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COA #0 278
02/04/2021

ALPINE
AN ITW COMPANY

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Orlando, FL 32821
Phone: (800)755-6001
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Site Information:	Page 1:
Customer: W. B. Howland Company, Inc.	*Job Number:* 21-5032
Job Description: Howard Res	
Address:	

Job Engineering Criteria:	
Design Code: FBC 7th Ed. 2020 Res	*IntelliVIEW Version:* 20.01.01A *JRef #:* 1X2N2150009
Wind Standard: ASCE 7-16 *Wind Speed (mph):* 130 *Building Type:* Closed	*Design Loading (psf):* 40.00

This package contains general notes pages, 29 truss drawing(s) and 5 detail(s).

Item	Drawing Number	Truss
1	035.21.1518.34317	A01
3	035.21.1518.25570	B01
5	035.21.1517.56847	B03
7	035.21.1516.47293	C01
9	035.21.1516.42690	C03
11	035.21.1516.38663	D01
13	035.21.1516.32050	D03
15	035.21.1515.45077	FT1
17	035.21.1515.13867	G02
19	035.21.1514.47770	H01
21	035.21.1514.43927	H03
23	035.21.1513.35770	H05
25	035.21.1513.27867	K01
27	035.21.1513.13650	P01
29	035.21.1513.05600	P03
31	A14030ENC160118	
33	A14015ENC160118	

Item	Drawing Number	Truss
2	035.21.1518.29980	A02
4	035.21.1518.22650	B02
6	035.21.1517.43683	B04
8	035.21.1516.45260	C02
10	035.21.1516.40760	C04
12	035.21.1516.34240	D02
14	035.21.1515.47307	D04
16	035.21.1515.24343	G01
18	035.21.1514.50150	G03
20	035.21.1514.45913	H02
22	035.21.1514.22547	H04
24	035.21.1513.31980	H06
26	035.21.1513.16613	K02
28	035.21.1513.08993	P02
30	PB160160118	
32	GBLLETIN0118	
34	BRCLBSUB0119	

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General Notes

Truss Design Engineer Scope of Work, Design Assumptions and Design Responsibilities:
The design responsibilities assumed in the preparation of these design drawings are those specified in ANSI/TPI 1, Chapter 2; and the National Design Standard for Metal Plate Connected Wood Truss Construction, by the Truss Plate Institute. The truss component designs conform to the applicable provisions of ANSI/TPI 1 and NDS, the National Design Specification for Wood Construction by AWC. The truss component designs are based on the specified loading and dimension information furnished by others to the Truss Design Engineer. The Truss Design Engineer has no duty to independently verify the accuracy or completeness of the information provided by others and may rely on that information without liability. The responsibility for verification of that information remains with others neither employed nor controlled by the Truss Design Engineer. The Truss Design Engineer's seal and signature on the attached drawings, or cover page listing these drawings, indicates acceptance of professional engineering responsibility solely for the truss component designs and not for the technical information furnished by others which technical information and consequences thereof remain their sole responsibility.

The suitability and use of these drawings for any particular structure is the responsibility of the Building Designer in accordance with ANSI/TPI 1 Chapter 2. The Building Designer is responsible for determining that the dimensions and loads for each truss component match those required by the plans and by the actual use of the individual component, and for ascertaining that the loads shown on the drawings meet or exceed applicable building code requirements and any additional factors required in the particular application. Truss components using metal connector plates with integral teeth shall not be placed in environments that will cause the moisture content of the wood in which plates are embedded to exceed 19% and/or cause corrosion of connector plates and other metal fasteners.

The Truss Design Engineer shall not be responsible for items beyond the specific scope of the agreed contracted work set forth herein, including but not limited to: verifying the dimensions of the truss component, calculation of any of the truss component design loads, inspection of the truss components before or after installation, the design of temporary or permanent bracing and their attachment required in the roof and/or floor systems, the design of diaphragms or shear walls, the design of load transfer connections to and from diaphragms and shear walls, the design of load transfer to the foundation, the design of connections for truss components to their bearing supports, the design of the bearing supports, installation of the truss components, observation of the truss component installation process, review of truss assembly procedures, sequencing of the truss component installation, construction means and methods, site and/or worker safety in the installation of the truss components and/or its connections.

This document may be a high quality facsimile of the original engineering document which is a digitally signed electronic file with third party authentication. A wet or embossed seal copy of this engineering document is available upon request.

Temporary Lateral Restraint and Bracing:
Temporary lateral restraint and diagonal bracing shall be installed according to the provisions of BCSI chapters B1, B2, B7 and/or B10 (Building Component Safety Information, by TPI and SBCA), or as specified by the Building Designer or other Registered Design Professional. The required locations for lateral restraint and/or bracing depicted on these drawings are only for the permanent lateral support of the truss members to reduce buckling lengths, and do not apply to and may not be relied upon for the temporary stability of the truss components during their installation.

Permanent Lateral Restraint and Bracing:
The required locations for lateral restraint or bracing depicted on these drawings are for the permanent lateral support of the truss members to reduce buckling lengths. Permanent lateral support shall be installed according to the provisions of BCSI chapters B3, B7 and/or B10, or as specified by the Building Designer or other Registered Design Professional. These drawings do not depict or specify installation/erection bracing, wind bracing, portal bracing or similar building stability bracing which are parts of the overall building design to be specified, designed and detailed by the Building Designer.

Connector Plate Information:
Alpine connector plates are made of ASTM A653 or ASTM A1063 galvanized steel with the following designations, gauges and grades: W=Wave, 20ga, grade 40; H=High Strength, 20ga, grade 60; S=Super Strength, 18ga, grade 60. Information on model code compliance is contained in the ICC Evaluation Service report ESR-1118, available on-line at www.icc-es.org.

Fire Retardant Treated Lumber:
Fire retardant treated lumber must be properly re-dried and maintained below 19% or less moisture level through all stages of construction and usage. Fire retardant treated lumber may be more brittle than untreated lumber. Special handling care must be taken to prevent breakage during all handling activities.

General Notes (continued)

Key to Terms:
Information provided on drawings reflects a summary of the pertinent information required for the truss design. Detailed information on load cases, reactions, member lengths, forces and members requiring permanent lateral support may be found in calculation sheets available upon written request.

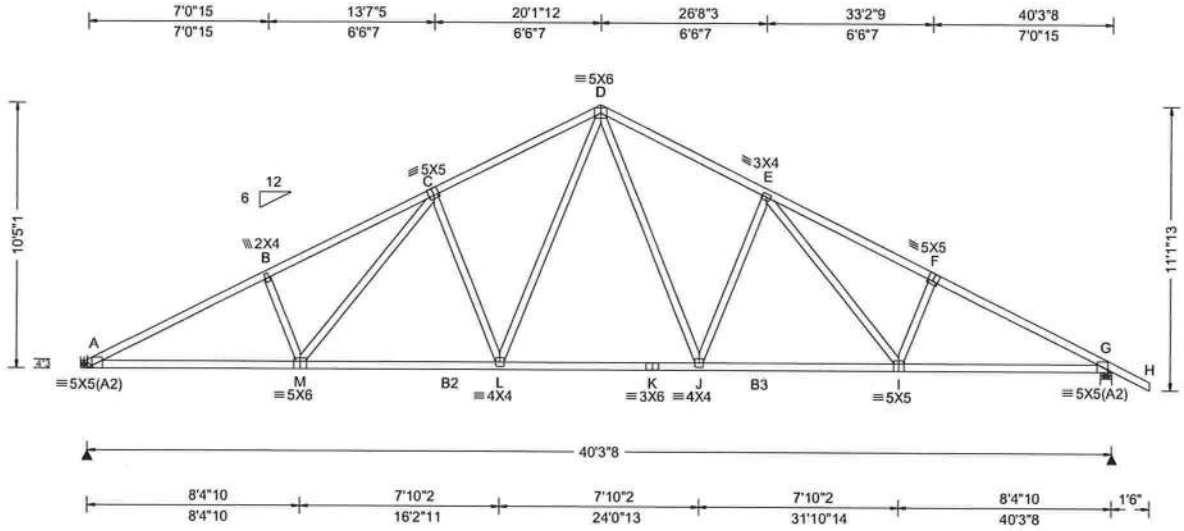
BCDL = Bottom Chord standard design Dead Load in pounds per square foot.
BCLL = Bottom Chord standard design Live Load in pounds per square foot.
CL = Certified lumber.
Des Ld = total of TCLL, TCDL, BCLL and BCDL Design Load in pounds per square foot.
FRT = Fire Retardant Treated lumber.
FRT-DB = D-Blaze Fire Retardant Treated lumber.
FRT-DC = Dricon Fire Retardant Treated lumber.
FRT-FP = FirePRO Fire Retardant Treated lumber.
FRT-FL = FlamePRO Fire Retardant Treated lumber.
FRT-FT = FlameTech Fire Retardant Treated lumber.
FRT-PG = PYRO-GUARD Fire Retardant Treated lumber.
g = green lumber.
HORZ(LL) = maximum Horizontal panel point deflection due to Live Load, in inches.
HORZ(TL) = maximum Horizontal panel point long term deflection in inches, due to Total Load, including creep adjustment.
HPL = additional Horizontal Load added to a truss Piece in pounds per linear foot or pounds.
Ic = Incised lumber.
FJ = Finger Jointed lumber.
L/# = user specified divisor for limiting span/deflection ratio for evaluation of actual L/defl value.
L/defl = ratio of Length between bearings, in inches, divided by the vertical Deflection due to creep, in inches, at the referenced panel point. Reported as 999 if greater than or equal to 999.
Loc = Location, starting location of left end of bearing or panel point (joint) location of deflection.
Max BC CSI = Maximum bending and axial Combined Stress Index for Bottom Chords for of all load cases.
Max TC CSI = Maximum bending and axial Combined Stress Index for Top Chords for of all load cases.
Max Web CSI= Maximum bending and axial Combined Stress Index for Webs for of all load cases.
NCBCLL = Non-Concurrent Bottom Chord design Live Load in pounds per square foot.
PL = additional Load applied at a user specified angle on a truss Piece in pounds per linear foot or pounds.
PLB = additional vertical load added to a Bottom chord Piece of a truss in pounds per linear foot or pounds
PLT = additional vertical load added to a Top chord Piece of a truss in pounds per linear foot or pounds.
PP = Panel Point.
R = maximum downward design Reaction, in pounds, from all specified gravity load cases, at the indicated location (Loc).
-R = maximum upward design Reaction, in pounds, from all specified gravity load cases, at the identified location (Loc).
Rh = maximum horizontal design Reaction in either direction, in pounds, from all specified gravity load cases, at the indicated location (Loc).
RL = maximum horizontal design Reaction in either direction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).
Rw = maximum downward design Reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the identified location (Loc).
TCDL = Top Chord standard design Dead Load in pounds per square foot.
TCLL = Top Chord standard design Live Load in pounds per square foot.
U = maximum Upward design reaction, in pounds, from all specified non-gravity (wind or seismic) load cases, at the indicated location (Loc).
VERT(CL) = maximum Vertical panel point deflection in inches due to Live Load and Creep Component of Dead Load in inches.
VERT(CTL) = maximum Vertical panel point deflection ratios due to Live Load and Creep Component of Dead Load, and maximum long term Vertical panel point deflection in inches due to Total load, including creep adjustment.
VERT(LL) = maximum Vertical panel point deflection in inches due to Live Load.
VERT(TL) = maximum Vertical panel point long term deflection in inches due to Total load, including creep adjustment.
W = Width of non-hanger bearing, in inches.

Refer to ASCE-7 for Wind and Seismic abbreviations.
Uppercase Acronyms not explained above are as defined in TPI 1.

References:

1. AWC: American Wood Council; 222 Catoctin Circle SE, Suite 201; Leesburg, VA 20175; www.awc.org.
2. ICC: International Code Council; www.iccsafe.org.
3. Alpine, a division of ITW Building Components Group Inc.: 514 Earth City Expressway, Suite 242, Earth City, MO 63045; www.alpineitw.com.
4. TPI: Truss Plate Institute, 2670 Crain Highway, Suite 203, Waldorf, MD 20601; www.tpinst.org.
5. SBCA: Wood Truss Council of America, 6300 Enterprise Lane, Madison, WI 53719; www.sbcindustry.com.

Job Number: 21-5032 Howard Res **Truss Label:** A01	Ply: 1 Qty: 13	SEQN: 397693 / T11 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1518.34317 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 4.03 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res/TC
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.230	J	999	360
VERT(TL): 0.420	J	999	240
HORZ(LL): 0.082	I	-	-
HORZ(TL): 0.149	I	-	-

Creep Factor: 2.0
Max TC CSI: 0.744
Max BC CSI: 0.951
Max Web CSI: 0.700

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	1879	/-	/-	/979	/283	/297
G	1984	/-	/-	/1066	/311	/-

Wind reactions based on MWFRS
A Brg Width = - Min Req = -
G Brg Width = 5.5 Min Req = 2.3
Bearing G is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	565	-3602	D - E	549	-2719
B - C	617	-3455	E - F	608	-3421
C - D	549	-2720	F - G	557	-3569

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - M	3143	-407	K - J	1972	-95
M - L	2595	-251	J - I	2592	-250
L - K	1972	-95	I - G	3108	-398

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
M - C	685	-137	D - J	1041	-171
C - L	256	-672	J - E	254	-665
L - D	1043	-172	E - I	645	-127

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2 B2,B3 2x4 SP M-31;
Webs 2x4 SP #3

Hangers / Ties

Recommended hanger connections are based on manufacturer tested capacities and calculations. Conditions may exist that require different connections than indicated. Refer to manufacturer publication for additional information.

Hanger specified assumes connection to supporting chord is located a minimum of five times the depth of the supporting chord from any unsupported end, unless unsupported chord end has 85% plating coverage.

Bearing at location x=0' uses the following support conditions: 0'
Bearing A (0', 9') HUS26
Supporting Member: (2)2x8 SP 2400f-2.0E
(14) 0.148"x3" nails into supporting member,
(4) 0.148"x3" nails into supported member.
(J) Hanger Support Required, by others

Loading

Truss passed check for 20 psf additional bottom chord live load in areas with 42"-high x 24"-wide clearance.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 10-5-1.

COA #0278

02/04/2021

****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
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Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing,any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses**A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec.2.**

For more information see this job's general notes page and these web sites: ALPINE: www.alpineitw.com; TPI: www.tpinst.org; SBCA: www.sbcindustry.com; ICC: www.iccsafe.org

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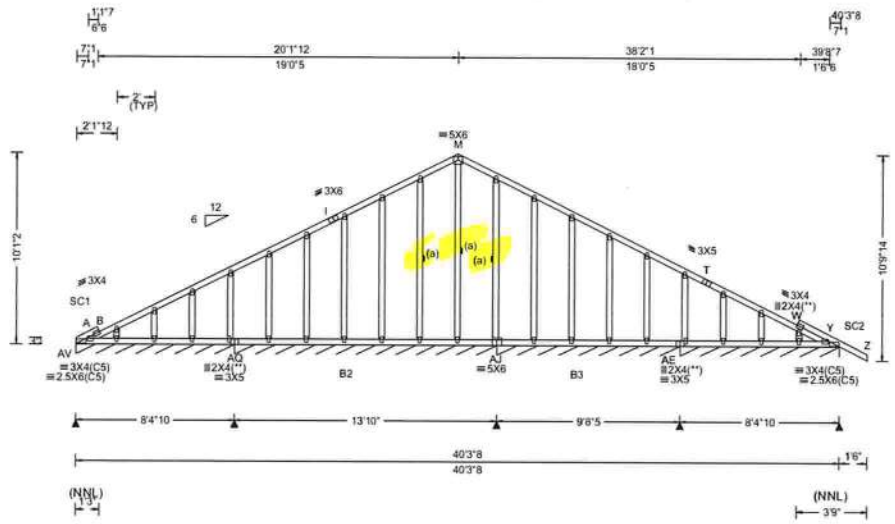
Job Number: 21-5032 Howard Res **Truss Label:** A02	Ply: 1 Qty: 2	SEQN: 397699 / T18 GABL FROM: Page 1 of 2	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1518.29980 KD / WHK 02/04/2021



Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: C Mean Height: 15.00 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 4.03 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA **Code / Misc Criteria** Bldg Code: FBC 7th Ed. 2020 Res TPI Std: 2014 Rep Factors Used: No FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.003 M 999 360 VERT(TL): 0.005 L 999 240 HORZ(LL): 0.009 R - - HORZ(TL): 0.012 R - - Creep Factor: 2.0 Max TC CSI: 0.389 Max BC CSI: 0.065 Max Web CSI: 0.145 VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
AV	*136	/-	/-	/113	/23	/51
AQ	*154	/-	/-	/74	/-	/-
AJ	* 120	/-	/-	/69	/33	/-
AE	*154	/-	/-	/94	/32	/-

Wind reactions based on MWFRS
AV Brg Width = 100 Min Req = -
AQ Brg Width = 166 Min Req = -
AJ Brg Width = 116 Min Req = -
AE Brg Width = 100 Min Req = -
Bearings AV, AQ, AJ, & AE are a rigid surface.
Members not listed have forces less than 375#

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2 B2,B3 2x4 SP M-31;
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;
Stack Chord: SC2 2x4 SP #2;

Bracing

(a) Continuous lateral restraint equally spaced on member.

