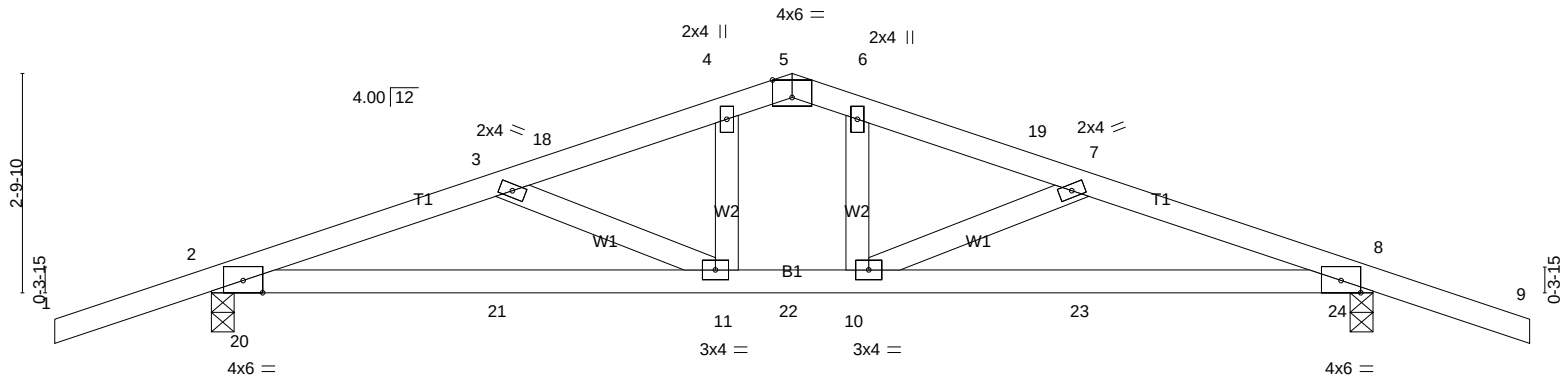


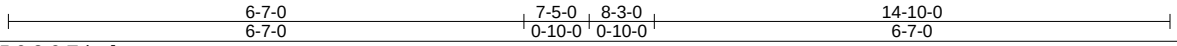


Plate Offsets (X,Y)-- [5:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.41	Vert(LL)	-0.04	11	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.49	Vert(CT)	-0.21	11-14	>833	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.12	Horz(CT)	0.05	8	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 61 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 4-9-10 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 901/0-3-8 (min. 0-1-8)
8 = 901/0-3-8 (min. 0-1-8)
Max Horz
2 = -51(LC 13)
Max Uplift
2 = -17(LC 8)
8 = -17(LC 9)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-1646/68, 3-18=-1280/9, 4-18=-1231/21, 4-5=-1127/51, 5-6=-1127/51, 6-19=-1231/21, 7-19=-1280/9, 7-8=-1646/68
BOT CHORD
2-20=0/399, 2-21=0/1546, 11-21=0/1546, 11-22=0/1168, 10-22=0/1168, 10-23=-0/1546, 8-23=-0/1546, 8-24=0/404
WEBS
4-11=0/303, 3-11=-436/96, 6-10=0/303, 7-10=-436/96

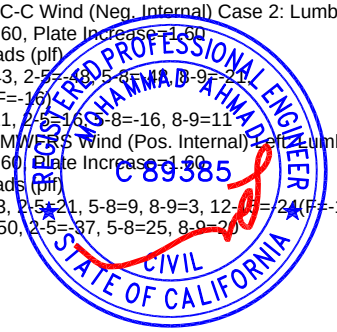
NOTES-
1) Unbalanced roof live loads have been considered for this design.

Continued on page 2

2) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 7-5-0, Exterior(2R) 7-5-0 to 10-5-0, Interior(1) 10-5-0 to 16-10-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) Load case(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
8) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
9) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.
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
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-72, 5-9=-72, 12-15=-30(F=-16)

Standard
2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-62, 5-9=-62, 12-15=-30(F=-16)
3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-50(F=-16)
4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=54, 2-13=34, 5-13=21, 5-19=41, 8-19=21, 8-9=16, 12-15=-24(F=-16)
Horz: 1-2=-71, 2-13=-51, 5-13=-38, 5-19=58, 8-19=38, 8-9=33
5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=16, 2-18=21, 5-18=41, 5-16=21, 8-16=34, 8-9=54, 12-15=-24(F=-16)
Horz: 1-2=-33, 2-18=-38, 5-18=-58, 5-16=38, 8-16=51, 8-9=71
6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-21, 2-5=-48, 5-8=-48, 8-9=-43, 12-15=-30(F=-16)
Horz: 1-2=-11, 2-5=16, 5-8=-16, 8-9=-11
7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-43, 2-5=-48, 5-8=-48, 8-9=-21, 12-15=-30(F=-16)
Horz: 1-2=11, 2-5=16, 5-8=-16, 8-9=11
8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=33, 2-5=21, 5-8=9, 8-9=3, 12-15=-24(F=-16)
Horz: 1-2=-50, 2-5=-37, 5-8=25, 8-9=20



LOAD CASE(S)

Standard

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=3, 2-5=9, 5-8=21, 8-9=33, 12-15=-24(F=-16)
Horz: 1-2=-20, 2-5=-25, 5-8=37, 8-9=50

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-5, 5-8=-17, 8-9=-12, 12-15=-30(F=-16)
Horz: 1-2=-32, 2-5=-27, 5-8=15, 8-9=20

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-12, 2-5=-17, 5-8=-5, 8-9=-0, 12-15=-30(F=-16)
Horz: 1-2=-20, 2-5=-15, 5-8=27, 8-9=32

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=15, 2-5=21, 5-8=4, 8-9=-1, 12-15=-24(F=-16)
Horz: 1-2=-32, 2-5=-37, 5-8=21, 8-9=16

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-1, 2-5=4, 5-8=21, 8-9=15, 12-15=-24(F=-16)
Horz: 1-2=-16, 2-5=-21, 5-8=37, 8-9=32

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=4, 2-5=9, 5-8=-0, 8-9=-6, 12-15=-24(F=-16)
Horz: 1-2=-21, 2-5=-26, 5-8=16, 8-9=11

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-6, 2-5=-0, 5-8=9, 8-9=4, 12-15=-24(F=-16)
Horz: 1-2=-11, 2-5=-16, 5-8=26, 8-9=21

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-5, 5-8=-22, 8-9=-16, 12-15=-30(F=-16)
Horz: 1-2=-32, 2-5=-27, 5-8=10, 8-9=16

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-16, 2-5=-22, 5-8=-5, 8-9=-0, 12-15=-30(F=-16)
Horz: 1-2=-16, 2-5=-10, 5-8=27, 8-9=32

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)

19) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-5=-42, 5-8=-51, 8-9=-47, 12-15=-30(F=-16)
Horz: 1-2=-24, 2-5=-20, 5-8=11, 8-9=15

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-47, 2-5=-51, 5-8=-42, 8-9=-38, 12-15=-30(F=-16)
Horz: 1-2=-15, 2-5=-11, 5-8=20, 8-9=24

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-38, 2-5=-42, 5-8=-54, 8-9=-50, 12-15=-30(F=-16)
Horz: 1-2=-24, 2-5=-20, 5-8=8, 8-9=12

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

Standard

Vert: 1-2=-50, 2-5=-54, 5-8=-42, 8-9=-38, 12-15=-30(F=-16)
Horz: 1-2=-12, 2-5=-8, 5-8=20, 8-9=24

23) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-2=-0, 2-5=-33, 5-9=-33, 12-15=-24(F=-16)
Horz: 1-2=-16, 2-5=16, 5-9=-16

24) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 1-5=-0, 5-9=-0, 12-15=-24(F=-16)
Horz: 1-5=-16, 5-9=16

25) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-72, 5-9=-32, 12-15=-30(F=-16)

26) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-72, 12-15=-30(F=-16)

27) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-62, 5-9=-32, 12-15=-30(F=-16)

28) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-62, 12-15=-30(F=-16)

29) 1st Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 20=-6

30) 2nd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 21=-6

31) 3rd Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 22=-6

32) 4th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 23=-6

33) 5th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 24=-6

34) 6th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 12=-6

35) 7th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 14=-6

36) 8th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 11=-6

37) 9th Moving Load: Lumber Increase=1.25, Plate Increase=1.25

Standard

Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 10=-6

38) 10th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 17=-6

39) 11th Moving Load: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-5=-32, 5-9=-32, 12-15=-30(F=-16)
Concentrated Loads (lb)
Vert: 15=-6

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BG01	Monopitch Supported Gable	1	1	Job Reference (optional)

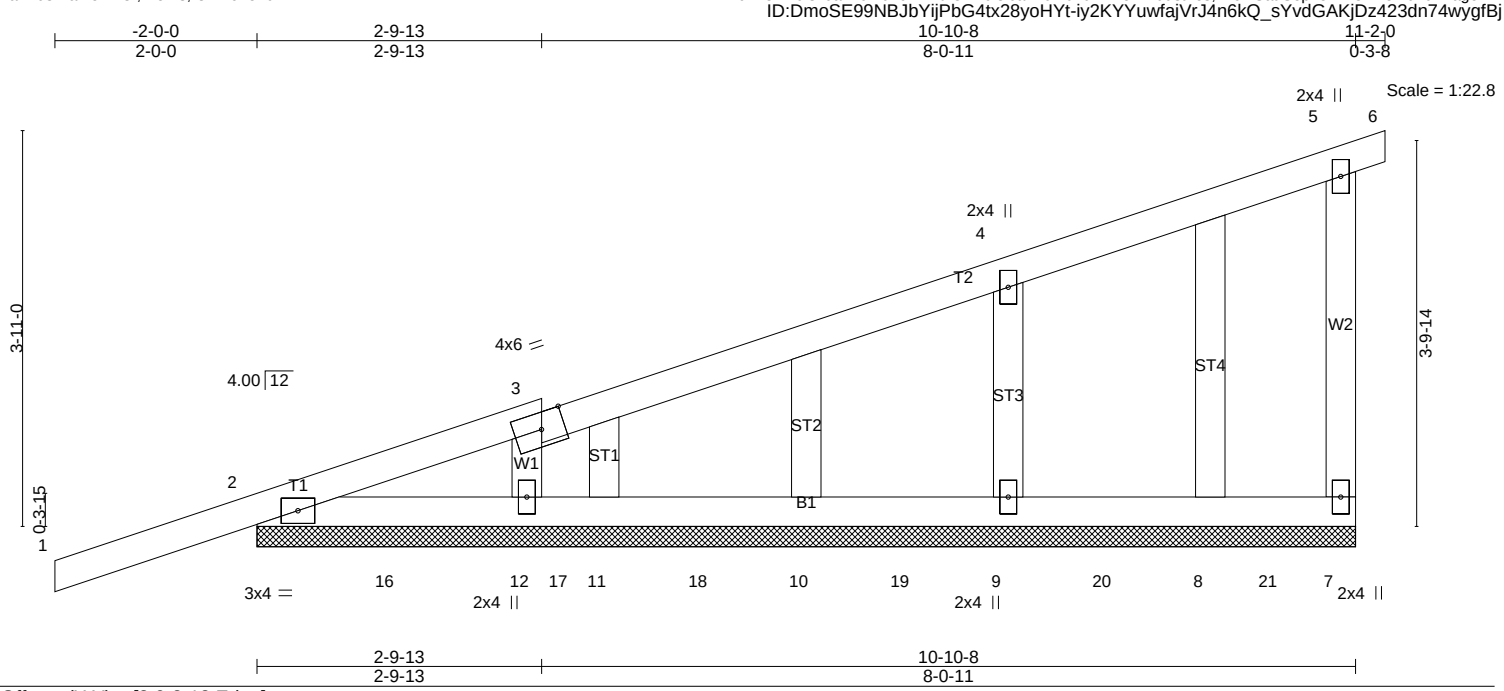


Plate Offsets (X,Y)-- [3:0-2-12,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.25	Vert(LL)	-0.00	6	n/r	120	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.13	Vert(CT)	0.00	6	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	7	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-SH							Weight: 49 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-12.

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

REACTIONS. All bearings 10-10-8.
(lb) - Max Horz
2= 160(LC 9)
Max Uplift
All uplift 100 lb or less at joint(s) 7, 2, 11, 9, 12
Max Grav
All reactions 250 lb or less at joint(s) 7, 10, 11, 8, 12 except 2=276(LC 1), 9=351(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-314/166
WEBS
4-9=-321/271, 3-12=-290/239

NOTES-

1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 11-2-0 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
2) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BG02	Monopitch	10	1	Job Reference (optional)

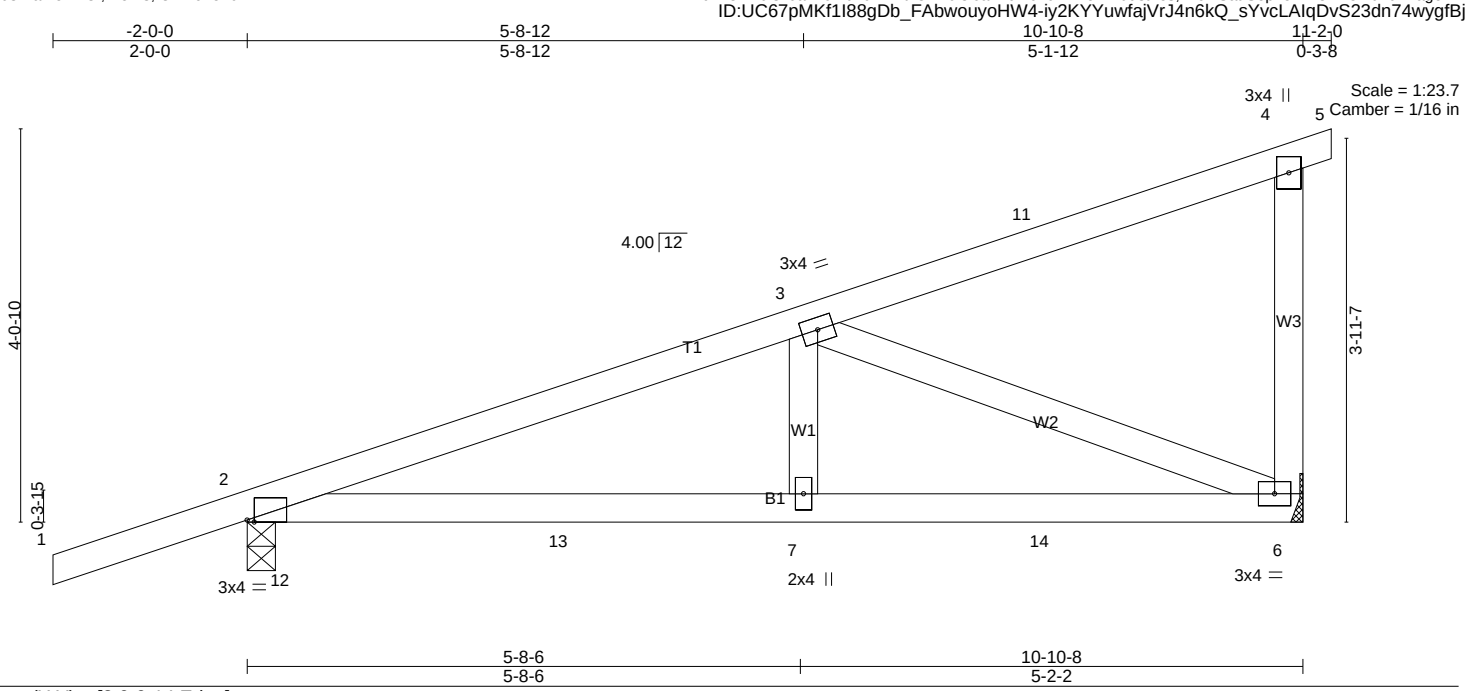


Plate Offsets (X,Y)-- [2:0-0-14,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.31	Vert(LL)	-0.02	7-10	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.25	Vert(CT)	-0.09	7-10	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.02	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MSH							Weight: 47 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
2 = 618/0-3-8 (min. 0-1-8)
6 = 480/Mechanical
Max Horz
2 = 165(LC 9)
Max Uplift
2 = -126(LC 8)
6 = -82(LC 12)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-799/147
BOT CHORD
2-13=-266/712, 7-13=-266/712, 7-14=-266/712, 6-14=-266/712
WEBS
3-6=-742/235

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 11-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BH01	Monopitch Supported Gable	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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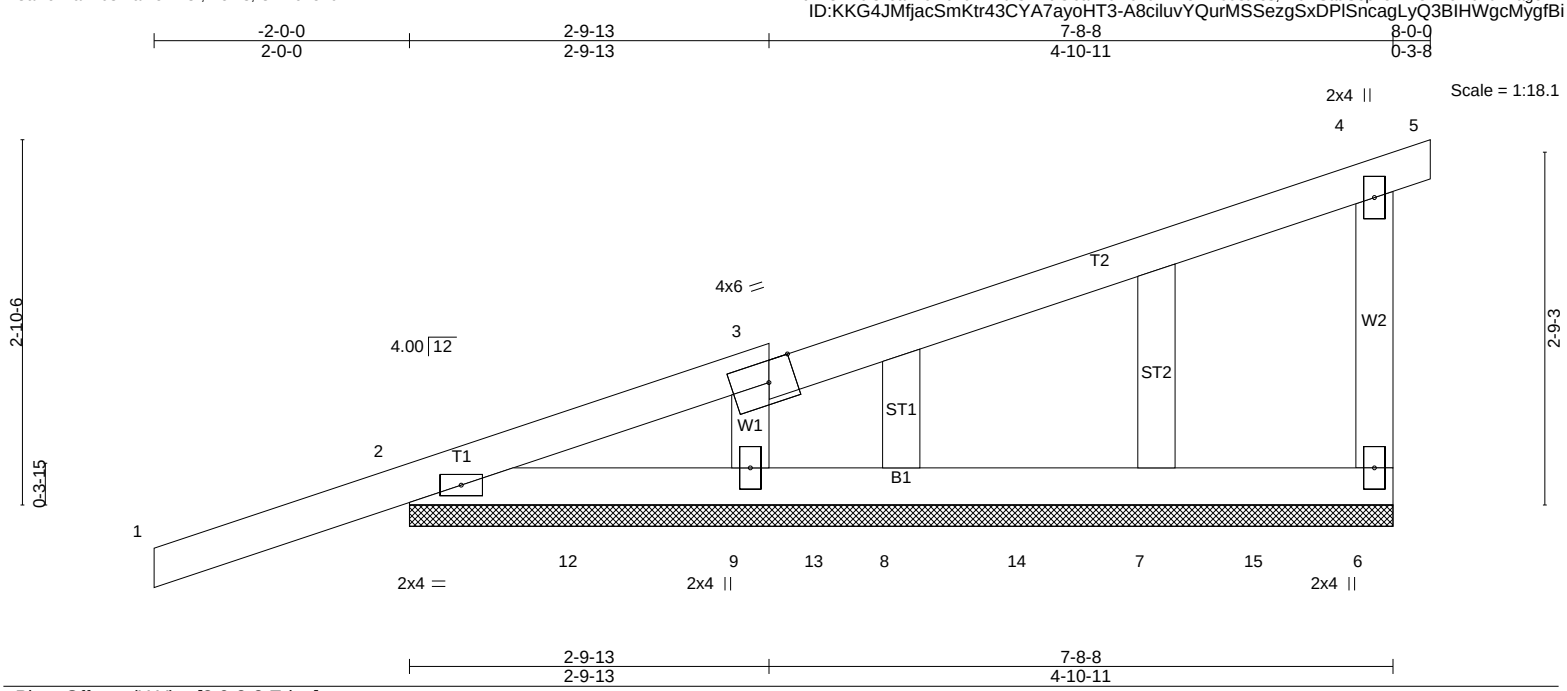

Plate Offsets (X,Y)-- [3:0-2-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.27	Vert(LL)	-0.00	5	n/r	120	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	0.02	5	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	6	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-P							Weight: 32 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-9.

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

REACTIONS. All bearings 7-8-8.
(lb) - Max Horz
2= 117(LC 9)
Max Uplift
All uplift 100 lb or less at joint(s) 6, 2, 9
Max Grav
All reactions 250 lb or less at joint(s) 6, 8, 7 except 2=252(LC 1), 9=342(LC 1)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-272/148
WEBS
3-9=-310/324

NOTES-

1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 8-0-0 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
2) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * 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.
5) A plate rating reduction of 20% has been applied for the green lumber members.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BH02	Monopitch	8	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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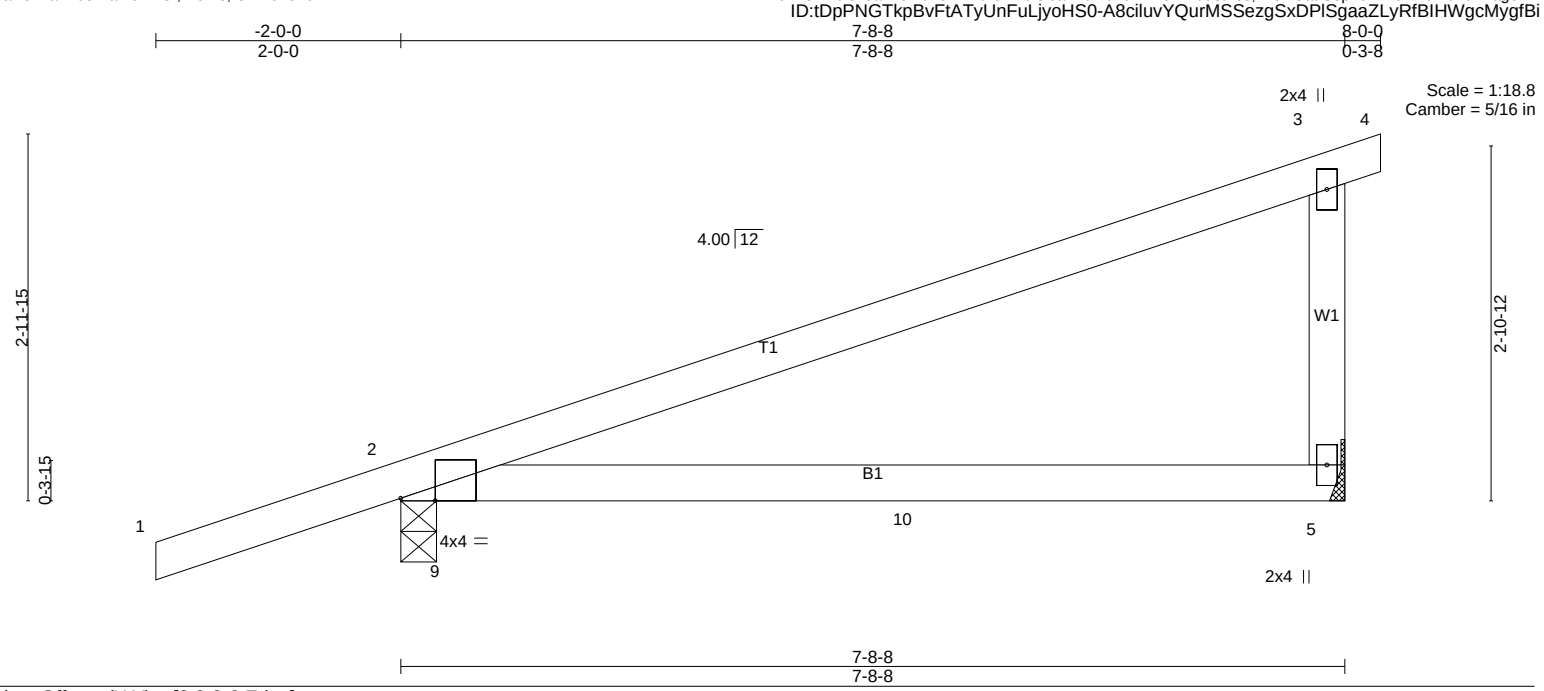

Plate Offsets (X,Y)-- [2:0-3-6,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.72	Vert(LL)	0.14	5-8	>661	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.48	Vert(CT)	-0.43	5-8	>214	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MP							Weight: 28 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

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

REACTIONS. (lb/size)
5 = 339/Mechanical
2 = 487/0-3-8 (min. 0-1-8)
Max Horz
2 = 122(LC 9)
Max Uplift
5 = -58(LC 12)
2 = -112(LC 8)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
3-5=-259/196

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 8-0-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Refer to girder(s) for truss to truss connections.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BJ01	Monopitch Supported Gable	1	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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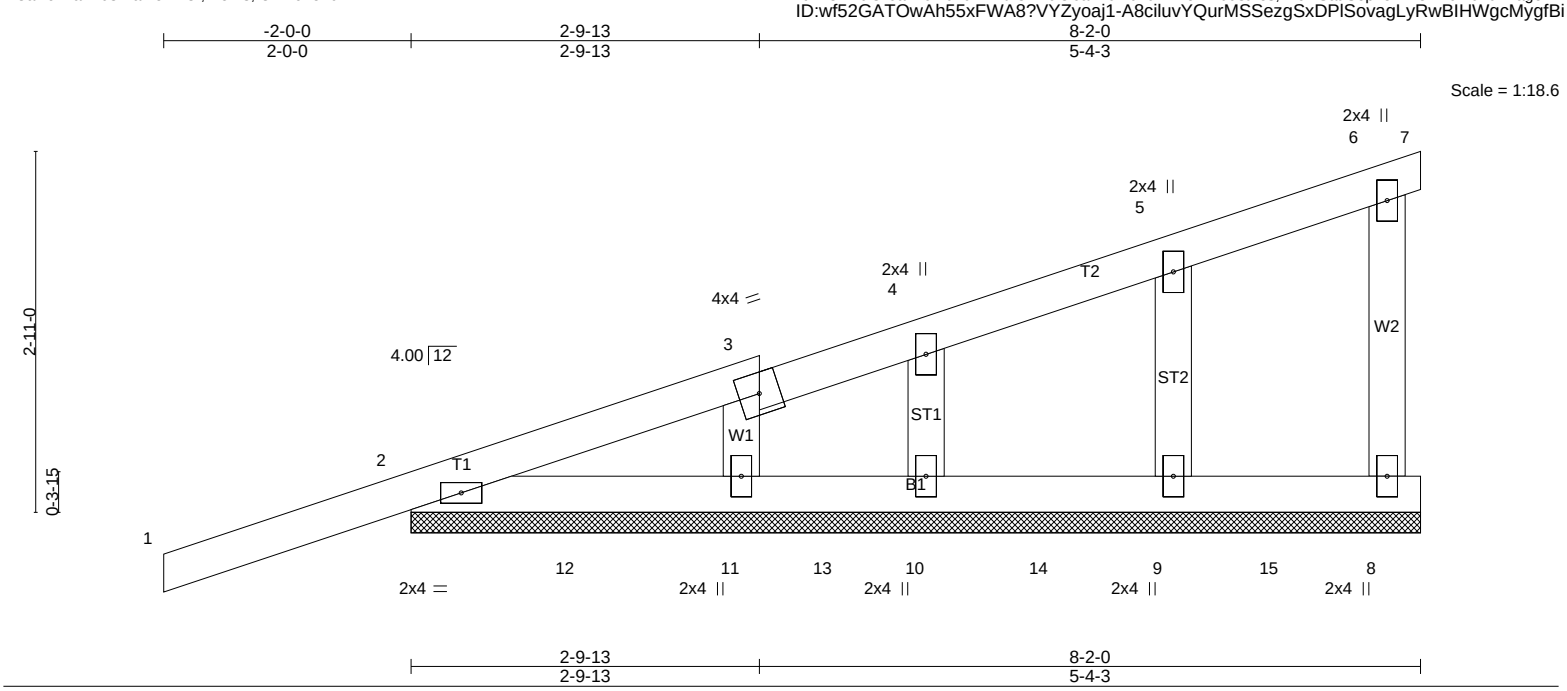

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	0.01	1	n/r	120	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	-0.05	1	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	-0.00	7	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-P							Weight: 34 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G
OTHERS 2x4 DF Stud/Std G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 2-11.

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

REACTIONS. All bearings 8-2-0.
(lb) - Max Horz
2= 118(LC 9)
Max Uplift
All uplift 100 lb or less at joint(s) 8, 2, 9, 10, 7, 11
Max Grav
All reactions 250 lb or less at joint(s) 8, 9, 10, 7, 11 except 2=307(LC 1)

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

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 8-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
8) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.
9) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
10) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
11) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BJ02	Monopitch	2	1	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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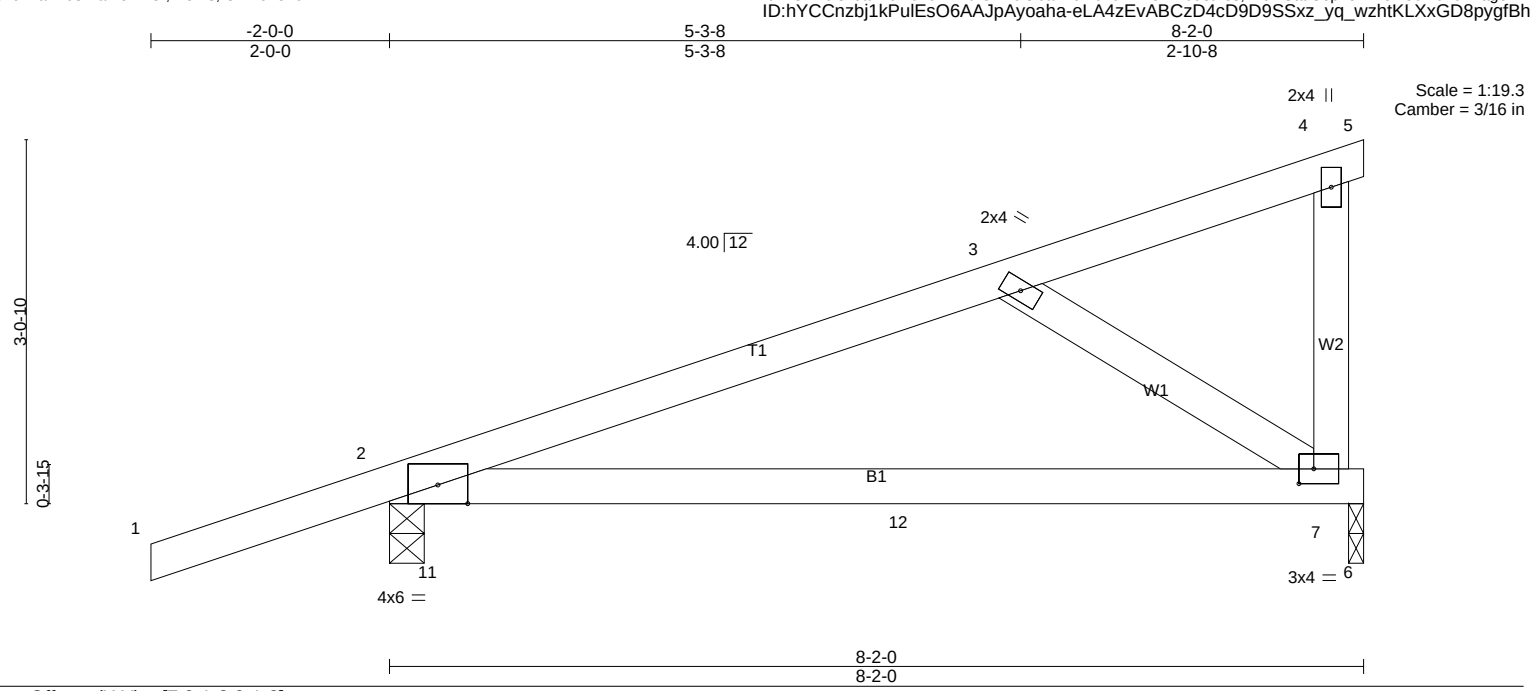

Plate Offsets (X,Y)-- [7:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.31	Vert(LL)	-0.10	7-10	>952	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.40	Vert(CT)	-0.27	7-10	>357	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	7	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MP							Weight: 33 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x4 DF No.2 G
WEBS 2x4 DF Stud/Std G

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

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

REACTIONS. (lb/size)
2 = 502/0-3-8 (min. 0-1-8)
7 = 334/0-1-8 (min. 0-1-8)
Max Horz
2 = 134(LC 8)
Max Uplift
2 = -106(LC 8)
7 = -63(LC 12)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
2-3=-402/126
BOT CHORD
2-12=-215/356, 7-12=-215/356
WEBS
3-7=-420/254

NOTES-
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-0-0 to 0-9-12, Interior(1) 0-9-12 to 8-2-0 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
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) A plate rating reduction of 20% has been applied for the green lumber members.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 7.
6) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
7) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
8) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard

Job	Truss	Truss Type	Qty	Ply	M31053-Highland Estates-Lot 9
LOT_10	BJ03	Monopitch Girder	1	2	Job Reference (optional)

California TrusFrame LLC., Perris, CA. 92570

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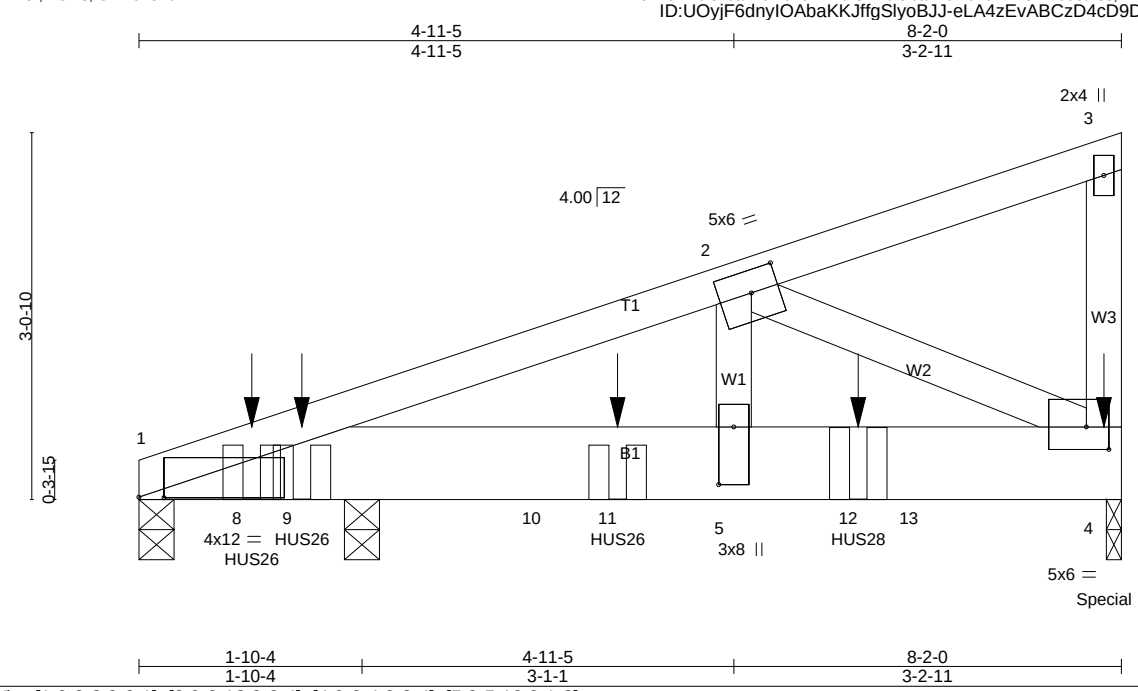


Plate Offsets (X,Y)-- [1:0-2-8,0-0-1], [2:0-2-12,0-2-4], [4:0-2-4,0-2-4], [5:0-5-12,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.25	TC	0.37	Vert(LL)	-0.05	5-7	>999	240	MT20	220/195
TCDL	16.0	Lumber DOL	1.25	BC	0.63	Vert(CT)	-0.15	5-7	>645	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.02	4	n/a	n/a		
BCDL	7.0	Code IBC2018/TPI2014		Matrix-MP							Weight: 86 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 DF No.2 G
BOT CHORD 2x8 DF SS G
WEBS 2x4 DF Stud/Std G *Except*
W3: 2x4 DF No.2 G

BRACING-
TOP CHORD
Structural wood sheathing directly applied or 5-4-13 oc purlins.
BOT CHORD
Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (lb/size)
1 = 4484/0-3-8 (min. 0-2-8)
1 = 4484/0-3-8 (min. 0-2-8)
4 = 4217/0-1-8 (req. 0-2-7)
Max Horz
1 = 98(LC 4)
Max Uplift
1 = -308(LC 4)
4 = -311(LC 4)
Max Grav
1 = 4727(LC 2)
1 = 4484(LC 1)
4 = 4628(LC 2)

FORCES. (lb)
Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD
1-2=-5273/344
BOT CHORD
1-8=-370/4775, 8-9=-374/4862, 1-9=-380/4948, 1-10=-380/5006, 10-11=-380/5006, 5-11=-380/5006, 5-12=-380/5006, 12-13=-380/5006, 4-13=-380/5006
WEBS
2-4=-5585/424, 2-5=-217/3813

NOTES-

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-2-0 oc.
Bottom chords connected as follows: 2x8 - 3 rows staggered at 0-2-0 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) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=8.4psf; BCDL=4.2psf; h=25ft; Cat. II; Exp C; 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
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.
6) A plate rating reduction of 20% has been applied for the green lumber members.
7) WARNING: Required bearing size at joint(s) 4 greater than input bearing size.
8) This truss is designed in accordance with the 2018 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
9) This truss has been designed for a moving concentrated load of 6.0lb dead located at all mid panels and at all panel points along the Bottom Chord, nonconcurrent with any other live loads.
10) Use USP HUS26 (With 14-16d nails into Girder & 6-16d nails into Truss) or equivalent spaced at 2-7-8 oc max. starting at 0-11-4 from the left end to 3-11-12 to connect truss(es) BA07 (1 ply 2x4 DF) to back face of bottom chord.
11) Use USP HUS28 (With 22-16d nails into Girder & 4-16d nails into Truss) or equivalent at 5-11-12 from the left end to connect truss(es) BA07 (1 ply 2x4 DF) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1725 lb down and 87 lb up at 8-0-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) This truss is designed for a creep factor of 3.01, which is used to calculate the Vert(CT) deflection per ANSI/TPI 1.

LOAD CASE(S)
Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 1-3=-72, 1-4=-14
Concentrated Loads (lb)
Vert: 4=-1441(B) 8=-1648(B) 9=-1645(B) 11=-1645(B) 12=-1645(B)

6300 Enterprise Lane ▲ Madison, Wisconsin 53719 ▲ 608-310-6702

May 15, 2020

Ref: California TrusFrame, Plant #1074

To Whom It May Concern:

Please be advised that California TrusFrame, located in Hughson, CA, is an active participant in good standing with the SBCRI TPI Quality Assurance Inspection Program for metal plate connected wood trusses, owned by SBCRI. The SBCRI TPI program is recognized by the ANSI-ASQ National Accreditation Board in accordance with ANSI/ANAB Report AI-2620 as a Type A (3rd Party) Inspection Body (https://www.sbcri.info/sites/default/files/uploads/attachments/node/186/sbcri-17020-certscope.pdf); it serves as a means for truss manufacturers to comply with International Residential Code (IRC) Sections R109.2 R502.11 and R802.10 and International Building Code (IBC) Sections 110.4, 1703, 1704.2.5 and 2303.4.

Based on random, unannounced inspections and/or audits of in-house QC records conducted by SBCRI, the metal plate connected wood truss design and manufacturing quality of California TrusFrame located in Hughson, CA, are in accordance with ANSI/TPI 1 referenced in ICC's IRC and IBC versions 2003, 2006, 2009, 2012, 2015 & 2018.

California TrusFrame, located in Hughson, CA, is authorized to affix SBCRI's TPI Quality Assurance Stamp provided that it maintains continued satisfactory conformance with ANSI/TPI 1 & IRC/IBC 2003, 2006, 2009, 2012, 2015 & 2018 codes. Its approved usage signifies that the truss manufacturer licensee is complying with the applicable provisions of the model building code. In the event of unsatisfactory performance (cycle of non-conforming reports), SBCRI TPI quality stamps may be removed from the premises of the SBCRI TPI licensee and decertification proceeding initiated.

If SBCRI can be of further assistance in familiarizing you with the voluntary Quality Assurance Inspection Program, or the ongoing status of California TrusFrame, located in Hughson, CA, or any other of the SBCRI TPI Quality Assurance Licensees, please do not hesitate to contact us, or visit our website at https://www.sbcri.info/qa/inspection-program-licensees for a complete listing of truss manufacturers that are participating in our quality auditing program.

Sincerely,

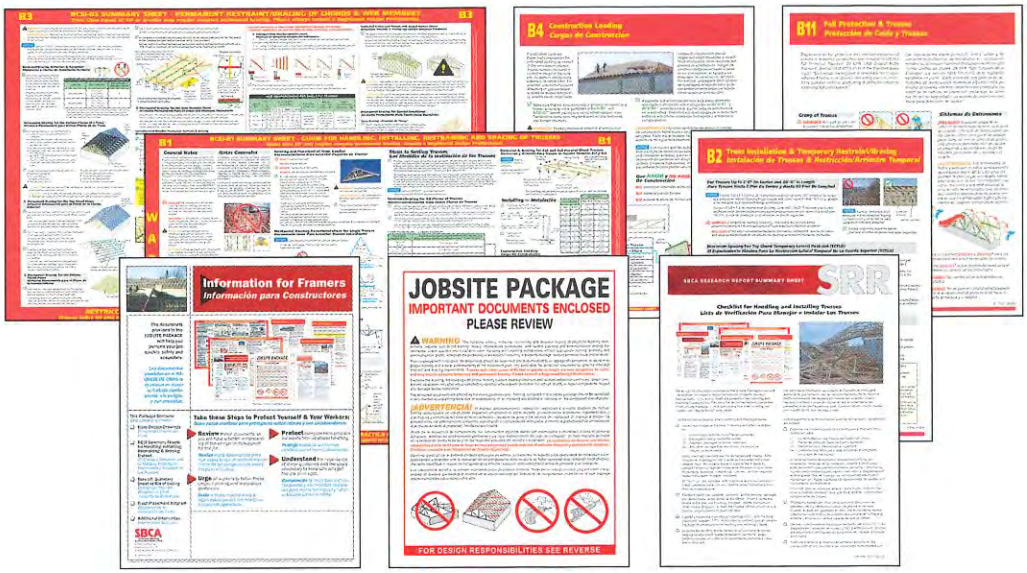
John Arne

Director of Inspection Services

Information for Framers
Información para Constructores

The documents provided in the JOBSITE PACKAGE will help you perform your job quickly, safely and accurately.

