

Ridgway Roof Truss Company

(Trusses and Prefabricated Building Components)

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www.RidgwayTruss.com

WARNING

**THESE TRUSSES MUST BE
HANDLED AND ERECTED
ACCORDING TO BCSI
SUMMARY SHEETS**

http://www.sbcindustry.docs/06_bcsi_booklet_final.pdf

SEE TABLE OF CONTENTS

DESIGN MANUAL

PROJECT NAME: _____

JOB NUMBER: _____

CONTRACTOR: _____

DATE: _____

REVISIONS: _____

COMMENTS: _____



Lumber design values are in accordance with ANSI/TPI 1 section 6.3
These truss designs rely on lumber values established by others.

RE: 210002 - Brewer Residence

MiTek USA, Inc.

6904 Parke East Blvd.
Tampa, FL 33610-4115
Model: -

Site Information:

Customer Info: SOUTHTRUST CONSTRUCTION Project Name: Brewer Residence
Lot/Block: - Subdivision: -
Address: -, -
City: Alachua State: FL

Name Address and License # of Structural Engineer of Record, If there is one, for the building.

Name: License #:
Address:
City: State:

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: FBC2020/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: N/A Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 8 individual, Truss Design Drawings and 0 Additional Drawings.

With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	T22485067	R01	1/18/21
2	T22485068	R02	1/18/21
3	T22485069	R03	1/18/21
4	T22485070	R04	1/18/21
5	T22485071	V01	1/18/21
6	T22485072	V02	1/18/21
7	T22485073	V03	1/18/21
8	T22485074	V04	1/18/21

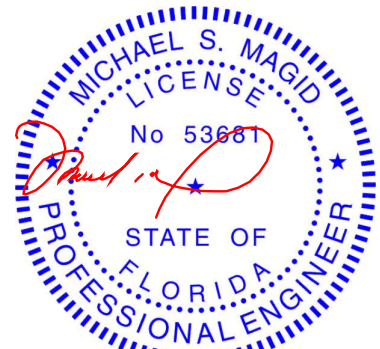


The truss drawing(s) referenced above have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Ridgway Roof Trusses.

Truss Design Engineer's Name: Magid, Michael

My license renewal date for the state of Florida is February 28, 2023.

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18, 2021

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CHAPTER 2

STANDARD RESPONSIBILITIES IN THE DESIGN AND APPLICATION OF METAL-PLATE-CONNECTED WOOD TRUSSES

2.1 GENERAL PURPOSES

The purpose of this Chapter of the Standard is to define and draw attention to the Responsibilities of the Owner, Building Designer, Truss Manufacturer, and Truss Designer, with respect to the application of Trusses in the construction of a Building.

2.2 DEFINITIONS

BCSI: *Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses* jointly produced by the *Structural Building Components Association* and the *Truss Plate Institute*.

BCSI-B1: *Guide for Handling, Installing, Restraining & Bracing of Trusses* of the Building Component Safety Information (BCSI).

BCSI-B2: *Truss Installation & Temporary Restraint/Bracing* of the Building Component Safety Information (BCSI).

BCSI-B3: *Permanent Restraint/Bracing of Chords & Web Members* of the Building Component Safety Information (BCSI).

BCSI-B7: *Guide for Handling, Installing & Bracing of 3x2 and 4x2 Parallel Chord Trusses* of the Building Component Safety Information (BCSI).

BCSI-B10: *Post Frame Truss Installation, Restraint & Bracing* of the Building Component Safety Information (BCSI).

Building: Structure used or intended for supporting or sheltering any use or occupancy.

Building Code: As it applies to a Building, any set of standards set forth and enforced by a Jurisdiction for the protection of public safety.

Building Designer: Owner of the Building or the Person that contracts with the Owner for the design of the Building Structural System and/or who is responsible for the preparation of the Construction Documents. When mandated by the Legal Requirements, the Building Designer shall be a Registered Design Professional.

Building Official: Officer or other designated authority charged with the administration and enforcement of the Building Code, or a duly authorized representative.

Building Permit: Certificate of permission issued by a Jurisdiction to an Owner to construct, enlarge, or alter a Building.

Building Structural System: Completed combination of Structural Elements, Trusses, connections and other systems, which serve to transfer the Building's self-weight and the specified loads to the foundation or ground.

Construction Documents: Written, graphic and pictorial documents prepared or assembled for describing the design (including the Building Structural System), location and physical characteristics of the elements of a Building necessary to obtain a Building Permit and construct a Building. Where required by the statutes of the jurisdiction in which the project is to be constructed, the Construction Documents or parts of the Construction Documents, shall be prepared by a Registered Design Professional.

Contract: Legally recognized agreement between two parties.

Contractor: Owner of a Building, or the Person who contracts with the Owner, who constructs the Building in accordance with the Construction Documents and the Truss Submittal Package. The term "Contractor" shall include those subcontractors who have a direct Contract with the Contractor to construct all or a portion of the construction.

Cover/Truss Index Sheet: Sheet that is signed and sealed, where required by the Legal Requirements, by the Truss Designer, and depending on the Legal Requirements shall be permitted to contain the following information: (1) Identification of the Building, including Building name and address, lot, block, subdivision, and city or county; (2) Identification of Construction Documents by drawing number(s) with revision date; (3) specified Building Code; (4) computer program used; (5) roof dead and live loads; (6) floor dead and live loads; (7) wind load criteria from a specifically defined code (e.g., ASCE 7) and any other design loads (such as ponding, mechanical loads, etc.); (8) name, address and license

number of Building Designer, if known; (9) a listing of the individual identification numbers and dates of each Truss Design Drawing referenced by the Cover/Truss Index Sheet; and (10) name, address, date of Cover/Truss Index Sheet and license number of Truss Designer.

Deferred Submittal: Those portions of the design that are not completed at the time of the application for the Building Permit and that are to be submitted to the Building Official within a specified period in accordance with the Legal Requirements.

Diagonal Bracing: Within a Truss system, structural member(s) installed along a portion of a Top Chord, Bottom Chord, or Web plane, at approximately 45 degrees to a Lateral Restraint member to provide a load path for the Lateral Restraint (See *BCSI-B1*, *BCSI-B2*, *BCSI-B3*, *BCSI-B7*, and *BCSI-B10*).

Jurisdiction: Governmental unit that is responsible for adopting and enforcing the Building Code.

Lateral Restraint: Also known as continuous lateral brace or CLB. A structural member installed at right angles to a chord or Web member of a Truss to reduce the laterally unsupported length of the Truss member (See *BCSI-B1*, *BCSI-B2*, *BCSI-B3*, *BCSI-B7*, and *BCSI-B10*).

Legal Requirements: Any applicable provisions of all statutes, laws, rules, regulations, ordinances, codes, or orders of the governing Jurisdiction.

Owner: Person having a legal or equitable interest in the property upon which a Building is to be constructed, and: (1) either prepares, or retains the Building Designer or Registered Design Professional to prepare the Construction Documents; and (2) either constructs, or retains the Contractor to construct the Building.

Permanent Building Stability Bracing: Lateral force resisting system for the Building that resists forces from gravity, wind, seismic and/or other loads.

Permanent Individual Truss Member Restraint: Restraint that is used to prevent local buckling of an individual Truss chord or Web member due to the axial forces in the individual Truss member (See *BCSI-B2* and *BCSI-B3*).

Person: Individual or organization that may exist in accordance with the Legal Requirements. (The term “Person” as used in this Chapter 2 may either appear as “Person” or “person.”)

Registered Design Professional: Architect or engineer, who is licensed to practice their respective design profession as defined by the Legal Requirements of the Jurisdiction in which the Building is to be constructed.

Special Inspector: A qualified Person approved by the Building Official as having the competence necessary to perform special inspections.

Standard: *National Design Standard for Metal Plate Connected Wood Truss Construction (ANSI/TPI 1).*

Structural Element: Single structural member (other than a Truss) that is specified in the Construction Documents.

Temporary Installation Restraint/Bracing: Lateral Restraint and Diagonal Bracing installed during construction for the purposes of holding Trusses in their proper location, plumb and in plane, until Permanent Individual Truss Member Restraint, Diagonal Bracing and Permanent Building Stability Bracing are completely installed (See *BCSI-B1*, *BCSI-B2*, *BCSI-B3*, *BCSI-B7*, and *BCSI-B10*).

Truss: Individual metal-plate-connected wood component manufactured for the construction of a Building.

Truss Design Drawing: Written, graphic and pictorial depiction of an individual Truss that includes the information required in Sections 2.3.5.5.

Truss Designer: Person responsible for the preparation of the Truss Design Drawings.

Truss Manufacturer: Person engaged in the fabrication of Trusses.

Truss Placement Diagram: Illustration identifying the assumed location of each Truss.

Truss Submittal Package: Package consisting of each individual Truss Design Drawing, and, as applicable, the Truss Placement Diagram, the Cover/Truss Index Sheet, Lateral Restraint and Diagonal Bracing details designed in accordance with generally accepted engineering practice, applicable *BCSI*-defined Lateral Restraint and Diagonal Bracing details, and any other structural details germane to the Trusses.

2.3 RESPONSIBILITIES

Where the Legal Requirements mandate a Registered Design Professional for buildings, the Building Designer and the Truss Designer shall be Registered Design Professionals.

2.3.1 Requirements of the Owner.

2.3.1.1 Building Permit.

Where required by Legal Requirements, including the Building Code, the Owner shall obtain a Building Permit.

If special inspections or structural observations related to Trusses are required as part of the Construction Documents and/or permitting process, these requirements shall be communicated in writing to the Contractor or Truss Manufacturer as appropriate.

2.3.1.2 Registered Design Professional Designation.

The Owner shall engage and designate on the Building Permit application the Registered Design Professional for the Building, if the Building Designer is required to be a Registered Design Professional.

2.3.1.3 Engagement with the Building Designer.

The Owner shall engage a Building Designer to prepare the Construction Documents and review the Truss Submittal Package.

The Truss Manufacturer and Truss Designer shall be notified in writing by either the Owner or Contractor if the Building Designer is changed or is unable to continue to perform their duties.

In the absence of an independent Building Designer, the Owner shall assume the role of Building Designer.

2.3.1.4 Engagement with the Contractor.

The Owner shall engage a Contractor to store, handle and install the Trusses for the Building, in compliance with any and all Legal Requirements.

2.3.1.5 Review and Coordinate Submittal Packages.

The Owner or Owner's representative shall be responsible for ensuring that the requirement of Section 2.3.4.2 is accomplished.

2.3.1.6 Long Span Truss Requirements.

2.3.1.6.1 Restraint/Bracing Design.

In all cases where a Truss clear span is 60 ft. (18 m) or greater, the Owner shall contract with any Registered Design Professional for the design of the Temporary Installation Restraint/Bracing and the Permanent Individual

Truss Member Restraint and Diagonal Bracing.

2.3.1.6.2 Special Inspection.

In all cases where a Truss clear span is 60 ft. (18 m) or greater, the Owner shall contract with a Special Inspector to perform special inspections. Special Inspections shall assure that the Trusses, including the Temporary Installation Restraint/Bracing and the Permanent Individual Truss Member Restraint and Diagonal Bracing are installed in accordance with the approved Construction Documents and the approved Truss Submittal Package.

2.3.1.7 Responsibility Exemptions.

The Owner is responsible for items listed in Section 2.3.1, and is not responsible for the requirements of other parties specified outside of Section 2.3.1.

2.3.2 Requirements of the Building Designer.

2.3.2.1 Construction Documents.

The Construction Documents shall be prepared by the Building Designer and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in detail that such documents conform to the Legal Requirements, including the Building Code.

2.3.2.2 Deferred Submittals.

The Building Designer shall list the Deferred Submittals on the Construction Documents. The Building Designer shall review Deferred Submittals in accordance with Section 2.3.2.3.

2.3.2.3 Review Submittal Packages.

The Building Designer shall review the Truss Submittal Package for compatibility with the Building design. All such submittals shall include a notation indicating that they have been reviewed and whether or not they have been found to be in general conformance with the design of the Building.

2.3.2.4 Required Information in the Construction Documents.

The Building Designer, through the Construction Documents, shall provide information sufficiently accurate and reliable to be used for facilitating the supply of the Structural Elements and other information for developing the design of the Trusses for the Building, and shall provide the following:

- (a) All Truss and Structural Element orientations and locations.
- (b) Information to fully determine all Truss profiles.
- (c) All Structural Element and Truss support loca-

tions and bearing conditions (including the allowable bearing stress).

- (d) The location, direction, and magnitude of all dead, live, and lateral loads applicable to each Truss including, but not limited to, loads attributable to: roof, floor, partition, mechanical, fire sprinkler, attic storage, rain and ponding, wind, snow (including snow drift and unbalanced snow), seismic; and any other loads on the Truss;
- (e) All anchorage designs and connections to the Structural Elements and the Permanent Building Stability Bracing required to resist uplift, gravity, and lateral loads.
- (f) Truss-to-Structural Element connections, but not Truss-to-Truss connections.
- (g) Criteria related to serviceability issues including:
 - (1) Allowable vertical, horizontal or other required deflection criteria.
 - (2) Any dead load, live load, and in-service creep deflection criteria for roofs subject to ponding loads.
 - (3) Any Truss camber requirements.
 - (4) Any differential deflection criteria from Truss-to-Truss or Truss-to-adjacent Structural Element.

User (non-mandatory) note: See Commentary section §2.3.2.4(h)(4) regarding methods to address differential deflection.

- (5) Any deflection and vibration criteria for floor Trusses including:
 - (i) Any strongback bridging requirements.
 - (ii) Any dead load, live load, and in-service creep deflection criteria for floor Trusses supporting stone or ceramic tile finishes.
- (6) Moisture, temperature, corrosive chemicals and gases expected to result in:
 - (i) Wood moisture content exceeding 19 percent,

- (ii) Sustained temperatures exceeding 150 degrees F, and/or
- (iii) Corrosion potential from wood preservatives or other sources that can be detrimental to Trusses.

2.3.2.5 Responsibility Exemptions.

The Building Designer is responsible for items listed in Section 2.3.2, and is not responsible for the requirements of other parties specified outside of Section 2.3.2.

