

Alpine, an ITW Company  
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FL REG# 278, Yoonhwak Kim, FL PE #86367  
Florida Certificate of Product Approval #FL 1999  
01/19/2023

Site Information:	Page 1:
Customer: W. B. Howland Company, Inc.	Job Number: 23-8802
Job Description: Williams Addtn	
Address: FL	

Job Engineering Criteria:	
Design Code: FBC 7th Ed. 2020 Res.	IntelliVIEW Version: 21.02.01 through 22.02.00 JRef #: 1XMG2150007
Wind Standard: ASCE 7-16      Wind Speed (mph): 130	Design Loading (psf): 40.00
Building Type: Closed	

This package contains general notes pages, 6 truss drawing(s) and 2 detail(s).

Item	Drawing Number	Truss
1	018.23.1719.47030	A01
3	018.23.1719.37843	A03
5	018.23.1719.19717	A05
7	A14015ENC160118	

Item	Drawing Number	Truss
2	018.23.1719.40627	A02
4	018.23.1719.34617	A04
6	018.23.1719.17360	A06
8	GBLLETIN0118	

## **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](http://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:**

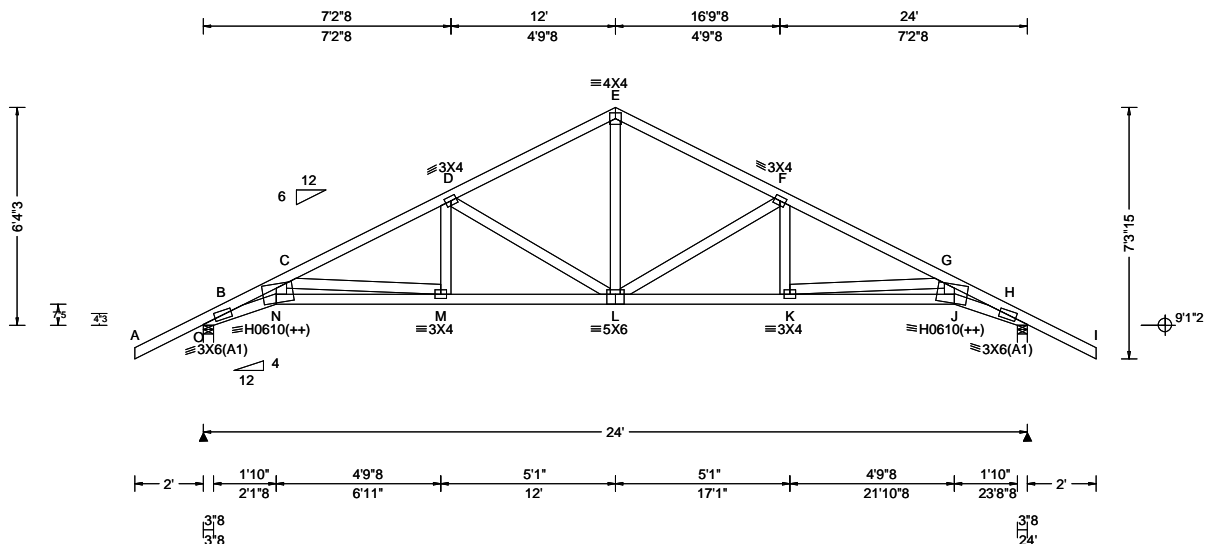
1. AWC: American Wood Council; 222 Catoctin Circle SE, Suite 201; Leesburg, VA 20175; [www.awc.org](http://www.awc.org).
2. ICC: International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
3. Alpine, a division of ITW Building Components Group Inc.: 155 Harlem Ave, North Building, 4th Floor, Glenview, IL 60025; [www.alpineitw.com](http://www.alpineitw.com).
4. TPI: Truss Plate Institute, 2670 Crain Highway, Suite 203, Waldorf, MD 20601; [www.tpinst.org](http://www.tpinst.org).
5. SBCA: Wood Truss Council of America, 6300 Enterprise Lane, Madison, WI 53719; [www.sbcacomponents.com](http://www.sbcacomponents.com).

