ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: J1024-5875
Lot 15 Magnolia Hills

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

Pages or sheets covered by this seal: I72421075 thru I72421092

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844

April 2,2025

Galinski, John

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

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	A1-GE	GABLE	1	1	I72421075
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:42 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

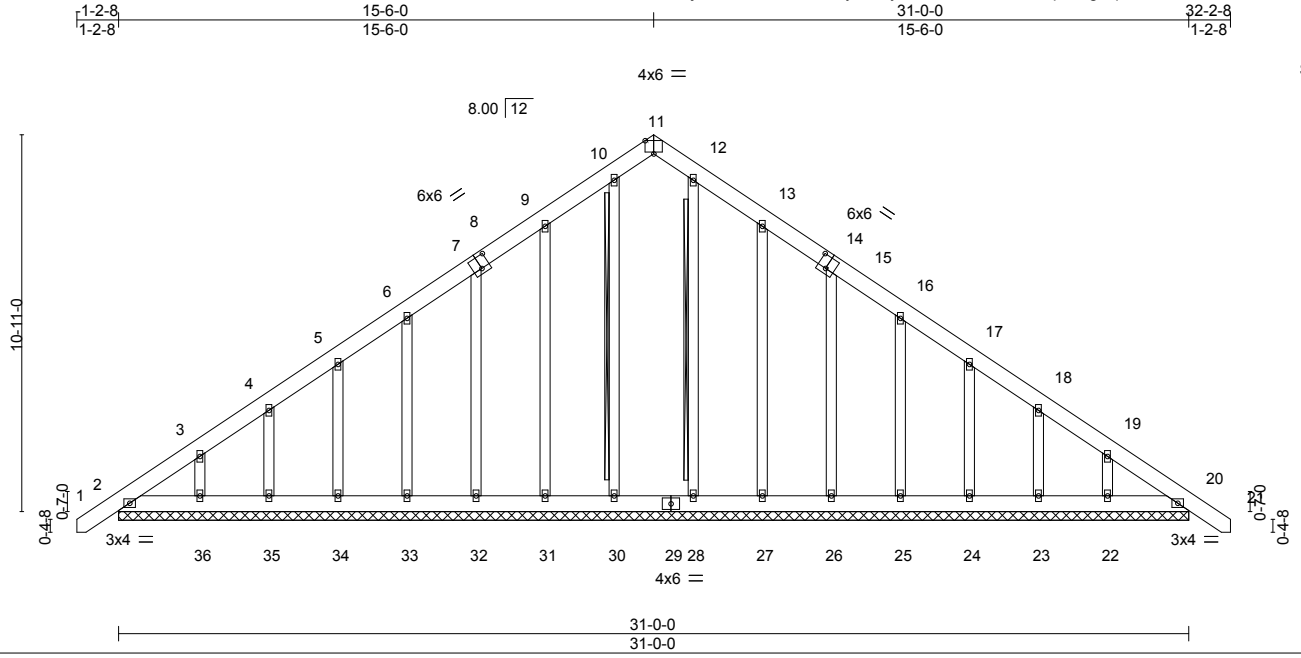


Plate Offsets (X,Y)-- [8:0-3-0,0-4-4], [11:0-3-0,Edge], [14:0-3-0,0-4-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	-0.00	20	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	0.00	20	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.16	Horz(CT)	0.01	20	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 276 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
OTHERS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS T-Brace: 2x4 SPF No.2 - 10-30, 12-28
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance.
Brace must cover 90% of web length.

REACTIONS. All bearings 31-0-0.
(lb) - Max Horz 2=-331(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 2, 20, 32, 33, 34, 35, 26, 25, 24, 23 except 31=-104(LC 12), 36=-103(LC 12), 27=-109(LC 13), 22=-101(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 2, 20, 31, 32, 33, 34, 35, 36, 28, 27, 26, 25, 24, 23, 22 except 30=257(LC 22)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-350/234, 3-4=-262/198, 19-20=-286/143
BOT CHORD 2-36=-130/294, 35-36=-130/294, 34-35=-130/294, 33-34=-130/294, 32-33=-130/294, 31-32=-130/294, 30-31=-130/294, 28-30=-130/294, 27-28=-130/294, 26-27=-130/294, 25-26=-130/294, 24-25=-130/294, 23-24=-130/294, 22-23=-130/294, 20-22=-130/294

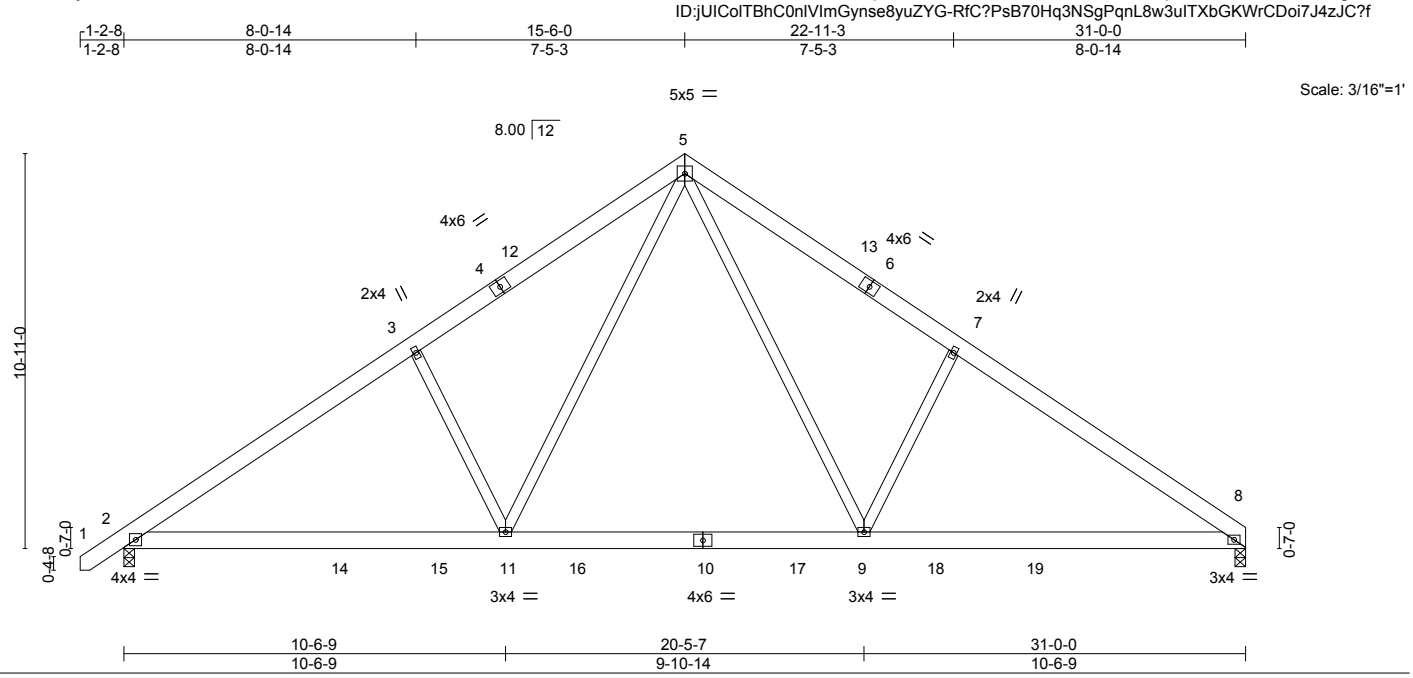
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Corner(3E) -1-0-15 to 3-3-14, Exterior(2N) 3-3-14 to 15-6-0, Corner(3R) 15-6-0 to 19-10-13, Exterior(2N) 19-10-13 to 32-0-15 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 20, 32, 33, 34, 35, 26, 25, 24, 23 except (jt=lb) 31=104, 36=103, 27=109, 22=101.
10) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	A2	COMMON	6	1	I72421076
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:43 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.12	9-11	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.22	8-9	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.04	2-11	>999	240	Weight: 214 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-0-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 8=0-3-8
Max Horz 2=260(LC 9)
Max Uplift 2=-82(LC 12), 8=-65(LC 13)
Max Grav 2=1616(LC 19), 8=1545(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2171/361, 3-5=-2041/454, 5-7=-2047/460, 7-8=-2176/366
BOT CHORD 2-11=-201/1896, 9-11=0/1233, 8-9=-190/1724
WEBS 5-9=-172/1082, 7-9=-471/311, 5-11=-170/1073, 3-11=-467/305

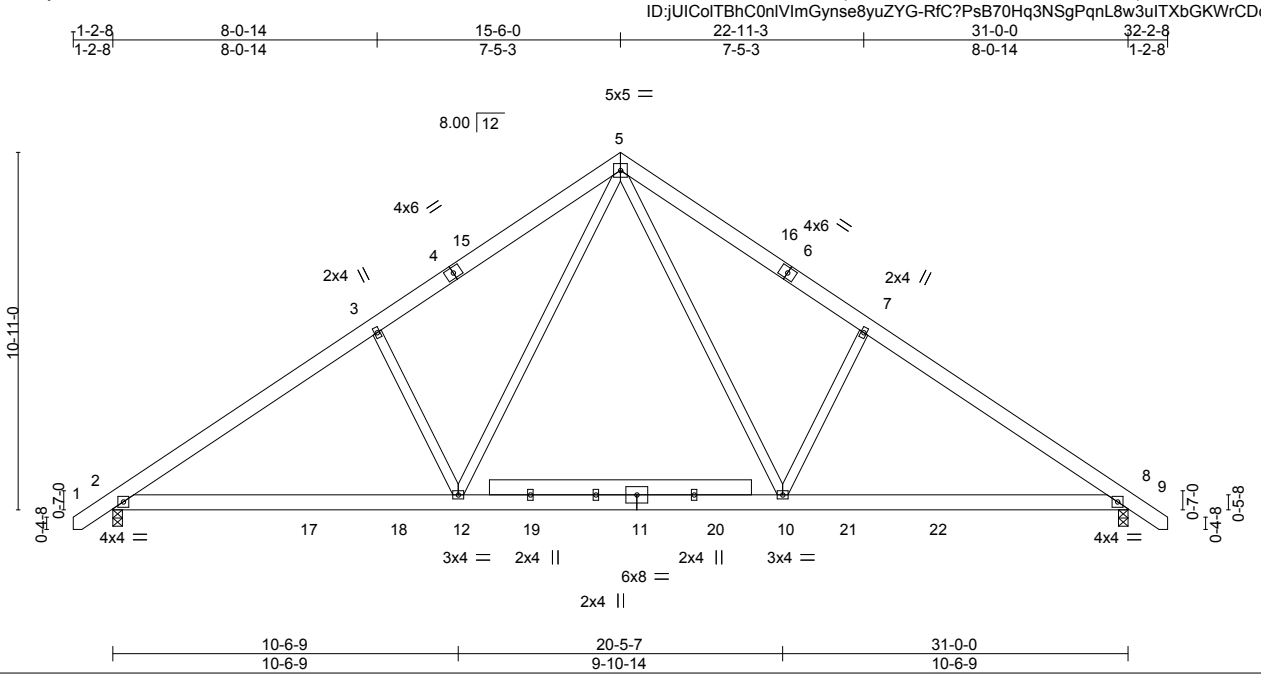
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 15-6-0, Exterior(2R) 15-6-0 to 19-10-13, Interior(1) 19-10-13 to 30-10-4 zone;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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	A3	COMMON	7	1	I72421077
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:43 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	-0.12	10-12	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.21	2-12	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.04	2-12	>999	240	Weight: 235 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-0-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 8=0-3-8
Max Horz 2=-265(LC 10)
Max Uplift 2=-82(LC 12), 8=-82(LC 13)
Max Grav 2=1608(LC 19), 8=1608(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2156/360, 3-5=-2026/452, 5-7=-2027/452, 7-8=-2157/360
BOT CHORD 2-12=-160/1892, 10-12=0/1232, 8-10=-158/1717
WEBS 5-10=-169/1067, 7-10=-468/305, 5-12=-169/1066, 3-12=-467/305

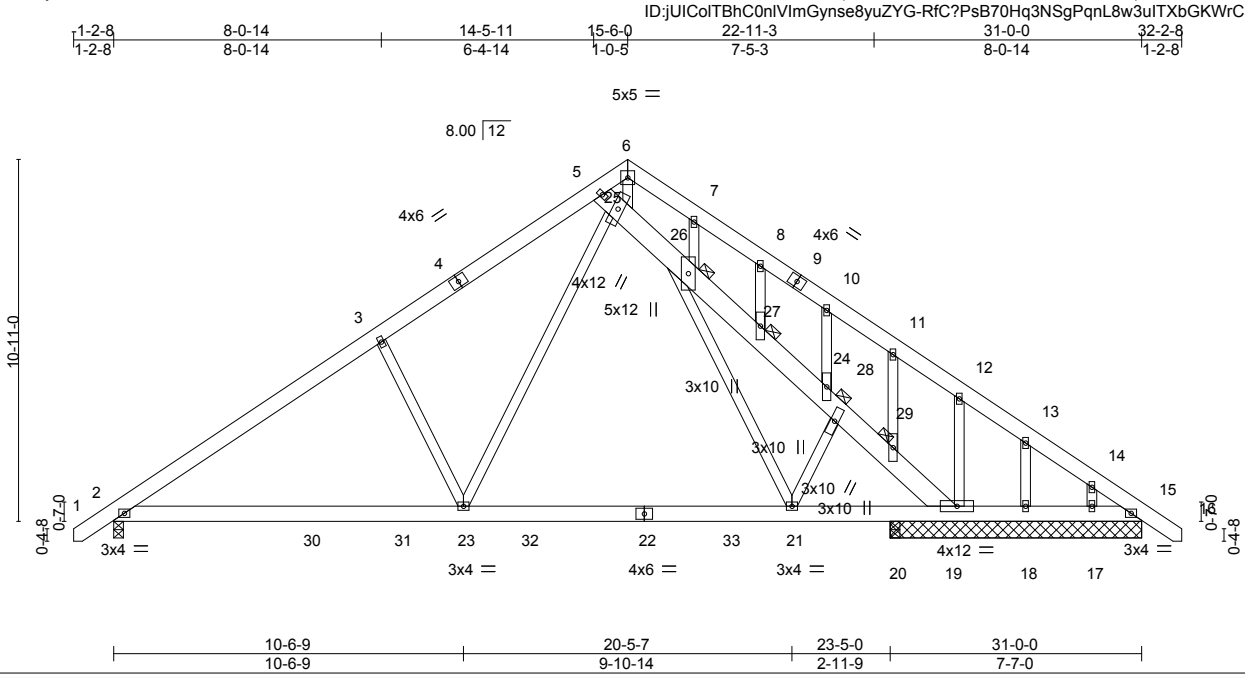
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 15-6-0, Exterior(2R) 15-6-0 to 19-10-13, Interior(1) 19-10-13 to 32-0-15 zone;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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	A4-GE	GABLE	1	1	I72421078
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:44 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	-0.16	21-23	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.24	21-23	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.03	15	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.05	2-23	>999	240	Weight: 275 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.2 *Except* 5-19: 2x8 SP No.1
OTHERS	2x4 SP No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 5-4-7 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 24, 26, 27, 29

REACTIONS. All bearings 7-7-0 except (jt=length) 2=0-3-8, 20=0-3-8.
(lb) - Max Horz 2=-331(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 18, 17, 20 except 2=-228(LC 12), 19=-150(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 18, 17 except 2=1417(LC 19), 15=626(LC 20), 19=530(LC 19), 20=336(LC 20)

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

TOP CHORD	2-3=-1800/262, 3-5=-1659/361, 5-6=-1138/406, 6-7=-871/344, 7-8=-932/289, 8-10=-964/241, 10-11=-891/144, 11-12=-908/82, 12-13=-822/4, 13-14=-869/0, 14-15=-884/0
BOT CHORD	2-23=-273/1632, 21-23=-3/956, 20-21=-40/1254, 19-20=-40/1254, 18-19=0/720, 17-18=0/720, 15-17=0/720
WEBS	21-26=-86/642, 21-24=-392/232, 23-25=-238/1080, 3-23=-392/367, 5-25=-794/284, 25-26=-267/208, 26-27=-701/158, 27-28=-701/174, 24-28=-796/223, 24-29=-719/190, 19-29=-731/217, 6-25=-358/1167, 12-19=-287/131

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Exterior(2E) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 15-6-0 , Exterior(2R) 15-6-0 to 19-10-13, Interior(1) 19-10-13 to 32-0-15 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 18, 17, 20 except (jt=lb) 2=228, 19=150.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	B1-GE	GABLE	1	1	I72421079
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:44 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

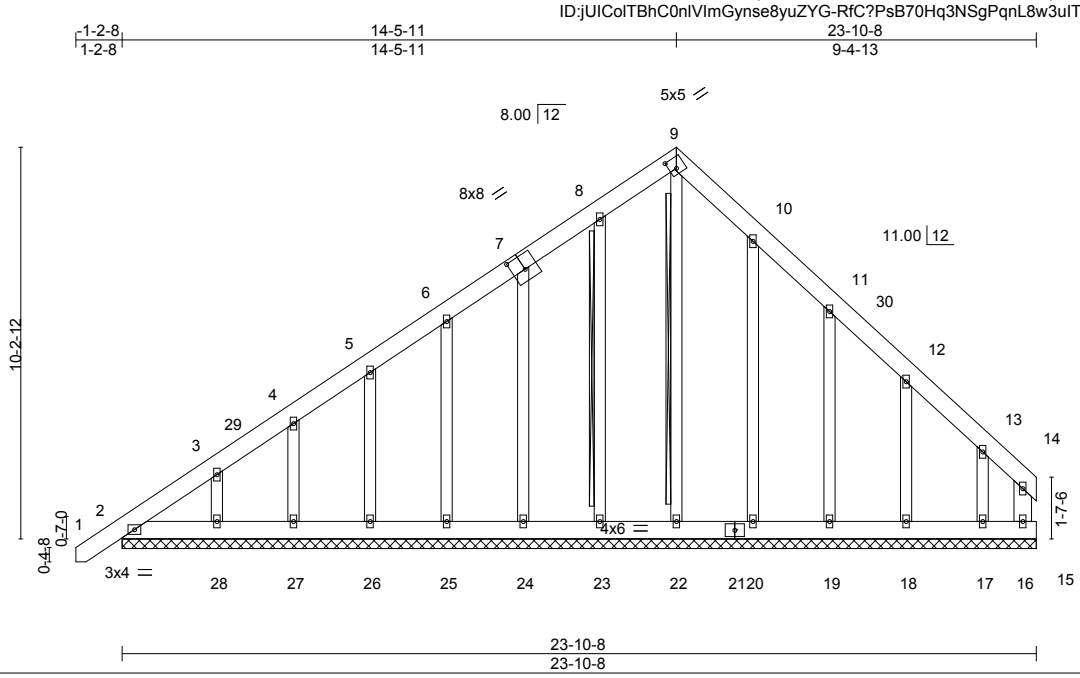


Plate Offsets (X,Y)-- [7:0-4-0,0-4-8], [9:0-2-3,0-3-4]

LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	1	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	0.00	1	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.00	15	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 217 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 16-17,15-16.
WEBS T-Brace: 2x4 SPF No.2 - 9-22, 8-23
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance. Brace must cover 90% of web length.