Plating Notes

All plates are 2X4 except as noted.

(**) 3 plate(s) require special positioning. Refer to scaled plate plot details for special positioning requirements.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins

In lieu of structural panels use purlins to brace TC @ 24" oc.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

COA #0278

02/04/2021

****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
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Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing,any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation and bracing of trusses**A seal on this drawing or cover page listing this drawing, indicates acceptance of professional engineering responsibility solely for the design shown. The suitability and use of this drawing for any structure is the responsibility of the Building Designer per ANSI/TPI 1 Sec.2.**

For more information see this job's general notes page and these web sites: ALPINE: www.alpineitw.com; TPI: www.tpinst.org; SBCA: www.sbcindustry.com; ICC: www.iccsafe.org

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Job Number: 21-5032 Howard Res **Truss Label:** A02	Ply: 1 Qty: 2	SEQN: 397699 / T18 GABL FROM: Page 2 of 2	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1518.29980 KD / WHK 02/04/2021

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 10-1-2.

COA #0278

02/04/2021

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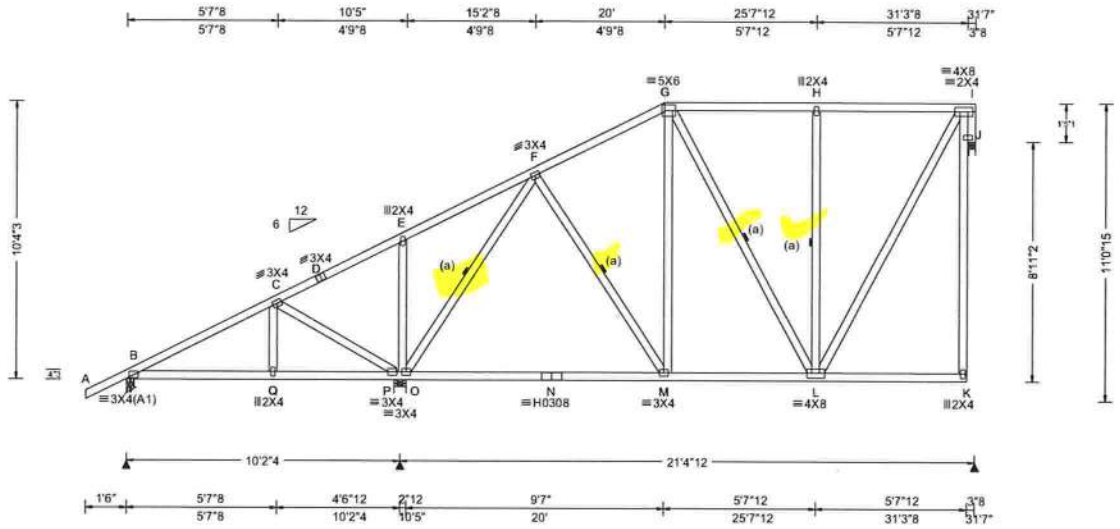
Job Number: 21-5032 Howard Res **Truss Label:** B01	Ply: 1 Qty: 17	SEQN: 397712 / T15 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1518.25570 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 16.16 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.16 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE, HS

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.041	M	999	360
VERT(TL): 0.071	M	999	240
HORZ(LL): 0.011	K	-	-
HORZ(TL): 0.020	K	-	-

Creep Factor: 2.0
Max TC CSI: 0.545
Max BC CSI: 0.537
Max Web CSI: 0.587

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	682	/-	/-	/400	/-	/276
P	1266	/-	/-	/749	/47	/-
J	1196	/-	/-	/528	/-	/-

Wind reactions based on MWFRS
B Brg Width = 3.5 Min Req = 1.5
P Brg Width = 5.5 Min Req = 1.5
J Brg Width = 3.0 Min Req = 1.5
Bearings B, P, & J are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	0	-806	F - G	0	-876
C - D	0	-531	G - H	0	-531
D - E	0	-492	H - I	0	-531
E - F	0	-542			

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - Q	664	-111	O - N	720	-34
Q - P	665	-112	N - M	720	-34
P - O	436	-43	M - L	720	0

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
O - F	0	-570	L - I	1059	0
G - M	395	-11	H - L	0	-419
G - L	52	-385	I - J	126	-1039

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP M-31
Webs 2x4 SP #3
Rt Bearing Leg: 2x4 SP #3;

Bracing

(a) Continuous lateral restraint equally spaced on member.

Loading

Truss passed check for 20 psf additional bottom chord live load in areas with 42"-high x 24"-wide clearance.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

Refer to DWG PB160160118 for piggyback details.

The overall height of this truss excluding overhang is 10-4-3.

COA #0278

02/04/2021

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****IMPORTANT**** FURNISH THIS DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS

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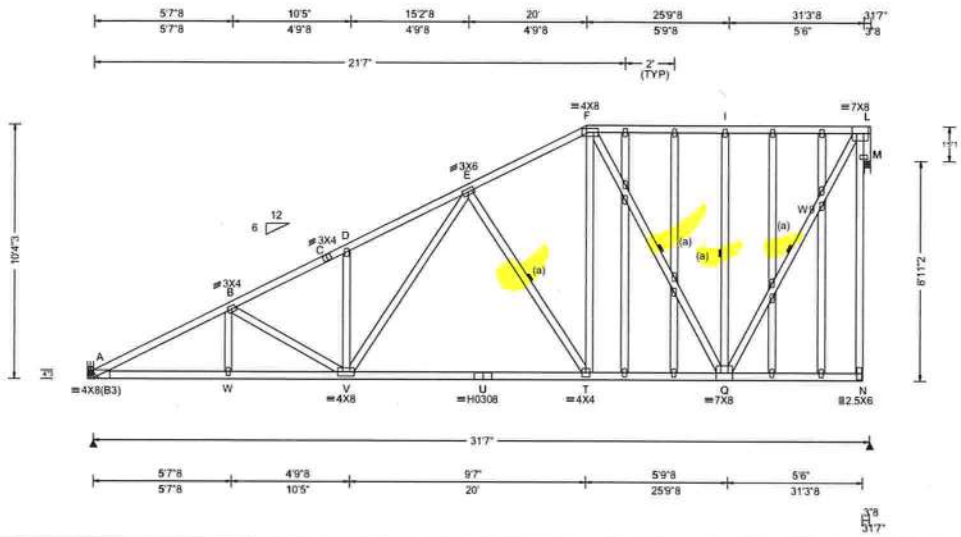
For more information see this job's general notes page and these web sites: ALPINE: www.alpineitw.com; TPI: www.tpinst.org; SBCA: www.sbcindustry.com; ICC: www.iccsafe.org

ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** B02	Ply: 1 Qty: 1	SEQN: 397717 / T9 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1518.22650 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.16 ft
Loc. from endwall: not in 13.25 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Varies by Ld Case
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE, HS

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.136	D	999	360
VERT(TL): 0.324	D	999	240
HORZ(LL): 0.036	D	-	-
HORZ(TL): 0.087	D	-	-

Creep Factor: 2.0
Max TC CSI: 0.787
Max BC CSI: 0.500
Max Web CSI: 0.942

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	2177	/-	/-	/1099	/349	/549
M	2453	/-	/-	/994	/532	/-

Wind reactions based on MWFRS
A Brg Width = - Min Req = -
M Brg Width = 3.0 Min Req = 1.5
Bearing M is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	644	- 4155	E - F	414	- 2130
B - C	557	- 3571	F - I	267	- 1194
C - D	562	- 3357	I - L	267	- 1192
D - E	704	- 3577			

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - W	3606	- 1029	U - T	2436	- 638
W - V	3606	- 1030	T - Q	1755	- 417
V - U	2436	- 638			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
B - V	245	- 609	F - Q	311	- 1160
D - V	237	- 599	I - Q	134	- 590
V - E	1185	- 331	Q - L	2453	- 547
E - T	411	- 1266	L - M	556	- 1900
F - T	1218	- 261			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP M-31
Webs 2x4 SP #3 W9 2x4 SP #2;
Rt Bearing Leg: 2x4 SP #3;

Bracing

(a) Continuous lateral restraint equally spaced on member.

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Truss passed check for 20 psf additional bottom chord live load in areas with 42"-high x 24"-wide clearance.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Refer to DWG PB160160118 for piggyback details.

The overall height of this truss excluding overhang is 10-4-3.

COA #0478

02/04/2021

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ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
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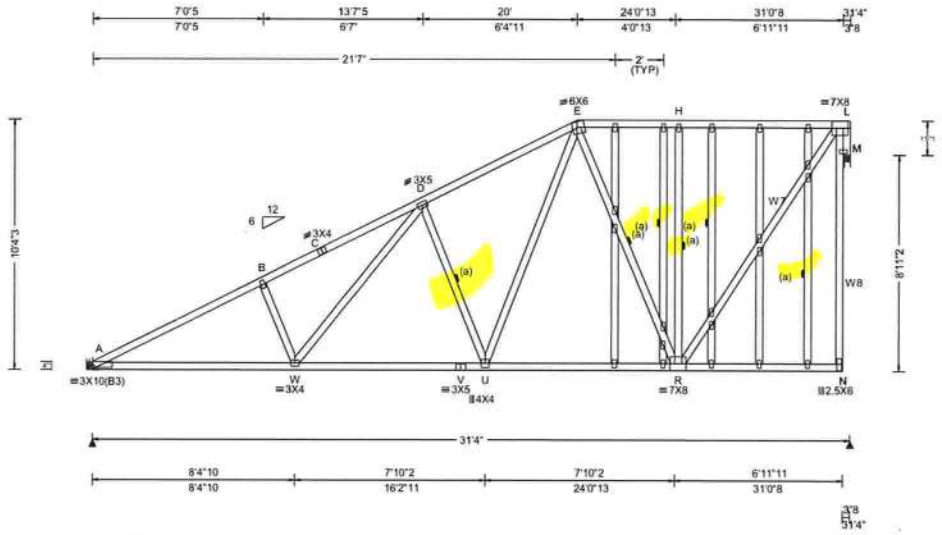
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** B03	Ply: 1 Qty: 1	SEQN: 397725 / T32 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1517.56847 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.16 ft
Loc. from endwall: not in 13.25 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.126	J	999	360
VERT(TL): 0.302	J	999	240
HORZ(LL): 0.035	B	-	-
HORZ(TL): 0.084	B	-	-

Creep Factor: 2.0
Max TC CSI: 0.508
Max BC CSI: 0.537
Max Web CSI: 0.797

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	2157	/-	/-	/1090	/348	/551
M	2432	/-	/-	/989	/533	/-

Wind reactions based on MWFRS
A Brg Width = - Min Req = -
M Brg Width = 3.0 Min Req = 1.5
Bearing M is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	627	- 4045	D - E	545	- 2664
B - C	672	- 3776	E - H	307	- 1352
C - D	703	- 3637	H - L	306	- 1350

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - W	3487	- 994	V - U	2649	- 709
W - V	2649	- 709	U - R	1715	- 422

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
B - W	317	- 715	E - R	307	- 953
W - D	944	- 275	R - L	2453	- 554
D - U	441	- 1270	H - R	92	- 484
U - E	1332	- 358	L - M	597	- 2000

Lumber

Value Set: NDS 2015

Top chord 2x4 SP M-31
Bot chord 2x4 SP M-31
Webs 2x4 SP #3 W7 2x4 SP M-31; W8 2x4 SP #2;
Rt Bearing Leg: 2x4 SP #3;

Bracing

(a) Continuous lateral restraint equally spaced on member.

Plating Notes

All plates are 2X4 except as noted.

Hangers / Ties

(J) Hanger Support Required, by others

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Truss passed check for 20 psf additional bottom chord live load in areas with 42"-high x 24"-wide clearance.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Refer to DWG PB160160118 for piggyback details.

The overall height of this truss excluding overhang is 10-4-3.

COA #0278

02/04/2021

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ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
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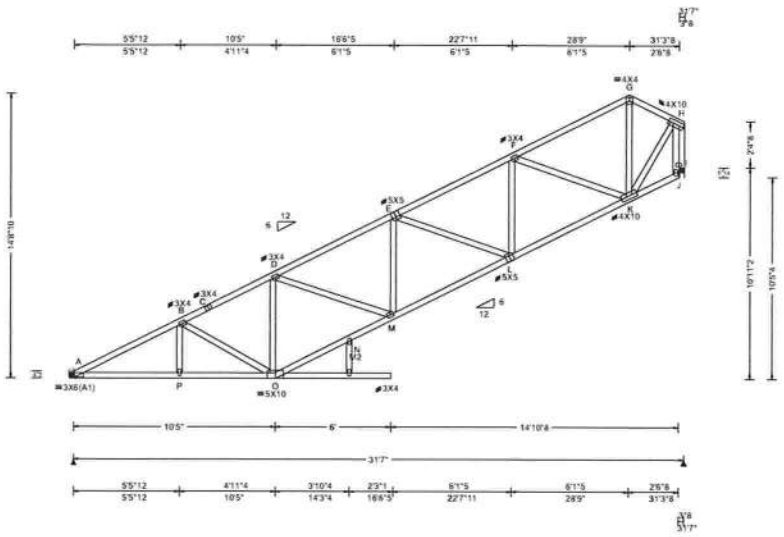
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** B04	Ply: 1 Qty: 2	SEQN: 397681 / T31 SPEC FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1517.43683 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 16.53 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.16 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.138	N	999	360
VERT(TL): 0.265	N	999	240
HORZ(LL): 0.038	N	-	-
HORZ(TL): 0.082	N	-	-

Creep Factor: 2.0
Max TC CSI: 0.415
Max BC CSI: 0.739
Max Web CSI: 0.853

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs)

Loc	Gravity R+	Gravity / R-	Gravity / Rh	Non-Gravity / Rw	Non-Gravity / U	Non-Gravity / RL
A	1316	/-	/-	/830	/-	/378
I	1328	/-	/-	/880	/120	/-

Wind reactions based on MWFRS
A Brg Width = - Min Req = -
I Brg Width = 3.0 Min Req = 1.5
Bearing I is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	0	-2451	E - F	132	-1931
B - C	0	-2047	F - G	68	-809
C - D	0	-2008	G - H	82	-732
D - E	103	-2338			

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - P	2128	-296	N - M	2012	-252
P - O	2126	-297	M - L	2284	-307
O - N	1961	-272	L - K	1861	-243

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
B - O	67	-403	F - K	150	-1056
D - O	138	-562	G - K	375	0
E - L	63	-391	K - H	1100	-113
L - F	513	0	H - I	132	-1208

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3 M2 2x4 SP #2;
Filler 2x4 SP #2
Rt Bearing Leg: 2x4 SP #3;

Plating Notes
All plates are 2X4 except as noted.

Hangers / Ties
(J) Hanger Support Required, by others

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins
Laterally brace BC at 24" oc in lieu of rigid ceiling.
Laterally brace BC above filler at 24" oc.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right end vertical not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
Shim all supports to solid bearing.
The overall height of this truss excluding overhang is 14-8-10.

Note: Laterally brace bottom chord above filler at 2'0" O.C.Max. including a lateral brace at chord ends.

COA #0278
02/04/2021

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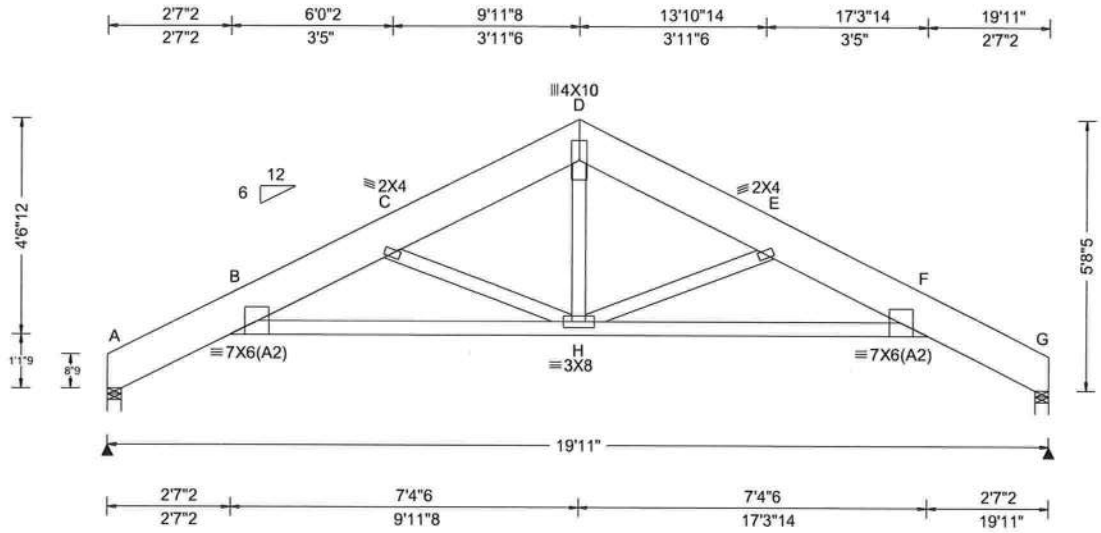
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** C01	Ply: 1 Qty: 3	SEQN: 397811 / T23 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.47293 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 20.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 4.50 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.091	C	999	360
VERT(TL): 0.176	C	999	240
HORZ(LL): 0.050	H	-	-
HORZ(TL): 0.097	H	-	-

Creep Factor: 2.0
Max TC CSI: 0.203
Max BC CSI: 0.874
Max Web CSI: 0.212

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	768	/-	/-	/414	/227	/125
G	768	/-	/-	/414	/227	/-

Wind reactions based on MWFRS
A Brg Width = 3.5 Min Req = 1.5
G Brg Width = 3.5 Min Req = 1.5
Bearings A & G Fcperp = 565psi.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	458	- 1586	D - E	325	- 1161
C - D	325	- 1161	E - F	458	- 1586

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - H	1542	- 362	H - F	1542	- 362

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
C - H	247	- 542	H - E	247	- 542
D - H	512	- 84			

Lumber

Value Set: NDS 2015

Top chord 2x10 SP 2400f-2.0E
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 14-5-14.