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): 0.001 B 999 240	Loc R+ /R- /Rh /Rw /U /RL
BCLL: 0.00	Enclosure: Closed	Lu: NA Cs: NA	VERT(CL): 0.003 B 999 180	Y 354 /- /- /219 /66 /203
BCDL: 10.00	Risk Category: II	Snow Duration: NA	HORZ(LL): 0.002 L - -	Y* 66 /- /- /36 /11 /-
Des Ld: 40.00	EXP: C Kzt: NA		HORZ(TL): 0.003 L - -	N 354 /- /- /251 /66 /-
NCBCLL: 10.00	Mean Height: 15.00 ft	Building Code:	Creep Factor: 2.0	Wind reactions based on MWFRS
Soffit: 2.00	TCDL: 5.0 psf	IBC 7th Ed. 2020 Res.	Max TC CSI: 0.392	Y Brg Wid = 3.5 Min Req = 1.5 (Truss)
Load Duration: 1.25	BCDL: 5.0 psf	TPI Std: 2014	Max BC CSI: 0.064	Y Brg Wid = 281 Min Req = -
Spacing: 24.0 "	MWFRS Parallel Dist: 0 to h/2	Rep Fac: Yes	Max Web CSI: 0.070	N Brg Wid = 3.5 Min Req = 1.5 (Truss)
	C&C Dist a: 3.00 ft	FT/RT:20(0)/10(0)		Bearings Y, Y, & N are a rigid surface.
	Loc. from endwall: Any	Plate Type(s):		Members not listed have forces less than 375#
	GCpi: 0.18	WAVE		
	Wind Duration: 1.60		VIEW Ver: 21.02.01.1216.14	

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155 Harlem Ave  
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SEQN: 454653 FROM: CDM	COMN Ply: 1 Qty: 1	Job Number: 23-8802 Williams Addtn Truss Label: A02	Cust: R 215 JRef: 1XMG2150007 T7 DrwNo: 018.23.1719.40627 GA / YK 01/18/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
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 Kzt: NA 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	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT: 20(0)/10(0) Plate Type(s): WAVE, HS	PP Deflection in loc L/defl L/# VERT(LL): 0.153 L 999 240 VERT(CL): 0.308 L 925 180 HORZ(LL): 0.114 H - - HORZ(TL): 0.229 H - - Creep Factor: 2.0 Max TC CSI: 0.548 Max BC CSI: 0.922 Max Web CSI: 0.426 VIEW Ver: 22.02.00.0914.12	Gravity Loc R+ / R- / Rh / Rw / U / RL O 1124 - / - / - /680 /205 /205 H 1124 - / - / - /680 /205 - / - Wind reactions based on MWFRS O Brg Wid = 3.5 Min Req = 1.5 (Truss) H Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings O & H 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 1140 -3199 E - F 611 -1259 C - D 758 -1890 F - G 756 -1890 D - E 608 -1259 G - H 1118 -3199

#### Lumber

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

#### Plating Notes

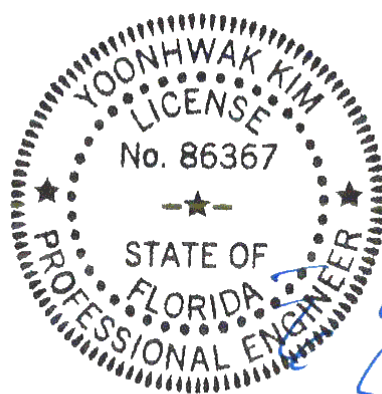
(++) - This plate works for both joints covered.

#### 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 6-4-3.



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#### Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
B - N	2873 -949	L - K	1632 -502
N - M	2560 -888	K - J	2560 -852
M - L	1632 -527	J - H	2873 -907

#### Maximum Web Forces Per Ply (lbs)

Webs	Tens.Comp.	Webs	Tens. Comp.
N - C	702 -144	L - F	353 -674
C - M	363 -915	K - G	352 -915
D - L	355 -674	G - J	702 -133
E - L	789 -293		

**\*\*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.  
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The drawing illustrates a roof truss system with the following components and dimensions:

- Top Chords:**
  - Left side:  $\approx 3X6(A1)$  at joint A,  $\approx 3X5$  at joint C,  $\approx 3X4$  at joint D, and  $\approx 4X4$  at joint E.
  - Right side:  $\approx 3X5$  at joint G,  $\approx 3X4$  at joint F,  $\approx 3X4$  at joint H, and  $\approx 4X4$  at joint E.
- Bottom Chords:**
  - Left side:  $\approx 3X6(A1)$  at joint A,  $\approx 3X4$  at joint M,  $\approx 5X6$  at joint L,  $\approx 3X4$  at joint K,  $\approx 3X6(A1)$  at joint I.
  - Right side:  $\approx 3X6(A1)$  at joint I,  $\approx 3X4$  at joint K,  $\approx 5X6$  at joint L,  $\approx 3X4$  at joint M, and  $\approx 3X6(A1)$  at joint A.
- Vertical Members:**
  - From joint E to joint L:  $\approx 5X6$ .
  - From joint D to joint M:  $\approx 3X4$ .
  - From joint F to joint K:  $\approx 3X4$ .
- Diagonal Members:**
  - From joint C to joint M:  $\approx 3X5$ .
  - From joint G to joint K:  $\approx 3X5$ .
- Connections:**
  - At joint A:  $\approx 3X6(A1)$  and  $\approx 3X6(A1)$  are connected by a  $\approx 3X6(A1)$  member.
  - At joint I:  $\approx 3X6(A1)$  and  $\approx 3X6(A1)$  are connected by a  $\approx 3X6(A1)$  member.
  - At joint E:  $\approx 4X4$  is connected to  $\approx 4X4$  by a  $\approx 4X4$  member.
  - At joint L:  $\approx 5X6$  is connected to  $\approx 5X6$  by a  $\approx 5X6$  member.
  - At joint M:  $\approx 3X4$  is connected to  $\approx 3X4$  by a  $\approx 3X4$  member.
  - At joint K:  $\approx 3X4$  is connected to  $\approx 3X4$  by a  $\approx 3X4$  member.
- Dimensions:**
  - Overall width: 24'.
  - Overall height: 64'3".
  - Horizontal dimensions (from left to right): 2', 3'3"8, 4'2"8, 4'6"12, 4'6"16"6, 4'2"820"8"8, 3'23"8"8, 2'.
  - Vertical dimensions (from bottom to top): 1', 64'3", 73'15", 9'1"2.

