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

RE: 23-0202-A1 - GAINEY RESIDENCE

MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Site Information:

Customer Info: OWNER BUILDER Project Name: GAINEY RESIDENCE Model: NA
Lot/Block: NA Subdivision: NA
Address: 3529 COUNTY ROAD 138, -
City: FT WHITE State: FL

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

Name: License #:
Address:
City: State:

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

Design Code: FBC2020/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 135 mph
Roof Load: 37.0 psf Floor Load: N/A psf

This package includes 8 individual, Truss Design Drawings and 0 Additional Drawings.
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

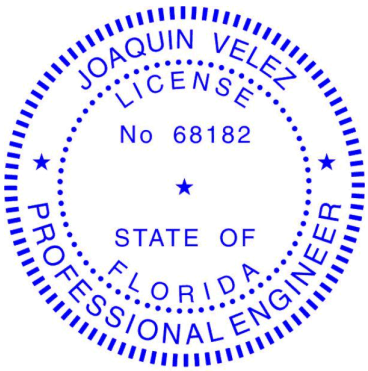
No.	Seal#	Truss Name	Date
1	T30302910	T-1	4/13/23
2	T30302911	T-2	4/13/23
3	T30302912	T-3	4/13/23
4	T30302913	T-4	4/13/23
5	T30302914	T-5	4/13/23
6	T30302915	FG-1	4/13/23
7	T30302916	C-2	4/13/23
8	T30302917	C-1	4/13/23

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Arnold Truss Mfg. LLC.

Truss Design Engineer's Name: Velez, Joaquin
My license renewal date for the state of Florida is February 28, 2025.

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.



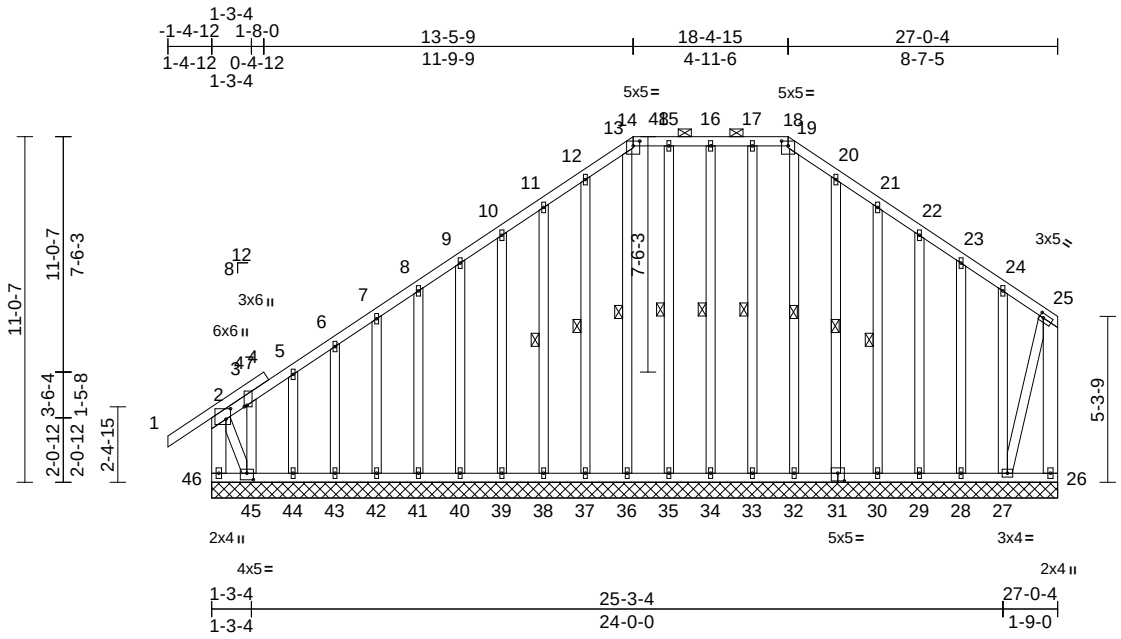
Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd. Chesterfield, MO 63017
Date:

April 13,2023

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE	T30302910
23-0202-A1	T-1	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:26 Page: 1
ID:TaytS7Zy2X7c8W2BZQ6aZbzVQU4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.6

Plate Offsets (X, Y): [2:0-4-0,0-1-12], [3:0-0-9,0-1-0], [14:0-2-8,0-1-13], [18:0-2-8,0-1-13], [25:0-1-8,0-1-8], [31:0-2-8,0-3-0], [45:0-2-8,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	26	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 333 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 46-2,26-25:2x6 SP No.1
OTHERS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 14-18.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 11-38, 12-37, 13-36, 15-35, 16-34, 17-33, 19-32, 20-31, 21-30