Los documentos provistos en el PAQUETE DE OBRA le ayudarán en hacer su trabajo rápidamente, sin peligro, y con precisión.



Standard Jobsite Package shown

This Package Contains:
Este paquete contiene:

- ❑ **Truss Design Drawings**
  Dibujos del Diseño de Truss
- ❑ **BCSI Summary Sheets for Handling, Installing, Restraining & Bracing Trusses**
  BCSI Hojas Resumen ara el Manejo, Instalación, Restricción y Arriostre de los Trusses
- ❑ **Take off, Summary Sheet or Bill of Lading**
  Descontar, Hoja de Resumen o Conocimiento de Embarque
- ❑ **Truss Placement Diagram**
  Diagrama de la Colocación de Truss
- ❑ **Additional Information**
  Información Adicional

Take these Steps to Protect Yourself & Your Workers:

Tome estas medidas para protegerse usted mismo y sus colaboradores:

Review these documents so you will have a better understanding of the components supplied for the job.

***Revise** estos documentos para que usted tenga un entendimiento mejor de los componentes provistos para el trabajo.*

Urge all workers to follow these proper handling and installation guidelines.

***Inste** a todos trabajadores a sigan estas pautas del manejo e instalación apropiada.*

Protect everyone from possible accidents from improper handling.

***Proteja** todos de accidentes posibles por el manejo incorrecto.*

Understand the importance of these guidelines and the steps necessary to keep safe and get the job done right.

***Comprenda** la importancia de estas pautas y las medidas necesarias para mantener seguro y hacer el trabajo correctamente.*

SBCA
Structural Building Components Association
6300 Enterprise Ln
Madison, WI 53719
608-274-4849 • 608-274-3329 (fax)
sbcindustry.com

 INFOFRAMER 190920

JOBSITE PACKAGE

IMPORTANT DOCUMENTS ENCLOSED

PLEASE REVIEW

WARNING The handling, storing, installing, restraining and diagonal bracing of structural building components requires specialized training, clearly implemented procedures, and careful planning and communication among the contractor, crane operator and installation crew. Handling and installing components without appropriate training, planning and communication greatly increases the probability of an accident resulting in property damage, serious personal injury and/or death.

Prior to component installation, the documents should be examined and disseminated to all appropriate personnel, in addition to proper training and a clear understanding of the installation plan, any applicable fall protection requirements, and the intended restraint and bracing requirements. **Trusses with clear spans of 60 feet or greater in length are very dangerous to install and may require complex temporary and permanent bracing. Please consult a Registered Design Professional.**

Examine the building, the building's structural framing system, bearing locations and related installation conditions. Begin component installation only after any unsatisfactory conditions have been corrected. Do not cut, modify or repair components. Report any damage before installation.

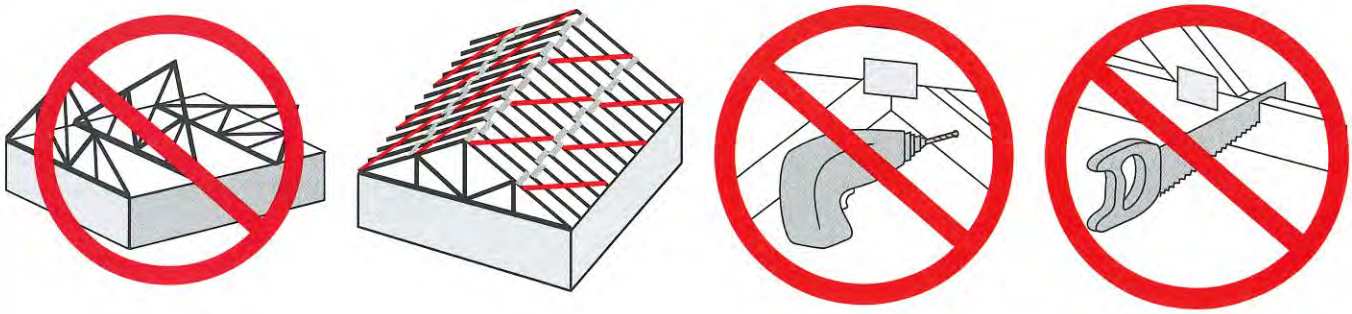
The enclosed documents are offered as minimum guidelines only. Nothing contained in this jobsite package should be construed in any manner as expanding the scope of responsibility of, or imposing any additional liabilities on, the component manufacturer.

¡ADVERTENCIA! *El manejo, almacenamiento, instalación, restricción y arriostre diagonal de componentes estructurales de construcción requieren entrenamiento especializada, procedimientos claramente implementados y planificaron y comunicación clara entre el contratista, operador de grúa, y los obreros de instalación. El manejar e instalar los componentes sin entrenamiento suficiente, planificación y comunicación adecuadas aumenta la probabilidad de un accidente que resulta en dareo a propiedad, herida seria o muerte.*

Antes de la instalación de componentes, los documentos adjuntos deben ser examinados y difundidos a todo el personal apropiado, además del entrenamiento pertinente y un claro entendimiento del plan de instalación, de todo requisito aplicable de la protección contra la caída y de los requisitos previstos de arriostre y restricción. ***La instalación de trusses con tramos despejados y más de 60 pies de largo es muy peligrosa y puede requiere el arriostre temporal y permanente complejo. Por favor, consulte a un Profesional de Diseño Registrado.***

Examine la estructura, el sistema armazón estructural de edificio, ubicaciones de soporte e las condiciones de instalación correspondientes y comenzar con la instalación de los componentes sólo después de haber corregido toda condición insatisfactoria. No corte, modifique ni repare los componentes y informe cualquier daño descubierto antes de proceder a la instalación.

Los documentos adjuntos se ofrecen solamente como directrices mínimas. Nada de lo incluido en este paquete debe interpretarse de manera que exceda el alcance de la responsabilidad del fabricante de componentes, ni en forma tal que imponga responsabilidades adicionales sobre éste.



FOR DESIGN RESPONSIBILITIES SEE REVERSE

The text appearing below has been paraphrased and reproduced from ANSI/TPI 1-2014, Chapter 2, with permission from the publisher, the Truss Plate Institute (TPI) (tpinst.org). For reference, the numbers in parentheses refer to specific ANSI/TPI 1 sections. Refer to ANSI/TPI 1 Chapter 2 for complete text and definitions. For information on design responsibilities contact your Component Manufacturer or SBCA at 608-274-4849 or sbcindustry.com.

CONSTRUCTION RELATED ITEMS

The Contractor shall not proceed with the Truss installation until the Truss Submittal Package has been reviewed by the Building Designer (**2.3.4.2**). The Building Designer shall review the Truss Submittal Package for compatibility with the building design. All such submittals shall include a notation indicating that they have been reviewed and whether or not they have been found to be in general conformance with the design of the Building (**2.3.2.3**).

The method of Permanent Individual Truss Member Restraint/Bracing and the method of anchoring or restraining to prevent lateral movement of all Truss members acting together as a system shall be accomplished by: (a) standard industry Lateral Restraint and Diagonal Bracing details in accordance with BCSI-B3 and/or BCSI-B7 (**2.3.3.1.1**), (b) Permanent Individual Truss Member Restraint shall be permitted to be replaced with reinforcement designed to prevent buckling (e.g., buckling reinforcement by T-reinforcement or L-reinforcement, proprietary reinforcement, etc.) (**2.3.3.1.2**), or a project specific Truss member permanent Lateral Restraint/Diagonal Bracing design for the roof or floor Building Structural System shall be permitted to be specified by the Building Designer or any Registered Design Professional (RDP) (**2.3.3.1.3**).

If a specific T member permanent bracing design for the roof or floor Framing Structural System is not provided by the Owner, Building Designer, or any RDP, the method of Permanent Individual Truss Member Restraint and Diagonal Bracing for the Truss Top Chord, Bottom Chord, and Web members shall be in accordance with BCSI-B3 or BCSI-B7 (**2.3.3.2**).

The Contractor is responsible for the construction means, methods, techniques, sequences, procedures, programs, and safety in connection with the receipt, storage, handling, installation, restraining, and bracing of the Trusses (**2.3.4.4**). The Contractor shall ensure that the Building support conditions are of sufficient strength and stability to accommodate the loads applied during the Truss installation process. Truss installation shall comply with installation tolerances shown in BCSI-B1. Temporary Installation Restraint/Bracing for the Truss system and the permanent Truss system Lateral Restraint and Diagonal Bracing for the completed building and any other construction work related directly or indirectly to the Trusses shall be installed by the Contactor in accordance with the Construction Documents and/or the Truss Submittal Package (**2.3.4.5**).

The Contractor shall examine the trusses delivered to the job site and after the Trusses are erected and installed for dislodged or missing connectors, cracked, dislodged or broken members, or any other damage that may impair the structural integrity of the Truss (**2.3.4.6/2.3.4.7**). In the event that damage to a Truss is discovered that would likely impair the structural integrity of the Truss, the Contractor shall ensure that the Truss not be erected or that any area within the building supported by any such Truss already erected shall be appropriately shored or supported to prevent further damage from occurring and shall remain clear and free of any load imposed by people, plumbing, electrical, mechanical, bridging, bracing, etc. until field repairs have been properly completed (**2.3.4.8**). In the event of damage, the Contractor shall contact the Truss Manufacturer to determine an adequate field repair and construct the field repair in accordance with the written instructions and details provided by any RDP (**2.3.4.9**).

TRUSS MANUFACTURER RESPONSIBILITIES

Where required by the Construction Documents or Contract, Legal Requirements or the Building Official, the Truss Manufacturer shall provide the appropriate Truss Submittal Package, including the Truss Design Drawings, a Truss Placement Diagram, and the required Permanent Individual Truss Member Restraint and the method to be used (**2.3.6.5**) to one or more of the following: Building Official; Building Designer and/or Contractor for review and/or approval (**2.3.6.7**). The Truss Manufacturer shall also be allowed to provide detail drawings to the Contractor to document special application conditions (**2.3.6.6**).

The Truss Placement Diagram identifies the assumed location for each individually designated Truss and references the corresponding Truss Design Drawing. The Truss Placement Diagram shall be permitted to include identifying marks for other products including Structural Elements, so that they can be more easily identified by the Contractor during field erection. When the Truss Placement Diagram serves only as a guide for Truss installation and requires no engineering input or is not prepared by a RDP, it does not require the seal of any RDP including cases where the Legal Requirements mandate a RDP for the Buildings (**2.3.6.4**).

In preparing the Truss Submittal Package, the Truss Manufacturer shall be permitted to rely on the accuracy and completeness of information furnished in the Construction Documents or otherwise furnished in writing by the Building Designer and/or Contractor (**2.3.6.8**).

The Truss Manufacturer shall determine the fabrication tolerance to be used in the truss design (**2.3.6.9**) and manufacture the trusses in accordance with the final Truss Design Drawings, using the quality criteria required by ANSI/TPI 1-2014 unless more stringent quality criteria is provided by the Owner in writing or through the Construction Documents (**2.3.6.10**).

SBCA
Structural Building Components Association
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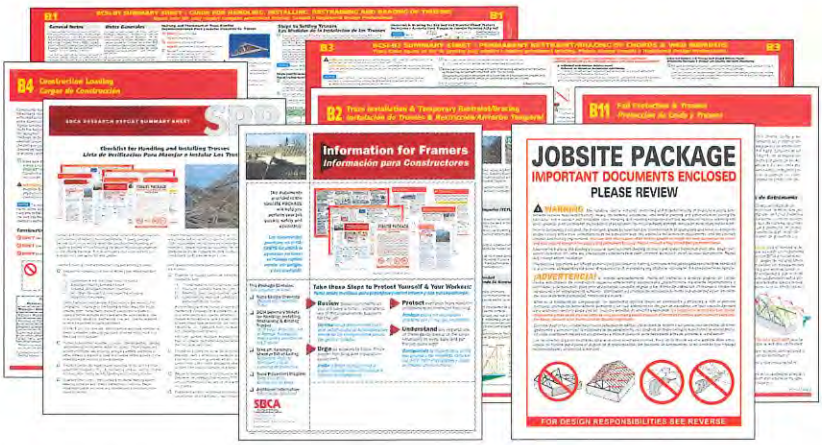
SBCA RESEARCH REPORT SUMMARY SHEET SRR

Checklist for Handling and Installing Trusses
Lista de Verificación Para Manejar e Instalar Los Trusses



Review all the information provided in the Jobsite Package to ensure compliance with industry recommendations. Property damage, serious bodily injury and/or death are possible when handling and installing trusses without following the recommendations presented in the Jobsite Package. This is particularly true when working with trusses with clear spans 60' and greater.

Use the following checklist when handling and erecting trusses.

☐ Inspect the trusses at the time of delivery and after installation for:

(1) Conformance with the Truss Design Drawings
(2) Dislodged/missing connector plates
(3) Cracked, dislodged or broken members
(4) Any other damage that may impair the structural integrity of the trusses.

Notify the truss manufacturer if truss repairs are needed. After installation, if damage to the trusses is discovered that could weaken them, temporarily brace or support the trusses to prevent further damage and make sure the area remains clear of plumbing, electrical, mechanical runs, etc. until the required repairs have been properly completed.

DO NOT cut, drill, relocate, add or remove any truss member or metal connector plate until you have received instructions from the truss manufacturer.

☐ Protect trusses from weather, corrosion, lateral bending, damage and deterioration when stored at the jobsite. When trusses are stored at the site, use blocking, stringers, pallets, platforms or other means of support to keep the trusses off the ground or in a braced upright position to avoid damage.

☐ Carefully review the truss design drawings (TDD) and the truss placement diagram (TPD), if provided by contract, and all Jobsite Package documents prior to handling and installing trusses.

☐ Examine the building, the building's structural framing system, bearing locations and related installation conditions. Begin installing trusses only after any unsatisfactory conditions have been corrected.

Revise toda la información provista en el Paquete de obra para asegurarse que cumplen con las recomendaciones de la industria. Daño a propiedad, herida seria y/o muerte son posibles cuando manejar e instalar trusses sin siguiendo las recomendaciones presentados en del Paquete de obra. Especialmente cuando trabajar con trusses de 60 pies de largo o más.

Use la siguiente lista de verificación cuando se manejan o se levantan los trusses.

☐ *Examine los trusses cuando se los entreguen y después de la instalación para:*

(1) Conformidad con los Dibujos de Diseño del Truss
(2) Placas de conexión fuera de lugar o perdidas
(3) Miembros rotos, descolocados o partidos
(4) Cualquier otro daño que pueda perjudicar la integridad estructural de los trusses.

Avise el fabricante de trusses si reparaciónes al truss son necesarios. Después de la instalación, si daño a los trusses está descubierto que pueden debilitarlos, arriostre o soporte los trusses temporalmente para prevenir más daño y asegúrese que el área queda libre de tuberías, las componentes eléctricas o mecánicas, etc. hasta que todos los reparaciónes requeridas son completados correctamente.

NO corte, perfore, reubique, añada o quita ningún miembro del truss o conector de metal hasta que haya recibido instrucciones del fabricante de trusses.

☐ *Proteja los trusses del clima, de la corrosión de torceduras laterales, daño y deterioros cuando los guarda en la obra. Cuando trusses son guardado en sitio, use bloqueados, paletas, plataformas u otros tipos de soporte para almacenarlos fuera de la tierra o en posición vertical para evitar que se dañen.*

☐ *Revise cuidadosamente los dibujos de diseño del truss (TDD), el diagrama de instalación de trusses (TPD) si está provisto, y todos los documentos del Paquete de obra antes de manejar e instalar los trusses.*

☐ *Examine el edificio, el sistema del armazón estructural, las ubicaciones de los soportes y las condiciones relacionadas con*

- ☐ Properly connect all beams and components that support trusses prior to installing the trusses.
- ☐ Girder trusses may consist of more than one truss. Review the TDD to determine the proper number of plies and the correct attachment methods to be used at the jobsite.
- ☐ Use a spreader bar 1/2 to 2/3 of the truss span for trusses over 30' but less than 60' and 2/3 to 3/4 of the truss span for trusses up to and over 60'.
- ☐ Install lateral restraint and diagonal bracing in accordance with the guidelines in the Jobsite Package to prevent trusses from toppling during installation. Erect trusses using the design spacing indicated, keeping the trusses vertical and parallel to one another. Anchor trusses securely at bearing points. Install trusses no more than plus or minus 1/4" from the TPD location.
- ☐ Refer to the construction documents, the TDDs or the TPD (if required by the contract) for the hanger locations. Hangers shall be correctly attached. Refer to hanger manufacturer's specifications for installation information.
- ☐ Install all permanent individual truss member restraint and bracing or member reinforcement depicted on the TDDs, BCSI-B3 and the construction documents.
- ☐ Comply with the owner's, or the owner's retained registered design professional's, permanent building stability bracing, anchorage, connections and field assembly requirements. This information is typically provided in the construction documents.
- ☐ Install structural sheathing as soon as possible. Trusses hold their profiles best when they have been properly plumbed, restrained and braced with structural sheathing. Sheath early... sheath often!
- ☐ During construction, distribute material and equipment loads (e.g., plywood, drywall, roofing, tools, etc.) on the trusses to stay within the design load limits for each truss. Make sure the trusses are adequately restrained and braced BEFORE placing any construction loads on them. Only install HVAC units, fire sprinklers, etc., on trusses if the trusses have been designed to accommodate these specific loads. Review the TDD for the assumed loads and locations.

NOTE: Temporarily braced structures are NOT suitable for use or occupancy. Restrict access to construction personnel only. DO NOT inhabit or store anything of value in temporarily braced structures.

Under industry guidelines, trusses that have been field altered on the jobsite or overloaded during the installation phase of construction may null or void the truss manufacturer's limited warranty. Check the truss manufacturer's limited warranty for specific information.

la instalación. Comience a instalar los trusses sólo después de haber resuelto cualquier condición desfavorable.

- ☐ *Conecte correctamente todas las vigas y componentes que apoyan cerchas antes de instalar las trusses.*
- ☐ *Los trusses de travesaño pueden consistir en más de un truss. Revise los TDDs para determinar el número adecuado de capas y los métodos de conexión correctos para ser usados en la obra.*
- ☐ *Use una barra de extensión a 1/2 hasta 2/3 del vano del truss para los trusses que tengan entre 30 pies y 60 pies. Use una barra de extensión 2/3 hasta 3/4 del vano del truss para los trusses hasta más largo de 60 pies.*
- ☐ *Instale restricción lateral y arriostre diagonal de acuerdo con las directrices en el Paquete de obra para evitar que los trusses se caigan durante la instalación. Levante los trusses usando el espacio de diseño indicado, y mantenga los trusses verticales y paralelas con respecto al otro. Arriostre los trusses de forma segura en los soportes. Instale los trusses a una distancia no más de 1/4 pulgadas de la ubicación en el TPD.*
- ☐ *Refiera a los documentos de construcción, el TDD o el TPD (si requerido por el contrato) para las ubicaciones de los conectores. Conectores deben ser sujetados correctamente. Refiera a las especificaciones del fabricante de los conectores para información de instalación.*
- ☐ *Instale todas restricciones permanentes de miembros individuales del truss o refuerzas de miembros secundarios mostrados en el TDD, BCSI-B3 y los documentos de construcción.*
- ☐ *Cumpliese con los requisitos de arriostre permanente de estabilidad del edificio, restricciones, conexiónes, y del ensamblaje en campo del propietario o del profesional de diseño registrado que es empleado por el propietario. Esta información es provista típicamente en los documentos de construcción.*
- ☐ *Instale el entablado estructural cuanto antes. Los trusses se sostienen mejor cuando han sido apropiadamente colocados a plomadas, restringidas, arriostradas y sujetados al entablado estructural correctamente. ¡Aplique el entablado temprano… aplíquelo con frecuencia!*
- ☐ *Durante la construcción, distribuya los materiales y cargas de equipo (ej. contrachapado, herramientas, materiales, etc.) en los trusses para quédese entre las límitas de capacidad para cada truss. Asegúrese que los trusses son restringidos y arriostrados adecuadamente ANTES de poner algunas cargas de construcción encima de los. Solamente instale unidades de HVAC, aspersores del fuego, etc., en los trusses si los trusses son diseñados para contenerlos. Revise los TDD para las cargas y ubicaciones supuestos.*

***NOTA:** Estructuras que son arriostrados temporalmente NO SON apropiados para el uso o la ocupación. Restrinja la entrada a solamente los obreros. NO habitar o guardar alguna cosa de valor entre de estructuras que son arriostrados temporalmente.*

Bajo las guías industriales, los trusses que han sido alterados en la obra o sobrecargados durante la fase de instalación de la construcción, pueden anular o invalidar la garantía limitada que ofrece la compañía fabricante de sus trusses. Para información específica, revise la garantía que brinda la compañía fabricante.

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B1 BCSI-B1 SUMMARY SHEET - GUIDE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF TRUSSES B1

Spans over 60′ may require complex permanent bracing. Consult a Registered Design Professional.

WARNING!

General Notes

Trusses are not marked in any way to identify the frequency or location of temporary lateral restraint and diagonal bracing. Follow the recommendations for handling, installing and temporary restraining and bracing of trusses. Refer to ***BCSI*** *– Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses**** for more detailed information.

Truss Design Drawings may specify locations of permanent lateral restraint or reinforcement for individual truss members. Refer to the **BCSI-B3**** for more information. All other permanent bracing design is the responsibility of the building designer.

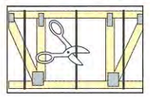
Notas generales

Los trusses no están marcados de ningún modo que identifique la frecuencia o localización de restricción lateral y arriostre diagonal temporales. Use las recomendaciones de manejo, instalación, restricción y arriostre temporal de los trusses. Vea el folleto **BCSI** *– Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arriostre de los Trusses de Madera Conectados con Placas de Metal**** *para información más detallada.*

Los dibujos de diseño de los trusses pueden especificar las localizaciones de restricción lateral permanente o refuerzo en los miembros individuales del truss. Vea la hoja resumen ***BCSI-B3**** *para más información. El resto de los diseños de arriostres permanentes son la responsabilidad del diseñador del edificio.*

DANGER The consequences of improper handling, erecting, installing, restraining and bracing can result in a collapse of the structure, or worse, serious personal injury or death.

¡PELIGRO! *El resultado de un manejo, levantamiento, instalación, restricción y arrisotre incorrecto puede ser la caída de la estructura o aún peor, heridos o muertos.*



CAUTION Exercise care when removing banding and handling trusses to avoid damaging trusses and prevent injury. Wear personal protective equipment for the eyes, feet, hands and head when working with trusses.

¡CAUTELA! *Utilice cautela al quitar las ataduras o los pedazos de metal de sujetar para evitar daño a los trusses y prevenir la herida personal. Lleve el equipo protectivo personal para ojos, pies, manos y cabeza cuando trabaja con trusses.*

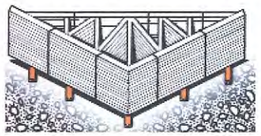
Handling — *Manejo*

NOTICE Avoid lateral bending.

Evite la flexión lateral.

NOTICE The contractor is responsible for properly receiving, unloading and storing the trusses at the jobsite. Unload trusses to smooth surface to prevent damage.

El contratista tiene la responsabilidad de recibir, descargar y almacenar adecuadamente los trusses en la obra. Descargue los trusses sobre una superficie lisa para prevenir el daño.



Trusses may be unloaded directly on the ground at the time of delivery or stored temporarily in contact with the ground after delivery. If trusses are to be stored for more than one week, place blocking of sufficient height beneath the stack of trusses at 8′ (2.4 m) to 10′ (3 m) on-center (oc).

Los trusses pueden ser descargados directamente en el suelo en aquel momento de entrega o almacenados temporalmente en contacto con el suelo después de entrega. Si los trusses estarán guardados para más de una semana, ponga bloques de altura suficiente debajo de la pila de los trusses a 8 hasta 10 pies en centro (oc).

If trusses are to be stored for more than one week, cover bundles to protect from the environment.

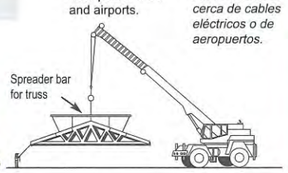
Para trusses guardados por más de una semana, cubra los paquetes para protegerlos del ambiente.

Refer to **BCSI**** for more detailed information pertaining to handling and jobsite storage of trusses.

Vea el folleto ***BCSI**** *para información más detallada sobre el manejo y almacenado de los trusses en el sitio de trabajo.*

CAUTION Use special care in windy weather or near power lines and airports.

¡CAUTELA! *Utilice cuidado especial en días ventosos o cerca de cables eléctricos o de aeropuertos.*



Use proper rigging and hoisting equipment.

Use equipo apropiado para levantar e improvisar.

DO NOT store unbraced bundles upright.

NO *almacene verticalmente los trusses sueltos.*

DO NOT store on uneven ground.

NO *almacene en tierra desigual.*

Hoisting and Placement of Truss Bundles

Recomendaciones para levantar paquetes de trusses

DON'T overload the crane.

NO *sobrecargue la grúa.*

NEVER use banding to lift a bundle.

NUNCA *use las ataduras para levantar un paquete.*

A single lift point may be used for bundles of top chord pitch trusses up to 45° (13.7 m) and parallel chord trusses up to 30′ (9.1 m).
Use at least two lift points for bundles of top chord pitch trusses up to 60′ (18.3 m) and parallel chord trusses up to 45′ (13.7 m). Use at least three lift points for bundles of top chord pitch trusses >60′ (18.3 m) and parallel chord trusses >45′ (13.7 m).

Puede usar un solo lugar de levantar para paquetes de trusses de la cuerda superior hasta 45′ y trusses de cuerdas paralelas de 30′ o menos. Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada hasta 60′ y trusses de cuerdas paralelas hasta 45′.
Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada mas de 60′ y trusses de cuerdas paralelas mas de 45′.

WARNING Do not overload supporting structure with truss bundle.

¡ADVERTENCIA! *No sobrecargue la estructura apoyada con el paquete de trusses.*

Place truss bundles in stable position.

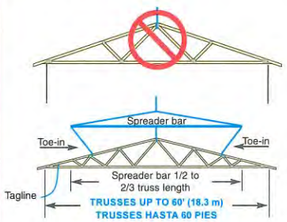
Puse paquetes de trusses en una posición estable.

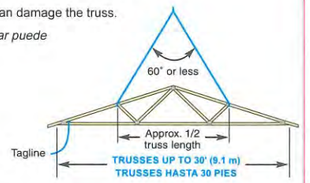
Mechanical Hoisting Recommendations for Single Trusses

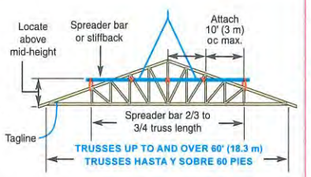
Recomendaciones para levantar trusses individuales

NOTICE Using a single pick-point at the peak can damage the truss.

El uso de un solo lugar en el pico para levantar puede hacer daño al truss.



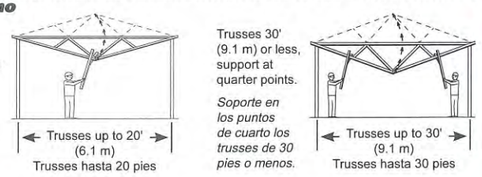




Hold each truss in position with the erection equipment until top chord temporary lateral restraint is installed and the truss is fastened to the bearing points.
Sostenga cada truss en posición con equipo de grúa hasta que la restricción lateral temporal de la cuerda superior esté instalado y el truss está asegurado en los soportes.

Installation of Single Trusses by Hand

Recommendacciones de levantamiento de trusses individuales por la mano



Temporary Restraint & Bracing

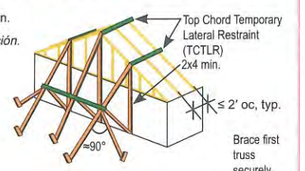
Restricción y arriostre temporal

NOTICE Refer to **BCSI-B2**** for more information.

Vea el resumen ***BCSI-B2**** *para más información.*

Locate ground braces directly in line with all rows of top chord temporary lateral restraint (see table in the next column).

Coloque los arriostres de tierra para el primer truss directamente en línea con cada una de las filas de restricción lateral temporal de la cuerda superior (vea la tabla en la próxima columna).



DO NOT walk on unbraced trusses.

NO *camine sobre trusses sueltos.*

DO NOT stand on truss overhangs until Structural Sheathing has been applied to the truss and overhangs.

NO *se pare en voladizos cerchas hasta Revestimiento estructural ha sido aplicado a la armadura y voladizos.*

Steps to Setting Trusses

Las medidas de la instalación de los trusses

1) Install ground bracing. **2)** Set first truss and attach securely to ground bracing. **3)** Set next 4 trusses with short member temporary lateral restraint (see below). **4)** Install top chord diagonal bracing (see below). **5)** Install web member plane diagonal bracing to stabilize the first five trusses (see below). **6)** Install bottom chord temporary lateral restraint and diagonal bracing (see below). **7)** Repeat process with groups of four trusses until all trusses are set.

1) *Instale los arriostres de tierra.* ***2)*** *Instale el primero truss y ate seguramente al arriostre de tierra.* ***3)*** *Instale los próximos 4 trusses con restricción lateral temporal de miembro corto (vea abajo).* ***4)*** *Instale el arriostre diagonal de la cuerda superior (vea abajo).* ***5)*** *Instale arriostre diagonal para los planos de los miembros secundarios para estabilice los primeros cinco trusses (vea abajo).* ***6)*** *Instale la restricción lateral temporal y arriostre diagonal para la cuerda inferior (vea abajo).* ***7)*** *Repita este procedimiento en grupos de cuatro trusses hasta que todos los trusses estén instalados.*

NOTICE Refer to **BCSI-B2**** for more information.
Vea el resumen ***BCSI-B2**** *para más información.*

Restraint/Bracing for All Planes of Trusses

Restricción/Arriostre para todos planos de trusses

Minimum lumber used for lateral restraint and diagonal bracing is 2x4 stress-graded lumber. Attach to each truss with at least 2-10d (0.128x3"), 2-12d (0.128x3.25") or 2-16d (0.131x3.5") nails.
La madera 2x4 clasificada por estrés es la madera mínima utilizada para restricción lateral y arriostramiento diagonal. Atarlas a cada braguero con al mínimo 2 clavos 10d (0.128x3"), 12d (0.128x3.25") o 16d (0.131x3.5").

This restraint and bracing method is for all trusses except 3x2 and 4x2 parallel chord trusses (PCTs). See top of next column for temporary restraint and bracing of PCTs.
Este método de restricción y arriostre es para todo trusses excepto trusses de cuerdas paralelas (PCTs) 3x2 y 4x2. Vea la parte superior de la columna para la restricción y arriostre temporal de PCTs.

1) TOP CHORD PLANE — *CUERDA SUPERIOR*

Truss Span *Longitud de Tramo*	Top Chord Temporary Lateral Restraint (TCTLR) Spacing *Espaciamiento del Arriostre Temporal de la Cuerda Superior*
Up to 30′ (9.1 m)	10′ (3 m) oc max.
30′ – 45′ (9.1 m – 13.7 m)	8′ (2.4 m) oc max.
45′ – 60′ (13.7 m – 18.3 m)	6′ (1.8 m) oc max.
60′ – 80′ * (18.3 m – 24.4 m)*	4′ (1.2 m) oc max.

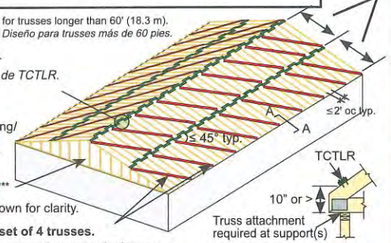
*Consult a Registered Design Professional for trusses longer than 60′ (18.3 m).
**Consulte a un Professional Registrado de Diseño para trusses más de 60 pies.*

See **BCSI-B2**** for TCTLR options.
Vea el ***BCSI-B2**** *para las opciones de TCTLR.*

NOTICE Refer to **BCSI-B3**** for Gable End Frame restraint/bracing/reinforcement information.
Para información sobre restricción/arriostre/refuerzo para Armazones Hastiales vea el resumen ***BCSI-B3****

Note: Ground bracing not shown for clarity.

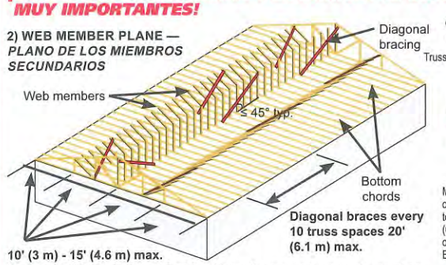
Repeat diagonal braces for each set of 4 trusses.
Repita los arrisotres diagonales para cada grupo de 4 trusses.



NOTICE **LATERAL RESTRAINT & DIAGONAL BRACING ARE VERY IMPORTANT**

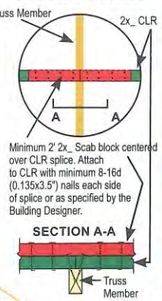
¡LA RESTRICCIÓN LATERAL Y EL ARRIOSTRE DIAGONAL SON MUY IMPORTANTES!

2) WEB MEMBER PLANE — *PLANO DE LOS MIEMBROS SECUNDARIOS*

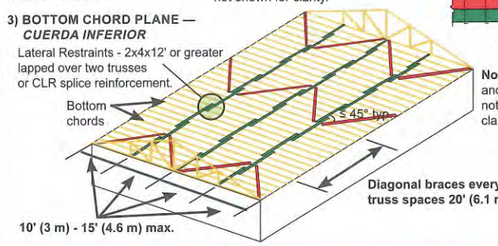


Note: Some chord and web members not shown for clarity.

Continuous Lateral Restraint (CLR) splice reinforcement



3) BOTTOM CHORD PLANE — *CUERDA INFERIOR*



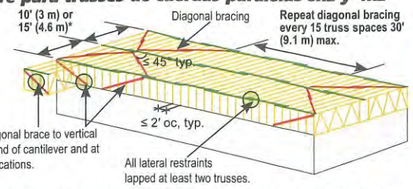
Note: Some chord and web members not shown for clarity.

Restraint & Bracing for 3x2 and 4x2 Parallel Chord Trusses

Restricción y arriostre para trusses de cuerdas paralelas 3x2 y 4x2

NOTICE Refer to **BCSI-B7**** for more information.

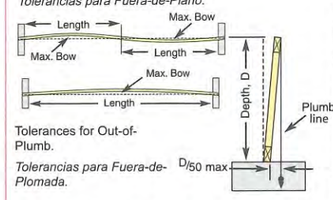
Vea el resumen **BCSI-B7**** para más información.



***Top chord temporary lateral restraint spacing shall be 10′ (3 m) oc max. for 3x2 chords and 15′ (4.6 m) oc for 4x2 chords.**

Installing — *Instalación*

Tolerances for Out-of-Plane.
Tolerancias para Fuera-de-Plano.



Tolerances for Out-of-Plumb.
Tolerancias para Fuera-de-Plomada.

Out-of-Plumb		Out-of-Plane	
		Max. Bow	Truss Length
D/50	D (ft.)	3/4″ (19 mm)	12.5′ (3.8 m)
1/4″ (6 mm)	1′ (0.3 m)	7/8″ (22 mm)	14.6′ (4.5 m)
1/2″ (13 mm)	2′ (0.6 m)	1″ (25 mm)	16.7′ (5.1 m)
3/4″ (19 mm)	3′ (0.9 m)	1-1/8″ (29 mm)	18.8′ (5.7 m)
1″ (25 mm)	4′ (1.2 m)	1-1/4″ (32 mm)	20.8′ (6.3 m)
1-1/4″ (32 mm)	5′ (1.5 m)	1-3/8″ (35 mm)	22.9′ (7.0 m)
1-1/2″ (38 mm)	6′ (1.8 m)	1-1/2″ (38 mm)	25.0′ (7.6 m)
1-3/4″ (44 mm)	7′ (2.1 m)	1-3/4″ (44 mm)	29.2′ (8.9 m)
2″ (51 mm)	≥8′ (≥2.4 m)	2″ (51 mm)	≥33.3′ (10.1 m)

Construction Loading

Carga de construcción

DO NOT proceed with construction until all lateral restraint and bracing is securely and properly in place.

NO *proceda con la construcción hasta que todas las restricciones laterales y los arriostres estén colocados en forma apropiada y segura.*

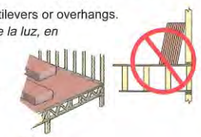
DO NOT exceed maximum stack heights in table at right. Refer to **BCSI-B4**** for more information.

NO *exceda las alturas máximas de montón. Vea el resumen* ***BCSI-B4**** *para más información.*

Maximum Stack Height for Material on Trusses[1,2]	
Material	**Height**
Gypsum Board	12″ (305 mm)
Plywood or OSB	16″ (406 mm)
Asphalt Shingles	2 bundles
Concrete Block	8″ (203 mm)
Clay Tile	3-4 tiles high

1. Based on truss live load of 40 psf or greater. For other conditions, contact a Registered Design Professional.
2. Install stacks of materials as quickly as possible.

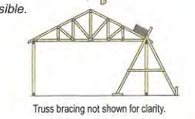
NEVER stack materials near a peak, at mid-span, on cantilevers or overhangs.
NUNCA *apile los materiales cerca de un pico, a centro de la luz, en cantilevers o aleros.*



DO NOT overload small groups or single trusses.
NO *sobrecargue pequeños grupos o trusses individuales.*

Place loads over as many trusses as possible.
Coloque las cargas sobre tantos trusses como sea posible.

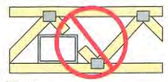
Position loads over load bearing walls.
Coloque las cargas sobre las paredes soportantes.



Alterations — *Alteraciones*

NOTICE Refer to **BCSI-B5.***

Vea el resumen ***BCSI-B5.****



DO NOT cut, alter, or drill any structural member of a truss unless specifically permitted by the truss design drawing.

NO *corte, altere o perfore ningún miembro estructural de un truss, a menos que esté especificamente permitido en el dibujo del diseño del truss.*

NOTICE Trusses that have been overloaded during construction or altered without the Truss Manufacturer's prior approval may render the Truss Manufacturer's limited warranty null and void.

Trusses que se han sobrecargado durante la construcción o han sido alterados sin la autorización previa del Fabricante de Trusses, pueden hacer nulo y sin efecto la garantía limitada del Fabricante de Trusses.

**Contact the Component Manufacturer for more information or consult a Registered Design Professional for assistance.

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¡ADVERTENCIA! HOJA RESUMEN DE LA GUÍA DE BUENA PRÁCTICA PARA EL MANEJO, INSTALACIÓN, RESTRICCIÓN Y ARRIOSTRE DE LOS TRUSSES

Vanos más de 60 pies pueden requerir arriostre permanente complejo. Consulte a un Profesional Registrado de Diseño.

B2 Truss Installation & Temporary Restraint/Bracing
Instalación de Trusses & Restricción/Arriostre Temporal

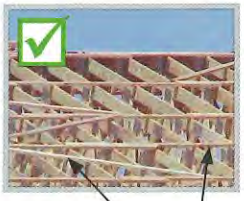
For Trusses Up to 2'-0" On Center and 80'-0" in Length
Para trusses hasta 2 pies en centro y hasta 80 pies de longitud

NOTICE Section 2303.4.1.3 of the 2018 International Building Code (IBC) requires the temporary installation restraint/bracing for all trusses with clear spans 60 feet (18.3 m) or greater to be designed by a registered design professional.

Sección 2303.4.1.3 del International Building Code (IBC) de 2015 requiere que la instalación temporal de restricción/arriostre para todos armazones con lapso libre de 60 pies (18.3 m) o más se diseña por un profesional de diseño registrado.

⚠ **DANGER** Disregarding handling, installing, restraining and bracing safety recommendations is the principal cause of truss erection/installation accidents.

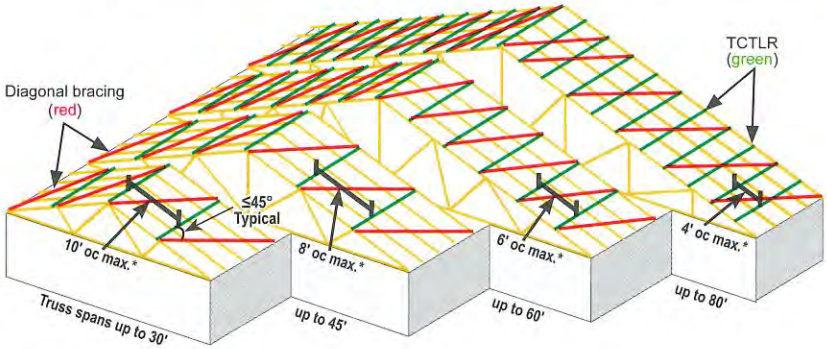
PELIGRO *El no seguir las recomendaciones de manejo, instalación, restricción y arriostre es la causa principal de los accidentes durante la erección/instalación de trusses.*



NOTICE Lateral restraint is NOT adequate by itself. Diagonal bracing is also required.
La Restricción Lateral NO es adecuada sin el Arriostre Diagonal.

Always diagonally brace for safety!
¡Siempre arriostre diagonalmente para seguridad!

Maximum Spacing For Top Chord Temporary Lateral Restraint (TCTLR)
El espaciamiento máximo para la restricción lateral temporal de la cuerda superior (TCTLR)



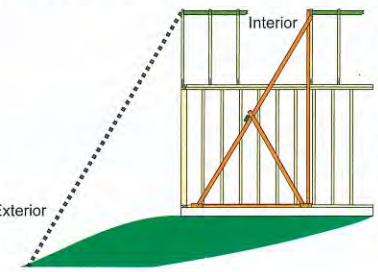
The graphic at left shows the maximum on center (oc) spacing of TCTLR based on truss span from the table in Step 2 on page 2.
- Ground bracing not shown for clarity.
- Apply diagonal bracing or structural sheathing immediately. For spans over 60' applying structural sheathing immediately is the preferred method.