<b>Lumber</b> Top chord: 2x4 SP #2; Bot chord: 2x4 SP M-31; B2,B3 2x4 SP #2; Webs: 2x4 SP #3;				
	C - D	492 - 2023	F - G	497 - 2022
	D - E	398 - 1336	G - H	784 - 3706
	<b>Maximum Bot Chord Forces Per Ply (lbs)</b>			
	Chords	Tens.Comp.	Chords	Tens. Comp.

Wind loading based on both gable and hip roof types.

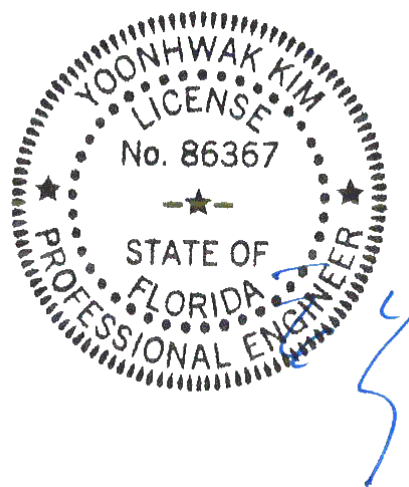
**Additional Notes**

The overall height of this truss excluding overhang is 6-4-3.

**Maximum Web Forces Per Ply (lbs)**

Webs	Tens.Comp.	Webs	Tens. Comp.
N - C	955 - 111	L - F	240 - 744

C - M	281 - 1229	F - K	422 - 25
M - D	422 - 23	K - G	289 - 1229
D - L	237 - 744	G - J	955 - 118
E - L	901 - 202		




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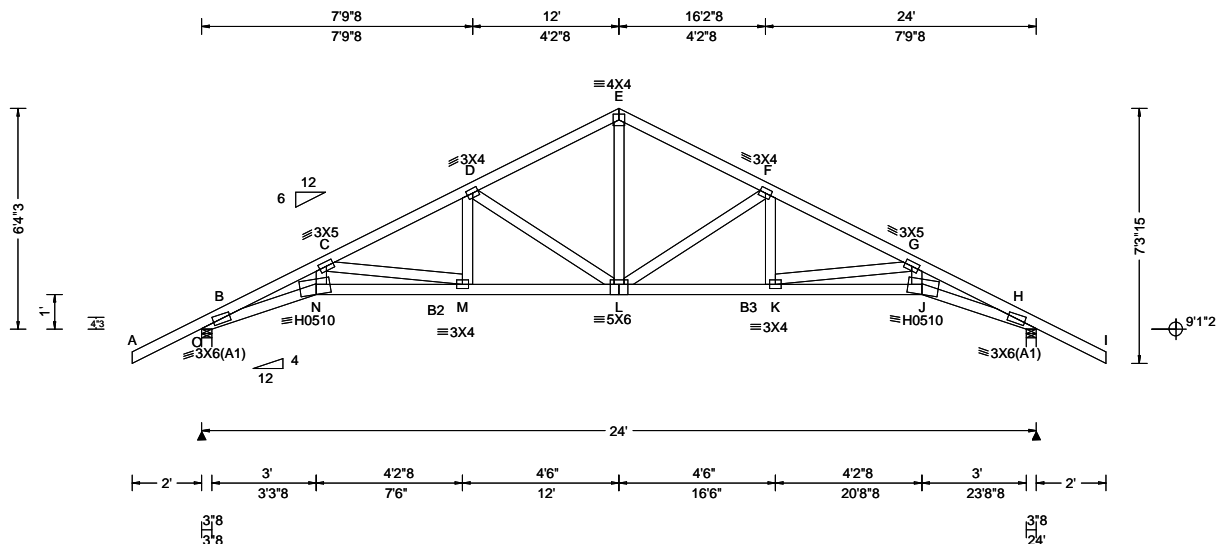
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155 Harlem Ave  
 North Building, 4th Floor  
 Glenview, IL 60025