REACTIONS. All bearings 23-10-8.
(lb) - Max Horz 2=299(LC 9)
Max Uplift All uplift 100 lb or less at joint(s) 22, 23, 25, 26, 27, 20, 16 except 2=-149(LC 8), 24=-102(LC 12), 28=-104(LC 12), 19=-152(LC 13), 18=-126(LC 13), 17=-104(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 2, 15, 23, 24, 25, 26, 27, 28, 20, 19, 18, 17, 16 except 22=436(LC 13)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-327/327, 3-4=-295/300, 4-5=-271/296, 5-6=-252/325, 6-7=-231/367, 7-8=-212/420, 8-9=-227/421, 9-10=-249/461, 10-11=-213/397, 11-12=-140/265
WEBS 9-22=-412/160

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Corner(3E) -1-0-15 to 3-3-14, Exterior(2N) 3-3-14 to 14-5-11, Corner(3R) 14-5-11 to 18-10-8, Exterior(2N) 18-10-8 to 23-6-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 22, 23, 25, 26, 27, 20, 16 except (jt=lb) 2=149, 24=102, 28=104, 19=152, 18=126, 17=104.
10) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	B2	ROOF SPECIAL	10	1	I72421080
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:45 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

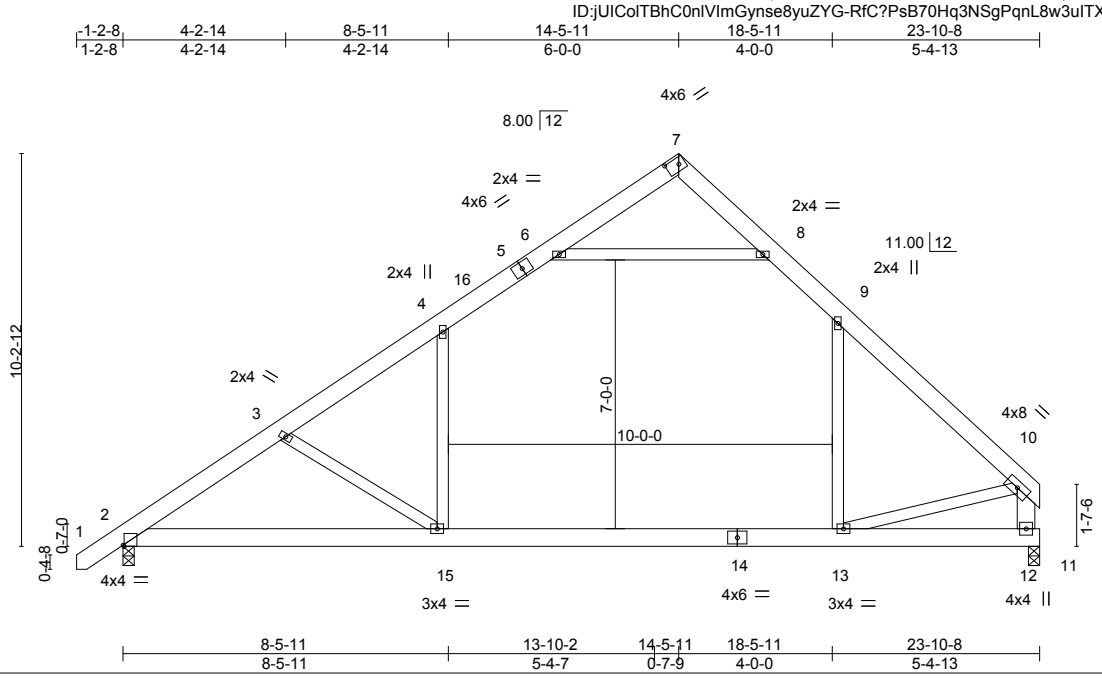


Plate Offsets (X,Y)-- [2:0-0-6,Edge], [7:0-4-0,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.32	13-15	>881	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.50	13-15	>563	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.02	12	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S		Wind(LL)	0.19	15	>999	240	Weight: 172 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except*
10-12: 2x6 SP No.1

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-4-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 12-13.

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=242(LC 9)
Max Uplift 2=-72(LC 12), 12=-33(LC 12)
Max Grav 2=1257(LC 19), 12=1213(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1716/283, 3-4=-1406/236, 4-6=-939/278, 6-7=-30/309, 8-9=-977/286, 9-10=-1493/223, 10-12=-1396/208
BOT CHORD 2-15=-236/1568, 13-15=-65/1049
WEBS 4-15=0/685, 9-13=0/577, 6-8=-1254/334, 10-13=-56/1200, 3-15=-617/203

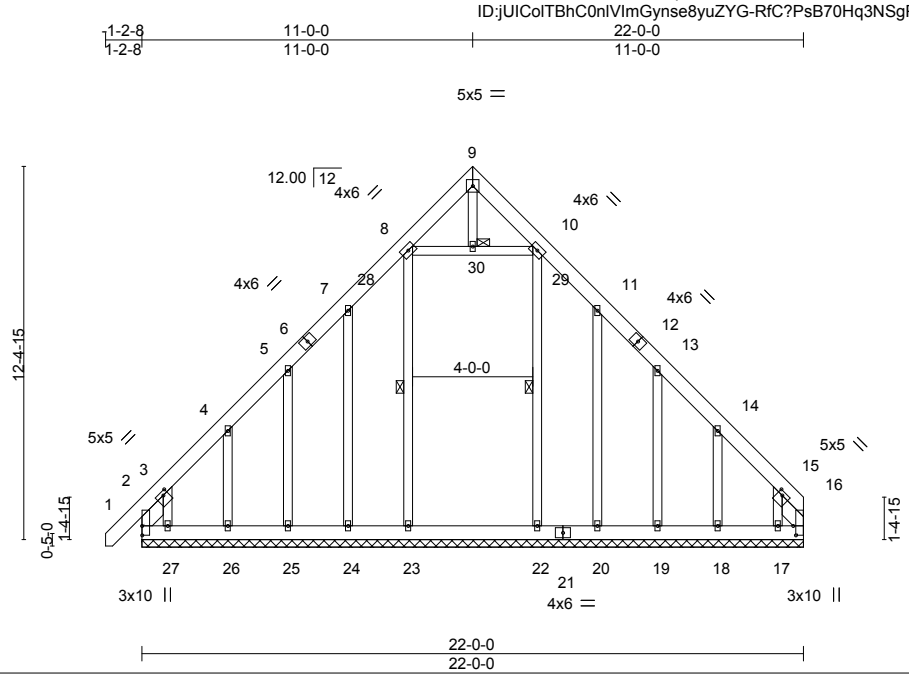
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-15 to 3-3-14, Interior(1) 3-3-14 to 14-5-11, Exterior(2R) 14-5-11 to 18-7-9, Interior(1) 18-7-9 to 23-6-4 zone;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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 12.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	C1-GE	GABLE	1	1	I72421081
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:45 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:76.6

Plate Offsets (X,Y)-- [2:0-3-12,0-0-1], [3:0-2-0,0-1-8], [15:0-2-0,0-1-8], [16:0-3-12,0-1-1]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.03	Vert(LL)	-0.00	1	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	-0.00	1	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	16	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 223 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1
WEBS	2x4 SP No.2
OTHERS	2x4 SP No.2
SLIDER	Left 2x6 SP No.1 1-2-10, Right 2x6 SP No.1 1-2-10

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.
WEBS	1 Row at midpt 8-23, 10-22
JOINTS	1 Brace at Jt(s): 30

REACTIONS. All bearings 22-0-0.
(lb) - Max Horz 2=360(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 23, 22 except 2=-274(LC 10), 16=-266(LC 11), 24=-152(LC 12), 25=-136(LC 12), 26=-157(LC 12), 27=-439(LC 12), 20=-153(LC 13), 19=-137(LC 13), 18=-157(LC 13), 17=-438(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 24, 25, 26, 20, 19, 18 except 2=653(LC 12), 16=662(LC 13), 23=388(LC 19), 27=264(LC 10), 22=362(LC 20), 17=256(LC 11)

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

TOP CHORD	2-3=-713/338, 3-4=-406/218, 4-5=-258/162, 14-15=-375/172, 15-16=-690/292
BOT CHORD	2-27=-155/376, 26-27=-155/377, 25-26=-156/378, 24-25=-156/378, 23-24=-156/378, 22-23=-155/375, 20-22=-156/378, 19-20=-156/377, 18-19=-156/377, 17-18=-155/376, 16-17=-153/373
WEBS	3-27=-206/372, 15-17=-211/379

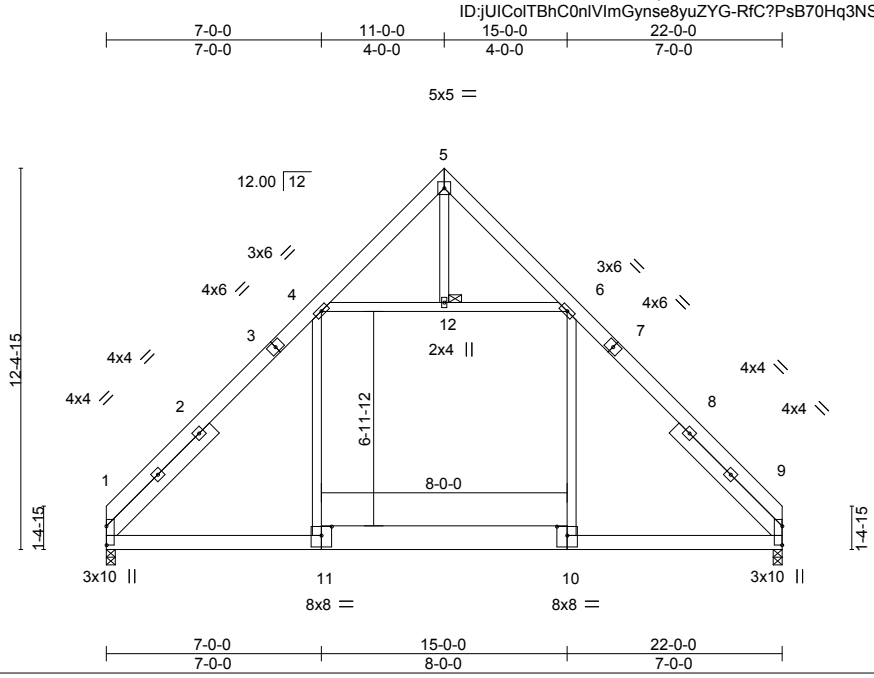
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Exterior(2E) -1-1-2 to 3-3-11, Interior(1) 3-3-11 to 11-0-0, Exterior(2R) 11-0-0 to 15-1-15, Interior(1) 15-1-15 to 22-0-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 23, 22 except (jt=lb) 2=274, 16=266, 24=152, 25=136, 26=157, 27=439, 20=153, 19=137, 18=157, 17=438.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	C2	COMMON	2	1	I72421082
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:46 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:75.0

Plate Offsets (X,Y)-- [1:0-7-7,0-0-1], [9:0-7-7,0-0-1], [10:0-4-0,0-3-8], [11:0-4-0,0-3-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.13	1-11	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.14	1-11	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 201 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1 *Except*
10-11: 2x10 SP No.1
WEBS 2x4 SP No.2
SLIDER Left 2x6 SP No.1 4-11-8, Right 2x6 SP No.1 4-11-8

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.
JOINTS 1 Brace at Jt(s): 12

REACTIONS. (size) 1=0-3-8, 9=0-3-8
Max Horz 1=-284(LC 8)
Max Uplift 1=-34(LC 13), 9=-34(LC 12)
Max Grav 1=1085(LC 20), 9=1085(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-4=-1321/236, 4-5=-262/83, 5-6=-262/83, 6-9=-1324/237
BOT CHORD 1-11=-16/837, 10-11=-11/843, 9-10=-11/834
WEBS 6-10=-35/511, 4-11=-33/508, 4-12=-648/336, 6-12=-648/336

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 4-4-13, Interior(1) 4-4-13 to 11-0-0, Exterior(2R) 11-0-0 to 15-1-15, Interior(1) 15-1-15 to 22-0-0 zone;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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 9.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	C3	COMMON	4	1	I72421083
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:46 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

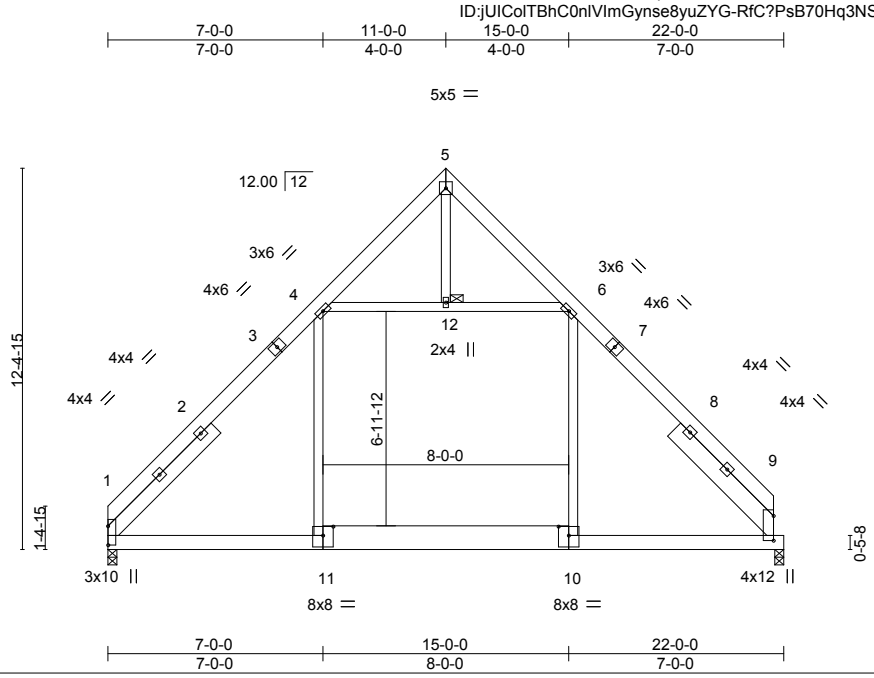


Plate Offsets (X,Y)-- [1:0-7-7,0-0-1], [9:0-9-11,0-0-0], [10:0-4-0,0-3-8], [11:0-4-0,0-3-8]

LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	0.14	1-11	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.16	1-11	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 203 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1 *Except*
10-11: 2x10 SP No.1
WEBS 2x4 SP No.2
SLIDER Left 2x6 SP No.1 4-11-8, Right 2x8 SP No.1 4-8-11

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.
JOINTS 1 Brace at Jt(s): 12

REACTIONS. (size) 1=0-3-8, 9=0-3-8
Max Horz 1=284(LC 9)
Max Uplift 1=-34(LC 13), 9=-36(LC 12)
Max Grav 1=1068(LC 20), 9=1075(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-4=-1282/231, 4-5=-266/85, 5-6=-269/84, 6-9=-1307/239
BOT CHORD 1-11=-19/809, 10-11=-15/814, 9-10=-15/805
WEBS 6-10=-38/528, 4-11=-36/482, 4-12=-611/330, 6-12=-611/330

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 4-4-13, Interior(1) 4-4-13 to 11-0-0, Exterior(2R) 11-0-0 to 15-1-15, Interior(1) 15-1-15 to 21-8-0 zone;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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 9.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	C4	COMMON GIRDER	1	3	I72421084
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:47 2025 Page 1
ID:jUICoITBhC0nlVImGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

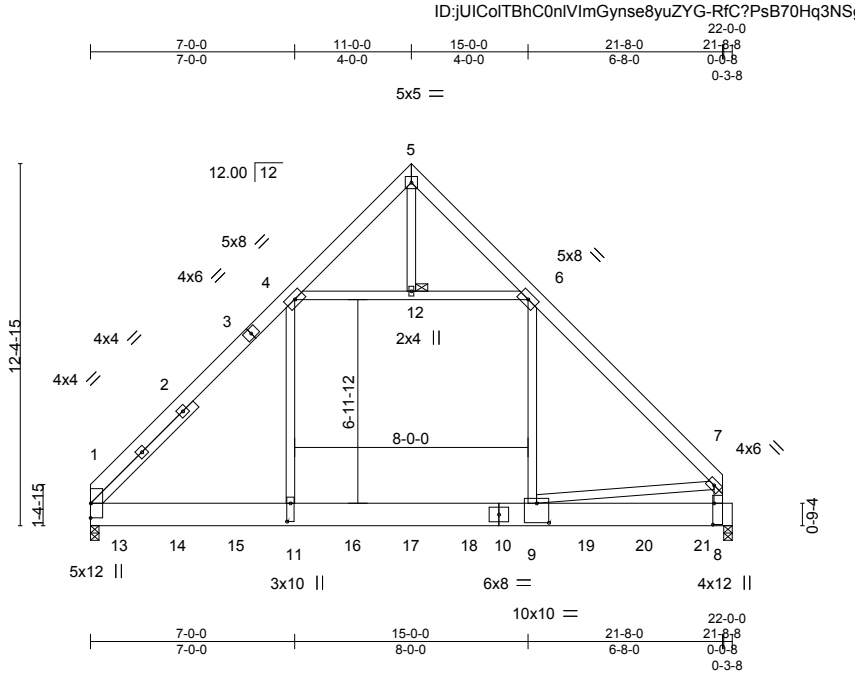


Plate Offsets (X,Y)-- [8:0-8-12,0-0-8], [9:0-5-0,0-8-0], [11:0-7-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	-0.12	9-11	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.16	9-11	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.01	8	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S		Wind(LL)	0.01	9	>999	240	Weight: 647 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.2
SLIDER Left 2x4 SP No.2 4-11-8

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): 12

REACTIONS. (size) 1=0-3-8, 8=0-3-8
Max Horz 1=279(LC 5)
Max Uplift 1=-32(LC 9), 8=-36(LC 8)
Max Grav 1=10803(LC 14), 8=10855(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-4=-10373/143, 4-5=-310/51, 5-6=-439/54, 6-7=-9815/138
BOT CHORD 1-11=-25/6906, 9-11=-24/6922
WEBS 6-9=-69/6670, 4-11=-60/7650, 4-12=-6645/189, 6-12=-6645/189, 7-9=-26/7139, 7-8=-8266/100

NOTES-
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 2 rows staggered at 0-4-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 8-7 2x4 - 1 row at 0-7-0 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=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); Lumber DOL=1.60 plate grip DOL=1.60

April 2,2025

Continued on page 2

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

NOTES-

5) N/A

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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 8.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1829 lb down at 0-10-4, 1826 lb down at 2-10-4, 1826 lb down at 4-10-4, 1826 lb down at 6-10-4, 1826 lb down at 8-10-4, 1826 lb down at 10-10-4, 1826 lb down at 12-10-4, 1826 lb down at 14-10-4, 1826 lb down at 16-10-4, and 1826 lb down at 18-10-4, and 1783 lb down at 20-10-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-5=-60, 5-7=-60, 1-8=-20
   Concentrated Loads (lb)
   Vert: 9=-459(F) 11=-459(F) 13=-462(F) 14=-459(F) 15=-459(F) 16=-459(F) 17=-459(F) 18=-459(F) 19=-459(F) 20=-459(F) 21=-448(F)

