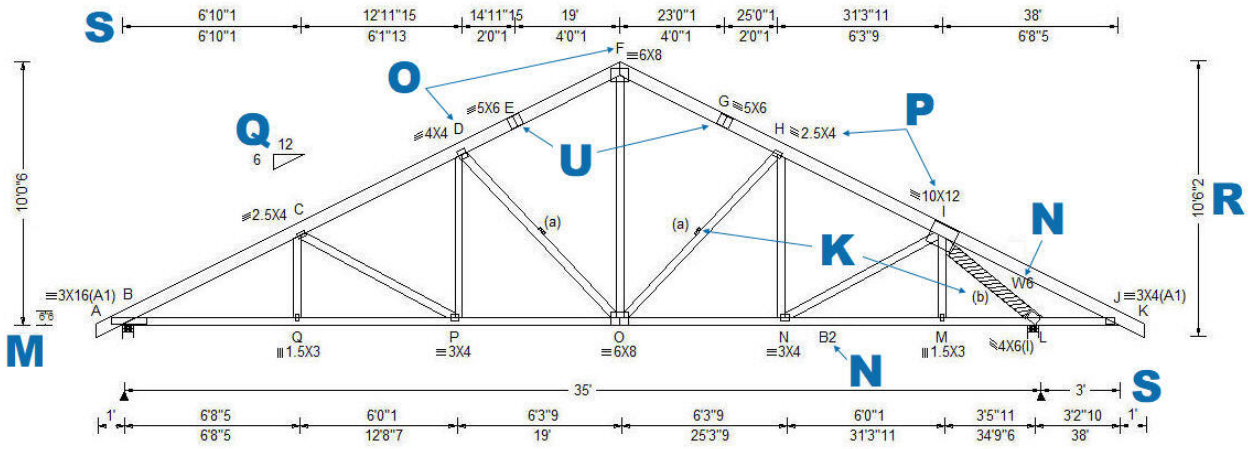
How To Read A Typical Alpine Component Drawing

SEQN: 1128 / T25 / COMN FROM: fm	Ply: 1 Qty: 1 Wgt: 251.9 lbs	**Job Number:** Q-11041-19 Salesman: CJ / Designer: DL / Owner: JD Adams **Truss Label:** A14	DRW: ... / ... 01/03/2019



Loading Criteria (psf) — A

TCLL:	50.00
TCDL:	10.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	70.00
NCBCLL:	0.00
Soffit:	2.00

Load Duration: 1.15
Spacing: 24.0 "

Wind Criteria — B
Wind Std: ASCE 7-16
Speed: 100 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: 3.80 ft
Loc. from endwall: Any
GCpi: 0.18
Wind Duration: 1.33

Snow Criteria (Pg,Pf in PSF) — C
Pg: 50.0 Ct: 1.1 CAT: II
Pf: 38.5 Ce: 1.0
Lu: - Cs: 1.00
Snow Duration: 1.15

Code / Misc Criteria — D
Bldg Code: IBC 2018
TPI Std: 2014
Rep Fac: Yes
FT/RT:20(0)/10(0)
Plate Type(s):
WAVE

Defl/CSI Criteria — E

PP Deflection in	loc	L/defl	L/#
VERT(LL):	0.226 P	999	240
VERT(CL):	0.321 P	999	240
HORZ(LL):	0.111 L	-	-
HORZ(TL):	0.157 L	-	-

Creep Factor: 2.0
Max TC CSI: 0.727
Max BC CSI: 0.833
Max Web CSI: 0.835
Mfg Specified Camber:

VIEW Ver: 18.02.01 — V

▲ Maximum Reactions (lbs) — F

	Gravity			Non-Gravity		
Loc	R+	/ R-	/ Rh	/ Rw	/ U	/ RL
B	2580	/-	/-	/847	/0	/166
L	3083	/-	/-	/1031	/-	/-

Wind reactions based on MWFRS
B Brg Width = 5.3 Min Req = 4.0
L Brg Width = 5.3 Min Req = 4.5
Bearings B & L are a rigid surface.

Maximum Top Chord Forces Per Ply (lbs) — G

Chords	Tens.	Comp.	Chords	Tens.	Comp.
A - B	57	0	F - G	336	-2476
B - C	359	-4375	G - H	316	-2592
C - D	357	-3540	H - I	305	-3014
D - E	327	-2596	I - J	1168	-188
E - F	347	-2480	J - K	53	0

Maximum Bot Chord Forces Per Ply (lbs) — H

Chords	Tens.	Comp.	Chords	Tens.	Comp.
B - Q	3740	-238	N - M	2022	-106
Q - P	3739	-239	M - L	2020	-107
P - O	3009	-144	L - J	215	-857
O - N	2534	-97			

Maximum Web Forces Per Ply (lbs) — I

Webs	Tens.	Comp.	Webs	Tens.	Comp.
Q - C	121	0	O - H	119	-654
C - P	115	-829	H - N	79	-152
P - D	554	0	N - I	582	-11
D - O	171	-1229	M - I	97	0
F - O	1414	-132	I - L	412	-4099

Lumber — J
Top chord 2x6 SPF #1/#2
Bot chord 2x4 SPF 1650f-1.5E :B2 2x4 SPF #1/#2:
Webs 2x4 SPF Stud :W6 2x6 SPF Stud:

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

(b) #3 or better scab reinforcement. Same size & 80% length of web member. Attach with 10d Box or Gun (0.128"x3",min.)nails @ 6" oc.