SEQN: 454647 FROM: CDM	COMN Ply: 1 Qty: 1	Job Number: 23-8802 Williams Addtn Truss Label: A04	Cust: R 215 JRef: 1XMG2150007 T6 DrwNo: 018.23.1719.34617 GA / YK 01/18/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg, Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
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 Kzt: NA 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 GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT: 20(0)/10(0) Plate Type(s): WAVE, HS	PP Deflection in loc L/defl L/# VERT(LL): 0.211 L 999 240 VERT(CL): 0.424 L 671 180 HORZ(LL): 0.161 H - - HORZ(TL): 0.325 H - - Creep Factor: 2.0 Max TC CSI: 0.523 Max BC CSI: 0.987 Max Web CSI: 0.456 VIEW Ver: 22.02.00.0914.12	Gravity Loc R+ / R- / Rh / Rw / U / RL O 1126 - / - / - /681 /205 /205 H 1126 - / - / - /681 /205 - / - Wind reactions based on MWFRS O Brg Wid = 3.5 Min Req = 1.5 (Truss) H Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings O & H 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 768 -3706 E - F 396 -1336 C - D 492 -2023 F - G 497 -2023 D - E 398 -1336 G - H 784 -3706

#### Lumber

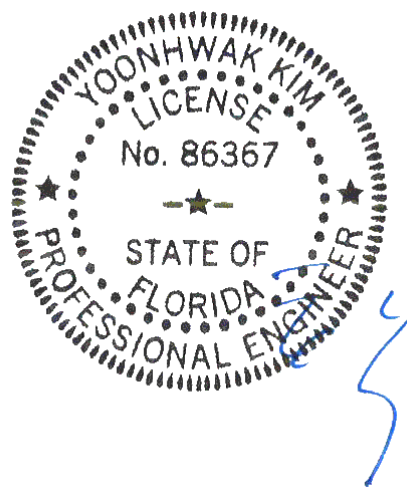
Top chord: 2x4 SP #2;  
Bot chord: 2x4 SP M-31; B2,B3 2x4 SP #2;  
Webs: 2x4 SP #3;

#### 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 6-4-3.



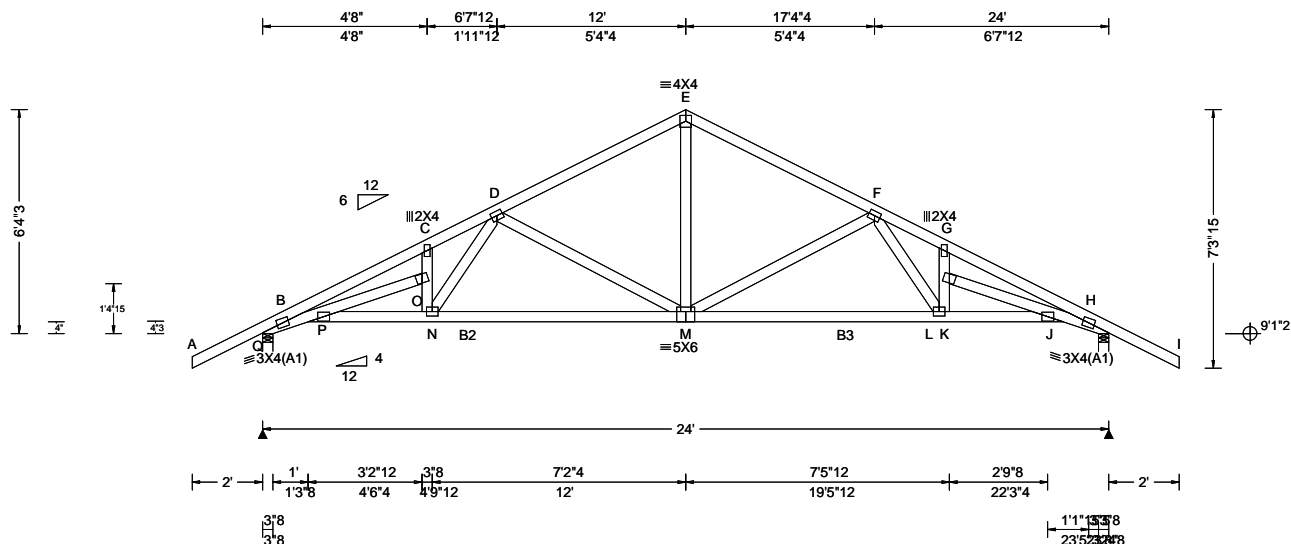
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SEQN: 454644 FROM: CDM	COMN Ply: 1 Qty: 1	Job Number: 23-8802 Williams Addtn Truss Label: A05	Cust: R 215 JRef: 1XMG2150007 T4 DrwNo: 018.23.1719.19717 GA / YK 01/18/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
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 Kzt: NA Mean Height: 15.00 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	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.107 M 999 240 VERT(CL): 0.215 M 999 180 HORZ(LL): 0.074 H - - HORZ(TL): 0.148 H - - Creep Factor: 2.0 Max TC CSI: 0.478 Max BC CSI: 0.602 Max Web CSI: 0.400 VIEW Ver: 22.02.00.0914.12	Gravity Loc R+ / R- / Rh / Rw / U / RL Q 1126 - / - / - / 679 / 32 / 205 H 1124 - / - / - / 679 / 32 / - Wind reactions based on MWFRS Q Brg Wid = 3.5 Min Req = 1.5 (Truss) H Brg Wid = 3.5 Min Req = 1.5 (Truss) Bearings Q & H 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 467 -2063 E - F 376 -1224 C - D 493 -1936 F - G 495 -1932 D - E 377 -1224 G - H 470 -2059