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	D1-GE	COMMON SUPPORTED GAB	1	1	I72421085
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:47 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

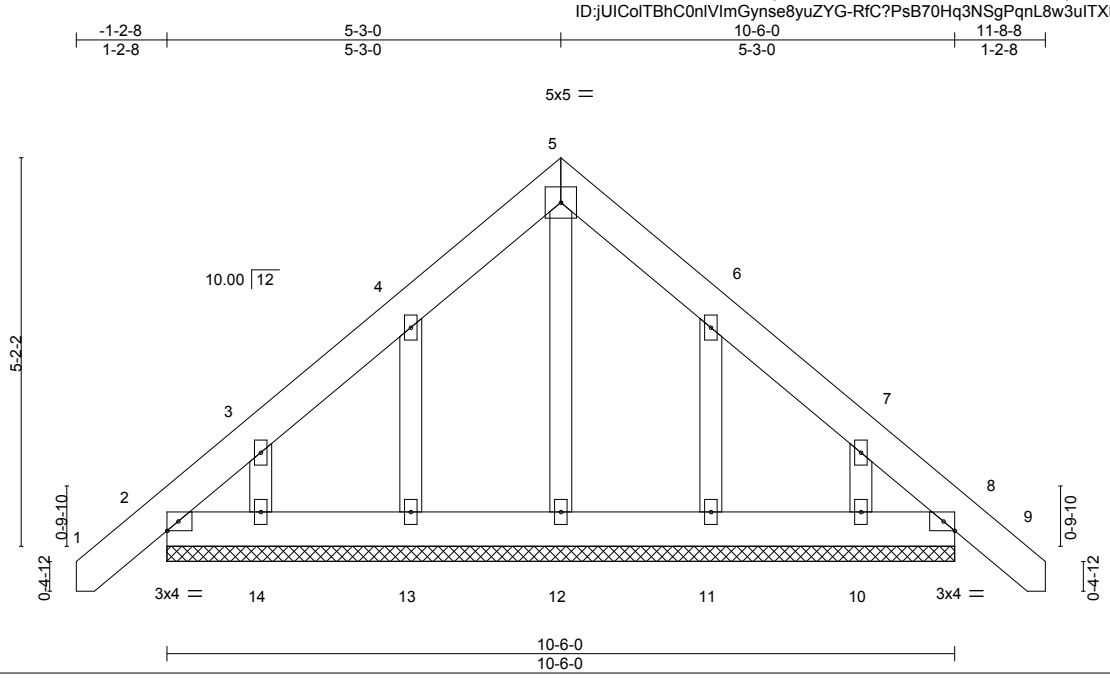


Plate Offsets (X,Y)-- [8:0-1-13,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	-0.00	8	n/r	120	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	8	n/r	120		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 82 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x6 SP No.1
OTHERS 2x4 SP No.2

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

REACTIONS. All bearings 10-6-0.
(lb) - Max Horz 2=-158(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 2, 8 except 13=-112(LC 12), 14=-106(LC 12), 11=-109(LC 13), 10=-103(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 2, 8, 12, 13, 14, 11, 10

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

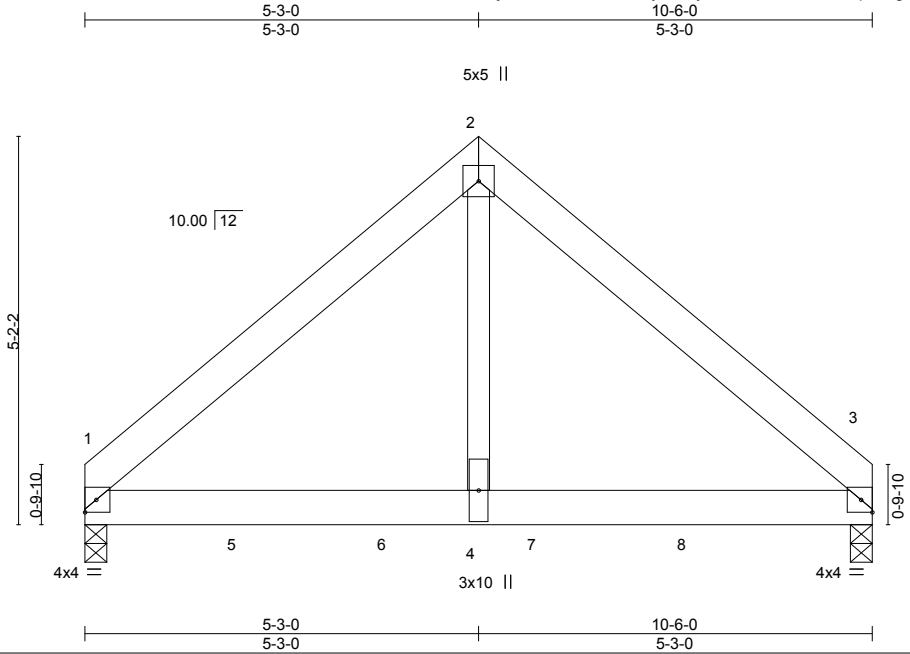
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Corner(3E) -1-1-1 to 3-3-0, Exterior(2N) 3-3-0 to 5-3-0, Corner(3R) 5-3-0 to 9-7-13, Exterior(2N) 9-7-13 to 11-7-1 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8 except (jt=lb) 13=112, 14=106, 11=109, 10=103.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	D2	COMMON GIRDER	1	2	I72421086
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:48 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	-0.04	1-4	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.08	1-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.53	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S		Wind(LL)	0.02	1-4	>999	240	Weight: 129 lb	FT = 20%

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

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

REACTIONS. (size) 1=0-3-8, 3=0-3-8
Max Horz 1=112(LC 28)
Max Uplift 1=-175(LC 8), 3=-236(LC 9)
Max Grav 1=3379(LC 2), 3=4630(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-3547/224, 2-3=-3553/224
BOT CHORD 1-4=-115/2610, 3-4=-115/2610
WEBS 2-4=-168/4354

NOTES-
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 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=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=175, 3=236.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1457 lb down and 85 lb up at 2-0-12, 1457 lb down and 85 lb up at 4-0-12, 1457 lb down and 85 lb up at 6-0-12, and 1457 lb down and 85 lb up at 8-0-12, and 1464 lb down and 78 lb up at 10-4-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-60, 2-3=-60, 1-3=-20
Concentrated Loads (lb)
Vert: 3=-1214(B) 5=-1207(B) 6=-1207(B) 7=-1207(B) 8=-1207(B)

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	G1-SG	GABLE	1	1	I72421087
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:48 2025 Page 1
ID:a?v8YwYZEPnU3AGkeBHSMyz37aZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

-1-2-8 / 1-2-8 | 5-0-0 / 5-0-0 | 10-0-0 / 5-0-0 | 11-2-8 / 1-2-8

Scale = 1:22.7

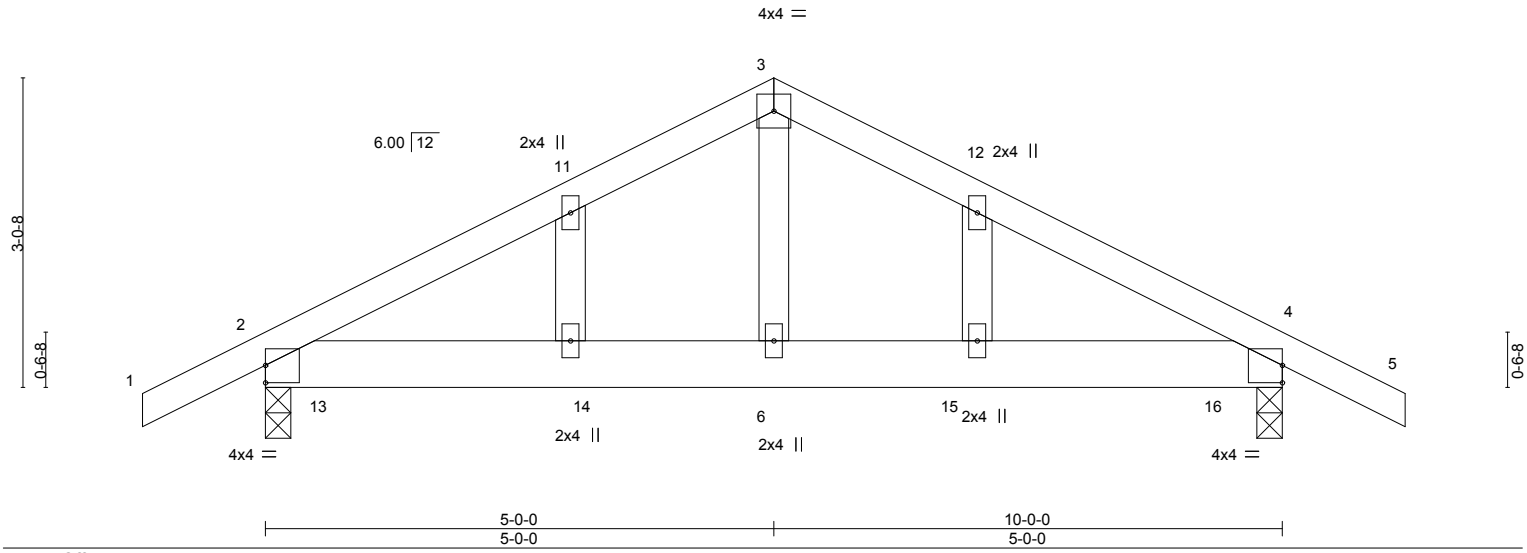


Plate Offsets (X,Y)-- [2:0-0-0,0-2-1], [4:Edge,0-2-1]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	0.03	4-6	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	-0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 52 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 9-1-14 oc bracing.

REACTIONS. (size) 2=0-3-0, 4=0-3-0
Max Horz 2=-63(LC 17)
Max Uplift 2=-121(LC 9), 4=-121(LC 8)
Max Grav 2=470(LC 1), 4=470(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-515/944, 3-4=-515/943
BOT CHORD 2-6=-676/387, 4-6=-676/387
WEBS 3-6=-572/240

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Corner(3E) -1-2-8 to 3-2-5, Exterior(2N) 3-2-5 to 5-0-0, Corner(3R) 5-0-0 to 9-4-13, Exterior(2N) 9-4-13 to 11-2-8 zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=121, 4=121.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	G2	COMMON	4	1	I72421088
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:49 2025 Page 1
ID:a?v8YwYZEPnU3AGkeBHSMyz37aZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

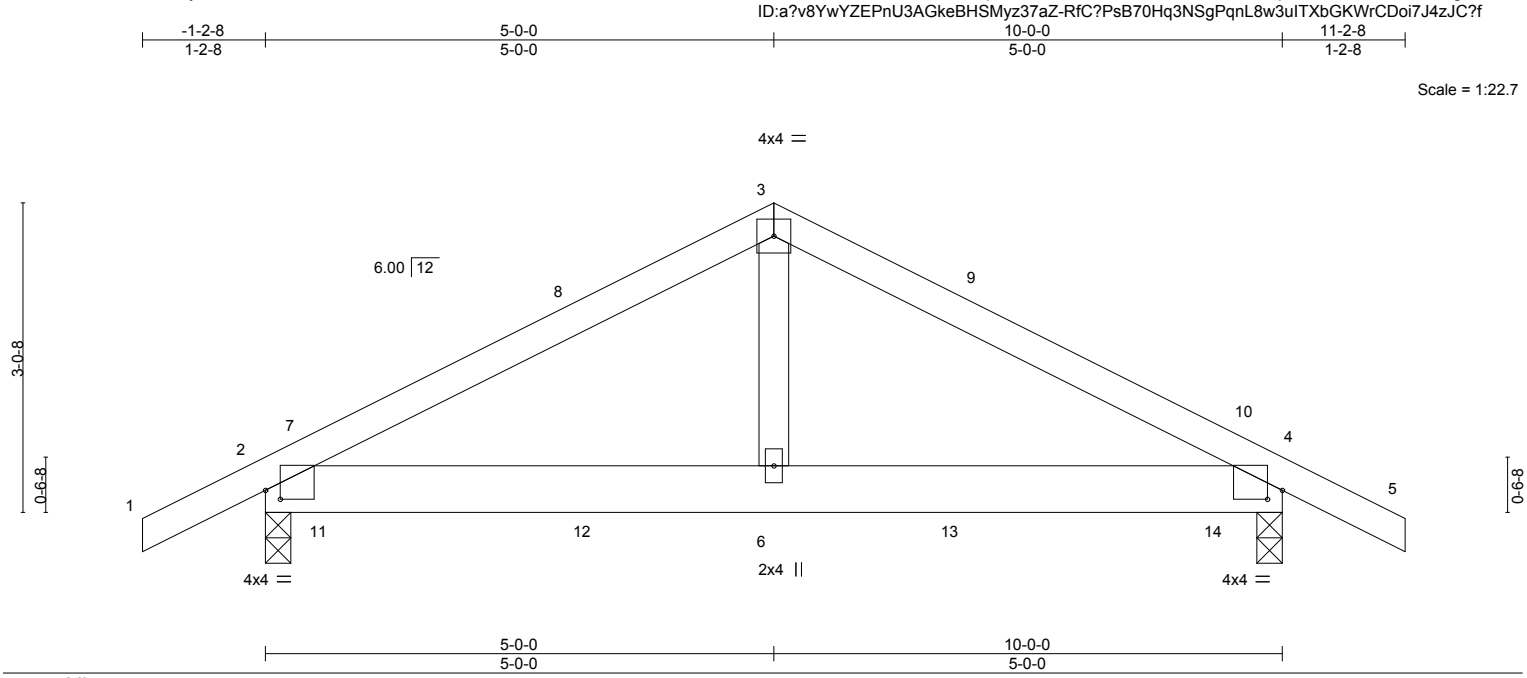


Plate Offsets (X,Y)-- [2:0-1-12,0-1-1], [4:0-1-12,0-1-1]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	-0.01	6	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	-0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S		Wind(LL)	0.03	2-6	>999	240	Weight: 48 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x4 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 9-8-1 oc bracing.

REACTIONS. (size) 2=0-3-0, 4=0-3-0
Max Horz 2=-40(LC 10)
Max Uplift 2=-91(LC 9), 4=-91(LC 8)
Max Grav 2=470(LC 1), 4=470(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-515/826, 3-4=-515/826
BOT CHORD 2-6=-585/387, 4-6=-585/387
WEBS 3-6=-495/240

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-2-8 to 3-2-5, Interior(1) 3-2-5 to 5-0-0, Exterior(2R) 5-0-0 to 9-4-13, Interior(1) 9-4-13 to 11-2-8 zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	P1-GE	GABLE	1	1	I72421089
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:49 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

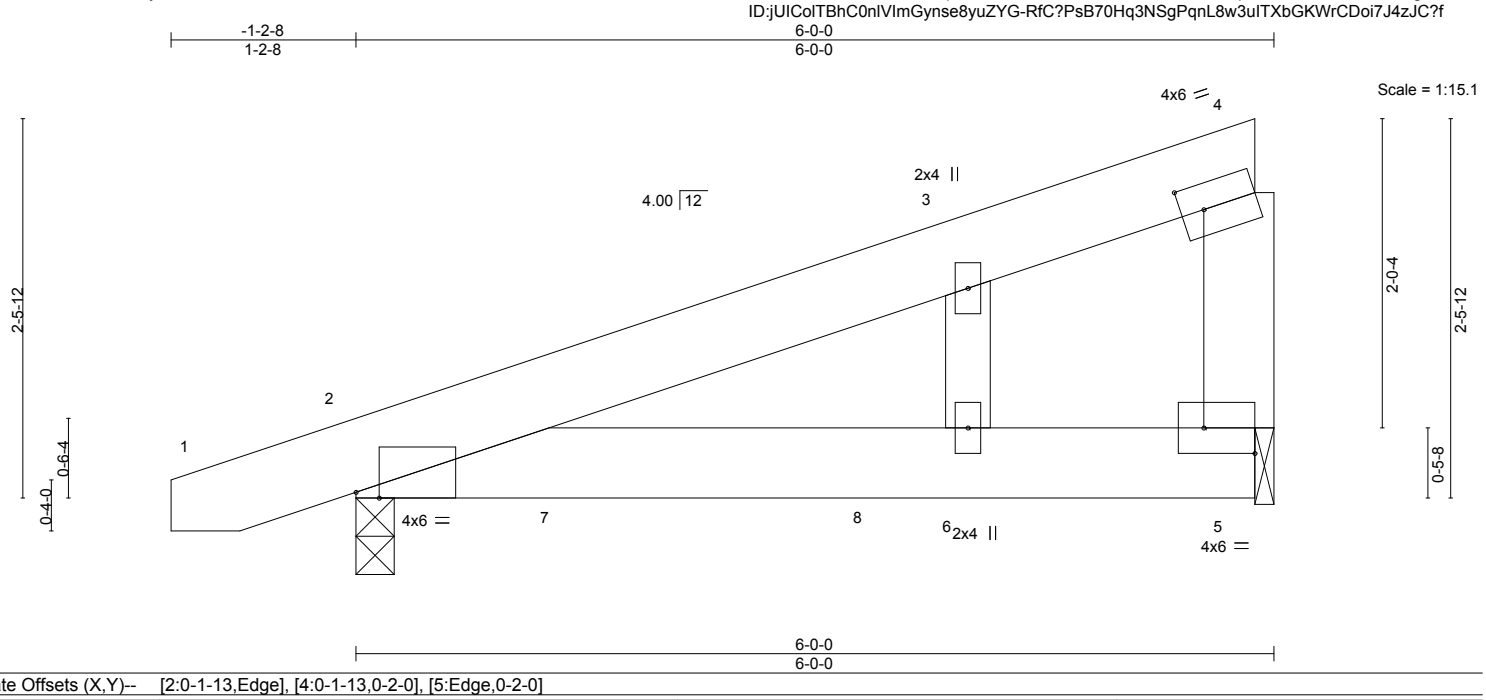


Plate Offsets (X,Y)-- [2:0-1-13,Edge], [4:0-1-13,0-2-0], [5:Edge,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	0.04	2-6	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.02	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2021/TPI2014		Matrix-S							Weight: 36 lb	FT = 20%

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

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.