El dibujo a la izquierda muestra el espaciamiento máximo en el centro del TCTLR basado en los tramos de trusses de la tabla en el Paso 2 en la página 2.
- *No se muestra el arriostre de tierra para claridad.*
- *Aplique inmediatamente el Arriostre Diagonal o el Entablado Estructural (structural sheathing). Para tramos más de 60 pies el método preferido es entablarlos inmediatamente.*

Check These Items Before Starting Truss Erection/Installation and Correct as Needed
Revise estos puntos antes de empezar la erección/instalación y corríjalos cuando es necesario

- ✓ Building dimensions match the construction documents.
  Las dimensiones del edificio concuerdan con los documentos de construcción.
- ✓ Bearing supports (e.g., walls, columns, headers, beams, etc.) are accurately and securely installed, plumb and properly braced.
  Los soportes que sostienen cargas (ej., paredes, columnas, vigas de cabezera, vigas, etcétera) son instalados seguramente y con precisión, y son nivelados y arriostrados apropiadamente.
- ✓ Hangers, tie-downs, restraint and bracing materials are on site and accessible.
  Los colgadores (hangers), soportes de anclaje (tie-downs) y materiales de restricción y arriostre están accesibles en la obra.
- ✓ Erection/installation crew is aware of installation plan and lateral restraint/diagonal bracing requirements.
  El personal de erección/instalación es consciente del plan de instalación y los requisitos de restricción/arriostre.
- ✓ Multi-ply trusses, including girders, are correctly fastened together prior to lifting into place.
  Los trusses de varias capas, incluyendo travesaños, son fijados juntos correctamente antes de levantarlos en lugar.
- ✓ Any truss damage is reported to truss manufacturer. Refer to **BCSI-B5**.* Do not install damaged trusses unless instructed to do so by the building designer, truss designer or truss manufacturer.
  *Reporte cualquier daño a los trusses al fabricante de trusses. Consulte el resumen **BCSI-B5**.* No instale trusses dañados a menos que se lo indique el diseñador del edificio, el diseñador del truss o el fabricante del truss.*
- ✓ Trusses are the correct dimension.
  Los trusses son la dimensión correcta.
- ✓ Tops of bearing supports are flat, level and at the correct elevation.
  Las partes superiores de los soportes de cojinete son planas, niveladas y a la elevación correcta.
- ✓ Jobsite is clean and neat, and free of obstructions.
  La obra está limpia, ordenada y sin obstrucciones.

The ground bracing procedure is based on site and building configuration.
El procedimiento de arriostre de tierra para el primer truss es basado en el terreno y la configuración del edificio.



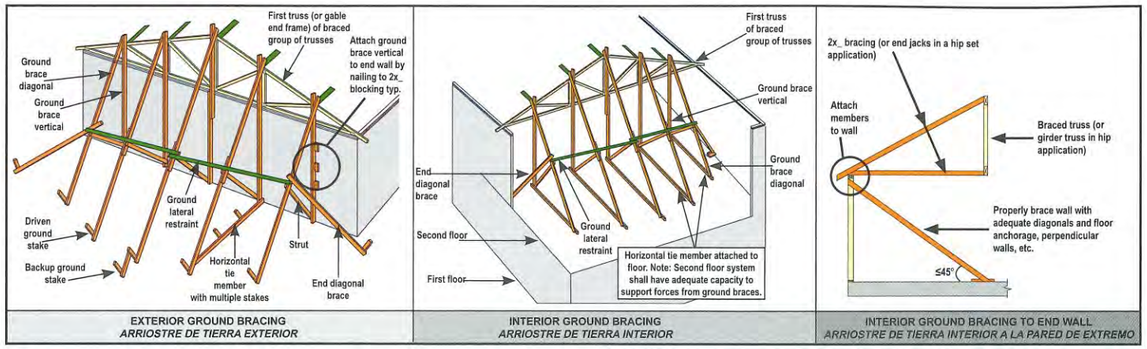
If ground level is too far from truss for exterior ground bracing, use interior ground bracing.

Si el nivel del suelo es demasiado lejos para usar arriostre de tierra exterior, use arriostre de tierra interior.

B2Temp 190501

Steps to Setting Trusses
Pasos para el montaje de trusses

1. Establish Ground Bracing Procedure: Exterior or Interior
Establezca el procedimiento de arriostre de tierra: exterior o interior

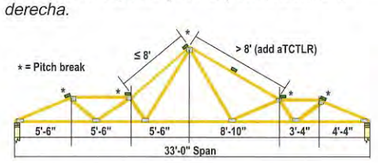


EXTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA EXTERIOR*	INTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA INTERIOR*	INTERIOR GROUND BRACING TO END WALL *ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO*

2. Determine the Locations for TCTLR and Ground Braces
Determine las ubicaciones para TCTLR y los arriostres de tierra

Use truss span to determine spacing for top chord temporary lateral restraint (TCTLR) from table at right.

Use el tramo del truss para determinar el espaciamiento para restricción lateral temporal de la cuerda superior (TCTLR) en la tabla a la derecha.

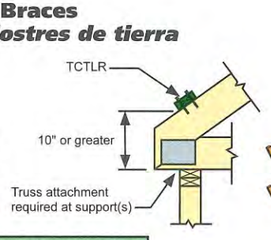


Locate additional TCTLR at each pitch break.

Localice TCTLR adicional en cada rotura de inclinación.

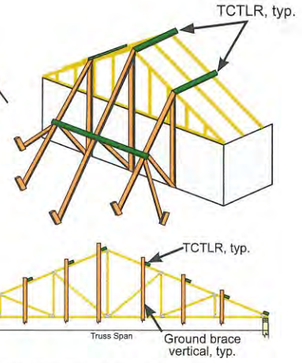
Locate additional TCTLR over bearings if the heel height is 10" or greater.

Localice TCTLR adicional sobre los soportes si la altura del talón (heel height) es de 10 pulgadas o más.



Maximum Top Chord Temporary Lateral Restraint Spacing**	
Truss Span	TCTLR Spacing
Up to 30'	10' on center maximum
30' - 45'	8' on center maximum
45' - 60'	6' on center maximum
60' - 80'*	4' on center maximum

*Consult a registered design professional for trusses longer than 60'.
**For trusses spaced greater than 2' oc, see also BCSI-B10.



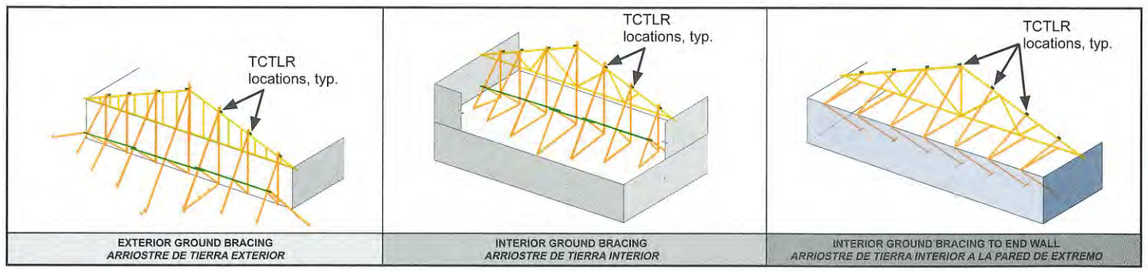
Locate a ground brace vertical at each TCTLR location.

Localice un arriostre de tierra vertical en cada lugar de TCTLR.

3. Set First Truss and Fasten Securely to Ground Braces
Coloque el primer truss y fíjelo seguramente a los arriostres de tierra

Set first truss (or gable end frame) and fasten securely to ground braces and to the wall, or as directed by the building designer. Examples of first truss installed include:

Coloque el primer truss (o armazón hastial) y fíjelo seguramente a las verticales de arriostre de tierra y a la pared, o como se dirige el diseñador del edificio. Ejemplos del primer truss instalado incluyen:



EXTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA EXTERIOR*	INTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA INTERIOR*	INTERIOR GROUND BRACING TO END WALL *ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO*

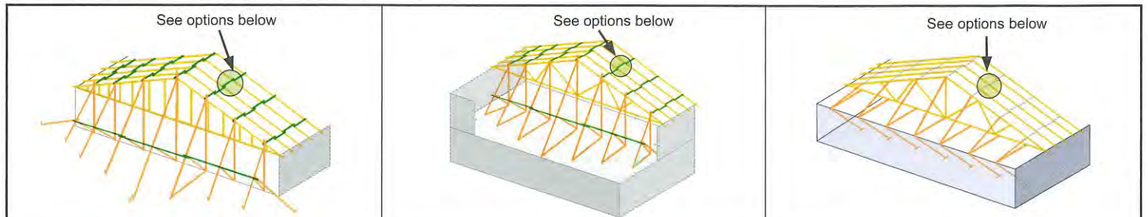
⚠ **CAUTION** First truss must be attached securely to all bearings and to all required ground braces prior to removing the hoisting supports.

CAUTELA *El primer truss debe estar firmemente sujeto a todos los soportes y a todos todos los arriostres de tierra requeridos, antes de quitar los soportes de levantamiento.*

4. Set Trusses 2, 3, 4 & 5 with TCTLR in Line with Ground Bracing
Coloque los trusses 2, 3, 4 y 5 con TCTLR en línea con los arriostres de tierra

Attach trusses securely at all bearings, shimming bearings as necessary. Examples of first five trusses set include:

Sujete seguramente los trusses a todos los soportes, rellenar sólidamente los soportes como sea necesario. Ejemplos de los primeros cinco trusses colocados incluyen:



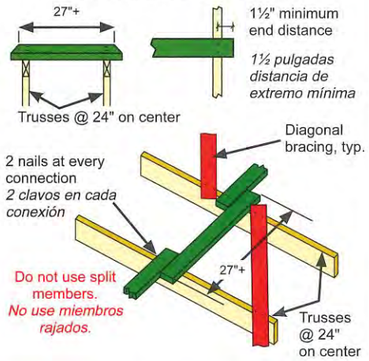
EXTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA EXTERIOR*	INTERIOR GROUND BRACING *ARRIOSTRE DE TIERRA INTERIOR*	INTERIOR GROUND BRACING TO END WALL *ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO*

NOTICE The following three (3) Short Member Temporary Lateral Restraint options **require that the diagonal bracing be installed continuously**. See figure for Option B in Step 8 on page 5.

Las siguientes tres opciones para instalar la Restricción Lateral Temporal de los Miembros Cortos requieren que el arriostre diagonal está instalado continuamente. Vea la figura de Opción B en el Paso 8 en la página 5.

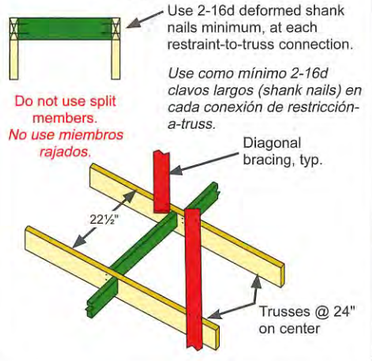
Option 1
Short member temporary lateral restraint installed on top of trusses

Opción 1
Restricción lateral temporal de los miembros cortos instalados encima de trusses



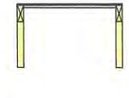
Option 2
Short member temporary lateral restraint installed between trusses

Opción 2
Restricción lateral temporal de los miembros cortos instalados entre trusses



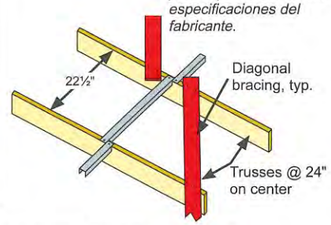
Option 3
Proprietary metal restraint products

Opción 3
Productos de metal para restricción patentados



These products are specifically designed to provide lateral restraint and are not just for spacing. See manufacturer's specifications.

Estos productos son diseñados específicamente para proveer restricción lateral y no son solamente para espaciamiento. Vea las especificaciones del fabricante.



⚠ **CAUTION** Each truss must be attached securely at all bearing locations and all TCTLR installed before removing the hoisting supports.

CAUTELA *Cada truss debe estar firmemente sujeto en todas las ubicaciones de soportes y todas las TCTLR instaladas antes de quitar los soportes de levantar.*

LATERAL RESTRAINT/BRACING MATERIAL AND CONNECTIONS
CONNEXIONES Y MATERIALES DE RESTRICCIÓN/ARRIOSTRE LATERAL

Minimum size of bracing and lateral restraint material is 2x4 stress-graded lumber or approved proprietary metal restraint/bracing, unless otherwise specified by the building designer.

El tamaño del material de restricción lateral y arriostre debe ser por lo menos 2x4 madera graduada por esfuerzo o restricción/arriostre de metal patentado aprobado, a menos que especifique el diseñador del edificio.

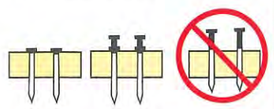
All bracing and lateral restraint members must be connected to each truss with at least 2 nails (see minimum sizes below), except for the short member restraints shown in Step 4, Option 2 (see above), which require 2-16d deformed-shank (i.e., ring- or screw-shank) nails.

Todos los miembros de restricción lateral y arriostre tienen que ser conectados a cada truss con un mínimo de 2 clavos (ver los tamaños mínimos mostrados abajo) excepto para las restricciones de miembros cortos mostrados en el Paso 4, Opción 2 (vea arriba), cuales requieren 2-16d clavos con largos desformados (Ej. Largos de anillos o tornillos).

Drive nails flush. If the temporary restraint and bracing is to be removed when the permanent bracing is installed, use double-headed nails for ease of removal.

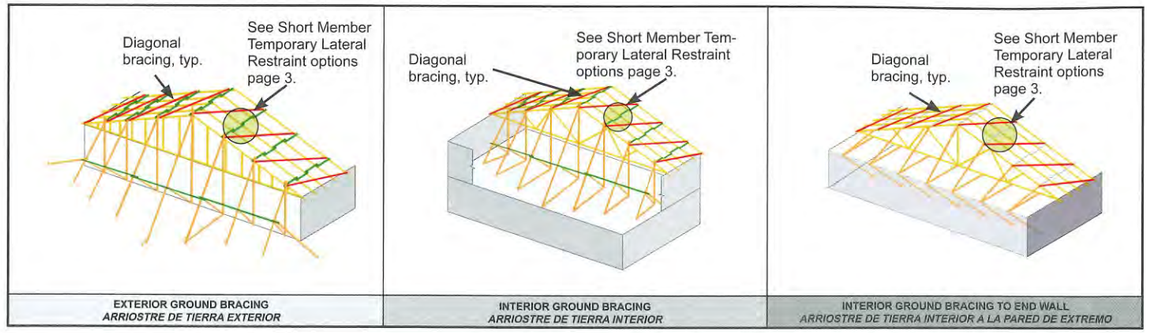
Clave los clavos al raso. Si la restricción temporal y el arriostre se quitan en el momento de la instalación del arriostre permanente, use clavos de dos cabezas para quitarlos más fácilmente.

10d (0.128x3")
12d (0.128x3.25")
16d (0.131x3.5")



5. Install Top Chord Diagonal Bracing
Instale el arriostre diagonal de la cuerda superior

Attach diagonal bracing to the first five trusses. Examples of diagonal bracing on first five trusses include:
Coloque el arriostre diagonal a los primeros cinco trusses. Ejemplos de arriostre diagonal en los primeros cinco trusses incluyen:



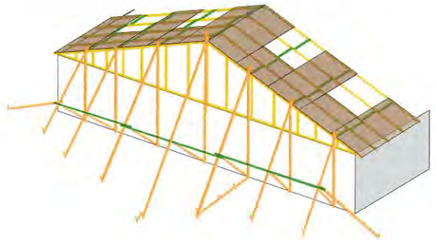
EXTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA EXTERIOR

INTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA INTERIOR

INTERIOR GROUND BRACING TO END WALL
ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO

Or start applying structural sheathing. Example of structural sheathing installed on first five trusses.

O bien, empiece a aplicar el entablado estructural. Ejemplo de entablado estructural instalado en los primeros cinco trusses.



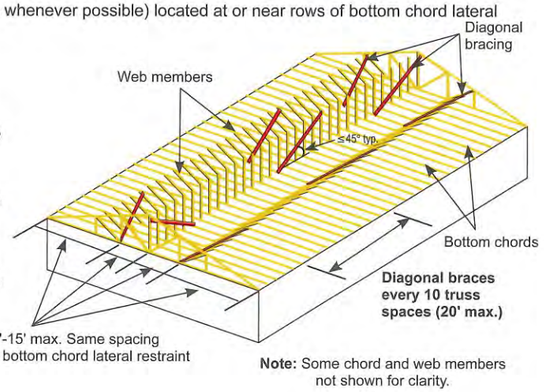
6. Install Web Member Diagonal Bracing
Instale el arriostre diagonal de miembros secundarios

Temporary web member diagonal bracing acts with the top chord and bottom chord temporary lateral restraint and diagonal bracing to form triangulation perpendicular to the plane of the truss and prevents trusses from leaning or dominoing.

El arriostre diagonal temporal de los miembros secundarios trabaja con la restricción lateral y el arriostre diagonal temporales de la cuerda superior e inferior para formar una triangulación perpendicular al plano del truss y evita que los trusses se inclinen o caigan como dominós.

Install diagonal bracing at about 45° to the horizontal on web members (verticals whenever possible) located at or near rows of bottom chord lateral restraint. Web diagonal bracing must extend from the top chord to the bottom chord. Repeat at the intervals shown in the figure below.

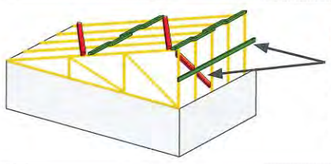
Instale el arriostre diagonal a aproximadamente 45 grados en los miembros secundarios (verticales cuando sea posible) colocados en o cerca de las filas de restricción lateral de la cuerda inferior. Arriostre diagonal para los miembros secundarios tiene que extender de la cuerda superior a la cuerda inferior. Repita a los intervalos mostrados en la figura a la derecha.



Note: Some chord and web members not shown for clarity.

NOTICE The requirements for web permanent individual truss member restraint are specified on the truss design drawing (TDD). Refer to **BCSI-B3** for more information.*

*Los requisitos para la restricción permanente de miembros individuales de truss para miembros secundarios son especificados en el dibujo del diseño de truss. Vea el resumen **BCSI-B3** para más información.**



NOTICE Mono trusses, deep flat trusses and other types of trusses with deep ends also require temporary lateral restraint and diagonal bracing on the vertical web member at the deep end of the truss.

Los trusses de una sola pendiente, trusses planos y profundos y otros tipos de trusses con extremos profundos también requieren restricción lateral temporal y arriostre diagonal en los miembros secundarios largos en el extremo profundo del truss.

7. Install Bottom Chord Lateral Restraint and Diagonal Bracing
Instale la restricción lateral y el arriostre diagonal de la cuerda inferior

Bottom chord temporary lateral restraint and diagonal bracing stabilizes the bottom chord plane during installation and helps maintain proper spacing of the trusses.

La Restricción lateral temporal y el arriostre diagonal de la cuerda inferior estabilizan el plano de la cuerda inferior durante la instalación y asiste en mantener el espaciamiento apropiado de los trusses.

Install rows of temporary lateral restraint at 15' on center maximum. Remove, if desired, after the permanent ceiling diaphragm is in place.

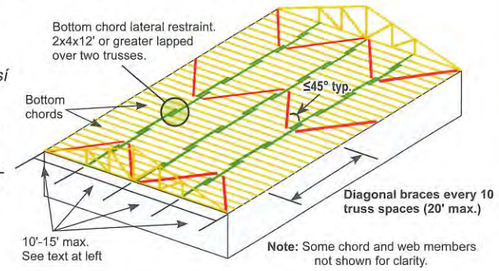
Instale filas de restricción lateral temporal a 15 pies en el centro como máximo. Quítelos, si así lo desea, después que de el diafragma permanente del techo esté colocado.

Install rows of permanent lateral restraint at 10' on center maximum. Required spacing may be less; check the TDD and/or with the building designer.

Instale filas de restricción lateral permanente a 10 pies en el centro como máximo. El espaciamiento especificado puede ser menor; verifique el dibujo del diseño de truss con el diseñador del edificio.

Install diagonal bracing at intervals of 20' maximum along the run of trusses.

Instale el arriostre diagonal a intervalos de 20 pies máximo a lo largo de la línea de trusses.



Note: Some chord and web members not shown for clarity.

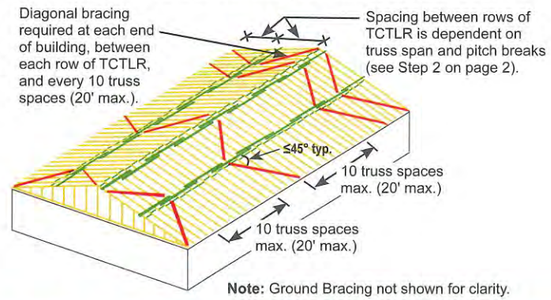
8. Repeat Steps 4 Through 7 with Groups of Four Trusses Using Option A or B
Repita los pasos 4 a 7 con grupos de cuatro trusses usando la opción A o la opción B

Option A: Install the next four trusses using short member temporary lateral restraint Options 1 - 3 per Step 4 on page 3. Add long-length (minimum 2x4x12') continuous lateral restraint (CLR) to tie trusses together. Overlap the ends of the CLR at least 2 trusses. Install diagonal bracing at intervals of 20' maximum along the run of trusses (see Figure below).

Instale los siguientes cuatro trusses utilizando las opciones 1-3 por el Paso 4 en la página 3 de la restricción lateral de miembros cortos. Añade la restricción lateral continua (CLR) de longitud-largo (mínimo 2x4x12') para atar junto los trusses. Solaparse las puntas del CLR a mínimo de dos trusses. Instale el arriostre diagonal cada 20 pies máximo a lo largo de la línea de trusses (vea la Figura abajo).

NOTICE The maximum diagonal brace spacing provided in this Option assumes ground bracing is properly installed and in place.

El espaciamiento máximo de arriostre diagonal en esta Opción asume que el arriostre de tierra está en sitio y es instalado correctamente.



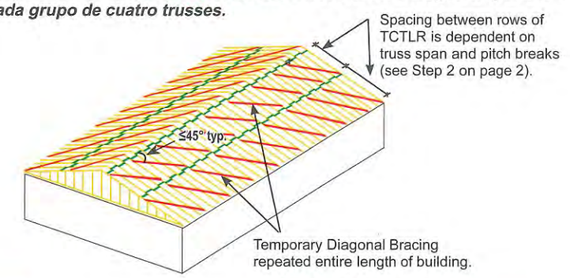
Note: Ground Bracing not shown for clarity.

Option B: Install diagonal bracing on each group of four trusses that have been set with short member temporary lateral restraint per Step 4 on page 3.

Instale el arriostre diagonal en cada grupo de cuatro trusses que han sido colocados con la restricción lateral temporal de miembros cortos por el paso 4 en la página 3.

⚠ **WARNING** After the initial group of five trusses are installed and braced (i.e., lateral restraint and diagonal bracing), **DO NOT** set more than four trusses when using short member temporary lateral restraint before you **STOP**, and diagonally brace as shown. **Option B is NOT permissible without diagonal bracing being installed with each group of four trusses.**

¡ADVERTENCIA!** Después de que el primer grupo de cinco trusses sea instalado y arriostrado (Ej. restricción lateral y arriostre diagonal), **NO** coloque más de cuatro trusses cuando se usa la restricción lateral temporal de los miembros cortos antes que usted **PARA**, y arrióstrelo diagonalmente como mostrado. **Esta opción B NO funciona sin el arriostre diagonal aplicado a cada grupo de cuatro trusses.



ENSURE THAT ALL TRUSSES ARE PROPERLY DIAGONALLY BRACED.
ASEGÚRESE QUE TODOS LOS TRUSSES ESTÉN ARRIOSTRADOS DIAGONALMENTE APROPIADAMENTE.

Apply structural sheathing early and often.

Aplique el entablado estructural temprano y con frecuencia.

⛔ **DO NOT** wait until all trusses are set to apply structural sheathing.
***NO** ESPERE hasta que todos los trusses estén colocados para aplicar el entablado estructural.*

⚠ **CAUTION** Remove only as much top chord temporary lateral restraint and diagonal bracing as necessary to nail down the next sheet of structural sheathing. DO NOT exceed truss design load with construction loads. (SEE **BCSI-B4**)*

***CAUTELA** Quite sólo tanta restricción lateral temporal y arriostre diagonal de la cuerda superior como sea necesario para clavar la siguiente lámina de entablado estructural. NO EXCEDA la carga de diseño de truss con cargas de construcción. (VEA **BCSI-B4**)**

Alternate Installation Method: Build It On the Ground and Lift It Into Place
Método alterno de iInstalación: construirlo en la tierra y levantarlo en lugar

Ensure level bearing; set, position, plumb and properly restrain and brace the trusses as modules on the ground.
Asegúrese que el spoporte es nivelado; colocar, posicionar, nivelar y restringir y arriostrar apropiadamente el grupo de trusses en la tierra.

Apply structural sheathing for stability. Begin at the heel and alternate 4'x8' and 4'x4' sheets up to the peak.
Aplique el entablado estructural para estabilidad. Empiece en el talón y alterne láminas de 4 pies x 8 pies y 4 pies x 4 pies hasta el pico.

Be sure to install all top chord, web member and bottom chord lateral restraint and bracing prior to lifting the module.
Asegúrese de instalar toda la restricción y arriostre de la cuerda superior, el miembro secundario, y la cuerda inferior antes de levantar el módulo.

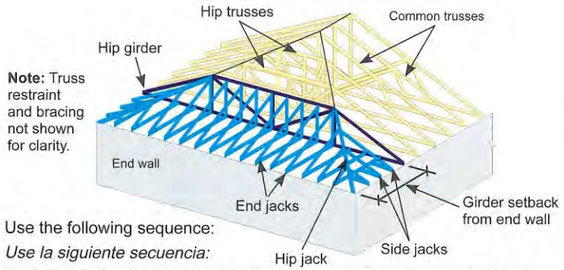
⚠ **CAUTION** Additional restraint and bracing may be required to safely lift units into place.
CAUTELA *La restricción y arriostre adicional pueden ser requeridos para levantar los módulos en sitio sin peligro.*

Be sure to get proper guidance from a registered design professional to insure modules are designed and installed safely and properly.
Asegúrese de obtener consejos apropiados por un profesional registrado de diseño para asegurar que los módulos son diseñados y instalados apropiadamente y sin peligro.

Hip Set Assembly and Bracing
Ensamblaje y arriostre del grupo de cadera

Permanently connecting the end jacks to the end wall and girder as early in the installation process as possible dramatically increases the stability of the hip girder and the safety of the structure.

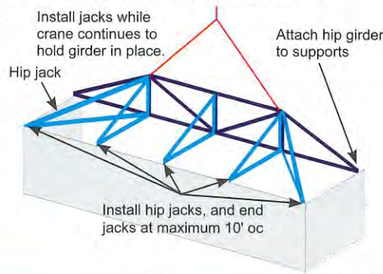
Conectando permanentemente los gatos extremos a la pared extremo y el travesaño tan temprano en el proceso de instalación como sea posible aumenta drásticamente la estabilidad del travesaño de cadera (hip girder) y la seguridad de la estructura.



Use the following sequence:
Use la siguiente secuencia:

Step 1 Position the hip girder on the bearing walls at the specified end wall setback and permanently attach to supports.
Posicione el travesaño de cadera en las paredes de soporte al "setback" especificado de la pared extrema y sujete a los soportes permanentemente.

NOTICE Whenever possible, connect multi-ply girder trusses together and install the end jack hangers (if required) prior to erection/installation. **All plies of a multi-ply girder shall be attached per the fastening schedule on the TDD before attaching any framing members or applying any loads.**
Siempre que sea posible, conecte los trusses de travesaño de varias-capas juntos y instale los colgadores de gato extremo (si es necesario) antes de la erección/instalación. ***Todas las capas de un travesaño de varias capas se adjuntarán según el horario de fijar en el dibujo del diseño de truss antes de sujetar cualquier miembro de arriostre o de aplicar cualquier carga.***

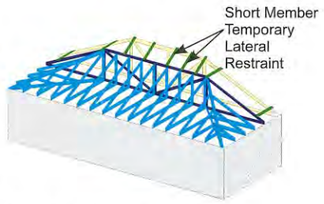


Step 2 Install hip jacks, and end jacks at maximum 10' on center, while crane continues to hold girder in place.
Instale los gatos de cadera y los gatos extremos a 10 pies máximo en centro mientras la grúa continúa mantener el travesaño en lugar.

Note: Attach jack trusses to top chord and bottom chord of girder truss. The connection to the top chord is important as it helps to stabilize the top chord of the girder.
Sujete los trusses de gatos a la cuerda superior y la cuerda inferior del truss de travesaño. La conexión por encima es importante porque ayuda a estabilizar la cuerda superior del travesaño.

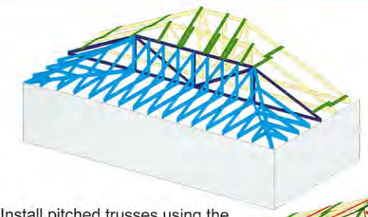
Step 3 Install all remaining end and side jacks with all permanent truss-to-bearing connections (e.g., hangers and tie-downs).
Instale todos los gatos extremos y gatos de rincón restantes con todas las conexiones permanentes de truss-a-soporte (Ej. colgadores y soportes de anclaje).

Step 4 Install the next hip truss with 2x4 short member temporary lateral restraints. Attach each short member temporary lateral restraint to the top chord of the hip girder and adjacent hip truss with two nails at each connection. The short member temporary lateral restraints should be long enough to extend at least 1 1/2" past the top chord of each truss. Place short member temporary lateral restraints at pitch breaks and at intervals along the top chords in accordance with Step 2 on page 2.

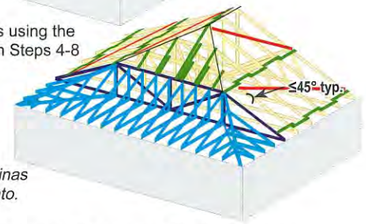


Instale el próximo truss de cadera con 2x4 restricciones laterales temporales para miembros cortos. Sujete cada restricción lateral temporal del miembro corto a la cuerda superior del travesaño de cadera y al truss de cadera contiguo con dos clavos a cada conexión. Las restricciones laterales temporales para miembros cortos deben ser lo suficientemente largas como para extender a un mínimo de 1 ½" pasado de la cuerda superior de cada truss. Coloque la restricción lateral temporal de miembros cortos a roturas del pendiente y a intervalos por las cuerdas superiores según el Paso 2 en la página 2.

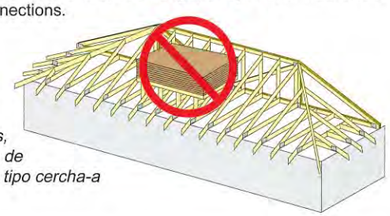
Step 5 Install remaining hip trusses. For the flat portion of each hip truss, use short member temporary lateral restraints that are at least double the length of the first set of short member temporary lateral restraints (see Figure on next page). For the sloped chords of the trusses, install short member temporary lateral restraints according to one of the three options in Step 4 on page 3.
Instale los restantes de los trusses de cadera. Para la parte plana de cada truss de cadera use restricciones laterales temporales de miembros cortos que son por lo menos dobles la longitud del primer grupo de restricciones temporales laterales de miembros cortos (vea la figura en la próxima página). Para las cuerdas pendientes de los trusses, instale las restricciones laterales temporales de miembros cortos según uno de las tres opciones en Paso 4 en la página 3.



Step 6 Install pitched trusses using the guidelines provided in Steps 4-8 on pages 3-5 of this document.
Instale los trusses pendientes usando las pautas provistas en Pasos 4-8 en páginas 3-5 de este documento.



🚫 **DO NOT** stack materials or stand at locations that will cause instability, such as on cantilevers, overhangs, end jacks, or near truss-to-girder truss connections.
NO *apile los materiales, ni se pare en sitios de posible inestablilidad, como en voladizos, salientes, to cerca de las conexiones de tipo cercha-a truss.*

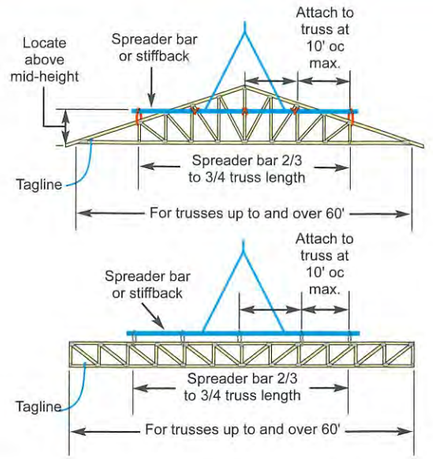


Long Span Truss Installation
Instalación de trusses de tramos largos

⚠ **DANGER** Trusses with clear spans of 60' or greater are extremely dangerous to install and require more detailed safety and handling measures than shorter span trusses.
PELIGRO *Trusses de 60 pies de largo o más son extremamente peligrosos a instalar y requieren medidas de seguridad y manejo más detalladas que trusses de vanos más cortos.*

Before Starting
Antes de empezar

- Hire a registered design professional to design the temporary restraint/bracing, the permanent individual truss member restraint/bracing and to supervise the erection process. This is a requirement in the IBC.
  Contrata un Profesional Registrado de Diseño para proveer un plan de restricción/arriostre temporal de los permanentes miembros individuales de braguero y para supervisar el proceso de erección. Esto es el requisito en algunos códigos de construcción.
- Develop a safe, effective truss installation method and inform all crew members of their roles.
  Elabore un método seguro y efectivo de la instalación de trusses e informe a todos las miembros del personal de sus papeles.
- Use personnel who have experience installing trusses 60' and greater in span.
  Utilice instaladores quienes tienen experiencia en instalar trusses de 60 pies o más de tramo.
- Ensure that the walls and supporting structure are stable and adequately restrained and braced.
  Asegúrese que las paredes y la estructura soportante son estables y adecuadamente restringidas y arriostradas.
- Have all necessary lifting equipment and building materials on hand. Make sure the crane operator understands the special hoisting requirements of long span trusses (see **BCSI-B1**).*
  *Tenga todo el equipo de levantar y los materiales de construcción necesarios a la mano. Asegúrese que el operador de grúa entiende los requisitos especiales de levantar los trusses de tramos largos (vea **BCSI-B1**).**



Tips For Safe and Efficient Installations
Consejos para instalaciones seguras y eficientes

Assemble the first five trusses with all structural sheathing, restraint and bracing, either as the trusses are installed or built as a unit on the ground and lifted into place.
Ensamble los primeros cinco trusses con todo el entablado estructural, restricción y arriostre, ya sea cuando los trusses son instalados o se los construyen como una unidad en la tierra y se los levantan en su lugar.

Keep trusses straight during hoisting to minimize bending out-of-plane.
Mantenga los trusses derechos durante el levantamiento para minimizar el doblado fuera-de-plano.

Add a temporary center support to provide greater stability and leave in place until all permanent building stability bracing is installed.
Agregue un soporte temporal en el centro para proveer más estabilidad y quedarlo en lugar hasta que todo el arriostre de estabilidad permanente de construcción es instalado.

Apply structural sheathing to the top chord as the trusses are being installed.
Aplique el entablado estructural a la cuerda superior mientras los trusses estén instalados.

Install all permanent individual truss member restraint and bracing immediately.
Instale todo el arriostre y restricción permanente de miembros de trusses individuales inmediatamente.

Field Assembly and Other Special Conditions
Ensamblaje de campo y otros condiciones especiales

Certain sizes or shapes of trusses require some assembly at the jobsite. Refer to the TDDs for specific instructions on assembly methods, unless the construction documents indicate otherwise.

Ciertos tamaños o formas de trusses requieren algún ensamblaje en la obra. Consulte a los dibujos del diseño de truss para instrucciones específicas sobre métodos de montaje, a menos que los documentos de construcción indiquen lo contrario.

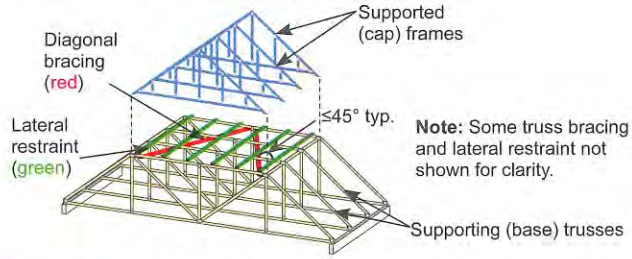
The contractor is responsible for proper field assembly.

El contratista es responsable para el ensamblaje de campo apropiado.

Piggyback Trusses
Trusses de piggyback

The supporting (base) trusses shall be completely installed with all truss member AND permanent building stability bracing, as required, BEFORE installing the supported (cap) frames.

Los trusses soportantes serán completamente instalados con todos miembros de trusses Y el arriostre de estabilidad permanente de construcción como es requerido ANTES de instalar los armazones (cap) soportados.



WARNING Adequately restrain and brace the flat portion of the supporting trusses to prevent buckling.
¡ADVERTENCIA! *Restrinja y arriostre adecuadamente la parte plana de los trusses soportantes para prevenir la distorsión.*

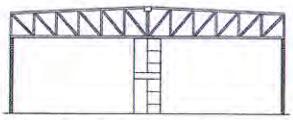
For more information on how to permanently laterally restrain and diagonally brace piggyback truss assemblies refer to **BCSI-B3**.*

*Para más información sobre como restringir lateralmente permanetamente y arriostrar diagonalmente sistemas de trusses de piggyback refiere al **BCSI-B3**.**

Field Spliced Trusses
Trusses empalmados en campo

Splicing can be performed on the ground before installation or the truss sections can be supported by temporary shoring after being hoisted into place and the splices installed from a safe working surface.

Empalmando puede ser hecho en el suelo antes de la instalación o las secciones de trusses pueden ser soportados por "shoring" temporal después de que son levantados en lugar y los empalmes se instalen desde una superficie de trabajo segura.

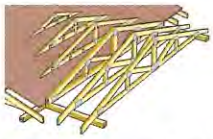


Field-spliced trusses with temporary center support

Valley Set Frame Installation
Instalación de armazón de conjunto de valle

The top chords of the supporting trusses must be braced properly. This can be accomplished by attaching structural sheathing or with rows of lateral restraint, spaced no more than the maximum on center spacing specified on the TDD, and diagonal bracing.

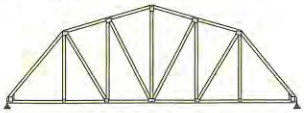
Las cuerdas superiores de los trusses de soporte tienen que ser arriostrados apropiadamente. Esto puede ser hecho por sujetar el entablado estructural o con filas de restricción lateral, espaciados no más que el máximo en el espaciamiento del centro que es especificado en el dibujo del diseño de truss, y arriostre diagonal.



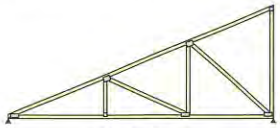
Valley sets as over-framing

This document applies to all sloped and flat chord trusses built with the wide-face of the lumber oriented vertically. Examples include:

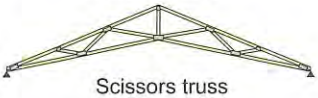
Este documento aplica a todos trusses de cuerda pendiente y plana construidos con la cara-ancha de la madera orientada verticalmente, tales como:



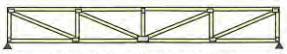
Gambrel truss



Mono truss



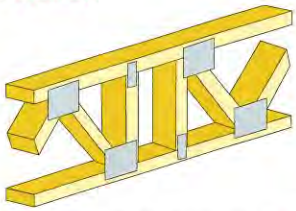
Scissors truss



Parallel chord truss

For parallel chord trusses manufactured with 3x2 or 4x2 lumber, see BCSI-B7.*

Para los trusses de cuerdas paralelas fabricados con madera 3x2 o 4x2, vea el resumen BCSI-B7.*



For trusses spaced more than 2'-0" on center, see BCSI-B10.*

Para los trusses espaciados más de 2 pies en el centro, vea el Resumen BCSI B10.*

***Contact the component manufacturer for more information or consult a registered design professional for assistance.**

SBCA
WTCA WOOD TRUSS COUNCIL
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B3 BCSI-B3 SUMMARY SHEET - PERMANENT RESTRAINT/BRACING OF CHORDS & WEB MEMBERS B3

Truss Clear Spans of 60' or greater may require complex permanent bracing. Please always consult a Registered Design Professional.

WARNING Disregarding permanent restraint/bracing is a major cause of truss field performance problems and has been known to lead to roof or floor system collapse.

¡ADVERTENCIA! *Descuidar el arriostre/restricción permanente es una causa principal de problemas de rendimiento del truss en campo y se sabe que puede provocar el derrumbamiento del sistema del techo o piso.*

NOTICE Section 2303.4.1.3 of the International Building Code (IBC) requires the permanent individual truss member restraint/bracing for all trusses with clear spans 60 feet (18.3 m) or greater to be designed by a registered design professional.

Sección 2303.4.1.3 del International Building Code (IBC) requiere que la instalación temporal de restricción/arriostre para todos armazones con lapso libre de 60 pies (18.3 m) o más se diseña por un profesional del diseño registrado.

Restraint/Bracing Materials & Fasteners
Materiales y cierres de restricción/arriostre

Commonly used restraint/bracing materials include wood structural panels, gypsum board sheathing, stress-graded lumber, proprietary metal products, and metal purlins and straps.

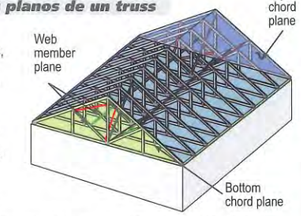
Materiales comunes de arriostrar/ restringir incluyen paneles estructurales de madera, entablado de yeso, madera graduada por esfuerza, productos de metal patentados, y vigas de soporte y tiras de metal.

MINIMUM ATTACHMENT REQUIREMENTS FOR LUMBER RESTRAINT/BRACING[1,2]

Lumber Size	Minimum Nail Size	Minimum Number of Nails per Connection
2x4 stress-graded	10d (0.128x3") 12d (0.128x3.25") 16d (0.131x3.5")	2
2x6 stress-graded	10d (0.128x3") 12d (0.128x3.25") 16d (0.131x3.5")	3

[1] Other attachment requirements may be specified by the building designer or truss designer.
[2] The grade/size and attachment for bracing materials such as wood structural panels, gypsum board sheathing, proprietary metal restraint/bracing products, and metal purlins and straps are provided by the building designer.

