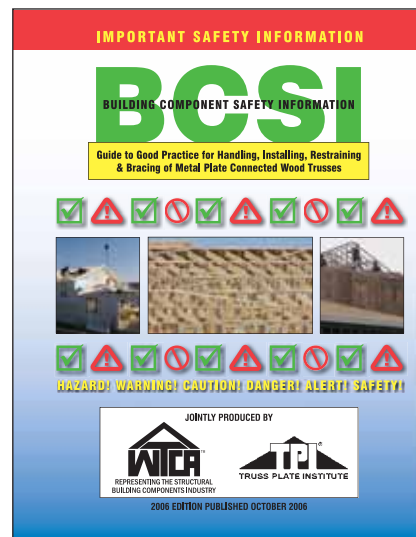




# Code Connection

## The Building Code & BCSI

The 2006 edition of BCSI contains references to the IRC and IBC!



by WTCA Staff

The new 2006 edition of *BCSI, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*, is now available. This new 104-page, full-size book, produced jointly by TPI and WTCA, replaces the BCSI 1-03 booklet and is the truss industry's new and improved guide for jobsite safety and truss performance. Portions of this new edition include excerpts from various sections of the both the 2006 International Building Code® (IBC) and the 2006 International Residential Code® (IRC). These excerpts have been included to provide code perspective on important concepts pertaining to the handling, installation, restraint and bracing of trusses.

All individuals involved in the erection/installation of trusses on a project must be familiar with the various Submittal Documents for the project in order to properly receive, store, erect, connect, restrain, brace and integrate the trusses into the Building Structural System. Submittal Documents typically include, but are not limited to:

- the Construction Documents (i.e., architectural/structural plans and specifications),
- the Truss Submittal Package, which includes:
  - Truss Design Drawings (TDD),
  - Truss Placement Diagram(s) (if/when required by the Contract),
- this BCSI booklet and/or B-Series Summary Sheets (when provided),
- the erection plan (if provided), and
- site-specific conditions.

These excerpts have been included to provide code perspective on important concepts pertaining to the handling, installation, restraint and bracing of trusses.

Section 106 in the IBC and Section R106 in the IRC provide the minimum code requirements for Construction Documents. The IBC, IRC and ANSI/TPI 1 define Construction Documents as the "written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a permit." Specific excerpts from Section 106 and R106 are included in **BCSI B1**, *Guide for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*, to "highlight" the provisions pertaining to Construction Document preparation, submittal, minimum required information and the typical approval and amendment process. These excerpts are included in **B1** to stress the importance of using a complete, accurate and approved set of Construction Documents with which to build.

**B1** and **B3**, *Permanent Restraint/Bracing of Chords & Web Members*, of the new 2006 edition of BCSI include excerpts from sections 2303.4.1.2 and 2303.4.1.5 of the 2006 IBC pertaining to permanent bracing of trusses. These excerpts are included to provide the code perspective concerning permanent bracing for individual truss members. Section 2303.4.1.2 truss design drawings, lists the minimum information that must be included on a Truss Design Drawing (TDD). With respect to permanent bracing this includes:

- 17. Maximum axial tensile and compression forces in the truss members; and
- 18. Required permanent individual truss member bracing and method per Section 2303.4.1.5 unless a specific truss member permanent bracing plan is provided by a registered design professional...

The Building Designer, who may be a registered design professional, is responsible for the overall design and flow of loads through the building. This includes the design of what the truss industry refers to as the Permanent Building Stability Bracing (PBSB) for the building system that includes the integration of all structural building components making up the structural framework. The PBSB transfers forces acting perpendicular to the plane of the individual trusses due to gravity, seismic, wind and/or other external lateral forces, as well as collected forces caused by the restraint of members subject to buckling. To aid in the design of the PBSB, the TDD includes the information provided in items 17 and 18 stated above to assist the Building Designer in generating the appropriate engineering calculations.

Section 2303.4.1.5 of the 2006 IBC specifies that when permanent bracing of individual truss members is required on the TDD, "it shall be accomplished by one of the following methods:

1. The trusses shall be designed so that the buckling of any individual truss member can be resisted internally by the structure (e.g. buckling member T-bracing, L-bracing, etc) of the individual truss. The truss individual member buckling reinforcement shall be installed as shown on the truss design drawing or on supplemental truss member buckling reinforcement diagrams provided by the truss designer.
2. Permanent bracing shall be installed using standard industry bracing details that conform with generally accepted engineering practice. Individual truss member continuous lateral bracing location(s) shall be shown on the Truss Design Drawing."

Item 1 above can be satisfied by installing web member reinforcement such as I-, L-, Scab-, T- or U-Reinforcement to web members "flagged" on the TDD as requiring continuous lateral restraint (CLR). Member reinforcement details are available from the Truss Design Engineers and indicate the type, grade and connection requirements for web member reinforcement based on whether the web members require one or two rows of CLR. In the absence of these details, a table has been included in **B3** that provides generic web reinforcement information.

**B3** also includes an expanded discussion on the importance of using diagonal bracing in conjunction with the CLR to provide restraint to the CLR and to transfer the cumulative force from the CLR into the building's lateral force resisting system such as a roof or ceiling diaphragm. General recommendations are provided for installing diagonal bracing with long, continuous runs of CLR, as well as with small groups of trusses. Some standard industry restraint and bracing details are also provided and more will be made available on the WTCA website at [www.sbcindustry.com](http://www.sbcindustry.com) in DXF/DWG format to provide guidance for the wide variety of field situations that arise and to offer greater uniformity of detailing.

The 2006 edition of BCSI has also been written in mandatory language to facilitate its anticipated future inclusion as a referenced bracing approach in the IBC, while already being referenced in the IRC. WTCA has submitted a code change proposal for BCSI to be accepted as a referenced guide, and we will continue to work on the process to make it the primary resource for providing sound and safe truss installations. **SBC**

For more information about how to get involved in the code process, contact WTCA staff at 608/274-4849 or [codes@sbccindustry.com](mailto:codes@sbccindustry.com).



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