REACTIONS. (size) 2=0-3-0, 5=0-1-8
Max Horz 2=110(LC 8)
Max Uplift 2=-173(LC 8), 5=-138(LC 8)
Max Grav 2=299(LC 1), 5=219(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 4-5=-99/291
BOT CHORD 2-6=-290/89, 5-6=-290/89

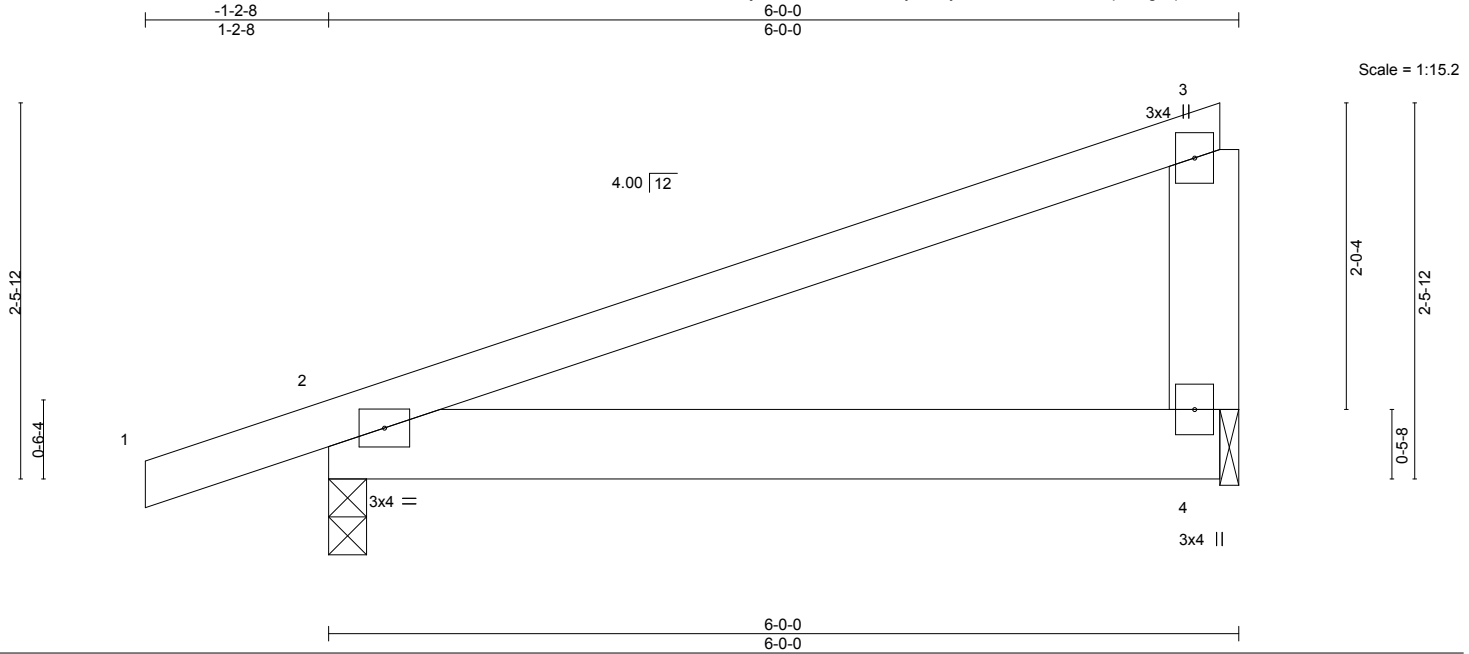
NOTES-
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; Gable Roof; Common Truss; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-11-13 to 3-5-0, Exterior(2N) 3-5-0 to 5-9-4 zone; porch left exposed;C-C for members and forces & 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 studs spaced at 2-0-0 oc.
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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=173, 5=138.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	P2	MONOPITCH	6	1	I72421090
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:49 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.01	2-4	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.03	2-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00		n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-P		Wind(LL)	0.05	2-4	>999	240	Weight: 29 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.1
BOT CHORD 2x6 SP No.1
WEBS 2x6 SP No.1

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.

REACTIONS. (size) 2=0-3-0, 4=0-1-8
Max Horz 2=80(LC 8)
Max Uplift 2=-129(LC 8), 4=-93(LC 8)
Max Grav 2=315(LC 1), 4=216(LC 1)

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

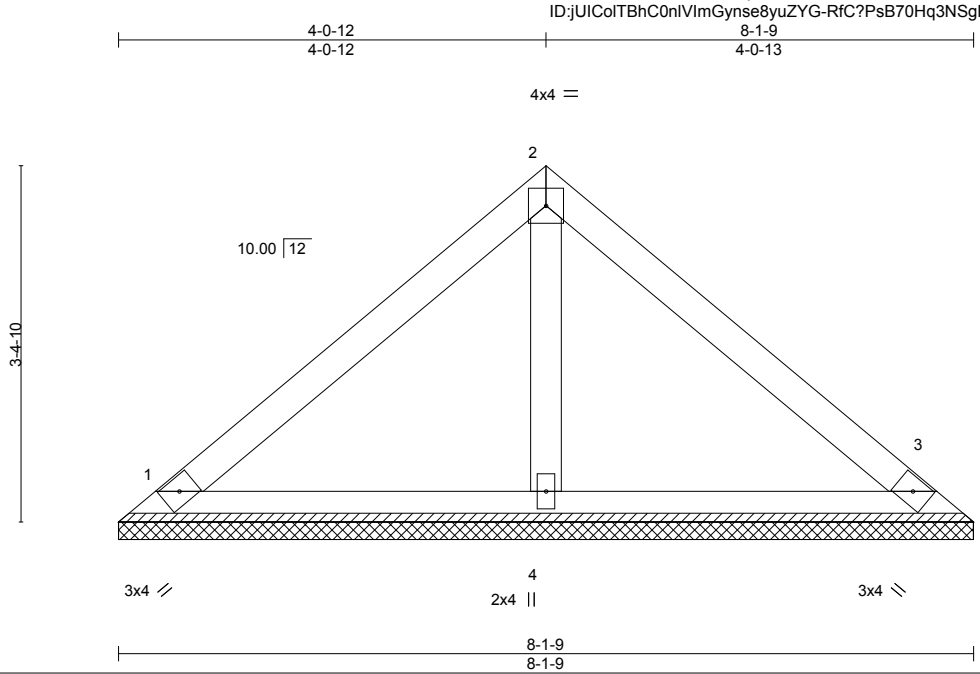
NOTES-
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-2-8 to 3-2-5, Interior(1) 3-2-5 to 5-9-4 zone; porch left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4 except (jt=lb) 2=129.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	VD1	VALLEY	1	1	I72421091
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:50 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 31 lb	FT = 20%

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

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

REACTIONS. (size) 1=8-1-9, 3=8-1-9, 4=8-1-9
Max Horz 1=-73(LC 8)
Max Uplift 1=-26(LC 13), 3=-32(LC 13)
Max Grav 1=169(LC 1), 3=169(LC 1), 4=247(LC 1)

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

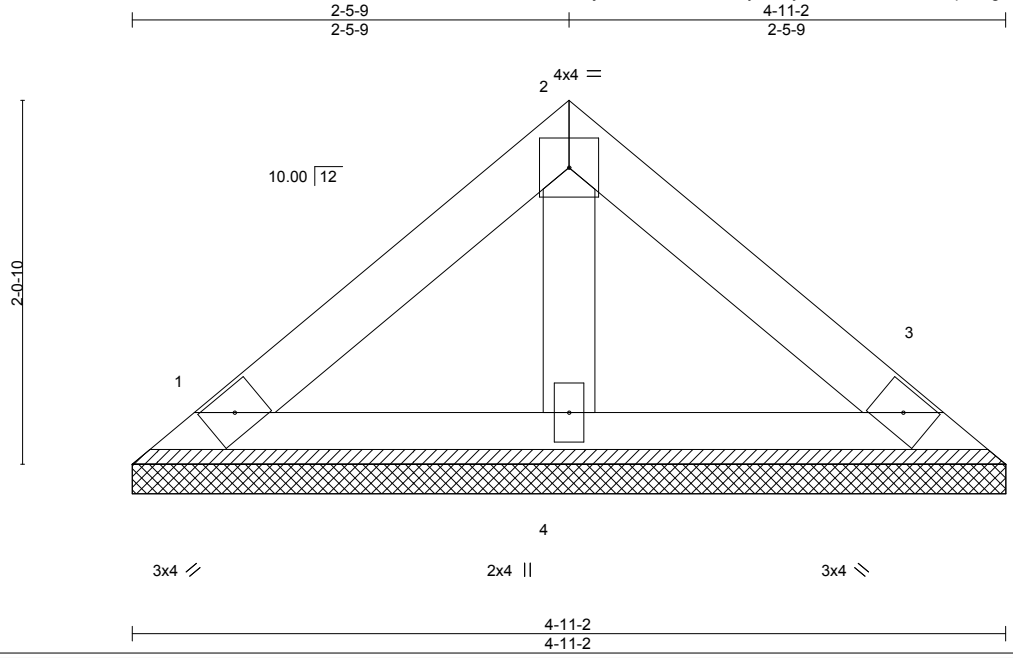
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone;C-C for members and forces & MWFRS for reactions shown; Lumber 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
6) Non Standard bearing condition. Review required.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5875	VD2	VALLEY	1	1	I72421092
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:26:50 2025 Page 1
ID:jUICoITBhC0nlVlmGynse8yuZYG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 18 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-11-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=4-11-2, 3=4-11-2, 4=4-11-2
Max Horz 1=-41(LC 10)
Max Uplift 1=-14(LC 13), 3=-18(LC 13)
Max Grav 1=95(LC 1), 3=95(LC 1), 4=139(LC 1)

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

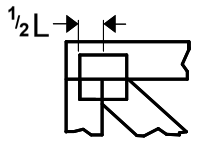
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone;C-C for members and forces & MWFRS for reactions shown; Lumber 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 30.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.

April 2,2025

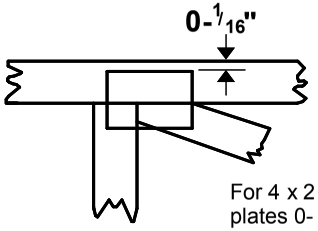
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

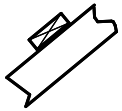
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

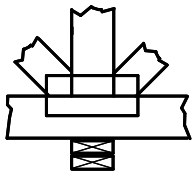
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

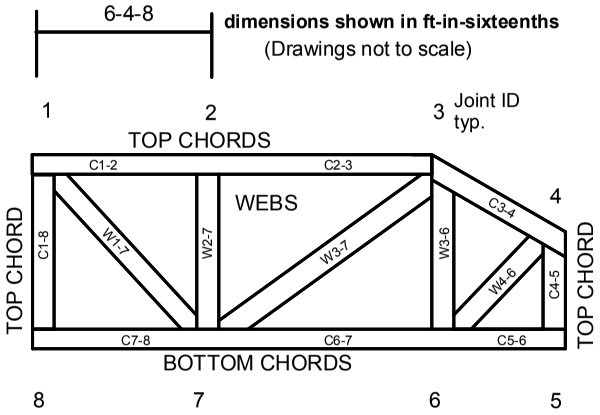


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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

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

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

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.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: J1024-5876
Lot 15 Magnolia Hills

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

Pages or sheets covered by this seal: I72421093 thru I72421108

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844

April 2,2025

Gilbert, Eric

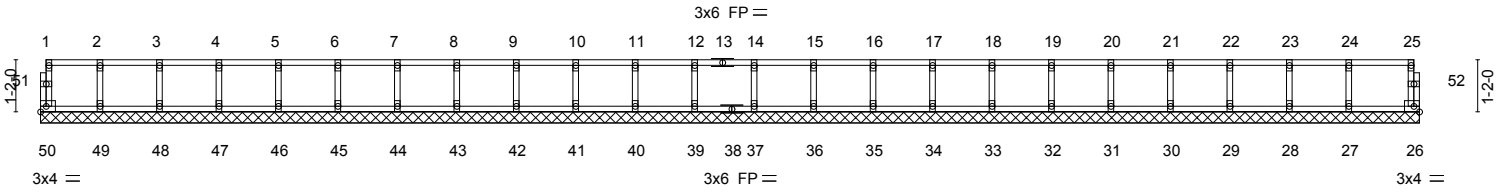
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	ET1	GABLE	1	1	I72421093
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:10 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

0-1-8 0-1-8

Scale = 1:51.7



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	13-4-0	14-8-0	16-0-0	17-4-0	18-8-0	20-0-0	21-4-0	22-8-0	24-0-0	25-4-0	26-8-0	28-0-0	29-4-0	30-11-0
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-7-0

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	26	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 127 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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.

REACTIONS. All bearings 30-11-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 50, 26, 49, 48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 37, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27

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

NOTES-
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

April 2,2025

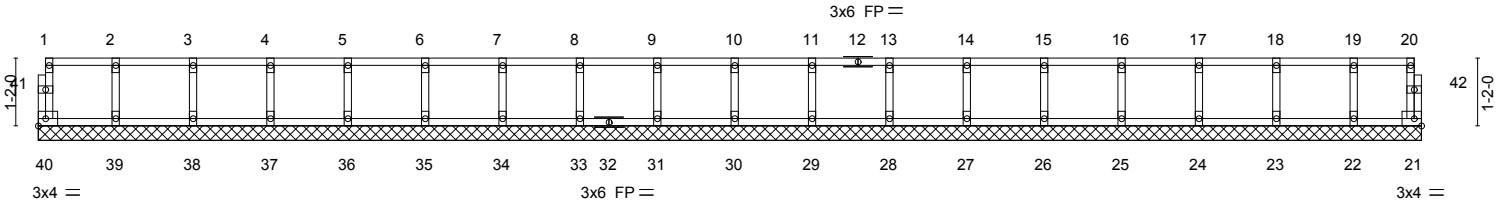
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	ET2	GABLE	1	1	I72421094
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:11 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

0-1-8 0-1-8

Scale = 1:39.7



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	9-4-0	10-8-0	12-0-0	13-4-0	14-8-0	16-0-0	17-4-0	18-8-0	20-0-0	21-4-0	22-8-0	23-10-0
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-2-0

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	21	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 99 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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.

REACTIONS. All bearings 23-10-0.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 40, 21, 39, 38, 37, 36, 35, 34, 33, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22

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

NOTES-
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	ET3	GABLE	1	1	I72421095
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:11 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

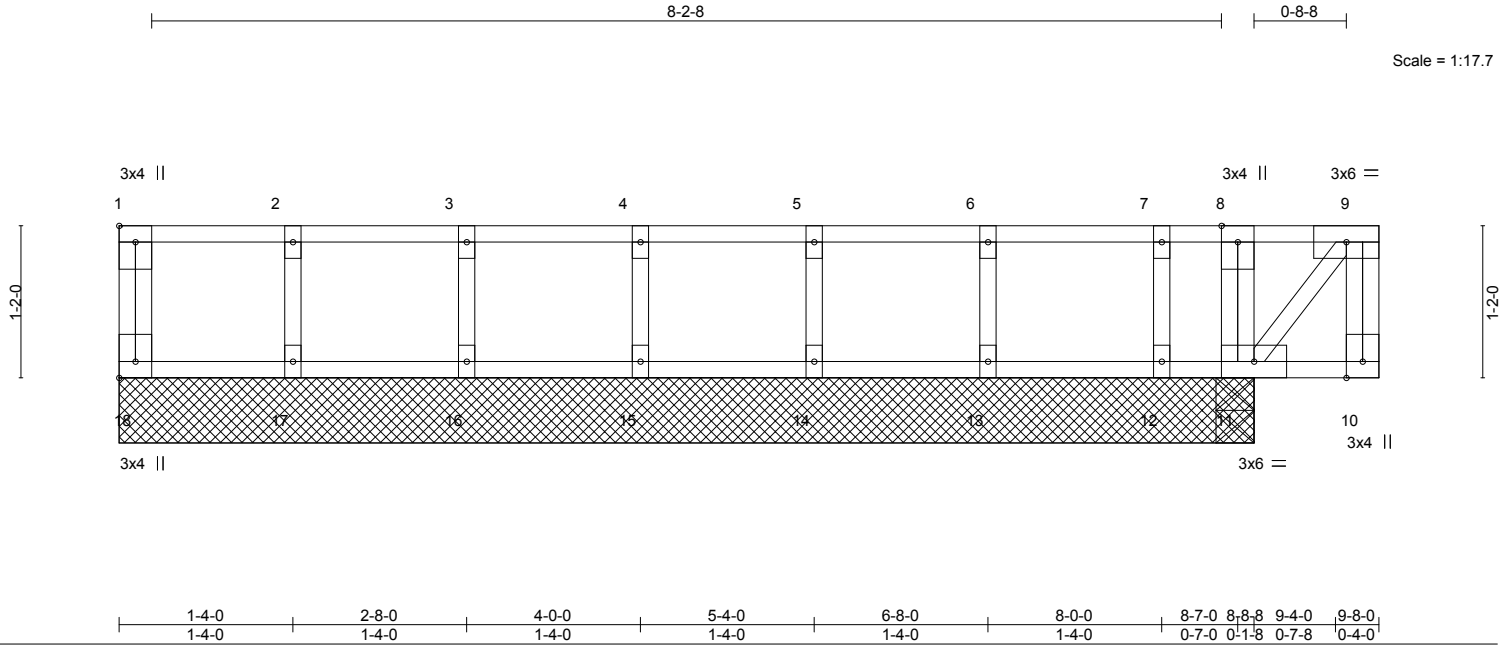


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [18:Edge,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.26	Vert(LL)	0.00	12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.22	Vert(CT)	0.00	12	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.05	Horz(CT)	-0.00	11	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 47 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING-
TOP CHORD Structural wood sheathing directly applied or 9-8-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 8-8-8.
(lb) - Max Uplift All uplift 100 lb or less at joint(s) except 12=-190(LC 4)
Max Grav All reactions 250 lb or less at joint(s) 18, 17, 16, 15, 14, 13 except 11=441(LC 1), 11=441(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 8-11=-294/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 190 lb uplift at joint 12.
7) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
8) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 10-18=-10, 1-8=-100, 8-9=-220

April 2,2025

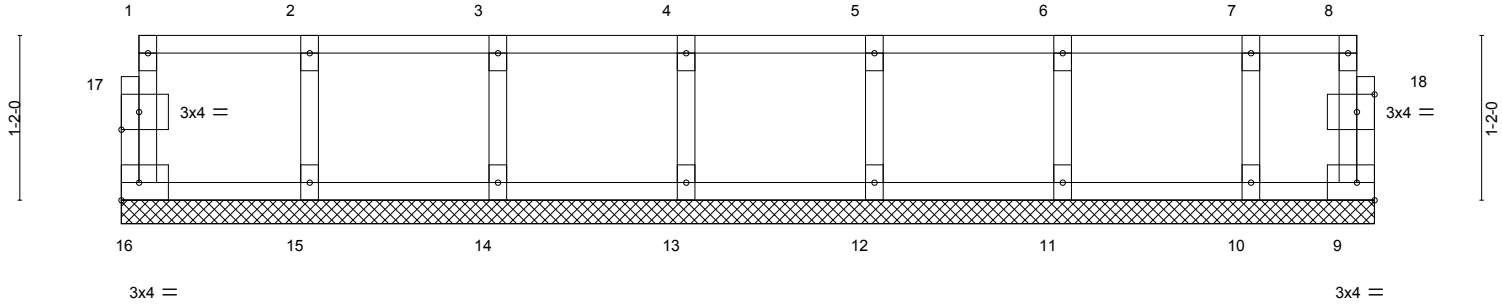
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	ET4	GABLE	1	1	I72421096
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:11 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

0-1-8 0-1-8

Scale = 1:16.3



1-4-0	2-8-0	4-0-0	5-4-0	6-8-0	8-0-0	8-10-8
1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	1-4-0	0-10-8

Plate Offsets (X,Y)-- [17:0-1-8,0-1-8], [18:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 39 lb	FT = 20%F, 11%E

LUMBER-

TOP CHORD	2x4 SP No.1(flat)
BOT CHORD	2x4 SP No.1(flat)
WEBS	2x4 SP No.3(flat)
OTHERS	2x4 SP No.3(flat)

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.