#### Lumber

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

#### Plating Notes

All plates are 3X4 except as noted.

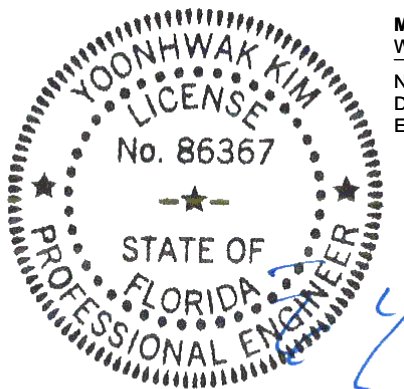
#### Wind

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 6-4-3.

LATERALLY BRACE BOTTOM CHORD ABOVE FILLER AT 2'0" O.C. MAX. INCLUDING A LATERAL BRACE AT CHORD ENDS.

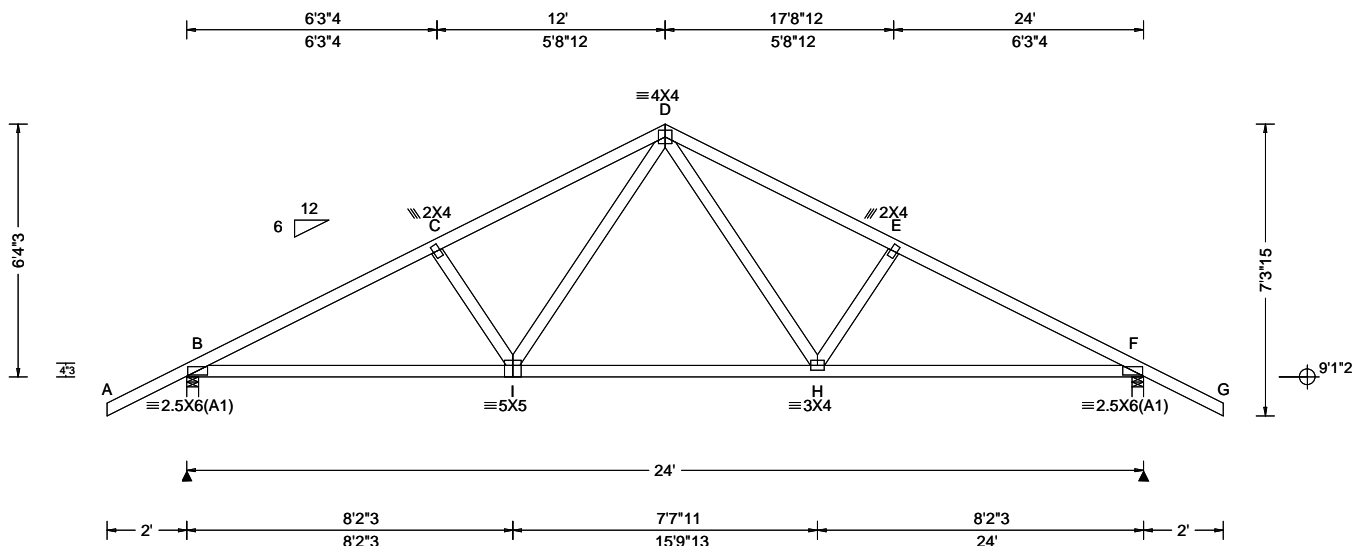


FL REG# 278, Yoonhwak Kim, FL PE #86367  
Florida Certificate of Product Approval #FL 1999

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For more information see these web sites: Alpine: alpineitw.com; TPI: tpinst.org; SBCA: sbcacomponents.com; ICC: iccsafe.org; AWC: awc.org