Permanent Bracing for the Various Planes of a Truss
Arriostre permanente para varios planos de un truss



Permanent bracing is important because it,
- prevents out-of-plane buckling of truss members,
- helps maintain proper truss spacing, and
- resists and transfers lateral loads from wind and seismic forces.

El arriostre permanente es importante porque,
- *impide el torcer fuera-de-plano de los miembros del truss,*
- *ayuda en mantener espaciamiento apropiado de los trusses, y*
- *resiste y pasa las cargas laterales de viento y fuerzas sísmicas aplicadas al sistema del truss.*

Trusses require permanent bracing within ALL of the following planes:
- Top chord plane
- Bottom chord plane
- Web member plane

Trusses requieren arriostre permanente dentro de TODOS los siguientes planos:
- *Plano de la cuerda superior*
- *Plano de la cuerda inferior*
- *Plano del miembro secundario*

CAUTION The truss, or a portion of its members, will buckle (i.e., fail) at loads far less than design without permanent bracing.

¡CAUTELA! *Sin el arriostre permanente, del truss, o un parte de los miembros, torcerán (ej. fallarán) de cargas muchas menos que las cargas que el truss es diseñado a llevar.*

Permanent Bracing for the Top Chord Plane
Arriostre permanente para el plano de la cuerda superior

Use plywood, oriented strand board (OSB), or wood or metal structural purlins that are properly braced. Attach to each truss.

Use contrachapado, panel de fibras orientado (OSB), o vigas de soporte de madera o metal que estén arriostrados apropiadamente. Sujete a cada truss.

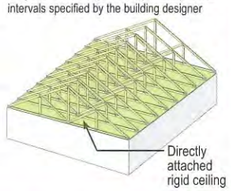
The Truss Design Drawing (TDD) provides information on the assumed support for the top chord.

El Dibujo del Diseño de Truss (TDD) provee información sobre el soporte supuesto para la cuerda superior.

Fastener size and spacing requirements and grade for the sheathing, purlins and bracing are provided in the building code and/or by the building designer.

El tamaño de cierre y requisitos de espaciamiento y grado para el entablado, vigas de soporte y arriostre son provistos en el código del edificio y/o por el diseñador del edificio.

Permanent Bracing for the Bottom Chord Plane
Arriostre permanente para el plano de la cuerda inferior



Use rows of continuous lateral restraint with diagonal bracing, gypsum board sheathing or some other ceiling material capable of functioning as a diaphragm.

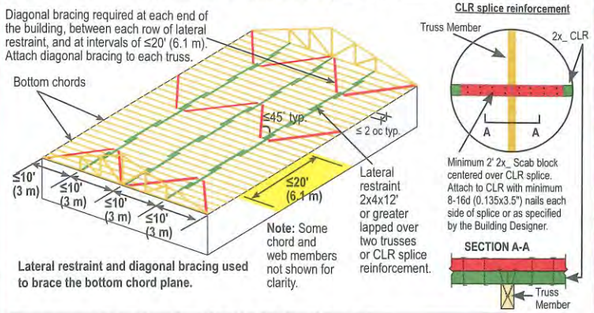
Use filas de restricción lateral continua con arriostre diagonal, entablado de yeso o cualquier otro material para techo que pueda funcionar como un diafragma.

The TDD provides information on the assumed support for the bottom chord.

El TDD provee información sobre el soporte supuesto para la cuerda inferior.

Install bottom chord permanent lateral restraint at the spacing indicated on the TDD and/or by the building designer with a maximum of 10' (3 m) on center (oc).

Instale restricción lateral permanente de la cuerda inferior al espaciamiento indicado en el TDD y/o por el diseñador del edificio con un máximo de 10 pies en el centro.



Lateral restraint and diagonal bracing used to brace the bottom chord plane.

Permanent Bracing for the Web Member Plane
Arriostre permanente para el plano del miembro secundario

Web member permanent bracing collects and transfers buckling restraint forces and/or lateral loads from wind and seismic forces. The same bracing can often be used for both functions.

Arriostre permanente de los miembros secundarios recogen y pasan fuerzas de restricción de torcer y/o cargas laterales de viento y fuerzas sísmicas. A menudo el mismo arriostre puede ser usado para ambas funciones.

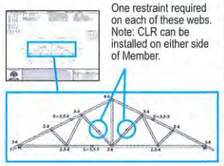
Individual Web Member Permanent Restraint & Bracing
Restricción y arriostre permanente de miembros secundarios individuales

Check the TDD to determine which web members (if any) require restraint to resist buckling.

Revisa el TDD para determinar cuáles miembros secundarios (si los hay) requieren restricción para resistir el torcer.

Restrain and brace with,
- Continuous lateral restraint & diagonal bracing, or
- Individual member web reinforcement.

Restrinja y arriostre con,
- *Restricción lateral continua y arriostre diagonal, o*
- *Refuerzo de miembros secundarios individuales.*



Continuous Lateral Restraint (CLR) & Diagonal Bracing
Restricción Lateral Continua (CLR) y arriostre diagonal

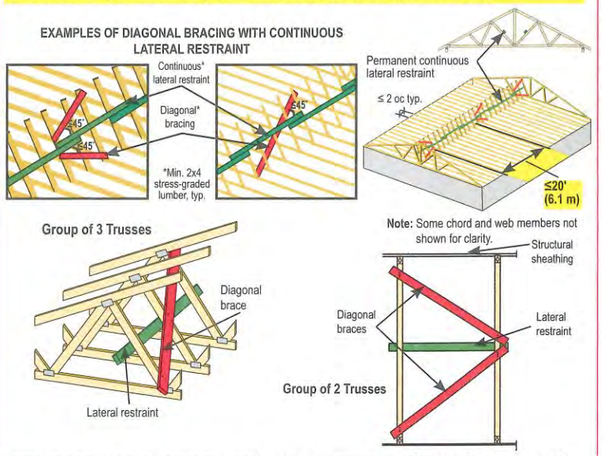
Attach each row of CLR at the locations shown on the TDD.

Sujete cada fila de CLR en las ubicaciones que se muestran en el TDD.

Install the diagonal bracing at an angle of less-than-or-equal-to 45° to the CLR and position so that it crosses the web in close proximity to the CLR. Attach the diagonal brace as close to the top and bottom chords as possible and to each web it crosses. **Repeat every 20' (6.1 m) or less.**

Instale el arriostre diagonal a un ángulo menos de o igual a 45° al CLR y colóquelo para que cruce la cuerda muy cerca del CLR. Sujete el arriostre diagonal tan cerca de las cuerdas superiores y inferiores como sea posible y a cada cuerda que lo cruza. ***Repita cada 20 pies (6.1 m) o menos.***

EXAMPLES OF DIAGONAL BRACING WITH CONTINUOUS LATERAL RESTRAINT



Lateral restraint & diagonal bracing can also be used with small groups of trusses (i.e., three or less). Attach the lateral restraint and diagonal brace to each web member.

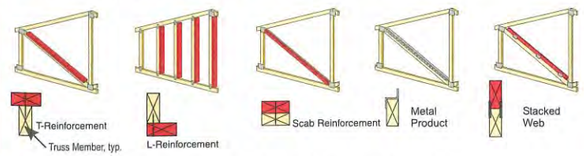
Restricción lateral y arriostre diagonal también puede ser usado con grupos pequeños de trusses (ej. tres o menos). Sujete la restricción lateral y el arriostre diagonal a cada miembro.

ALWAYS DIAGONALLY BRACE THE CONTINUOUS LATERAL RESTRAINT!
¡SIEMPRE ARRIOSTRE LA RESTRICCIÓN LATERAL CONTINUA DIAGONALMENTE!

Individual Web Member Reinforcement
Refuerzo de miembros secundarios individuales

T-, L-, Scab, I-, U-Reinforcement, proprietary metal reinforcement and stacked web products provide an alternative for resisting web buckling.

T-, L-, costra, I-, U-Refuerzo, refuerzo de metal patentando y productos de miembros secundarios amontonados proveen una alternativa para resistir el torcer de los miembros secundarios.



The following table may be used unless more specific information is provided.

La siguiente tabla puede ser usada a menos que información más específica está provista.

WEB REINFORCEMENT FOR SINGLE PLY TRUSSES[1]

Specified CLR	Size of Truss Web	Type & Size of Web Reinforcement				Grade of Web Reinforcement	Minimum Length of Web Reinforcement	Minimum Connection of Web Reinforcement to Web
		T	L	Scab[2]	I or U			
1 Row	2x4	2x4	2x4	2x4		Same species and grade or better than web member	90% of Web or extend to within 6" of end of web member, whichever is greater	16d (0.131x3.5") nails @ 6" on-center[2]
	2x6	2x6	2x6	2x6				
	2x8	2x8	2x8	2x8				
2 Rows	2x4	---	---	---	2-2x4			
	2x6	---	---	---	2-2x6			
	2x8	---	---	---	2-2x8			

[1]Maximum allowable web length is 14'.
[2]For Scab Reinforcement use 2 rows of 10d (0.120x3") nails at 6" on-center to attach reinforcement to web

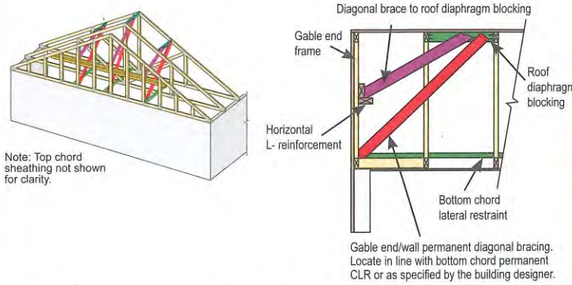
Some truss manufacturers provide additional assistance by using tags to mark the web members that require lateral restraint or reinforcement.

Algunos fabricantes de trusses marcan en el truss las ubicaciones de refuerzo o restricción lateral de miembros secundarios con etiquetas similares a las que sigue.

Web Member Plane Permanent Building Stability Bracing to Transfer Wind & Seismic Forces
Arriostre de estabilidad permanente del edificio del plano de miembros secundarios para desplazar fuerzas de viento y fuerzas sísmicas

The web member restraint or reinforcement specified on a TDD is required to resist buckling due to axial forces caused by the in-plane loads applied to the truss. Additional restraint and bracing within the web member plane may also be required to transfer lateral forces due to wind and/or seismic loads applied perpendicular to the plane of the trusses. This restraint and bracing is typically specified by the building designer.

La restricción o refuerzo de miembros secundarios especificada en un TDD es requerido para resistir la deformación bajo fuerzas axiales causadas por cargas verticales aplicadas al truss. Restricción adicional y el aparato ortopédico dentro del plano miembro de banda también puede ser necesaria para transferir fuerzas laterales debidas al viento y / o cargas sísmicas aplicadas perpendicular al plano de las cerchas. Esta restricción y arriostre es típicamente provisto por el diseñador del edificio.



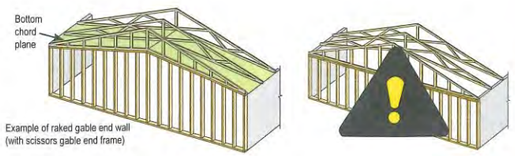
Some truss designers provide general design tables and details to assist the building designer in determining the bracing required to transfer lateral loads due to wind and/or seismic forces from the gable end frame into the roof and/or ceiling diaphragm.

Algunos diseñadores de trusses proveen tablas y detalles de diseño generales para asistir el diseñador del edificio en determinar el arriostre requerido para pasar cargas laterales debidas a fuerzas de viento y/o fuerzas sísmicas del armazón hastial al diafragma del techo.

Gable End Frames and Trusses with Sloped Bottom Chords
Armazones hastiales y trusses con cuerdas inferiores pendientes

The gable end frame should always match the profile of the adjacent trusses to ensure the top of the end wall aligns with, and can be braced by, the ceiling diaphragm.

El armazón hastial siempre debe encajar el perfil de los trusses contiguous para permitir la instalación de restricción y arriostre apropiada de la cuerda inferior a menos que arriostre especial es diseñado para soportar la pared de extremo.

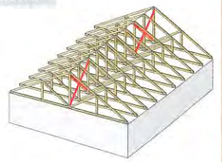


CAUTION Using a flat bottom chord gable end frame with adjacent trusses that have sloped bottom chords is prohibited by some building codes as adequate bracing of this condition is difficult and sometimes impossible. Special end wall bracing design considerations are required by the building designer if the gable end frame profile does not match the adjacent trusses.

¡CAUTELA! *El uso de un armazón hastial de la cuerda inferior con trusses contiguos cuales tienen cuerdas inferiores pendientes es prohibido por algunos códigos de edificios porque arriostre adecuado de esta condición es difícil y a veces imposible. Consideraciones especiales de diseño para el arriostre de la pared de extremo son requeridos por el diseñador del edificio si el perfil del armazón hastial no coincide con los trusses contiguos.*

Permanent Bracing for Special Conditions
Arriostre permanente para condiciones especiales

Sway Bracing—*Arriostre de "Sway"*



"Sway" bracing is installed at the discretion of the building designer to help stabilize the truss system and minimize the lateral movement due to wind and seismic loads.

Arriostre de "sway" está instalado por la discreción del diseñador del edificio para ayudar en estabilizar el sistema de trusses y para minimizar el movimiento lateral debido a cargas de viento y cargas sísmicas.

Sway bracing installed continuously across the building also serves to distribute gravity loads between trusses of varying stiffness.

Arriostre de "sway" que es instalada continuadamente al través del edificio también es usado para distribuir las cargas de gravedad entre trusses de rigidez variando.

Permanent Restraint/Bracing for the Top Chord in a Piggyback Assembly
Restricción/Arriostre permanente para la cuerda superior en un ensamblaje de piggyback

Provide restraint and bracing by:
- using rows of minimum 4x2 stress-graded lumber CLR and diagonal bracing, or
- connecting the CLR into the roof diaphragm, or
- adding structural sheathing or bracing frames, or
- some other equivalent means.

Provee restricción y arriostre por:
- *creando filas de 4x2 CLR de madera graduada por esfuerzo y arriostre diagonal, o*
- *conectando el CLR al diafragma del echo, o*
- *añadiendo entablado estructural o arm zanes de arriostre, o*
- *algunos otros métodos equivalentes.*

Refer to the TDD for the maximum assumed spacing between rows of lateral restraint (e.g. purlins) attached to the top chord of the supporting truss.

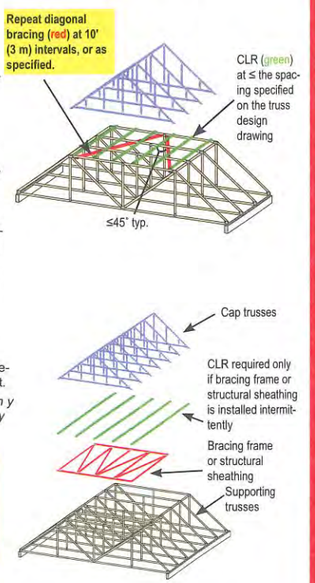
Consulte el TDD para el espaciamiento máximo supuesto para sujetar la restricción lateral (p. ej., vigas) a la cuerda superior del truss soportante.

The TDD provides the assumed thickness of the restraint and minimum connection requirements between the cap and the supporting truss or restraint.

El TDD provee el grosor supuesto de la restricción y los requisitos de conexión mínimos entre la capa y el truss soportante o la restricción.

If diagonal bracing is used to restrain the CLR(s), repeat **at 10' (3 m) intervals, or as specified** in the construction documents.

Si arriostre diagonal se utiliza para restringir el/ los CLR(s), repita en ***intervalos de 10 pies o como sea especificado*** *en los documentos de construcción.*



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RESTRICCIÓN/ARRIOSTRE PERMANENTE DE LAS CUERDAS Y LOS MIEMBROS SECUNDARIOS

Tramos sobre 60 pies o más pueden requerir arriostre permanente complejo. Por favor, consulte siempre a un profesional registrado de diseño.

B4 Construction Loading
Cargas de construcción

Construction loads are those loads imposed on the unfinished building as a result of the construction process. Typical construction loads include the weight of the workers, equipment, and building materials, to name a few. For example, a bundle of plywood sheathing or gypsum board stacked on trusses temporarily creates construction loads.

Cargas de construcción son las cargas que están impuestas a los edificios incompletos como resultado del proceso de construcción. Cargas de construcción típicas incluyen el peso de los trabajadores, el equipo y los materiales de construcción, etcétera. Por ejemplo, un paquete de entablado contrachapado o tabla de yeso apilados temporalmente sobre los trusses crean cargas de construcción.

Make sure the truss assembly is properly restrained and braced according to the guidelines in **BCSI-B1***, **BCSI-B2*** and **BCSI-B7***, as applicable, before placing any construction loads on them. Construction loads shall only be placed on fully restrained and braced structures.

*Asegúrese que el montaje del truss está adecuadamente restringido y arriostrado según las pautas en **BCSI-B1***, **BCSI-B2*** y **BCSI-B7*** antes de colocar alguna carga de construcción en la estructura. Solamente coloquen cargas de construcción arriba de estructuras cuales son restringidos y arriostrados completamente.*

WARNING Stacking excessive amounts of construction materials on floor or roof trusses is an unsafe practice. Property damage, personal injury and/or death are possible if this warning is not heeded.

¡ADVERTENCIA! *Apilando cantidades excesivas de cargas de construcción sobre trusses de piso o techo es una práctica peligrosa. Daño a la propiedad, herida personal y/o muerte son posibles si no se atiende esta advertencia.*

NOTICE Trusses that have been over-stressed due to construction overloading will usually show excessive sagging (deflection) and at least a portion of this deflection will remain after the load has been removed. In more severe cases, broken truss members and/or failed truss joints may result.

NOTICE *Los trusses que han sido sobrecargados debido a cargas de construcción excesivas usualmente demuestran una desviación excesiva, y por lo menos una parte de esta desviación se quedará aún después de que se haya quitado la carga. En casos más severos, miembros quebrados del truss y/o junturas falladas pueden resultar.*

Construction Loading DO's and DON'Ts

DON'T stack materials on unbraced trusses.

DON'T overload the trusses.

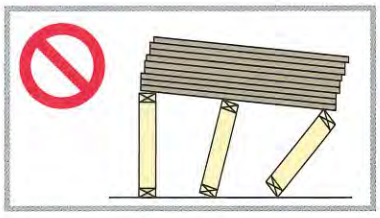
DON'T exceed stack heights listed in the table below.

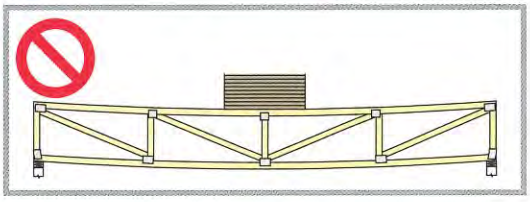
Que HACER y NO HACER Con Las Cargas De Construccion

NO *apile materiales sobre trusses que no esten arriostrados.*

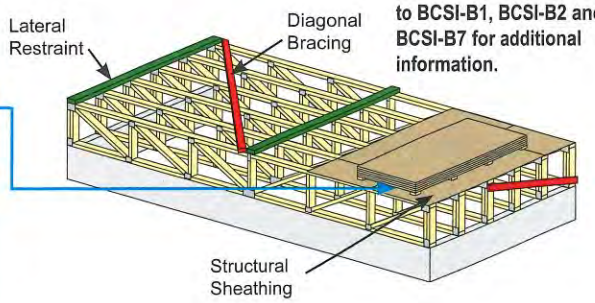
NO *sobrecargue los trusses.*

NO *exceda la altura de montón indicada en la tabla que sigue.*





Maximum Stack Height for Material on Trusses[1,2] *Maximua Altura de Montón para Material encima de los Trusses*	
Material – *Material*	**Height – Altura**
Gypsum Board – *Tabla de Yeso*	12" – *12 pulgadas*
Plywood or OSB – *Madera Contrachapada u OSB*	16" – *16 pulgadas*
Asphalt Shingles – *Teja de Asfalto*	2 bundles – *2 paquetes*
Concrete Block – *Bloque de Hormingón*	8" – *8 pulgadas*
Clay Tile – *Teja de Arcilla*	3-4 tiles – *3-4 azulejos*

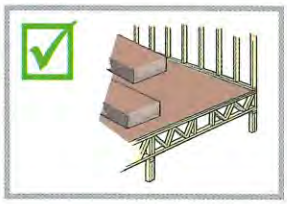


Properly restrain and brace trusses before stacking construction materials on them. Refer to BCSI-B1, BCSI-B2 and BCSI-B7 for additional information.

[1] This table is based on trusses designed with a live load of 40 psf or greater. For other loading conditions, contact a Registered Design Professional.

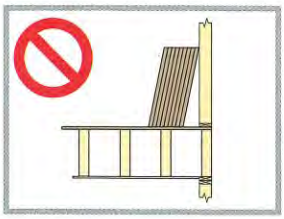
[2] Limit stacking periods to approximately one week, unless alternative information is provided by the Building Designer, Truss Designer or Truss Manufacturer.

DO distribute loads over as many trusses as possible. Position stacks of materials flat with the longest dimension perpendicular to the trusses, as shown.

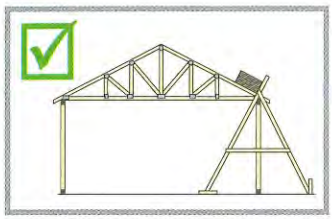


SÍ *distribuye cargas sobre el mayor número de trusses que sea posible. Posicione perpendicular a los trusses los montones de materiales llanas con la dimensión más larga como se indica el dibujo.*

DON'T allow the stack to lean against walls, or stack materials so they overload single or small groups of trusses.



NO *permite que el montón se incline contra ninguna pared, ni apile materiales para que sobrecarguen uno u grupos pequeños de trusses.*



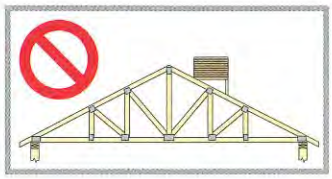
DO stack materials along exterior supports or directly over interior supports of properly restrained and braced structures.

Note: Truss bracing not shown for clarity.

SÍ *amontone materiales al lado de los soportes exteriores o directamente sobre los soportes interiores de estructuras que están restringidas y arriostradas apropiadamente.*

NO *amonte los materiales en o cerca de la mitad del braguero. Nunca sobrepase alturas de montón indicadas en la tabla (véase la página 1) a menos que se proporcione información alternativa por el Diseñador del Edificio, el Diseñador del Braguero, o el Fabricante del Braguero.*

NO *deje caer cargas arriba de los trusses. El impacto puedo dañar los trusses aunque si sea pequeña la carga.*

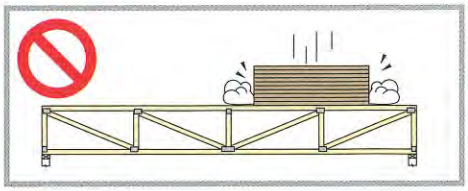


SÍ *deje materiales de construccción encima del equipo de levantar hasta el momento de la instalación, si es posible.*

DON'T stack materials at or near the midspan of the truss. **Never** exceed stack heights provided in the table (see page 1) unless alternative information is provided by the Building Designer, Truss Designer or Truss Manufacturer.

NO *amontone materiales en un lugar que puede producir inestabilidad como en voladiza, salientes o cerca de las conecciones de trusses-a-travesaño.*

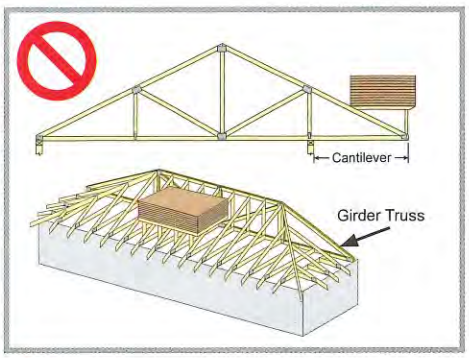
NO *apile teja de sobra y/o otros residuos de construcción sobre los trusses.*



DON'T drop materials on trusses. The impact can damage the trusses even if the weight of the material is light.

DO leave construction materials on lifting equipment until installation, if possible.

DON'T pile cut-off tile and/or other construction waste on trusses.



DON'T stack materials at locations that will produce instability, such as on cantilevers, overhangs or near truss-to-girder connections.

***Contact the component manufacturer to obtain the referenced document or consult a Registered Design Professional for more information on this subject.**

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B11 Fall Protection & Trusses
Protección de Caída y Trusses

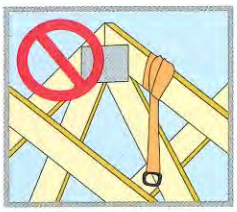
Regulations on fall protection and erection/installation of trusses in residential construction are contained in OSHA's Fall Protection Standard, 29 CFR 1926 Subpart M(the Standard). Section 1926.501(b)(13) of the Standard states in part: "Each employee engaged in residential construction activities 6 feet or more above lower levels shall be protected by guardrail systems, scaffolding, a safety net system or a personal fall arrest system."

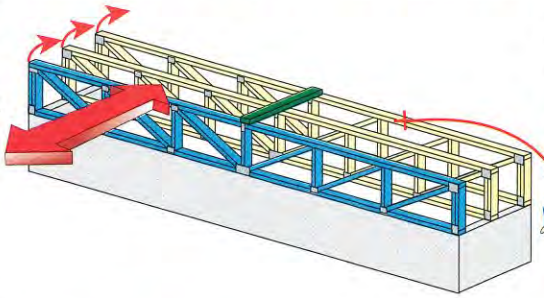
Las regulaciones sobre protección contra caídas y levantamiento/instalación de entramados en construcción residencial se encuentran en la Regulación de Protección contra Caídas de OSHA, 29 CFR 1926 Subparte M (el Estándar). La sección 1926.501(b)(13) de la regulación establece en parte: "Cada empleado que participe en actividades de construcción residencial a 6 pies o más por encima de niveles inferiores deberán estar protegidos por sistemas de rampas de protección, andamiaje, un sistema de red de seguridad o un sistema de protección personal para detención de caídas."

Group of Trusses

⚠ **DANGER** Any part of an inadequately braced or sheathed group of roof or floor trusses used as an anchorage point for any type of personal fall arrest system is dangerous and will increase the risk of serious injury or death.

⚠ **WARNING** Roof and floor trusses that are not properly braced per BCSI or sheathed are not able to resist lateral impact loads associated with falls. A falling worker attached to an inadequately braced group of trusses could cause all the previously set trusses to collapse in a domino effect.





Refer to **BCSI-B1*** and **BCSI-B2*** for recommendations on proper bracing of trusses.

Refer to **BCSI-B1*** for recommendations on proper hoisting of trusses.

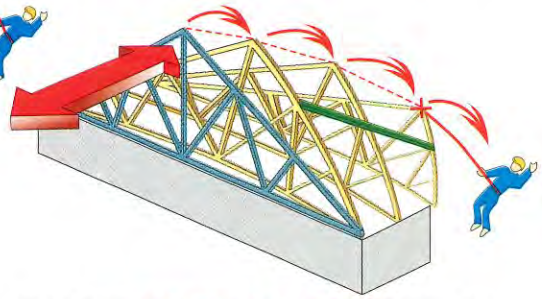
⚠ **DANGER** Do not walk on unbraced trusses.

⚠ **DANGER** Do not stand on truss overhangs until structural sheathing has been applied to the truss and overhangs.

Sistemas de Entramama

¡PELIGRO! *Cualquier pieza de un sistema de entramado de techo o el piso apuntalado o forrado de forma inadecuada que se utilice como punto de anclaje para cualquier tipo de sistema de protección personal para detención de caídas es peligroso y aumentará el riesgo de lesiones personales de gravedad o la muerte.*

¡ADVERTENCIA! *Los entramados de techo y piso que no están correctamente apuntalados según BCSI o forrados no pueden resistir cargas de impacto lateral asociadas con caídas. Un trabajador que sufra una caída y que esté acoplado a un conjunto de entramados que no estén apuntalados adecuadamente podría provocar que los entramados fijados previamente se colapsen con un efecto dominó.*



*Refiera el resúmen **BCSI-B1** y **BCSI-B2*** para las recommendaciones sobre la arriostre de trusses.*

*Consulte **BCSI-B1*** sobre recomendaciones para el levantamiento correcto de los entramados.*

¡PELIGRO! *No camine sobre entramados no apuntalados.*

¡PELIGRO! *No se pare en voladizosdel braguero hasta que el revestimiento estructural se ha aplicado a la armadura y voladizos.*

⚠ **DANGER** Do not walk on trusses or gable end frames lying flat, they do not have the structural strength to support a worker safely while oriented flat.

¡PELIGRO! *No camine sobre entramados ni estructuras de muro piñón dispuestos horizontalmente ya que no poseen la resistencia estructural para poder soportar a un trabajador con seguridad con orientación horizontal.*

Site-Specific Job Hazard Assessment

Fall protection and safety measures are jobsite and building specific. The appropriate fall protection method must be determined through a site-specific job hazard assessment (JHA) conducted by a qualified person (1) who can design, install, and use fall protection systems and is authorized to correct any problems. The JHA is intended to assist in identifying risks and identify the least hazardous way to install trusses for a particular job.

Fall hazards identified in the JHA shall be addressed with conventional methods whenever possible, including: guardrails, scaffolding, safety nets, personal fall arrest systems or catch platforms.

Employers must consider whether it is safer to design and install a safe work platform/system around a hazard.

⚠ **WARNING** All fall protection solutions come with their own inherent hazards during use.

⚠ **CAUTION** Addressing fall protection hazards may be obvious, but other hazards must also be considered when choosing the appropriate site-specific fall protection systems. This includes:

1. electrical hazards, including power lines;
2. projectile hazards while using pneumatic nail guns;
3. tripping hazards from cords and bracing materials; and,
4. lower level hazards, such as wall bracing, which some fall protection systems do not protect against.

Evaluación de Peligros de Trabajos en Sitios Específicos

La protección contra caídas y las medidas de seguridad son específicas para cada sitio de trabajo o edificio. El método apropiado para la protección contra caídas deberá determinarse siguiendo una evaluación de peligros en el trabajo (JHA) específicos, realizados por una persona que esté calificada (1) que pueda diseñar, instalar y utilizar sistemas de protección para caídas, y que esté autorizada para corregir cualquier problema. La JHA tiene el propósito de ayudar en la detección de riesgos e identificar la forma menos peligrosa para instalar entramados para un trabajo en particular.

Los peligros riesgos de caídas identificados en la JHA serán tratados con métodos convencionales siempre que sea posible; por ejemplo: rampas de protección, andamiaje, redes de seguridad, sistema de protección personal para detención de caídas o plataformas de agarre.

Los empleados deberán considerar si es seguro diseñar e instalar una plataforma/sistema de trabajo seguro alrededor de un peligro.

¡ADVERTENCIA! *Todas las soluciones de protección contra caídas vienen con sus propios peligros durante el uso.*

¡CAUCIÓN! *La solución de peligros para la protección contra caídas puede ser obvia, pero deberán considerarse otros peligros al elegir los sistemas de protección contra caídas apropiados para un sitio específico. Esto incluye:*

1. *peligros de carácter eléctrico, como líneas de conducción eléctrica;*
2. *peligros de objetos lanzados violentamente por el uso de engrapadoras neumáticas de tipo pistola;*
3. *peligros de tropiezos por cables y materiales de apunta lamiento; y,*
4. *peligros de niveles bajos, como un apuntalamiento de pared, contra lo que no protegen los sistemas de protección contra caídas.*

Fall Protection Equipment Installation

⚠ **DANGER** Individual trusses alone are NOT designed to SUPPORT fall protection equipment.

The Contractor is responsible for the construction means, methods, techniques, sequences, procedures, programs, and safety in connection with the receipt, storage, handling, installation, restraining, and bracing of trusses.

Refer to ANSI/ASSE Z359.2-2007, Minimum Requirements for a Comprehensive Managed Fall Protection Program, for guidance in meeting minimum fall protection equipment installation and use requirements. This standard refers to equipment only, and does not apply to the underlying structure to which the equipment is attached.(2)

⚠ **CAUTION** While the equipment itself may resist the forces generated by a falling worker, it is up to a qualified person to determine whether the building's structural system to which the fall protection equipment is attached meets or exceeds this standard as well.

Scaffolding

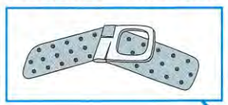
Use of interior or exterior scaffolding as a fall arrest system is permitted, but installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

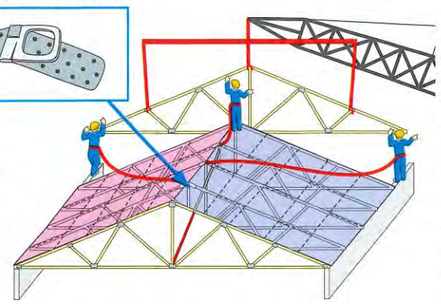
Guard Rails

Use of guard rails along the perimeter of the work area as a fall arrest system is permitted, but installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

Roof Peak Anchors

⚠ **WARNING** Completely brace, per **BCSI-B1*** and **BCSI-B2*** or sheath trusses, before installing a roof anchor for use as personal fall restraint system. Installation and use must adhere to the Standard requirements in 29 CFR 1926.500.





⚠ **WARNING** It is always safest to sheath a section (e.g. 3 or more trusses) of the roof before installing a roof anchor for use as a personal fall restraint system. Installation and use must adhere to the Standard requirements in 29 CFR 1926.500.

Instalación de Equipo de Protección Contra Caídas

¡PELIGRO! *Los entramados individuales por sí solos NO están diseñados para SOPORTAR equipo de protección contra caídas.*

El contratista será responsable de los medios de construcción, los métodos, las técnicas, las secuencias, los procedimientos, los programas y la seguridad en lo que se refiere a recepción, almacenamiento, manejo, instalación, restricción y apuntalamiento de entramados.

Consulte ANSI/ASSE Z359.2-2007, Minimum Requirements for a Comprehensive Managed Fall Protection Program (Requisitos mínimos para un programa completo de protección contra caídas) si desea información para el cumplimiento de los requisitos mínimos para la instalación y uso de equipo de protección contra caídas. Esta norma se refiere a equipo solamente, y no es aplicable a la estructura subyacente a la que esté acoplado el equipo.(2)

¡CAUCIÓN! *Aunque el equipo por sí mismo puede resistir las fuerzas generadas por la caída de un trabajador, es responsabilidad de una persona calificada determinar si el sistema estructural del edificio al que se acopla el equipo de protección contra caídas cumple o supera está regulación también.*

Andamiaje

Está permitido el uso de andamiaje interior o exterior como sistema para detención de caídas, pero la instalación y el uso deberá adherirse a los requisitos regulatorios descritos en 29 CFR 1926.500.

Rampas de Protección

Se permite el uso de rampas de protección a lo largo del perímetro del área de trabajo como sistema para detención de caídas, pero la instalación y el uso deberán adherirse a los requisitos de la regulación que se encuentran en 29 CFR 1926.500.

Anclajes de Tejado

¡ADVERTENCIA! *Apuntale completamente, según **BCSI-B1*** y **BCSI-B2*** o forre los entramados, antes de instalar un anclaje de tejado para su uso como sistema personal de restricción de caídas. La instalación y el uso deberá adherirse a los requisitos regulatorios que se indican en 29 CFR 1926.500.*

¡ADVERTENCIA! *Siempre es más seguro forrar una sección (por ejemplo, 3 o más entramados) del sistema de tejado antes de instalar un anclaje de tejado para uso como sistema personal de restricción de caídas. La instalación y el uso deberá adherirse a los requisitos regulatorios que se indican en 29 CFR 1926.500.*

Alternative Fall Protection Plans

After conducting a JHA, if the qualified person is able to demonstrate that conventional fall protection measures are infeasible (3) or present a greater hazard (4) to a particular worker or the entire crew, an employer may implement a written alternative fall protection plan in compliance with residential construction fall protection under 29 CFR 1926.501(b)(13).

The fall protection plan's alternative measures must apply to sufficiently trained and experienced workers (5), and the plan must meet the requirements of 29 CFR 1926.502(k) and be site-specific. The use of alternative measures shall be used in conjunction with conventional fall protection systems (6), and the use of alternative methods shall be as limited as possible.

Ground Assembly

Pre-assemble a group of trusses on the ground. Fully laterally restrain and diagonally brace, per **BCSI-B1*** and **BCSI-B2**,* the bottom chord and web member planes. Completely brace, per **BCSI-B1*** and **BCSI-B2**,* or sheath the top chord plane, for adequate stability. Lift and set in place. This pre-assembled section may then be used as an attachment point for personal fall restraint anchorage.

Definitions

(1) Under 29 CFR 1926.503(a)(2), a qualified person is one who should have knowledge, and be able to provide training to others, in the following areas: "the nature of fall hazards in the work area; the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used; the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used; the role of each employee in the safety monitoring system when this system is used; the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs; the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and, the role of employees in fall protection plans."
(2) Commentary E5.4.2.2 of ANSI/ASSE Z359.2-2007 states, "The impact of fall forces on beams, columns and their supports other than anchorages are not addressed by this standard."
(3) Under 29 CFR 1926.500(b), infeasible means "that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection."
(4) 29 CFR 1926.501(b)(2)(i) states, "there is a presumption that it is feasible and will not create a greater hazard to implement at least one of the [listed] fall protection systems. Accordingly, the employer has the burden of establishing that it is appropriate to implement a fall protection plan which complies with 1926.502(k) for a particular workplace situation, in lieu of implementing any of those systems."
(5) 29 CFR 1926.503(a)(1) states, "the employer program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards."
(6) Under 29 CFR 1926.500(b), conventional fall protection systems are: "guardrail system, safety net system, or personal fall arrest system."

Alternativos de Protección Contra Caídas

Después de realizar una evaluación JHA, si la persona calificada es capaz de demostrar que las medidas convencionales de protección contra caídas son irrealizables (3) o presentan un mayor peligro (4) para un trabajador en particular o la cuadrilla entera, un empleador puede implementar un plan de protección contra caídas alternativo por escrito en cumplimiento con 29 CFR 1926.501(b)(13) para protección contra caídas en construcción residencial.

Las medidas alternativas del plan de protección contra caídas deberán aplicarse a trabajadores suficientemente capacitados y experimentados (5), y el plan deberá cumplir los requisitos de 29 CFR 1926.502(k) y ser específicas para cada sitio. El uso de medidas alternativas se utilizará en conjunción con sistemas de protección contra caídas (6), y el uso de métodos alternativos será lo más limitado posible.

Montaje en el terreno

*Realice el montaje previo de un sistema de entramado en el terreno. Restrinja lateralmente por completo y apuntale diagonalmente la cuerda inferior y los planos de la pieza de enrejado según **BCSI-B1*** y **BCSI-B2**.* Apuntale completamente, según **BCSI-B1*** y **BCSI-B2**,* o forre el plano de la cuerda superior, para conseguir la estabilidad adecuada. Alce y establezca en su lugar. Esta sección previamente montada puede utilizarse entonces como un punto de acoplamiento para anclaje de restricción personal contra caídas.*

Definiciones

(1) Bajo 29 CFR 1926.503(a)(2), una persona calificada es aquella que debe tener conocimientos y aptitud para proporcionar capacitación a otros, en las áreas siguientes: "la naturaleza de los peligros de caída en el área de trabajo; los procedimientos correctos para levantar, mantener, desmontar e inspeccionar los sistemas de protección contra caídas a utilizarse; el uso y la operación de sistemas de rampas de protección, sistemas personales para detención de caídas, sistemas de redes de seguridad, sistemas de líneas de advertencias, sistemas de monitoreo de seguridad, zonas de acceso controlado y otra protección a utilizarse; la función de cada empleado en el sistema de monitoreo de seguridad cuando se utilice este sistema; las limitaciones sobre el uso de equipos mecánicos durante la realización de trabajo en tejados de baja pendiente; los procedimientos correctos para el manejo y almacenamiento de equipo y materiales, y la construcción de protección superior; y la función de los empleados en planes de protección contra caídas".
(2) El comentario E5.4.2.2 de ANSI/ASSE Z359.2-2007 establece, "El impacto de las fuerzas de caída sobre vigas, columnas y sus soportes que no sean anclajes no se tratan en esta norma".
(3) Según 29 CFR 1926.500(b), irrealizable significa "que es imposible llevar a cabo el trabajo de construcción usando un sistema convencional de protección contra caídas (por ejemplo, sistemas de rampas de protección, sistema de red de seguridad o sistema de protección personal para detención de caídas), o que es tecnológicamente imposible usar cualquiera de estos sistemas para proporcionar protección contra caídas".
(4) 29 CFR 1926.501(b)(2)(i) establece que, "hay una suposición de que es realizable y que no se creará un peligro mayor al implementar al menos uno de los sistemas de protección contra caídas [indicados]. Por consiguiente, el empleador tiene la responsabilidad de establecer que es apropiado implementar un plan de protección contra caídas que se adhiera a 1926.502(k) para una situación particular en el lugar de trabajo, en lugar de implementar cualquiera de esos sistemas".
(5) 29 CFR 1926.503(a)(1) establece que "el programa del empleador permitirá a cada empleado poder reconocer los peligros de caídas y capacitará a cada empleado en los procedimientos a seguir para minimizar estos peligros".
(6) Según 29 CFR 1926.500(b), los sistemas convencionales de protección contra caídas son: "sistema de rampas de protección, sistema de red de seguridad o sistema de protección personal para detención de caídas".