REACTIONS (size) 26=27-0-4, 27=27-0-4, 28=27-0-4, 29=27-0-4, 30=27-0-4, 31=27-0-4, 32=27-0-4, 33=27-0-4, 34=27-0-4, 35=27-0-4, 36=27-0-4, 37=27-0-4, 38=27-0-4, 39=27-0-4, 40=27-0-4, 41=27-0-4, 42=27-0-4, 43=27-0-4, 44=27-0-4, 45=27-0-4, 46=27-0-4
Max Horiz 46=325 (LC 11)
Max Uplift 26=-129 (LC 11), 27=-139 (LC 8), 28=-27 (LC 12), 29=-35 (LC 12), 30=-37 (LC 12), 31=-26 (LC 12), 33=-17 (LC 9), 34=-28 (LC 9), 35=-11 (LC 9), 36=-8 (LC 11), 37=-26 (LC 12), 38=-37 (LC 12), 39=-33 (LC 12), 40=-33 (LC 12), 41=-33 (LC 12), 42=-32 (LC 12), 43=-35 (LC 12), 44=-28 (LC 12), 45=-346 (LC 11), 46=-340 (LC 10)
Max Grav 26=157 (LC 10), 27=258 (LC 11), 28=98 (LC 22), 29=104 (LC 18), 30=102 (LC 18), 31=100 (LC 18), 32=98 (LC 1), 33=99 (LC 1), 34=100 (LC 22), 35=99 (LC 21), 36=109 (LC 17), 37=104 (LC 17), 38=101 (LC 17), 39=102 (LC 17), 40=102 (LC 17), 41=102 (LC 17), 42=101 (LC 17), 43=104 (LC 17), 44=96 (LC 21), 45=372 (LC 10), 46=483 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-46=-445/321, 1-2=0/43, 2-3=-205/155, 3-5=-195/157, 5-6=-191/146, 6-7=-180/134, 7-8=-168/122, 8-9=-157/129, 9-10=-146/169, 10-11=-144/208, 11-12=-169/251, 12-13=-189/287, 13-14=-157/234, 14-15=-167/260, 15-16=-167/260, 16-17=-167/260, 17-18=-167/260, 25-26=-132/113, 18-19=-157/234, 19-20=-189/286, 20-21=-169/251, 21-22=-144/208, 22-23=-121/168, 23-24=-96/126, 24-25=-84/97
BOT CHORD 45-46=-290/209, 44-45=-120/127, 43-44=-120/127, 42-43=-120/127, 41-42=-120/127, 40-41=-120/127, 39-40=-120/127, 38-39=-120/127, 37-38=-120/127, 36-37=-120/127, 35-36=-120/127, 34-35=-120/127, 33-34=-120/127, 32-33=-120/127, 30-32=-121/127, 29-30=-121/127, 28-29=-121/127, 27-28=-121/127, 26-27=-76/90
WEBS 5-44=-71/60, 6-43=-76/62, 7-42=-75/61, 8-41=-75/61, 9-40=-75/61, 10-39=-75/61, 11-38=-75/66, 12-37=-77/56, 13-36=-83/35, 15-35=-72/27, 16-34=-74/51, 17-33=-72/32, 19-32=-78/29, 20-31=-73/55, 21-30=-77/67, 22-29=-75/61, 23-28=-78/65, 24-27=-84/87, 3-45=-58/24, 2-45=-332/428, 25-27=-173/131

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=27ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -1-4-12 to 1-7-4, Exterior(2N) 1-7-4 to 13-5-9, Corner(3R) 13-5-9 to 16-5-9, Exterior(2N) 16-5-9 to 18-4-15, Corner(3R) 18-4-15 to 21-3-4, Exterior(2N) 21-3-4 to 26-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

April 13,2023

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

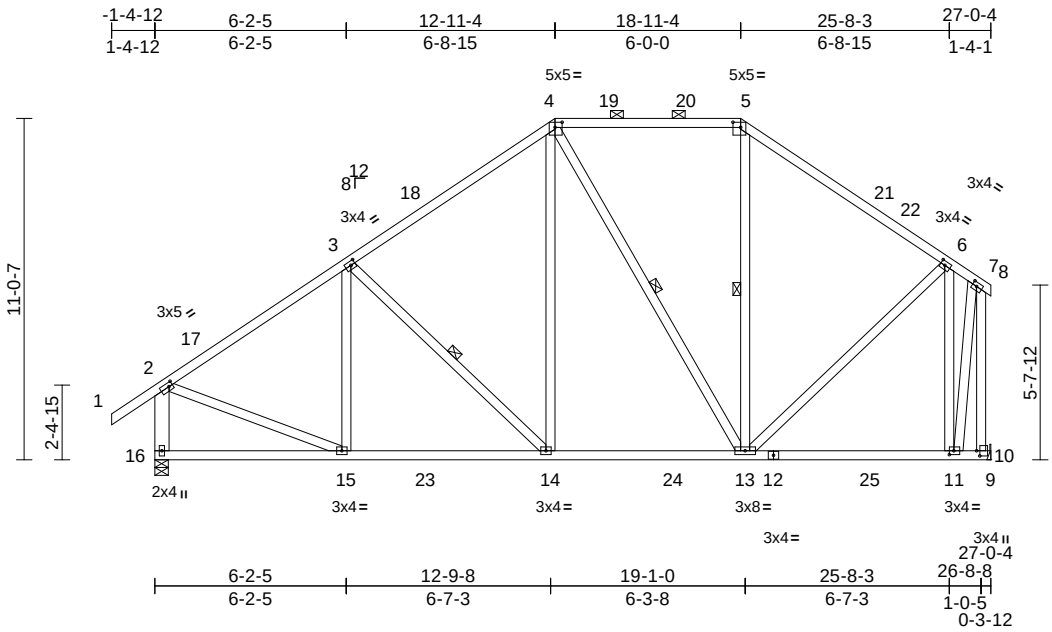
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 1.5x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 1-4-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 26, 340 lb uplift at joint 46, 28 lb uplift at joint 44, 35 lb uplift at joint 43, 32 lb uplift at joint 42, 33 lb uplift at joint 41, 33 lb uplift at joint 40, 33 lb uplift at joint 39, 37 lb uplift at joint 38, 26 lb uplift at joint 37, 8 lb uplift at joint 36, 11 lb uplift at joint 35, 28 lb uplift at joint 34, 17 lb uplift at joint 33, 26 lb uplift at joint 31, 37 lb uplift at joint 30, 35 lb uplift at joint 29, 27 lb uplift at joint 28, 139 lb uplift at joint 27 and 346 lb uplift at joint 45.
13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	T-2	Piggyback Base	2	1	T30302911
					Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:27 Page: 1
ID:QV7U0R_XZbfVT2o6g_l00BzVQTW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:74.5