Plating Notes
(I) - plates so marked were sized using 0% Fabrication Tolerance, 0 degrees Rotational Tolerance, and/or zero Positioning Tolerance.

Loading — L
Truss designed for unbalanced snow loads.

Wind
Wind loads based on MWFRS with additional C&C member design.
Right cantilever is exposed to wind
Wind loading based on both gable and hip roof types.

T

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

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 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

A) Loading Criteria

Top & Bottom Chord live and dead loads. Non-concurrent Bottom Chord Live Load (NCBLL). Soffit Load. Load Duration Factor (an adjustment of allowable design values of lumber & fasteners). On-center component spacing (Tributary loading width).

B) Wind Criteria

Includes the ASCE Wind Load Standard. Wind Design Speed (mph), Building Type (Closed, Open Clear, Open Obstructed, Partially Enclosed). Building Usage Risk Category. Mean Height of roof. TCDL (Roof dead load). BCDL (Ceiling dead load used in wind analysis). Wind Load pressure Analysis - Main Wind Force Resisting System (MWFRS) and Components & Cladding (C&C). Load Duration Factor used for wind load cases.

C) Snow Criteria

Pg = Ground Snow Load which varies by location - refer to applicable ASCE GSL map. Ct = Thermal Factor of the building. Pf = Flat roof snow load. Ce = Exposure Factor from ground surface, vegetation & constructed features. Category (CAT) or Importance Factor based on occupancy. Snow Duration Factor used solely for snow load cases.

D) Code / Misc. Criteria

Building Code & Truss Plate Institute (TPI) Standard used in the component design. Repetitive Factors or Load Sharing. Fabrication (FT) and Rotation Tolerances (RT) and Max. (#) indicates override values. Plate type(s) used in iDesign.

E) Deflection / CSI Criteria

The span/deflection ratio & the limits used for the design. Dead Load Creep Factor used in the component analysis. Maximum CSI (Combined Stress Index = combined maximum axial & bending stress with associated component type) acting on a member. Camber applied by manufacturer to the component design.

- **VERT (LL)** = Maximum Vertical Panel Point deflection due to Live Load in inches.
- **VERT (CL)** = Maximum Vertical Panel Point deflection due to Live Load plus Creep Component of deflection due to Dead Load in inches.
- **VERT (TL)** = Maximum Vertical Panel Point long term deflection in inches, due to Live Load plus Dead load plus Creep Component of deflection due to Dead Load in inches.
- **HORZ (LL)** = Maximum Horizontal Panel Point deflection due to Live Load in inches.
- **HORZ (TL)** = Maximum Horizontal Panel Point deflection due to Live Load and Dead Load.
- **L/#** = User specified divisor for limiting span/deflection ratio for elevation of actual L/defl Value.
- **L/defl** = Ratio of length between bearings, in inches, divided by the immediate vertical Deflection, in inches, at the referenced panel point. Reported as 999 if greater than or equal to 999.

F) Maximum Reactions

- **R+** = Truss pressing on bearing with duration factor equal to gravity duration factor.
- **R-** = Truss pulling (*i.e*. uplift) from bearing with duration factor equal to gravity duration factor.
- **Rh** = Maximum horizontal reaction from a gravity load case.
- **Rw** = Maximum downward reaction from a non-gravity load case (*e.g*. Wind or Drag load).
- **U** = Maximum uplift reaction from a wind load case.
- **RL** = Maximum horizontal reaction from a non-gravity load case (*e.g*. Wind or Drag load).

G) Maximum Top Chord Forces per Ply (lbs.)

Maximum Tension and Compression forces for each top chord member, where member forces exceed 375 lbs.

H) Maximum Bottom Chord Forces per Ply (lbs.)

Maximum Tension and Compression forces for each bottom chord member, where member forces exceed 375 lbs.

I) Maximum Web Forces per Ply (lbs.)

Maximum Tension and Compression forces for each web member, where member forces exceed 375 lbs.

J) Lumber

Size, Species, and Grade for each member used in the analysis.

K) Bracing

Web bracing requirements are noted and referenced by a letter in parenthesis on the component drawing.

L) Loading & Wind Notes

Loading notes indicating additional loading conditions analyzed for the truss, including unbalanced loads, non-concurrent loads, drag loads, mechanical loads, etc.

M) Heel Height

The vertical measurement of the component from the bottom of the bottom chord to the top of the top chord at the outside edge of the heel.

N) Member Label

The member number (*e.g.* T# = Top Chord, B# = Bottom Chord, W# = Web) as specified by the member label in the Lumber note (refer to item **J** above).

O) Joint Label

All joints of the component are identified by unique letter(s).

P) Connector Plate

Size and orientation of connector plate. Orientation indicates direction of slots on connector.

Q) Slope

The vertical rise in inches for every 12 inches of horizontal run.

R) Overall Component Height

The vertical dimension including the overhang of the component.

S) Component Span & Panel Dimensions

Horizontal measurements that provide both panel point dimensions and the running total of the top and bottom chord(s) of component joints.

T) Engineers Seal

Seal of the registered professional responsible for component design.

U) Panel Splice

The location within top chord and/or bottom chord panels where two chord members are joined together by a connector plate.

V) VIEW Ver.

The version of the software on which the analysis was performed.