COA #0278

02/04/2021

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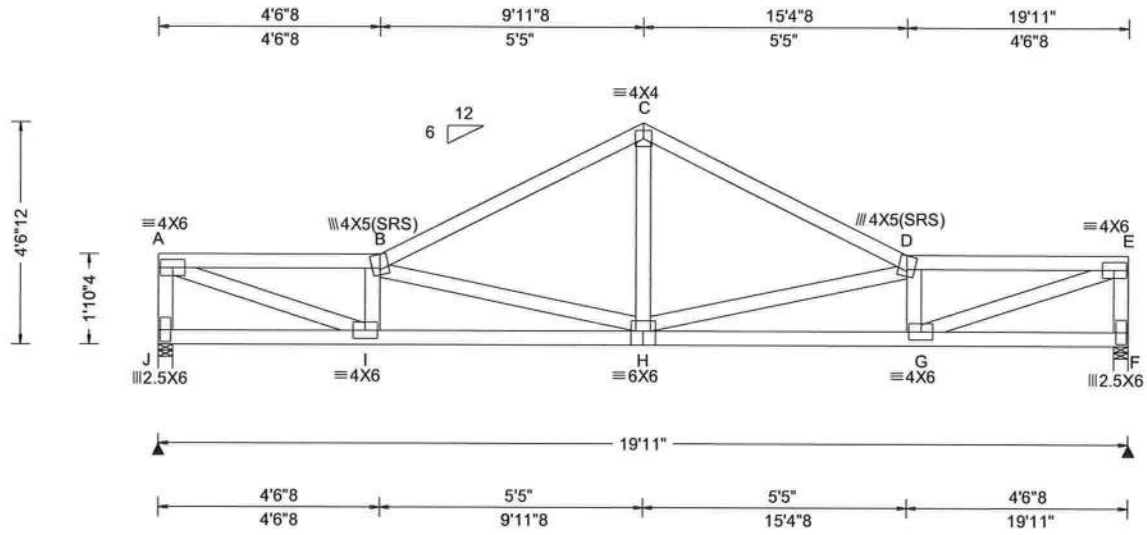
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** C02	Ply: 1 Qty: 1	SEQN: 397789 / T8 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.45260 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 21.14 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 4.50 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.085	H	999	360
VERT(TL): 0.176	H	999	240
HORZ(LL): 0.021	A	-	-
HORZ(TL): 0.043	A	-	-

Creep Factor: 2.0
Max TC CSI: 0.333
Max BC CSI: 0.614
Max Web CSI: 0.718

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
J	820	/-	/-	/422	/226	/68
F	820	/-	/-	/422	/226	/-

Wind reactions based on MWFRS
J Brg Width = 3.5 Min Req = 1.5
F Brg Width = 3.5 Min Req = 1.5
Bearings J & F are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	484	- 1788	C - D	349	- 1203
B - C	349	- 1203	D - E	484	- 1788

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
I - H	1894	- 528	H - G	1894	- 528

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
A - J	238	- 774	H - D	295	- 916
A - I	1884	- 509	D - G	242	- 578
I - B	242	- 578	G - E	1884	- 509
B - H	295	- 916	E - F	238	- 774
C - H	647	- 112			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

End verticals not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 4-6-12.

COA #0278

02/04/2021

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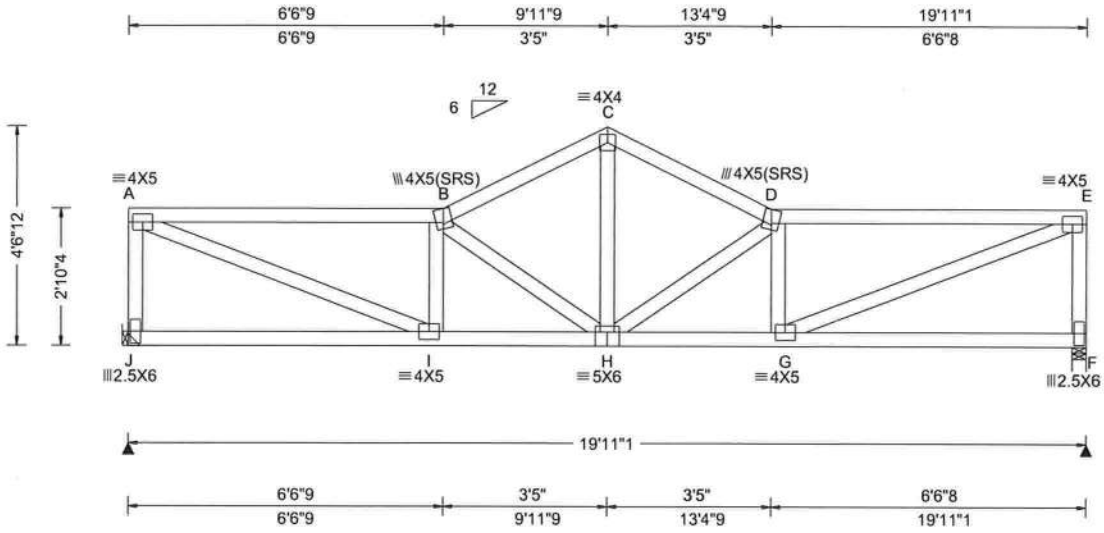
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** C03	Ply: 1 Qty: 1	SEQN: 397792 / T3 SPEC FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.42690 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 21.64 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 4.50 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.068	H	999	360
VERT(TL): 0.141	H	999	240
HORZ(LL): 0.016	A	-	-
HORZ(TL): 0.034	A	-	-

Creep Factor: 2.0
Max TC CSI: 0.724
Max BC CSI: 0.535
Max Web CSI: 0.579

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
J	820	/-	/-	/417	/235	/43
F	820	/-	/-	/417	/235	/-

Wind reactions based on MWFRS
J Brg Width = - Min Req = -
F Brg Width = 3.5 Min Req = 1.5
Bearing F is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	399	- 1434	C - D	351	- 1145
B - C	351	- 1145	D - E	399	- 1433

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
I - H	1486	- 425	H - G	1486	- 425

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
A - J	260	- 762	H - D	205	- 650
A - I	1521	- 422	D - G	229	- 467
I - B	229	- 467	G - E	1520	- 422
B - H	206	- 651	E - F	260	- 762
C - H	834	- 232			

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Hangers / Ties
(J) Hanger Support Required, by others

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Wind
Wind loads based on MWFRS with additional C&C member design.
End verticals not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
The overall height of this truss excluding overhang is 4-6-12.

COA #0278

02/04/2021

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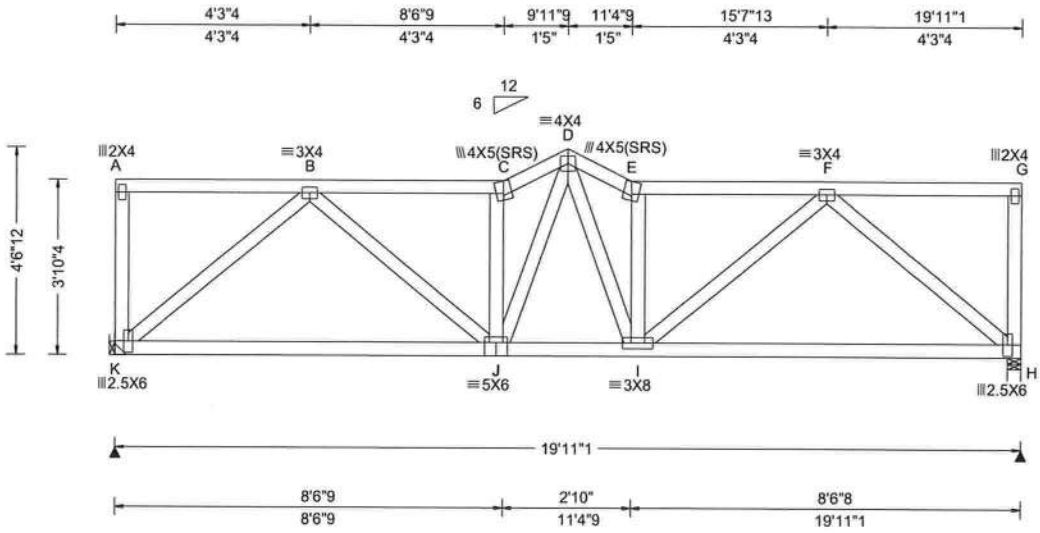
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** C04	Ply: 1 Qty: 1	SEQN: 397795 / T26 SPEC FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.40760 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 22.14 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.041	E	999	360
VERT(TL): 0.085	E	999	240
HORZ(LL): 0.014	A	-	-
HORZ(TL): 0.030	A	-	-

Creep Factor: 2.0
Max TC CSI: 0.253
Max BC CSI: 0.704
Max Web CSI: 0.582

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
K	820	/-	/-	/413	/244	/17
H	820	/-	/-	/413	/244	/-

Wind reactions based on MWFRS
K Brg Width = - Min Req = -
H Brg Width = 3.5 Min Req = 1.5
Bearing H is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	316	- 1149	D - E	385	- 1329
C - D	386	- 1328	E - F	316	- 1150

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
K - J	776	- 264	I - H	776	- 263
J - I	987	- 272			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
K - B	346	- 996	D - I	560	- 157
B - J	493	- 69	E - I	256	- 724
J - C	257	- 724	I - F	494	- 69
J - D	558	- 159	F - H	345	- 997

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Hangers / Ties

(J) Hanger Support Required, by others

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

End verticals not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 4-6-12.

COA #0278

02/04/2021

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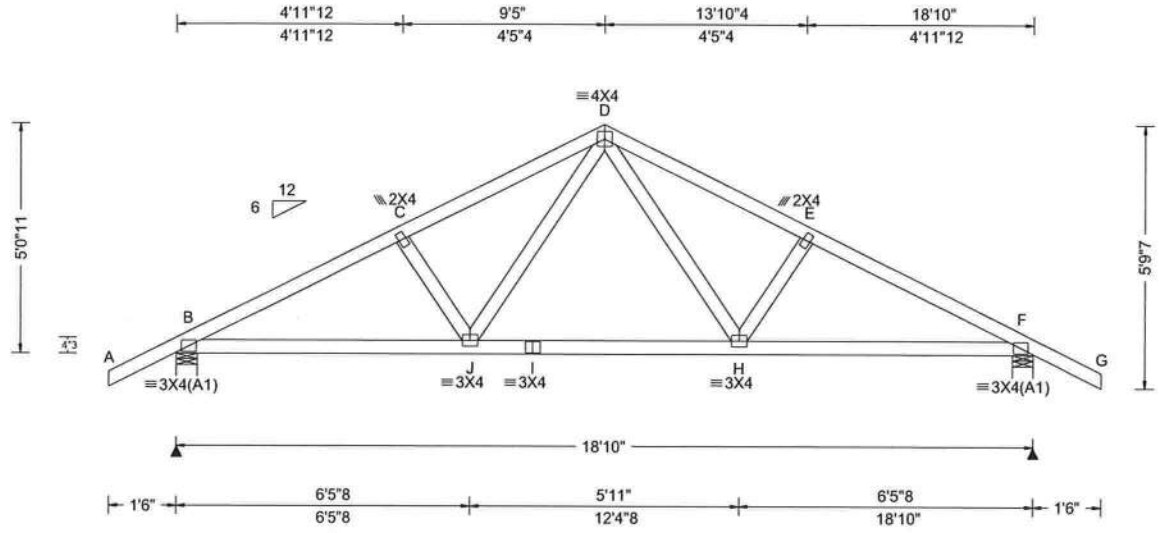
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** D01	Ply: 1 Qty: 1	SEQN: 397740 / T7 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.38663 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.036	J	999	360
VERT(TL): 0.072	J	999	240
HORZ(LL): 0.014	H	-	-
HORZ(TL): 0.028	H	-	-

Creep Factor: 2.0
Max TC CSI: 0.211
Max BC CSI: 0.441
Max Web CSI: 0.149

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	876	/-	/-	/533	/158	/159
F	876	/-	/-	/533	/158	/-

Wind reactions based on MWFRS
B Brg Width = 5.5 Min Req = 1.5
F Brg Width = 5.5 Min Req = 1.5
Bearings B & F are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	240	- 1267	D - E	250	- 1120
C - D	250	- 1120	E - F	240	- 1267

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - J	1078	- 137	I - H	739	- 32
J - I	739	- 32	H - F	1078	- 137

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
J - D	392	- 63	D - H	392	- 63

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 5-0-11.

COA #0278

02/04/2021

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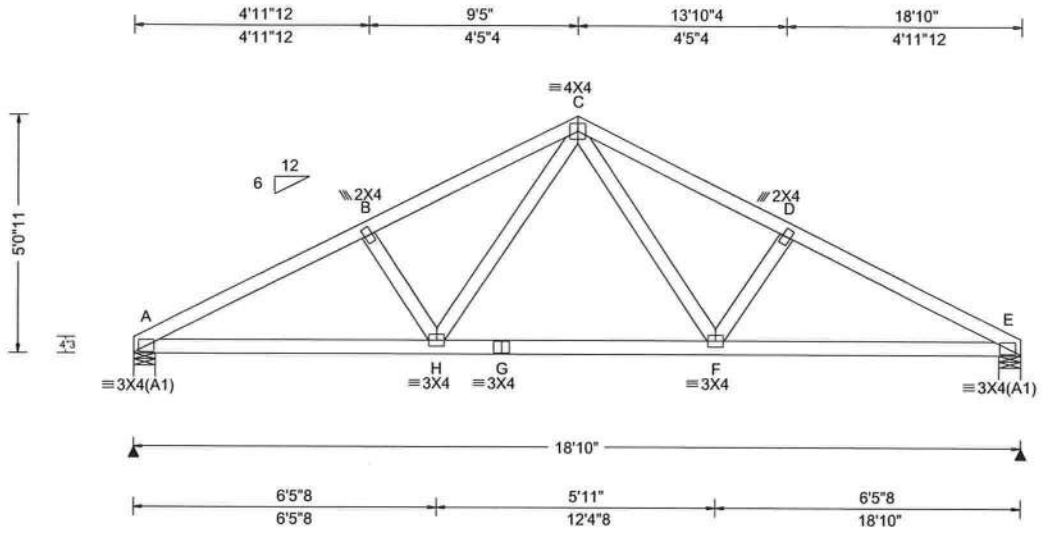
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** D02	Ply: 1 Qty: 1	SEQN: 397737 / T19 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.34240 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 4.50 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.035	H	999	360
VERT(TL): 0.072	H	999	240
HORZ(LL): 0.014	F	-	-
HORZ(TL): 0.029	F	-	-

Creep Factor: 2.0
Max TC CSI: 0.218
Max BC CSI: 0.454
Max Web CSI: 0.158

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	776	/-	/-	/447	/132	/121
E	776	/-	/-	/447	/132	/-

Wind reactions based on MWFRS
A Brg Width = 5.5 Min Req = 1.5
E Brg Width = 5.5 Min Req = 1.5
Bearings A & E are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	251	- 1306	C - D	261	- 1158
B - C	261	- 1158	D - E	251	- 1306

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - H	1118	- 171	G - F	758	- 59
H - G	758	- 59	F - E	1118	- 171

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
H - C	416	- 70	C - F	416	- 70

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 5-0-11.