REACTIONS. All bearings 8-10-8.
(lb) - Max Grav All reactions 250 lb or less at joint(s) 16, 9, 15, 14, 13, 12, 11, 10

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

NOTES-
1) All plates are 1.5x3 MT20 unless otherwise indicated.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F1	Floor	6	1	I72421097
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:12 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

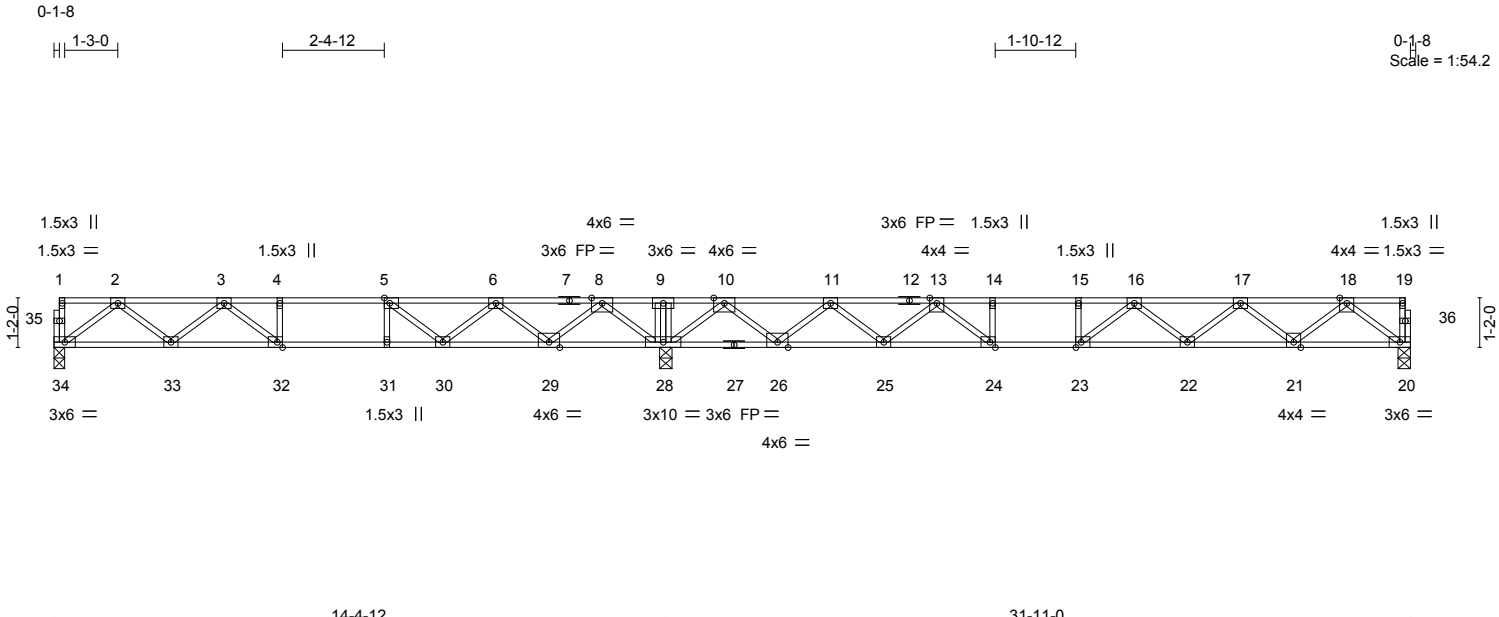


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [23:0-1-8,Edge], [24:0-1-8,Edge], [32:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.80	Vert(LL)	-0.24	22-23	>858	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.33	22-23	>632	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.05	20	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 157 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 34=0-3-0, 28=0-3-8, 20=0-3-8
Max Grav 34=667(LC 3), 28=2085(LC 1), 20=846(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1302/0, 3-4=-1928/111, 4-5=-1928/111, 5-6=-1510/467, 6-8=-413/1022, 8-9=0/2607, 9-10=0/2607, 10-11=-539/669, 11-13=-2039/130, 13-14=-3079/0, 14-15=-3079/0, 15-16=-3079/0, 16-17=-2782/0, 17-18=-1749/0
BOT CHORD 33-34=0/824, 32-33=0/1736, 31-32=-111/1928, 30-31=-111/1928, 29-30=-737/1111, 28-29=-1475/0, 26-28=-1179/0, 25-26=-363/1455, 24-25=0/2624, 23-24=0/3079, 22-23=0/3080, 21-22=0/2421, 20-21=0/1051
WEBS 2-34=-1031/0, 2-33=0/622, 3-33=-565/55, 8-28=-1524/0, 8-29=0/1065, 10-28=-1764/0, 10-26=0/1316, 11-26=-1268/0, 11-25=0/830, 13-25=-850/0, 13-24=0/928, 14-24=-405/0, 18-20=-1315/0, 6-29=-1019/0, 6-30=0/675, 5-30=-864/0, 18-21=0/908, 17-21=-876/0, 17-22=0/469, 16-22=-389/12, 16-23=-394/235

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

April 2,2025

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F2	Floor	3	1	I72421098
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:13 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

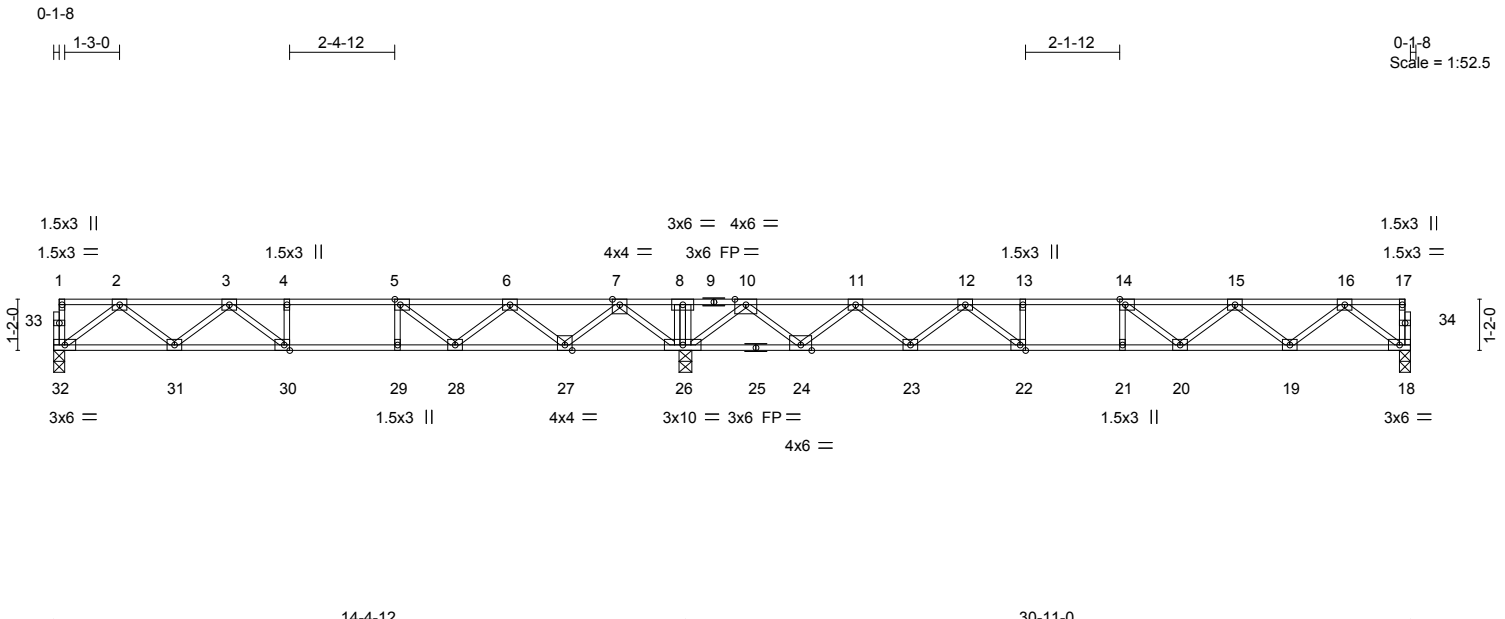


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [14:0-1-8,Edge], [22:0-1-8,Edge], [30:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.64	Vert(LL)	-0.18	21	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.88	Vert(CT)	-0.24	21	>829	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.05	18	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 152 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 32=0-3-0, 26=0-3-8, 18=0-3-0
Max Grav 32=672(LC 3), 26=2015(LC 1), 18=795(LC 4)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1313/0, 3-4=-1956/36, 4-5=-1956/36, 5-6=-1548/363, 6-7=-462/889, 7-8=0/2427, 8-10=0/2427, 10-11=-551/643, 11-12=-1918/136, 12-13=-2754/0, 13-14=-2754/0, 14-15=-2516/0, 15-16=-1624/0
BOT CHORD 31-32=0/830, 30-31=0/1753, 29-30=-36/1956, 28-29=-36/1956, 27-28=-616/1155, 26-27=-1313/0, 24-26=-1115/0, 23-24=-353/1398, 22-23=0/2425, 21-22=0/2754, 20-21=0/2754, 19-20=0/2235, 18-19=0/983
WEBS 2-32=-1039/0, 2-31=0/629, 3-31=-573/33, 3-30=-205/259, 7-26=-1501/0, 7-27=0/1046, 6-27=-1001/0, 6-28=0/650, 5-28=-826/0, 10-26=-1668/0, 10-24=0/1226, 11-24=-1181/0, 11-23=0/749, 12-23=-756/0, 12-22=0/799, 13-22=-330/0, 16-18=-1230/0, 16-19=0/835, 15-19=-795/0, 15-20=-1/365, 14-20=-336/121

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F3	Floor	10	1	I72421099
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:13 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

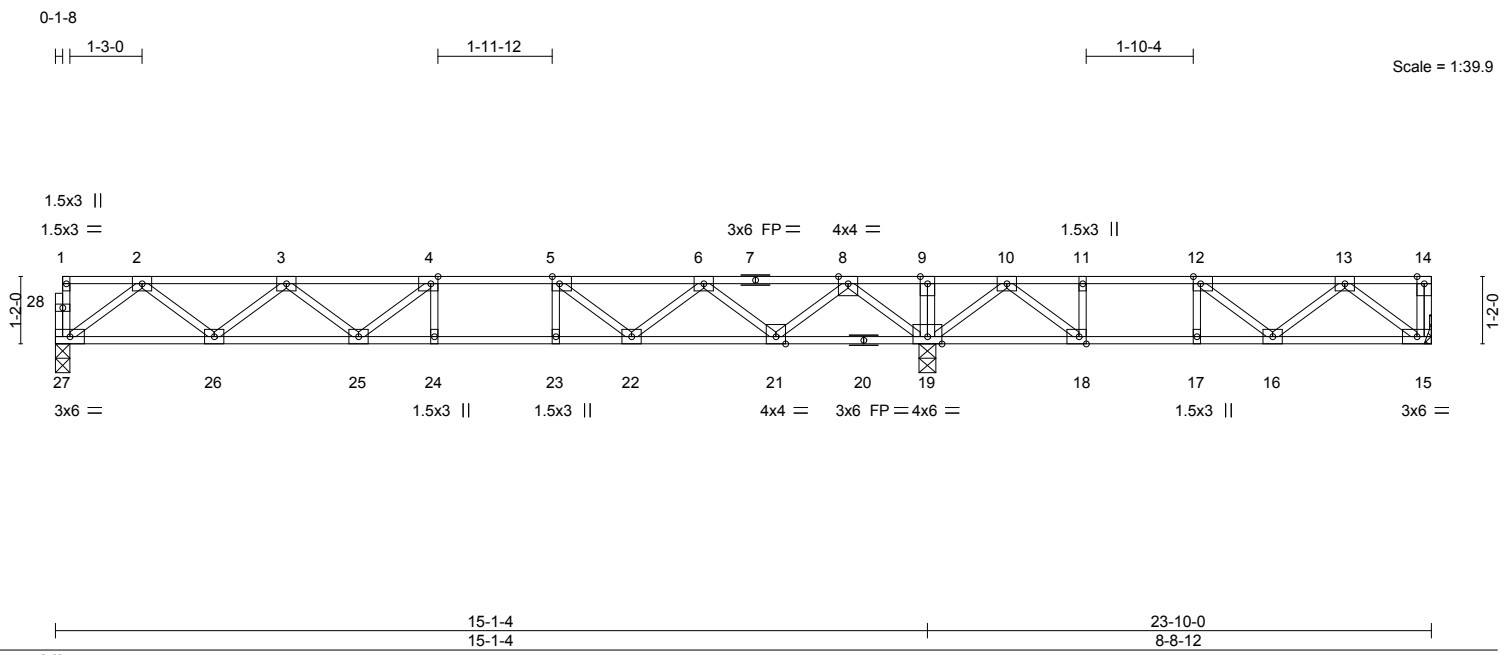


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge], [12:0-1-8,Edge], [18:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.66	Vert(LL)	-0.15	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.89	Vert(CT)	-0.21	24-25	>861	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.47	Horz(CT)	0.04	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 119 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 15=Mechanical, 27=0-3-0, 19=0-3-8
Max Grav 15=1846(LC 4), 27=762(LC 10), 19=1476(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 14-15=-1426/0, 2-3=-1542/0, 3-4=-2351/0, 4-5=-2532/0, 5-6=-2102/0, 6-8=-1024/0, 8-9=0/1105, 9-10=0/1105, 10-11=-805/300, 11-12=-805/300, 12-13=-721/79
BOT CHORD 26-27=0/938, 25-26=0/2116, 24-25=0/2532, 23-24=0/2532, 22-23=0/2532, 21-22=0/1715, 19-21=-8/283, 18-19=-670/345, 17-18=-300/805, 16-17=-300/805, 15-16=0/544
WEBS 2-27=-1174/0, 2-26=0/786, 3-26=-747/0, 3-25=0/351, 4-25=-392/14, 8-19=-1376/0, 8-21=0/991, 6-21=-934/0, 6-22=0/546, 5-22=-652/0, 10-19=-841/0, 10-18=0/828, 13-15=-682/0, 12-16=-107/282, 11-18=-358/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 15-27=-10, 1-14=-100
Concentrated Loads (lb)
Vert: 14=-1400

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F4	Floor	1	1	I72421100
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:13 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

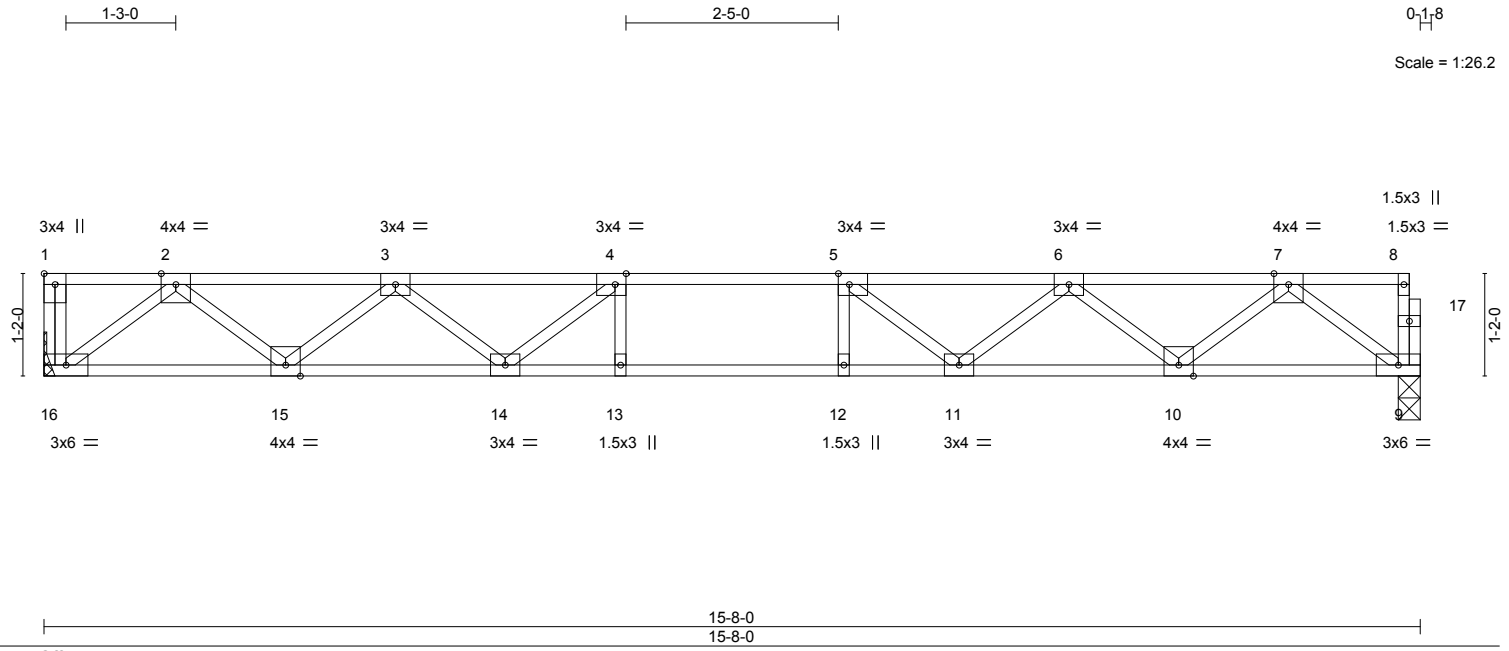


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [4:0-1-8,Edge], [5:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.46	Vert(LL)	-0.19	13-14	>956	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.85	Vert(CT)	-0.25	13-14	>728	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.05	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 77 lb	FT = 20%F, 11%E

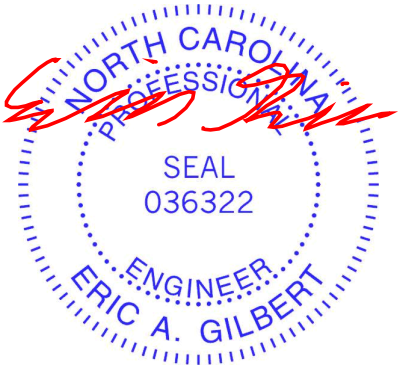
LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 16=Mechanical, 9=0-3-0
Max Grav 16=848(LC 1), 9=842(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1741/0, 3-4=-2748/0, 4-5=-3091/0, 5-6=-2748/0, 6-7=-1741/0
BOT CHORD 15-16=0/1047, 14-15=0/2401, 13-14=0/3091, 12-13=0/3091, 11-12=0/3091, 10-11=0/2401, 9-10=0/1047
WEBS 2-16=-1314/0, 2-15=0/903, 3-15=-858/0, 3-14=0/513, 7-9=-1310/0, 7-10=0/904, 6-10=-859/0, 6-11=0/513, 5-11=-640/0, 4-14=-640/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.