2.3.3 Requirements for the Permanent Member Restraint/Bracing of Truss Systems.

2.3.3.1 Method of Restraint.

The method of Permanent Individual Truss Member Restraint/Bracing and the method of anchoring or restraining to prevent lateral movement of all Truss members acting together as a system shall be accomplished by:

2.3.3.1.1 Standard Industry Details.

Standard industry Lateral Restraint and Diagonal Bracing details in accordance with *BCSI-B3: Permanent Restraint/Bracing of Chords & Web Members* and/or *BCSI-B7: Temporary & Permanent Restraint/Bracing for Parallel Chord Trusses* of the Building Component Safety Information (BCSI).

2.3.3.1.2 Substitution with Reinforcement.

Permanent Individual Truss Member Restraint shall be permitted to be replaced with reinforcement designed to prevent buckling (e.g., buckling reinforcement by T-reinforcement or L-reinforcement, proprietary reinforcement, etc.).

2.3.3.1.3 Project Specific Design.

A project specific Truss member permanent Lateral Restraint/bracing design for the roof or floor Framing Structural System shall be permitted to be specified by the Building Designer or any Registered Design Professional.

2.3.3.2 Absence of Truss Restraint/Bracing Method or Details.

If a specific Truss member permanent bracing design for the roof or floor Framing Structural System is not provided by the Owner, Building Designer or any Registered Design Professional, the method of Permanent Individual Truss Member Restraint and Diagonal Bracing for the Truss Top Chord, Bottom Chord, and Web members shall be in accordance with *BCSI-B3* or *BCSI-B7*.

2.3.3.3 Trusses Spanning 60 Feet (18 m) or Greater.

For Trusses with clear spans 60 ft. (18 m) or greater, see Section 2.3.1.6.

2.3.4 Requirements of the Contractor.

2.3.4.1 Information Provided to the Truss Manufacturer.

The Contractor shall provide to the Truss Manufacturer a copy of all Construction Documents pertinent to the Building Structural System and the design of the Trusses (i.e., framing plans, specifications, details, structural notes), and the name of the Building Designer if not noted on the Construction Documents.

Amended Construction Documents upon approval through the plan review/permitting process shall be immediately communicated to the Truss Manufacturer.

2.3.4.2 Information Provided to the Building Designer.

The Contractor, after reviewing and/or approving the Truss Submittal Package, shall forward the Truss Submittal Package to the Building Designer for review.

2.3.4.3 Truss Submittal Package Review.

The Contractor shall not proceed with the Truss installation until the Truss Submittal Package has been reviewed by the Building Designer.

2.3.4.4 Means and Methods.

The Contractor is responsible for the construction means, methods, techniques, sequences, procedures, programs, and safety in connection with the receipt, storage, handling, installation, restraining, and bracing of the Trusses.

2.3.4.5 Truss Installation.

The Contractor shall ensure that the Building support conditions are of sufficient strength and stability to accommodate the loads applied during the Truss installation process. Truss installation shall comply with installation tolerances shown in *BCSI-B1*. Temporary Installation Restraint/Bracing for the Truss system and the permanent Truss system Lateral Restraint and Diagonal Bracing for the completed Building and any other construction work related directly or indirectly to the Trusses shall be installed by the Contractor in accordance with:

- (a) The Construction Documents, and/or
- (b) The Truss Submittal Package.

For Trusses clear spanning 60 ft. (18 m) or greater, see Section 2.3.1.6.

2.3.4.6 Pre-Installation Check.

The Contractor shall examine the Trusses delivered to the job site for:

- (a) Dislodged or missing connectors,
- (b) Cracked, dislodged or broken members, or
- (c) Any other damage that can impair the structural integrity of the Truss.

2.3.4.7 Post-Installation Check.

The Contractor shall examine the Trusses after they are erected and installed for:

- (a) Dislodged or missing connectors,
- (b) Cracked, dislodged or broken members, or
- (c) Any other damage that can impair the structural integrity of the Truss.

2.3.4.8 Truss Damage Discovery.

In the event that damage to a Truss is discovered the Contractor shall:

- (a) Ensure that the Truss not be erected, or
- (b) That any area within the Building supported by any such Truss already erected shall be appropriately shored or supported to prevent further damage from occurring and shall remain clear and free of any load imposed by people, plumbing, electrical, mechanical, bridging, bracing, etc. until field repairs have been properly completed per Section 2.3.4.9.

2.3.4.9 Truss Damage Responsibilities.

In the event of damage, the Contractor shall:

- (a) Contact the Truss Manufacturer and Building Designer to determine an adequate field repair, and
- (b) Construct the field repair in accordance with the written instructions and details provided by the Truss Manufacturer, Building Designer, and/or any Registered Design Professional.

2.3.4.10 Responsibility Exemptions.

The Contractor is responsible for items listed in Section 2.3.4, and is not responsible for the requirements of other parties specified outside of Section 2.3.4.

2.3.5 Requirements of the Truss Designer.

2.3.5.1 Preparation of Truss Design Drawings.

The Truss Designer is responsible for the preparation of the Truss Design Drawings based on the Truss design

criteria and requirements set forth in the Construction Documents or as otherwise set forth in writing by the Building Designer as supplied to the Truss Designer by the Contractor through the Truss Manufacturer.

2.3.5.2 Single Truss Component Design.

The Truss Designer shall be responsible for the design, in accordance with this Standard, of each singular Truss depicted on each Truss Design Drawing.

2.3.5.3 Truss Design Drawing Seal and Signature.

Where the Legal Requirements mandate a Registered Design Professional for buildings, each individual Truss Design Drawing shall bear the seal and signature of the Truss Designer.

Exception: When a Cover/Truss Index Sheet is used, it is the only document required to be signed and sealed by the Truss Designer.

2.3.5.4 Truss Placement Diagram.

When the Truss Placement Diagram serves only as a guide for Truss installation, it does not require the seal of the Truss Designer.

2.3.5.5 Information on Truss Design Drawings.

Truss Design Drawings shall include, at a minimum, the information specified below:

- (a) Building Code used for design, unless specified on Cover/Truss Index Sheet.
- (b) Slope or depth, span and spacing.
- (c) Location of all joints and support locations.
- (d) Number of plies if greater than one.
- (e) Required bearing widths.
- (f) Design loads as applicable, including:
 - (1) Top Chord live load (for roof Trusses, this shall be the controlling case of live, snow or rain load);
 - (2) Top Chord dead load;
 - (3) Bottom Chord live load;
 - (4) Bottom Chord dead load;
 - (5) Additional loads and locations;

- (6) Environmental load design criteria (wind speed, snow, rain, seismic, and all applicable factors as required to calculate the Truss loads); and

- (7) Other lateral loads, including drag strut loads.

- (g) Adjustments to Wood Member and Metal Connector Plate design values for conditions of use.

- (h) Maximum reaction force and direction, including maximum uplift reaction forces where applicable.

- (i) Metal Connector Plate type, manufacturer, size, and thickness or gauge, and the dimensioned location of each Metal Connector Plate except where symmetrically located relative to the joint interface.

- (j) Size, species and grade for each Wood Member.

- (k) Truss-to-Truss connection and Truss field assembly requirements.

- (l) Calculated span to deflection ratio and/or maximum vertical and horizontal deflection for live load and for live plus dead load and K_{CR} as applicable per Section 7.6.

- (m) Maximum axial tension and compression forces in the Truss members.

- (n) Fabrication tolerance per Section 6.4.10.

- (o) Required Permanent Individual Truss Member Restraint location.

- (p) Truss Designer

2.3.5.6 Responsibility Exemptions.

The Truss Designer is responsible for items listed in Section 2.3.5, and is not responsible for the requirements of other parties specified outside of Section 2.3.5.

2.3.6 Requirements of the Truss Manufacturer.

2.3.6.1 Truss Design Criteria and Requirements.

The Truss Manufacturer shall obtain the Truss design criteria and requirements from the Construction Documents.

2.3.6.2 Communication to Truss Designer.

The Truss Manufacturer shall communicate the Truss design criteria and requirements to the Truss Designer.

2.3.6.3 Alternate Truss Designs.

If an alternative or partial set of Truss design(s) is proposed by either the Truss Manufacturer or the Truss Designer, such alternative set of design(s) shall be sent to and reviewed by the Building Designer for the Building prior to manufacturing. Where the Legal Requirements mandate a Registered Design Professional for buildings, these alternative set of design(s) do not require the seal of the Truss Designer until accepted by the Building Designer, whereupon these alternative Truss Design Drawings shall be sealed by the Truss Designer.

2.3.6.4 Truss Placement Diagram.

Where required by the Construction Documents or Contract, the Truss Manufacturer shall prepare the Truss Placement Diagram that identifies the assumed location for each individually designated Truss and references the corresponding Truss Design Drawing. The Truss Placement Diagram shall be permitted to include identifying marks for other products including Structural Elements, so that they can be more easily identified by the Contractor during field erection. When the Truss Placement Diagram serves only as a guide for Truss installation and requires no engineering input, it does not require the seal of any Registered Design Professional including in cases where the Legal Requirements mandate a Registered Design Professional for buildings.

2.3.6.5 Required Documents.

The Truss Manufacturer shall supply to the Contractor the Truss Submittal Package, including the Truss Design Drawings, a Truss Placement Diagram, if required by the Construction Documents or Contract, and the required Permanent Individual Truss Member Restraint location and the method to be used per Section 2.3.3.

2.3.6.6 Special Application Conditions.

The Truss Manufacturer shall be allowed to provide detail drawings to the Contractor to document special application conditions.

2.3.6.7 Truss Submittal Packages.

Where required by the Construction Documents or Contract, Legal Requirements or the Building Official, the Truss Manufacturer shall provide the appropriate Truss Submittal Package to one or more of the following: Building Official; Building Designer and/or Contractor for review and/or approval per Section 2.3.4.2.

2.3.6.8 Reliance on Construction Documents.

The Truss Manufacturer shall be permitted to rely on the accuracy and completeness of information furnished in the Construction Documents or otherwise furnished in writing by the Building Designer and/or Contractor.

2.3.6.9 Fabrication Tolerance.

The Truss Manufacturer shall determine the value for the fabrication tolerance to be used in the design of the Trusses (see Section 6.4.10).

2.3.6.10 Manufacturer Quality Criteria.

The Truss Manufacturer shall manufacture the Trusses in accordance with the final Truss Design Drawings, using the quality criteria required by this Standard unless more stringent quality criteria is provided by the Owner in writing or through the Construction Documents.

2.3.6.11 In-Plant Truss Inspections.

Truss inspections, as required by the Jurisdiction, shall be performed at the manufacturer's facility using the manufacturer's In-Plant Quality Assurance Program monitored by an inspection agency approved by the Jurisdiction, and shall satisfy any Quality Control/quality assurance requirements for the Trusses, and shall satisfy any designated in-plant special inspection requirements for the Trusses.

2.3.6.12 Responsibility Exemptions.

The Truss Manufacturer is responsible for items listed in Section 2.3.6, and is not responsible for the requirements of other parties specified outside of Section 2.3.6.

2.4 CONTRACTS**2.4.1 Defer to Construction Documents.**

This Chapter of the Standard is not intended to take precedence over the Construction Documents, where a Contract between parties incorporates by reference the Construction Documents, and therefore the Construction Documents shall apply as between the parties to the Contract.

2.4.2 Defer to Contract.

This Chapter of the Standard is not intended to take precedence over a Contract as a Contract shall be permitted to contain provisions that take precedence over the Standard and/or the Construction Documents. A party shall not exclude in a Contract a responsibility established by this Standard or the Construction Documents unless that responsibility is assigned to a qualified party and that party agrees to that assignment.

Any changes made to the Construction Documents by Contract shall be submitted, reviewed and approved by the Building Official.

2.4.3 Incorporation into Contract.

A Contract shall be permitted to incorporate this Chapter of the Standard to establish the Responsibilities of the parties to such Contract.

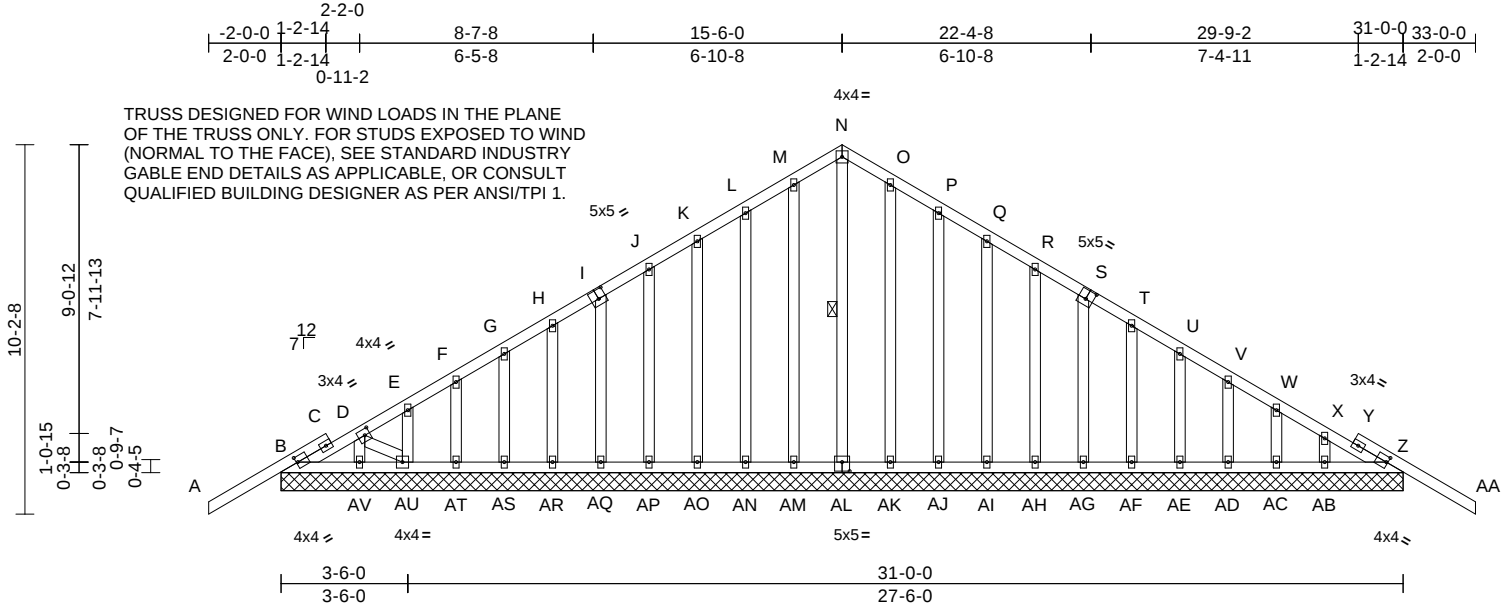
Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	R01	Common Supported Gable	2	1	T22485067
Job Reference (optional)					