COA #0278

02/04/2021

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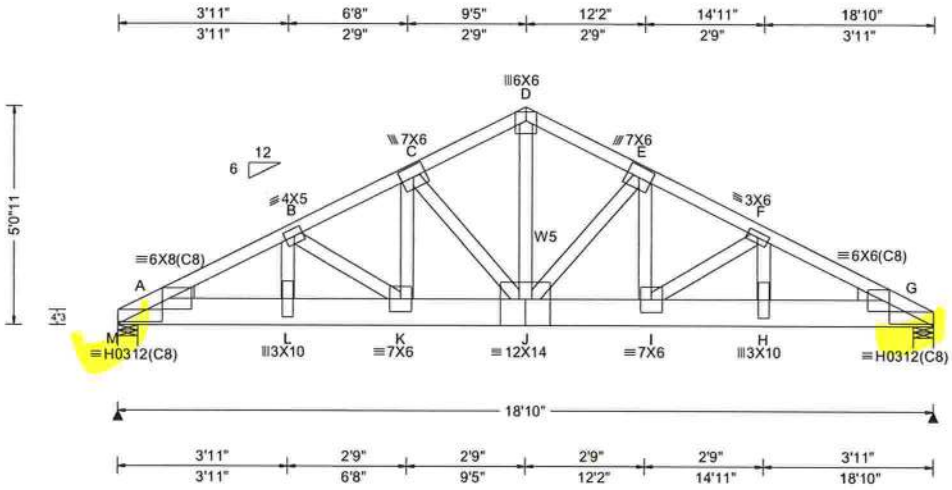
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** D03	Ply: 2 Qty: 1	SEQN: 397754 / T33 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1516.32050 KD / WHK 02/04/2021

2 Complete Trusses Required



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 0.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 4.50 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res/TC
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
HS, WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.154	K	999	360
VERT(TL): 0.305	K	730	240
HORZ(LL): 0.040	H	-	-
HORZ(TL): 0.080	H	-	-

Creep Factor: 2.0
Max TC CSI: 0.487
Max BC CSI: 0.656
Max Web CSI: 0.794

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs)

	Gravity			Non-Gravity	
Loc	R+ / R-	/ Rh	/ Rw	/ U	/ RL
M	8519 / -	/ -	/ -	/1333	/ -
G	8908 / -	/ -	/ -	/1071	/ -

Wind reactions based on MWFRS
M Brg Width = 5.5 Min Req = 3.5
G Brg Width = 5.5 Min Req = 3.7
Bearings M & G are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	1273	- 8176	D - E	825	- 5374
B - C	1066	- 6883	E - F	1037	- 6887
C - D	825	- 5375	F - G	1134	- 8022

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - L	7308	- 1134	J - I	5997	- 902
L - K	7252	- 1126	I - H	7121	- 1005
K - J	5994	- 925	H - G	7169	- 1008

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
L - B	1294	- 187	J - E	265	- 1876
B - K	224	- 1389	E - I	2084	- 272
K - C	2078	- 314	I - F	105	- 1221
C - J	301	- 1871	F - H	1124	- 72
D - J	4637	- 689			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP M-31
Bot chord 2x8 SP 2400f-2.0E
Webs 2x4 SP #3 W5 2x4 SP M-31;
Lt Wedge: 2x4 SP #3;Rt Wedge: 2x4 SP #3;

Nailnote

Nail Schedule:0.128"x3", min. nails
Top Chord: 1 Row @12.00" o.c.
Bot Chord: 2 Rows @ 3.50" o.c. (Each Row)
Webs : 1 Row @ 4" o.c.
Use equal spacing between rows and stagger nails in each row to avoid splitting.

Special Loads

-----(Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)
TC: From 62 plf at 0.00 to 62 plf at 18.83
BC: From 10 plf at 0.00 to 10 plf at 18.83
BC: 1879 lb Conc. Load at 2.06, 4.06, 6.06, 8.06 10.06,12.06
BC: 2157 lb Conc. Load at 14.06
BC: 1316 lb Conc. Load at 16.06,18.06

Wind

Wind loads and reactions based on MWFRS.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 5-0-11.

THIS TRUSS MUST BE INSTALLED AS SHOWN AND NOT END FOR END.

COA #0278
02/04/2021

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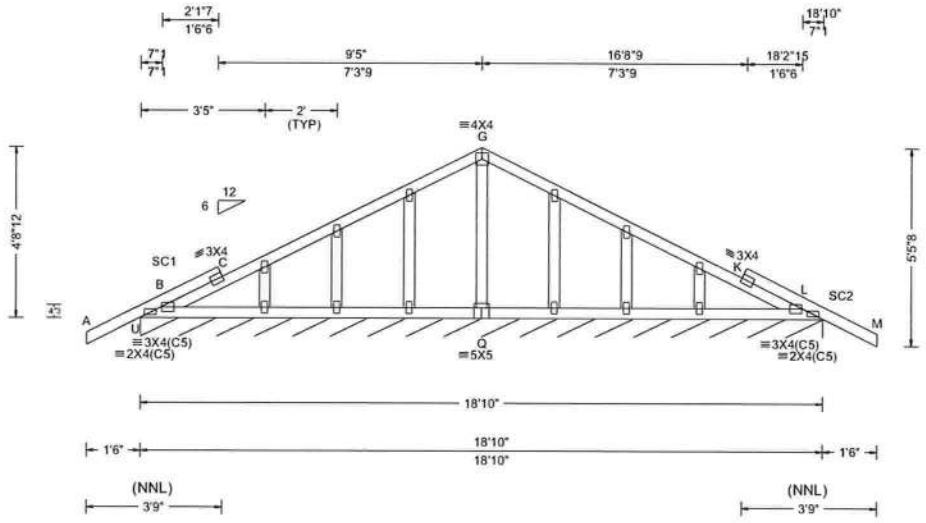
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** D04	Ply: 1 Qty: 1	SEQN: 397745 / T13 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1515.47307 KD / WHK 02/04/2021



Loading Criteria (psf)		Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs), or *=PLF
TCLL:	20.00	Wind Std: ASCE 7-16	Pg: NA Ct: NA CAT: NA	PP Deflection in loc L/defl L/#	Gravity / Non-Gravity
TCDL:	10.00	Speed: 130 mph	Pf: NA Ce: NA	VERT(LL): 0.003 K 999 360	Loc R+ / R- / Rh / Rw / U / RL
BCLL:	0.00	Enclosure: Closed	Lu: NA Cs: NA	VERT(TL): 0.006 K 999 240	U* 142 /- /- /61 /- /3
BCDL:	10.00	Risk Category: II	Snow Duration: NA	HORZ(LL): -0.001 K - -	Wind reactions based on MWFRS
Des Ld:	40.00	EXP: C		HORZ(TL): 0.002 K - -	U Brg Width = 226 Min Req = -
NCBCLL:	10.00	Mean Height: 15.00 ft	**Code / Misc Criteria**	Creep Factor: 2.0	Bearing U is a rigid surface.
Soffit:	2.00	TCDL: 5.0 psf	Bldg Code: FBC 7th Ed. 2020 Res	Max TC CSI: 0.387	Members not listed have forces less than 375#
Load Duration:	1.25	BCDL: 5.0 psf	TPI Std: 2014	Max BC CSI: 0.054	
Spacing:	24.0 "	MWFRS Parallel Dist: 0 to h/2	Rep Factors Used: Varies by Material	Max Web CSI: 0.047	
		C&C Dist a: 3.00 ft	FT/RT:20(0)/10(0)		
		Loc. from endwall: Any	Plate Type(s):		
		GCpi: 0.18	WAVE	VIEW Ver: 20.01.01A.0724.11	
		Wind Duration: 1.60			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;
Stack Chord: SC2 2x4 SP #2;

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins

In lieu of structural panels use purlins to brace TC @ 24" oc.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 4-8-12.

COA #0778

02/04/2021

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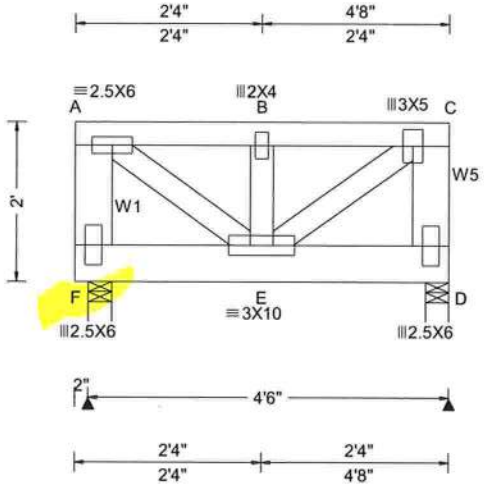
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** FT1	Ply: 2 Qty: 1	SEQN: 397822 / T4 FLAT FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1515.45077 KD / WHK 02/04/2021

2 Complete Trusses Required



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 0.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 19.93 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.009	B	999	360
VERT(TL): 0.017	B	999	240
HORZ(LL): 0.002	A	-	-
HORZ(TL): 0.004	A	-	-

Creep Factor: 2.0
Max TC CSI: 0.554
Max BC CSI: 0.078
Max Web CSI: 0.398

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
F	3816	/-	/-	/-	/883	/-
D	2662	/-	/-	/-	/412	/-

Wind reactions based on MWFRS
F Brg Width = 3.5 Min Req = 1.6
D Brg Width = 3.5 Min Req = 1.5
Bearings F & D are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	144	- 890	B - C	144	- 890

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
A - F	117	- 670	E - C	1008	- 165
A - E	1044	- 167	C - D	155	- 1087
B - E	113	- 884			

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x6 SP 2400f-2.0E
Webs 2x4 SP #3 W1,W5 2x6 SP 2400f-2.0E;

Nailnote
Nail Schedule:0.128"x3", min. nails
Top Chord: 1 Row @ 2.50" o.c.
Bot Chord: 2 Rows @ 4.00" o.c. (Each Row)
Webs : 1 Row @ 4" o.c.
Use equal spacing between rows and stagger nails in each row to avoid splitting.

Special Loads
------(Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)
TC: From 60 plf at 0.00 to 60 plf at 4.67
BC: From 20 plf at 0.00 to 20 plf at 4.67
TC: 1328 lb Conc. Load at 2.06, 4.06
BC: 2432 lb Conc. Load at 0.13
BC: 508 lb Conc. Load at 2.06, 4.06

Purlins
The TC of this truss shall be braced with attached spans at 24" oc in lieu of structural sheathing.

Wind
Wind loads and reactions based on MWFRS.
End verticals not exposed to wind pressure.
Left cantilever is exposed to wind

Additional Notes
Truss must be installed as shown with top chord up.
The overall height of this truss excluding overhang is 2-0-0.

COA #0278

02/04/2021

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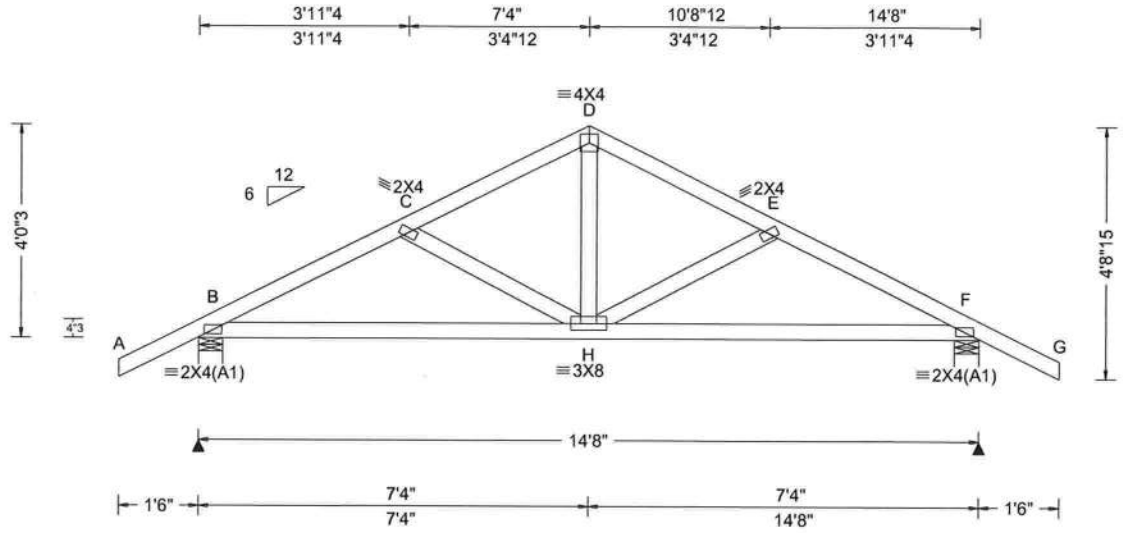
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** G01	Ply: 1 Qty: 4	SEQN: 397757 / T6 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1515.24343 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.021	H	999	360
VERT(TL): 0.042	H	999	240
HORZ(LL): 0.009	H	-	-
HORZ(TL): 0.017	H	-	-

Creep Factor: 2.0
Max TC CSI: 0.184
Max BC CSI: 0.524
Max Web CSI: 0.156

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	704	/-	/-	/435	/128	/132
F	704	/-	/-	/435	/128	/-

Wind reactions based on MWFRS
B Brg Width = 5.5 Min Req = 1.5
F Brg Width = 5.5 Min Req = 1.5
Bearings B & F are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	189	-922	D - E	143	-702
C - D	143	-702	E - F	189	-922

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - H	781	-100	H - F	781	-100

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.
D - H	410	-34

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 4-0-3.

COA #0278

02/04/2021

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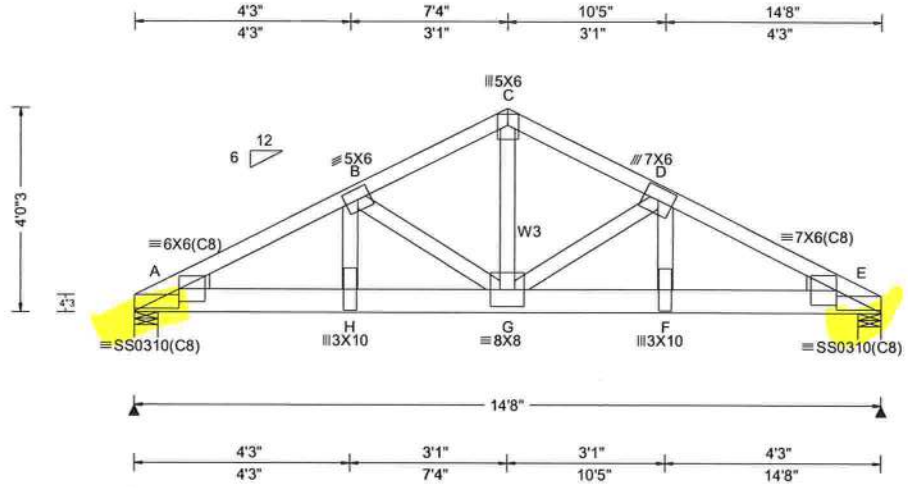
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** G02	Ply: 2 Qty: 1	SEQN: 397766 / T16 COMN FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1515.13867 KD / WHK 02/04/2021

2 Complete Trusses Required



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 0.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
18SS, WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.110	G	999	360
VERT(TL): 0.219	G	788	240
HORZ(LL): 0.033	F	-	-
HORZ(TL): 0.065	F	-	-

Creep Factor: 2.0
Max TC CSI: 0.476
Max BC CSI: 0.930
Max Web CSI: 0.948

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	7477	/-	/-	/-	/1255	/-
E	8821	/-	/-	/-	/1470	/-

Wind reactions based on MWFRS
A Brg Width = 5.5 Min Req = 3.1
E Brg Width = 5.5 Min Req = 3.7
Bearings A & E are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	1136	-6779	C - D	817	-4870
B - C	816	-4866	D - E	1180	-7054

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - H	6050	-1010	G - F	6229	-1039
H - G	5977	-998	F - E	6312	-1052

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
H - B	1913	-296	G - D	385	-2305
B - G	335	-1997	D - F	2173	-338
C - G	4198	-682			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP M-31
Bot chord 2x6 SP 2400f-2.0E
Webs 2x4 SP #3 W3 2x4 SP #2;
Lt Wedge: 2x4 SP #3;Rt Wedge: 2x4 SP #3;

Nailnote

Nail Schedule:0.128"x3", min. nails
Top Chord: 1 Row @12.00" o.c.
Bot Chord: 2 Rows @ 3.00" o.c. (Each Row)
Webs : 1 Row @ 4" o.c.
Use equal spacing between rows and stagger nails in each row to avoid splitting.

Special Loads

------(Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)
TC: From 62 plf at 0.00 to 62 plf at 14.67
BC: From 10 plf at 0.00 to 10 plf at 14.67
BC: 2177 lb Conc. Load at 2.06, 4.06, 6.06, 8.06 10.06,12.06,13.40

Wind

Wind loads and reactions based on MWFRS.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 4-0-3.

THIS TRUSS MUST BE INSTALLED AS SHOWN AND NOT END FOR END.

WILLIAM H. KRICK LICENSE No. 70861 STATE OF FLORIDA PROFESSIONAL ENGINEER

COA #0278

02/04/2021

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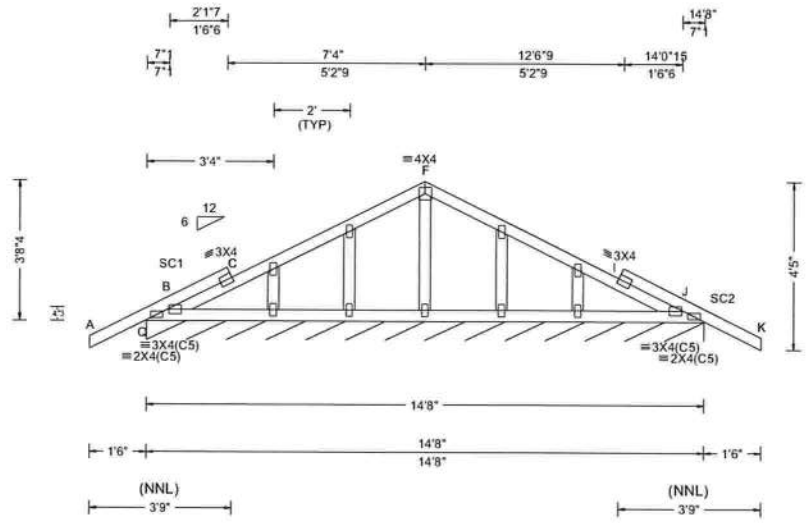
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** G03	Ply: 1 Qty: 1	SEQN: 397760 / T29 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1514.50150 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Varies by Load
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.002	C	999	360
VERT(TL): 0.005	C	999	240
HORZ(LL): 0.001	C	-	-
HORZ(TL): 0.002	C	-	-

Creep Factor: 2.0
Max TC CSI: 0.387
Max BC CSI: 0.050
Max Web CSI: 0.033

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
Q*	144	/-	/-	/63	/-	/4

Wind reactions based on MWFRS
Q Brg Width = 175 Min Req = -
Bearing Q is a rigid surface.
Members not listed have forces less than 375#

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;
Stack Chord: SC2 2x4 SP #2;

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins

In lieu of structural panels use purlins to brace TC @ 24" oc.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 3-8-4.