Plate Offsets (X, Y): [2:0-1-8,0-1-8], [3:0-1-12,0-1-8], [4:0-2-12,0-2-0], [5:0-3-0,0-2-0], [6:0-1-12,0-1-8], [7:0-1-12,0-1-8], [10:0-2-0,0-1-4], [11:0-1-12,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.52	Vert(LL)	-0.06	13-14	>999	360	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.34	Vert(CT)	-0.10	11-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS		Wind(LL)	0.02	14-15	>999	240	Weight: 212 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 16-2:2x6 SP No.1

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 3-14, 4-13, 5-13

REACTIONS (size) 10= Mechanical, 16=0-5-4
Max Horiz 16=-222 (LC 10)
Max Uplift 10=-167 (LC 12), 16=-188 (LC 12)
Max Grav 10=1156 (LC 19), 16=1227 (LC 17)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/49, 2-3=-1161/181, 3-4=-974/226, 4-5=-607/215, 5-6=-809/194, 6-7=-208/7, 7-8=0/9, 2-16=-1132/220, 7-10=-1183/115
BOT CHORD 15-16=-165/229, 14-15=-174/1009, 13-14=-76/791, 11-13=-38/217, 10-11=-2/16, 9-10=0/0
WEBS 3-15=-138/89, 3-14=-290/145, 4-14=-23/473, 4-13=-328/66, 5-13=-66/198, 6-13=-35/584, 6-11=-925/290, 7-11=-186/1149, 2-15=-25/881

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=27ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -1-4-0 to 1-8-0, Interior (1) 1-8-0 to 13-0-0, Exterior(2R) 13-0-0 to 17-2-15, Interior (1) 17-2-15 to 19-0-0, Exterior(2R) 19-0-0 to 23-2-15, Interior (1) 23-2-15 to 27-1-0 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
4) Provide adequate drainage to prevent water ponding.
5) All plates are 3x4 MT20 unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 188 lb uplift at joint 16 and 167 lb uplift at joint 10.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

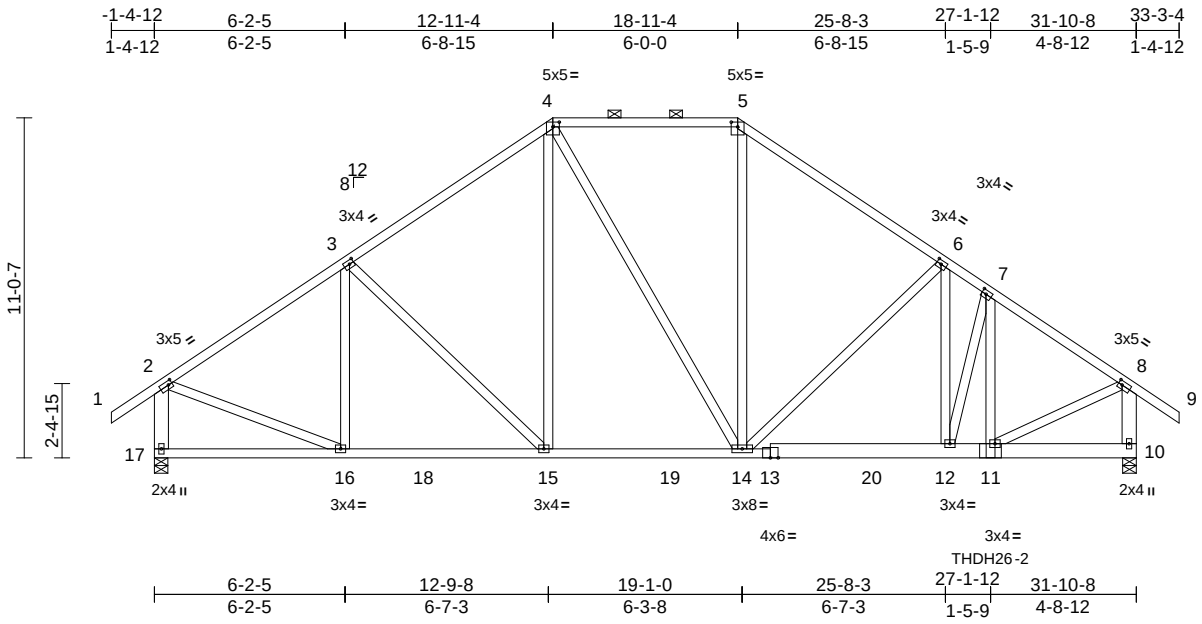
April 13,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	T-3	Piggyback Base Girder	1	2	T30302912
					Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:28 Page: 1
ID:sWYSlmtOqWJMA0j5plYcL4zVQR4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:74.8