April 2,2025

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F5	Floor	2	1	I72421101
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:14 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

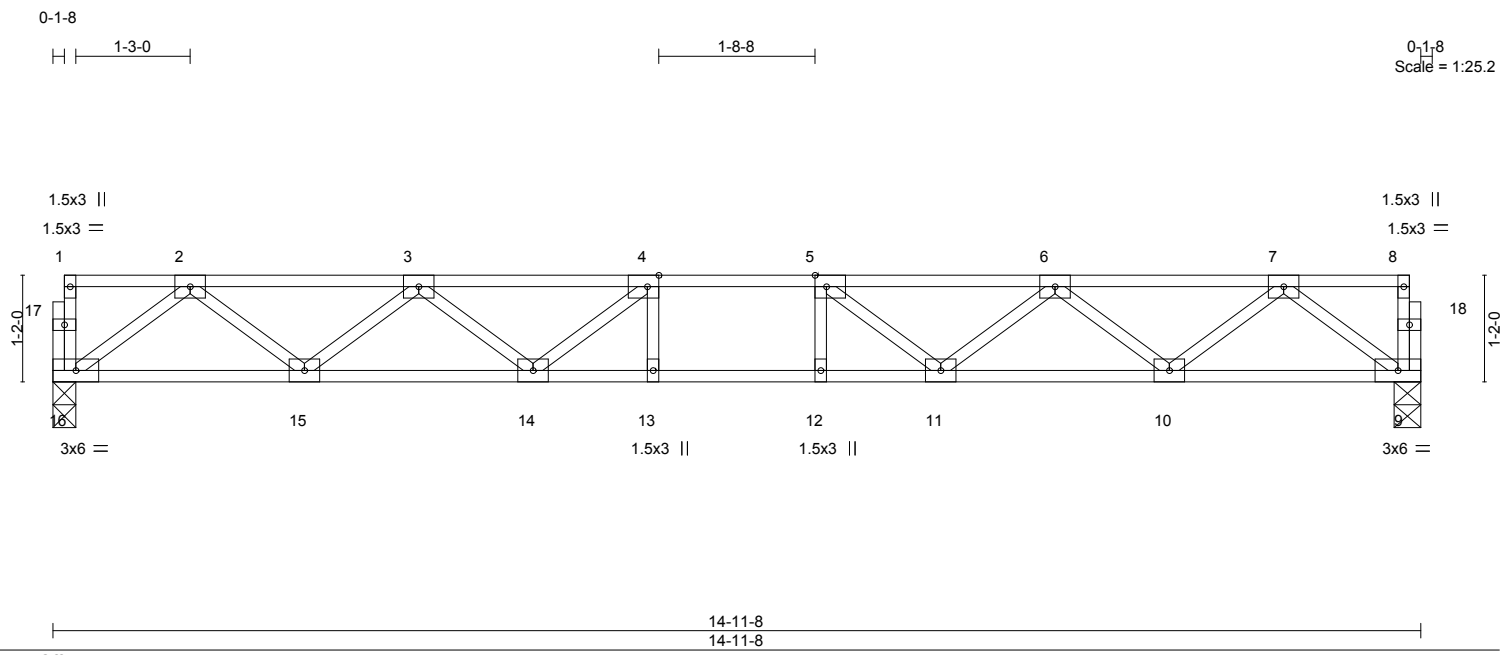


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.34	Vert(LL)	-0.14	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.70	Vert(CT)	-0.20	12-13	>901	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.40	Horz(CT)	0.04	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 75 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 16=0-3-0, 9=0-3-8
Max Grav 16=803(LC 1), 9=803(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1644/0, 3-4=-2552/0, 4-5=-2836/0, 5-6=-2552/0, 6-7=-1644/0
BOT CHORD 15-16=0/994, 14-15=0/2260, 13-14=0/2836, 12-13=0/2836, 11-12=0/2836, 10-11=0/2260, 9-10=0/994
WEBS 2-16=-1244/0, 2-15=0/847, 3-15=-802/0, 3-14=0/439, 7-9=-1244/0, 7-10=0/847, 6-10=-802/0, 6-11=0/439, 5-11=-533/0, 4-14=-533/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F6	Floor	2	1	I72421102
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:14 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

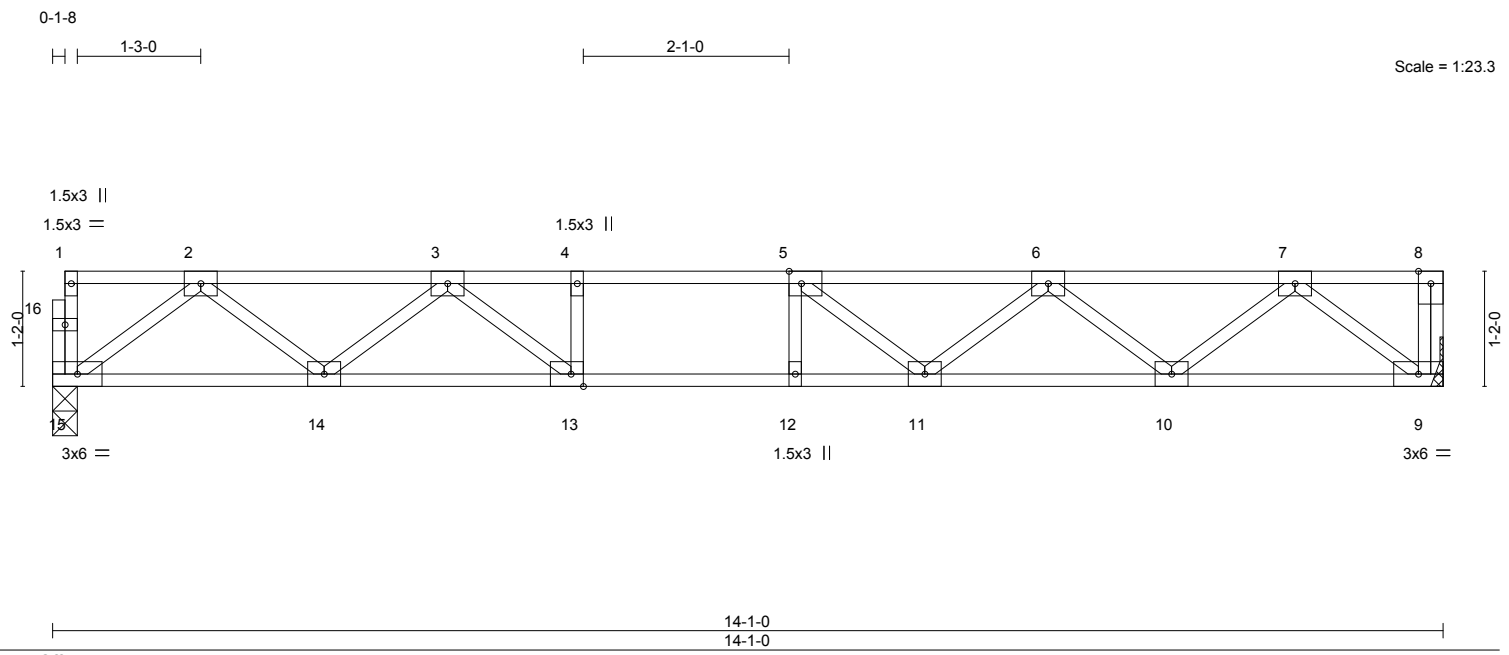


Plate Offsets (X,Y)-- [5:0-1-8,Edge], [13:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	-0.16	11-12	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.81	Vert(CT)	-0.22	11-12	>772	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.37	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 70 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 15=0-3-0, 9=Mechanical
Max Grav 15=755(LC 1), 9=761(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1505/0, 3-4=-2467/0, 4-5=-2467/0, 5-6=-2316/0, 6-7=-1525/0
BOT CHORD 14-15=0/935, 13-14=0/2068, 12-13=0/2467, 11-12=0/2467, 10-11=0/2092, 9-10=0/928
WEBS 2-15=-1171/0, 2-14=0/742, 3-14=-733/0, 3-13=0/690, 7-9=-1165/0, 7-10=0/776, 6-10=-739/0, 6-11=0/374, 5-11=-406/31, 4-13=-289/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	F7	Floor	2	1	I72421103
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:14 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

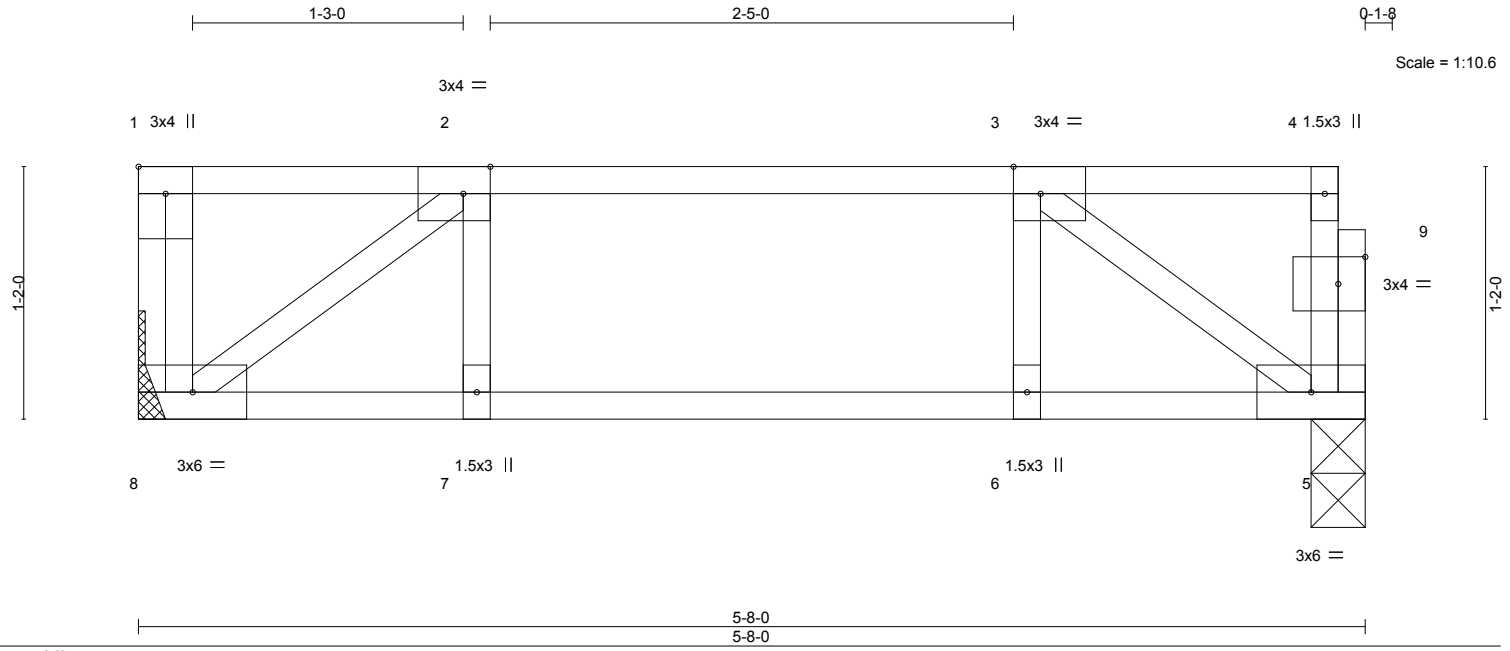


Plate Offsets (X,Y)-- [1:Edge,0-1-8], [2:0-1-8,Edge], [3:0-1-8,Edge], [9:0-1-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.21	Vert(LL)	-0.01	7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.12	Vert(CT)	-0.01	7	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 29 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 8=Mechanical, 5=0-3-0
Max Grav 8=298(LC 1), 5=292(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-347/0
BOT CHORD 7-8=0/347, 6-7=0/347, 5-6=0/347
WEBS 2-8=-429/0, 3-5=-426/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	FG1	Floor	1	1	I72421104
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:15 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

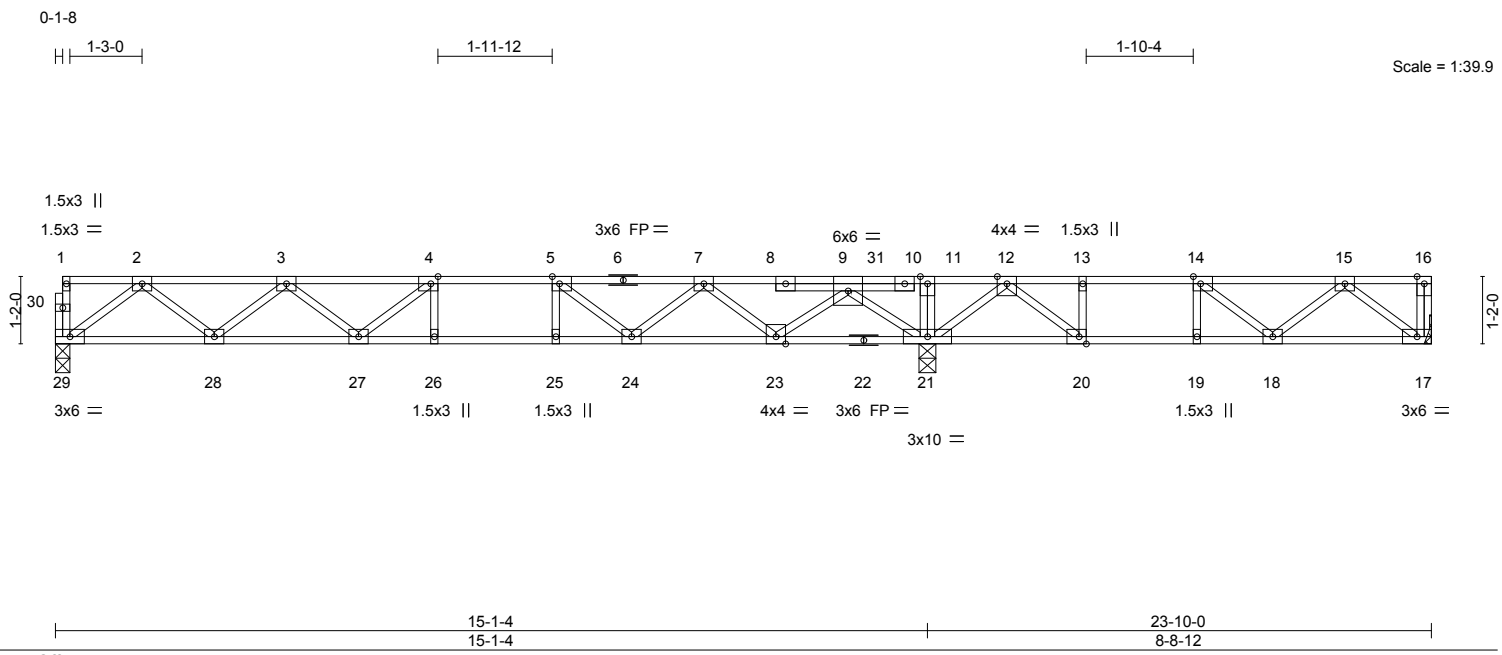


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge], [14:0-1-8,Edge], [20:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.84	Vert(LL)	-0.15	26-27	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.21	26-27	>860	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.52	Horz(CT)	0.04	21	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 122 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 17=Mechanical, 29=0-3-0, 21=0-3-8
Max Grav 17=1803(LC 4), 29=789(LC 10), 21=2349(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 16-17=-1421/0, 2-3=-1610/0, 3-4=-2485/0, 4-5=-2730/0, 5-7=-2350/0, 7-9=-1398/0, 9-11=0/1413, 11-12=0/1393, 12-13=-607/486, 13-14=-607/486, 14-15=-613/181
BOT CHORD 28-29=0/975, 27-28=0/2213, 26-27=0/2730, 25-26=0/2730, 24-25=0/2730, 23-24=0/1988, 21-23=0/704, 20-21=-953/43, 19-20=-486/607, 18-19=-486/607, 17-18=-28/496
WEBS 11-21=-594/0, 2-29=-1220/0, 2-28=0/827, 3-28=-784/0, 3-27=0/399, 4-27=-471/0, 9-21=-2210/0, 9-23=0/906, 7-23=-817/0, 7-24=0/514, 5-24=-577/0, 15-17=-622/36, 14-18=0/390, 12-21=-842/0, 12-20=0/952, 13-20=-410/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Refer to girder(s) for truss to truss connections.
5) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
6) CAUTION, Do not erect truss backwards.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 936 lb down at 14-2-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
8) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 17-29=-10, 1-16=-100
Concentrated Loads (lb)
Vert: 16=-1400 31=-861(F)

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	FG2	FLOOR	1	1	I72421105
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:15 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

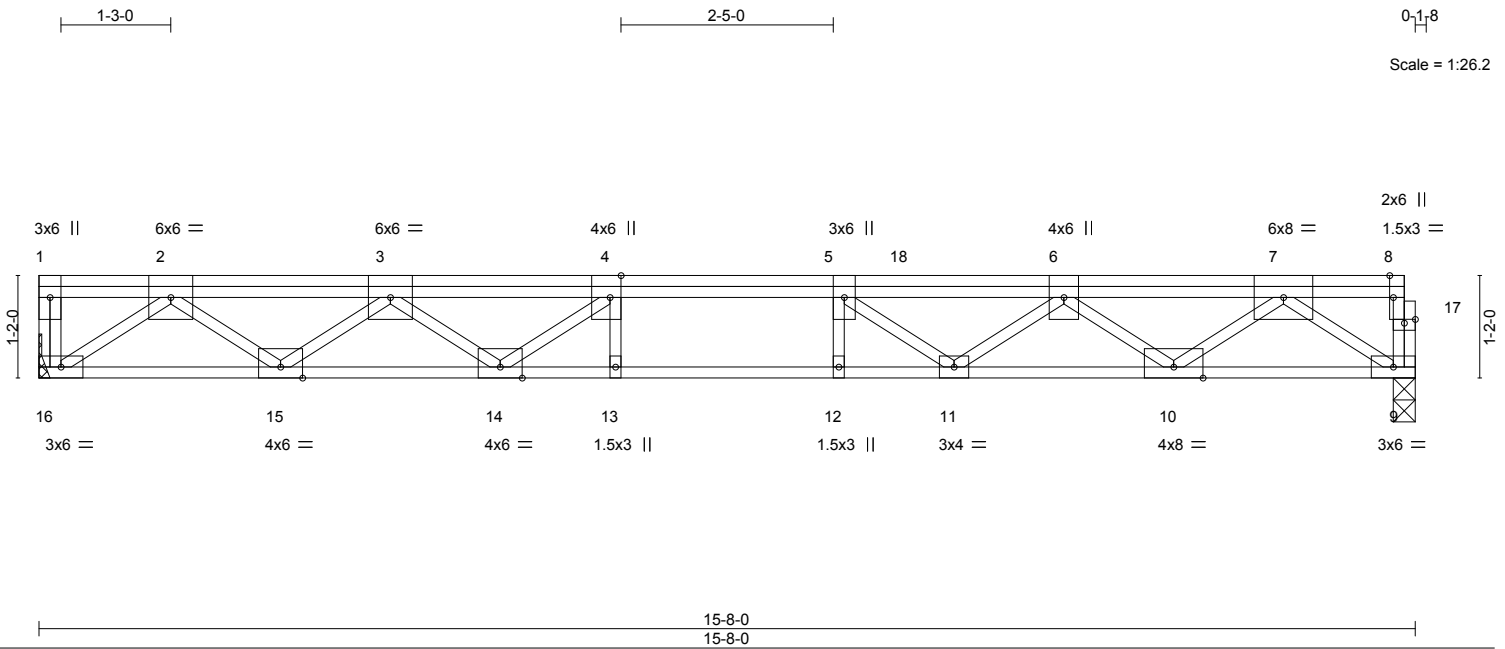


Plate Offsets (X,Y)-- [4:0-3-0,Edge], [8:0-3-0,Edge], [17:0-1-8,0-0-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.71	Vert(LL)	-0.24	12	>760	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.93	Vert(CT)	-0.34	12	>545	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.86	Horz(CT)	0.06	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 99 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E(flat)
BOT CHORD 2x4 SP 2400F 2.0E(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 16=Mechanical, 9=0-3-0
Max Grav 16=1114(LC 1), 9=1297(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2517/0, 3-4=-4365/0, 4-5=-5379/0, 5-6=-5004/0, 6-7=-3095/0
BOT CHORD 15-16=0/1492, 14-15=0/3494, 13-14=0/5379, 12-13=0/5379, 11-12=0/5379, 10-11=0/4498, 9-10=0/1670
WEBS 2-16=-1832/0, 2-15=0/1302, 3-15=-1241/0, 3-14=0/1217, 4-14=-1435/0, 7-9=-2043/0, 7-10=0/1809, 6-10=-1782/0, 6-11=0/771, 5-11=-640/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.
6) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 791 lb down at 9-10-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
7) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 9-16=-10, 1-8=-100
Concentrated Loads (lb)
Vert: 18=-721(B)