COA #0278

02/04/2021

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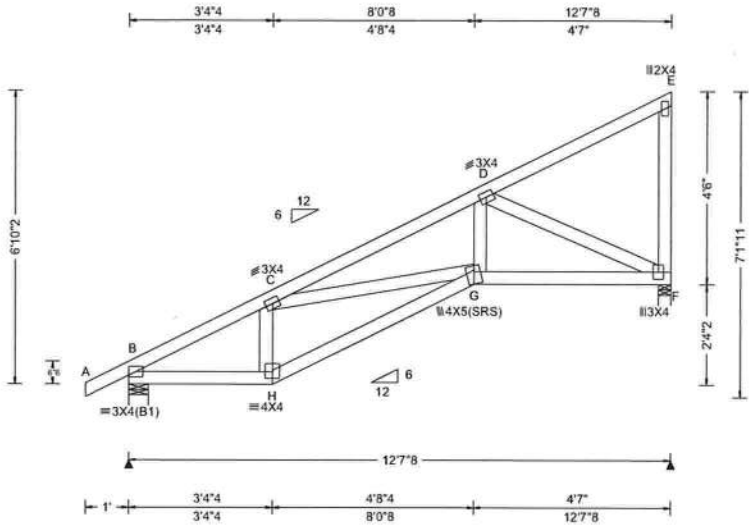
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H01	Ply: 1 Qty: 2	SEQN: 397778 / T12 MONO FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1514.47770 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 19.02 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.027	G	999	360
VERT(TL): 0.055	G	999	240
HORZ(LL): 0.011	F	-	-
HORZ(TL): 0.023	F	-	-

Creep Factor: 2.0
Max TC CSI: 0.329
Max BC CSI: 0.379
Max Web CSI: 0.392

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	599	/-	/-	/391	/-	/181
F	518	/-	/-	/367	/80	/-

Wind reactions based on MWFRS
B Brg Width = 5.5 Min Req = 1.5
F Brg Width = 3.5 Min Req = 1.5
Bearings B & F are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	0	- 827	C - D	53	- 1033

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - H	692	- 119	G - F	814	- 130
H - G	788	- 140			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
G - D	495	- 4	D - F	143	- 897

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right end vertical not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
The overall height of this truss excluding overhang is 6-10-2.

COA #0278
02/04/2021

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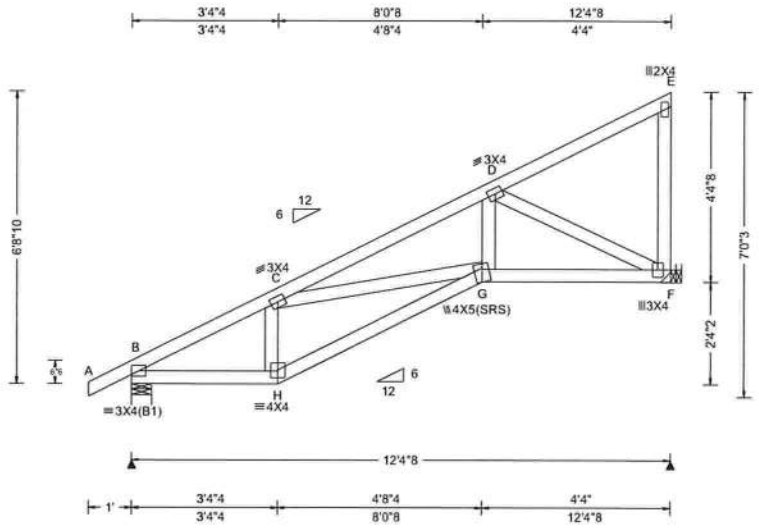
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H02	Ply: 1 Qty: 2	SEQN: 397769 / T21 MONO FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1514.45913 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 18.96 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h/2 to h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.025	G	999	360
VERT(TL): 0.050	G	999	240
HORZ(LL): 0.010	F	-	-
HORZ(TL): 0.021	F	-	-

Creep Factor: 2.0
Max TC CSI: 0.309
Max BC CSI: 0.371
Max Web CSI: 0.343

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	589	/-	/-	/384	/44	/232
F	508	/-	/-	/360	/142	/-

Wind reactions based on MWFRS
B Brg Width = 5.5 Min Req = 1.5
F Brg Width = - Min Req = -
Bearing B is a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	20	-808	C - D	132	-980

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - H	676	-204	G - F	768	-220
H - G	771	-234			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
G - D	480	-49	D - F	245	-856

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Hangers / Ties
(J) Hanger Support Required, by others

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right end vertical not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
The overall height of this truss excluding overhang is 6-8-10.

COA #0778
02/04/2021

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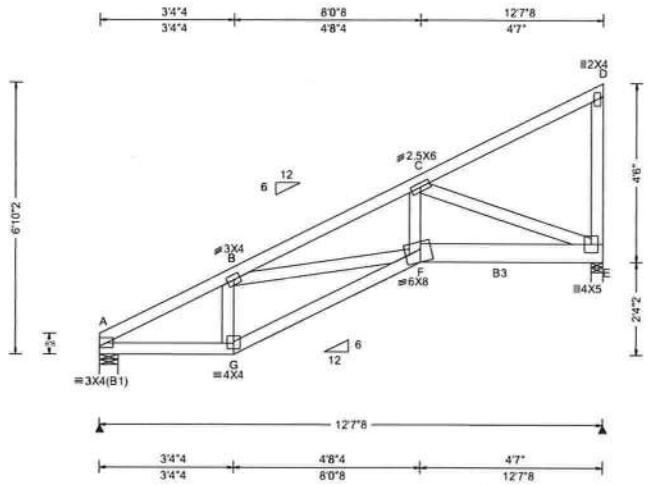
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H03	Ply: 2 Qty: 1	SEQN: 397826 / T27 MONO FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1514.43927 KD / WHK 02/04/2021

2 Complete Trusses Required



Loading Criteria (psf)	**Wind Criteria**	**Snow Criteria** (Pg,Pf in PSF)	**Defl/CSI Criteria**
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: C Mean Height: 19.27 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: not in 9.00 ft GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA **Code / Misc Criteria** Bldg Code: FBC 7th Ed. 2020 Res TPI Std: 2014 Rep Factors Used: No FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.031 F 999 360 VERT(TL): 0.062 F 999 240 HORZ(LL): 0.012 E - - HORZ(TL): 0.024 E - - Creep Factor: 2.0 Max TC CSI: 0.177 Max BC CSI: 0.331 Max Web CSI: 0.411 VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity	
Loc	R+ / R-	/ Rh	/ Rw	/ U	/ RL
A	800 / -	/ -	/ -	/206	/ -
E	1745 / -	/ -	/ -	/495	/ -

Wind reactions based on MWFRS
A Brg Width = 5.5 Min Req = 1.5
E Brg Width = 3.5 Min Req = 1.5
Bearings A & E are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	179	-672	B - C	338	-1206

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - G	574	-150	F - E	1083	-296
G - F	652	-172			

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
B - F	490	-143	C - E	316	-1157
C - F	799	-190			

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2 B3 2x6 SP 2400f-2.0E;
Webs 2x4 SP #3

Nailnote

Nail Schedule:0.128"x3", min. nails
Top Chord: 1 Row @12.00" o.c.
Bot Chord: 1 Row @10.75" o.c.
Webs : 1 Row @ 4" o.c.
Use equal spacing between rows and stagger nails in each row to avoid splitting.

Special Loads

-----(Lumber Dur.Fac.=1.25 / Plate Dur.Fac.=1.25)

TC: From	62 plf at	0.00 to	62 plf at	9.40
TC: From	31 plf at	9.40 to	31 plf at	12.63
BC: From	20 plf at	0.00 to	20 plf at	3.35
BC: From	22 plf at	3.35 to	22 plf at	8.04
BC: From	10 plf at	8.04 to	10 plf at	12.63

BC: 820 lb Conc. Load at 9.40,11.40

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads and reactions based on MWFRS.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 6-10-2.

COA #0278

02/04/2021

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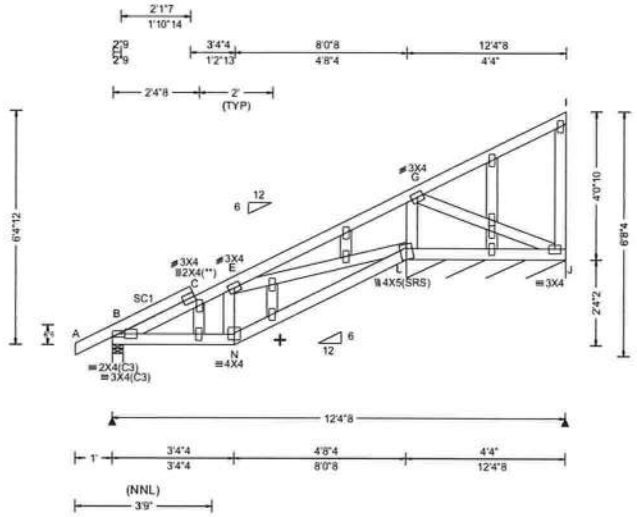
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H04	Ply: 1 Qty: 1	SEQN: 397775 / T20 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1514.22547 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 18.80 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h/2 to h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 7.13 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Varies by Material
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.027	F	999	360
VERT(TL): 0.054	F	999	240
HORZ(LL): 0.011	F	-	-
HORZ(TL): 0.023	F	-	-

Creep Factor: 2.0
Max TC CSI: 0.393
Max BC CSI: 0.307
Max Web CSI: 0.686

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	573	/-	/-	/301	/-	/37
J*	242	/-	/-	/108	/-	/-

Wind reactions based on MWFRS
B Brg Width = 3.5 Min Req = 1.5
J Brg Width = 52.0 Min Req = -
Bearings B & L are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	0	-700	C - E	0	-631

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - N	595	0	N - L	662	0

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
E - L	0	-650	L - G	0	-406

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;

Plating Notes

All plates are 2X4 except as noted.

(**) 1 plate(s) require special positioning. Refer to scaled plate plot details for special positioning requirements.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

+ Member to be laterally braced for horizontal wind loads. bracing system to be desiged and furnished by others.

Additional Notes

See DWGS A14030ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 6-4-12.

COA #0278

02/04/2021

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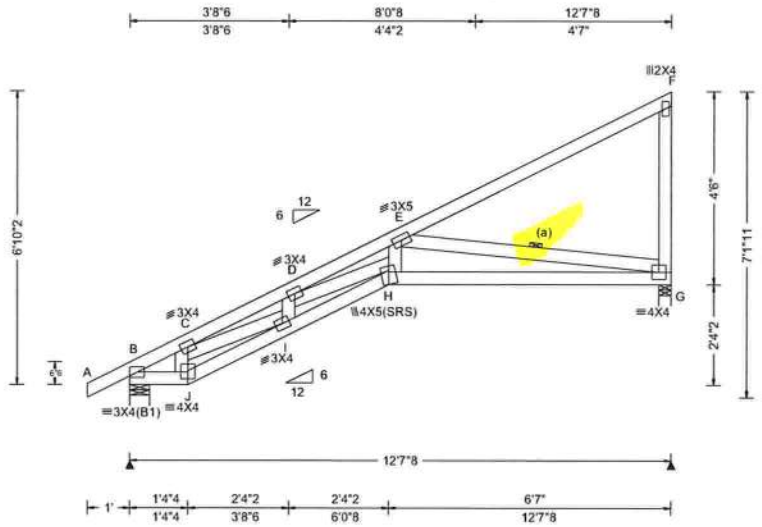
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H05	Ply: 1 Qty: 4	SEQN: 397672 / T17 MONO FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.35770 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 19.02 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h/2 to h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.104	H	999	360
VERT(TL): 0.213	H	706	240
HORZ(LL): 0.050	G	-	-
HORZ(TL): 0.103	G	-	-

Creep Factor: 2.0
Max TC CSI: 0.591
Max BC CSI: 0.727
Max Web CSI: 0.471

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

Loc	Gravity R+	Gravity / R-	Gravity / Rh	Non-Gravity / Rw	Non-Gravity / U	Non-Gravity / RL
B	601	/-	/-	/392	/44	/237
G	516	/-	/-	/366	/145	/-

Wind reactions based on MWFRS
B Brg Width = 5.5 Min Req = 1.5
G Brg Width = 3.5 Min Req = 1.5
Bearings B & G are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - C	6	- 739	D - E	455	- 2199
C - D	259	- 1597			

Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - J	607	- 214	I - H	1625	- 461
J - I	662	- 234	H - G	1772	- 522

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
C - I	814	- 198	H - E	902	- 153
D - H	534	- 141	E - G	528	- 1795

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Bracing
(a) Continuous lateral restraint equally spaced on member.

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right end vertical not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
The overall height of this truss excluding overhang is 6-10-2.

COA #0278

02/04/2021

****WARNING**** READ AND FOLLOW ALL NOTES ON THIS DRAWING!
****IMPORTANT**** FURNISH THIS DRAWING TO ALL CONTRACTORS INCLUDING THE INSTALLERS

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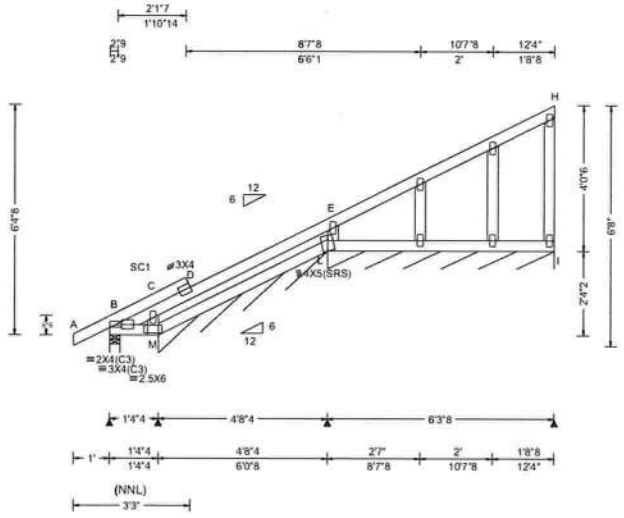
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** H06	Ply: 1 Qty: 1	SEQN: 397785 / T24 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.31980 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 18.79 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h/2 to h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 7.13 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Varies by Member
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.018	D	999	360
VERT(TL): 0.035	D	999	240
HORZ(LL): 0.008	D	-	-
HORZ(TL): 0.016	D	-	-

Creep Factor: 2.0
Max TC CSI: 0.266
Max BC CSI: 0.208
Max Web CSI: 0.090

VIEW Ver: 20.01.01A.0724.11

▲Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	81	/-2	/-	/101	/121	/37
M*	211	/-	/-	/96	/-	/-
L*	87	/-	/-	/37	/-	/-

Wind reactions based on MWFRS
B Brg Width = 3.5 Min Req = 1.5
M Brg Width = 56.3 Min Req = -
L Brg Width = 75.5 Min Req = -
Bearings B, M, & L are a rigid surface.
Members not listed have forces less than 375#

Maximum Top Chord Forces Per Ply (lbs)

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - D	439	0	C - D	0	-452

Maximum Web Forces Per Ply (lbs)

Webs	Tens.	Comp.	Webs	Tens.	Comp.
C - M	0	-401	L - E	0	-499

Lumber

Value Set: NDS 2015

Top chord 2x4 SP M-31
Bot chord 2x4 SP #2
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins

In lieu of structural panels use purlins to brace TC @ 24" oc.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14030ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 6-4-8.