**ALPINE**  
AN ITW COMPANY  
155 Harlem Ave  
North Building, 4th Floor  
Glenview, IL 60025

SEQN: 687193 FROM: CDM	COMN Ply: 1 Qty: 7	Job Number: 23-8802 Williams Addtn Truss Label: A06	Cust: R 215 JRRef: 1XMG2150007 T1 DrwNo: 018.23.1719.17360 GA / YK 01/18/2023
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Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
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 Kzt: NA 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 GCp: 0.18 Wind Duration: 1.60	Pg: NA Ct: NA CAT: NA Pf: NA Ce: NA Lu: NA Cs: NA Snow Duration: NA Building Code: FBC 7th Ed. 2020 Res. TPI Std: 2014 Rep Fac: Yes FT/RT:20(0)/10(0) Plate Type(s): WAVE	PP Deflection in loc L/def L/# VERT(LL): 0.069 H 999 240 VERT(CL): 0.132 H 999 180 HORZ(LL): 0.027 F - - HORZ(TL): 0.051 F - - Creep Factor: 2.0 Max TC CSI: 0.355 Max BC CSI: 0.646 Max Web CSI: 0.221 VIEW Ver: 21.02.01.1216.14	Gravity Loc R+ / R- / Rh / Rw / U / RL Non-Gravity Loc R+ / R- / Rh / Rw / U / RL B 1174 - / - / - /684 /203 /205 F 1174 - / - / - /684 /203 - Wind reactions based on MWFRS B Brg Wid = 3.5 Min Req = 1.5 (Truss) F Brg Wid = 3.5 Min Req = 1.5 (Truss) 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 688 -1768 D - E 690 -1578 C - D 691 -1576 E - F 687 -1769

#### Lumber

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

#### Loading

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

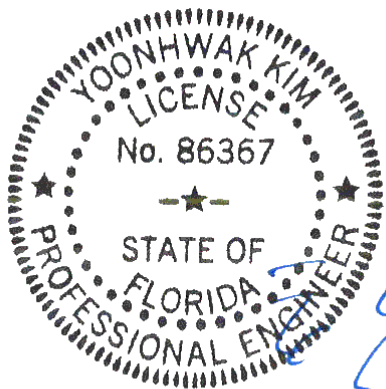
#### Wind

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 6-4-3.



FL REG# 278, Yoonhwak Kim, FL PE #86367  
Florida Certificate of Product Approval #FL 1999

#### Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
B - I	1509 -486	H - F	1510 -465
I - H	1029 -218		

#### Maximum Web Forces Per Ply (lbs)

Webs	Tens.Comp.	Webs	Tens. Comp.
I - D	577 -204	D - H	579 -203

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155 Harlem Ave  
North Building, 4th Floor  
Glenview, IL 60025

# 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		Brace Grade	No Braces	(1) 1x4 'L' Brace *		(1) 2x4 'L' Brace *		(2) 2x4 'L' Brace **		(1) 2x6 'L' Brace *		(2) 2x6 'L' Brace **	
	Spacing	Species			Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
24" O.C.	SPF	#1 / #2	#1	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	#1	4' 1"	5' 8"	6' 0"	7' 7"	8' 1"	10' 1"	10' 6"	11' 10"	12' 8"	14' 0"	14' 0"
			#2	4' 6"	7' 4"	7' 8"	8' 8"	9' 0"	10' 4"	10' 9"	13' 8"	14' 0"	14' 0"	14' 0"
			#3	4' 3"	7' 3"	7' 7"	8' 7"	8' 11"	10' 3"	10' 8"	13' 6"	14' 0"	14' 0"	14' 0"
	SP DFL	#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' 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	#1	4' 0"	5' 3"	5' 7"	7' 0"	7' 6"	9' 6"	10' 2"	11' 0"	11' 10"	14' 0"	14' 0"
			#2	4' 0"	5' 3"	5' 7"	7' 0"	7' 6"	9' 6"	10' 2"	11' 0"	11' 10"	14' 0"	14' 0"
			#3	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	#1 / #2	#1	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	#1	4' 8"	6' 11"	7' 5"	9' 3"	9' 11"	11' 7"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
			#2	4' 8"	6' 11"	7' 5"	9' 3"	9' 11"	11' 7"	12' 1"	14' 0"	14' 0"	14' 0"	14' 0"
			#3	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	#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' 3"	11' 8"	12' 2"	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	#1	4' 8"	6' 5"	6' 10"	8' 7"	9' 2"	11' 7"	12' 1"	13' 6"	14' 0"	14' 0"	14' 0"
			#2	4' 8"	6' 5"	6' 10"	8' 7"	9' 2"	11' 7"	12' 1"	13' 6"	14' 0"	14' 0"	14' 0"
			#3	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	#1 / #2	#1	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	#1	5' 1"	8' 0"	8' 6"	10' 8"	11' 1"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"
			#2	5' 1"	8' 0"	8' 6"	10' 8"	11' 1"	12' 9"	13' 3"	14' 0"	14' 0"	14' 0"	14' 0"
			#3	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	#2	5' 8"	9' 3"	9' 8"	10' 11"	11' 4"	13' 0"	13' 6"	14' 0"	14' 0"	14' 0"	14' 0"
			#3	5' 5"	9' 2"	9' 6"	10' 10"	11' 3"	12' 11"	13' 5"	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	#1	5' 3"	8' 5"	9' 0"	10' 9"	11' 2"	12' 10"	13' 4"	14' 0"	14' 0"	14' 0"	14' 0"
			#2	5' 3"	8' 5"	9' 0"	10' 9"	11' 2"	12' 10"	13' 4"	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"