***Contact the component manufacturer for more information or consult a Professional Engineer for assistance.**

SBCA WTCA WOOD TRUSS COUNCIL

6300 Enterprise Lane • Madison, WI 53719 • 608-274-4849 • sbcindustry.com

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STANDARD ROOF TRUSS DETAILS AND TYPICAL REPAIR DETAILS

CTF California TrusFrame LLC
"People, Drive, Honor... Our Formula for Success!"
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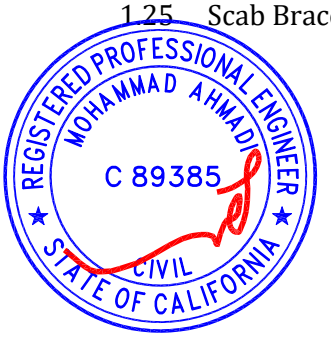

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Standard Roof Truss Details

Job	Truss	Truss Type	Qty	Ply	
1234 **1**	SHOP1 **2**	CATHEDRAL **3**	1 **4**	**5** 1	**6**

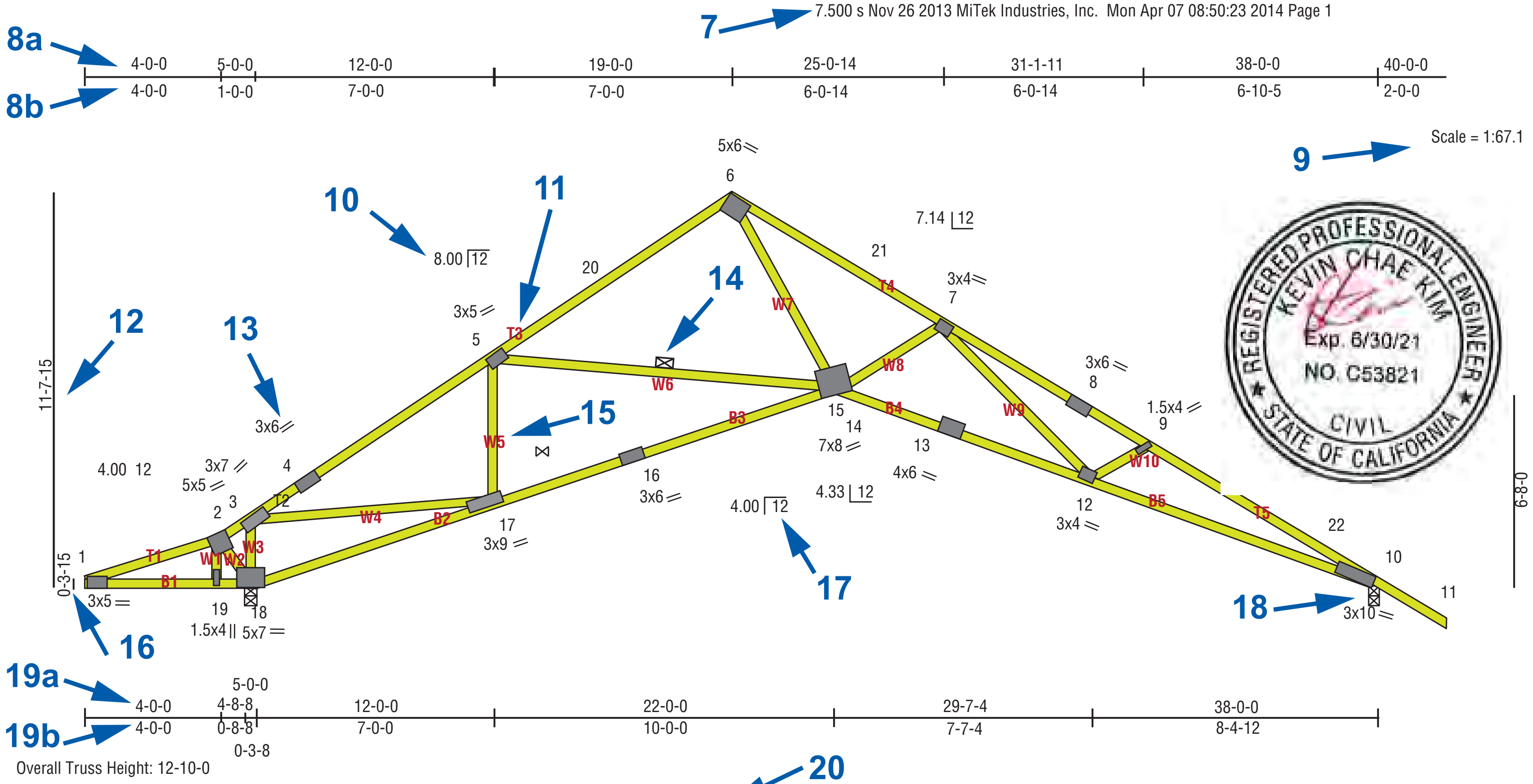

Plate Offsets (X, Y): [6:0-3-7,0-2-8], [10:0-1-2,0-0-5], [13:0-3-0,0-0-0], [17:0-2-12,0-1-3], [18:0-5-4,0-2-3]

LOADING (psf)			SPACING	2-0-0		CSI			DEFL	in	(loc)	l/defl	L/d		PLATES	GRIP
TCLL	20.0	**21**	**22** Plates Increase	1.15	**24**	**25** TC	0.84	**26**	Vert(LL)	-0.40	12-14	>996	240	**27**	MT20	244/190 **28**
TCDL	10.0		Lumber Increase	1.15		BC	1.00		Vert(TL)	-1.16	15-17	>341	180			
BCLL	0.0		**23** Rep Stress Incr	YES		WB	0.85		Horz(TL)	0.74	10	n/a	n/a			
BCDL	10.0		Code IBC2006/TPI2002			(Matrix)									Weight: 193 lb FT = 20%	

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LUMBER
TOP CHORD 2x4 SP No.2 *Except*
T5: 2x4 SP No.1
BOT CHORD 2x4 SP No.2 *Except*
B5: 2x4 SP No.1
WEBS 2x4 SP No.3 *Except*
W7: 2x4 SP No.2

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BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 1-4-12 oc bracing.
WEBS 1 row at midpoint 5-15

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

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REACTIONS (lbs/size) 18=1740/0-3-8 (min. 0-2-1), 10=1417/0-3-8 (min. 0-1-8)
Max Horz 18=-196(LC 7)
Max Uplift 18=-63(LC 9), 10=-30(LC9)

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FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-196/456, 2-3=-245/545, 3-4=-2012/0, 4-5=1896/0, 5-20=-1899/0, 6-20=-1770/0, 6-21=-3060/0, 7-8=-4287/0, 8-9=-4379/0, 9-22=-4595/0, 10-22=-4699/0
BOT CHORD 1-19=-394/201, 18-19=-402/211, 17-18=-511/288, 16-17=-511/288, 16-17=0/1658, 15-16=0/1693, 14-15=0/2999, 13-14=0/336, 12-13=0/3318, 10-12=0/4180
WEBS 3-18=-1603/163, 3-17=-23/2049, 5-17=-372/127, 6-15=0/2474, 7-14=-624/141, 7-12=-26/842, 9-12=-271/129

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NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 90mph; TCDL=6.0psf, BCDL=6.0psf; h=25ft; B=45ft; L=38ft, eave=5ft; Cat. II; Exp B; enclosed; MWFRS (all heights) and C-C Exterior(2) 0-0-0 to 4-0-0, Interior (1) 4-0-0 19-0-0, Exterior(2) 19-0-0 to 22-9-10 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) *This truss has been designed for a live load of 20.0 psf 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.
5) Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 63 lb uplift at joint 18 and 30 lb uplift at joint 10.
7) This truss is designed to accordance with the 2006 International Building Code section 2306.1 and referenced standard ANSI/TPI 1.
8) "Semi-rigid pitchbreaks including heels" Member end fixity model was used in the analysis and design of this truss.

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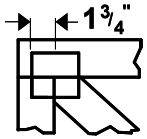
LOAD CASE(S) Standard **35**

Reading a MiTek Engineering Drawing

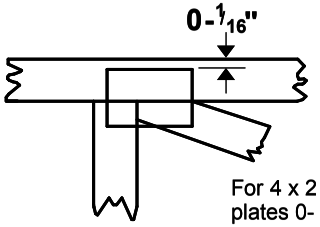
1 **Job name**
2 **Truss label**
3 **Truss type**
4 **Truss quantity**
5 **Number of plies**
6 **Job description**
7 **Software version**
8a **Cumulated dimensions of top chord** – panel lengths are added together along the top chord of truss (feet-inches-sixteenths)
8b **Panel lengths of the top chord** – each section represents the horizontal distance between the centerline of two consecutive panel points along the top chord (feet-inches-sixteenths)
9 **Drawing scale of the truss**
10 **Top chord slope** – inches of vertical rise for each 12 inches of horizontal run
11 **Top chord member label (if shown)** – identification label used to distinguish pieces
12 **Truss height** – the height of the truss from the top of the bearing to the top of the top chord (trusses with multiple levels of top chord will have multiple truss height dimensions) (feet-inches-sixteenths)
13 **Plate size, orientation and type** – plate size in inches. The two lines denotes the direction of the plate
14 **Continuous lateral bracing location**
15 **Web member label (if shown)**
16 **Heel height** – the height from the top of bearing to the top of the top chord at the outside edge of the bearing (feet-inches-sixteenths)
17 **Bottom chord slope** – inches of vertical rise for each 12 inches of horizontal run
18 **Bearing** – a structural support, usually a wall or beam that is designated to carry the truss reaction loads to the foundation
19a **Cumulated dimensions of bottom chord** – panel lengths are added together along the bottom chord of truss (feet-inches-sixteenths)
19b **Panel lengths of the bottom chord** – each section represents the horizontal distance between the centerline of two consecutive panel points along the bottom chord (feet-inches-sixteenths)
20 **Plate offsets (X, Y) –** this section lists any horizontal and/or vertical plate offsets (in inches) and the location they occur
21 **Design loading** (PSF–pounds per square foot)
22 **Spacing on center** – feet-inches-sixteenths
23 **Design code / Design standard**
24 **Duration of Load** for plate and lumber design and **Repetitive Use Factor**
25 **CSI** – maximum Combined Stress Index for top chords, bottom chords and webs
26 **Deflection-** maximum deflection expected in a member (inches), **Location** of maximum deflection, maximum **Span to deflection ratio** expected in a member
27 **Span to deflection ratios** – input allowables
28 **MiTek plate allowables (PSI) / estimated truss weight / fabrication tolerance**
29 **Lumber requirements**
30 **Required bracing** for all members
31 **Reaction** (pounds), **Bearing size -** input and minimum required (if shown)
32 **Maximum Uplift** and/or **Maximum Horizontal Reaction** if applicable and **Maximum Gravity** if shown
33 **Maximum member forces** - Tension (+), Compression (-)
34 **Notes**
35 **Additional loads / load cases**

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- 1/16" from outside edge of truss.

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

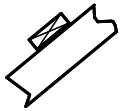
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

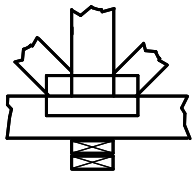
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

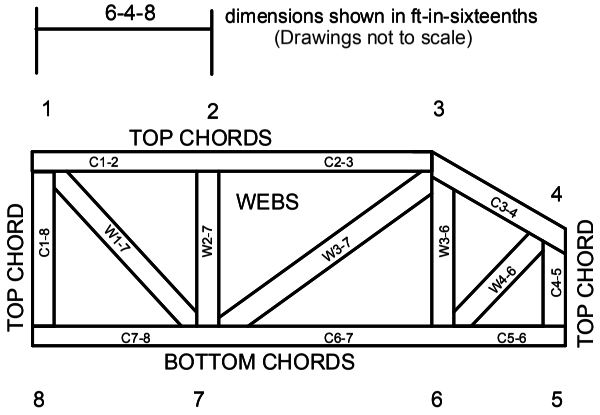


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: 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.

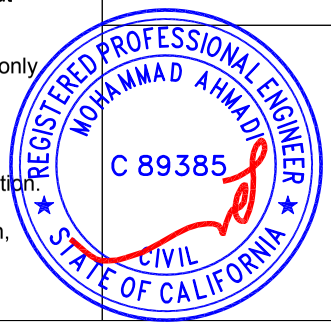
PRODUCT CODE APPROVALS

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.



MiTek®

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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 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/TPI 1 Quality Criteria.

APRIL 12, 2019	Standard Gable End Detail	MII-GE110-001

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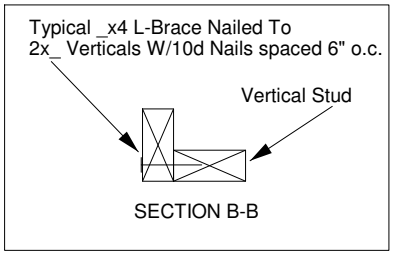
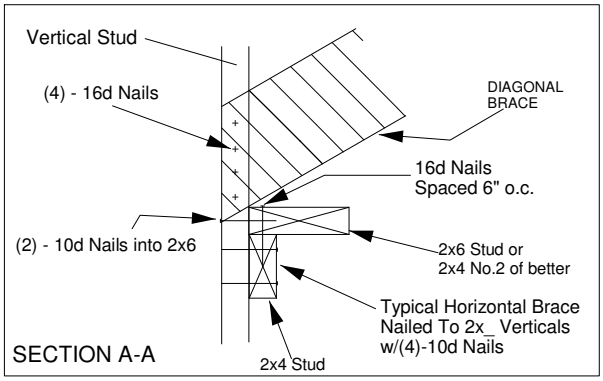
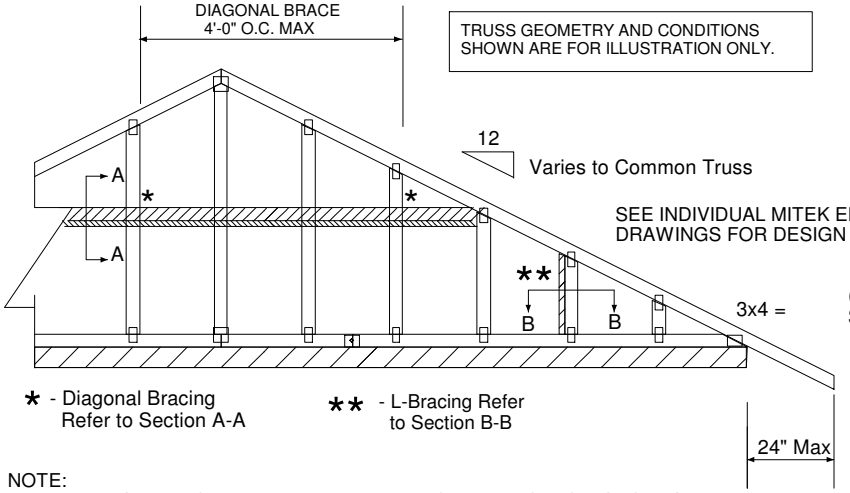


MiTek USA, Inc.



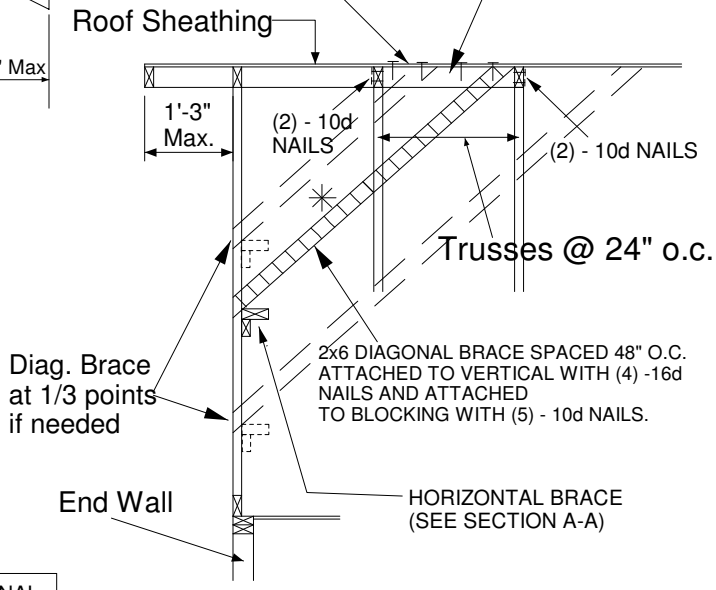


TRUSS GEOMETRY AND CONDITIONS SHOWN ARE FOR ILLUSTRATION ONLY.

SEE INDIVIDUAL MITEK ENGINEERING DRAWINGS FOR DESIGN CRITERIA

PROVIDE 2x4 BLOCKING BETWEEN THE FIRST TWO TRUSSES AS NOTED. TOENAIL BLOCKING TO TRUSSES WITH (2) - 10d NAILS AT EACH END. ATTACH DIAGONAL BRACE TO BLOCKING WITH (5) - 10d NAILS.

(4) - 8d (0.131" X 2.5") NAILS MINIMUM, PLYWOOD SHEATHING TO 2x4 STD DF/SPF BLOCK



* - Diagonal Bracing Refer to Section A-A

** - L-Bracing Refer to Section B-B

NOTE:
1. MINIMUM GRADE OF #2 MATERIAL IN THE TOP AND BOTTOM CHORDS.
2. CONNECTION BETWEEN BOTTOM CHORD OF GABLE END TRUSS AND WALL TO BE PROVIDED BY PROJECT ENGINEER OR ARCHITECT.
3. BRACING SHOWN IS FOR INDIVIDUAL TRUSS ONLY. CONSULT BLDG. ARCHITECT OR ENGINEER FOR TEMPORARY AND PERMANENT BRACING OF ROOF SYSTEM.
4. "L" BRACES SPECIFIED ARE TO BE FULL LENGTH. GRADES: 1x4 SRB OR 2x4 STUD OR BETTER WITH ONE ROW OF 10d NAILS SPACED 6" O.C.
5. DIAGONAL BRACE TO BE APPROXIMATELY 45 DEGREES TO ROOF DIAPHRAM AT 4'-0" O.C.
6. CONSTRUCT HORIZONTAL BRACE CONNECTING A 2x6 STUD AND A 2x4 STUD AS SHOWN WITH 16d NAILS SPACED 6" O.C. HORIZONTAL BRACE TO BE LOCATED AT THE MIDSPAN OF THE LONGEST STUD. ATTACH TO VERTICAL STUDS WITH (4) 10d NAILS THROUGH 2x4. (REFER TO SECTION A-A)
7. GABLE STUD DEFLECTION MEETS OR EXCEEDS L/240.
8. THIS DETAIL DOES NOT APPLY TO STRUCTURAL GABLES.
9. DO NOT USE FLAT BOTTOM CHORD GABLES NEXT TO SCISSOR TYPE TRUSSES.
10. NAILS DESIGNATED 10d ARE (0.131" X 3") AND NAILS DESIGNATED 16d ARE (0.131" X 3.5")

Minimum Stud Size Species and Grade	Stud Spacing	Without Brace	1x4 L-Brace	2x4 L-Brace	DIAGONAL BRACE	2 DIAGONAL BRACES AT 1/3 POINTS
		Maximum Stud Length				
2x4 DF/SPF Std/Stud	12" O.C.	4-6-3	5-0-7	7-1-7	9-0-5	13-6-8
2x4 DF/SPF Std/Stud	16" O.C.	4-1-3	4-4-5	6-2-0	8-2-7	12-3-10
2x4 DF/SPF Std/Stud	24" O.C.	3-5-8	3-6-11	5-0-7	6-10-15	10-4-7

✳ Diagonal braces over 6'-3" require a 2x4 T-Brace attached to one edge. Diagonal braces over 12'-6" require 2x4 I-braces attached to both edges. Fasten T and I braces to narrow edge of web with 10d nails 8" o.c., with 3" minimum end distance. Brace must cover 90% of diagonal length.

MAX MEAN ROOF HEIGHT = 30 FEET
CATEGORY II BUILDING
EXPOSURE B or C
ASCE 7-98, ASCE 7-02, ASCE 7-05 110 MPH
ASCE 7-10, ASCE 7-16 140 MPH
DURATION OF LOAD INCREASE : 1.60

STUD DESIGN IS BASED ON COMPONENTS AND CLADDING.
CONNECTION OF BRACING IS BASED ON MWFRS.

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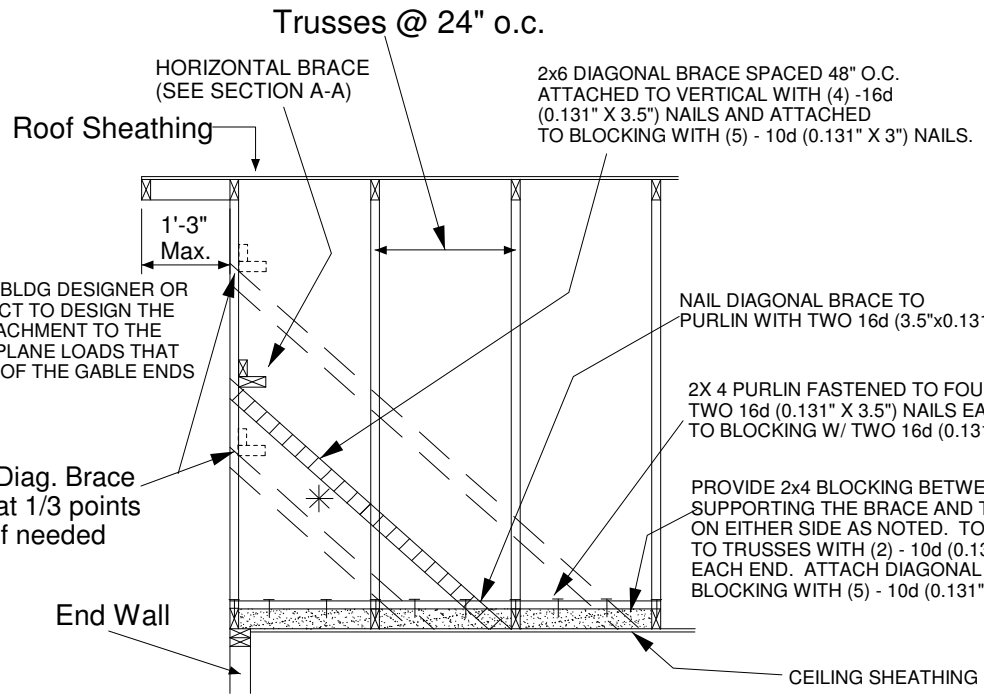
ALTERNATE DIAGONAL BRACING TO THE BOTTOM CHORD

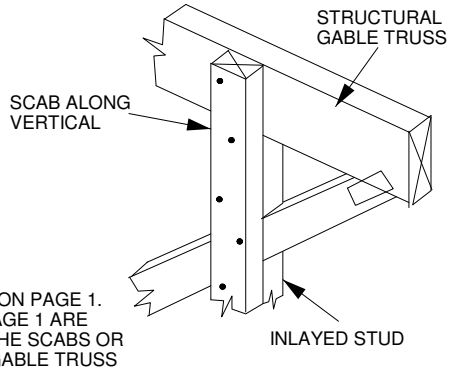


IT IS THE RESPONSIBILITY OF THE BLDG DESIGNER OR THE PROJECT ENGINEER/ARCHTECT TO DESIGN THE CEILING DIAPHRAGM AND ITS ATTACHMENT TO THE TRUSSES TO RESIST ALL OUT OF PLANE LOADS THAT MAY RESULT FROM THE BRACING OF THE GABLE ENDS

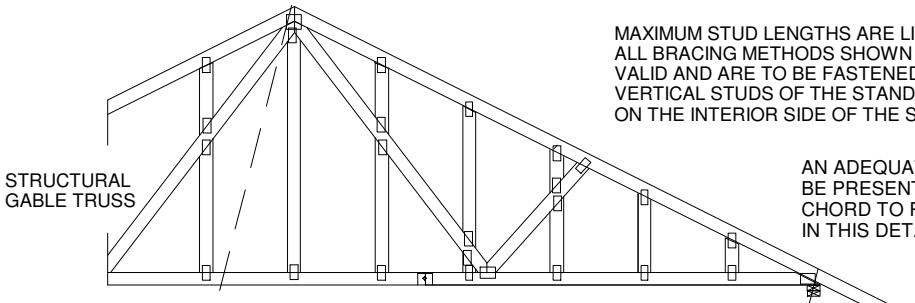
BRACING REQUIREMENTS FOR STRUCTURAL GABLE TRUSSES

STRUCTURAL GABLE TRUSSES MAY BE BRACED AS NOTED:
METHOD 1 : ATTACH A MATCHING GABLE TRUSS TO THE INSIDE FACE OF THE STRUCTURAL GABLE AND FASTEN PER THE FOLLOWING NAILING SCHEDULE.
METHOD 2 : ATTACH 2X _ SCABS TO THE FACE OF EACH VERTICAL MEMBER ON THE STRUCTURAL GABLE PER THE FOLLOWING NAILING SCHEDULE. SCABS ARE TO BE OF THE SAME SIZE, GRADE AND SPECIES AS THE TRUSS VERTICALS

NAILING SCHEDULE:
- FOR WIND SPEEDS 120 MPH (ASCE 7-98, 02, 05), 150 MPH (ASCE 7-10, 16) OR LESS, NAIL ALL MEMBERS WITH ONE ROW OF 10d (0.131" X 3") NAILS SPACED 6" O.C.
- FOR WIND SPEEDS 120-150 MPH (ASCE 7-98, 02, 05), 150-190 MPH (ASCE 7-10, 16) NAIL ALL MEMBERS WITH TWO ROWS OF 10d (0.131" X 3") NAILS SPACED 6" O.C. (2X 4 STUDS MINIMUM)

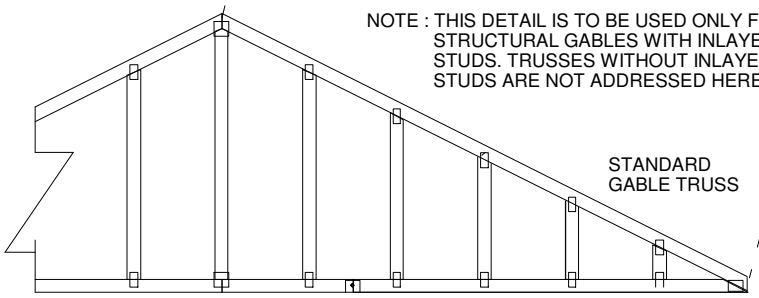


MAXIMUM STUD LENGTHS ARE LISTED ON PAGE 1. ALL BRACING METHODS SHOWN ON PAGE 1 ARE VALID AND ARE TO BE FASTENED TO THE SCABS OR VERTICAL STUDS OF THE STANDARD GABLE TRUSS ON THE INTERIOR SIDE OF THE STRUCTURE.



AN ADEQUATE DIAPHRAGM OR OTHER METHOD OF BRACING MUST BE PRESENT TO PROVIDE FULL LATERAL SUPPORT OF THE BOTTOM CHORD TO RESIST ALL OUT OF PLANE LOADS. THE BRACING SHOWN IN THIS DETAIL IS FOR THE VERTICAL/STUDS ONLY.

NOTE : THIS DETAIL IS TO BE USED ONLY FOR STRUCTURAL GABLES WITH INLAYED STUDS. TRUSSES WITHOUT INLAYED STUDS ARE NOT ADDRESSED HERE.



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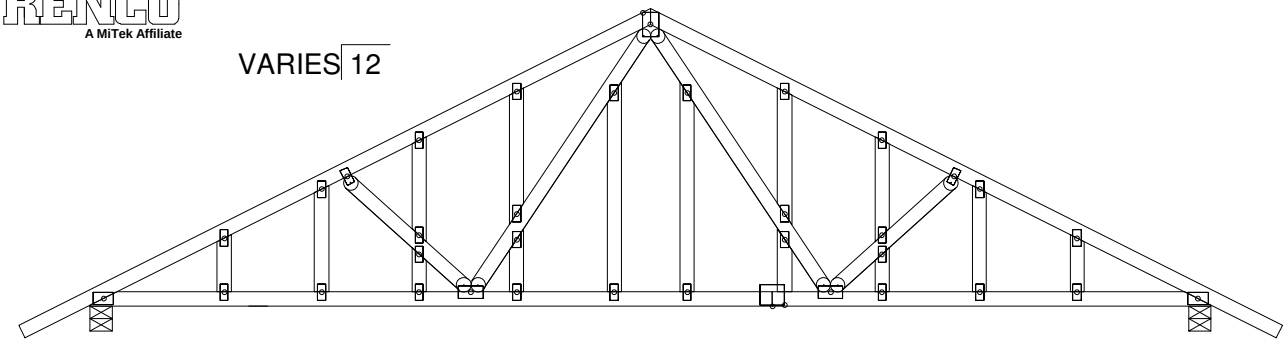
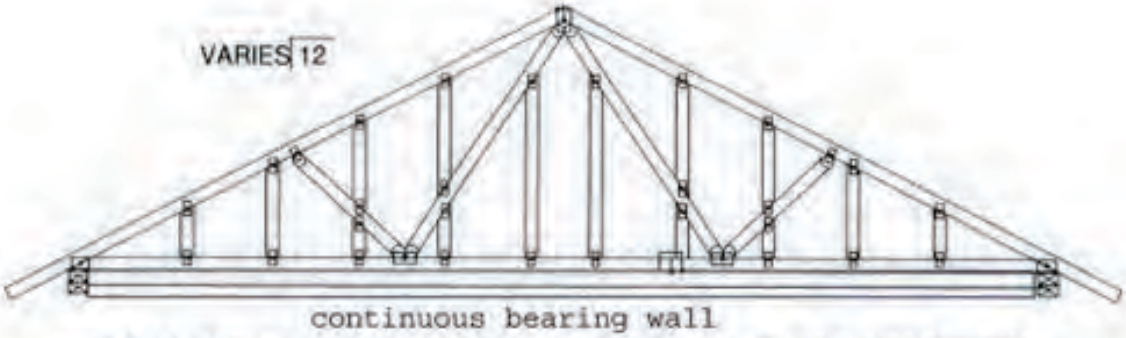
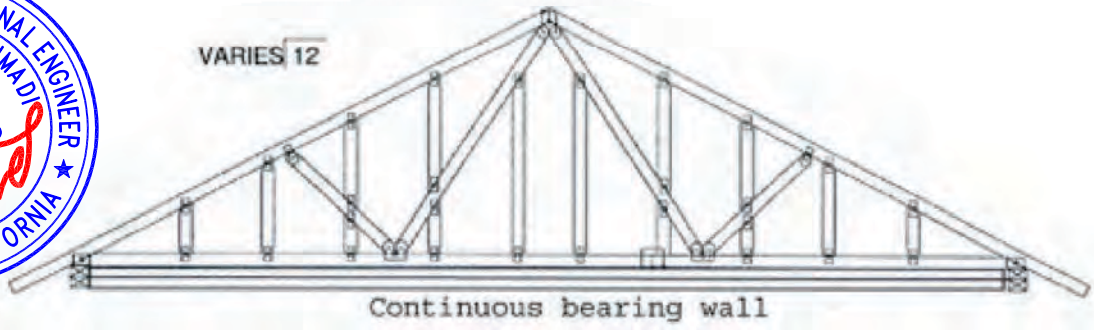
REFER TO ENGINEERED TRUSS DRAWING FOR EACH INDIVIDUAL TRUSS.



NOTE: GABLE STUDS MAY BE ATTACHED WITH 1.5X4 OR 2X3 MITEK MT20 PLATES OR WITH (2) 10d (0.131" X 3") TOE-NAILS



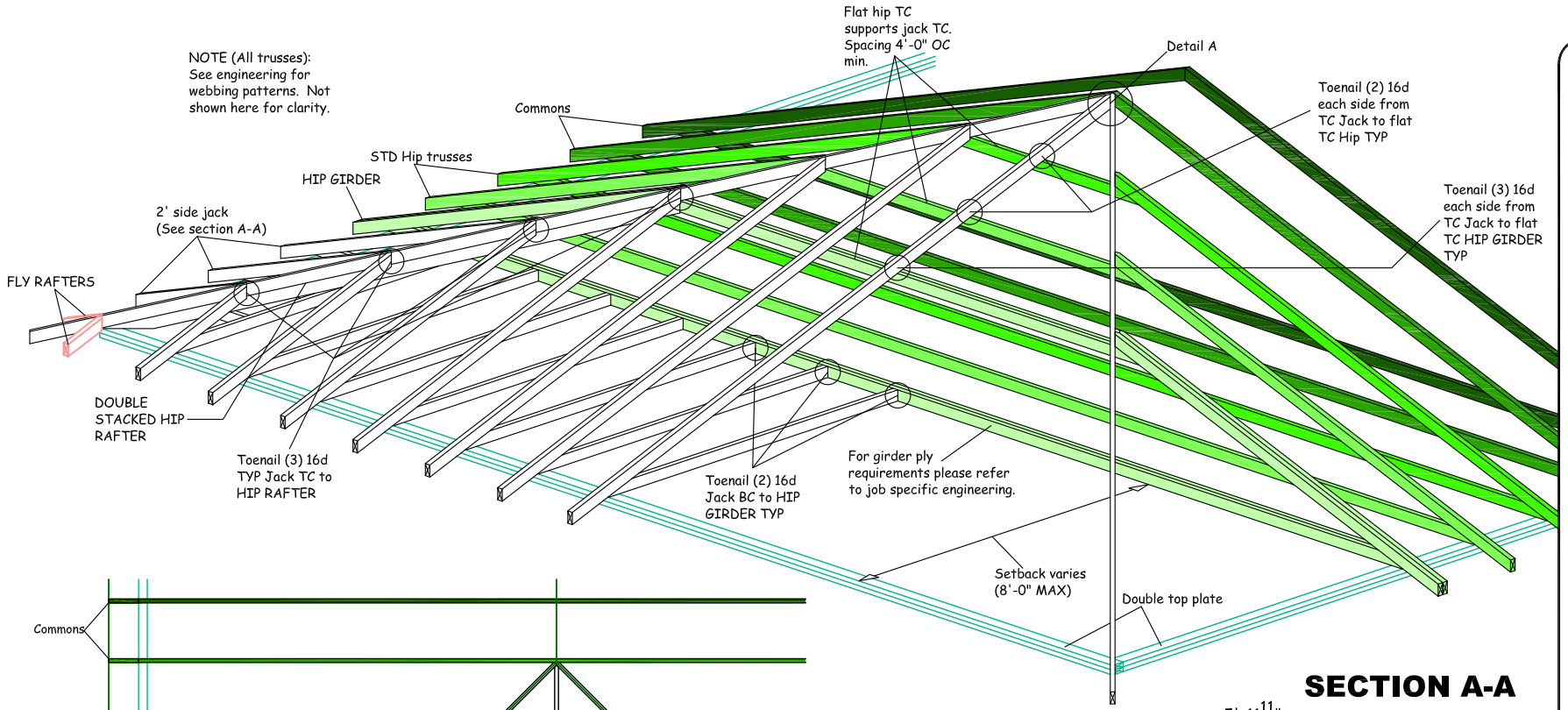
NOTE: GABLE STUDS MAY BE ATTACHED WITH 1.5X4 OR 2X3 MITEK MT20 PLATES OR WITH (3) 16d (0.131" X 3-1/2") TOE-NAILS



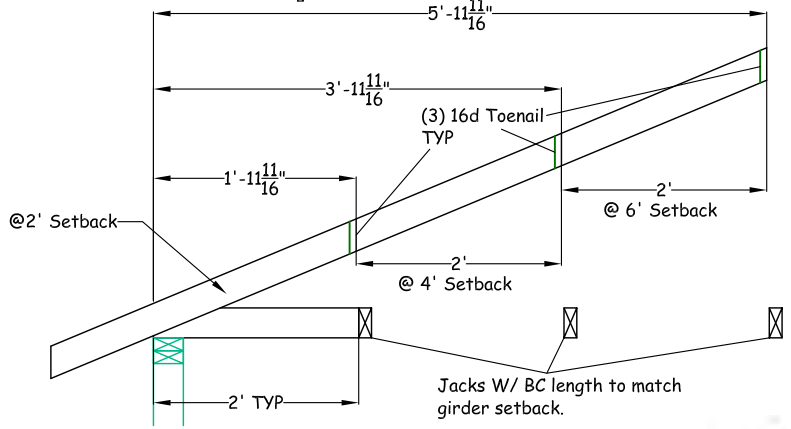
NOTE: GABLE STUDS MAY BE ATTACHED WITH 1.5X4 OR 2X3 MITEK MT20 PLATES OR WITH (6) -7/16"x1-3/4" STAPLES ONE SIDE ONLY

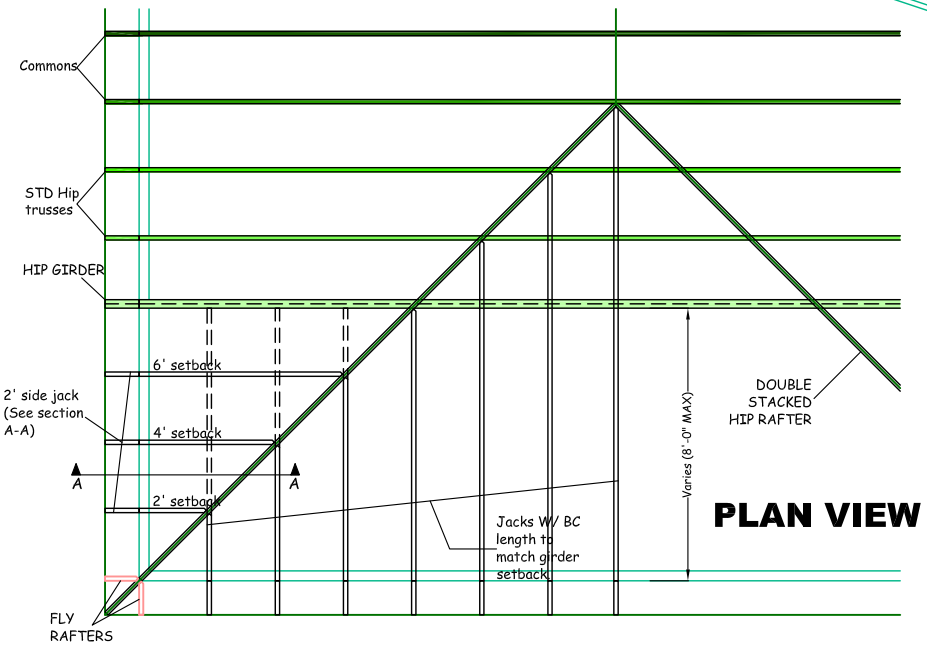
SEE MITEK STANDARD GABLE END DETAIL FOR GABLE STUD BRACING REQUIREMENTS.

TRUSS DESIGNED FOR WIND LOADS IN THE PLANE OF THE TRUSS ONLY.

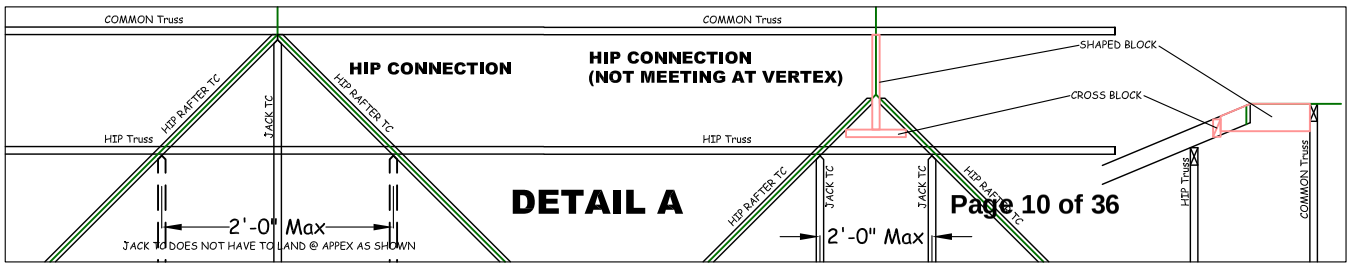


SECTION A-A





PLAN VIEW



CA HIP FRAMING DETAILS

DETAIL IS NOT MEANT TO SUPERCEDE DETAILS OUTLINED IN STRUCTURAL PLANS. EOR APPROVAL IS REQUIRED PRIOR TO USE.