COA #0278

02/04/2021

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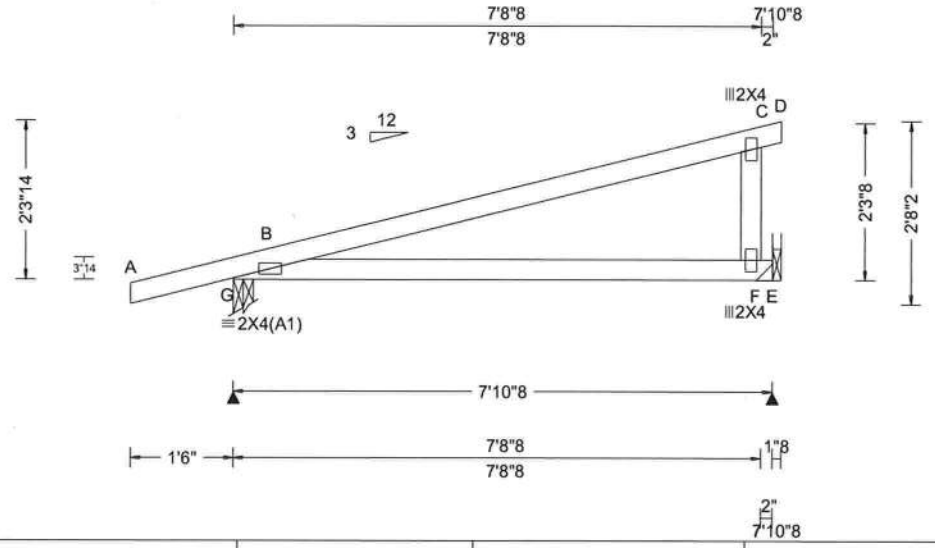
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** K01	Ply: 1 Qty: 19	SEQN: 397804 / T1 MONO FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.27867 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h/2 to h
C&C Dist a: 3.00 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria
PP Deflection in loc L/defl L/#
VERT(LL): NA
VERT(TL): NA
HORZ(LL): 0.018 F - -
HORZ(TL): 0.036 F - -
Creep Factor: 2.0
Max TC CSI: 0.737
Max BC CSI: 0.539
Max Web CSI: 0.273

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs)

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
G	425	/-	/-	/231	/95	/81
E	315	/-	/-	/165	/69	/-

Wind reactions based on MWFRS
G Brg Width = 3.5 Min Req = 1.5
E Brg Width = - Min Req = -
Bearing G is a rigid surface.
Members not listed have forces less than 375#

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

The overall height of this truss excluding overhang is 2-3-14.

COA #0278

02/04/2021

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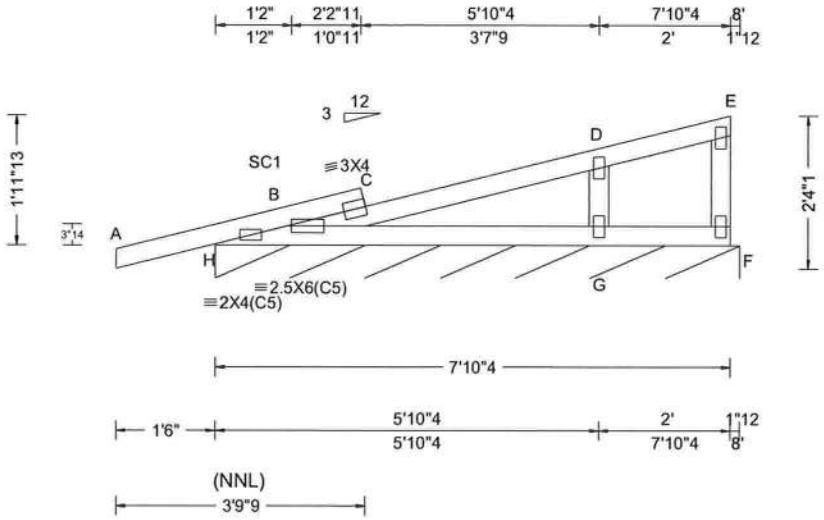
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** K02	Ply: 1 Qty: 2	SEQN: 397807 / T2 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.16613 KD / WHK 02/04/2021



Loading Criteria (psf)

TCLL:	20.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	40.00
NCBCLL:	10.00
Soffit:	2.00

Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 15.00 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: 0 to h/2
C&C Dist a: 3.00 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: Varies by Ma
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.041	C	999	360
VERT(TL): 0.075	C	999	240
HORZ(LL): -0.006	E	-	-
HORZ(TL): 0.010	E	-	-

Creep Factor: 2.0
Max TC CSI: 0.516
Max BC CSI: 0.368
Max Web CSI: 0.085

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
H*	132	/-	/-	/62	/-	/4

Wind reactions based on MWFRS
H Brg Width = 96.0 Min Req = -
Bearing H is a rigid surface.
Members not listed have forces less than 375#

Maximum Gable Forces Per Ply (lbs)

Gables	Tens.	Comp.
D - G	0	-465

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3
Stack Chord: SC1 2x4 SP #2;

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Purlins

In lieu of structural panels use purlins to brace TC @ 24" oc.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" oc intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" oc. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The overall height of this truss excluding overhang is 1-11-13.

COA #0278

02/04/2021

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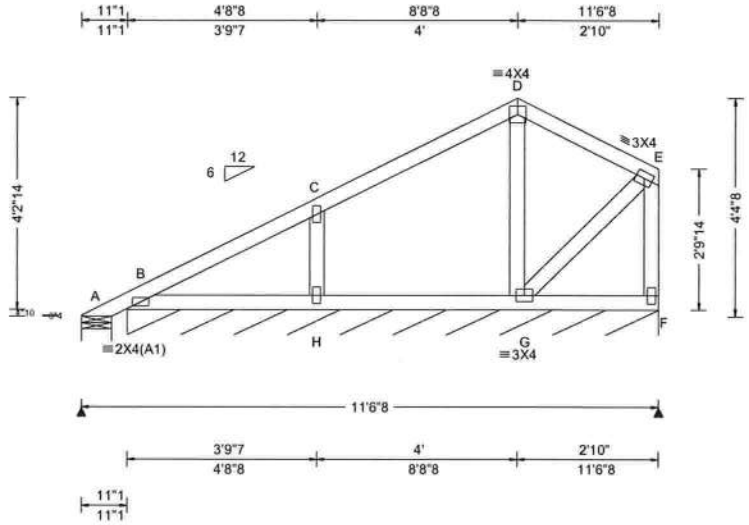
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** P01	Ply: 1 Qty: 17	SEQN: 397815 / T5 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.13650 KD / WHK 02/04/2021



Loading Criteria (psf)
TCLL: 20.00
TCDL: 10.00
BCLL: 0.00
BCDL: 10.00
Des Ld: 40.00
NCBCLL: 10.00
Soffit: 2.00
Load Duration: 1.25
Spacing: 24.0 "

Wind Criteria
Wind Std: ASCE 7-16
Speed: 130 mph
Enclosure: Closed
Risk Category: II
EXP: C
Mean Height: 16.16 ft
TCDL: 5.0 psf
BCDL: 5.0 psf
MWFRS Parallel Dist: h to 2h
C&C Dist a: 3.16 ft
Loc. from endwall: not in 9.00 ft
GCpi: 0.18
Wind Duration: 1.60

Snow Criteria (Pg,Pf in PSF)
Pg: NA Ct: NA CAT: NA
Pf: NA Ce: NA
Lu: NA Cs: NA
Snow Duration: NA

Code / Misc Criteria
Bldg Code: FBC 7th Ed. 2020 Res
TPI Std: 2014
Rep Factors Used: No
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria

PP Deflection in	loc	L/defl	L/#
VERT(LL): 0.001	H	999	360
VERT(TL): 0.002	H	999	240
HORZ(LL): 0.001	H	-	-
HORZ(TL): 0.001	H	-	-

Creep Factor: 2.0
Max TC CSI: 0.201
Max BC CSI: 0.065
Max Web CSI: 0.057

VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	-	/-10	/-	/55	/43	/111
B*	71	/-	/-	/56	/13	/-

Wind reactions based on MWFRS
A Brg Width = 7.3 Min Req = 1.5
B Brg Width = 127 Min Req = -
Bearings A & B are a rigid surface.
Members not listed have forces less than 375#

Lumber
Value Set: NDS 2015
Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Plating Notes
All plates are 2X4 except as noted.

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right end vertical not exposed to wind pressure.
Wind loading based on both gable and hip roof types.

Additional Notes
See DWGS A14030ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.
Refer to DWG PB160160118 for piggyback details.
The overall height of this truss excluding overhang is 14-8-10.

COA #0278
02/04/2021

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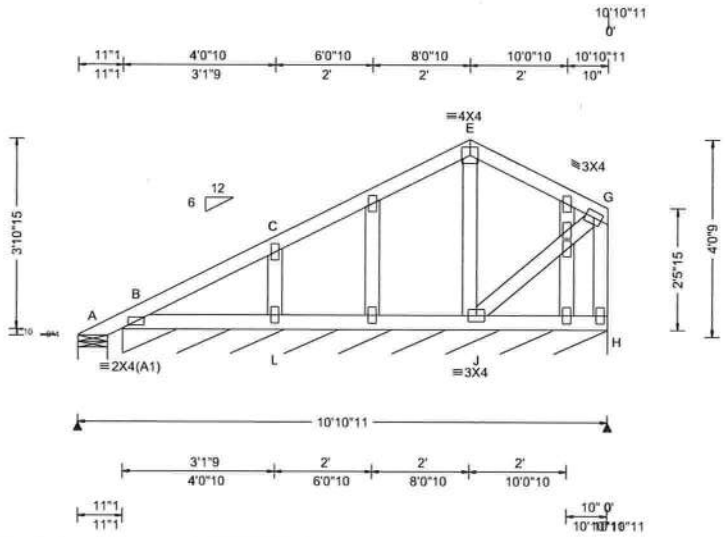
ALPINE
AN ITW COMPANY
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** P02	Ply: 1 Qty: 1	SEQN: 397720 / T22 GABL FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.08993 KD / WHK 02/04/2021



Loading Criteria (psf)	**Wind Criteria**	**Snow Criteria** (Pg,Pf in PSF)	**Defl/CSI Criteria**	**▲ Maximum Reactions (lbs), or *=PLF**
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: C Mean Height: 16.16 ft TCDL: 5.0 psf BCDL: 5.0 psf MWFRS Parallel Dist: h to 2h C&C Dist a: 3.16 ft Loc. from endwall: not in 13.25 ft GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA **Code / Misc Criteria** Bldg Code: FBC 7th Ed. 2020 Res TPI Std: 2014 Rep Factors Used: Varies by Load Case FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.001 L 999 360 VERT(TL): 0.003 L 999 240 HORZ(LL): -0.001 L - - HORZ(TL): 0.002 L - - Creep Factor: 2.0 Max TC CSI: 0.160 Max BC CSI: 0.076 Max Web CSI: 0.076 VIEW Ver: 20.01.01A.0724.11	Gravity / Non-Gravity Loc R+ / R- / Rh / Rw / U / RL A - /-19 /- /77 /56 /155 B* 168 /- /- /73 /43 /- B /-111 L /-124 Wind reactions based on MWFRS A Brg Width = 7.3 Min Req = 1.5 B Brg Width = 119 Min Req = - Bearings A & B are a rigid surface. Members not listed have forces less than 375#

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Plating Notes

All plates are 2X4 except as noted.

Loading

Truss designed to support 1-6-0 top chord outlookers and cladding load not to exceed 5.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

See DWGS A14030ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.

Refer to DWG PB160160118 for piggyback details.

The overall height of this truss excluding overhang is 14-4-12.

COA #0278

02/04/2021

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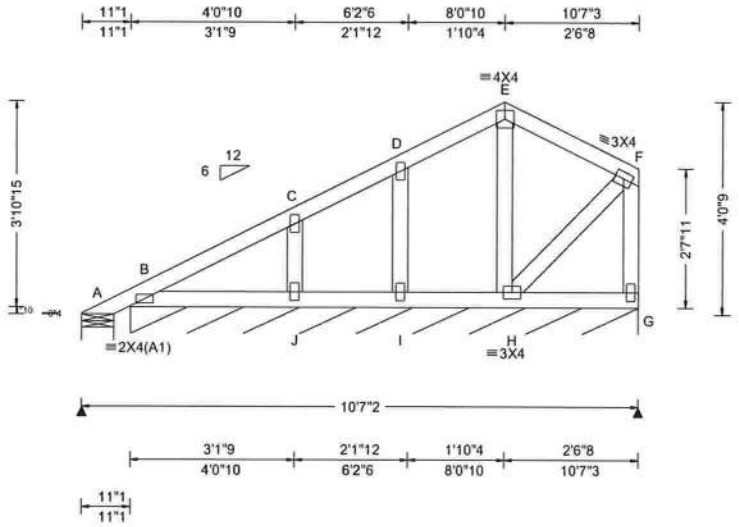
2400 Lake Orange Dr.
Suite 150
Orlando FL, 32837

Job Number: 21-5032 Howard Res **Truss Label:** P03	Ply: 1 Qty: 1	SEQN: 397734 / T30 SPEC FROM:	Cust: R215 JRef: 1X2N2150009 DrwNo: 035.21.1513.05600 KD / WHK 02/04/2021



Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria
TCLL: 20.00 TCDL: 10.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 40.00 NCBCLL: 10.00 Soffit: 2.00 Load Duration: 1.25 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 130 mph Enclosure: Closed Risk Category: II EXP: C Mean Height: 21.54 ft TCDL: 5.0 psf BCDL: 2.0 psf MWFRS Parallel Dist: h/2 to h C&C Dist a: 3.00 ft Loc. from endwall: not in 9.00 ft GCpi: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA **Code / Misc Criteria** Bldg Code: FBC 7th Ed. 2020 Res TPI Std: 2014 Rep Factors Used: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.000 J 999 360 VERT(TL): 0.001 J 999 240 HORZ(LL): 0.000 J - - HORZ(TL): 0.000 J - - Creep Factor: 2.0 Max TC CSI: 0.007 Max BC CSI: 0.020 Max Web CSI: 0.002 VIEW Ver: 20.01.01A.0724.11

▲ Maximum Reactions (lbs), or *=PLF

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
A	-	/0	/-	/-	/0	/-
B*	4	/-	/-	/21	/-	/-

Wind reactions based on MWFRS
A Brg Width = 7.3 Min Req = 1.5
B Brg Width = 116 Min Req = -
Bearings A & B are a rigid surface.
Members not listed have forces less than 375#

Lumber

Value Set: NDS 2015

Top chord 2x4 SP #2
Bot chord 2x4 SP #2
Webs 2x4 SP #3

Plating Notes

All plates are 2X4 except as noted.

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.

Wind

Wind loads based on MWFRS with additional C&C member design.

Right end vertical not exposed to wind pressure.

Wind loading based on both gable and hip roof types.

Additional Notes

Refer to DWG PB160160118 for piggyback details.

The overall height of this truss excluding overhang is 4-0-9.

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Suite 150
Orlando FL, 32837

Piggyback Detail - ASCE 7-16: 160 mph, 30' Mean Height, Enclosed, Exposure C, Kzt=1.00

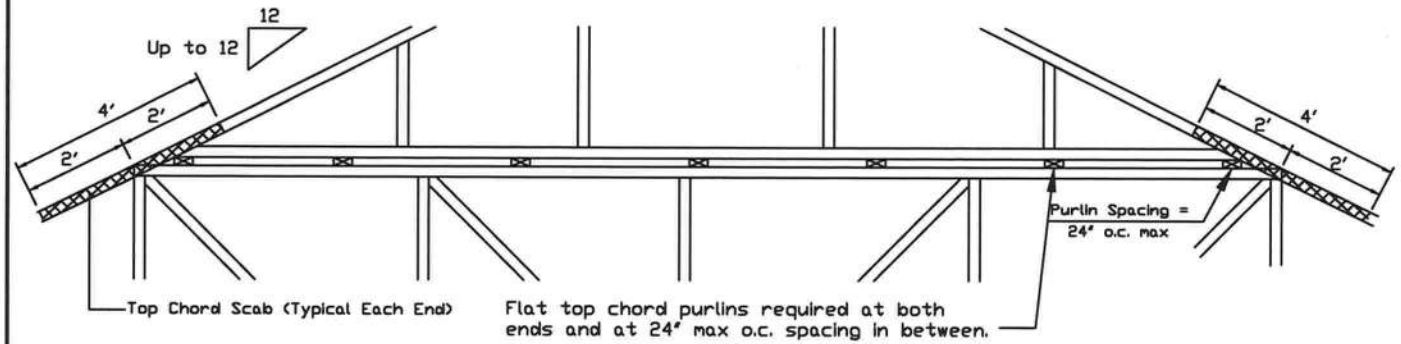
160 mph Wind, 30.00 ft Mean Hgt, ASCE 7-16, Enclosed Bldg. located anywhere in roof, Exp C, Wind DL= 5.0 psf (min), Kzt=1.0.
Or 140 mph wind, 30.00 ft Mean Hgt, ASCE 7-16, Enclosed Bldg. located anywhere in roof, Exp D, wind DL= 5.0 psf (min), Kzt=1.0.

Note: Top chords of trusses supporting piggyback cap trusses must be adequately braced by sheathing or purlins. The building Engineer of Record shall provide diagonal bracing or any other suitable anchorage to permanently restrain purlins, and lateral bracing for out of plane loads over gable ends.

Maximum truss spacing is 24" o.c. detail is not applicable if cap supports additional loads such as cupola, steeple, chimney or drag strut loads.

** Refer to Engineer's sealed truss design drawing for piggyback and base truss specifications.

Detail A : Purlin Spacing = 24" o.c. or less



Piggyback cap truss slant nailed to all top chord purlin bracing with (2) 16d box nails (0.135"x3.5") and secure top chord with 2x4 #3 grade scab (1 side only at each end) attached with 2 rows of 10d box nails (0.128"x3") at 4" o.c.