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Scale = 1:63.7

Plate Offsets (X, Y): [B:0-0-8,0-1-14], [D:0-1-12,0-2-0], [I:0-2-8,0-3-0], [S:0-2-8,0-3-0], [Z:0-0-8,0-1-14], [AL:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	n/a	-	n/a	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.08	Vert(CT)	n/a	-	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.01	AW	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							
Weight: 250 lb FT = 20%											

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt N-AL

REACTIONS

(size)	B=31-0-0, Z=31-0-0, AB=31-0-0, AC=31-0-0, AD=31-0-0, AE=31-0-0, AF=31-0-0, AG=31-0-0, AH=31-0-0, AI=31-0-0, AJ=31-0-0, AK=31-0-0, AL=31-0-0, AM=31-0-0, AN=31-0-0, AO=31-0-0, AP=31-0-0, AQ=31-0-0, AR=31-0-0, AS=31-0-0, AT=31-0-0, AU=31-0-0, AV=31-0-0, AW=31-0-0, AZ=31-0-0
Max Horiz	B=-255 (LC 10), AZ=-255 (LC 10)
Max Uplift	B=-168 (LC 12), Z=-142 (LC 12), AC=-70 (LC 12), AD=-28 (LC 12), AE=-39 (LC 12), AF=-31 (LC 12), AG=-37 (LC 12), AH=-39 (LC 12), AI=-36 (LC 12), AJ=-45 (LC 12), AK=-6 (LC 12), AM=-6 (LC 12), AN=-45 (LC 12), AO=-36 (LC 12), AP=-39 (LC 12), AQ=-37 (LC 12), AR=-31 (LC 12), AS=-39 (LC 12), AT=-28 (LC 12), AU=-112 (LC 12), AW=-142 (LC 12), AZ=-168 (LC 12)

FORCES

TOP CHORD

BOT CHORD

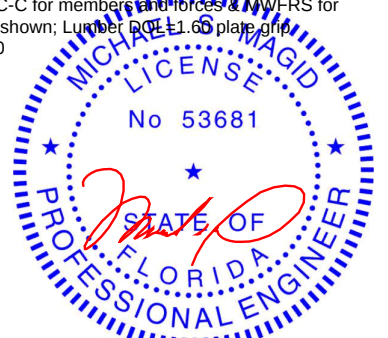
Max Grav	B=266 (LC 1), Z=267 (LC 1), AB=96 (LC 3), AC=125 (LC 18), AD=108 (LC 18), AE=113 (LC 18), AF=104 (LC 18), AG=111 (LC 18), AH=117 (LC 18), AI=111 (LC 18), AJ=114 (LC 18), AK=108 (LC 22), AL=167 (LC 12), AM=118 (LC 17), AN=111 (LC 17), AO=111 (LC 17), AP=117 (LC 17), AQ=111 (LC 17), AR=104 (LC 17), AS=113 (LC 17), AT=107 (LC 17), AU=129 (LC 17), AV=132 (LC 12), AW=267 (LC 1), AZ=266 (LC 1)
(lb) - Maximum Compression/Maximum Tension	A-B=0/60, B-C=-158/155, C-D=-157/165, D-E=-171/171, E-F=-154/156, F-G=-145/144, G-H=-134/132, H-I=-123/120, I-J=-113/127, J-K=-101/169, K-L=-119/208, L-M=-145/253, M-N=-157/275, N-O=-157/275, O-P=-145/253, P-Q=-119/208, Q-R=-97/169, R-S=-73/127, S-T=-50/88, T-U=-42/52, U-V=-50/41, V-W=-58/53, W-X=-90/66, X-Y=-110/96, Y-Z=-112/81, Z-AA=0/60
	B-AV=-76/133, AU-AV=-80/107, AT-AU=-95/198, AS-AT=-95/198, AR-AS=-95/198, AQ-AR=-95/198, AP-AQ=-97/200, AO-AP=-97/200, AN-AO=-97/200, AM-AN=-97/200, AL-AM=-97/200, AK-AL=-97/200, AJ-AK=-97/200, AI-AJ=-97/200, AH-AI=-97/200, AG-AH=-97/200, AF-AG=-95/198, AE-AF=-95/198, AD-AE=-95/198, AC-AD=-95/198, AB-AC=-95/198, Z-AB=-95/198

WEBS

N-AL=-186/71, M-AM=-91/32, L-AN=-84/79, K-AO=-84/67, J-AP=-90/71, I-AQ=-85/68, H-AR=-78/62, G-AS=-86/69, F-AT=-82/67, E-AU=-95/85, D-AV=-75/0, O-AK=-82/32, P-AJ=-87/79, Q-AI=-84/67, R-AH=-90/71, S-AG=-85/69, T-AF=-78/62, U-AE=-86/69, V-AD=-83/66, W-AC=-91/86, X-AB=-87/31, D-AU=-70/109

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft; B=45ft; L=31ft; eave=2ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Corner(3E) -2-0-0 to 1-0-8, Exterior(2N) 1-0-8 to 15-6-0, Corner(3R) 15-6-0 to 18-7-3, Exterior(2N) 18-7-3 to 33-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces and MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18,2021

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



6904 Parke East Blvd.
Tampa, FL 33610

Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	R01	Common Supported Gable	2	1	T22485067
					Job Reference (optional)

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Page: 2

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- 5) All plates are 2x4 MT20 unless otherwise indicated.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 1-4-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 142 lb uplift at joint Z, 168 lb uplift at joint B, 6 lb uplift at joint AM, 45 lb uplift at joint AN, 36 lb uplift at joint AO, 39 lb uplift at joint AP, 37 lb uplift at joint AQ, 31 lb uplift at joint AR, 39 lb uplift at joint AS, 28 lb uplift at joint AT, 112 lb uplift at joint AU, 6 lb uplift at joint AK, 45 lb uplift at joint AJ, 36 lb uplift at joint AI, 39 lb uplift at joint AH, 37 lb uplift at joint AG, 31 lb uplift at joint AF, 39 lb uplift at joint AE, 28 lb uplift at joint AD, 70 lb uplift at joint AC, 142 lb uplift at joint Z and 168 lb uplift at joint B.
- 11) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.**

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6904 Parke East Blvd.
Tampa, FL 36610

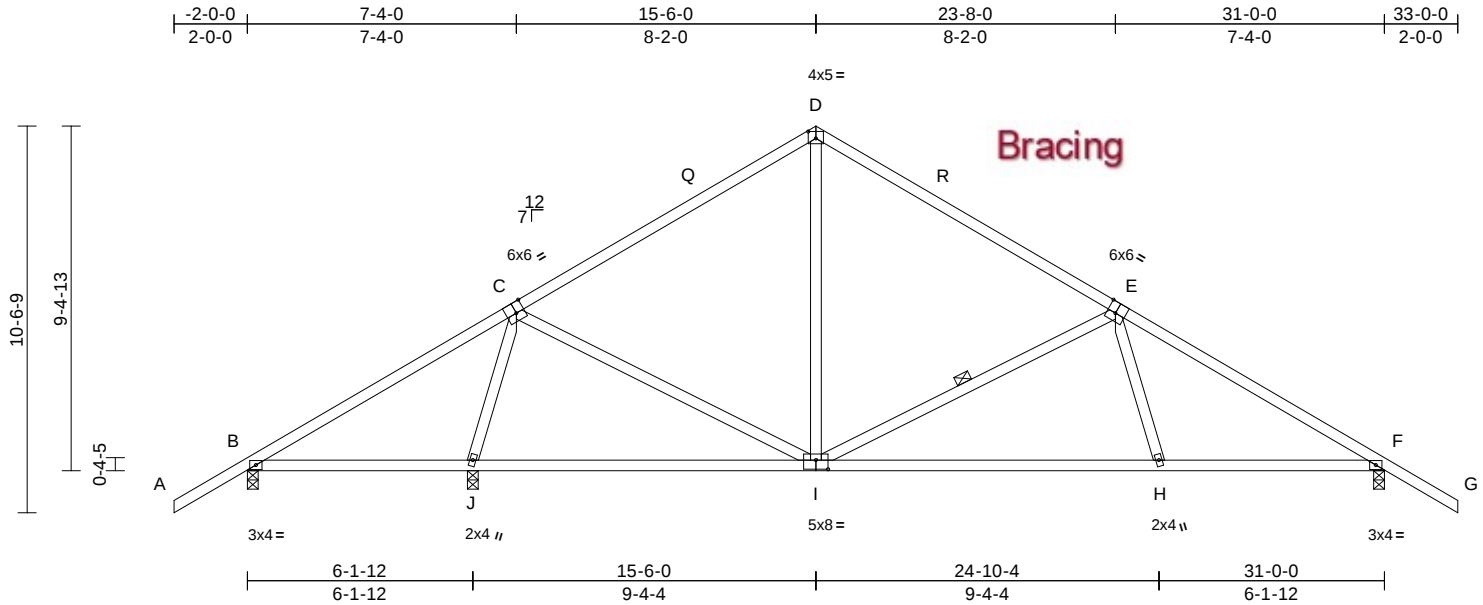
Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	R02	Common	11	1	T22485068
Job Reference (optional)					

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Scale = 1:62.8

Plate Offsets (X, Y): [C:0-2-12,Edge], [D:0-2-8,0-2-4], [E:0-2-12,Edge], [I:0-4-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.62	Vert(LL)	-0.14	H-I	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.82	Vert(CT)	-0.30	H-I	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.03	F	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 159 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt E-I

REACTIONS

(size) B=0-3-8, F=0-3-8, J=0-3-8
Max Horiz B=-264 (LC 10)
Max Uplift B=-150 (LC 12), F=-281 (LC 12), J=-216 (LC 12)
Max Grav B=267 (LC 21), F=1078 (LC 1), J=1432 (LC 1)

FORCES

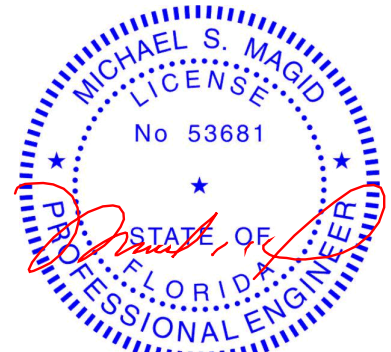
(lb) - Maximum Compression/Maximum Tension
TOP CHORD A-B=0/60, B-C=-189/419, C-Q=-834/264, D-Q=-678/281, D-R=-677/282, E-R=-832/265, E-F=-1516/318, F-G=0/60
BOT CHORD B-J=-292/190, I-J=-120/216, H-I=-179/1188, F-H=-155/1235
WEBS C-I=0/555, D-I=-20/379, E-I=-701/277, C-J=-1289/372, E-H=0/342

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft; B=45ft; L=31ft; eave=4ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Exterior(2E) -2-0-0 to 1-1-3, Interior (1) 1-1-3 to 15-6-0, Exterior(2R) 15-6-0 to 18-7-3, Interior (1) 18-7-3 to 33-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 150 lb uplift at joint B, 281 lb uplift at joint F and 216 lb uplift at joint J.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18,2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	R03	Roof Special	3	1	T22485069
					Job Reference (optional)

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Page: 1

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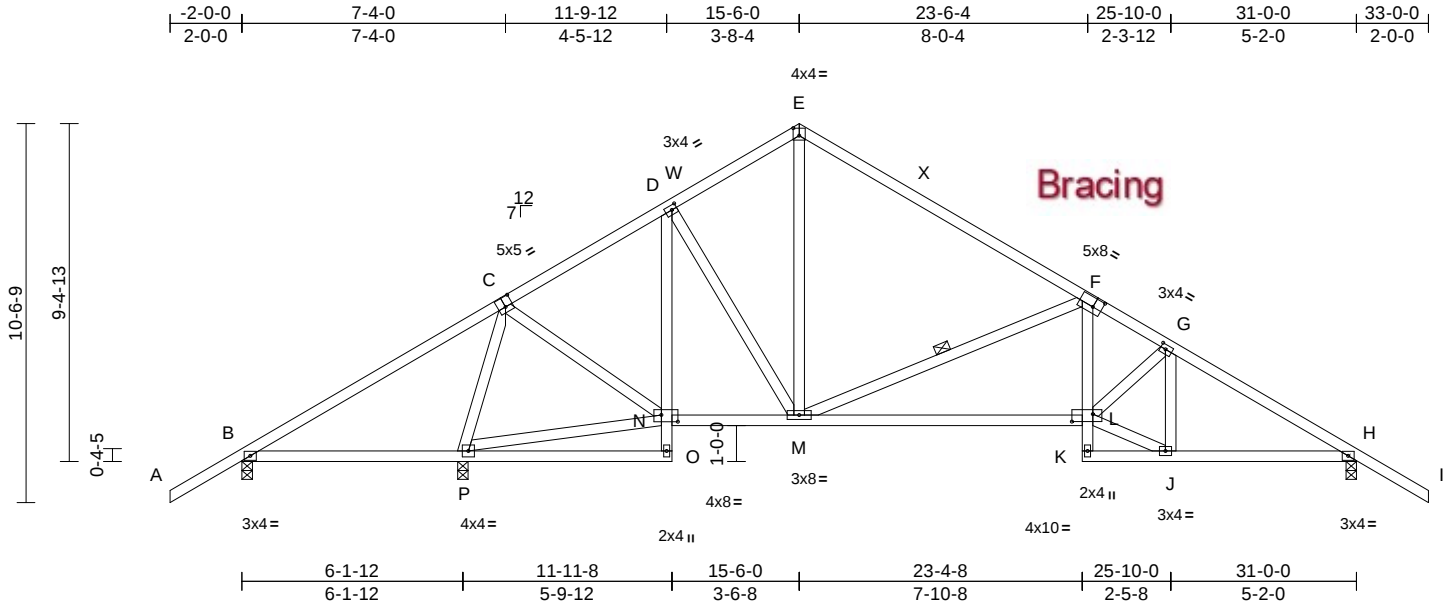


