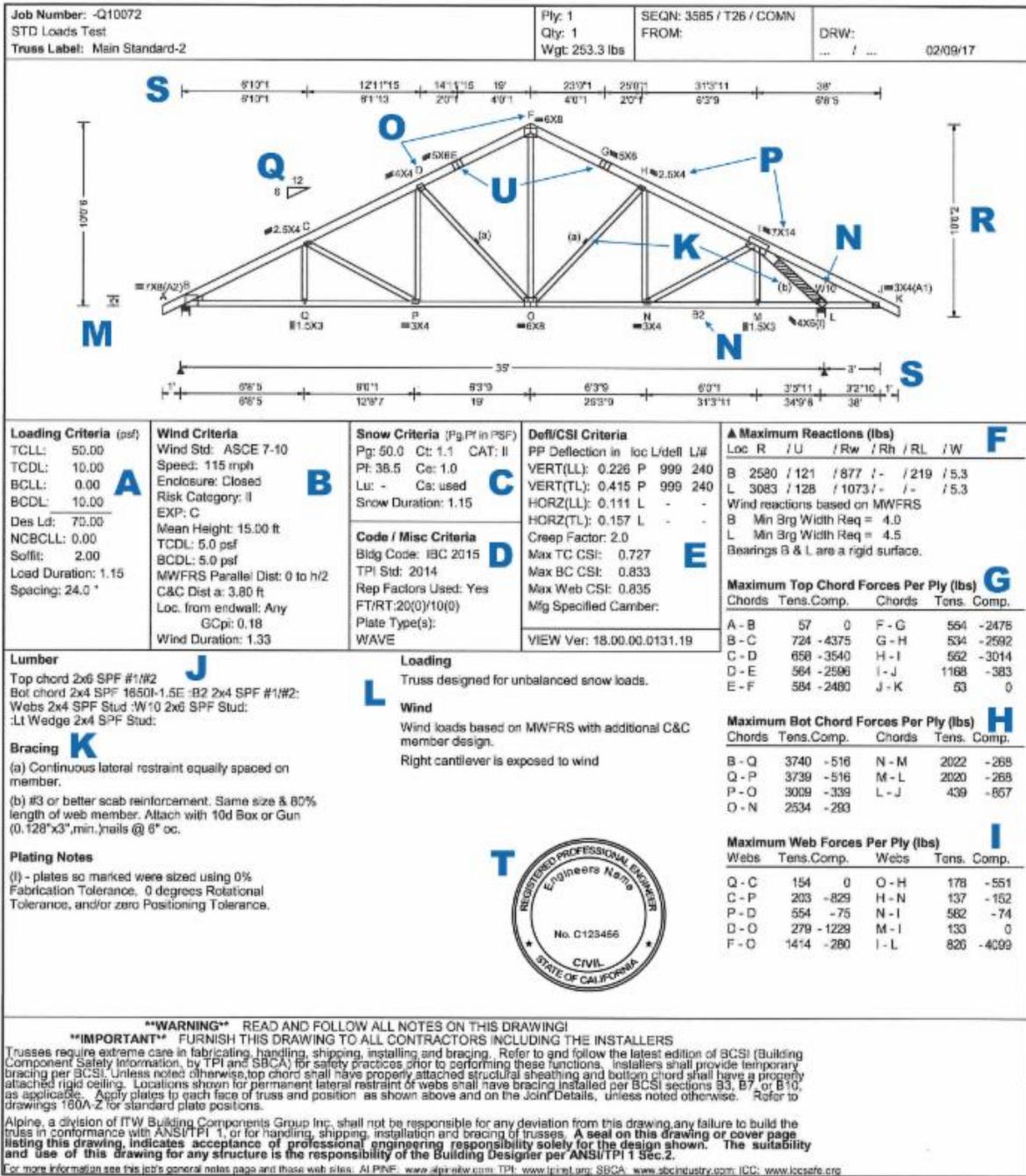


Inside
VIEW

***Optimizing Component
Design Production***

March 2017

How to read a Component Drawing



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.

B) Wind Criteria

Includes the ASCE Wind Load Standard. Wind Design Speed (mph), Building Type (Closed, Open, 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

Ground Snow Load (P_g) varies by location - refer to ASCE GSL map. Thermal Factor (C_t) of the building. Exposure Factor (C_e) 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

Panel Point (PP) Deflection for the absolute maximum vertical deflection distance, 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.

F) Maximum Reactions

- * R = Maximum vertical reaction from a gravity load case.
- * U = Maximum uplift reaction from a wind load case.
- * R_w = Maximum downward reaction from a non-gravity load case (e.g. Wind or Drag load).
- * R_h = Maximum horizontal reaction from a gravity load case.
- * R_L = Maximum horizontal reaction from a non-gravity load case (e.g. Wind or Drag load).
- * W = Bearing Width.

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 a unique letter.

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

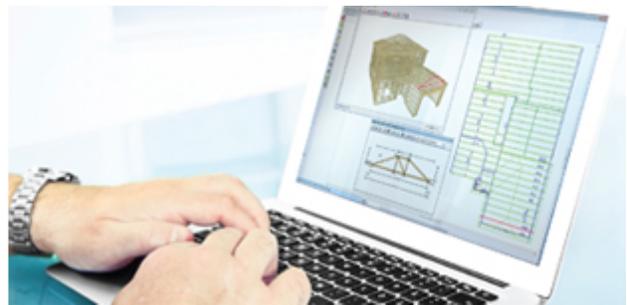
Horizontal measurements that provide both panel point dimensions and the running total of component span based on out-to-out dimensions of the top and bottom chord of the component.

T) Engineers Seal

Seal of the registered professional responsible for the 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.



Do you know a handy shortcut or have a useful tip or trick to share? Please email us at training@alpineitw.com.

For technical assistance, please call the Alpine Help Desk at (866) 237-2878.