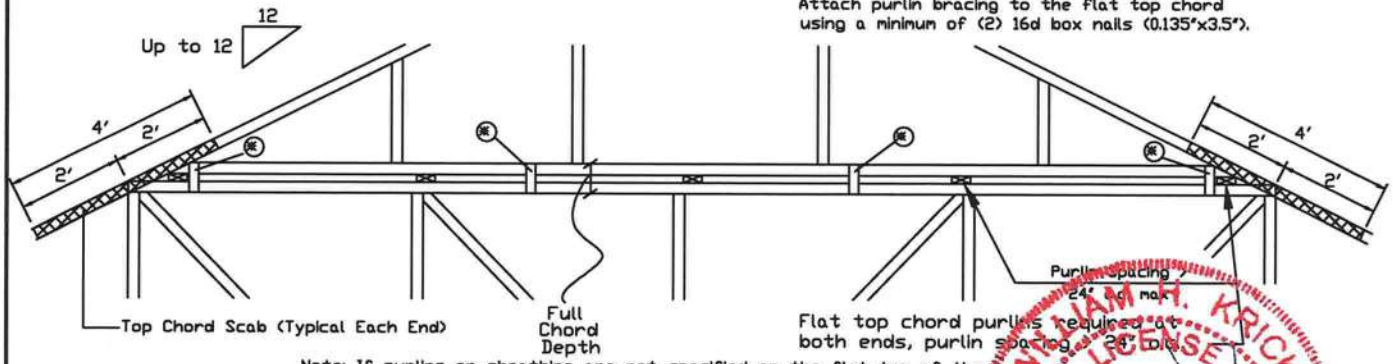
Attach purlin bracing to the flat top chord using (2) 16d box nails (0.135"x3.5").

The top chord #3 grade 2x4 scab may be replaced with either of the following: (1) 3X8 Trulox plate attached with (8) 0.120"x1.375" nails, (4) into cap TC & (4) into base truss TC or (1) 28PB wave piggyback plate plated to the piggyback truss TC and attached to the base truss TC with (4) 0.120"x1.375" nails. Note: Nailing thru holes of wave plate is acceptable.

Detail B : Purlin Spacing > 24" o.c.

Piggyback cap truss slant nailed to all top chord purlin bracing with (2) 16d box nails (0.135"x3.5") and secure top chord with 2x4 #3 grade scab (1 side only at each end) attached with 2 rows of 10d box nails (0.128"x3") at 4" o.c.

Attach purlin bracing to the flat top chord using a minimum of (2) 16d box nails (0.135"x3.5").



Note: If purlins or sheathing are not specified on the flat top of the base truss, purlins must be installed at 24" o.c. max. and use Detail A.

* In addition, provide connection with one of the following methods:

Trulox
Use 3X8 Trulox plates for 2x4 chord member, and 3X10 Trulox plates for 2x6 and larger chord members. Attach to each face @ 8' o.c. with (4) 0.120"x1.375" nails into cap bottom chord and (4) in base truss top chord. Trulox plates may be staggered 4' o.c. front to back faces.

APA Rated Gusset
8"x8"x7/16" (min) APA rated sheathing gussets (each face). Attach @ 8' o.c. with (8) 6d common (0.113"x2") nails per gusset, (4) in cap bottom chord and (4) in base truss top chord. Gussets may be staggered 4' o.c. front to back faces.

2x4 Vertical Scabs
2x4 SPF #2, full chord depth scabs (each face). Attach @ 8' o.c. with (6) 10d box nails (0.128"x3") per scab, (3) in cap bottom chord and (3) in base truss top chord. Scabs may be staggered 4' o.c. front to back faces.

28PB Wave Piggyback Plate
One 28PB wave piggyback plate to each face @ 8' o.c. Attach teeth to piggyback at time of fabrication. Attach to supporting truss with (4) 0.120"x1.375" nails per face per ply. Piggyback plates may be staggered 4' o.c. front to back faces.

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WILLIAM H. KRICK
LICENSE
No. 70861
STATE OF FLORIDA
PROFESSIONAL ENGINEER
COA #0.278 02/04/2021

REF	PIGGYBACK
DATE	01/02/2018
DRWG	PB160160118
SPACING	24.0"

Gable Stud Reinforcement Detail

ASCE 7-16: 140 mph Wind Speed, 30' Mean Height, Enclosed, Exposure C, Kzt = 1.00

Or: 120 mph Wind Speed, 30' Mean Height, Partially Enclosed, Exposure C, Kzt = 1.00
Or: 120 mph Wind Speed, 30' Mean Height, Enclosed, Exposure D, Kzt = 1.00
Or: 100 mph wind speed, 30' Mean Height, Partially Enclosed, Exposure D, Kzt = 1.00

Max Gable Vertical Length

2x4 Gable Vertical Spacing	Species	Brace Grade	No Braces	(1) 1x4 "L" Brace ✱		(1) 2x4 "L" Brace ✱		(2) 2x4 "L" Brace ✱✱		(1) 2x6 "L" Brace ✱		(2) 2x6 "L" Brace ✱✱	
				Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
24" o.c.	SPF HF	#1 / #2	4' 1"	6' 11"	7' 2"	8' 2"	8' 6"	9' 9"	10' 2"	12' 10"	13' 4"	14' 0"	14' 0"
		#3	3' 10"	6' 2"	6' 7"	8' 1"	8' 5"	9' 8"	10' 0"	12' 8"	13' 2"	14' 0"	14' 0"
		Stud	3' 10"	6' 2"	6' 6"	8' 1"	8' 5"	9' 8"	10' 0"	12' 8"	13' 2"	14' 0"	14' 0"
		Standard	3' 10"	5' 3"	5' 7"	7' 0"	7' 6"	9' 6"	10' 0"	11' 0"	11' 10"	14' 0"	14' 0"
	SP DFL	#1	4' 2"	7' 0"	7' 3"	8' 3"	8' 7"	9' 10"	10' 3"	13' 0"	13' 6"	14' 0"	14' 0"
		#2	4' 1"	6' 11"	7' 2"	8' 2"	8' 6"	9' 9"	10' 2"	12' 10"	13' 4"	14' 0"	14' 0"
		#3	4' 0"	5' 7"	5' 11"	7' 5"	7' 11"	9' 8"	10' 1"	11' 7"	12' 5"	14' 0"	14' 0"
		Stud	4' 0"	5' 7"	5' 11"	7' 5"	7' 11"	9' 8"	10' 1"	11' 7"	12' 5"	14' 0"	14' 0"
		Standard	3' 9"	4' 11"	5' 13"	6' 6"	7' 0"	8' 10"	9' 6"	10' 3"	11' 0"	13' 11"	14' 0"
16" o.c.	SPF HF	#1 / #2	4' 8"	7' 11"	8' 3"	9' 4"	9' 9"	11' 2"	11' 7"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 5"	7' 6"	8' 3"	9' 3"	9' 7"	11' 0"	11' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	4' 5"	7' 6"	8' 0"	9' 3"	9' 7"	11' 0"	11' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 5"	6' 5"	6' 10"	8' 7"	9' 2"	11' 0"	11' 6"	13' 6"	14' 0"	14' 0"	14' 0"
	SP DFL	#1	4' 10"	8' 0"	8' 4"	9' 6"	9' 10"	11' 3"	11' 9"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	4' 8"	7' 11"	8' 3"	9' 4"	9' 9"	11' 2"	11' 7"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 7"	6' 10"	7' 3"	9' 1"	9' 8"	11' 1"	11' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	4' 7"	6' 10"	7' 3"	9' 1"	9' 8"	11' 1"	11' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 5"	6' 0"	6' 5"	8' 0"	8' 7"	10' 10"	11' 6"	12' 7"	13' 15"	14' 0"	14' 0"
12" o.c.	SPF HF	#1 / #2	5' 2"	8' 9"	9' 1"	10' 4"	10' 9"	11' 2"	12' 9"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 10"	8' 7"	8' 11"	10' 2"	10' 7"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	4' 10"	8' 7"	8' 11"	10' 2"	10' 7"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 10"	7' 5"	7' 11"	9' 11"	10' 7"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"
	SP DFL	#1	5' 4"	8' 10"	9' 2"	10' 5"	10' 10"	12' 5"	12' 11"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	5' 2"	8' 9"	9' 1"	10' 4"	10' 9"	12' 3"	12' 9"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	5' 0"	7' 10"	8' 4"	10' 3"	10' 8"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	5' 0"	7' 10"	8' 4"	10' 3"	10' 8"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 10"	6' 11"	7' 4"	9' 3"	9' 10"	12' 2"	12' 8"	14' 0"	14' 0"	14' 0"	14' 0"

Bracing Group Species and Grades:

Group A:

Spruce-Pine-Fir: #1 / #2 Standard; #3 Stud
Hem-Fir: #2 Stud; #3 Standard
Douglas Fir-Larch: #3; Stud; Standard
Southern Pine✱✱✱: #3; Stud; Standard

Group B:

Hem-Fir: #1 & Btr; #1
Douglas Fir-Larch: #1; #2
Southern Pine✱✱✱: #1; #2

1x4 Braces shall be SRB (Stress-Rated Board).
✱✱✱For 1x4 So. Pine use only Industrial 55 or Industrial 45 Stress-Rated Boards. Group B values may be used with these grades.

Gable Truss Detail Notes:

Wind Load deflection criterion is L/240.

Provide uplift connections for 100 plf over continuous bearing (5 psf TC Dead Load).

Gable end supports load from 4' 0" outlookers with 2' 0" overhang, or 12" plywood overhang.

Attach "L" braces with 10d (0.128"x3.0" min) nails.
✱ For (1) "L" brace: space nails at 2" o.c. in 18" end zones and 4" o.c. between zones.
✱✱For (2) "L" braces: space nails at 3" o.c. in 18" end zones and 6" o.c. between zones.

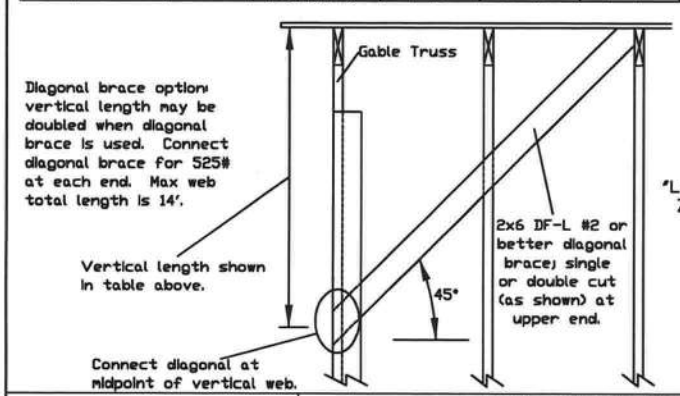
"L" bracing must be a minimum of 80% of web member length.

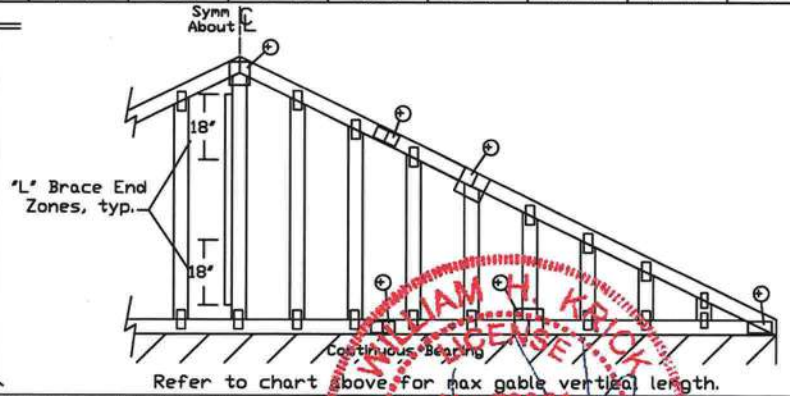
Gable Vertical Plate Sizes

Vertical Length	No Splice
Less than 4' 0"	2X4
Greater than 4' 0", but less than 11' 6"	3X4
Greater than 11' 6"	4X4

+ Refer to common truss design for peak, splice, and heel plates.

Refer to the Building Designer for conditions not addressed by this detail.





Refer to chart above for max gable vertical length.

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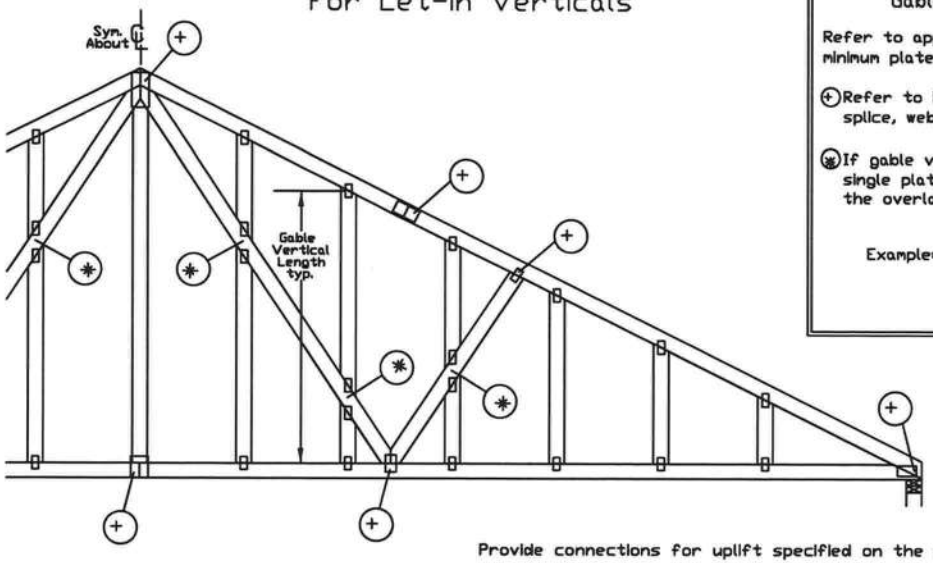
MAX. TOT. L.D. 60 PSF

MAX. SPACING 24.0"

REF	ASCE7-16-GAB14030
DATE	01/26/2018
DRWG	A14030ENC160118

Gable Detail
For Let-in Verticals



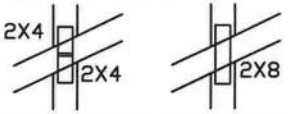
Gable Truss Plate Sizes

Refer to appropriate Alpine gable detail for minimum plate sizes for vertical studs.

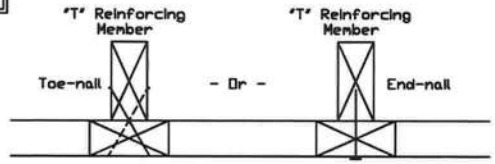
⊕ Refer to Engineered truss design for peak, splice, web, and heel plates.

✱ If gable vertical plates overlap, use a single plate that covers the total area of the overlapped plates to span the web.

Example:



'T' Reinforcement Attachment Detail



Provide connections for uplift specified on the engineered truss design.

Attach each 'T' reinforcing member with

End Driven Nails:
10d Common (0.148"x 3",min) Nails at 4" o.c. plus
(4) nails in the top and bottom chords.

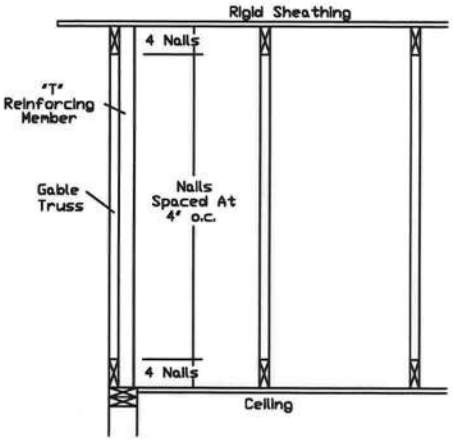
Toenailed Nails:
10d Common (0.148"x3",min) Toenails at 4" o.c. plus
(4) toenails in the top and bottom chords.

This detail to be used with the appropriate Alpine gable detail for ASCE wind load.

ASCE 7-05 Gable Detail Drawings
A13015051014, A12015051014, A11015051014, A10015051014, A14015051014, A13030051014, A12030051014, A11030051014, A10030051014, A14030051014

ASCE 7-10 & ASCE 7-16 Gable Detail Drawings
A11515ENC100118, A12015ENC100118, A14015ENC100118, A16015ENC100118, A18015ENC100118, A20015ENC100118, A20015END100118, A20015PED100118, A11530ENC100118, A12030ENC100118, A14030ENC100118, A16030ENC100118, A18030ENC100118, A20030ENC100118, A20030END100118, A20030PED100118, S11515ENC100118, S12015ENC100118, S14015ENC100118, S16015ENC100118, S18015ENC100118, S20015ENC100118, S20015END100118, S20015PED100118, S11530ENC100118, S12030ENC100118, S14030ENC100118, S16030ENC100118, S18030ENC100118, S20030ENC100118, S20030END100118, S20030PED100118

See appropriate Alpine gable detail for maximum unreinforced gable vertical length.



To convert from 'L' to 'T' reinforcing members, multiply 'T' increase by length (based on appropriate Alpine gable detail).

Maximum allowable 'T' reinforced gable vertical length is 14' from top to bottom chord.

'T' reinforcing member material must match size, specie, and grade of the 'L' reinforcing member.