Plate Offsets (X, Y): [C:0-2-8,0-3-4], [D:0-1-12,0-1-8], [E:0-2-0,0-2-8], [F:0-3-0,0-3-0], [G:0-1-12,0-1-8], [L:0-7-0,0-2-8], [N:0-5-8,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.56	Vert(LL)	-0.12	L-M	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.72	Vert(CT)	-0.26	L-M	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.05	H	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 191 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 15-4-6-11:2x4 SP No.3
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt F-M

REACTIONS

(size) B=0-3-8, H=0-3-8, P=0-3-8
Max Horiz B=264 (LC 11)
Max Uplift B=-135 (LC 12), H=-277 (LC 12),
P=-236 (LC 12)
Max Grav B=201 (LC 21), H=1044 (LC 1),
P=1583 (LC 1)

FORCES

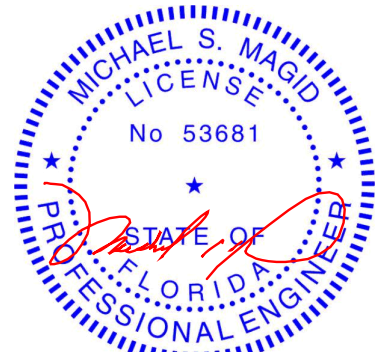
(lb) - Maximum Compression/Maximum Tension
TOP CHORD A-B=0/60, B-C=-219/640, C-D=-658/236, D-W=-731/272, E-W=-630/286, E-X=-675/260, F-X=-831/244, F-G=-1637/372, G-H=-1461/314, H-I=0/60
BOT CHORD B-P=-499/199, O-P=0/64, N-O=0/91, D-N=-405/74, M-N=0/549, L-M=-210/1526, K-L=-3/20, F-L=0/513, J-K=-75/51, H-J=-163/1196
WEBS C-P=-1430/357, N-P=-256/82, C-N=-39/734, D-M=0/297, E-M=-66/392, F-M=-1009/319, G-L=-24/300, G-J=-449/86, J-L=-97/1264

NOTES

1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft;
B=45ft; L=31ft; eave=4ft; Cat. II; Exp C; Enclosed;
MWFRS (directional) and C-C Exterior(2E) -2-0-0 to 1-1-3, Interior (1) 1-1-3 to 15-6-0, Exterior(2R) 15-6-0 to 18-7-3, Interior (1) 18-7-3 to 33-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint B, 277 lb uplift at joint H and 236 lb uplift at joint P.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18,2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

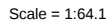
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

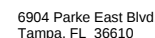
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



6904 Parke East Blvd.
Tampa, FL 36610

Page: 1

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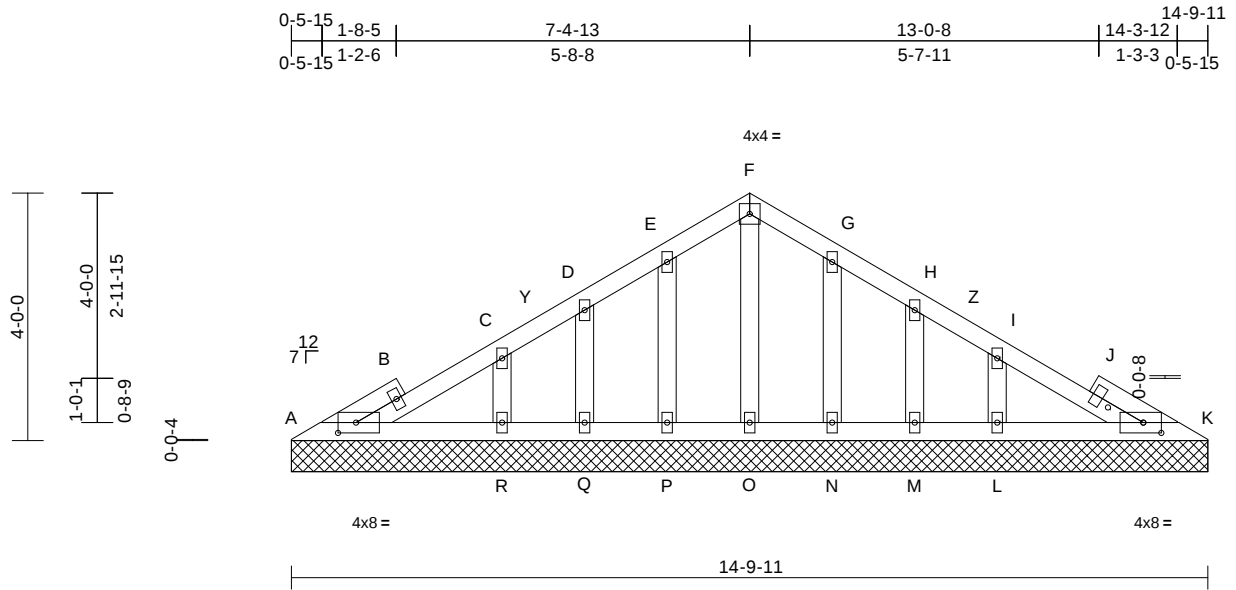


Job	Truss	Truss Type	Qty	Ply	Brewer Residence	T22485071
210002	V01	Valley	1	1	Job Reference (optional)	

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Page: 1



Scale = 1:37.2

Plate Offsets (X, Y): [A:0-3-8,0-2-0], [K:0-3-8,0-2-0], [K:0-1-3,0-7-6]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.11	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	11	n/a	n/a	
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							
										Weight: 70 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS

(size) A=14-9-11, K=14-9-11, L=14-9-11,
M=14-9-11, N=14-9-11, O=14-9-11,
P=14-9-11, Q=14-9-11, R=14-9-11
Max Horiz A=-86 (LC 10)
Max Uplift L=-54 (LC 12), M=-31 (LC 12),
N=-33 (LC 12), P=-33 (LC 12),
Q=-31 (LC 12), R=-54 (LC 12)
Max Grav A=52 (LC 18), K=52 (LC 3), L=258
(LC 22), M=36 (LC 18), N=136 (LC
18), O=142 (LC 1), P=138 (LC 17),
Q=33 (LC 17), R=258 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum
Tension

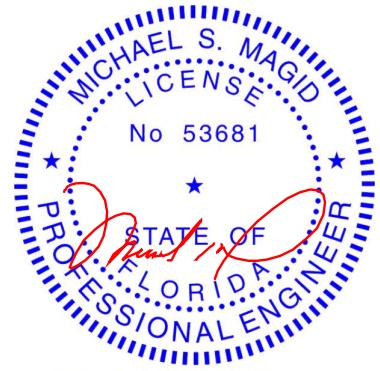
TOP CHORD A-B=-97/84, B-C=-92/124, C-Y=-31/58, D-
Y=-25/85, D-E=-14/92, E-F=-23/100, F-
G=-23/100, G-H=0/77, H-Z=0/61, I-Z=-5/30, I-
J=-86/101, J-K=-90/66
BOT CHORD A-R=-76/103, Q-R=-68/99, P-Q=-68/99, O-
P=-68/99, N-O=-68/99, M-N=-68/99, L-
M=-68/99, K-L=-68/99
WEBS F-O=-122/0, E-P=-98/88, D-Q=-54/75, C-
R=-149/167, G-N=-96/88, H-M=-53/75, I-
L=-149/168

NOTES

1) Unbalanced roof live loads have been considered for
this design.

- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft;
B=45ft; L=24ft; eave=2ft; Cat. II; Exp C; Enclosed;
MWFRS (directional) and C-C Corner(3E) 1-0-15 to
4-0-15, Exterior(2N) 4-0-15 to 7-5-4, Corner(3R) 7-5-4 to
10-5-4, Exterior(2N) 10-5-4 to 13-9-9 zone; cantilever
left and right exposed; end vertical left and right
exposed; C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss
only. For studs exposed to wind (normal to the face),
see Standard Industry Gable End Details as applicable,
or consult qualified building designer as per ANSI/TPI 1.
- 4) Building Designer / Project engineer responsible for
verifying applied roof live load shown covers rain loading
requirements specific to the use of this truss component.
- 5) All plates are 2x4 MT20 unless otherwise indicated.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 1-4-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
- 10) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 33 lb uplift at joint
P, 31 lb uplift at joint Q, 54 lb uplift at joint R, 33 lb uplift
at joint N, 31 lb uplift at joint M and 54 lb uplift at joint L.
- 11) This truss design requires that a minimum of 7/16"
structural wood sheathing be applied directly to the top
chord and 1/2" gypsum sheetrock be applied directly to
the bottom chord.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18, 2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

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Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



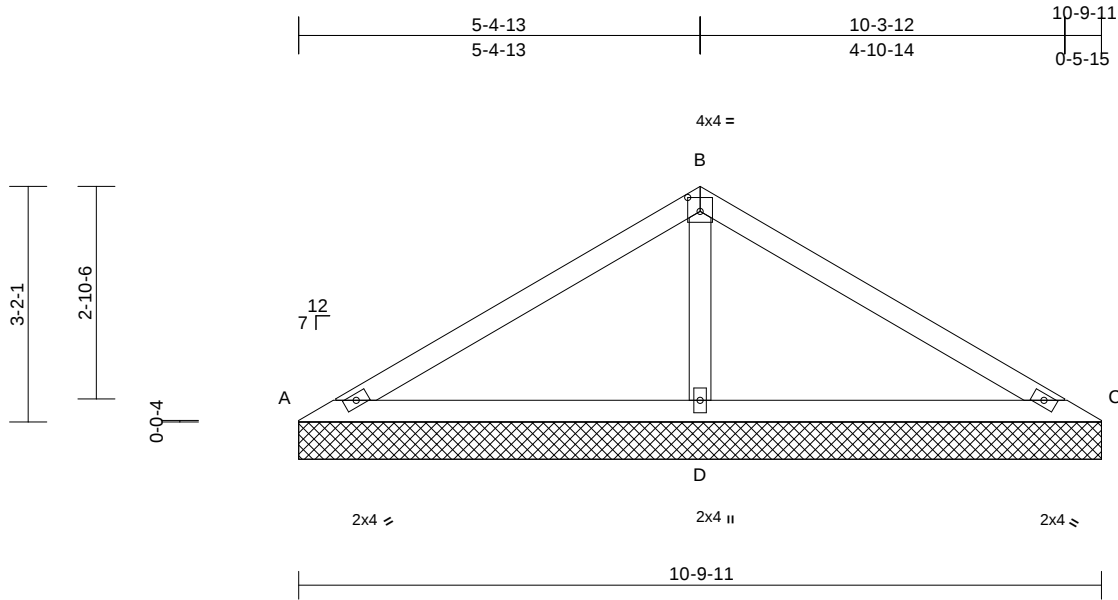
6904 Parke East Blvd.
Tampa, FL 33610

Job	Truss	Truss Type	Qty	Ply	Brewer Residence	T22485072
210002	V02	Valley	1	1	Job Reference (optional)	

Ridgway Roof Truss Co., Gainesville, FL - 32601,

Run: 8.43 S Nov 30 2020 Print: 8.430 S Nov 30 2020 MiTek Industries, Inc. Fri Jan 15 16:47:32
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Page: 1



Scale = 1:31

Plate Offsets (X, Y): [B:0-2-0,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.27	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.24	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	4	n/a	n/a	
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 37 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) A=10-9-11, C=10-9-11, D=10-9-11
Max Horiz A=-77 (LC 10)
Max Uplift A=-23 (LC 22), C=-23 (LC 21),
D=-167 (LC 12)
Max Grav A=85 (LC 21), C=85 (LC 22),
D=782 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD A-B=-142/373, B-C=-142/373
BOT CHORD A-D=-287/199, C-D=-287/199
WEBS B-D=-608/342

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-7 to 3-0-7, Interior (1) 3-0-7 to 5-5-4, Exterior(2R) 5-5-4 to 8-5-4, Interior (1) 8-5-4 to 10-10-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.

5) Gable requires continuous bottom chord bearing.

6) Gable studs spaced at 4-0-0 oc.

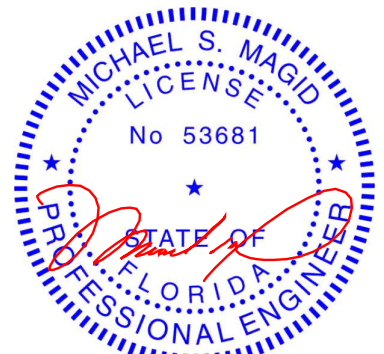
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint A, 23 lb uplift at joint C and 167 lb uplift at joint D.