CALIFORNIA TRUSFRAME
23665 Cajalco Road
Perris, CA 92570
Ph: 951-657-7491

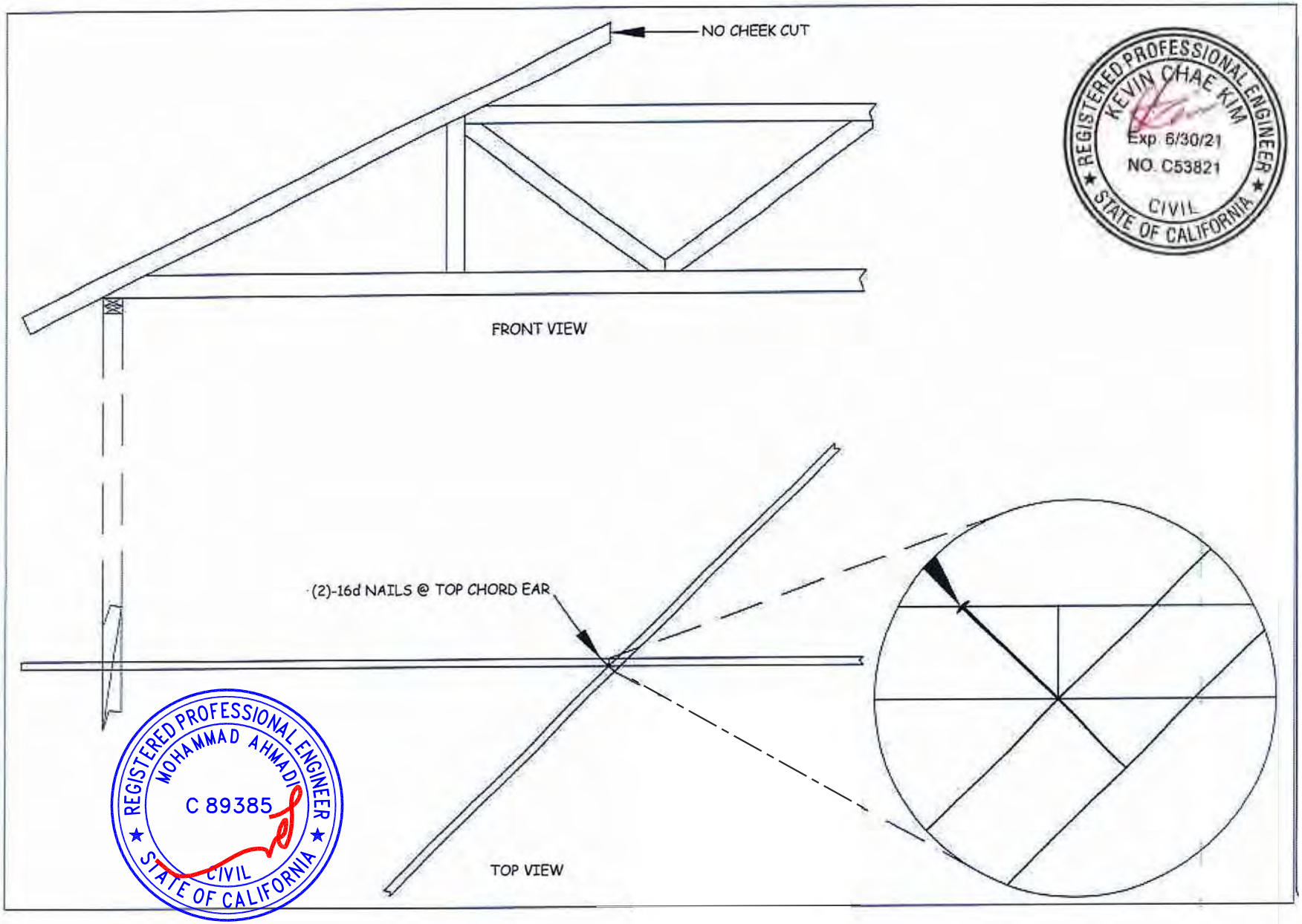
SHEET

DATE	REVISION
7/2/12	Detail Origination

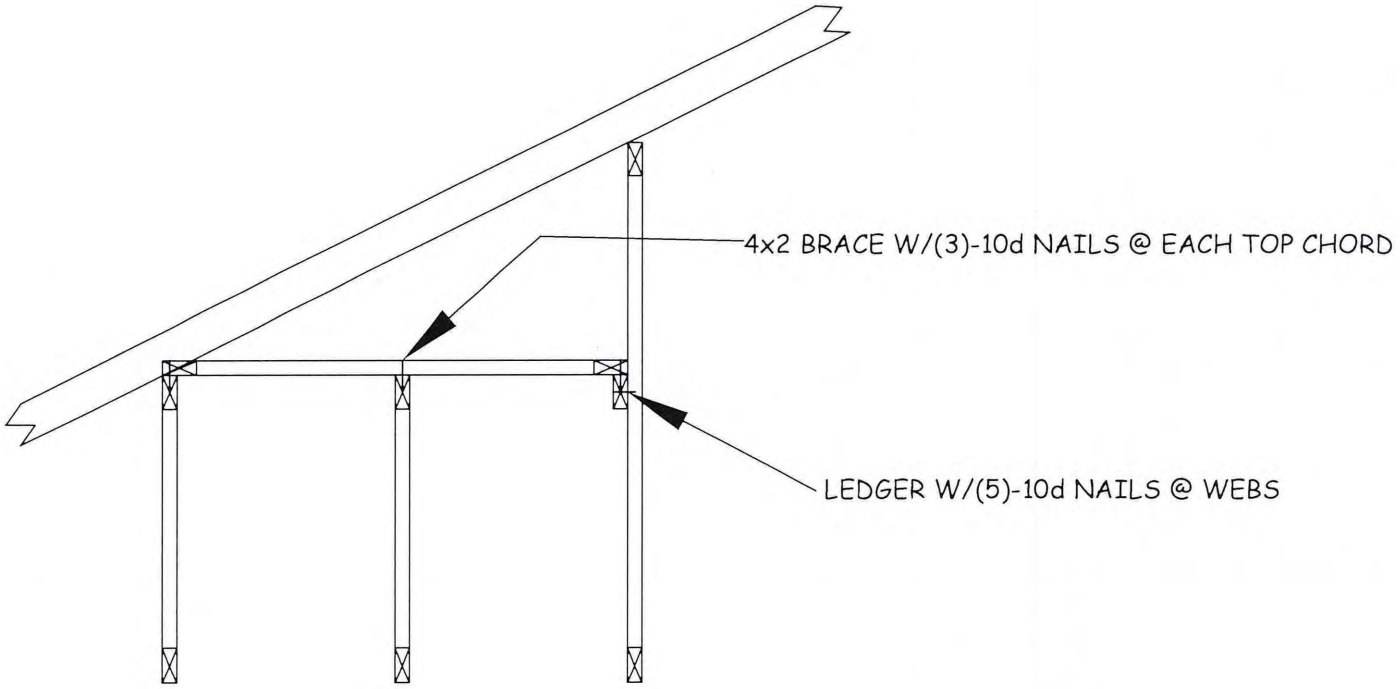
REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD AHMADI
C 89385
CIVIL
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
KEVIN CHAE KIM
Exp. 6/30/21
NO. C53821
CIVIL
STATE OF CALIFORNIA

HIP EAR NAILING DETAIL



HIP FLAT TOP BRACING DETAIL



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NO. C53821
CIVIL
STATE OF CALIFORNIA

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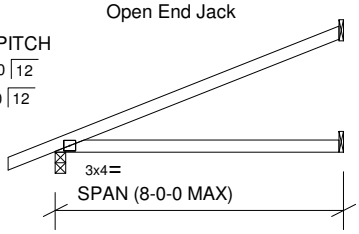
Open End Jack

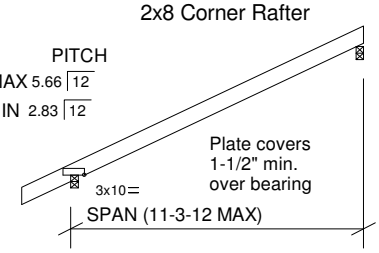
PITCH
MAX 8.00 12
MIN 4.00 12



Max. overhang: 2-0-0

2x8 Corner Rafter

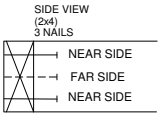
PITCH
MAX 5.66 12
MIN 2.83 12



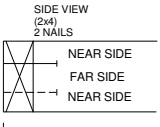
Min. heel heigth: 0-3-15
Max. overhang: 2-10-0

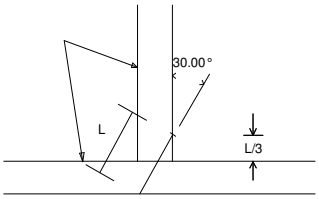
SQUARE CUT

Connection at A



Connection at C

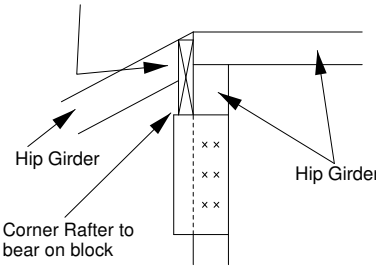




10d (0.131" x 3") nails

Connection at D

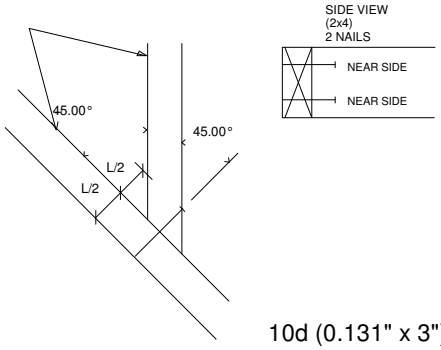
Connect top of 2x8 rafter with (3) 10d (0.131" x 3") toe-nails into top chord of hip girder.



Attach 12" 2x6 SP No. 2 block with two rows of 10d (0.131" x 3") nails spaced 3" o.c. Use a min 3" member end distance

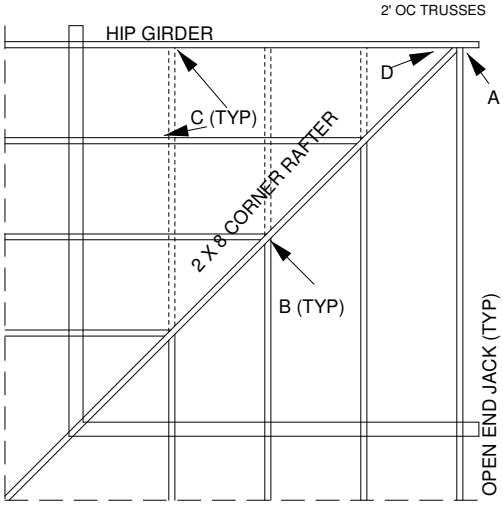
Connection at B

45 DEGREE ANGLE
BEVEL CUT



10d (0.131" x 3") nails

TYPICAL CORNER FRAMING



Wind loading: ASCE 7-98, ASCE 7-02, ASCE 7-05 - 90 MPH.
ASCE 7-10, ASCE 7-16 - 115 MPH
Exposure catagory B or C.
Occupancy catagory II
4.8 psf top chord dead load.
4.2 psf bottom chord dead load.
25' roof height.
MWFRS gable end zone.
Enclosed building (Cond. I)
Duration of load is 1.60

Deflection: Top chord LL- L/180 TL- L/120
Bottom chord LL- l/180 TL- L/120
Truss LL- L/240 TL- L/180

Lumber: SPF MSR 2100 1.8E min. top chord required for top chord slopes between 5.01/12 and 8/12.
SPF No. 2 min. top chord slopes between 5/12 and 4/12.
SPF No. 2 min. bottom chord.
SP No. 2 or better for corner rafter.

Plates: All plates are MT20 installed on each face per TPI 1.

Loading: Duration of load is 1.25
20 psf top chord live load
8 psf top chord deal load
0 psf bottom chord live load
7 psf bottom chord dead load
10 psf non-concurrent bottom chord live load

Conforms to: IRC 2000/2003/2006/2009/2012/2015/2018
IBC 2000/2003/2006/2009/2012/2015/2018

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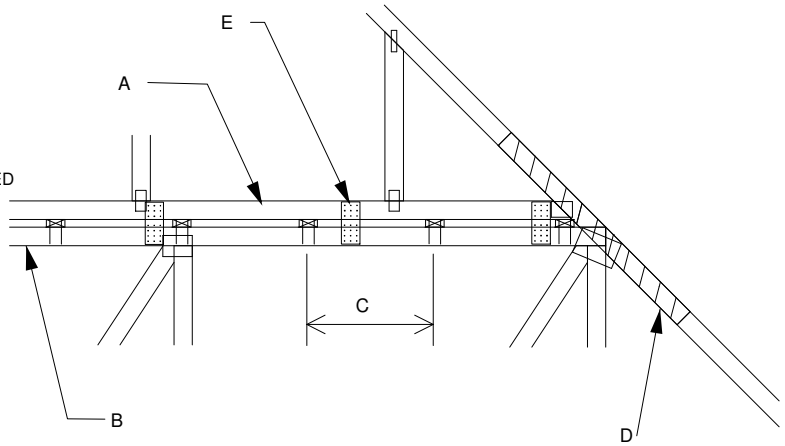
MAXIMUM WIND SPEED = REFER TO NOTES D AND OR E MAX MEAN ROOF HEIGHT = 30 FEET MAX TRUSS SPACING = 24 " O.C. CATEGORY II BUILDING EXPOSURE B or C ENCLOSED BUILDING LOADING = 5 PSF TCDL MINIMUM ASCE 7-10, ASCE 7-16 DURATION OF LOAD INCREASE : 1.60
DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

A - PIGGBACK TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING. SHALL BE CONNECTED TO EACH PURLIN WITH (2) (0.131" X 3.5") TOE-NAILED.
B - BASE TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING.
C - PURLINS AT EACH BASE TRUSS JOINT AND A MAXIMUM 24" O.C. UNLESS SPECIFIED CLOSER ON MITEK TRUSS DESIGN DRAWING. CONNECT TO BASE TRUSS WITH (2) (0.131" X 3.5") NAILS EACH.
D - 2 X __ X 4'-0" SCAB, SIZE TO MATCH TOP CHORD OF PIGGYBACK TRUSS, MIN GRADE #2, ATTACHED TO ONE FACE, CENTERED ON INTERSECTION, WITH (2) ROWS OF (0.131" X 3") NAILS @ 4" O.C. SCAB MAY BE OMITTED PROVIDED THE TOP CHORD SHEATHING IS CONTINUOUS OVER INTERSECTION AT LEAST 1 FT. IN BOTH DIRECTIONS AND:
1. WIND SPEED OF 115 MPH OR LESS FOR ANY PIGGYBACK SPAN, OR
2. WIND SPEED OF 116 MPH TO 180 MPH WITH A MAXIMUM PIGGYBACK SPAN OF 12 ft.

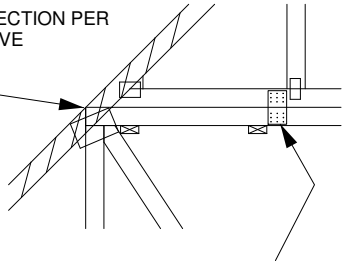
E - FOR WIND SPEEDS BETWEEN 116 AND 180 MPH, ATTACH MITEK NP37 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 72" O.C. W/ (4) (0.131" X 1.5") NAILS PER MEMBER. STAGGER NAILS FROM OPPOSING FACES. ENSURE 0.5" NAIL EDGE DISTANCE. (MIN. 2 PAIRS OF PLATES REQ. REGARDLESS OF SPAN)



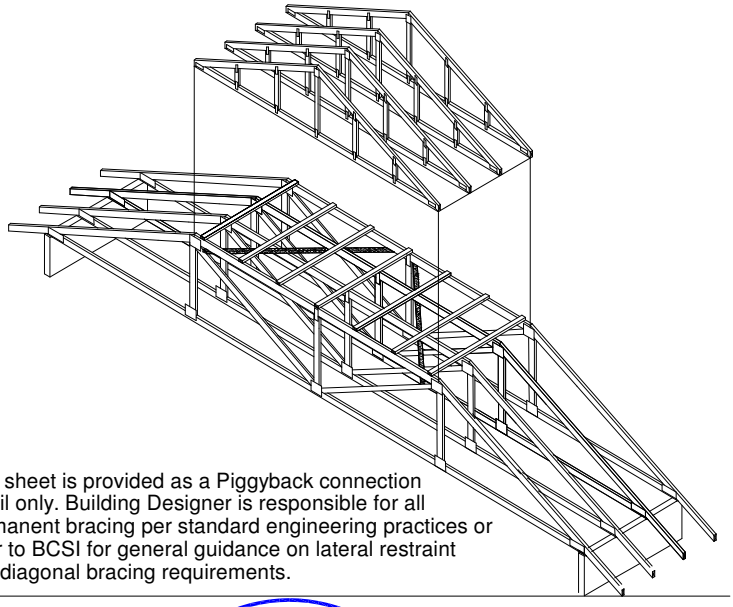
WHEN NO GAP BETWEEN PIGGYBACK AND BASE TRUSS EXISTS:

REPLACE TOE NAILING OF PIGGYBACK TRUSS TO PURLINS WITH Nail-On PLATES AS SHOWN, AND INSTALL PURLINS TO BOTTOM EDGE OF BASE TRUSS TOP CHORD AT SPECIFIED SPACING SHOWN ON BASE TRUSS MITEK DESIGN DRAWING.

SCAB CONNECTION PER NOTE D ABOVE

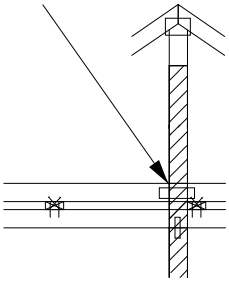


FOR ALL WIND SPEEDS, ATTACH MITEK NP37 20 GA Nail-On PLATES TO EACH FACE OF TRUSSES AT 48" O.C. W/ (4) (0.131" X 1.5") PER MEMBER. STAGGER NAILS FROM OPPOSING FACES ENSURE 0.5" NAIL EDGE DISTANCE.



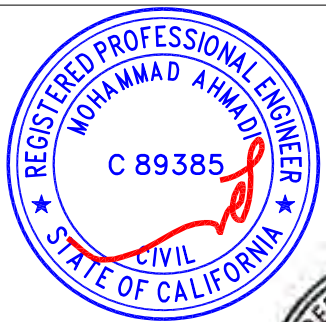
This sheet is provided as a Piggyback connection detail only. Building Designer is responsible for all permanent bracing per standard engineering practices or refer to BCSI for general guidance on lateral restraint and diagonal bracing requirements.

VERTICAL WEB TO EXTEND THROUGH BOTTOM CHORD OF PIGGYBACK



FOR LARGE CONCENTRATED LOADS APPLIED TO CAP TRUSS REQUIRING A VERTICAL WEB:

1) VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS MUST MATCH IN SIZE, GRADE, AND MUST LINE UP AS SHOWN IN DETAIL.
2) ATTACH 2 x ___ x 4'-0" SCAB TO EACH FACE OF TRUSS ASSEMBLY WITH 2 ROWS OF 10d (0.131" X 3") NAILS SPACED 4" O.C. FROM EACH FACE. (SIZE AND GRADE TO MATCH VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS.) (MINIMUM 2X4)
3) THIS CONNECTION IS ONLY VALID FOR A MAXIMUM CONCENTRATED LOAD OF 4000 LBS (@1.15). REVIEW BY A QUALIFIED ENGINEER IS REQUIRED FOR LOADS GREATER THAN 4000 LBS.
4) FOR PIGGYBACK TRUSSES CARRYING GIRDER LOADS, NUMBER OF PLYS OF PIGGYBACK TRUSS TO MATCH BASE TRUSS.
5) CONCENTRATED LOAD MUST BE APPLIED TO BOTH THE PIGGYBACK AND THE BASE TRUSS DESIGN.



JANUARY 8, 2019	STANDARD PIGGYBACK TRUSS CONNECTION DETAIL	MII-PIGGY-ALT 7-16

MiTek USA, Inc.

MiTek USA, Inc.

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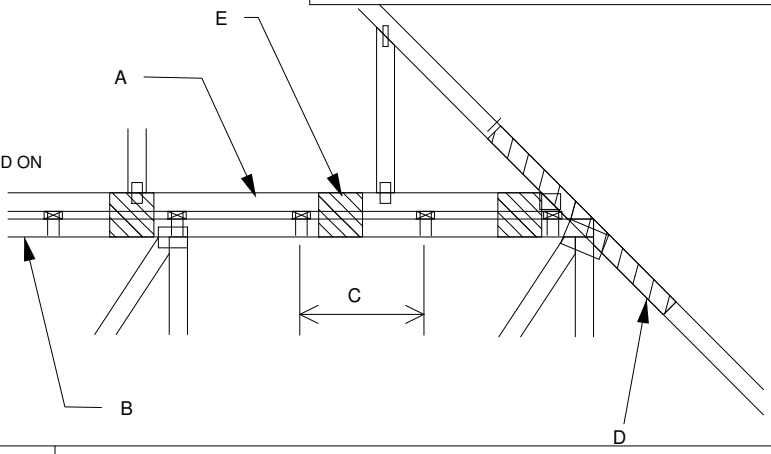
MAXIMUM WIND SPEED = REFER TO NOTES D AND OR E MAX MEAN ROOF HEIGHT = 30 FEET MAX TRUSS SPACING = 24 " O.C. CATEGORY II BUILDING EXPOSURE B or C ENCLOSED BUILDING LOADING = 5 PSF TCDL MINIMUM ASCE 7-10, ASCE 7-16 DURATION OF LOAD INCREASE : 1.60
DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

A - PIGGBACK TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING. SHALL BE CONNECTED TO EACH PURLIN WITH (2) 0(0.131" X 3.5") TOE-NAILED.
B - BASE TRUSS, REFER TO MITEK TRUSS DESIGN DRAWING.
C - PURLINS AT EACH BASE TRUSS JOINT AND A MAXIMUM 24" O.C. UNLESS SPECIFIED CLOSER ON MITEK TRUSS DESIGN DRAWING. CONNECT TO BASE TRUSS WITH (2) (0.131" X 3.5") NAILS EACH.
D - 2 X __ X 4'-0" SCAB, SIZE TO MATCH TOP CHORD OF PIGGYBACK TRUSS, MIN GRADE #2, ATTACHED TO ONE FACE, CENTERED ON INTERSECTION, WITH (2) ROWS OF (0.131" X 3") NAILS @ 4" O.C. SCAB MAY BE OMITTED PROVIDED THE TOP CHORD SHEATHING IS CONTINUOUS OVER INTERSECTION AT LEAST 1 FT. IN BOTH DIRECTIONS AND:
1. WIND SPEED OF 115 MPH OR LESS FOR ANY PIGGYBACK SPAN, OR
2. WIND SPEED OF 116 MPH TO 180 MPH WITH A MAXIMUM PIGGYBACK SPAN OF 12 ft.

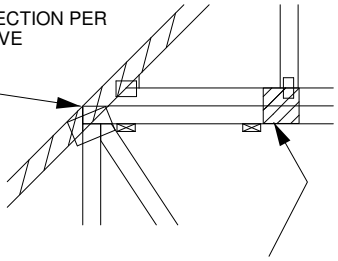
E - FOR WIND SPEED IN THE RANGE 116 MPH - 180 MPH ADD 9" x 9" x 1/2" PLYWOOD (or 7/16" OSB) GUSSET EACH SIDE AT 48" O.C. OR LESS. ATTACH WITH 3 - 6d (0.113" X 2") NAILS INTO EACH CHORD FROM EACH SIDE (TOTAL - 12 NAILS)



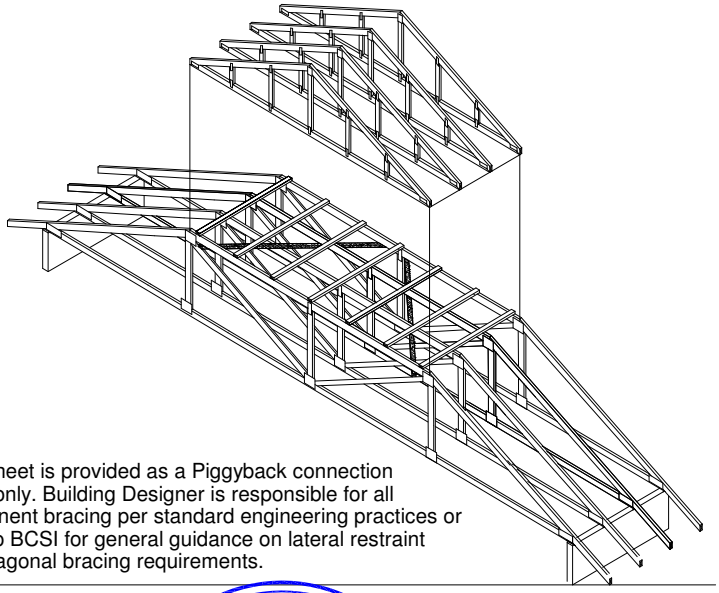
WHEN NO GAP BETWEEN PIGGYBACK AND BASE TRUSS EXISTS:

REPLACE TOE NAILING OF PIGGYBACK TRUSS TO PURLINS WITH PLYWOOD GUSSETS AS SHOWN, AND INSTALL PURLINS TO BOTTOM EDGE OF BASE TRUSS TOP CHORD AT SPECIFIED SPACING SHOWN ON BASE TRUSS MITEK DESIGN DRAWING.

SCAB CONNECTION PER NOTE D ABOVE

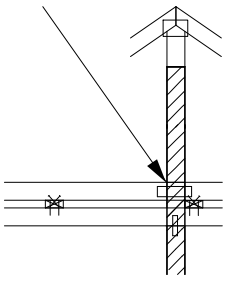


7" x 7" x 1/2" PLYWOOD (or 7/16" OSB) GUSSET EACH SIDE AT 24" O.C. ATTACH WITH 3 - 6d (0.113" X 2") NAILS INTO EACH CHORD FROM EACH SIDE (TOTAL - 12 NAILS)



This sheet is provided as a Piggyback connection detail only. Building Designer is responsible for all permanent bracing per standard engineering practices or refer to BCSI for general guidance on lateral restraint and diagonal bracing requirements.

VERTICAL WEB TO EXTEND THROUGH BOTTOM CHORD OF PIGGYBACK



FOR LARGE CONCENTRATED LOADS APPLIED TO CAP TRUSS REQUIRING A VERTICAL WEB:

1) VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS MUST MATCH IN SIZE, GRADE, AND MUST LINE UP AS SHOWN IN DETAIL.
2) ATTACH 2 x ___ x 4'-0" SCAB TO EACH FACE OF TRUSS ASSEMBLY WITH 2 ROWS OF 10d (0.131" X 3") NAILS SPACED 4" O.C. FROM EACH FACE. (SIZE AND GRADE TO MATCH VERTICAL WEBS OF PIGGYBACK AND BASE TRUSS.) (MINIMUM 2X4)
3) THIS CONNECTION IS ONLY VALID FOR A MAXIMUM CONCENTRATED LOAD OF 4000 LBS (@1.15). REVIEW BY A QUALIFIED ENGINEER IS REQUIRED FOR LOADS GREATER THAN 4000 LBS.
4) FOR PIGGYBACK TRUSSES CARRYING GIRDER LOADS, NUMBER OF PLYS OF PIGGYBACK TRUSS TO MATCH BASE TRUSS.
5) CONCENTRATED LOAD MUST BE APPLIED TO BOTH THE PIGGYBACK AND THE BASE TRUSS DESIGN.

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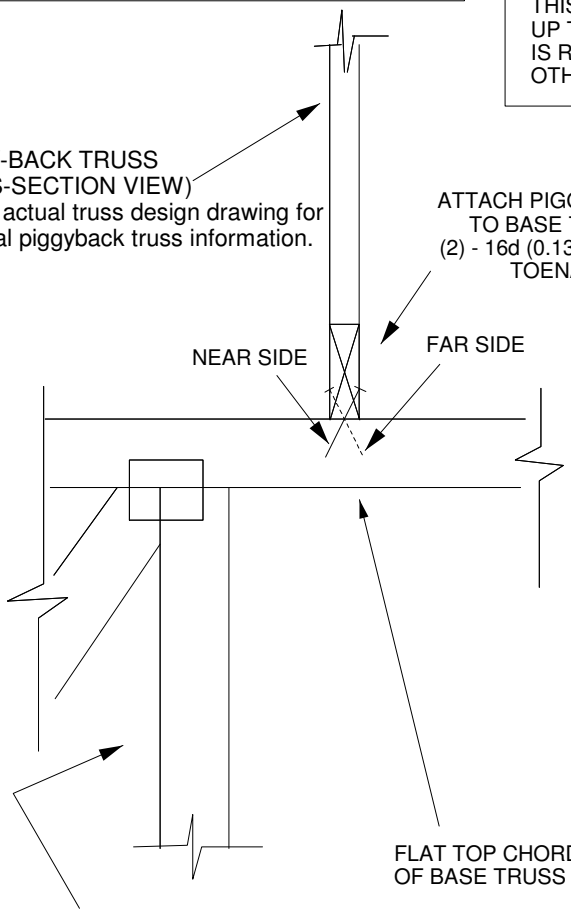
MAX MEAN ROOF HEIGHT = 30 FEET
BUILDING CATEGORY II
WIND EXPOSURE B or C
WIND DESIGN PER ASCE 7-98, ASCE 7-02, ASCE 7-05 100 MPH (MWFRS)
WIND DESIGN PER ASCE 7-10, ASCE 7-16 125 MPH (MWFRS)
DURATION OF LOAD INCREASE
FOR WIND LOADS: 1.60

DETAIL IS NOT APPLICABLE FOR TRUSSES TRANSFERING DRAG LOADS (SHEAR TRUSSES). ADDITIONAL CONSIDERATIONS BY BUILDING ENGINEER/DESIGNER ARE REQUIRED.

THIS DETAIL SHALL BE ONLY USED FOR RESISTING A VERTICAL WIND UPLIFT UP TO 140 LBS MAXIMUM AT EACH CONNECTION POINT. BUILDING DESIGNER IS RESPONSIBLE FOR THE LOAD EXCEEDING THIS LIMITATION AND/OR IN OTHER DIRECTIONS.



NOTES FOR TRUSS:

1. THIS DETAIL IS VALID FOR ONE-PLY PIGGYBACK TRUSS ONLY;
2. THE CHORD MEMBER OF PIGGYBACK AND BASE TRUSSES MUST BE SOUTHERN PINE OR DOUGLAS FIR-LARCH LUMBER;
3. THE SPACING OF PIGGYBACK TRUSSES AND BASE TRUSSES IS 2 FT OR LESS;
4. THE PIGGYBACK TRUSSES SHOULD BE PERPENDICULAR TO BASE TRUSSES.
5. PIGGYBACK TRUSS MAY NOT CANTILEVER OVER BASE TRUSS OR HAVE AN OVERHANG WHICH WILL CREATE A HIGHER UPLIFT AT CONNECTING POINT.

NOTES FOR TOE-NAIL:

1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.

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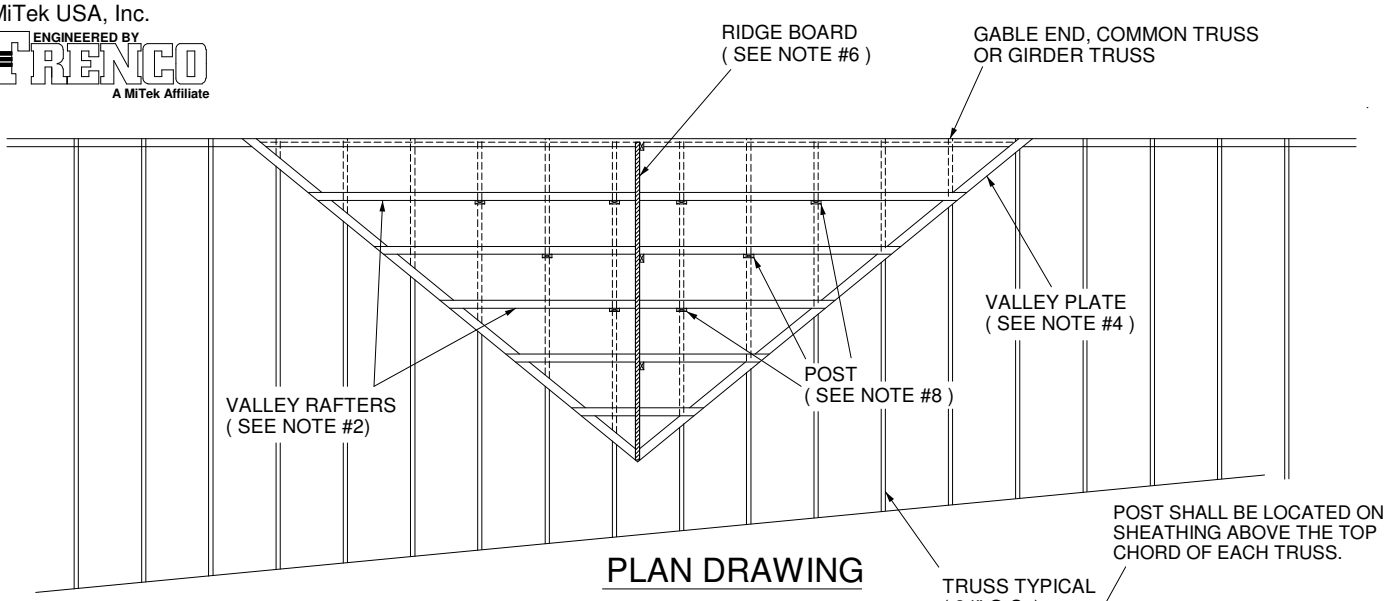
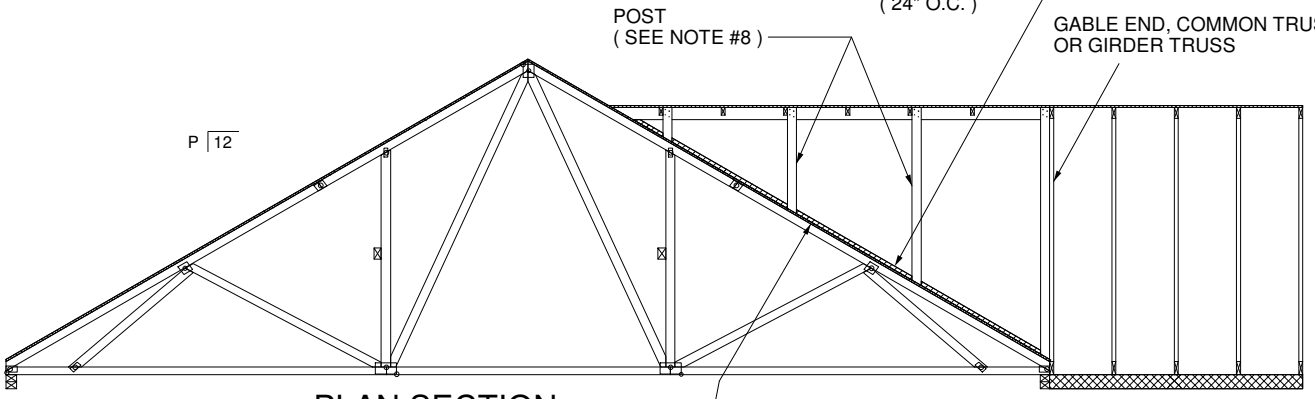


PLAN DRAWING



PLAN SECTION

GENERAL SPECIFICATIONS

1. WITH BASE TRUSSES ERECTED (INSTALLED), APPLY SHEATHING TO TOP CHORD OF SUPPORTING (BASE) TRUSSES.
2. BRACE BOTTOM CHORD AND WEB MEMBERS PER TRUSS DESIGNS.
3. DEFINE VALLEY RIDGE BY RUNNING A LEVEL STRING FROM THE INTERSECTING RIDGE OF THE (a.) GABLE END, (b.) GIRDER TRUSS OR (c.) COMMON TRUSS TO THE ROOF SHEATHING.
4. INSTALL 2 x 4 VALLEY PLATES. FASTEN TO EACH SUPPORTING TRUSS WITH (2) 16d (0.131" X 3.5") NAILS.
5. SET 2 x 6 #2 RIDGE BOARD. SUPPORT WITH 2 x 4 POSTS SPACED 48" O.C.. BEVEL BOTTOM OF POST TO SET EVENLY ON THE SHEATHING. FASTEN POST TO RIDGE WITH (4) 10d (0.131" X 3") NAILS. FASTEN POST TO ROOF SHEATHING WITH (3) 10d (0.131" X 3") TOE-NAILS.
6. FRAME VALLEY RAFTERS FROM VALLEY PLATE TO RIDGE BOARD. MAXIMUM RAFTER SPACING IS 24" O.C.. FASTEN VALLEY RAFTER TO RIDGE BEAM WITH (3) 16d (0.131" X 3.5") TOE-NAILS. FASTEN VALLEY RAFTER TO VALLEY PLATE WITH (3) 16d (0.131" X 3.5") TOE-NAILS.
7. SUPPORT THE VALLEY RAFTERS WITH 2 x 4 POSTS 48" O.C (OR LESS) ALONG EACH RAFTER. INSTALL POSTS IN A STAGGERED PATTERN AS SHOWN ON PLAN DRAWING. ALLIGN POSTS WITH TRUSSES BELOW. FASTEN VALLEY RAFTER TO POST WITH (4) 10d (0.131" X 3") NAILS. FASTEN POST THROUGH SHEATHING TO SUPPORTING TRUSS WITH (2) 16d (0.131" X 3.5") NAILS.
8. POSTS SHALL BE 2 x 4 #2 OR BETTER SPRUCE PINE FIR, DOUG FIR LARCH OR SOUTHERN PINE. POSTS EXCEEDING 75" SHALL BE INCREASED TO 4 x 4 OR BE PRE-ASSEMBLED (2) PLY 2 x 4's FASTENED TOGETHER WITH 2 ROWS OF 10d (0.131" X 3") NAILS 6" O.C..

NOTE:
48" O.C. MAXIMUM POST SPACING

LIVE LOAD = 30 PSF (MAX)
DEAD LOAD = 15 PSF (MAX)
D.O.L. INC = 1.15
ASCE 7-98, ASCE 7-02, ASCE 7-05 90 MPH (MWFRS)
ASCE7-10, ASCE 7-16 115 MPH (MWFRS)

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APRIL 12, 2019	TRUSSED VALLEY SET DETAIL (BEVELED BOTTOM CHORD)	MII-VALLEY2

MiTek USA, Inc.

MiTek USA, Inc.

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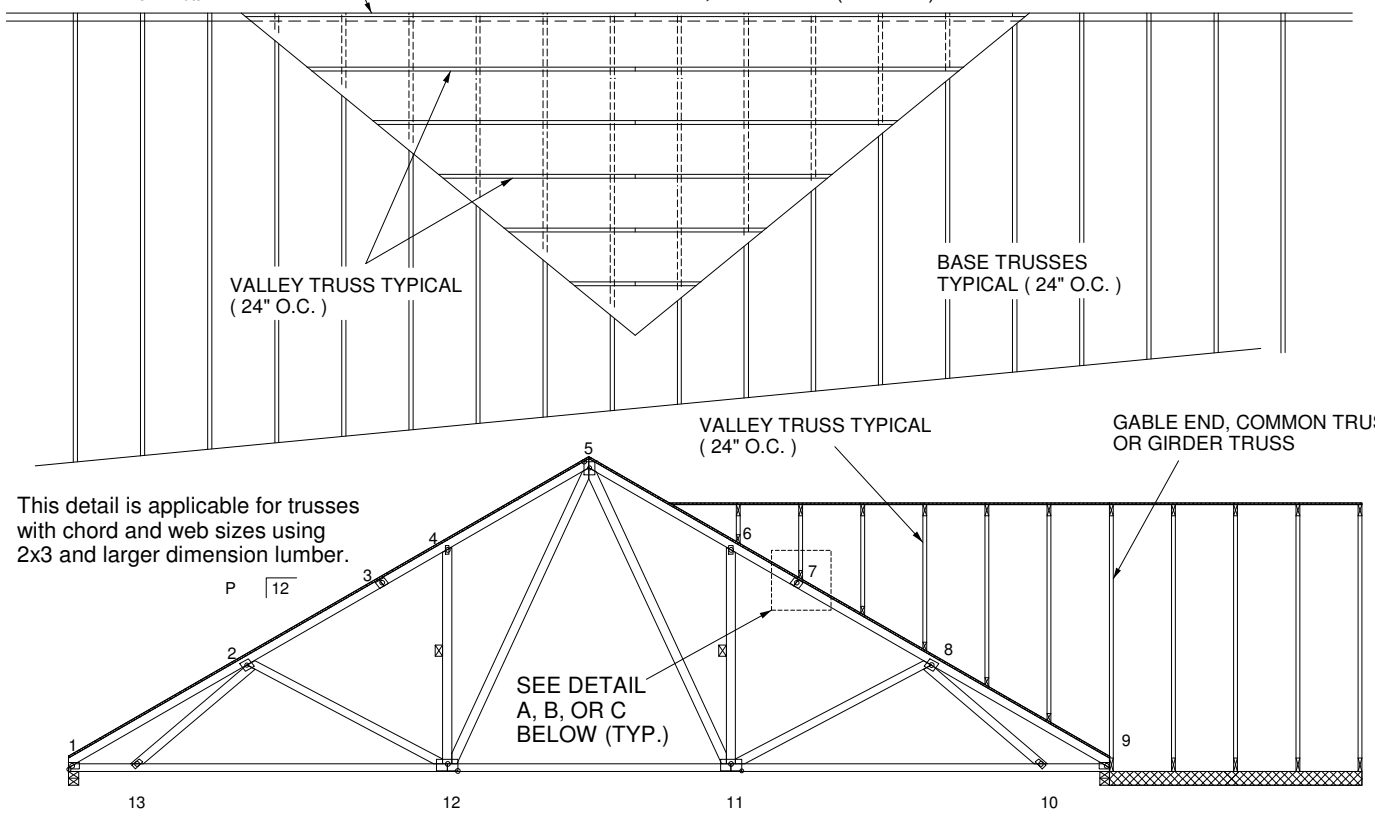
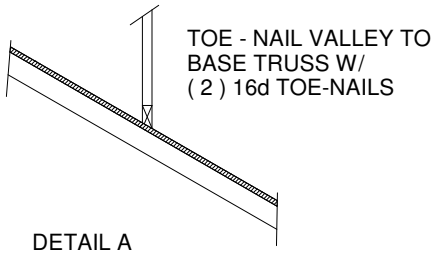
A MiTek Affiliate

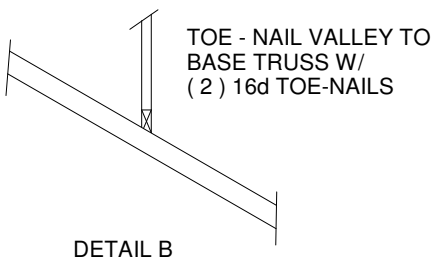
NOTE: VALLEY STUD SPACING NOT TO EXCEED 48" O.C. SPACING

TOTAL TOP CHORD LOAD = 65 PSF (MAX)
D.O.L. INC = 1.15
ASCE 7-98, ASCE 7-02, ASCE 7-05 (MWFRS) 110 MPH WIND
ASCE 7-10, ASCE 7-16 (MWFRS) 140 MPH WIND

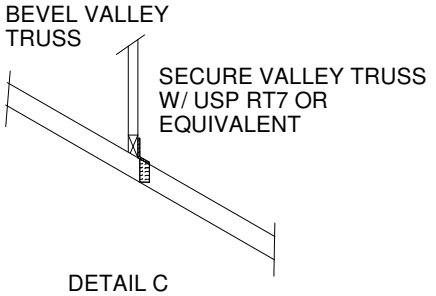




DETAIL A
(BASE TRUSSES SHEATHED)



DETAIL B
(NO SHEATHING)



DETAIL C
(NO SHEATHING)

1. INSTALL BASE TRUSSES.

2. DETAIL A, APPLY SHEATHING TO TOP CHORD OF SUPPORTING TRUSSES. DETAILS B & C, VALLEY TRUSSES MAY PROVIDE BRACING. BASE TRUSSES MUST BE DESIGNED FOR PURLIN SPACING EQUIVALENT TO VALLEY TRUSS SPACING (NOT TO EXCEED 24" O.C.).

3. INSTALL VALLEY TRUSSES (24" O.C. MAXIMUM) AND SECURE TO BASE TRUSSES AS PER DETAIL A, B, OR C ABOVE.

4. BRACE VALLEY WEBS IN ACCORDANCE WITH THE INDIVIDUAL DESIGN DRAWINGS.

5. ALL NAILS TO BE (0.131" X 3.5")

NOTE:
FOR VALLEY TRUSSES BUILT WITH 2x3 LUMBER, BASE TRUSSES ARE NOT TO EXCEED AN 8/12 PITCH AND VALLEY TRUSSES BUILT WITH 2x4 LUMBER OR LARGER, BASE TRUSSES ARE NOT TO EXCEED AN 12/12 PITCH.

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APRIL 12, 2019	TRUSSED VALLEY SET DETAIL	MII-VALLEY3

MiTek USA, Inc.