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	FG3	Floor	1	1	I72421106
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:16 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

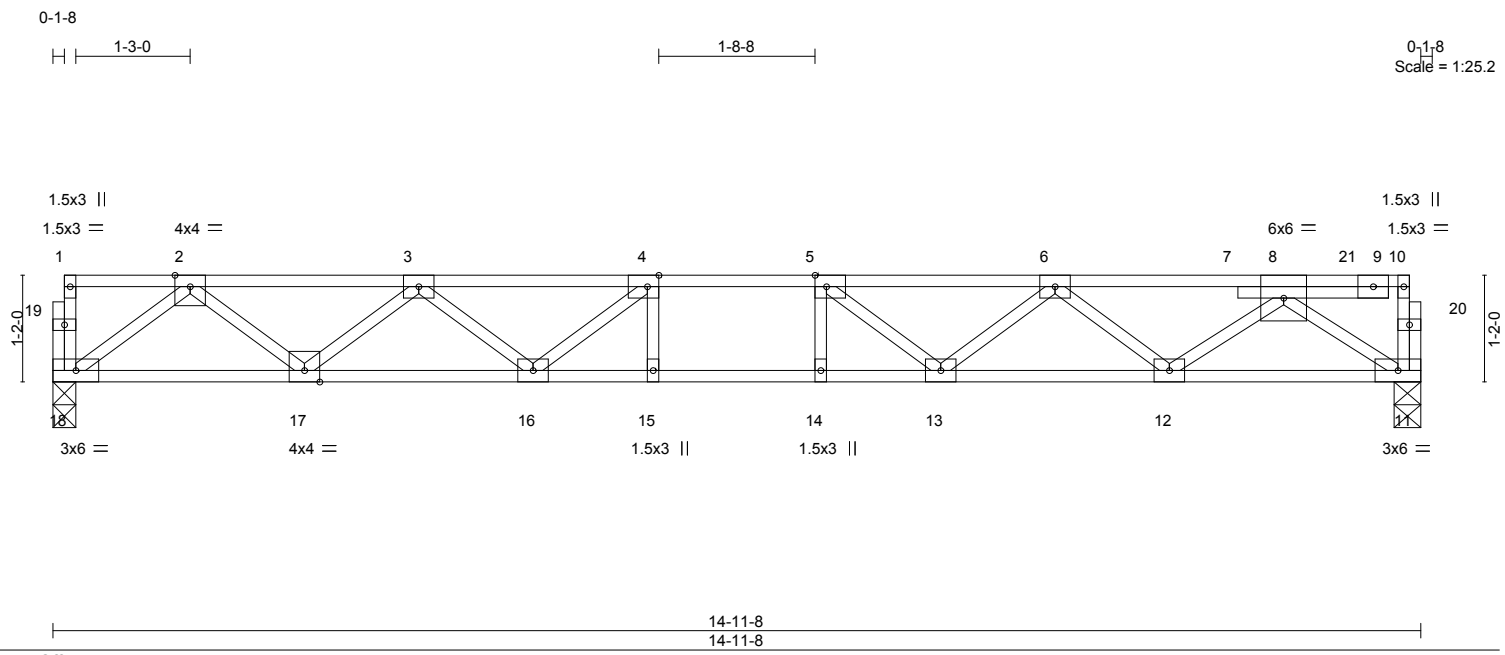


Plate Offsets (X,Y)-- [4:0-1-8,Edge], [5:0-1-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.56	Vert(LL)	-0.16	14	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.94	Vert(CT)	-0.23	14	>779	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.43	Horz(CT)	0.05	11	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 77 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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.

REACTIONS. (size) 18=0-3-0, 11=0-3-8
Max Grav 18=839(LC 1), 11=1650(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 10-11=-597/0, 2-3=-1735/0, 3-4=-2731/0, 4-5=-3093/0, 5-6=-2878/0, 6-8=-2095/0
BOT CHORD 17-18=0/1043, 16-17=0/2390, 15-16=0/3093, 14-15=0/3093, 13-14=0/3093, 12-13=0/2623, 11-12=0/1497
WEBS 2-18=-1306/0, 2-17=0/901, 3-17=-852/0, 3-16=0/502, 4-16=-633/0, 8-11=-1793/0, 8-12=0/757, 6-12=-690/0, 6-13=0/383, 5-13=-437/41

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x4 MT20 unless otherwise indicated.
3) Plates checked for a plus or minus 1 degree rotation about its center.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 946 lb down at 14-2-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
6) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 11-18=-10, 1-10=-100
Concentrated Loads (lb)
Vert: 21=-884(B)

April 2,2025

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	FG4	FLOOR GIRDER	1	1	I72421107
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:16 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

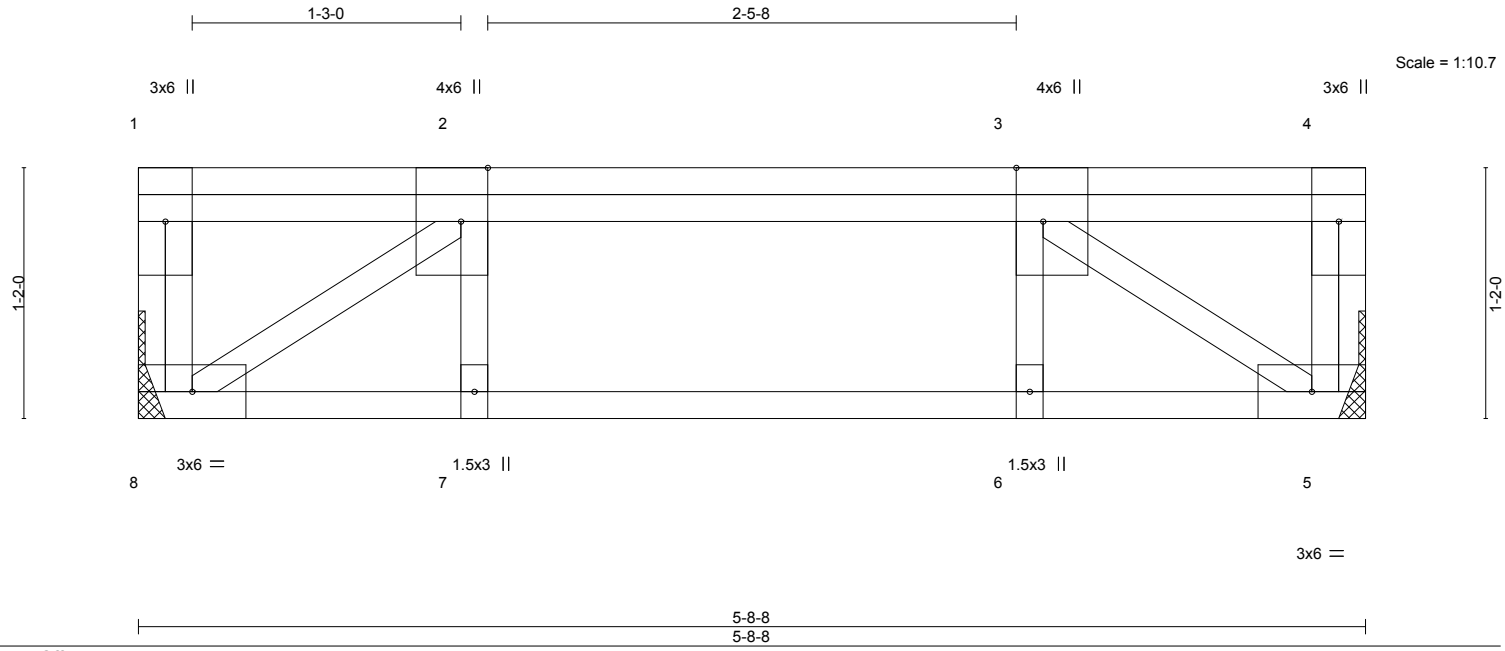


Plate Offsets (X,Y)-- [2:0-3-0,Edge], [3:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.13	Vert(LL)	-0.02	6-7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.30	Vert(CT)	-0.03	6-7	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.37	Horz(CT)	0.01	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 37 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 8=Mechanical, 5=Mechanical
Max Grav 8=961(LC 1), 5=961(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1310/0
BOT CHORD 7-8=0/1310, 6-7=0/1310, 5-6=0/1310
WEBS 2-8=-1585/0, 3-5=-1585/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 689 lb down at 1-10-4, and 689 lb down at 3-10-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
6) 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 + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 5-8=-10, 1-4=-100
Concentrated Loads (lb)
Vert: 2=-661(B) 3=-661(B)

April 2,2025

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	Lot 15 Magnolia Hills
J1024-5876	FG5	FLOOR GIRDER	1	1	I72421108
					Job Reference (optional)

Comtech, Inc, Fayetteville, NC - 28314, 8.630 s Sep 26 2024 MiTek Industries, Inc. Tue Apr 1 07:27:16 2025 Page 1
ID:1NaocfdXFgYT90ywZp05ZYzwAzd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

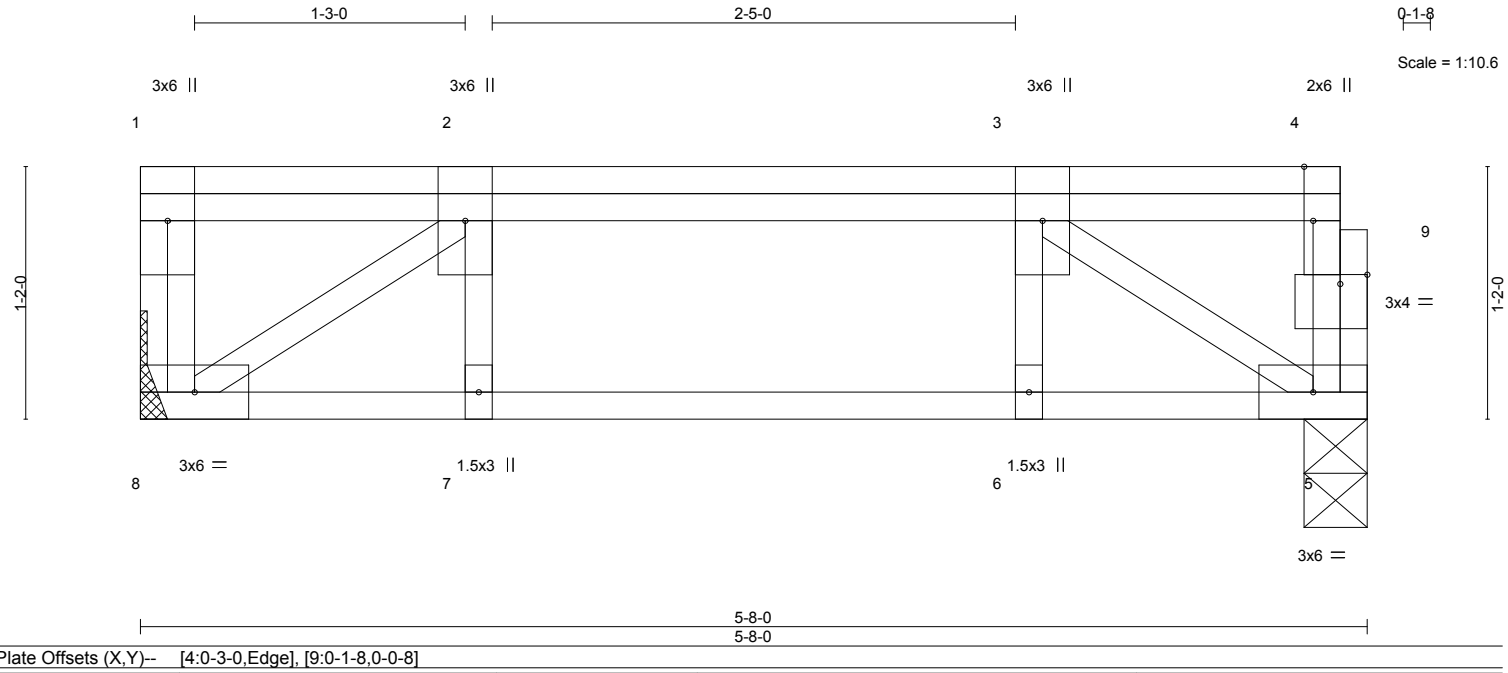


Plate Offsets (X,Y)-- [4:0-3-0,Edge], [9:0-1-8,0-0-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.19	Vert(LL)	-0.01	6-7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.25	Vert(CT)	-0.02	6-7	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.01	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 36 lb	FT = 20%F, 11%E

LUMBER-
TOP CHORD 2x4 SP No.1(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.3(flat)

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

REACTIONS. (size) 8=Mechanical, 5=0-3-8
Max Grav 8=821(LC 1), 5=807(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1040/0
BOT CHORD 7-8=0/1040, 6-7=0/1040, 5-6=0/1040
WEBS 2-8=-1258/0, 3-5=-1250/0

NOTES-
1) Unbalanced floor live loads have been considered for this design.
2) Plates checked for a plus or minus 1 degree rotation about its center.
3) Refer to girder(s) for truss to truss connections.
4) Recommend 2x6 strongbacks, on edge, spaced at 10-0-0 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
5) CAUTION, Do not erect truss backwards.
6) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 226 lb down at 1-10-4, and 228 lb down at 3-10-4 on top chord. The design/selection of such connection device(s) is the responsibility of others.
7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

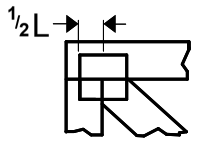
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (plf)
Vert: 5-8=-10, 1-4=-220
Concentrated Loads (lb)
Vert: 2=-198(F) 3=-198(F)

April 2,2025

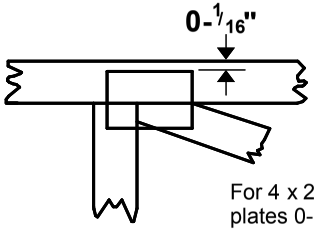
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

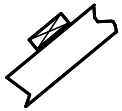
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

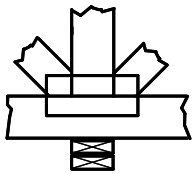
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

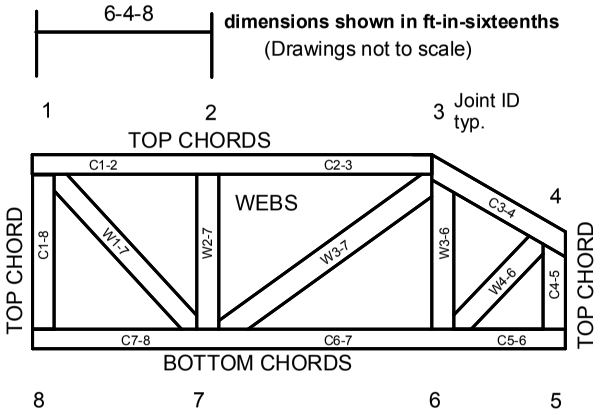


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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

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

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

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

General Safety Notes

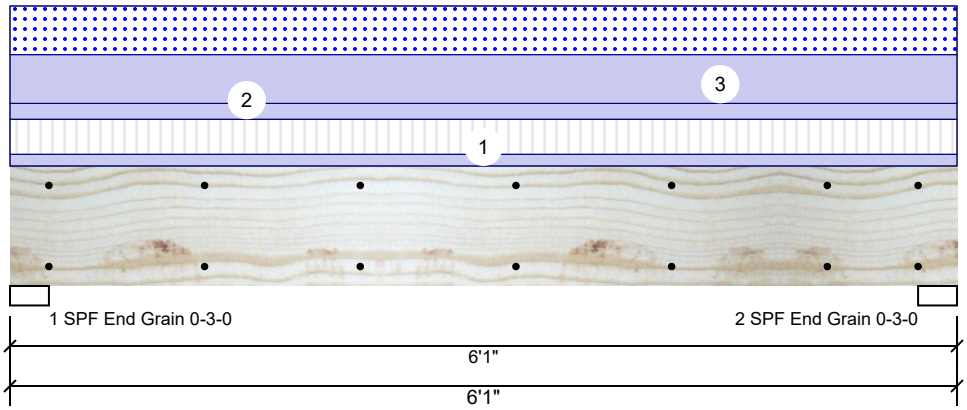
Failure to Follow Could Cause Property Damage or Personal Injury

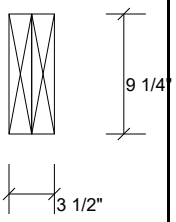
1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed 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.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	803	1771	1116	0	0
2	Vertical	803	1771	1116	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	36%	1771 / 1439	3210	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	36%	1771 / 1439	3210	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4299 ft-lb	3' 1/2"	14423 ft-lb	0.298 (30%)	D+0.75(L+S)	L
Unbraced	4299 ft-lb	3' 1/2"	10861 ft-lb	0.396 (40%)	D+0.75(L+S)	L
Shear	2138 lb	1' 1/4"	7943 lb	0.269 (27%)	D+0.75(L+S)	L
LL Defl inch	0.031 (L/2185)	3' 1/2"	0.143 (L/480)	0.220 (22%)	0.75(L+S)	L
TL Defl inch	0.070 (L/980)	3' 1/2"	0.190 (L/360)	0.367 (37%)	D+0.75(L+S)	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	88 PLF	264 PLF	0 PLF	0 PLF	0 PLF	F1
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Uniform			Top	367 PLF	0 PLF	367 PLF	0 PLF	0 PLF	
	Self Weight				7 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