Plate Offsets (X, Y): [2:0-1-8,0-1-8], [3:0-1-12,0-1-8], [4:0-2-8,0-1-13], [5:0-2-8,0-1-13], [6:0-1-12,0-1-8], [7:0-1-12,0-1-8], [8:0-1-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.18	Vert(LL)	-0.04	14-15	>999	360	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.23	Vert(CT)	-0.07	14-15	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.24	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MS		Wind(LL)	0.02	14-15	>999	240	Weight: 500 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1 *Except* 13-10:2x6 SP No.1
WEBS 2x4 SP No.2 *Except* 17-2,10-8:2x6 SP No.1

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 10=0-5-4, 17=0-5-4
Max Horiz 17=-292 (LC 6)
Max Uplift 10=-499 (LC 8), 17=-276 (LC 8)
Max Grav 10=2384 (LC 14), 17=1591 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/49, 2-3=-1580/282, 3-4=-1490/351, 4-5=-1260/369, 5-6=-1593/383, 6-7=-2082/458, 7-8=-2265/487, 8-9=0/49, 2-17=-1498/306, 8-10=-2262/514
BOT CHORD 16-17=-259/295, 15-16=-113/1410, 14-15=-57/1268, 12-14=-207/1769, 11-12=-239/1818, 10-11=-11/91
WEBS 3-16=-255/115, 3-15=-188/158, 4-15=-30/412, 4-14=-111/282, 5-14=-69/587, 6-14=-777/282, 6-12=-122/525, 2-16=-97/1271, 7-12=-263/159, 7-11=-178/332, 8-11=-289/1920

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Web 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=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 276 lb uplift at joint 17 and 499 lb uplift at joint 10.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use MiTek THDH26-2 (With 22-16d nails into Girder & 8-16d nails into Truss) or equivalent at 27-1-12 from the left end to connect truss(es) to front face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (lb/ft)
Vert: 1-2=-54, 2-4=-54, 4-5=-54, 5-8=-54, 8-9=-54, 10-17=-20
Concentrated Loads (lb)
Vert: 11=-956 (F)

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

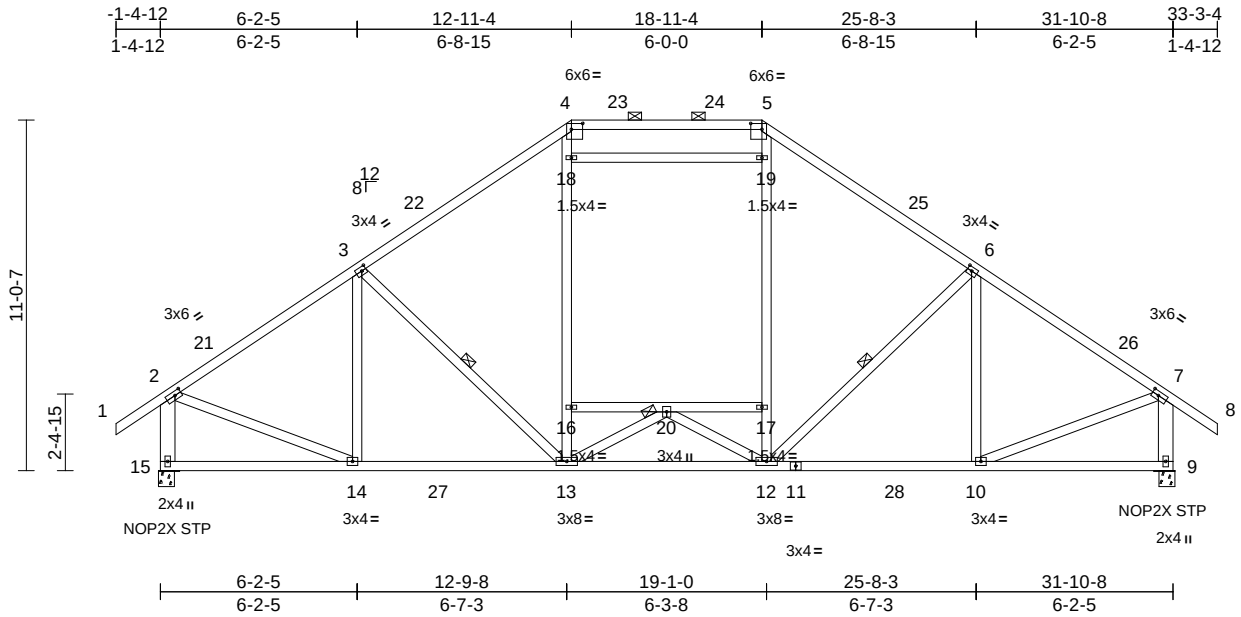
April 13,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	T-4	Attic	21	1	T30302913
					Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:28
ID:w7IpFEFS8X4Mn4sWgOuGlbzVQB6-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:72.5