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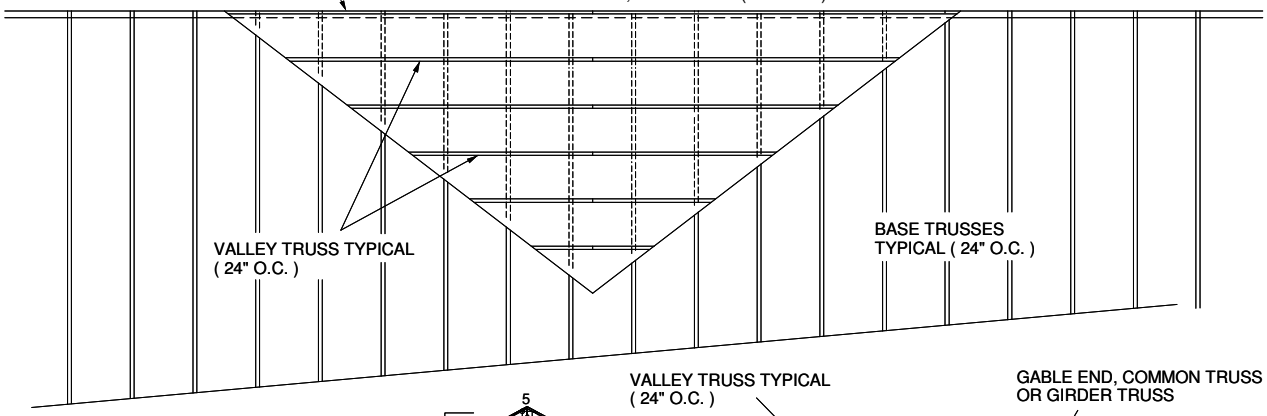
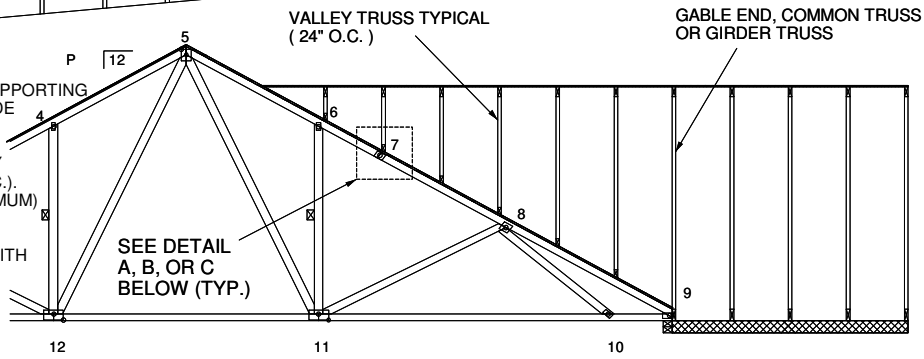
GABLE END, COMMON TRUSS OR GIRDER TRUSS

LIVE LOAD = 30 PSF (MAX)
DEAD LOAD = 15 PSF (MAX)
D.O.L. INC = 1.15
ASCE 7-98, ASCE 7-02, ASCE 7-05 (MWFRS) 100 MPH
ASCE 7-10, ASCE 7-16 (MWFRS) 125 MPH

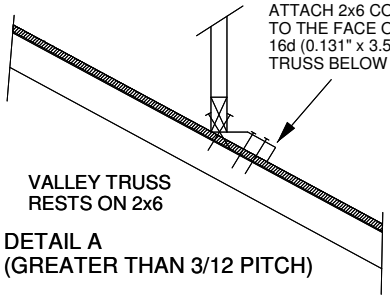
NOTE: VALLEY STUD SPACING NOT TO EXCEED 48" O.C. SPACING



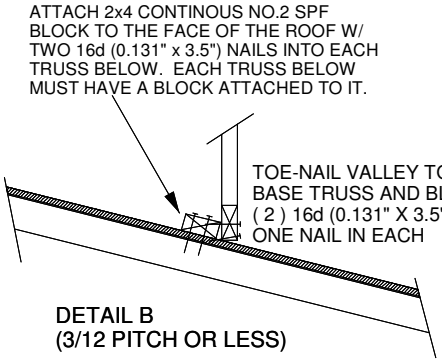
1. INSTALL BASE TRUSSES.
2. APPLY SHEATHING TO TOP CHORD OF SUPPORTING TRUSSES. VALLEY TRUSSES MAY PROVIDE BRACING IF SHEATHING IS NOT APPLIED. BASE TRUSSES MUST BE DESIGNED FOR PURLIN SPACING EQUIVALENT TO VALLEY TRUSS SPACING (NOT TO EXCEED 24" O.C.).
3. INSTALL VALLEY TRUSSES (24" O.C. MAXIMUM) AND SECURE TO BASE TRUSSES AS PER DETAIL A, B, OR C BELOW.
4. BRACE VALLEY WEBS IN ACCORDANCE WITH THE INDIVIDUAL DESIGN DRAWINGS.



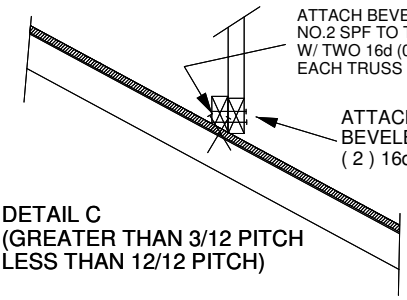
TOE-NAIL VALLEY TO BASE TRUSS W/ (2) 16d (0.131" X 3.5") TOE-NAILS



DETAIL A
(GREATER THAN 3/12 PITCH)



DETAIL B
(3/12 PITCH OR LESS)



DETAIL C
(GREATER THAN 3/12 PITCH
LESS THAN 12/12 PITCH)

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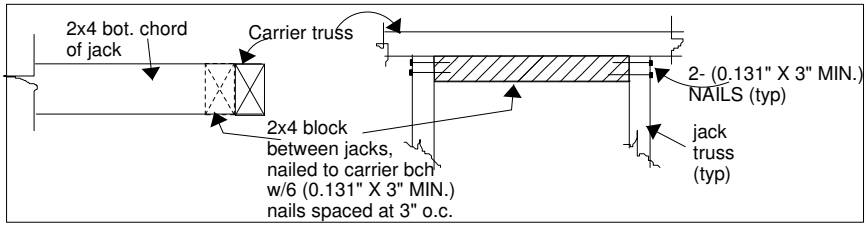
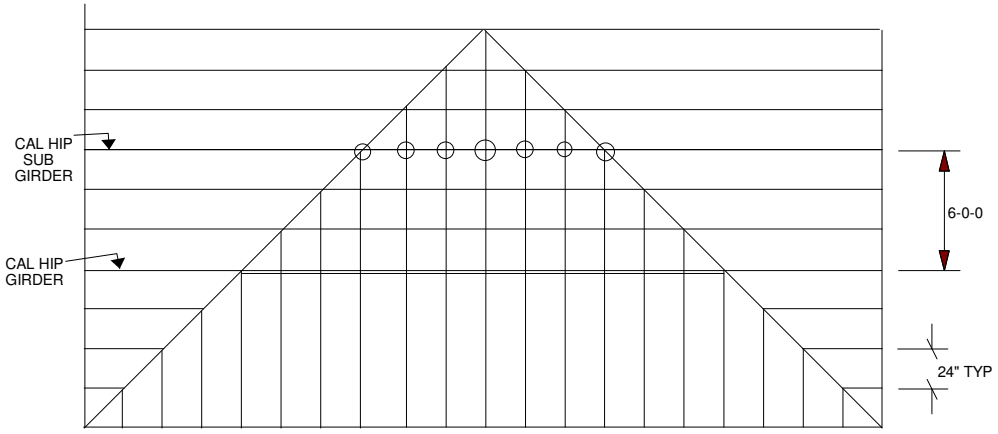
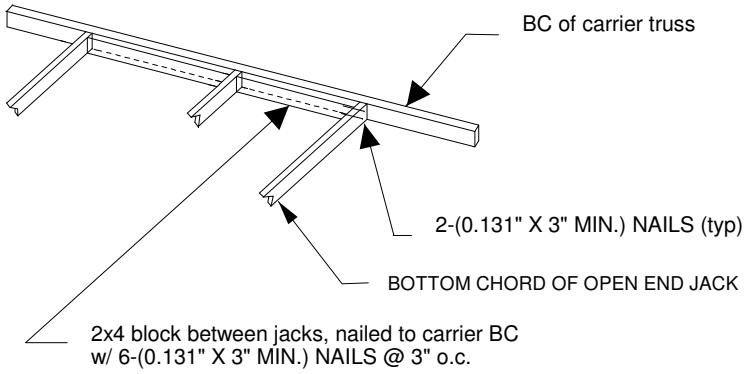
Loading (PSF):

BCDL 10.0 PSF MAX





PARTIAL FRAMING PLAN OF CALIFORNIA HIP SET WITH SUB GIRDER



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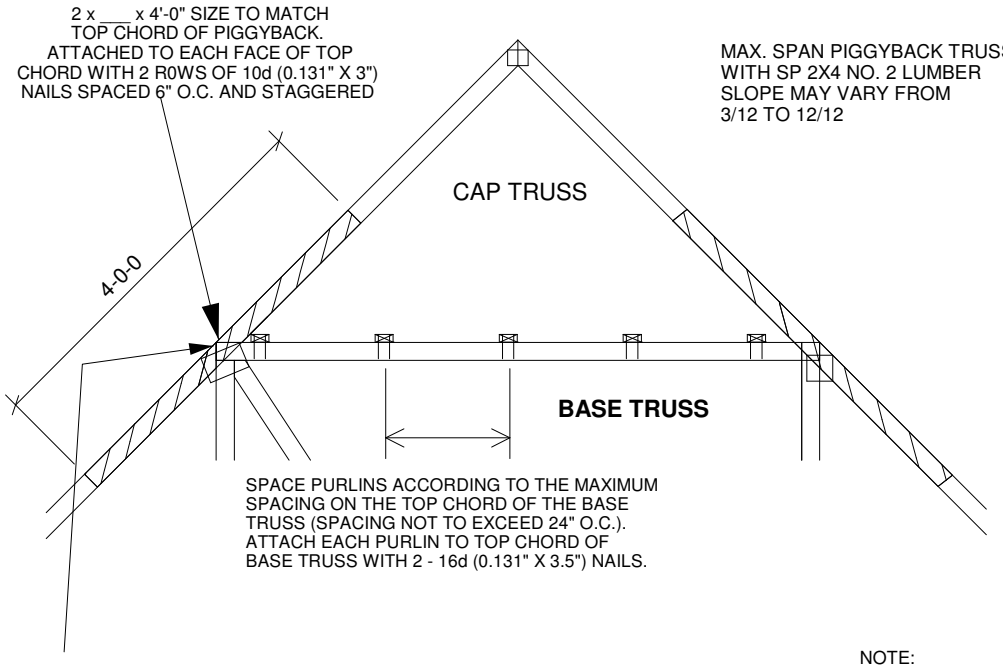
DESIGN CRITERIA

LOADING (PSF)
TCLL= 30.0
TCDL= 10.0
TOTAL= 40.0

SPACING 2-0-0
PLATE INCR: 1.15
LUMBER INCR: 1.15
MIN L/DEFL= 240

MAX MEAN ROOF HEIGHT = 30 FEET
CATEGORY II BUILDING
EXPOSURE B or C
ENCLOSED BUILDING
ASCE 7-98, ASCE 7-02, ASCE 7-05 90 MPH
ASCE 7-10, ASCE 7-16 115 MPH
DURATION OF LOAD INCREASE : 1.60



FOR PIGGY BACK TRUSSES WITH SPANS 4' OR LESS SCAB MAY BE OMMITED PROVIDED THAT: ROOF SHEATHING TO BE CONTINUOUS OVER JOINT (SHEATHING TO OVERLAP MINIMUM 12" OVER JOINT)

NOTE:

A PURLIN TO BE LOCATED AT EACH BASE TRUSS JOINT.

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NOTES:
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE THE LESSER VALUE OF THE BOTTOM CHORD SPECIES FOR MEMBERS OF DIFFERENT SPECIES.

	TOE-NAIL SINGLE SHEAR VALUES PER NDS 2018 (lb/nail)					
	DIAM.	SP	DF	HF	SPF	SPF-S
3.5" LONG	.131	88.1	80.6	69.9	68.4	59.7
	.135	93.5	85.6	74.2	72.6	63.4
	.162	118.3	108.3	93.9	91.9	80.2
3.25" LONG	.128	84.1	76.9	66.7	65.3	57.0
	.131	88.1	80.6	69.9	68.4	59.7
	.148	106.6	97.6	84.7	82.8	72.3
3.0" LONG	.120	73.9	67.6	58.7	57.4	50.1
	.128	84.1	76.9	66.7	65.3	57.0
	.131	88.1	80.6	69.9	68.4	59.7
	.148	106.6	97.6	84.7	82.8	72.3

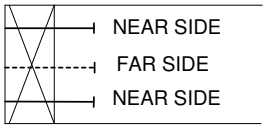
VALUES SHOWN ARE CAPACITY PER TOE-NAIL.
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

EXAMPLE:
(3) - 16d (0.162" X 3.5") NAILS WITH SPF SPECIES BOTTOM CHORD

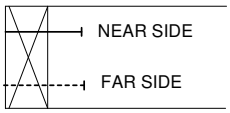
For load duration increase of 1.15:
3 (nails) X 91.9 (lb/nail) X 1.15 (DOL) = 317.0 lb Maximum Capacity

SQUARE CUT

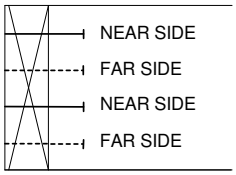
SIDE VIEW (2x4) 3 NAILS

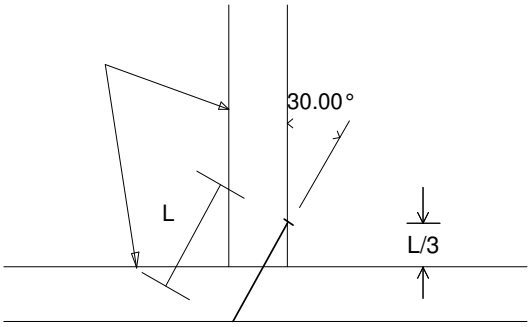


SIDE VIEW (2x3) 2 NAILS

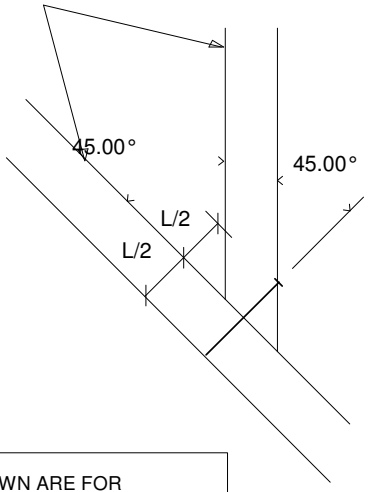


SIDE VIEW (2x6) 4 NAILS

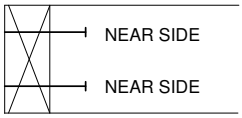




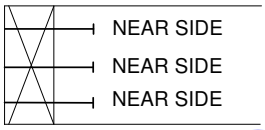
45 DEGREE ANGLE BEVEL CUT



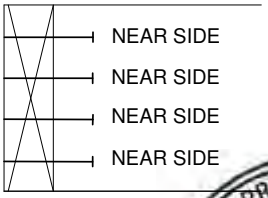
SIDE VIEW (2x3) 2 NAILS



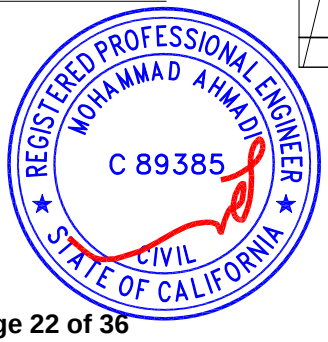
SIDE VIEW (2x4) 3 NAILS



SIDE VIEW (2x6) 4 NAILS



VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY



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NOTES:
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 45 DEGREES WITH THE MEMBER AND MUST HAVE FULL WOOD SUPPORT. (NAIL MUST BE DRIVEN THROUGH AND EXIT AT THE BACK CORNER OF THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE THE LESSER VALUE OF THE TWO SPECIES FOR MEMBERS OF DIFFERENT SPECIES.

THIS DETAIL APPLICABLE TO THE THREE END DETAILS SHOWN BELOW

VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY

TOE-NAIL SINGLE SHEAR VALUES PER NDS 2018 (lb/nail)

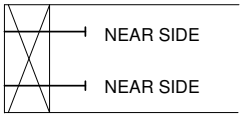
	DIAM.	SP	DF	HF	SPF	SPF-S
3.5" LONG	.131	88.0	80.6	69.9	68.4	59.7
	.135	93.5	85.6	74.2	72.6	63.4
	.162	108.8	99.6	86.4	84.5	73.8
3.25" LONG	.128	74.2	67.9	58.9	57.6	50.3
	.131	75.9	69.5	60.3	59.0	51.1
	.148	81.4	74.5	64.6	63.2	52.5

VALUES SHOWN ARE CAPACITY PER TOE-NAIL.
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

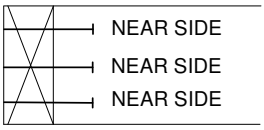
EXAMPLE:
(3) - 16d (0.162" X 3.5") NAILS WITH SPF SPECIES BOTTOM CHORD

For load duration increase of 1.15:
3 (nails) X 84.5 (lb/nail) X 1.15 (DOL) = 291.5 lb Maximum Capacity

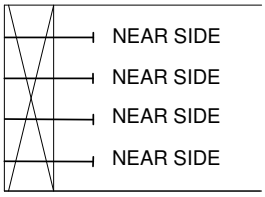
SIDE VIEW
(2x3)
2 NAILS

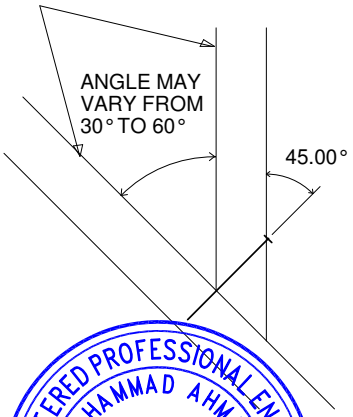


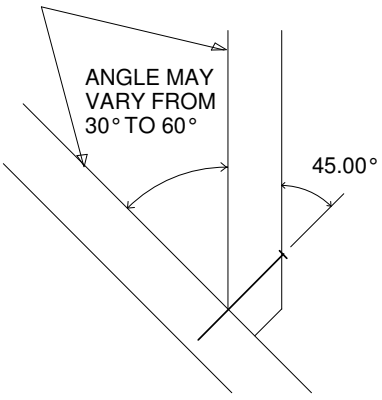
SIDE VIEW
(2x4)
3 NAILS

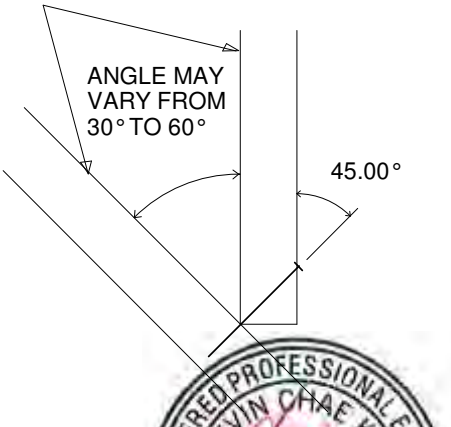


SIDE VIEW
(2x6)
4 NAILS









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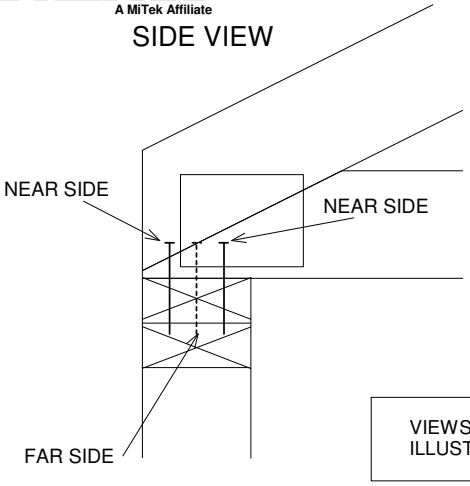
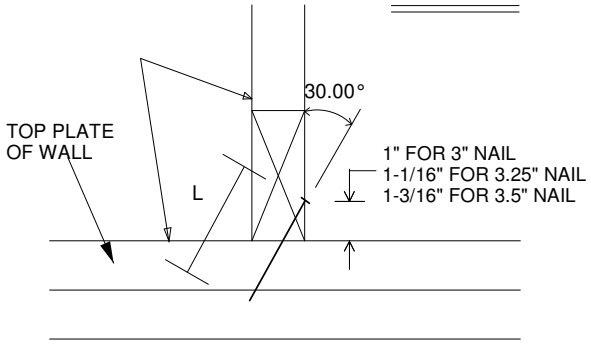
THIS DETAIL SHALL BE USED FOR A CONNECTION RESISTING UPLIFT FORCES ONLY. BUILDING DESIGNER IS RESPONSIBLE FOR LOADS IN OTHER DIRECTIONS.

SIDE VIEW



END VIEW



VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY

TOE-NAIL WITHDRAWAL VALUES PER NDS 2018 (lb/nail)

NAIL LENGTH, L		DIAM.	SP	DF	HF	SPF	SPF-S
	3.5" LONG	.131	59	46	32	30	20
		.135	60	48	33	30	20
		.162	72	58	39	37	25
	3.25" LONG	.128	54	42	28	27	19
		.131	55	43	29	28	19
		.148	62	48	34	31	21
	3.0" LONG	.120	46	36	25	24	16
		.128	49	38	26	25	17
		.131	51	39	27	26	17
		.148	57	44	31	28	20

NOTES:
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE BASED ON THE SPECIE WITH LOWER NAIL CAPACITY BETWEEN THE TWO MEMBERS IN THE CONNECTION.

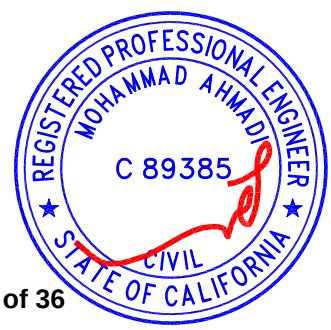
VALUES SHOWN ARE CAPACITY PER TOE-NAIL.
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

EXAMPLE:
(3) - 16d (0.162" X 3.5") NAILS WITH SPF SPECIES TOP PLATE

For Wind DOL of 1.33:
3 (nails) X 37 (lb/nail) X 1.33 (DOL for wind) = 148 lb Maximum Allowable Uplift Reaction Due To Wind
For Wind DOL of 1.60:
3 (nails) X 37 (lb/nail) X 1.60 (DOL for wind) = 177 lb Maximum Allowable Uplift Reaction Due To Wind

If the uplift reaction specified on the Truss Design Drawing exceeds 147 lbs (177 lbs) Building Designer is responsible to specifiy a different connection.

*** USE (3) TOE-NAILS ON 2x4 BEARING WALL
*** USE (4) TOE-NAILS ON 2x6 BEARING WALL



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BRACE BAY SIZE *	MAXIMUM TRUSS WEB FORCE (lbs.) (See note 7)									
	24"O.C.				48"O.C.				72" O.C.	
	BRACING MATERIAL TYPE				BRACING MATERIAL TYPE				BRACING MATERIAL TYPE	
	A	B	C	D	A	B	C	D	C	D
10'-0"	1610	1886	1886	2829						
12'-0"	1342	1572	1572	2358		3143	3143	4715	4715	7074
14'-0"	1150	1347	1347	2021						
16'-0"	1006	1179	1179	1768		2358	2358	3536		
18'-0"	894	1048	1048	1572					3143	4715
20'-0"	805	943	943	1414		1886	1886	2829		

*Bay size shall be measured in between the centers of pairs of diagonals.

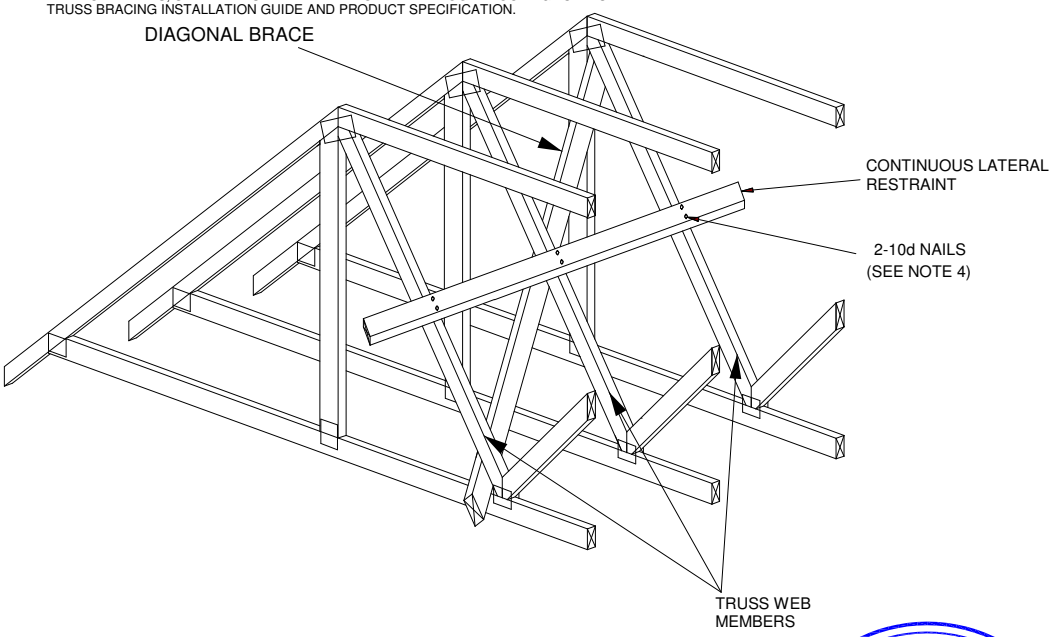
TYPE	BRACING MATERIALS
A	1 X 4 IND. 45 SP -OR- 1 X 4 #2 SRB (DF, HF, SPF)
B	2 X 3 #3, STD, CONST (SPF, DF, HF, OR SP)
C	2 X 4 #3, STD, CONST (SPF, DF, HF, OR SP)
D	2 X 6 #3 OR BETTER (SPF, DF, HF, OR SP)

GENERAL NOTES

1. DIAGONAL BRACING IS REQUIRED TO TRANSFER THE CUMULATIVE LATERAL BRACE FORCE INTO THE ROOF AND/OR CEILING DIAPHRAGM. THE DIAPHRAGM IS TO BE DESIGNED BY A QUALIFIED PROFESSIONAL.
2. THESE CALCULATIONS ARE BASED ON LATERAL BRACE CARRYING 2% OF THE WEB FORCE.
3. DIAGONAL BRACING MATERIAL MUST BE SAME SIZE AND GRADE OR BETTER, AS THE LATERAL BRACE MATERIAL, AND SHALL BE INSTALLED IN SUCH A MANNER THAT IT INTERSECTS WEB MEMBERS AT APPROX. 45 DEGREES AND SHALL BE NAILED AT EACH END AND EACH INTERMEDIATE TRUSS WITH 2-8d (0.131"x2.5") FOR 1x4 BRACES, 2-10d (0.131"x 3") FOR 2x3 and 2x4 BRACES, AND 3-10d (0.131"x3") FOR 2x6 BRACES.
4. CONNECT LATERAL BRACE TO EACH TRUSS WITH 2-8d (0.131"X2.5") NAILS FOR 1x4 LATERAL BRACES, 2-10d (0.131"x3") NAILS FOR 2x3 and 2x4 LATERAL BRACES, AND 3-10d (0.131"x3") FOR 2x6 LATERAL BRACES.
5. LATERAL BRACE SHOULD BE CONTINUOUS AND SHOULD OVERLAP AT LEAST ONE TRUSS SPACE FOR CONTINUITY.
6. FOR ADDITIONAL GUIDANCE REGARDING DESIGN AND INSTALLATION OF BRACING, CONSULT DSB-89 TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES AND BCSI 1 GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES, JOINTLY PRODUCED BY WOOD TRUSS COUNCIL OF AMERICA and TRUSS PLATE INSTITUTE. www.sbcindustry.com and www.tpinst.org
7. REFER TO SPECIFIC TRUSS DESIGN DRAWING FOR WEB MEMBER FORCE.
8. TABULATED VALUES ARE BASED ON A DOL. = 1.15

FOR STABILIZERS:

FOR A SPACING OF 24" O.C. ONLY, MITEK "STABILIZER" TRUSS BRACING SYSTEMS CAN BE SUBSTITUTED FOR TYPE A, B, C AND D BRACING MATERIAL. DIAGONAL BRACING FOR STABILIZERS ARE TO BE PROVIDED AT BAY SIZE INDICATED ABOVE. WHERE DIAPHRAGM BRACING IS REQUIRED AT PITCH BREAKS, STABILIZERS MAY BE REPLACED WITH WOOD BLOCKING. SEE "STABILIZER" TRUSS BRACING INSTALLATION GUIDE AND PRODUCT SPECIFICATION.



This information is provided as a recommendation to assist in the requirement for permanent bracing of the individual truss web members. Additional bracing may still be required for the stability of the overall roof system. The method shown here is just one method that can be used to provide stability against web buckling.

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REGISTERED PROFESSIONAL ENGINEER KEVIN CHAE KIM Exp. 6/30/21 NO. C53821 CIVIL STATE OF CALIFORNIA

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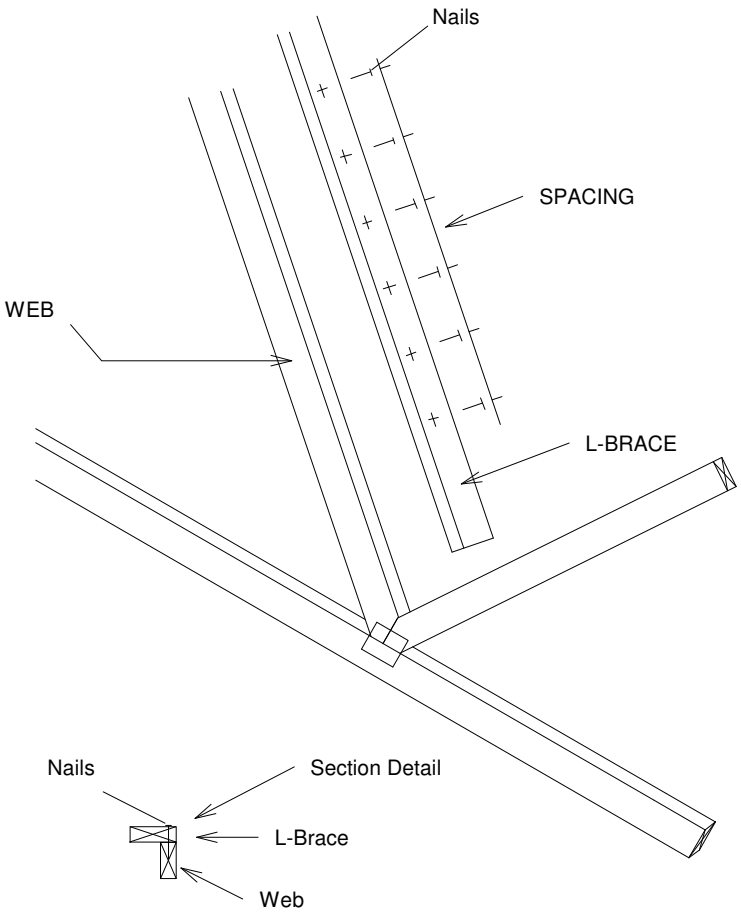
Nailing Pattern		
L-Brace size	Nail Size	Nail Spacing
1x4 or 6	10d (0.131" X 3")	8" o.c.
2x4, 6, or 8	16d (0.131" X 3.5")	8" o.c.
Note: Nail along entire length of L-Brace (On Two-Ply's Nail to Both Plies)		

Note: L-Bracing to be used when continuous lateral bracing is impractical. L-brace must cover 90% of web length.

	L-Brace Size for One-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	1x4	***
2x6	1x6	***
2x8	2x8	***

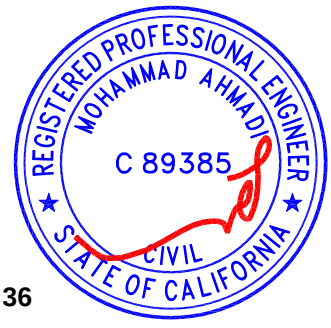
*** DIRECT SUBSTITUTION NOT APLICABLE.



	L-Brace Size for Two-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4	***
2x6	2x6	***
2x8	2x8	***

*** DIRECT SUBSTITUTION NOT APLICABLE.

L-Brace must be same species grade (or better) as web member.



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Note: T-Bracing / I-Bracing to be used when continuous lateral bracing is impractical. T-Brace / I-Brace must cover 90% of web length.

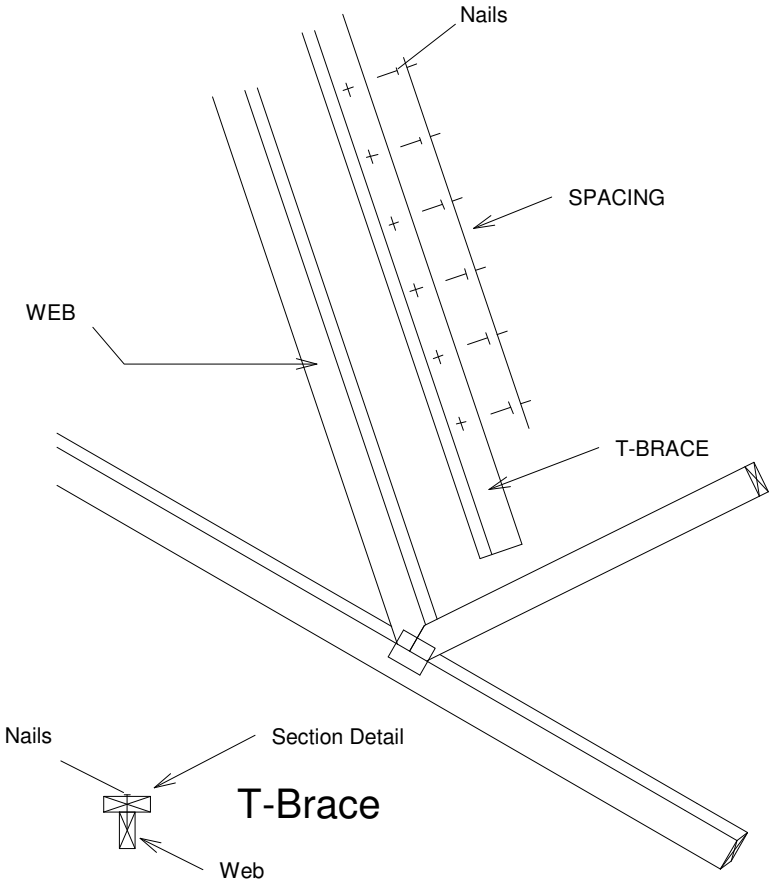
Note: This detail NOT to be used to convert T-Brace / I-Brace webs to continuous lateral braced webs.

Nailing Pattern		
T-Brace size	Nail Size	Nail Spacing
2x4 or 2x6 or 2x8	10d (0.131" X 3")	6" o.c.
Note: Nail along entire length of T-Brace / I-Brace (On Two-Ply's Nail to Both Plies)		

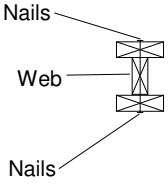
	Brace Size for One-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

	Brace Size for Two-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

T-Brace / I-Brace must be same species and grade (or better) as web member.



T-Brace



I-Brace

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Note: T-Bracing / I-Bracing to be used when continuous lateral bracing is impractical. T-Brace / I-Brace must cover 90% of web length.

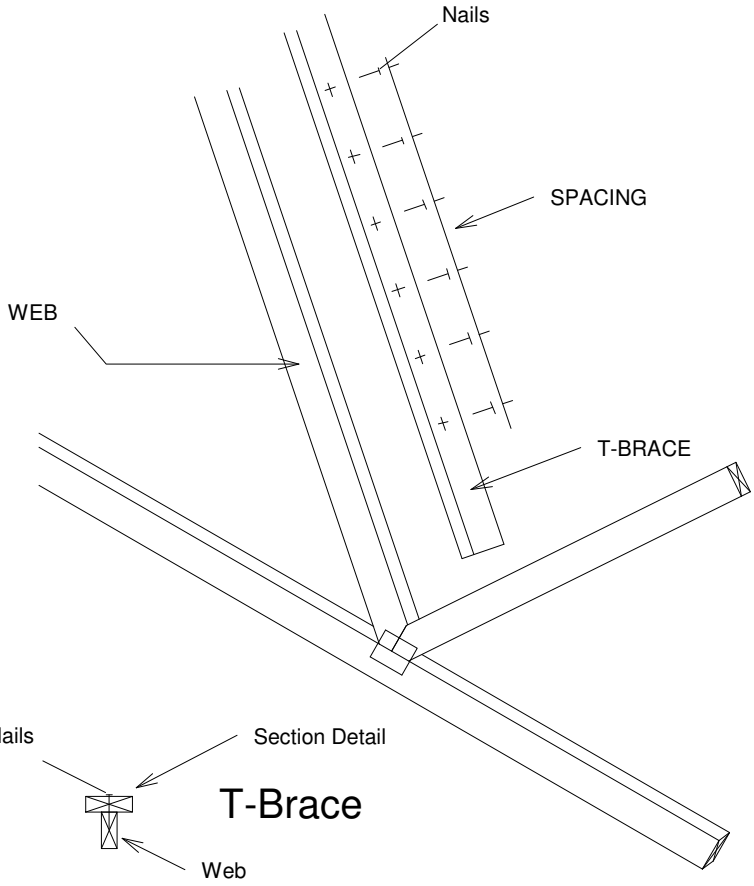
Note: This detail NOT to be used to convert T-Brace / I-Brace webs to continuous lateral braced webs.

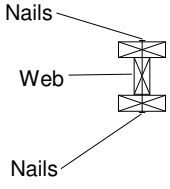
Nailing Pattern		
T-Brace size	Nail Size	Nail Spacing
1x4 or 1x6	10d (0.131" X 3")	8" o.c.
2x4 or 2x6 or 2x8	16d (0.131" X 3.5")	8" o.c.

Note: Nail along entire length of T-Brace / I-Brace (On Two-Ply's Nail to Both Plies)

	Brace Size for One-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	1x4 (*) T-Brace	1x4 (*) I-Brace
2x6	1x6 (*) T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace

	Brace Size for Two-Ply Truss	
	Specified Continuous Rows of Lateral Bracing	
Web Size	1	2
2x3 or 2x4	2x4 T-Brace	2x4 I-Brace
2x6	2x6 T-Brace	2x6 I-Brace
2x8	2x8 T-Brace	2x8 I-Brace





I-Brace

T-Brace / I-Brace must be same species and grade (or better) as web member.
(*) NOTE: If SP webs are used in the truss, 1x4 or 1x6 SP braces must be stress rated boards with design values that are equal to (or better) the truss web design values.
For SP truss lumber grades up to #2 with 1X_ bracing material, use IND 45 for T-Brace/I-Brace
For SP truss lumber grades up to #1 with 1X_ bracing material, use IND 55 for T-Brace/I-Brace.

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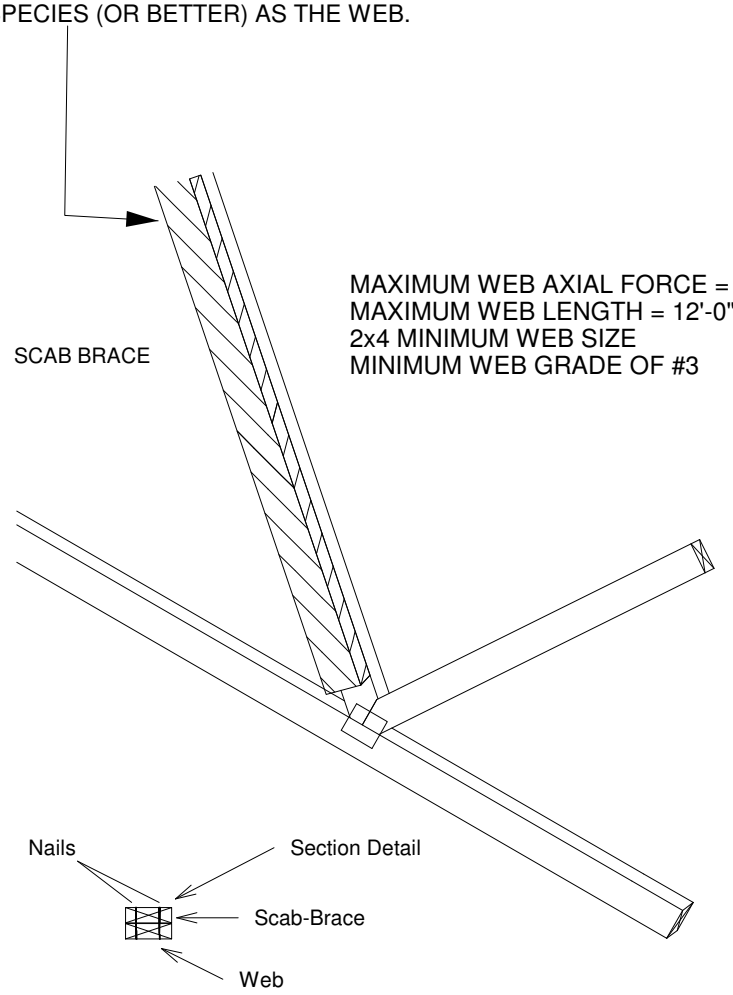
Note: Scab-Bracing to be used when continuous lateral bracing at midpoint (or T-Brace) is impractical.
Scab must cover full length of web +/- 6".

*** THIS DETAIL IS NOT APLICABLE WHEN BRACING IS *** REQUIRED AT 1/3 POINTS OR I-BRACE IS SPECIFIED.

APPLY 2x___ SCAB TO ONE FACE OF WEB WITH
2 ROWS OF 10d (0.131" X 3") NAILS SPACED 6" O.C.
SCAB MUST BE THE SAME GRADE, SIZE AND
SPECIES (OR BETTER) AS THE WEB.