## Bracing Group Species and Grades:

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

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

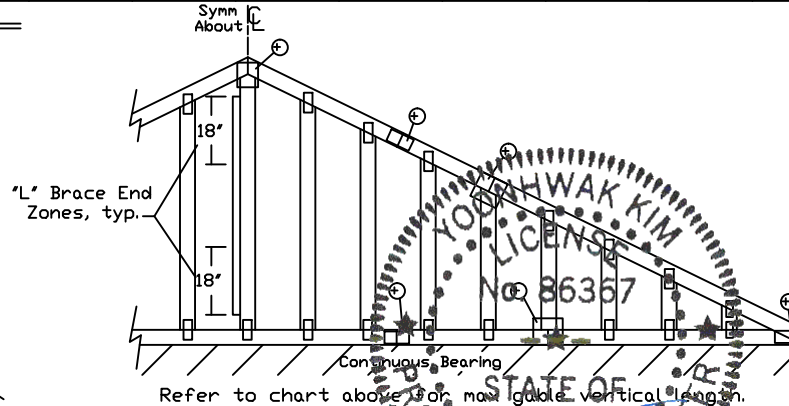
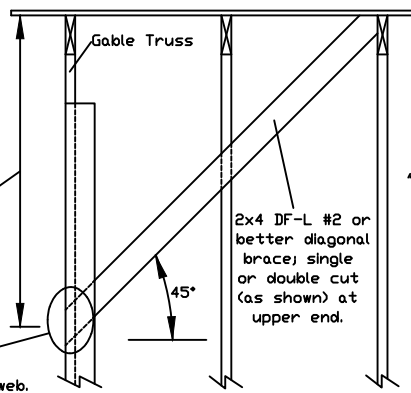
+ Refer to common truss design for peak, splice, and heel plates.

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

Diagonal brace option: vertical length may be doubled when diagonal brace is used. Connect diagonal brace for 450# at each end. Max web total length is 14'.

Vertical length shown in table above.

Connect diagonal at midpoint of vertical web.



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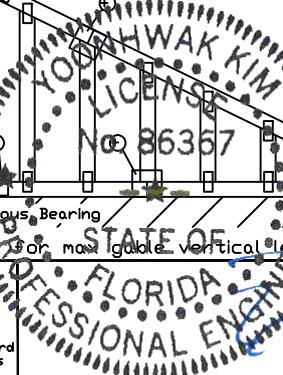
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For more information see this job's general notes page and these web sites:  
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155 Harlem Ave  
 North Building, 4th Floor  
 Glenview, IL 60025



MAX. TOT. LD. 60 PSF

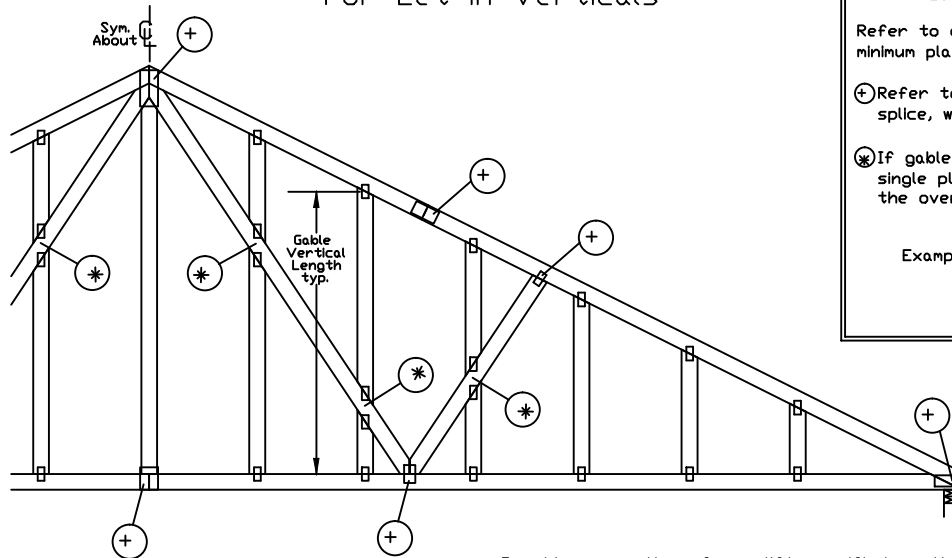
MAX. SPACING 24.0"