Web Length Increase w/ 'T' Brace

'T' Reinf. Mbr. Size	'T' Increase
2x4	30 %
2x6	20 %

Example:
ASCE 7-10 Wind Speed = 120 mph
Mean Roof Height = 30 ft, Kzt = 1.00
Gable Vertical = 24"o.c. SP #3
'T' Reinforcing Member Size = 2x4
'T' Brace Increase (From Above) = 30% = 1.30
(1) 2x4 'L' Brace Length = 8' 7"
Maximum 'T' Reinforced Gable Vertical Length
1.30 x 8' 7" = 11' 2"

ALPINE®
AN ITW COMPANY
514 Earth City Expressway
Suite 242
Earth City, MO 63045

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For more information see this job's general notes page and these web sites:
ALPINE: www.alpineitw.com; TPI: www.tpinst.org; SBCA: www.sbcindustry.org; ICC: www.iccsafe.org

WILLIAM E. KRUCK LICENSE No. 70861 STATE OF FLORIDA PROFESSIONAL ENGINEER
COA # 0278
02/04/2021

MAX. TOT. LD. 60 PSF
DUR. FAC. ANY
MAX. SPACING 24.0"

REF LET-IN VERT
DATE 01/02/2018
DRWG GBLLETIN0118

Gable Stud Reinforcement Detail

ASCE 7-16: 140 mph Wind Speed, 15' Mean Height, Enclosed, Exposure C, Kzt = 1.00

Or: 120 mph Wind Speed, 15' Mean Height, Partially Enclosed, Exposure C, Kzt = 1.00
Or: 120 mph Wind Speed, 15' Mean Height, Enclosed, Exposure D, Kzt = 1.00
Or: 100 mph Wind Speed, 15' Mean Height, Partially Enclosed, Exposure D, Kzt = 1.00

Max Gable Vertical Length

2x4 Gable Vertical Spacing	Species	Brace Grade	No Braces	(1) 1x4 "L" Brace *		(1) 2x4 "L" Brace *		(2) 2x4 "L" Brace **		(1) 2x6 "L" Brace *		(2) 2x6 "L" Brace **	
				Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
24" o.c.	SPF HF	#1 / #2	4' 3"	7' 3"	7' 7"	8' 7"	8' 11"	10' 3"	10' 8"	13' 6"	14' 0"	14' 0"	14' 0"
		#3	4' 1"	6' 7"	7' 1"	8' 6"	8' 10"	10' 1"	10' 6"	13' 4"	13' 10"	14' 0"	14' 0"
		Stud	4' 1"	6' 7"	7' 0"	8' 6"	8' 10"	10' 1"	10' 6"	13' 4"	13' 10"	14' 0"	14' 0"
		Standard	4' 1"	5' 8"	6' 0"	7' 7"	8' 1"	10' 1"	10' 6"	11' 10"	12' 8"	14' 0"	14' 0"
	SP DFL	#1	4' 6"	7' 4"	7' 8"	8' 8"	9' 0"	10' 4"	10' 9"	13' 8"	14' 0"	14' 0"	14' 0"
		#2	4' 3"	7' 3"	7' 7"	8' 7"	8' 11"	10' 3"	10' 8"	13' 6"	14' 0"	14' 0"	14' 0"
		#3	4' 2"	6' 0"	6' 4"	7' 11"	8' 6"	10' 2"	10' 7"	12' 5"	13' 4"	14' 0"	14' 0"
		Stud	4' 2"	6' 0"	6' 4"	7' 11"	8' 6"	10' 2"	10' 7"	12' 5"	13' 4"	14' 0"	14' 0"
		Standard	4' 0"	5' 3"	5' 7"	7' 0"	7' 6"	9' 6"	10' 2"	11' 0"	11' 10"	14' 0"	14' 0"
16" o.c.	SPF HF	#1 / #2	4' 11"	8' 4"	8' 8"	9' 10"	10' 3"	11' 8"	12' 2"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 8"	8' 1"	8' 8"	9' 8"	10' 1"	11' 7"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	4' 8"	8' 1"	8' 6"	9' 8"	10' 1"	11' 7"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 8"	6' 11"	7' 5"	9' 3"	9' 11"	11' 7"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
	SP DFL	#1	5' 1"	8' 5"	8' 9"	9' 11"	10' 4"	11' 10"	12' 4"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	4' 11"	8' 4"	8' 8"	9' 10"	10' 3"	11' 8"	12' 2"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 9"	7' 4"	7' 9"	9' 9"	10' 2"	11' 8"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	4' 9"	7' 4"	7' 9"	9' 9"	10' 2"	11' 8"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	4' 8"	6' 5"	6' 10"	8' 7"	9' 2"	11' 7"	12' 1"	13' 6"	14' 0"	14' 0"	14' 0"
12" o.c.	SPF HF	#1 / #2	5' 5"	9' 2"	9' 6"	10' 10"	11' 3"	11' 8"	13' 5"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	5' 1"	9' 0"	9' 4"	10' 8"	11' 1"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	5' 1"	9' 0"	9' 4"	10' 8"	11' 1"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	5' 1"	8' 0"	8' 6"	10' 8"	11' 1"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"
	SP DFL	#1	5' 8"	9' 3"	9' 8"	10' 11"	11' 4"	13' 0"	13' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	5' 5"	9' 2"	9' 6"	10' 10"	11' 3"	12' 11"	13' 5"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	5' 3"	8' 5"	9' 0"	10' 9"	11' 2"	12' 10"	13' 4"	14' 0"	14' 0"	14' 0"	14' 0"
		Stud	5' 3"	8' 5"	9' 0"	10' 9"	11' 2"	12' 10"	13' 4"	14' 0"	14' 0"	14' 0"	14' 0"
		Standard	5' 1"	7' 5"	7' 11"	9' 11"	10' 7"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"

Bracing Group Species and Grades:

Group A:

Spruce-Pine-Fir: #1 / #2 Standard; #3 Stud
Hem-Fir: #2 Stud; #3 Standard
Douglas Fir-Larch: #3; Stud; Standard
Southern Pine***: #3; Stud; Standard

Group B:

Hem-Fir: #1 & Btr; #1
Douglas Fir-Larch: #1; #2
Southern Pine***: #1; #2

1x4 Braces shall be SRB (Stress-Rated Board).

***For 1x4 So. Pine use only Industrial 55 or Industrial 45 Stress-Rated Boards. Group B values may be used with these grades.

Gable Truss Detail Notes:

Wind Load deflection criterion is L/240.

Provide uplift connections for 55 plf over continuous bearing (5 psf TC Dead Load).

Gable end supports load from 4' 0" outlookers with 2' 0" overhang, or 12" plywood overhang.

Attach "L" braces with 10d (0.128"x3.0" min) nails.

* For (1) "L" brace: space nails at 2" o.c. in 18" end zones and 4" o.c. between zones.

** For (2) "L" braces: space nails at 3" o.c. in 18" end zones and 6" o.c. between zones.

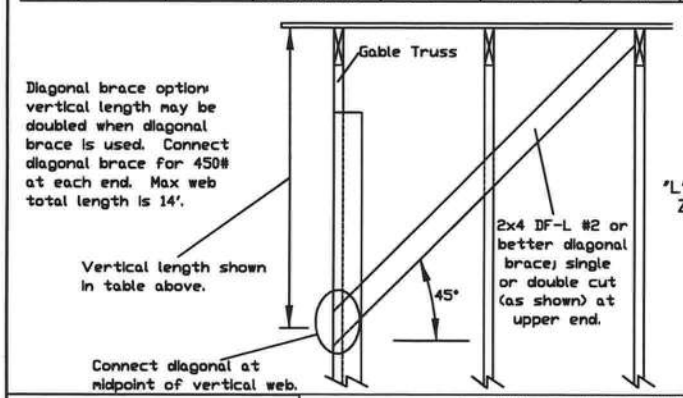
"L" bracing must be a minimum of 80% of web member length.

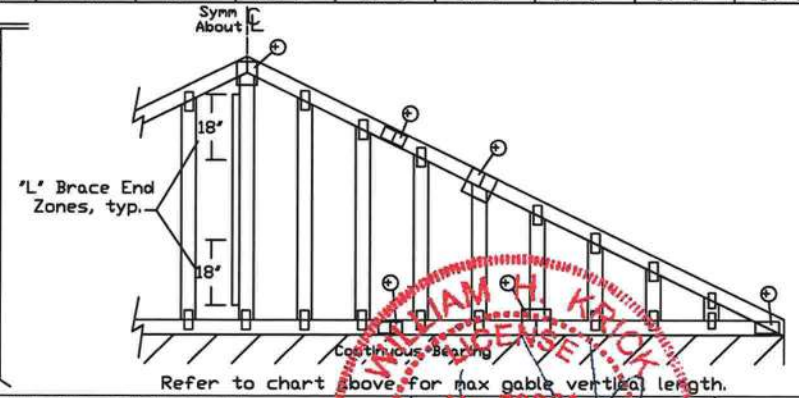
Gable Vertical Plate Sizes

Vertical Length	No Splice
Less than 4' 0"	1X4 or 2X3
Greater than 4' 0"	3X4

+ Refer to common truss design for peak, splice, and heel plates.

Refer to the Building Designer for conditions not addressed by this detail.





Refer to chart above for max gable vertical length.

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For more information see this job's general notes page and these web sites:
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AN ITW COMPANY
514 Earth City Expressway
Suite 242
Earth City, MO 63045

WILLIAM H. KRICK ENGINEER No. 70861 STATE OF FLORIDA PROFESSIONAL ENGINEER
COA #0278
02/04/2021

MAX. TOT. LD. 60 PSF

MAX. SPACING 24.0"

REF ASCE7-16-GAB14015
DATE 01/26/2018
DRWG A14015ENC160118

CLR Reinforcing Member Substitution

This detail is to be used when a Continuous Lateral Restraint (CLR) is specified on a truss design but an alternative web reinforcement method is desired.

Notes:

This detail is only applicable for changing the specified CLR shown on single ply sealed designs to T-reinforcement or L-reinforecement or scab reinforcement.

Alternative reinforcement specified in chart below may be conservative. For minimum alternative reinforcement, re-run design with appropriate reinforcement type.

Use scabs instead of L- or T- reinforcement on webs with intersecting truss joints, such as K-web joints, that may interfere with proper application along the narrow face of the web.

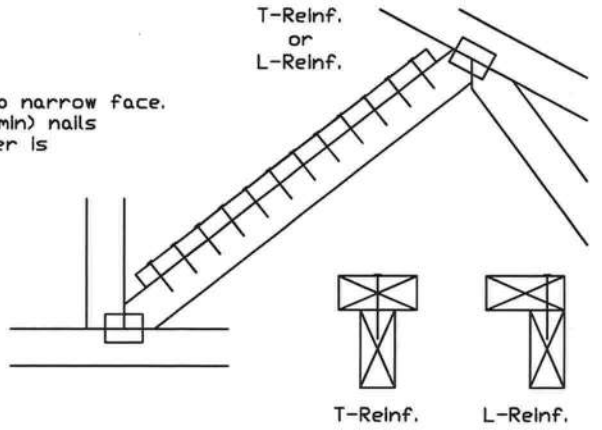
Web Member Size	Specified CLR Restraint	Alternative Reinforecement T- or L- Reinf.	Scab Reinf.
2x3 or 2x4	1 row	2x4	1-2x4
2x3 or 2x4	2 rows	2x6	2-2x4
2x6	1 row	2x4	1-2x6
2x6	2 rows	2x6	2-2x4(*)
2x8	1 row	2x6	1-2x8
2x8	2 rows	2x6	2-2x6(*)

T-reinforcement, L-reinforcement, or scab reinforcement to be same species and grade or better than web member unless specified otherwise on Engineer's sealed design.

(*) Center scab on wide face of web. Apply (1) scab to each face of web.

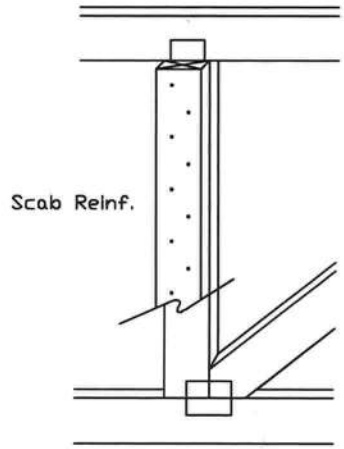
T-Reinforcement or L-Reinforcement:

Apply to either side of web narrow face. Attach with 10d (0.128"x3.0",min) nails at 6" o.c. Reinforcing member is a minimum 80% of web member length.



Scab Reinforcement:

Apply scab(s) to wide face of web. No more than (1) scab per face. Attach with 10d (0.128"x3.0",min) nails at 6" o.c. Reinforcing member is a minimum 80% of web member length.



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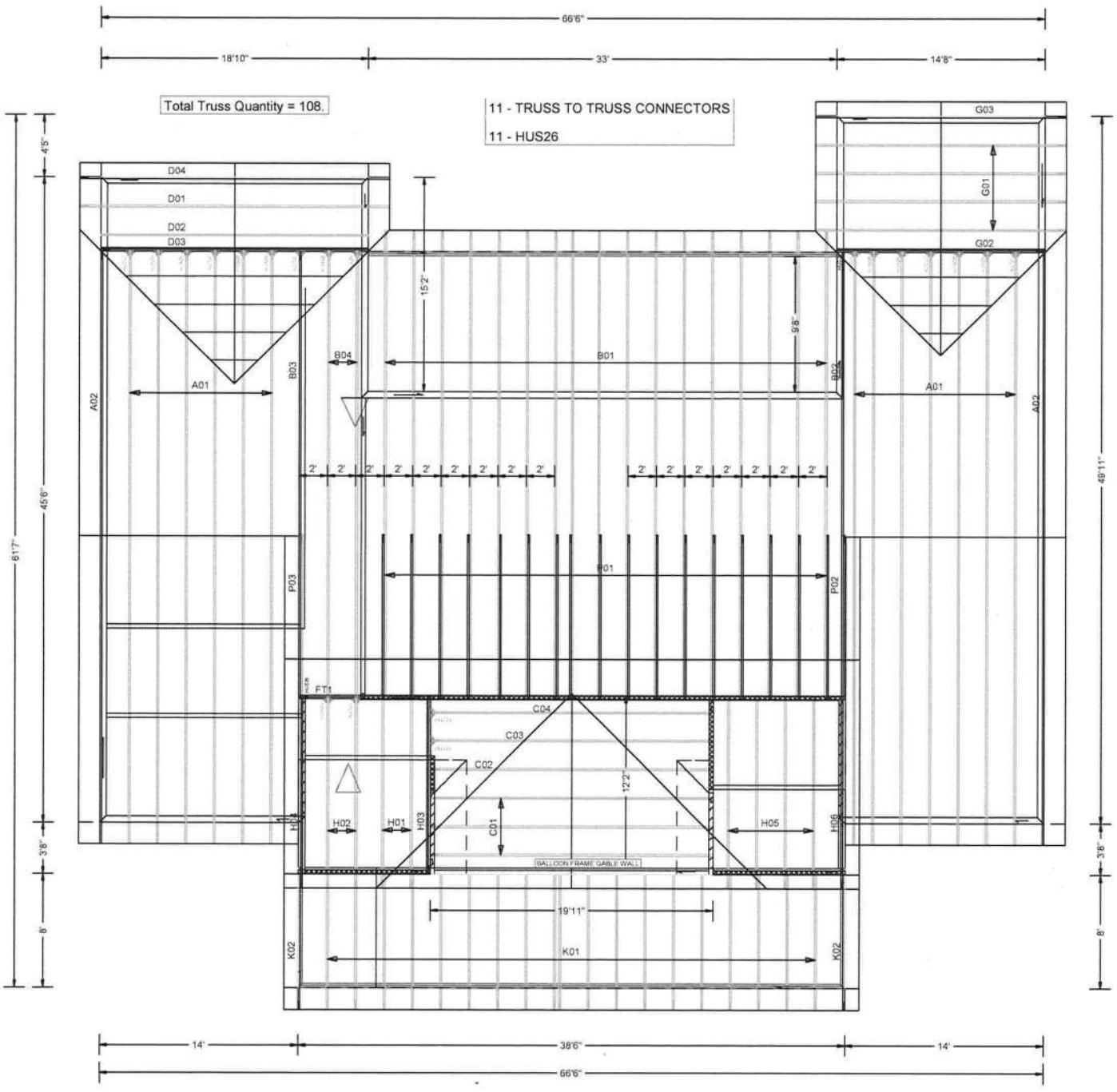
514 Earth City Expressway
Suite 242
Earth City, MO 63045

WILLIAM H. KRICK
LICENSE
No. 70861
STATE OF FLORIDA
PROFESSIONAL ENGINEER

COA #0278 02/04/2021

~~TC~~ LL	PSF	REF CLR Subst.
TC DL	PSF	DATE 01/02/19
BC DL	PSF	DRWG BRCLBSUB0119
BC LL	PSF	
TOT. LD.	PSF	
DUR. FAC.		
SPACING		



W.B. Howland Truss Co.
610 11th St. SW
Live Oak, FL 32064
(386) 362-1235
(386) 362-7124 (Fax)
howlandtruss@gmail.com

ROOF PITCH: 6/12
OVERHANG: 18 & 12" Plumb

CEILING: FLAT

EXT. WALLS: 2 X

LOADING: 40 PSF
WIND LOAD: Q30 MPG
EXPOSURE: C

DATE: 1/14/21

JOB #: 21-5032

Job Name: Howard Res
Customer: GAMBLE & ASSOC.
Designer: Bob Glover
ADDRESS:
SALESMAN: Fill in later
: <Not Found>

JOB NO:
21-5032

PAGE NO:
1 OF 1