Scab-Brace must be same species grade (or better) as web member.

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Typical Roof Truss Repair Details

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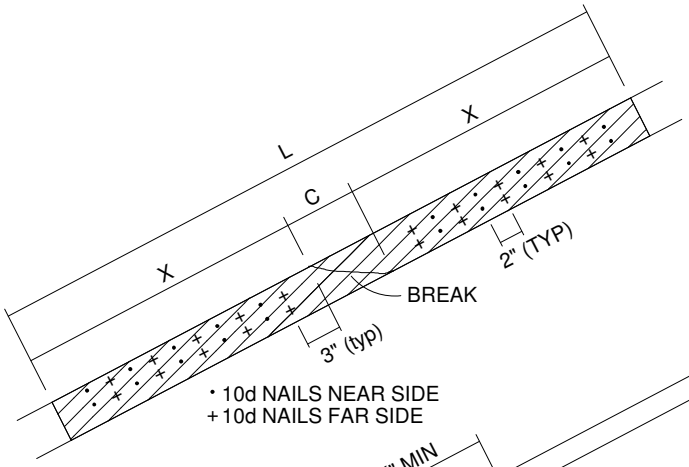
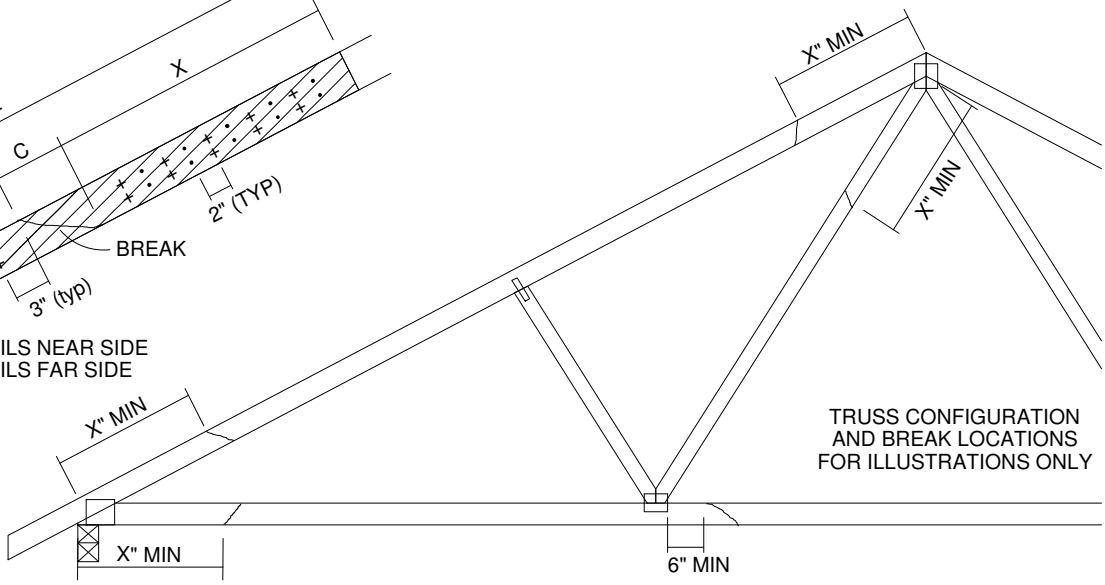
TOTAL NUMBER OF NAILS EACH SIDE OF BREAK *		X INCHES	MAXIMUM FORCE (lbs) 15% LOAD DURATION							
			SP		DF		SPF		HF	
2x4	2x6		2x4	2x6	2x4	2x6	2x4	2x6	2x4	2x6
20	30	24"	1706	2559	1561	2342	1320	1980	1352	2028
26	39	30"	2194	3291	2007	3011	1697	2546	1738	2608
32	48	36"	2681	4022	2454	3681	2074	3111	2125	3187
38	57	42"	3169	4754	2900	4350	2451	3677	2511	3767
44	66	48"	3657	5485	3346	5019	2829	4243	2898	4347

* DIVIDE EQUALLY FRONT AND BACK

ATTACH 2x_ SCAB OF THE SAME SIZE AND GRADE AS THE BROKEN MEMBER TO EACH FACE OF THE TRUSS (CENTER ON BREAK OR SPLICE) WITH 10d (0.131" X 3") NAILS (TWO ROWS FOR 2x4, THREE ROWS FOR 2x6) SPACED 4" O.C. AS SHOWN. STAGGER NAIL SPACING FROM FRONT FACE AND BACK FACE FOR A NET 0-2-0 O.C. SPACING IN THE MAIN MEMBER. USE A MIN. 0-3-0 MEMBER END DISTANCE.

THE LENGTH OF THE BREAK (C) SHALL NOT EXCEED 12". (C=PLATE LENGTH FOR SPLICE REPAIRS)
THE MINIMUM OVERALL SCAB LENGTH REQUIRED (L) IS CALCULATED AS FOLLOWS:
L = (2) X + C





TRUSS CONFIGURATION AND BREAK LOCATIONS FOR ILLUSTRATIONS ONLY

THE LOCATION OF THE BREAK MUST BE GREATER THAN OR EQUAL TO THE REQUIRED X DIMENSION FROM ANY PERIMETER BREAK OR HEEL JOINT AND A MINIMUM OF 6" FROM ANY INTERIOR JOINT (SEE SKETCH ABOVE)

DO NOT USE REPAIR FOR JOINT SPLICES

NOTES:
1. THIS REPAIR DETAIL IS TO BE USED ONLY FOR THE APPLICATION SHOWN. THIS REPAIR DOES NOT IMPLY THAT THE REMAINING PORTION OF THE TRUSS IS UNDAMAGED. THE ENTIRE TRUSS SHALL BE INSPECTED TO VERIFY THAT NO FURTHER REPAIRS ARE REQUIRED. WHEN THE REQUIRED REPAIRS ARE PROPERLY APPLIED, THE TRUSS WILL BE CAPABLE OF SUPPORTING THE LOADS INDICATED.
2. ALL MEMBERS MUST BE RETURNED TO THEIR ORIGINAL POSITIONS BEFORE APPLING REPAIR AND HELD IN PLACE DURING APPLICATION OF REPAIR.
3. THE END DISTANCE, EDGE DISTANCE AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
4. WHEN NAILING THE SCABS, THE USE OF A BACKUP WEIGHT IS RECOMMENDED TO AVOID LOOSENING OF THE CONNECTOR PLATES AT THE JOINTS OR SPLICES.
5. THIS REPAIR IS TO BE USED FOR SINGLE PLY TRUSSES IN THE 2x_ ORIENTATION ONLY.
6. THIS REPAIR IS LIMITED TO TRUSSES WITH NO MORE THAN THREE BROKEN MEMBERS.

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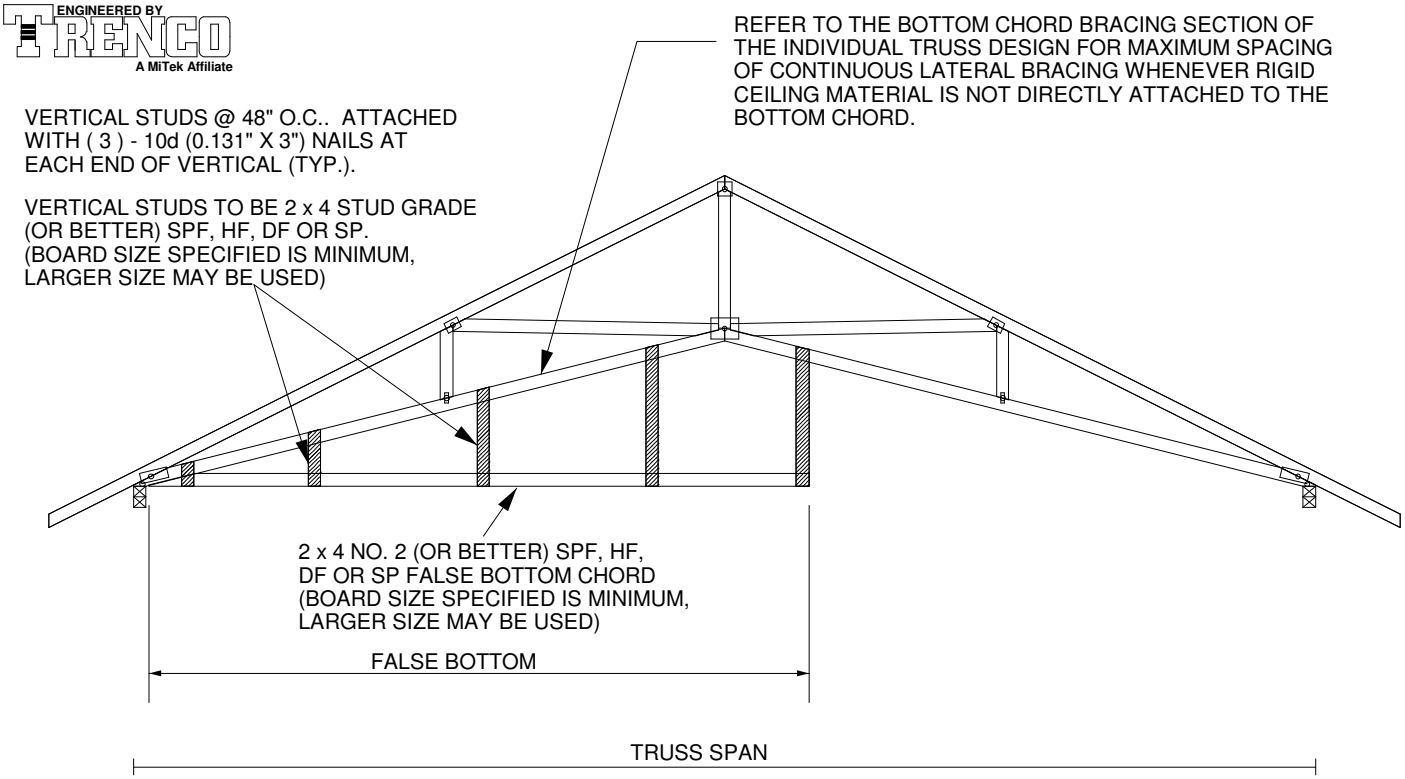

NOTES:

1. LOADING: TOP CHORD: (REFER TO THE MAIN TRUSS DESIGN FOR TOP CHORD LOADING).
   BOTTOM CHORD: LL = 0 PSF, DL = 10 PSF.
2. REFER TO THE MAIN TRUSS DESIGN FOR LUMBER AND PLATING REQUIREMENTS.
3. MAXIMUM BOTTOM CHORD PITCH = 6/12.
4. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID SPLITTING OF THE WOOD.
5. FALSE BOTTOM CHORD ONLY DESIGNED TO CARRY VERTICAL LOAD. NO LATERAL (SHEAR) LOAD ALLOWED.
6. FILLER MAY EXTEND FOR FULL LENGTH OF TRUSS.

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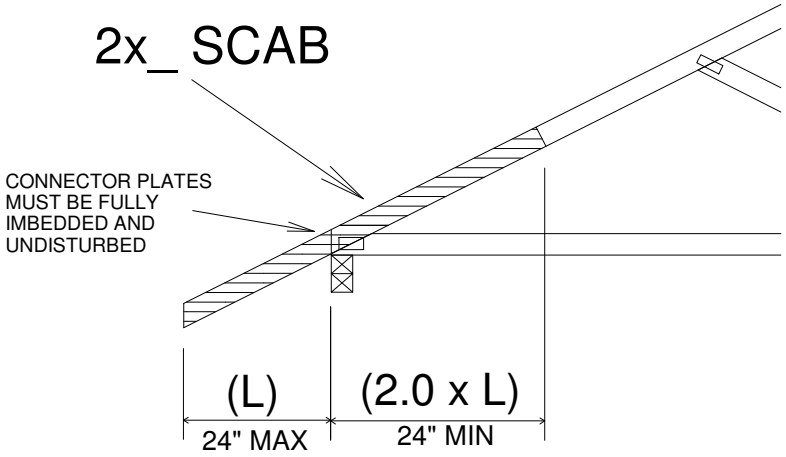
TRUSS CRITERIA:
- LOADING: 40-10-0-10
- DURATION FACTOR: 1.15
- SPACING: 24" O.C.
- TOP CHORD: 2x4 OR 2x6
- PITCH: 4/12 - 12/12
- HEEL HEIGHT: STANDARD HEEL UP TO 12" ENERGY HEEL
- END BEARING CONDITION

NOTES:
1. ATTACH 2x_ SCAB (MINIMUM NO.2 GRADE SPF, HF, SP, DF) TO ONE FACE OF TRUSS WITH TWO ROWS OF 10d (0.131" X 3") SPACED 6" O.C.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. WHEN NAILING THE SCABS, THE USE OF A BACKUP WEIGHT IS RECOMMENDED TO AVOID LOOSENING OF THE CONNECTOR PLATES AT THE JOINTS OR SPLICES.



IMPORTANT
This detail to be used only with trusses (spans less than 40') spaced 24" o.c. maximum and having pitches between 4/12 and 12/12 and total top chord loads not exceeding 50 psf.
Trusses not fitting these criteria should be examined individually.

REFER TO INDIVIDUAL TRUSS DESIGN
FOR PLATE SIZES AND LUMBER GRADES

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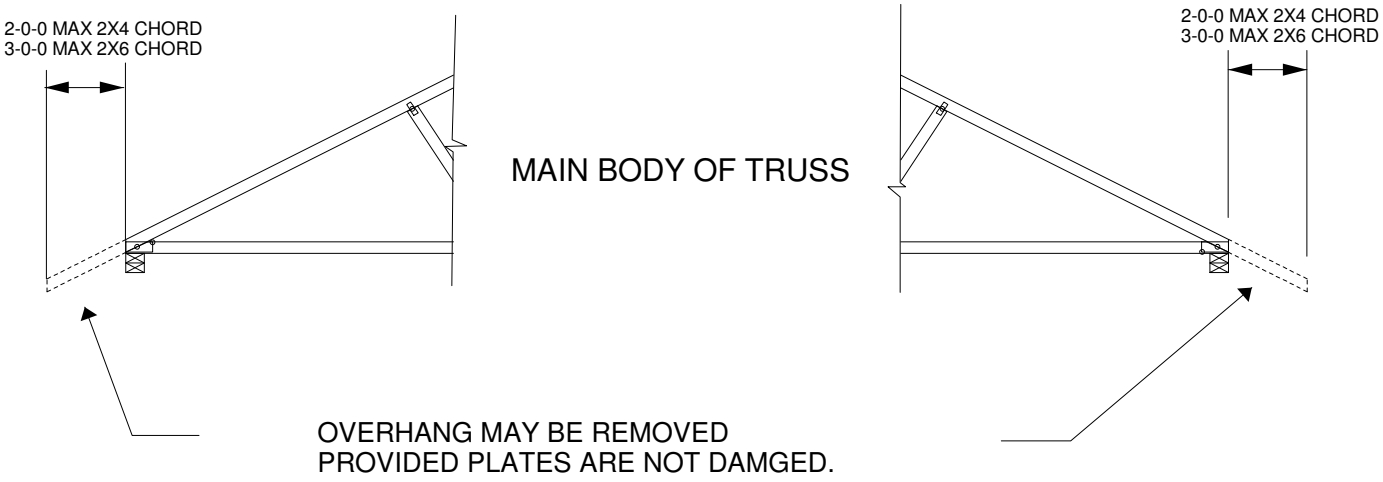

NOTES:

1) FOR LUMBER SIZE AND GRADE, AND FOR PLATES TYPE AND SIZE AT EACH JOINT REFER TO MAIN TRUSS ENGINEERING DESIGN.
2) LOADING: SEE MAIN TRUSS ENGINEERING DESIGN.

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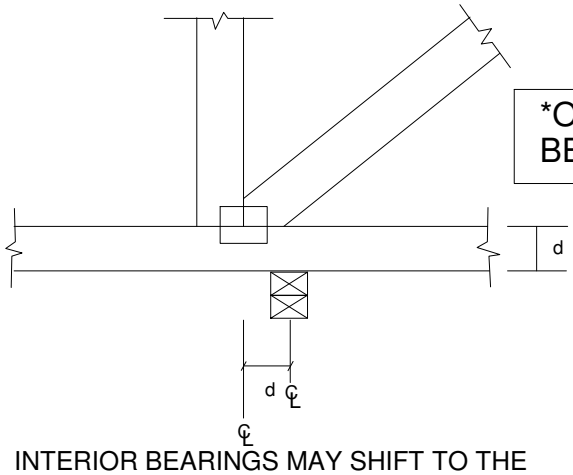
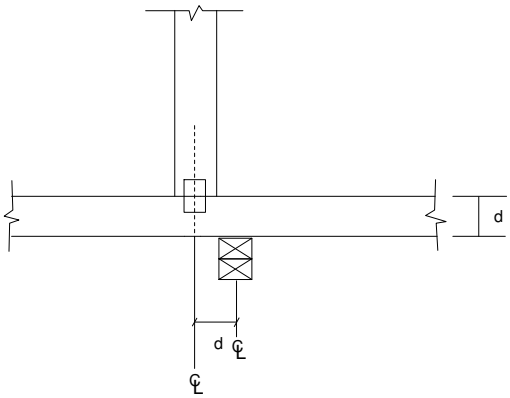


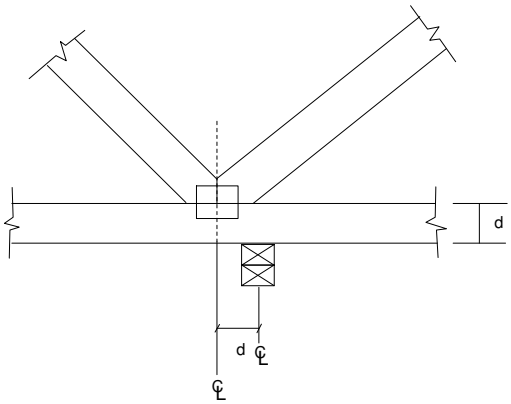
*OFFSET ASSUMES A MINIMUM BEARING WIDTH OF 3-1/2"

NOTE: INTERIOR BEARINGS MAY SHIFT TO THE LEFT OR RIGHT A DISTANCE EQUAL TO THE DEPTH OF THE BOTTOM (d). (7 1/2" MAX)
BOTTOM CHORD PITCH MAY VARY
NOTE: THIS DETAIL MAY BE USED FOR ROOF OR FLOOR TRUSS DESIGNS

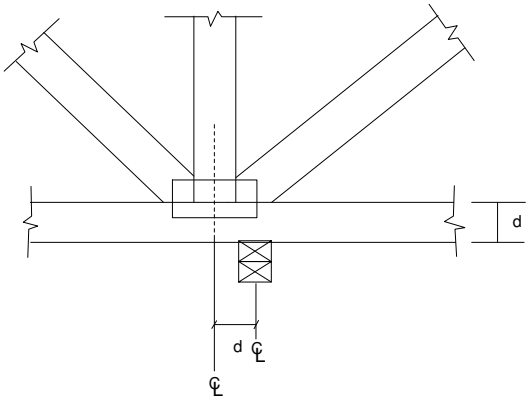
SINGLE WEB JOINT



DOUBLE WEB JOINT



TRIPLE WEB JOINT



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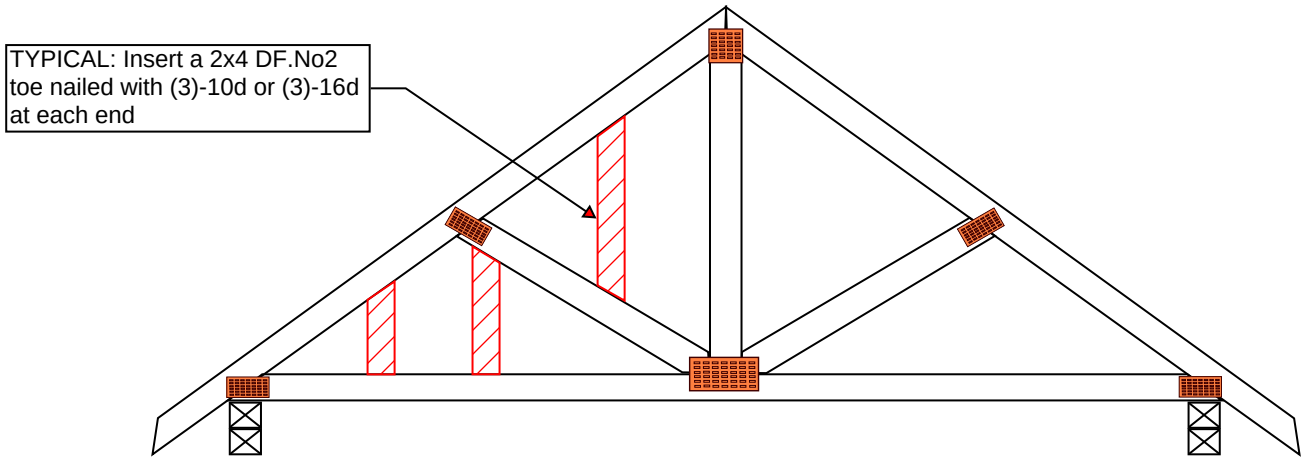
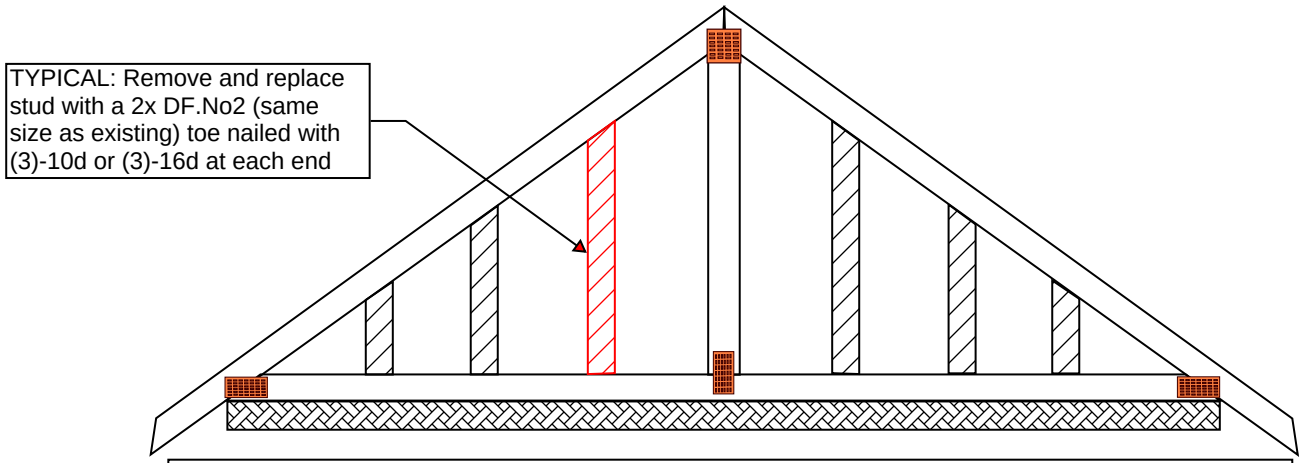
Studs Added for Backing



Broken/Missing Stud



NOTE:
1. This a typical repair to be used on full bearing and non full bearing trusses.

BCSI-B1 SUMMARY SHEET - GUIDE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF TRUSSES

Spans over 60' may require complex permanent bracing. Please always consult a Registered Design Professional.

B1

WARNING!

GENERAL NOTES

Trusses are not marked in any way to identify the frequency or location of temporary lateral restraint and diagonal bracing. Follow the recommendations for handling, installing and temporary restraining and bracing of trusses. Refer to BCSI – Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*** for more detailed information.

Truss Design Drawings may specify locations of permanent lateral restraint or reinforcement for individual truss members. Refer to the BCSI-B3*** for more information. All other permanent bracing design is the responsibility of the building designer.

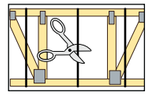
NOTAS GENERALES

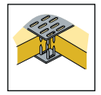
*Los trusses no están marcados de ningún modo que identifique la frecuencia o localización de restricción lateral y arriostre diagonal temporales. Use las recomendaciones de manejo, instalación, restricción y arriostre temporal de los trusses. Vea el folleto BCSI – Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arriostre de los Trusses de Madera Conectados con Placas de Metal*** para información más detallada.*

*Los dibujos de diseño de los trusses pueden especificar las localizaciones de restricción lateral permanente o refuerzo en los miembros individuales del truss. Vea la hoja resumen BCSI-B3*** para más información. El resto de los diseños de arriostres permanentes son la responsabilidad del diseñador del edificio.*

WARNING The consequences of improper handling, erecting, installing, restraining and bracing can result in a collapse of the structure, or worse, serious personal injury or death.

¡ADVERTENCIA! El resultado de un manejo, levantamiento, instalación, restricción y arrisotre incorrecto puede ser la caída de la estructura o aún peor, heridos o muertos.





CAUTION Exercise care when removing banding and handling trusses to avoid damaging trusses and prevent injury. Wear personal protective equipment for the eyes, feet, hands and head when working with trusses.

ICAUTELA! Utilice cautela al quitar las ataduras o los pedazos de metal de sujetar para evitar daño a los trusses y prevenir la herida personal. Lleve el equipo protectivo personal para ojos, pies, manos y cabeza cuando trabaja con trusses.

CAUTION Use special care in windy weather or near power lines and airports.

ICAUTELA! Utilice cuidado especial en días ventosos o cerca de cables eléctricos o de aeropuertos.

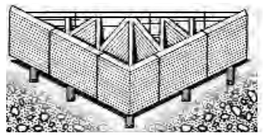
HANDLING — *MANEJO*

NOTICE Avoid lateral bending.

Evite la flexión lateral.

NOTICE The contractor is responsible for properly receiving, unloading and storing the trusses at the jobsite. Unload trusses to smooth surface to prevent damage.

El contratista tiene la responsabilidad de recibir, descargar y almacenar adecuadamente los trusses en la obra. Descargue los trusses en la tierra liso para prevenir el daño.



☑ Trusses may be unloaded directly on the ground at the time of delivery or stored temporarily in contact with the ground after delivery. If trusses are to be stored for more than one week, place blocking of sufficient height beneath the stack of trusses at 8' (2.4 m) to 10' (3 m) on-center (o.c.).

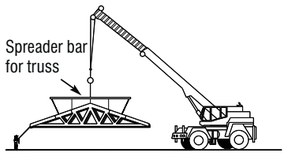
Los trusses pueden ser descargados directamente en el suelo en aquel momento de entrega o almacenados temporalmente en contacto con el suelo después de entrega. Si los trusses estarán guardados para más de una semana, ponga bloqueando de altura suficiente detrás de la pila de los trusses a 8 hasta 10 pies en centro (o.c.).

☑ For trusses stored for more than one week, cover bundles to protect from the environment.

Para trusses guardados por más de una semana, cubra los paquetes para protegerlos del ambiente.

Refer to BCSI*** for more detailed information pertaining to handling and jobsite storage of trusses.

*Vea el folleto BCSI*** para información más detallada sobre el manejo y almacenado de los trusses en área de trabajo.*



☑ Use proper rigging and hoisting equipment.

Use equipo apropiado para levantar e improvisar.

⊘ DO NOT store unbraced bundles upright.

NO almacene verticalmente los trusses sueltos.

⊘ DO NOT store on uneven ground.

NO almacene en tierra desigual.

HOISTING AND PLACEMENT OF TRUSS BUNDLES

RECOMENDACIONES PARA LEVANTAR PAQUETES DE TRUSSES

⊘ DON'T overload the crane.

NO sobrecargue la grúa.

⊘ NEVER use banding to lift a bundle.

NUNCA use las ataduras para levantar un paquete.

☑ A single lift point may be used for bundles of top chord pitch trusses up to 45' (13.7 m) and parallel chord trusses up to 30' (9.1 m). Use at least two lift points for bundles of top chord pitch trusses up to 60' (18.3 m) and parallel chord trusses up to 45' (13.7 m). Use at least three lift points for bundles of top chord pitch trusses >60' (18.3m) and parallel chord trusses >45' (13.7 m).

Puede usar un solo lugar de levantar para paquetes de trusses de la cuerda superior hasta 45' y trusses de cuerdas paralelas de 30' o menos. Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada hasta 60' y trusses de cuerdas paralelas hasta 45'. Use por lo menos dos puntos de levantar con grupos de trusses de cuerda superior inclinada mas de 60' y trusses de cuerdas paralelas mas de 45'.

WARNING Do not over load supporting structure with truss bundle.

¡ADVERTENCIA! No sobrecargue la estructura apoyada con el paquete de trusses.

☑ Place truss bundles in stable position.

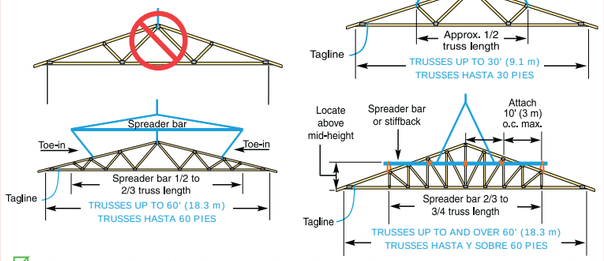
Puse paquetes de trusses en una posición estable.

MECHANICAL HOISTING RECOMMENDATIONS FOR SINGLE TRUSSES

RECOMENDACIONES PARA LEVANTAR TRUSSES INDIVIDUALES

NOTICE Using a single pick-point at the peak can damage the truss.

El uso de un solo lugar en el pico para levantar puede hacer daño al truss.



☑ Hold each truss in position with the erection equipment until top chord temporary lateral restraint is installed and the truss is fastened to the bearing points.

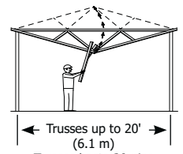
Sostenga cada truss en posición con equipo de grúa hasta que la restricción lateral temporal de la cuerda superior esté instalado y el truss está asegurado en los soportes.

INSTALLATION OF SINGLE TRUSSES BY HAND

RECOMMENDACCIONES DE LEVANTAMIENTO DE TRUSSES INDIVIDUALES POR LA MANO

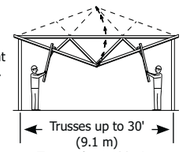
☑ Trusses 20' (6.1 m) or less, support near peak.

Soporte cerca al pico los trusses de 20 pies o menos.



☑ Trusses 30' (9.1 m) or less, support at quarter points.

Soporte de los cuartos de tramo los trusses de 30 pies o menos.



TEMPORARY RESTRAINT & BRACING

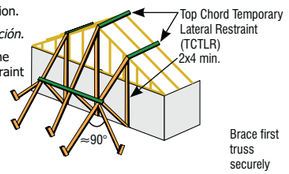
RESTRICCIÓN Y ARRIOSTRE TEMPORAL

NOTICE Refer to BCSI-B2*** for more information.

*Vea el resumen BCSI-B2*** para más información.*

☑ Locate ground braces for first truss directly in line with all rows of top chord temporary lateral restraint table in the next column).

Coloque los arriostres de tierra para el primer truss directamente en línea con cada una de las filas de restricción lateral temporal de la cuerda superior (vea la tabla en la próxima columna).

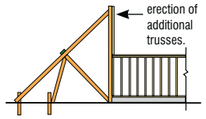


⊘ DO NOT walk on unbraced trusses.

NO camine en trusses sueltos.

⊘ DO NOT stand on truss overhangs until Structural Sheathing has been applied to the truss and overhangs.

NO se pare en voladizos cerchas hasta Revestimiento estructural ha sido aplicado a la armadura y voladizos.



STEPS TO SETTING TRUSSES

LAS MEDIDAS DE LA INSTALACIÓN DE LOS TRUSSES

☑ 1) Install ground bracing. 2) Set first truss and attach securely to ground bracing. 3) Set next 4 trusses with short member temporary lateral restraint (see below). 4) Install top chord diagonal bracing (see below). 5) Install web member plane diagonal bracing to stabilize the first five trusses (see below). 6) Install bottom chord temporary lateral restraint and diagonal bracing (see below). 7) Repeat process with groups of four trusses until all trusses are set.

1) Instale los arriostres de tierra. 2) Instale el primero truss y ate seguramente al arriostre de tierra. 3) Instale los próximos 4 trusses con restricción lateral temporal de miembro corto (vea abajo). 4) Instale el arriostre diagonal de la cuerda superior (vea abajo). 5) Instale arriostre diagonal para los planos de los miembros secundarios para estabilice los primeros cinco trusses (vea abajo). 6) Instale la restricción lateral temporal y arriostre diagonal para la cuerda inferior (vea abajo). 7) Repita éste procedimiento en grupos de cuatro trusses hasta que todos los trusses estén instalados.

NOTICE Refer to BCSI-B2*** for more information.

*Vea el resùmen BCSI-B2*** para más información.*

RESTRAINT/BRACING FOR ALL PLANES OF TRUSSES

RESTRICCIÓN/ARRIOSTRE PARA TODOS PLANOS DE TRUSSES

☑ This restraint and bracing method is for all trusses except 3x2 and 4x2 parallel chord trusses (PCTs). See top of next column for temporary restraint and bracing of PCTs.

Este método de restricción y arriostre es para todo trusses excepto trusses de cuerdas paralelas (PCTs) 3x2 y 4x2. Vea la parte superior de la columna para la restricción y arriostre temporal de PCTs.

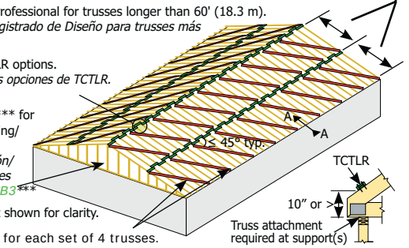
1) TOP CHORD — *CUERDA SUPERIOR*

Truss Span *Longitud de Tramo*	Top Chord Temporary Lateral Restraint (TCTLR) Spacing *Espaciamiento del Arriostre Temporal de la Cuerda Superior*
Up to 30' (9.1 m)	10' (3 m) o.c. max.
30' (9.1 m) – 45' (13.7 m)	8' (2.4 m) o.c. max.
45' (13.7 m) – 60' (18.3 m)	6' (1.8 m) o.c. max.
60' (18.3 m) – 80' (24.4 m)*	4' (1.2 m) o.c. max.

*Consult a Registered Design Professional for trusses longer than 60' (18.3 m).
Consulte a un Professional Registrado de Diseño para trusses más de 60 pies.

☑ See BCSI-B2*** for TCTLR options.
*Vea el BCSI-B2*** para las opciones de TCTLR.*

NOTICE Refer to BCSI-B3*** for Gable End Frame restraint/bracing/reinforcement information.
*Para información sobre restricción/arriostre/refuerzo para Armazones Hastiales vea el resumen BCSI-B3****



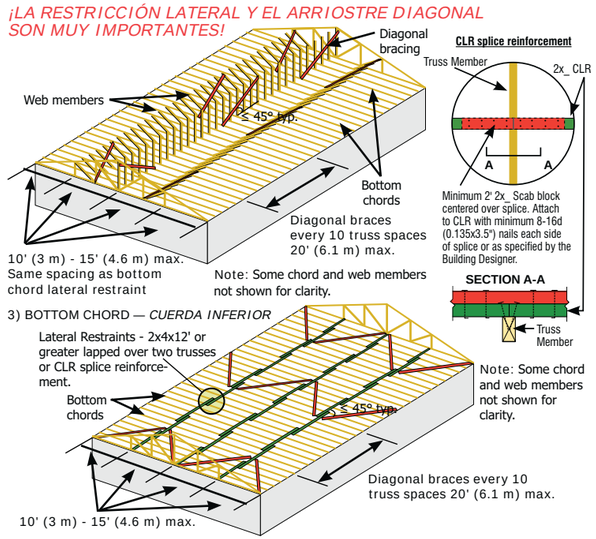
Note: Ground bracing not shown for clarity.

☑ Repeat diagonal braces for each set of 4 trusses.
Repita los arrisotres diagonales para cada grupo de 4 trusses.

2) WEB MEMBER PLANE — *PLANO DE LOS MIEMBROS SECUNDARIOS*

NOTICE LATERAL RESTRAINT & DIAGONAL BRACING ARE VERY IMPORTANT

¡LA RESTRICCIÓN LATERAL Y EL ARRIOSTRE DIAGONAL SON MUY IMPORTANTES!



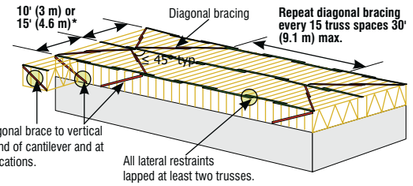
3) BOTTOM CHORD — *CUERDA INFERIOR*

RESTRAINT & BRACING FOR 3x2 AND 4x2 PARALLEL CHORD TRUSSES

RESTRICCIÓN Y ARRIOSTRE PARA TRUSSES DE CUERDAS PARALELAS 3X2 Y 4X2

NOTICE Refer to BCSI-B7*** for more information.

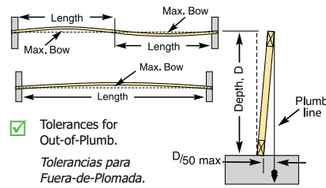
Vea el resumen BCSI-B7*** para más información.



**Top chord temporary lateral restraint spacing shall be 10' (3 m) o.c. max. for 3x2 chords and 15' (4.6 m) o.c. for 4x2 chords.*

INSTALLING — *INSTALACIÓN*

☑ Tolerances for Out-of-Plane.
Tolerancias para Fuera-de-Plano.



☑ Tolerances for Out-of-Plumb.
Tolerancias para Fuera-de-Plomada.

Out-of-Plumb	
D/50	D (ft.)
1/4" (6 mm)	1' (0.3 m)
1/2" (13 mm)	2' (0.6 m)
3/4" (19 mm)	3' (0.9 m)
1" (25 mm)	4' (1.2 m)
1-1/4" (32 mm)	5' (1.5 m)
1-1/2" (38 mm)	6' (1.8 m)
1-3/4" (45 mm)	7' (2.1 m)
2" (51 mm)	≥8' (≥2.4 m)

Out-of-Plane	
Max. Bow	Truss Length
3/4" (19 mm)	12.5' (3.8 m)
7/8" (22 mm)	14.6' (4.5 m)
1" (25 mm)	16.7' (5.1 m)
1-1/8" (29 mm)	18.8' (5.7 m)
1-1/4" (32 mm)	20.8' (6.3 m)
1-3/8" (35 mm)	22.9' (7.0 m)
1-1/2" (38 mm)	25.0' (7.6 m)
1-3/4" (45 mm)	29.2' (8.9 m)
2" (51 mm)	≥33.3' (10.1 m)

CONSTRUCTION LOADING

CARGA DE CONSTRUCCIÓN

⊘ DO NOT proceed with construction until all lateral restraint and bracing is securely and properly in place.

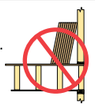
NO proceda con la construcción hasta que todas las restricciones laterales y los arriostres estén colocados en forma apropiada y segura.

⊘ DO NOT exceed maximum stack heights. Refer to BCSI-B4*** for more information.

*NO exceda las alturas máximas de montón. Vea el resumen BCSI-B4*** para más información.*

Maximum Stack Height for Material on Trusses	
Material	Height
Gypsum Board	12" (305 mm)
Plywood or OSB	16" (406 mm)
Asphalt Shingles	2 bundles
Concrete Block	8" (203 mm)
Clay Tile	3-4 tiles high

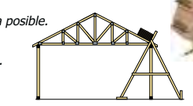
⊘ NEVER stack materials near a peak, at mid-span, on cantilevers or overhangs.
NUNCA apile los materiales cerca de un pica, a centro de la luz, en cantilevers o aleros.



⊘ DO NOT overload small groups or single trusses.
NO sobrecargue pequeños grupos o trusses individuales.

☑ Place loads over as many trusses as possible.
Coloque las cargas sobre tantos trusses como sea posible.

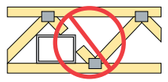
☑ Position loads over load bearing walls.
Coloque las cargas sobre las paredes soportantes.



ALTERATIONS — ALTERACIONES

NOTICE Refer to BCSI-B5.***

*Vea el resumen BCSI-B5.****



⊘ DO NOT cut, alter, or drill any structural member of a truss unless specifically permitted by the truss design drawing.

NO corte, altere o perfore ningún miembro estructural de un truss, a menos que esté especificamente permitido en el dibujo del diseño del truss.

NOTICE Trusses that have been overloaded during construction or altered without the Truss Manufacturer's prior approval may render the Truss Manufacturer's limited warranty null and void.

Trusses que se han sobrecargado durante la construcción o han sido alterados sin la autorización previa del Fabricante de Trusses, pueden hacer nulo y sin efecto la garantía limitada del Fabricante de Trusses.

***Contact the Component Manufacturer for more information or consult a Registered Design Professional for assistance.
To view a non-printing PDF of this document, visit sbcindustry.com/b1.

NOTE: The truss manufacturer and truss designer rely on the presumption that the contractor and crane operator (if applicable) are professionals with the capability to undertake the work they have agreed to do on any given project. If the contractor believes it needs assistance in some aspect of the construction project, it should seek assistance from a competent party. The methods and procedures outlined in this document are intended to ensure that the overall construction techniques employed will put the trusses into place SAFELY. These recommendations for handling, installing, restraining and bracing trusses are based upon the collective experience of leading personnel involved with truss design, manufacture and installation, but must, due to the nature of responsibilities involved, be presented only as a GUIDE for use by a qualified building designer or contractor. It is not intended that these recommendations be interpreted as superior to the building designer's design specification for handling, installing, restraining and bracing trusses and it does not preclude the use of other equivalent methods for restraining/bracing and providing stability for the walls, columns, floors, roofs and all the interrelated structural building components as determined by the contractor. Thus, SBCA and TPI expressly disclaim any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.

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¡ADVERTENCIA!

HOJA RESUMEN DE LA GUÍA DE BUENA PRÁCTICA PARA EL MANEJO, INSTALACIÓN, RESTRICCIÓN Y ARRIOSTRE DE LOS TRUSSES

Vanos más de 60 pies pueden requerir arriostre permanente complejo. Por favor, siempre consulte a un Profesional Registrado de Diseño.