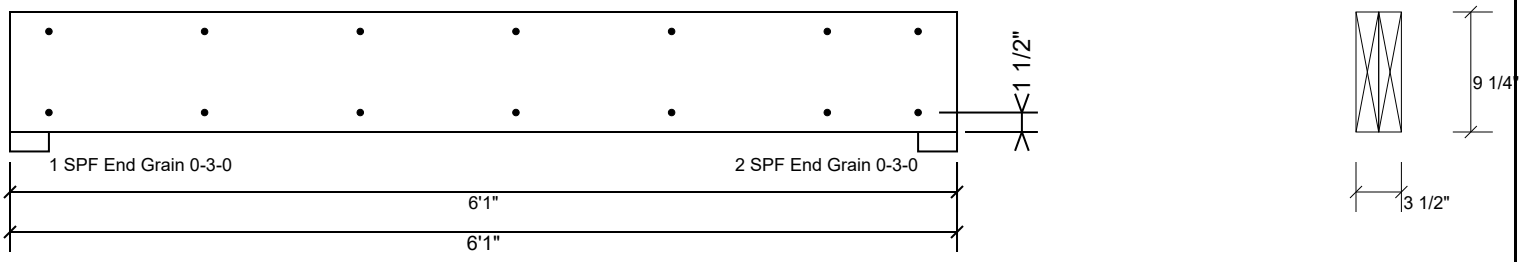
Manufacturer Info

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

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

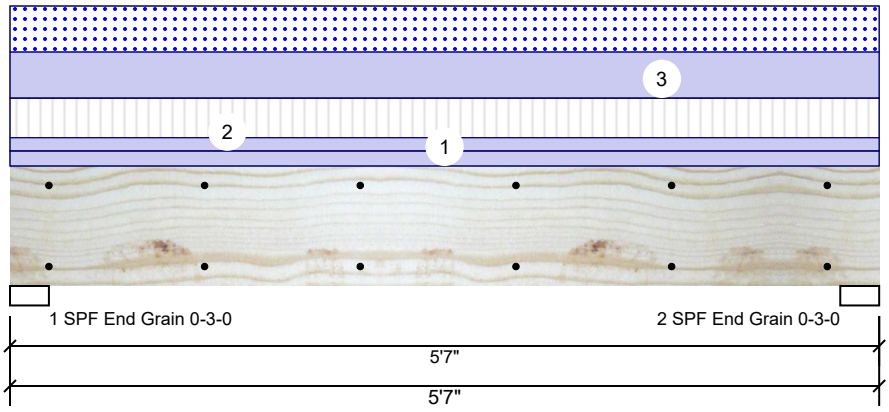
Manufacturer Info

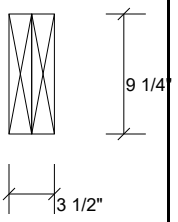
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	877	1662	1016	0	0
2	Vertical	877	1662	1016	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	35%	1662 / 1420	3081	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	35%	1662 / 1420	3081	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3742 ft-lb	2'9 1/2"	14423 ft-lb	0.259 (26%)	D+0.75(L+S)	L
Unbraced	3742 ft-lb	2'9 1/2"	11402 ft-lb	0.328 (33%)	D+0.75(L+S)	L
Shear	1960 lb	4'6 3/4"	7943 lb	0.247 (25%)	D+0.75(L+S)	L
LL Defl inch	0.024 (L/2564)	2'9 1/2"	0.130 (L/480)	0.187 (19%)	0.75(L+S)	L
TL Defl inch	0.053 (L/1182)	2'9 1/2"	0.174 (L/360)	0.305 (30%)	D+0.75(L+S)	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at end bearings.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Top	104 PLF	314 PLF	0 PLF	0 PLF	0 PLF	FG3
3	Uniform			Top	364 PLF	0 PLF	364 PLF	0 PLF	0 PLF	A3
	Self Weight				7 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

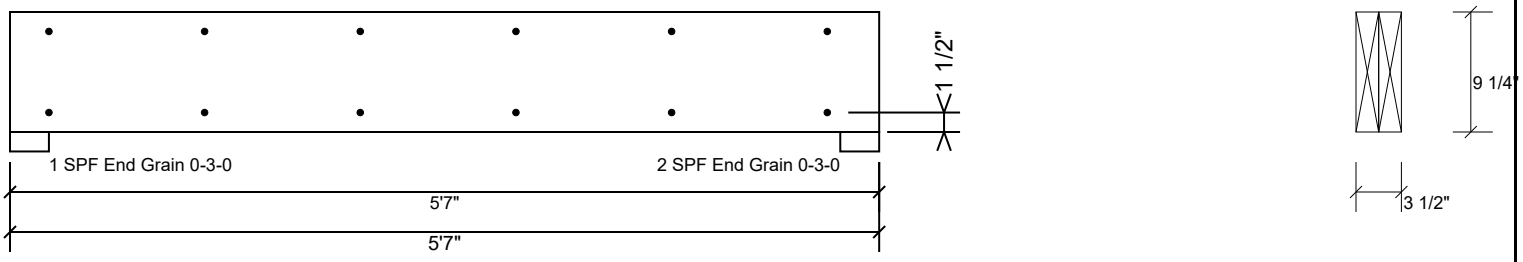
This design is valid until 6/28/2026

Manufacturer Info

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

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

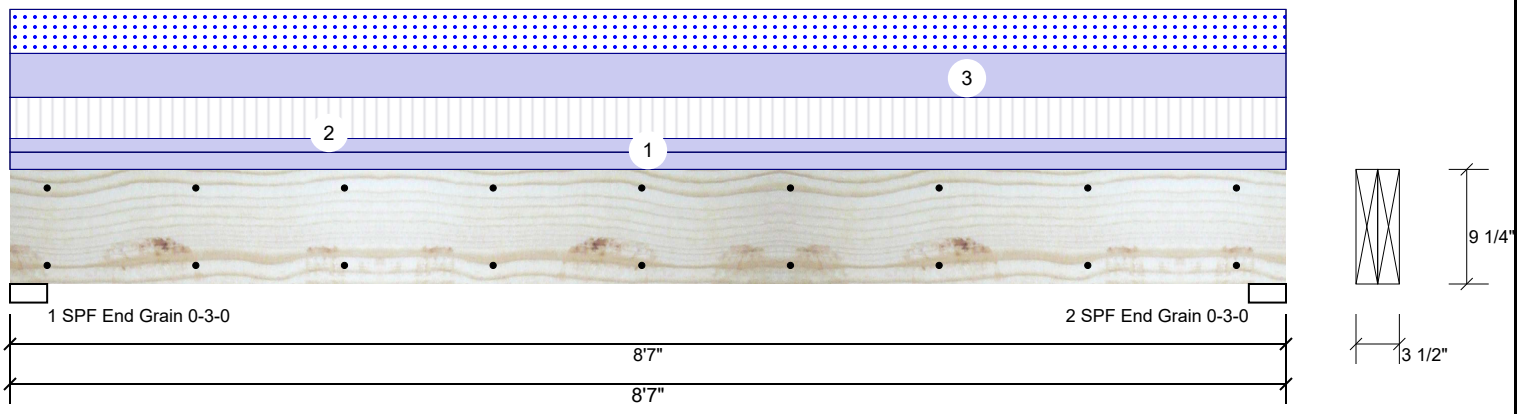
Manufacturer Info

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

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1227	2267	1313	0	0
2	Vertical	1227	2267	1313	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	47%	2267 / 1906	4172	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	47%	2267 / 1906	4172	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8188 ft-lb	4'3 1/2"	14423 ft-lb	0.568 (57%)	D+0.75(L+S)	L
Unbraced	8188 ft-lb	4'3 1/2"	8625 ft-lb	0.949 (95%)	D+0.75(L+S)	L
Shear	3185 lb	7'6 3/4"	7943 lb	0.401 (40%)	D+0.75(L+S)	L
LL Defl inch	0.112 (L/883)	4'3 9/16"	0.205 (L/480)	0.544 (54%)	0.75(L+S)	L
TL Defl inch	0.244 (L/403)	4'3 9/16"	0.274 (L/360)	0.893 (89%)	D+0.75(L+S)	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Top	95 PLF	286 PLF	0 PLF	0 PLF	0 PLF	F3
3	Uniform			Top	306 PLF	0 PLF	306 PLF	0 PLF	0 PLF	B2
	Self Weight				7 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

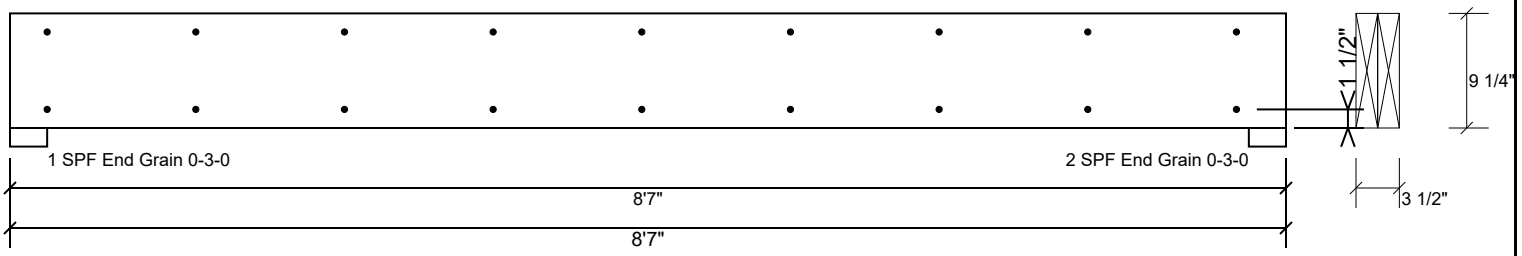
This design is valid until 6/28/2026

Manufacturer Info

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

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

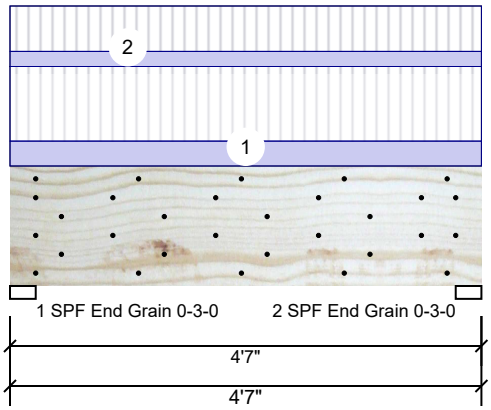
Manufacturer Info

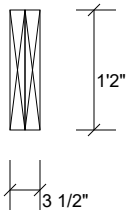
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM4 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2278	783	0	0	0
2	Vertical	2278	783	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	35%	783 / 2278	3061	L	D+L
2 - SPF End Grain	3.000"	Vert	35%	783 / 2278	3061	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2957 ft-lb	2'3 1/2"	26999 ft-lb	0.110 (11%)	D+L	L
Unbraced	2957 ft-lb	2'3 1/2"	21560 ft-lb	0.137 (14%)	D+L	L
Shear	2727 lb	1'5"	10453 lb	0.261 (26%)	D+L	L
LL Defl inch	0.010 (L/5285)	2'3 9/16"	0.105 (L/480)	0.091 (9%)	L	L
TL Defl inch	0.013 (L/3932)	2'3 9/16"	0.140 (L/360)	0.092 (9%)	D+L	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 6 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Far Face	206 PLF	618 PLF	0 PLF	0 PLF	0 PLF	FG3
2	Uniform			Near Face	125 PLF	376 PLF	0 PLF	0 PLF	0 PLF	FG2
	Self Weight				11 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

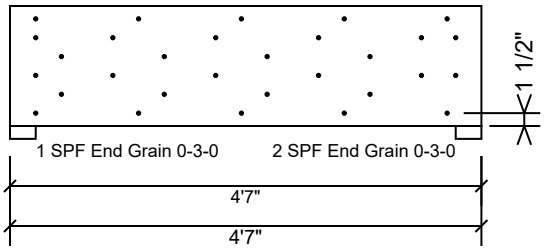
This design is valid until 6/28/2026

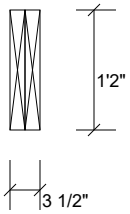
Manufacturer Info

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

BM4 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Multi-Ply Analysis

Fasten all plies using 6 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	83.9 %
Load	412.0 PLF
Yield Limit per Foot	491.1 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

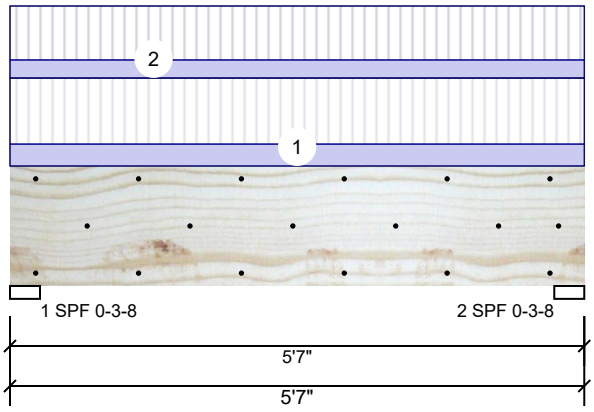
Manufacturer Info

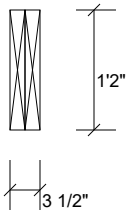
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM5 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1789	625	0	0	0
2	Vertical	1789	625	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	46%	625 / 1789	2414	L	D+L
2 - SPF	3.500"	Vert	46%	625 / 1789	2414	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2840 ft-lb	2'9 1/2"	26999 ft-lb	0.105 (11%)	D+L	L
Unbraced	2840 ft-lb	2'9 1/2"	18832 ft-lb	0.151 (15%)	D+L	L
Shear	2162 lb	1'5 1/2"	10453 lb	0.207 (21%)	D+L	L
LL Defl inch	0.011 (L/5509)	2'9 1/2"	0.128 (L/480)	0.087 (9%)	L	L
TL Defl inch	0.015 (L/4083)	2'9 1/2"	0.171 (L/360)	0.088 (9%)	D+L	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top must be laterally braced at end bearings.
6. Bottom must be laterally braced at end bearings.
7. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	117 PLF	353 PLF	0 PLF	0 PLF	0 PLF	F8
2	Uniform			Far Face	96 PLF	288 PLF	0 PLF	0 PLF	0 PLF	F1A
	Self Weight				11 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

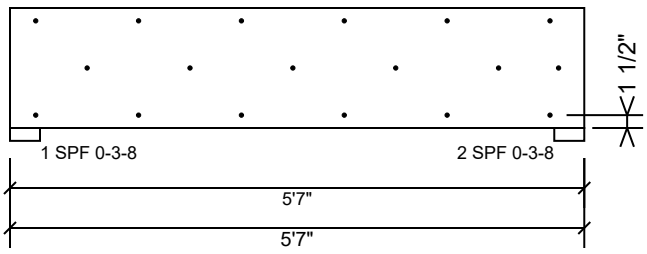
Manufacturer Info

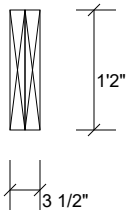
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

BM5 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	95.7 %
Load	235.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

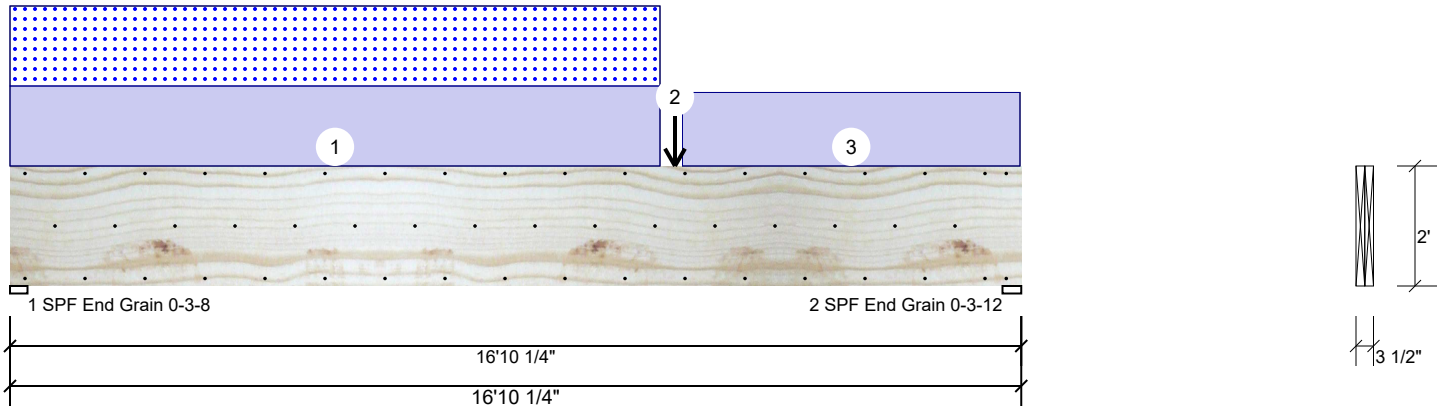
Manufacturer Info

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

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

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

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	4214	3835	0	0
2	Vertical	0	5855	4514	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	78%	4214 / 3835	8049	L	D+S
2 - SPF End Grain	3.750"	Vert	94%	5855 / 4514	10369	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	52918 ft-lb	11'1"	84163 ft-lb	0.629 (63%)	D+S	L
Unbraced	52918 ft-lb	11'1"	53123 ft-lb	0.996 (100%)	D+S	L
Shear	9791 lb	14'6 1/2"	20608 lb	0.475 (48%)	D+S	L
LL Defl inch	0.163 (L/1210)	9'2 5/16"	0.410 (L/480)	0.397 (40%)	S	L
TL Defl inch	0.345 (L/571)	9'2 9/16"	0.547 (L/360)	0.631 (63%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 3'2 13/16" o.c.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Part. Uniform	0-0-0 to 10-10-0		Top	272 PLF	0 PLF	272 PLF	0 PLF	0 PLF	C2
2	Point	11-1-0		Top	5402 lb	0 lb	5402 lb	0 lb	0 lb	C4
	Bearing Length	0-3-11								
3	Part. Uniform	11-2-8 to 16-10-0		Top	250 PLF	0 PLF	0 PLF	0 PLF	0 PLF	FLOOR, WALL & B1-GE
	Self Weight				19 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

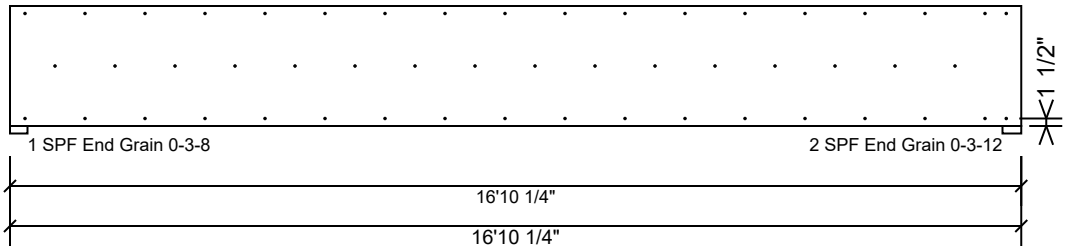
Manufacturer Info

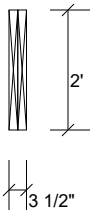
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:		Date:	4/1/2025
Project:		Input by:	Neal Baggett
Address:		Job Name:	15 MAGNOLIA HILLS
		Project #:	

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

Level: Level





Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

Manufacturer Info

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