10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18,2021

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Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



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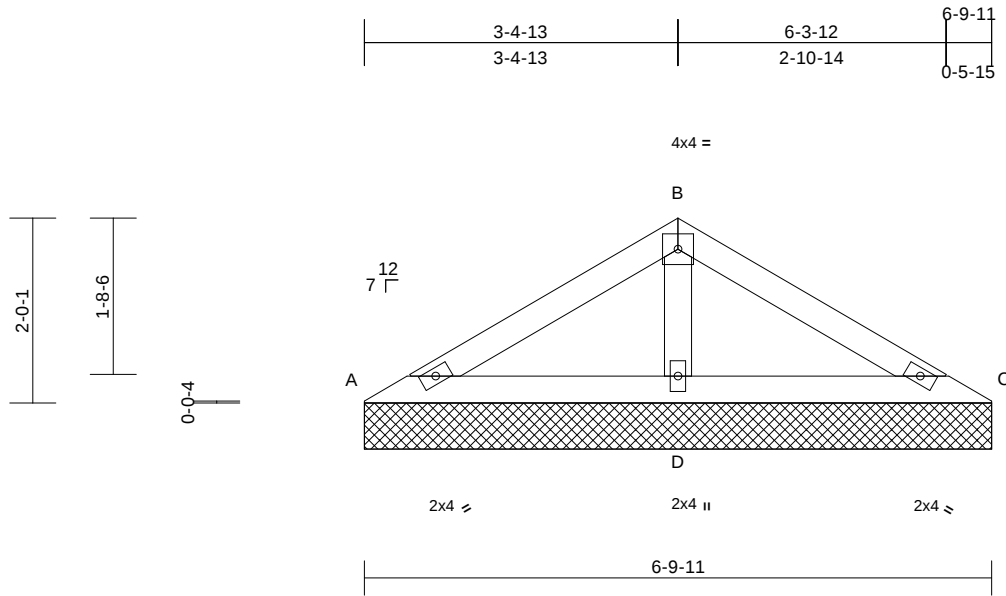
Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	V03	Valley	1	1	T22485073
Job Reference (optional)					

Ridgway Roof Truss Co., Gainesville, FL - 32601,

Run: 8.43 S Nov 30 2020 Print: 8.430 S Nov 30 2020 MiTek Industries, Inc. Fri Jan 15 16:47:32

Page: 1

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Scale = 1:25

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.12	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.13	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-AS						Weight: 22 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS

(size) A=6-9-11, C=6-9-11, D=6-9-11
Max Horiz A=-47 (LC 10)
Max Uplift A=-6 (LC 12), C=-7 (LC 8), D=-90 (LC 12)
Max Grav A=74 (LC 21), C=74 (LC 22), D=439 (LC 1)

FORCES

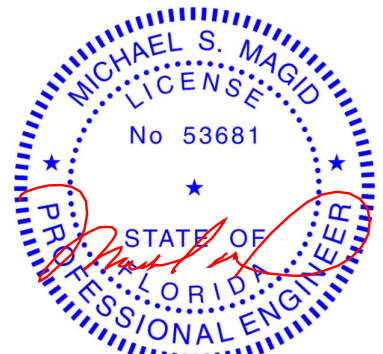
(lb) - Maximum Compression/Maximum Tension
TOP CHORD A-B=-96/184, B-C=-96/184
BOT CHORD A-D=-173/159, C-D=-173/159
WEBS B-D=-298/219

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Exterior(2E) 0-0-7 to 3-0-7, Interior (1) 3-0-7 to 3-5-4, Exterior(2R) 3-5-4 to 6-5-4, Interior (1) 6-5-4 to 6-10-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.

- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint A, 7 lb uplift at joint C and 90 lb uplift at joint D.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
Date:

January 18, 2021

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Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



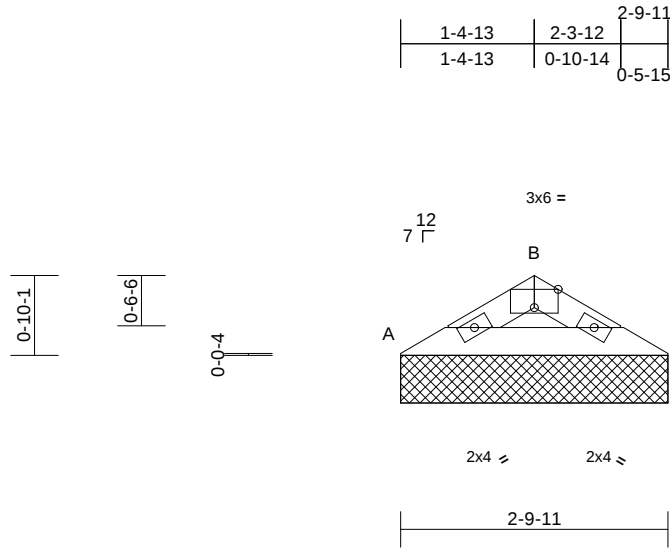
6904 Parke East Blvd.
Tampa, FL 36610

Job	Truss	Truss Type	Qty	Ply	Brewer Residence
210002	V04	Valley	1	1	T22485074
					Job Reference (optional)

Ridgway Roof Truss Co., Gainesville, FL - 32601,

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Page: 1



Scale = 1:24.2

Plate Offsets (X, Y): [B:0-3-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.06	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MP							Weight: 7 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-9-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) A=2-9-11, C=2-9-11
Max Horiz A=-17 (LC 10)
Max Uplift A=-21 (LC 12), C=-21 (LC 12)
Max Grav A=112 (LC 1), C=112 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

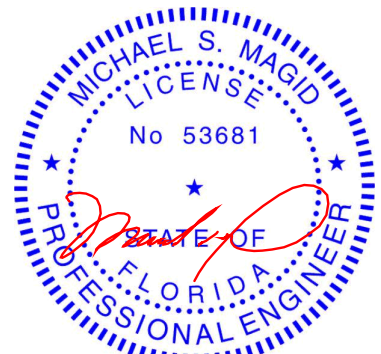
TOP CHORD A-B=-165/107, B-C=-122/88
BOT CHORD A-C=-77/138

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=101mph; TCDL=4.2psf; BCDL=6.0psf; h=15ft;
B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Enclosed;
MWFRS (directional) and C-C Exterior(2E) zone;
cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint A and 21 lb uplift at joint C.

LOAD CASE(S) Standard



Michael S. Magid PE No.53681
MiTek USA, Inc. FL Cert 6634
6904 Parke East Blvd. Tampa FL 33610
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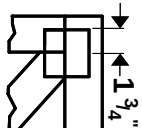
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



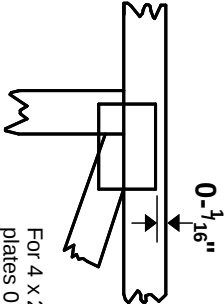
6904 Parke East Blvd.
Tampa, FL 36610

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless X, Y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- $\frac{3}{16}$ " from outside edge of truss.

— This symbol indicates the required direction of slots in connector plates.

* Plate location details available in **MiTek 20120** software or upon request.

PLATE SIZE

4 X 4

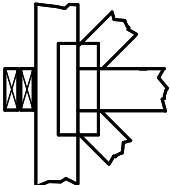
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING



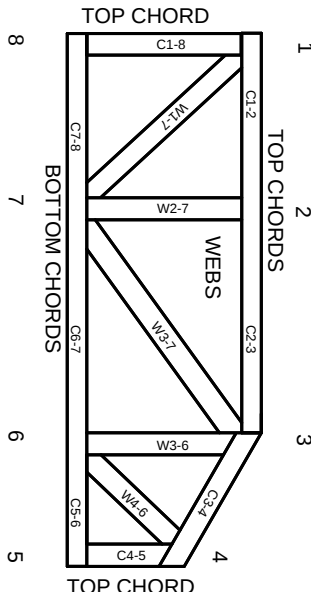
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TP1.1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

6-4-8 dimensions shown in ft-in-sixteenths (Drawings not to scale)



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

BCSI-B1 SUMMARY SHEET GUIDE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF TRUSSES SPANS OVER 60' MAY REQUIRE COMPLEX PERMANENT BRACING. PLEASE ALWAYS CONSULT A PROFESSIONAL ENGINEER

GENERAL NOTES

Trusses are not marked in any way to identify the frequency or location of temporary lateral restraint and diagonal bracing. Follow the recommendations for handling, installing and temporary restraining and bracing of trusses. Refer to BCSI Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*** for more detailed information.

Truss Design Drawings may specify locations of permanent lateral restraint or reinforcement for individual truss members. Refer to the BCSI-B3 Summary Sheet - Permanent Restraint/Bracing of Chords & Web Members*** for more information. All other permanent bracing design is the responsibility of the Building Designer.

NOTAS GENERALES

Los trusses no están marcados de ningún modo que identifique la frecuencia o localización de restricción lateral y arrioste diagonal temporales. Use las recomendaciones de manejo, instalación, restricción y arrioste temporal de los trusses. Vea el folleto BCSI Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arrioste de los Trusses de Madera Conectados con Placas de Metal*** para información más detallada.

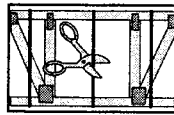
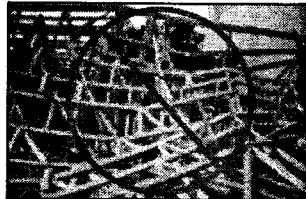
Los dibujos de diseño de los trusses pueden especificar las localizaciones de restricción lateral permanente o refuerzo en los miembros individuales del truss. Vea la hoja resumen BCSI-B3 - Restricción/Arrioste Permanente de Cuerdas y Miembros Secundarios*** para más información. El resto de los diseños de arriostres permanentes son la responsabilidad del Diseñador del Edificio.

⚠ The consequences of improper handling, erecting, installing, restraining and bracing can result in a collapse of the structure, or worse, serious personal injury or death.

El resultado de un manejo, levantamiento, instalación, restricción y arrioste incorrecto puede ser la caída de la estructura o aún peor, heridos o muertos.

⚠ Banding and truss plates have sharp edges. Wear gloves when handling and safety glasses when cutting banding.

Empaques y placas de metal tienen bordes afilados. Lleve guantes y lentes protectores cuando corte los empaques.



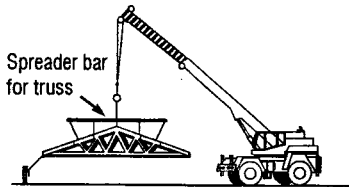
HANDLING — MANEJO

⚠ Avoid lateral bending. — Evite la flexión lateral.



⚠ Use special care in windy weather or near power lines and airports.

Utilice cuidado especial en días ventosos o cerca de cables eléctricos o de aeropuertos.



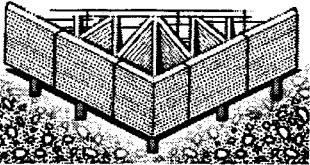
✓ Use proper rigging and hoisting equipment.

Use equipo apropiado para levantar e improvisar.



⚠ The contractor is responsible for properly receiving, unloading and storing the trusses at the jobsite.

El contratista tiene la responsabilidad de recibir, descargar y almacenar adecuadamente los trusses en la obra.



✓ If trusses are to be stored horizontally, place blocking of sufficient height beneath the stack of trusses at 8' to 10' on center.

For trusses stored for more than one week, cover bundles to prevent moisture gain but allow for ventilation.

Refer to BCSI Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses*** for more detailed information pertaining to handling and jobsite storage of trusses.

Si los trusses estarán guardados horizontalmente, ponga bloqueando de altura suficiente detrás de la pila de los trusses a 8 hasta 10 pies en el centro.

Para trusses guardados por más de una semana, cubra los paquetes para prevenir aumento de humedad pero permita ventilación.

Vea el folleto BCSI Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arrioste de los Trusses de Madera Conectados con Placas de Metal*** para información más detallada sobre el manejo y almacenamiento de los trusses en área de trabajo.

⚠ Do not store unbraced bundles upright.

No almacene verticalmente los trusses sueltos.



⚠ Do not store on uneven ground.

No almacene en tierra desigual.



HOISTING RECOMMENDATIONS FOR TRUSS BUNDLES RECOMENDACIONES PARA LEVANTAR PAQUETES DE TRUSSES.

⚠ Warning! Don't overload the crane.

¡Advertencia! No sobrecargue la grúa!

⚠ Never use banding alone to lift a bundle. Do not lift a group of individually banded bundles.

Nunca use sólo los empaques para levantar un paquete. No levante un grupo de paquetes empaqueados individualmente.

✓ A single lift point may be used for bundles with trusses up to 45'.

Two lift points may be used for bundles with trusses up to 60'. Use at least 3 lift points for bundles with trusses greater than 60'.

Puede usar un solo lugar de levantar para paquetes de trusses hasta 45 pies.

Puede usar dos puntos de levantar para paquetes hasta 60 pies.

Use por lo menos tres puntos de levantar para paquetes más de 60 pies.

⚠ Warning! Do not over load supporting structure with truss bundle.

¡Advertencia! No sobrecargue la estructura apoyada con el paquete de trusses.

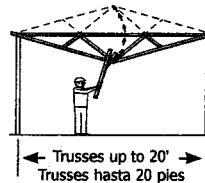
✓ Place truss bundles in stable position. Puse paquetes de trusses en una posición estable.



INSTALLATION OF SINGLE TRUSSES BY HAND INSTALACIÓN DE TRUSSES INDIVIDUALES POR LA MANO

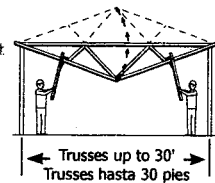
✓ Trusses 20' or less, support at peak.

Soporte del pico los trusses de 20 pies o menos.



✓ Trusses 30' or less, support at quarter points.

Soporte de los cuartos de tramo los trusses de 30 pies o menos.



HOISTING OF SINGLE TRUSSES — LEVANTAMIENTO DE TRUSSES INDIVIDUALES

✓ Hold each truss in position with the erection equipment until top chord temporary lateral restraint is installed and the truss is fastened to the bearing points.

Sostenga cada truss en posición con equipo de grúa hasta que la restricción lateral temporal de la cuerda superior esté instalado y el truss está asegurado en los soportes.

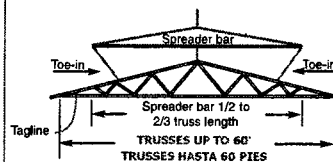
⚠ Warning! Using a single pick-point at the peak can damage the truss.

¡Advertencia! El uso de un solo lugar en el pico para levantar puede hacer daño al truss.

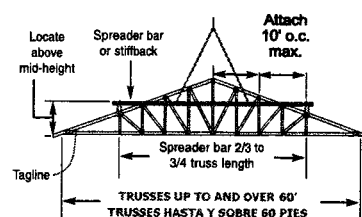


HOISTING RECOMMENDATIONS FOR SINGLE TRUSSES

RECOMENDACIONES PARA LEVANTAR TRUSSES INDIVIDUALES



Tagline
60' or less
Approx. 1/2 truss length
TRUSSES UP TO 30'
TRUSSES HASTA 30 PIES



Tagline
Locate above mid-height
Spread bar or stiffback
Attach 10' o.c. max.
Spread bar 2/3 to 3/4 truss length
TRUSSES UP TO AND OVER 60'
TRUSSES HASTA Y SOBRE 60 PIES

TEMPORARY RESTRAINT & BRACING RESTRICCIÓN Y ARRIOSTRE TEMPORAL

⚠ Refer to BCSI-B2 Summary Sheet - Truss Installation & Temporary Restraint/Bracing*** for more information.