Plate Offsets (X, Y): [2:0-2-8,0-1-8], [3:0-1-12,0-1-8], [4:0-4-4,0-2-4], [5:0-4-4,0-2-4], [6:0-1-12,0-1-8], [7:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.31	Vert(LL)	-0.23	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.43	Vert(CT)	-0.28	13-14	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.03	9	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS		Wind(LL)	-0.21	13-14	>999	240	Weight: 238 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 15-2,9-7:2x6 SP No.1

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 3-13, 6-12
JOINTS 1 Brace at Jt(s): 20

REACTIONS (size) 9=0-6-0, 15=0-6-0
Max Horiz 15=293 (LC 11)
Max Uplift 9=-231 (LC 12), 15=-231 (LC 12)
Max Grav 9=1503 (LC 19), 15=1503 (LC 18)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/54, 2-3=-1465/231, 3-4=-1301/287, 4-5=-941/287, 5-6=-1301/287, 6-7=-1465/231, 7-8=0/54, 2-15=-1414/263, 7-9=-1414/263
BOT CHORD 14-15=-240/295, 13-14=-113/1309, 12-13=-25/1081, 10-12=-56/1143, 9-10=-9/88
WEBS 3-14=-231/108, 3-13=-287/132, 13-16=-14/353, 16-18=-14/356, 4-18=-14/360, 12-17=-14/353, 17-19=-14/356, 5-19=-14/360, 6-12=-287/132, 6-10=-231/108, 2-14=-52/1135, 7-10=-52/1135, 16-20=-66/74, 17-20=-66/74, 18-19=-59/4, 13-20=-77/86, 12-20=-76/86

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -1-4-0 to 1-10-6, Interior (1) 1-10-6 to 13-0-0, Exterior(2R) 13-0-0 to 17-6-5, Interior (1) 17-6-5 to 19-0-0, Exterior(2R) 19-0-0 to 23-6-5, Interior (1) 23-6-5 to 33-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 231 lb uplift at joint 9 and 231 lb uplift at joint 15.
9) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

LOAD CASE(S) Standard

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

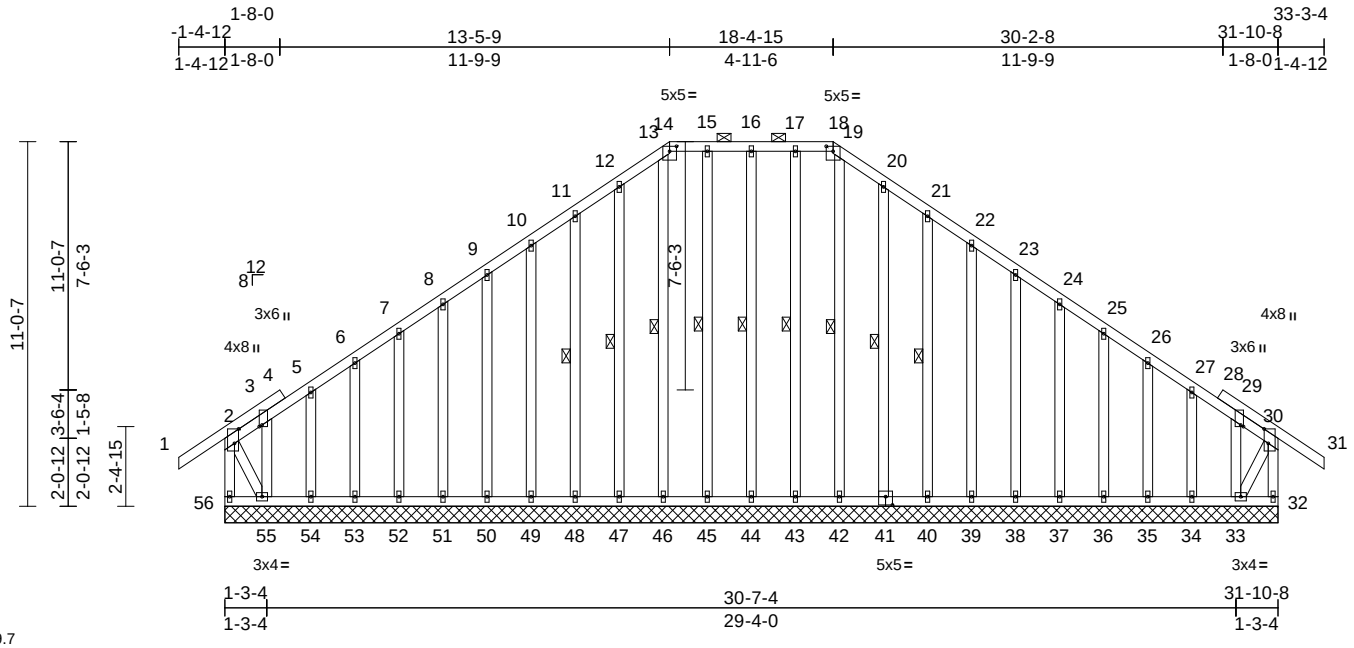
April 13,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	T-5	Piggyback Base Supported Gable	1	1	T30302914 Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.92 E 8.63 Nov 21 2022 Print: 8.630 E Nov 21 2022 MiTek Industries, Inc. Thu Apr 13 08:06:58 Page: 1
ID:H68aJIOkf11EdmikxGN3fLzVQVa-HdsSBqGZD6MOwyshww1vu_XCRuPW3nyXN3Cf?WzRCUT