REF ASCE7-16-GAB14015

DATE 01/26/2018

DRWG A14015ENC160118

# Gable Detail For Let-in Verticals

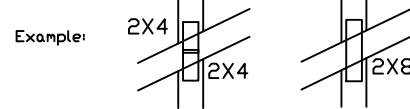


## Gable Truss Plate Sizes

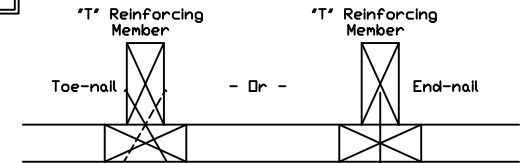
Refer to appropriate Alpine gable detail for minimum plate sizes for vertical studs.

⊕ 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.



## 'T' Reinforcement Attachment Detail



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"

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"x 3", 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.

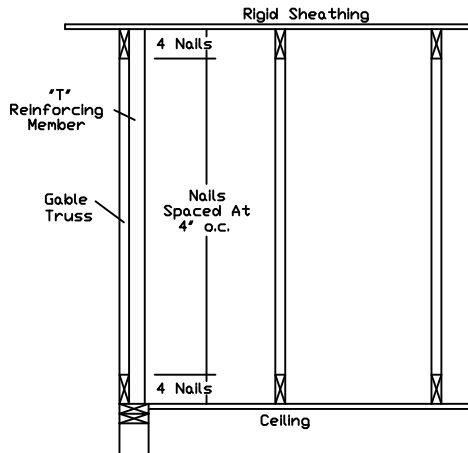
## ASCE 7-05 Gable Detail Drawings

A13015051014, A12015051014, A11015051014, A10015051014, A14015051014,  
A13030051014, A12030051014, A11030051014, A10030051014, A14030051014

## ASCE 7-10 & ASCE 7-16 Gable Detail Drawings

A11515ENC100118, A12015ENC100118, A14015ENC100118, A10015ENC100118,  
A18015ENC100118, A20015ENC100118, A20015END100118, A20015P100118,  
A11530ENC100118, A12030ENC100118, A14030ENC100118, A10030ENC100118,  
A18030ENC100118, A20030ENC100118, A20030END100118, A20030P100118,  
S11515ENC100118, S12015ENC100118, S14015ENC100118, S16015ENC100118,  
S18015ENC100118, S20015ENC100118, S20015END100118, S20015P100118,  
S11530ENC100118, S12030ENC100118, S14030ENC100118, S16030ENC100118,  
S18030ENC100118, S20030ENC100118, S20030END100118, S20030P100118

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



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Trusses require extreme care in fabricating, handling, shipping, installing and bracing. Refer to and follow the latest edition of BCSI (Building Component Safety Information, by TPI and SBCA) for safety practices prior to performing these functions. Installers shall provide temporary bracing per BCSI. Unless noted otherwise, top chord shall have properly attached structural sheathing and bottom chord shall have a properly attached rigid ceiling. Locations shown for permanent lateral restraint of webs shall have bracing installed per BCSI sections B3, B7 or B10, as applicable. Apply plates to each face of truss and position as shown above and on the Joint Details, unless noted otherwise. Refer to drawings 160A-Z for standard plate positions.

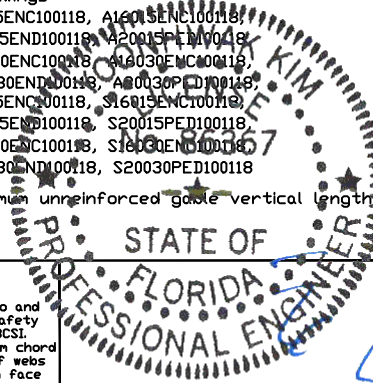
Alpine, a division of ITW Building Components Group Inc. shall not be responsible for any deviation from this drawing, any failure to build the truss in conformance with ANSI/TPI 1, or for handling, shipping, installation & bracing of trusses.

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](http://www.alpineitw.com) TPI: [www.tpinet.org](http://www.tpinet.org) SBCA: [www.sbcacomponents.com](http://www.sbcacomponents.com) ICC: [www.icc-es.org](http://www.icc-es.org)



155 Harlem Ave  
North Building, 4th Floor  
Glenview, IL 60025



REF LET-IN VERT

DATE 01/02/2018

DRWG GBLLETIN0118

MAX. TOT. LD. 60 PSF

DUR. FAC. ANY

MAX. SPACING 24.0"