Vea el resumen BCSI-B2 - Instalación de Trusses y Restricción/Arrioste Temporal*** para más información.

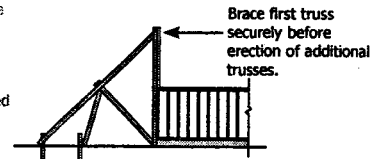
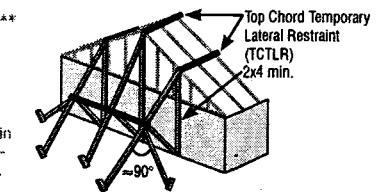
✓ Locate ground braces for first truss directly in line with all rows of top chord temporary lateral restraint (see table in the next column).

Coloque los arriostres de tierra para el primer truss directamente en línea con cada una de las filas de restricción lateral temporal de la cuerda superior (vea la tabla en la próxima columna).



⚠ Do not walk on unbraced trusses.

No camine en trusses sueltos.



Brace first truss securely before erection of additional trusses.

HOJA RESUMEN DE LA GUIA DE BUENA PRACTICA PARA EL MANEJO, INSTALACION, RESTICCIÓN Y ARRIOSTRE DE LOS TRUSSES
VANOS MAS DE 60' PIES PUEDEN REQUERIR ARRIOSTRE PERMANENTE COMPLEJO. POR FAVOR, SIEMPRE CONSULTE A UN INGENIERO PROFESSIONAL

BCSI-B1 SUMMARY SHEET GUIDE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF TRUSSES SPANS OVER 60' MAY REQUIRE COMPLEX PERMANENT BRACING. PLEASE ALWAYS CONSULT A PROFESSIONAL ENGINEER

STEPS TO SETTING TRUSSES

LAS MEDIDAS DE LA INSTALACIÓN DE LOS TRUSSES

- 1) Install ground bracing. 2) Set first truss and attach securely to ground bracing. 3) Set next 4 trusses with short member temporary lateral restraint (see below). 4) Install top chord diagonal bracing (see below). 5) Install web member plane diagonal bracing to stabilize the first five trusses (see below). 6) Install bottom chord temporary lateral restraint and diagonal bracing (see below). 7) Repeat process on groups of four trusses until all trusses are set.

1) Instale los arriostres de tierra. 2) Instale el primero truss y ate seguramente al arriostre de tierra. 3) Instale los próximos 4 trusses con restricción lateral temporal de miembro corto (vea abajo). 4) Instale el arriostre diagonal de la cuerda superior (vea abajo). 5) Instale arriostre diagonal para los planos de los miembros secundarios para estabilice los primeros cinco trusses (vea abajo). 6) Instale la restricción lateral temporal y arriostre diagonal para la cuerda inferior (vea abajo). 7) Repita este procedimiento en grupos de cuatro trusses hasta que todos los trusses estén instalados.

- Refer to BCSI-B2 Summary Sheet - Truss Installation & Temporary Restraint/Bracing*** for more information.

Vea el resumen BCSI-B2 - Instalación de Trusses y Restricción/Arriostre Temporal*** para más información.

RESTRAINT/BRACING FOR ALL PLANES OF TRUSSES RESTRICCIÓN/ARRIOSTRE PARA TODOS PLANOS DE TRUSSES

- This restraint & bracing method is for all trusses except 3x2 and 4x2 parallel chord trusses.

Este método de restricción y arriostre es para todo trusses excepto trusses de cuerdas paralelas 3x2 y 4x2.

1) TOP CHORD — CUERDA SUPERIOR

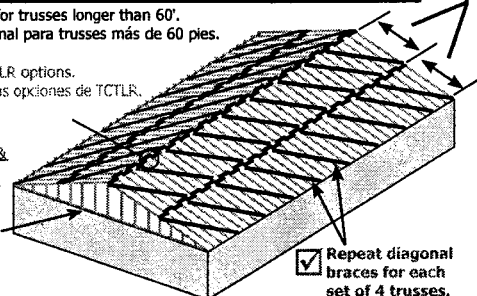
Truss Span Longitud de Tramo	Top Chord Temporary Lateral Restraint (TCTLR) Spacing Espaciamiento del Arriostre Temporal de la Cuerda Superior
Up to 30'	10' o.c. max.
Hasta 30 pies	10 pies máximo
30' to 45'	8' o.c. max.
30 a 45 pies	8 pies máximo
45' to 60'	6' o.c. max.
45 a 60 pies	6 pies máximo
60' to 80'	4' o.c. max.
60 a 80 pies*	4 pies máximo

*Consult a Professional Engineer for trusses longer than 60'.
*Consulte a un Ingeniero Profesional para trusses más de 60 pies.

- See BCSI-B2*** for TCTLR options.
Vea el BCSI-B2*** para las opciones de TCTLR.

- Refer to BCSI-B3 Summary Sheet - Permanent Restraint/Bracing of Chords & Web Members*** for Gable End Frame restraint/bracing/reinforcement information.

Para información sobre restricción/arriostre/refuerzo para Armazones Hastiales vea el resumen BCSI-B3 - Restricción/Arriostre Permanente de Cuerdas y Miembros Secundarios***



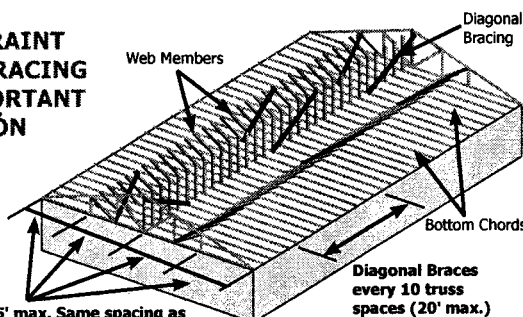
Ground bracing not shown for clarity.

- Repeat diagonal braces for each set of 4 trusses.
Repita los arriostres diagonales para cada grupo de 4 trusses.

2) WEB MEMBER PLANE — PLANO DE LOS MIEMBROS SECUNDARIOS

LATERAL RESTRAINT & DIAGONAL BRACING ARE VERY IMPORTANT LA RESTRICCIÓN LATERAL Y EL ARRIOSTRE DIAGONAL SON MUY IMPORTANTES!

- 10'-15' max. Same spacing as bottom chord Lateral Restraint



Some chord and web members not shown for clarity.

3) BOTTOM CHORD — CUERDA INFERIOR

Lateral Restraints - 2x4x12' or greater lapped over two trusses.

Bottom chords

10'-15' max.

Diagonal Braces every 10 truss spaces (20' max.)

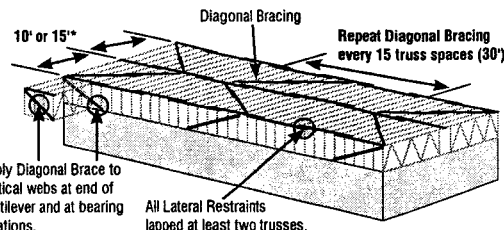
Some chord and web members not shown for clarity.

RESTRAINT & BRACING FOR 3x2 AND 4x2 PARALLEL CHORD TRUSSES

RESTRICCIÓN Y ARRIOSTRE PARA TRUSSES DE CUERDAS PARALELAS 3X2 Y 4X2

- Refer to BCSI-B7 Summary Sheet - Temporary & Permanent Restraint/Bracing for Parallel Chord Trusses*** for more information.

Vea el resumen BCSI-B7 - Restricción/Arriostre Temporal y Permanente para Trusses de Cuerdas Paralelas*** para más información.



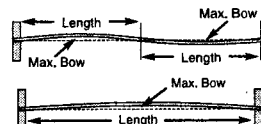
Apply Diagonal Brace to vertical webs at end of cantilever and at bearing locations.

All Lateral Restraints lapped at least two trusses.

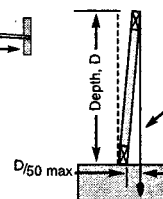
*Top chord Temporary Lateral Restraint spacing shall be 10' o.c. max. for 3x2 chords and 15' o.c. for 4x2 chords.

INSTALLING — INSTALACIÓN

- Tolerances for Out-of-Plane.
Tolerancias para Fuera-de-Plano.



- Tolerances for Out-of-Plumb.
Tolerancias para Fuera-de-Plomada.



Out of Plumb		Out of Plane	
D/50	D (ft.)	Max. Bow	Truss Length
1/4"	1'	3/4"	12.5'
1/2"	2'	7/8"	14.6'
3/4"	3'	1"	16.7'
1"	4'	1-1/8"	18.8'
1-1/4"	5'	1-1/4"	20.8'
1-1/2"	6'	1-3/8"	22.9'
1-3/4"	7'	1-1/2"	25.0'
2"	≥8'	1-3/4"	29.2'
		2"	≥33.3'

CONSTRUCTION LOADING — CARGA DE CONSTRUCCIÓN

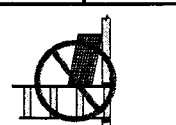
- Do not proceed with construction until all lateral restraint and bracing is securely and properly in place.

No proceda con la construcción hasta que todas las restricciones laterales y los arriostres estén colocados en forma apropiada y segura.

- Do not exceed maximum stack heights. Refer to BCSI-B4 Summary Sheet - Construction Loading*** for more information.

No exceda las alturas máximas de montón. Vea el resumen BCSI-B4 Carga de Construcción*** para más información.

Maximum Stack Height for Material on Trusses	
Material	Height
Gypsum Board	12"
Plywood or OSB	16"
Asphalt Shingles	2 bundles
Concrete Block	8"
Clay Tile	3-4 tiles high



- Do not overload small groups or single trusses.
No sobrecargue pequeños grupos o trusses individuales.

- Never stack materials near a peak.
Nunca amontone los materiales cerca de un pico.

- Place loads over as many trusses as possible.
Coloque las cargas sobre tantos trusses como sea posible.

- Position loads over load bearing walls.
Coloque las cargas sobre las paredes soportantes.



Truss bracing not shown for clarity.

ALTERATIONS — ALTERACIONES

- Refer to BCSI-B5 Summary Sheet - Truss Damage, Jobsite Modifications & Installation Errors***. Vea el resumen BCSI-B5 Daños de Trusses, Modificaciones en la Obra y Errores de Instalación***.

- Do not cut, alter, or drill any structural member of a truss unless specifically permitted by the Truss Design Drawing.

No corte, altere o perforo ningún miembro estructural de un truss, a menos que esté específicamente permitido en el Dibujo del Diseño del Truss.

- Trusses that have been overloaded during construction or altered without the Truss Manufacturer's prior approval may render the Truss Manufacturer's limited warranty null and void.

Trusses que se han sobrecargado durante la construcción o han sido alterados sin la autorización previa del Fabricante de Trusses, pueden hacer nulo y sin efecto la garantía limitada del Fabricante de Trusses.

***Contact the Component Manufacturer for more information or consult a Professional Engineer for assistance. To view a non-printing PDF of this document, visit www.sbcindustry.com/b1.

NOTE: The Truss Manufacturer and Truss Designer rely on the presumption that the Contractor and crane operator (if applicable) are professionals with the capability to undertake the work they have agreed to do on any given project. If the Contractor believes it needs assistance in some aspect of the construction project, it should seek assistance from a competent party. The methods and procedures outlined in this document are intended to ensure that the overall construction techniques employed will put the trusses into place SAFELY. These recommendations for handling, installing, restraining and bracing trusses are based upon the collective experience of leading personnel involved with truss design, manufacture and installation, but must, due to the nature of responsibilities involved, be presented only as a GUIDE for use by a qualified Building Designer or Contractor. It is not intended that the recommendations be interpreted as superior to the Building Designer's design specification for handling, installing, restraining and bracing trusses and it does not preclude the use of other equivalent methods for restraining/bracing and providing stability for the walls, columns, floors, roofs and all the interrelated structural building components as determined by the Contractor. Thus, WTCA and TPI expressly disclaim any responsibility for damages arising from the use, application, or reliance on the recommendations and information contained herein.



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B2 Truss Installation & Temporary Restraint/Bracing Instalación de Trusses & Restricción/Arriostre Temporal

FOR TRUSSES UP TO 2'-0" ON-CENTER AND 80'-0" IN LENGTH

PARA TRUSSES HASTA 2 PIES EN CENTRO Y HASTA 80 PIES DE LONGITUD

⚠ WARNING! Spans over 60' require more complex temporary installation restraint/bracing. Consult a registered design professional.

Los tramos más de 60 pies requieren restricción/arriostre de instalación temporal más complejo. Consulte a un profesional registrado de diseño.

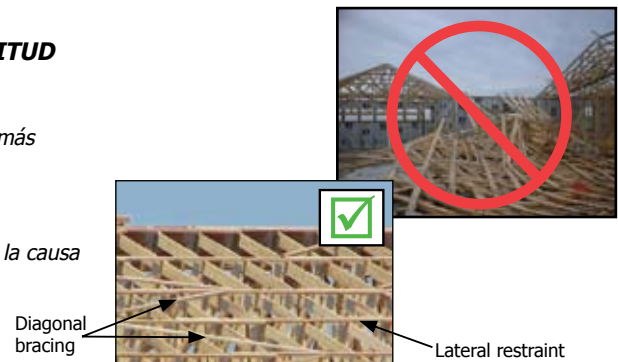
⚠ DANGER! Disregarding handling, installing, restraining and bracing safety recommendations is the major cause of truss erection/installation accidents.

El no seguir las recomendaciones de manejo, instalación, restricción y arriostre es la causa principal de los accidentes durante la erección/instalación de trusses.

NOTICE Lateral restraint is NOT adequate without diagonal bracing.
La Restricción Lateral NO es adecuada sin el Arriostre Diagonal.