Scale = 1:69.7

Plate Offsets (X, Y): [2:0-5-4,Edge], [3:0-0-9,0-1-0], [14:0-2-8,0-1-13], [18:0-2-8,0-1-13], [29:0-0-9,0-1-0], [30:0-5-4,Edge], [41:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.01	32	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 361 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 14-18.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 16-44, 15-45, 13-46, 12-47, 11-48, 17-43, 19-42, 20-41, 21-40

REACTIONS (lb/size) 32=172/31-10-8, 33=63/31-10-8, 34=102/31-10-8, 35=108/31-10-8, 36=107/31-10-8, 37=107/31-10-8, 38=107/31-10-8, 39=107/31-10-8, 40=106/31-10-8, 41=108/31-10-8, 42=110/31-10-8, 43=108/31-10-8, 44=107/31-10-8, 45=108/31-10-8, 46=109/31-10-8, 47=107/31-10-8, 48=107/31-10-8, 49=107/31-10-8, 50=107/31-10-8, 51=107/31-10-8, 52=107/31-10-8, 53=108/31-10-8, 54=102/31-10-8, 55=62/31-10-8, 56=173/31-10-8
Max Horiz 56=284 (LC 11)
Max Uplift 32=-112 (LC 11), 33=-162 (LC 12), 34=-32 (LC 12), 35=-34 (LC 12), 36=-32 (LC 12), 37=-33 (LC 12), 38=-33 (LC 12), 39=-32 (LC 12), 40=-39 (LC 12), 41=-25 (LC 12), 44=-25 (LC 12), 47=-25 (LC 12), 48=-38 (LC 12), 49=-33 (LC 12), 50=-33 (LC 12), 51=-33 (LC 12), 52=-32 (LC 12), 53=-34 (LC 12), 54=-32 (LC 12), 55=-220 (LC 11), 56=-258 (LC 10)
Max Grav 32=256 (LC 17), 33=212 (LC 11), 34=106 (LC 18), 35=112 (LC 18), 36=110 (LC 18), 37=111 (LC 18), 38=110 (LC 18), 39=111 (LC 18), 40=111 (LC 18), 41=111 (LC 18), 42=110 (LC 1), 43=108 (LC 1), 44=108 (LC 22), 45=108 (LC 1), 46=114 (LC 17), 47=112 (LC 17), 48=110 (LC 17), 49=111 (LC 17), 50=111 (LC 17), 51=111 (LC 17), 52=110 (LC 17), 53=112 (LC 17), 54=105 (LC 17), 55=317 (LC 10), 56=367 (LC 18)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-56=-348/250, 1-2=0/44, 2-3=-150/131, 3-4=-148/131, 4-5=-147/146, 5-6=-142/133, 6-7=-131/120, 7-8=-120/107, 8-9=-108/134, 9-10=-107/173, 10-11=-130/213, 11-12=-155/256, 12-13=-176/291, 13-14=-148/238, 14-15=-154/264, 15-16=-154/264, 16-17=-154/264, 17-18=-154/264, 18-19=-148/238, 19-20=-176/291, 20-21=-155/255, 21-22=-130/213, 22-23=-107/173, 23-24=-84/133, 24-25=-61/93, 25-26=-55/54, 26-27=-66/61, 27-28=-71/70, 28-29=-74/58, 29-30=-80/73, 30-31=0/44, 30-32=-242/110
BOT CHORD 55-56=-270/250, 54-55=-123/155, 53-54=-123/155, 52-53=-123/155, 51-52=-123/155, 50-51=-123/155, 49-50=-123/155, 48-49=-123/155, 47-48=-123/155, 46-47=-123/155, 45-46=-123/155, 44-45=-123/155, 43-44=-123/155, 42-43=-123/155, 41-42=-123/155, 40-41=-124/156, 39-40=-124/156, 38-39=-124/156, 37-38=-124/156, 36-37=-124/156, 35-36=-124/156, 34-35=-124/156, 33-34=-124/156, 32-33=-32/38
WEBS 16-44=-81/51, 15-45=-81/8, 13-46=-87/14, 12-47=-86/53, 11-48=-84/67, 10-49=-84/61, 9-50=-84/61, 8-51=-84/61, 7-52=-84/61, 6-53=-85/62, 5-54=-82/65, 3-55=-69/6, 17-43=-81/7, 19-42=-82/14, 20-41=-84/52, 21-40=-85/67, 22-39=-84/61, 23-38=-84/61, 24-37=-84/61, 25-36=-84/61, 26-35=-85/62, 27-34=-82/65, 29-33=-66/8, 2-55=-308/296, 30-33=-188/237