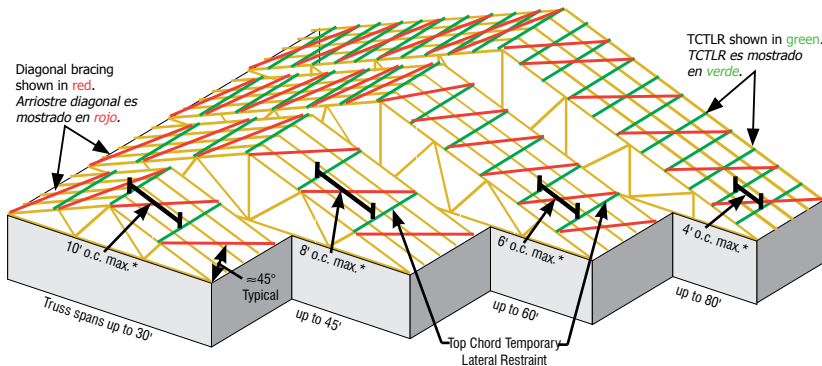
✓ Always diagonally brace for safety!

¡Siempre arriostre diagonalmente para seguridad!



MAXIMUM SPACING FOR TOP CHORD TEMPORARY LATERAL RESTRAINT (TCTLR)

EL ESPACIAMIENTO MÁXIMO PARA LA RESTRICCIÓN LATERAL TEMPORAL DE LA CUERDA SUPERIOR (TCTLR)



The graphic at left shows the maximum on-center spacing (see * at left) of TCTLR based on truss span from the table in Step 2 on page 2.

- Ground bracing not shown for clarity.
- Apply diagonal bracing or structural sheathing immediately. For spans over 60' applying structural sheathing immediately is the preferred method.

El dibujo a la izquierda muestra el espaciamiento máximo en el centro (vea * a la izquierda) del TCTLR basado en los tramos de trusses de la tabla en el Paso 2 en la página 2.

- No se muestra el arriostre de tierra para claridad.
- Aplique inmediatamente el Arriostre Diagonal o el Entablado Estructural (structural sheathing). Para tramos más de 60 pies el método preferido es entablarlos inmediatamente.

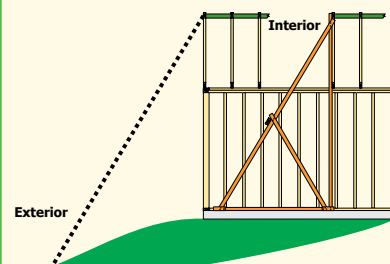
CHECK THESE ITEMS BEFORE STARTING ERECTION/INSTALLATION AND CORRECT AS NEEDED

REVISE ESTOS PUNTOS ANTES DE EMPEZAR LA ERECCIÓN/INSTALACIÓN Y CORRÍJALOS CUANDO ES NECESARIO

- ✓ Building dimensions match the construction documents.
Las dimensiones del edificio concuerdan con los documentos de construcción.
- ✓ Bearing supports (e.g., walls, columns, headers, beams, etc.) are accurately and securely installed, plumb and properly braced.
Los soportes que sostienen cargas (ej., paredes, columnas, vigas de cabecera, vigas, etcétera) son instalados seguramente y con precisión, y son nivelados y arriostrados apropiadamente.
- ✓ Hangers, tie-downs, restraint and bracing materials are on site and accessible.
Los colgadores (hangers), soportes de anclaje (tie-downs) y materiales de restricción y arriostre están accesibles en la obra.
- ✓ Erection/installation crew is aware of installation plan and lateral restraint/diagonal bracing requirements.
El personal de erección/instalación es consciente del plan de instalación y los requisitos de restricción/arriostre.
- ✓ Multi-ply trusses, including girders, are correctly fastened together prior to lifting into place.
Los trusses de varias capas, incluyendo travesaños, son fijados juntos correctamente antes de levantarlos en lugar.
- ✓ Any truss damage is reported to truss manufacturer. Refer to **BCSI-B5**.***
Do not install damaged trusses unless instructed to do so by the building designer, truss designer or truss manufacturer.
Algún daño a los trusses ha sido reportado al fabricante de trusses. Vea el resumen **BCSI-B5**.*** No instale trusses dañados a menos que se dijeran el diseñador del edificio, el diseñador del truss o el fabricante del truss.

- ✓ Trusses are the correct dimension.
Los trusses son la dimensión correcta.
- ✓ Tops of bearing supports are flat, level and at the correct elevation.
La parte superior de los soportes de cojinete son planas, niveladas y a la elevación correcta.
- ✓ Jobsite is clean and neat, and free of obstructions.
La obra está limpia, ordenada y sin obstrucciones.

- ✓ Ground bracing procedure for first truss is based on site and building configuration.
El procedimiento de Arriostre de Tierra para el primer truss es basado en el terreno y la configuración del edificio.



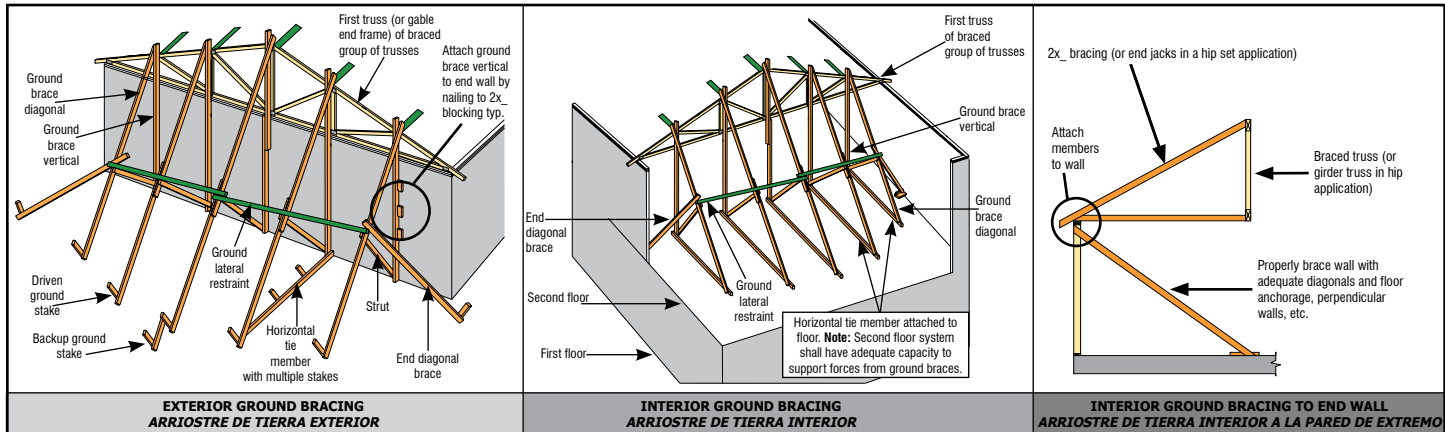
If ground level is too far from truss for exterior ground bracing, use interior ground bracing.

Si el nivel del terreno es demasiado lejos para usar Arriostre de Tierra exterior, use Arriostre de Tierra interior.

STEPS TO SETTING TRUSSES

PASOS PARA EL MONTAJE DE TRUSSES

1. Establish Ground Bracing Procedure: Exterior or Interior Establezca el Procedimiento de Arriostre de Tierra: Exterior o Interior

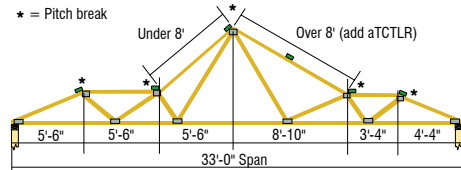


2. Determine the locations for TCTLR and Ground Braces Determine las ubicaciones para TCTLR y los Arriostres de Tierra

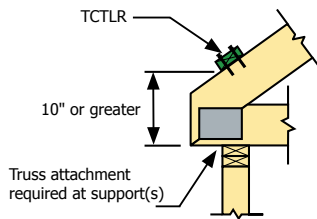
- Use truss span to determine spacing for top chord temporary lateral restraint (TCTLR) from table at right. Use el tramo del truss para determinar el espaciamiento para restricción lateral temporal de la cuerda superior (TCTLR) en la tabla a la derecha.

Maximum Top Chord Temporary Lateral Restraint Spacing**	
Truss Span	TCTLR Spacing
Up to 30'	10' on-center maximum
30' - 45'	8' on-center maximum
45' - 60'	6' on-center maximum
60' - 80'*	4' on-center maximum

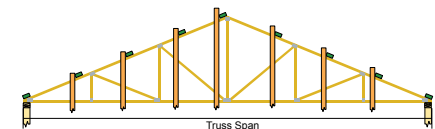
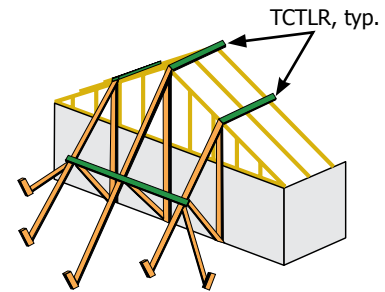
*Consult a registered design professional for trusses longer than 60'.
**For trusses spaced greater than 2' o.c., see also BCSI-B10.



- Locate additional TCTLR at each pitch break. Localice TCTLR adicional en cada rotura de inclinación.



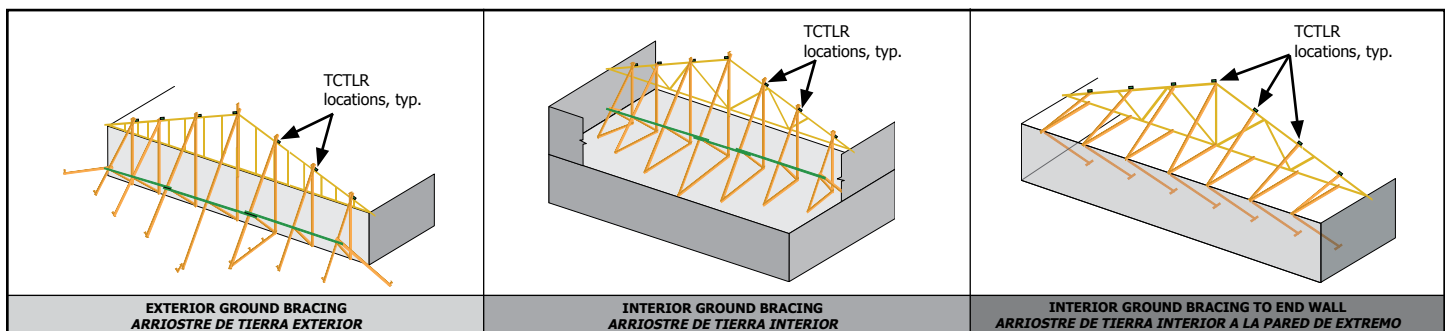
- Locate additional TCTLR over bearings if the heel height is 10" or greater. Localice TCTLR adicional sobre los soportes si la altura del talón (heel height) es de 10 pulgadas o más.



- Locate a ground brace vertical at each TCTLR location. Localice una vertical de arriostre de tierra en cada lugar de TCTLR.

3. Set First Truss and Fasten Securely to Ground Braces Coloque el Primer Truss y Fíjelo Seguramente a los Arriostres de Tierra

- Set first truss (or gable end frame) and fasten securely to ground braces and to the wall, or as directed by the building designer. Examples of first truss installed include: Coloque el primer truss (o armazón hastial) y fíjelo seguramente a las verticales de arriostre de tierra y a la pared, o como se dirige el diseñador del edificio. Ejemplos del primer truss instalado incluyen:



CAUTION! First truss must be attached securely to all bearings and to all required ground braces prior to removing the hoisting supports.

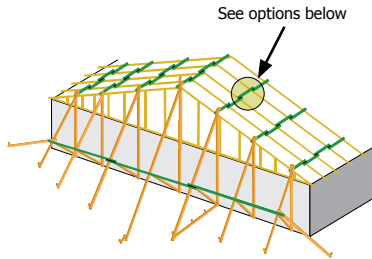
El primer truss tiene que ser sujetado seguramente a todos soportes y a todas arriostres de tierra requeridos, antes de quitar los soportes de levantamiento.

4.

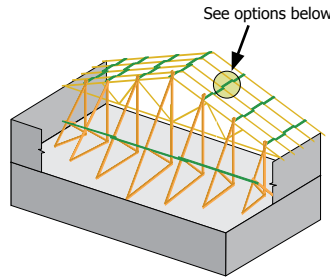
Set Trusses 2, 3, 4 & 5 with TCTLR in Line with Ground Bracing

Coloque los Trusses 2, 3, 4 y 5 con TCTLR en Línea con los Arriostres de Tierra

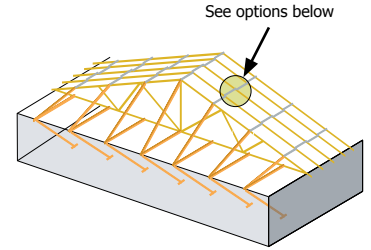
- ✓ Attach trusses securely at all bearings, shimming bearings as necessary. Examples of first five trusses set include: *Sujete seguramente los trusses a todos los soportes, rellenar sólidamente los soportes como sea necesario. Ejemplos de los primeros cinco trusses colocados incluyen:*



EXTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA EXTERIOR



INTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA INTERIOR



INTERIOR GROUND BRACING TO END WALL
ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO

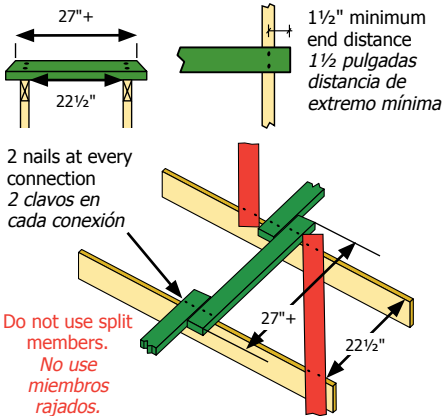
NOTICE The following three (3) Short Member Temporary Lateral Restraint options **require that the diagonal bracing be installed continuously.**
Las siguientes tres opciones para instalar la Restricción Lateral Temporal de los Miembros Cortos requieren que el arriostre diagonal está instalado continuamente.