NOTES

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

April 13,2023

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

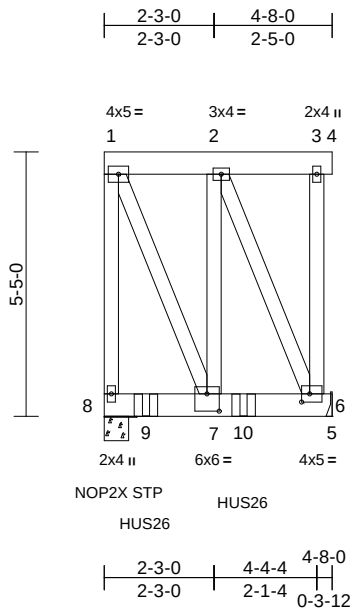
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=32ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -1-4-12 to 1-9-8, Exterior(2N) 1-9-8 to 13-5-9, Corner(3R) 13-5-9 to 16-7-13, Exterior(2N) 16-7-13 to 18-4-15, Corner(3R) 18-4-15 to 21-7-3, Exterior(2N) 21-7-3 to 33-3-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 1.5x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 1-4-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 258 lb uplift at joint 56, 112 lb uplift at joint 32, 25 lb uplift at joint 44, 25 lb uplift at joint 47, 38 lb uplift at joint 48, 33 lb uplift at joint 49, 33 lb uplift at joint 50, 33 lb uplift at joint 51, 32 lb uplift at joint 52, 34 lb uplift at joint 53, 32 lb uplift at joint 54, 220 lb uplift at joint 55, 25 lb uplift at joint 41, 39 lb uplift at joint 40, 32 lb uplift at joint 39, 33 lb uplift at joint 38, 33 lb uplift at joint 37, 32 lb uplift at joint 36, 34 lb uplift at joint 35, 32 lb uplift at joint 34 and 162 lb uplift at joint 33.
14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	FG-1	Flat Girder	1	**2**	T30302915
					Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:26 Page: 1
ID:nkSodyFKOLQN6QULyc8BvqzVQTA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:47.2

Plate Offsets (X, Y): [6:0-2-0,0-2-0], [7:0-3-0,0-4-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	0.00	6-7	>999	360	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.17	Vert(CT)	-0.01	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.09	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MP		Wind(LL)	0.00	6-7	>999	240	Weight: 113 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 4-8-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 6= Mechanical, 8=0-6-0
Max Horiz 8=-173 (LC 4)
Max Uplift 6=-301 (LC 5), 8=-356 (LC 4)
Max Grav 6=1155 (LC 13), 8=1564 (LC 14)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-890/263, 1-2=-336/111, 2-3=-67/61, 3-4=0/0, 3-6=-89/46
BOT CHORD 7-8=-154/134, 6-7=-138/365, 5-6=0/0
WEBS 2-6=-896/253, 2-7=-157/767, 1-7=-249/893

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-8-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 356 lb uplift at joint 8 and 301 lb uplift at joint 6.
11) Use MiTek HUS26 (With 14-16d nails into Girder & 4-16d nails into Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-10-4 from the left end to 2-10-4 to connect truss(es) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (lb/ft)
Vert: 1-3=-54, 3-4=-54, 5-8=-20
Concentrated Loads (lb)
Vert: 9=-983 (B), 10=-980 (B)

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

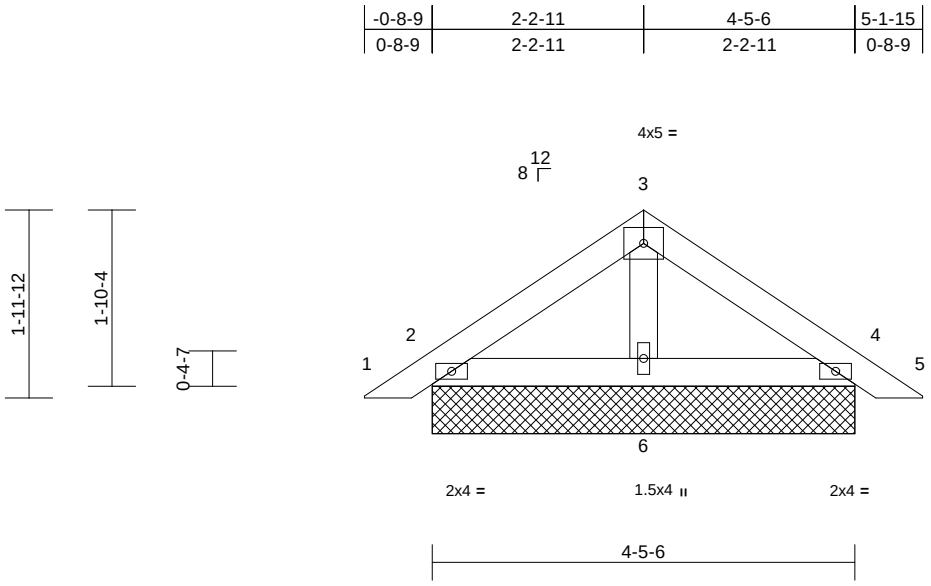
April 13,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE
23-0202-A1	C-2	Piggyback	24	1	T30302916
					Job Reference (optional)

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:25 ID:qjAUoO?5tOK7dSXLsmHohuzVQUo-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:24.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 19 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 2=4-5-6, 4=4-5-6, 6=4-5-6, 7=4-5-6, 11=4-5-6
Max Horiz 2=-39 (LC 10), 7=-39 (LC 10)
Max Uplift 2=-42 (LC 12), 4=-42 (LC 12), 7=-42 (LC 12), 11=-42 (LC 12)
Max Grav 2=115 (LC 1), 4=115 (LC 1), 6=149 (LC 1), 7=115 (LC 1), 11=115 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/14, 2-3=-55/62, 3-4=-55/62, 4-5=0/14
BOT CHORD 2-6=-4/35, 4-6=-4/35
WEBS 3-6=-64/26

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 42 lb uplift at joint 2, 42 lb uplift at joint 4, 42 lb uplift at joint 2 and 42 lb uplift at joint 4.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

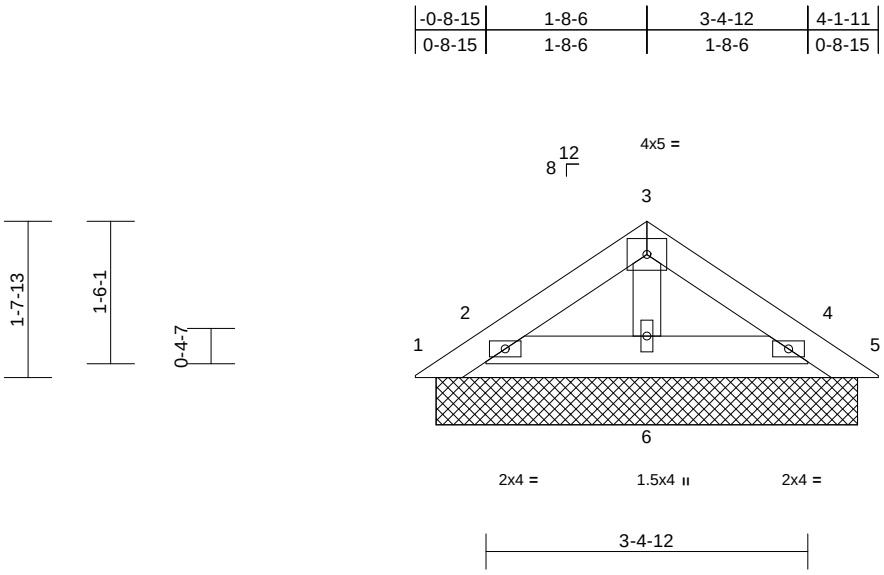
April 13,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	GAINEY RESIDENCE	T30302917
23-0202-A1	C-1	Piggyback	2	1	Job Reference (optional)	

Arnold Truss Mfg. LLC, Ocala, FL - 34475,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Wed Apr 12 11:28:23 Page: 1
ID:xV_q5fMwpc6tD3q6d3pqvDzVQUK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:24.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.03	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	7.0	Lumber DOL	1.25	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.01	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 15 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 1=4-5-6, 2=4-5-6, 4=4-5-6, 5=4-5-6, 6=4-5-6, 7=4-5-6
Max Horiz 1=32 (LC 11)
Max Uplift 1=-27 (LC 10), 2=-21 (LC 12), 4=-28 (LC 12), 5=-10 (LC 22), 7=-21 (LC 12)
Max Grav 1=19 (LC 11), 2=139 (LC 17), 4=120 (LC 22), 5=6 (LC 12), 6=106 (LC 1), 7=139 (LC 17)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-36/53, 2-3=-38/44, 3-4=-36/44, 4-5=-6/27
BOT CHORD 2-6=-12/33, 4-6=-12/33
WEBS 3-6=-48/16

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=135mph (3-second gust) Vasd=105mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 21 lb uplift at joint 2, 28 lb uplift at joint 4, 27 lb uplift at joint 1, 10 lb uplift at joint 5 and 21 lb uplift at joint 2.
10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

This item has been electronically signed and sealed by Velez, Joaquin, PE using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

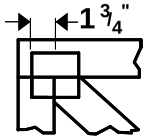
Joaquin Velez PE No.68182
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
Date:

April 13,2023

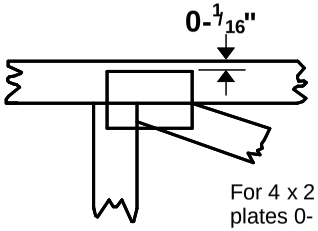
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

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

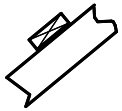
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

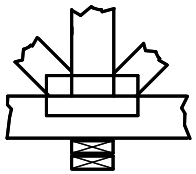
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

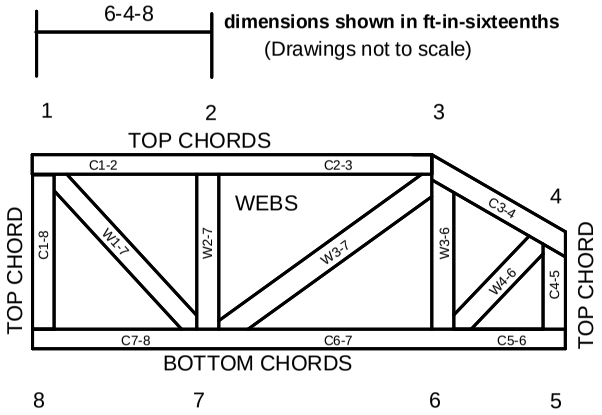


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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

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.