Option 1

Short member temporary lateral restraint installed on top of trusses

Opción 1

Restricción lateral temporal de los miembros cortos instalados encima de trusses

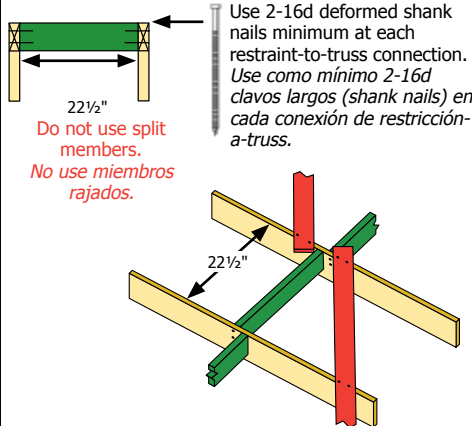


Option 2

Short member temporary lateral restraint installed between trusses

Opción 2

Restricción lateral temporal de los miembros cortos instalados entre trusses

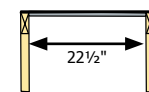


Option 3

Proprietary metal restraint products*

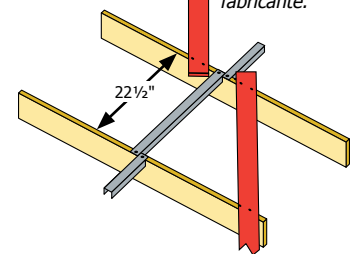
Opción 3

Productos de metal para restricción patentados*



*These products are specifically designed to provide lateral restraint and are not just for spacing. See manufacturer's specifications.

*Estos productos son diseñados específicamente para proveer restricción lateral y no son solamente para espaciamiento. Vea las especificaciones del fabricante.



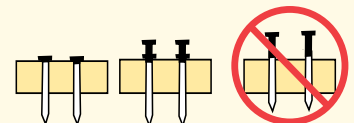
CAUTION! Each truss must be attached securely at each bearing and all TCTLR installed before removing the hoisting supports.

Cada truss tiene que ser sujetado seguramente en cada soporte y todas las TCTLR instaladas antes de quitar los soportes de levantar.

LATERAL RESTRAINT/BRACING MATERIAL AND CONNECTIONS
CONEXIONES Y MATERIALES DE RESTRICCIÓN/ARRIOSTRE LATERAL

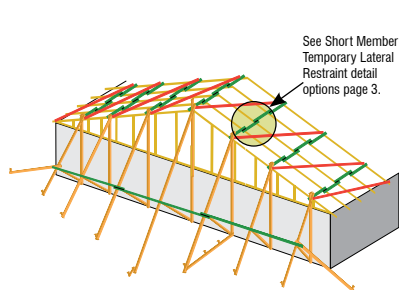
- ✓ Minimum size of bracing and lateral restraint material is 2x4 stress-graded lumber or approved proprietary metal restraint/bracing, unless otherwise specified by the building designer.
El tamaño del material de restricción lateral y arriostre debe ser por lo menos 2x4 madera graduada por esfuerzo o restricción/arriostre de metal patentado aprobado, a menos que especifique el diseñador del edificio.
- ✓ All bracing and lateral restraint members must be connected to each truss with at least 2 nails (see minimum sizes shown below), except for the short member restraints shown in Step 4, Option 2 (see above), which require 2-16d deformed-shank (i.e., ring- or screw-shank) nails.
Todos los miembros de restricción lateral y arriostre tienen que ser conectados a cada truss con un mínimo de 2 clavos (ver los tamaños mínimos mostrados abajo) excepto para las restricciones de miembros cortos mostrados en el Paso 4, Opción 2 (vea arriba), cuales requieren 2-16d clavos con largos de formados (Ej. Largos de anillos o tornillos).
- ✓ Drive nails flush, or use double-headed nails for easiest removal.
Clave los clavos al raso, o use clavos de dos cabezas para quitarlos más fácilmente.

10d (0.128x3")
12d (0.128x3.25")
16d (0.131x3.5")

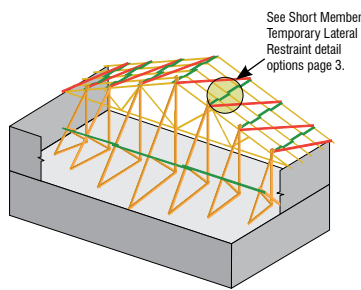


5. Install Top Chord Diagonal Bracing Instale el Arriostre Diagonal de la Cuerda Superior

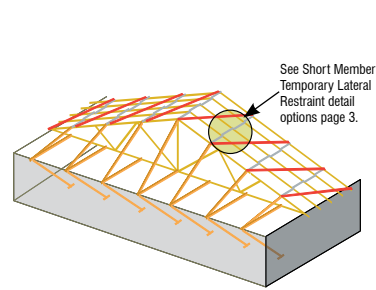
- ✓ Attach diagonal bracing to the first five trusses. Examples of diagonal bracing on first five trusses include:
Coloque el arriostre diagonal a los primeros cinco trusses. Ejemplos de arriostre diagonal en los primeros cinco trusses incluyen:



EXTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA EXTERIOR

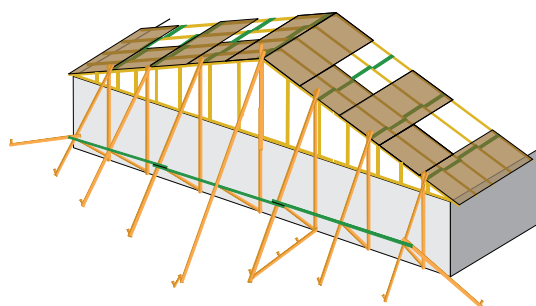


INTERIOR GROUND BRACING
ARRIOSTRE DE TIERRA INTERIOR



INTERIOR GROUND BRACING TO END WALL
ARRIOSTRE DE TIERRA INTERIOR A LA PARED DE EXTREMO

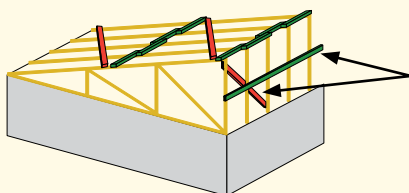
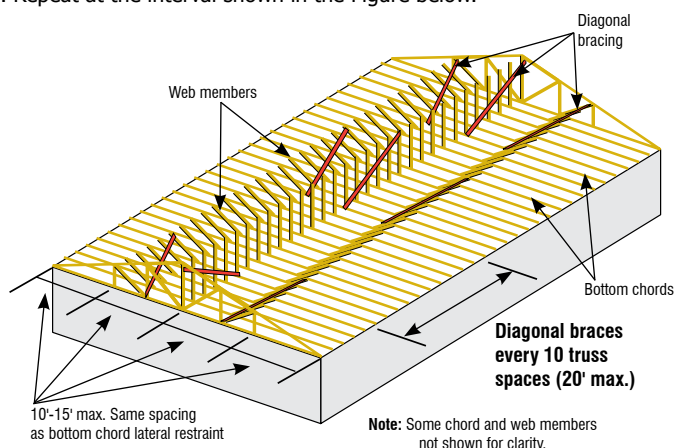
- ✓ Or start applying structural sheathing. Example of structural sheathing installed on first five trusses.
O empiece en aplicar el entablado estructural. Ejemplo de entablado estructural instalado en los primeros cinco trusses.



6. Install Web Member Diagonal Bracing Instale el Arriostre Diagonal de Miembros Secundarios

- ✓ Temporary web member diagonal bracing acts with the top chord and bottom chord temporary lateral restraint and diagonal bracing to form triangulation perpendicular to the plane of the truss and prevents trusses from leaning or dominoing.
El arriostre diagonal temporal de los miembros secundarios trabaja con la restricción lateral y el arriostre diagonal temporales de la cuerda superior e inferior para formar una triangulación perpendicular al plano del truss y evita que los trusses se inclinen o caigan como dominós.
- ✓ Install diagonal bracing at about 45° on web members (verticals whenever possible) located at or near rows of bottom chord lateral restraint. Web diagonal bracing must extend from the top chord to the bottom chord. Repeat at the interval shown in the Figure below.
Instale el arriostre diagonal a aproximadamente 45 grados en los miembros secundarios (verticales cuando sea posible) colocados en o cerca de las filas de restricción lateral de la cuerda inferior. Arriostre diagonal para los miembros secundarios tiene que extender de la cuerda superior a la cuerda inferior. Repita a los intervalos mostrados en la Figura a la derecha.

NOTICE The requirements for web member permanent individual truss member restraint are specified on the truss design drawing (TDD). Refer to **BCSI-B3** for more information.
*Los requisitos para la restricción permanente de miembros individuales de truss para miembros secundarios son especificados en el dibujo del diseño de truss. Vea el resumen **BCSI-B3** para más información.*



NOTICE Mono trusses, deep flat trusses and other types of trusses with deep ends also require temporary lateral restraint and diagonal bracing on the long web members at the deep end of the truss.
Los trusses de una sola pendiente, trusses planos y profundos y otros tipos de trusses con extremos profundos también requieren restricción lateral temporal y arriostre diagonal en los miembros secundarios largos al parte profundo del truss.

SPANS OVER 60' MAY REQUIRE COMPLEX PERMANENT BRACING. PLEASE ALWAYS CONSULT A PROFESSIONAL ENGINEER

- WARNING!** Disregarding Permanent Restraint/Bracing is a major cause of truss field performance problems and has been known to lead to roof or floor systems collapse.
- ¡ADVERTENCIA!** Descuidar el Arriostre/Restricción Permanente es una causa principal de problemas de rendimiento del truss en campo y había conocido a llevar al derrumbamiento del sistema del techo o piso.
- CAUTION!** Spans over 60' may require complex permanent bracing. Please always consult a Registered Design Professional.
- ¡CAUTELA!** Tramos sobre 60 pies pueden requerir arriostre permanente complejo. Por favor, siempre consulte a un Profesional Registrado de Diseño.

RESTRAINT/BRACING MATERIALS & FASTENERS MATERIALES Y CIERRES DE RESTRICCIÓN/ARRIOSTRE

- Common restraint/bracing materials include wood structural panels, gypsum board sheathing, stress-graded lumber, proprietary metal products, and metal purlins and straps.
- Materiales comunes de arriostre/restringir incluyen paneles estructurales de madera, entablado de yeso, madera graduada por esfuerzo, productos de metal patentados, y vigas de soporte y tiras de metal.

MINIMUM ATTACHMENT REQUIREMENTS FOR LUMBER RESTRAINT/BRACING^{1,2}

Lumber Size	Minimum Nail Size	Minimum Number of Nails per Connection
2x4 stress-graded	10d (0.128x3") 12d (0.128x3.25") 16d (0.131x3.5")	2
2x6 stress-graded	10d (0.128x3") 12d (0.128x3.25") 16d (0.131x3.5")	3

¹ Other attachment requirements may be specified by the Truss Designer or Building Designer.

² The size and attachment for bracing materials such as wood structural panels, gypsum board sheathing, proprietary metal restraint/bracing products, and metal purlins and straps are provided by the Building Designer.

PERMANENT BRACING FOR THE VARIOUS PLANES OF A TRUSS ARRIOSTRE PERMANENTE PARA VARIOS PLANOS DE UN TRUSS

- Permanent Bracing is important because it,
- prevents out-of-plane buckling of truss members,
 - helps maintain proper truss spacing, and
 - resists and transfers lateral loads from wind and seismic forces.
- El arriostre Permanente es importante porque,
- impide el torcer fuera-de-plano de los miembros del truss,
 - ayuda en mantener espaciamento apropiado de los trusses, y
 - resiste y pasa las cargas laterales de viento y fuerzas sísmicas aplicadas al sistema del truss.

- Trusses require Permanent Bracing within ALL of the following planes:
- Top Chord Plane
 - Bottom Chord Plane
 - Web Member Plane
- Trusses requieren Arriostre Permanente dentro de TODOS los siguientes planos:
- Plano de la Cuerda Superior
 - Plano de la Cuerda Inferior
 - Plano del Miembro Secundario

- CAUTION!** Without Permanent Bracing the truss, or a portion of its members, will buckle (i.e., fail) at loads far less than design.
- ¡CAUTELA!** Sin el Arriostre Permanente, del truss, o un parte de los miembros, torcerán (ej. fallarán) de cargas muchas menos que las cargas que el truss es diseñado a llevar.

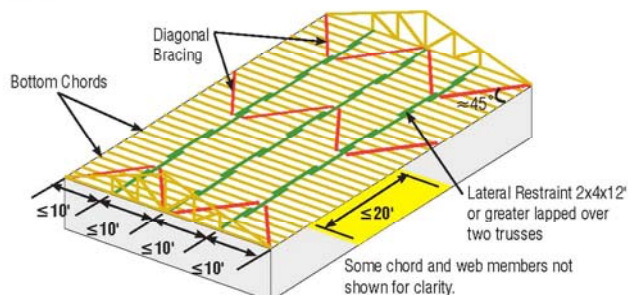
1. PERMANENT BRACING FOR THE TOP CHORD PLANE 1. ARRIOSTRE PERMANENTE PARA EL PLANO DE LA CUERDA SUPERIOR

- Use plywood, oriented strand board (OSB), or wood or metal structural purlins that are properly braced.
- Use contrachapado, panel de fibras orientadas (OSB), o vigas de soporte de madera o metal que son arriostrados apropiadamente.
- The Truss Design Drawing (TDD) provides information on the assumed support for the top chord.
- El Dibujo del Diseño de Truss (TDD) provee información sobre el soporte supuesto para la cuerda superior.
- Fastener size and spacing requirements and grade for the sheathing, purlins and bracing are provided in the building code and/or by the Building Designer.
- El tamaño de cierre y requisitos de espaciamento y grado para el entablado, vigas de soporte y arriostre son provistos en el código del edificio y/o por el Diseñador del Edificio.

2. PERMANENT BRACING FOR THE BOTTOM CHORD PLANE 2. ARRIOSTRE PERMANENTE PARA EL PLANO DE LA CUERDA INFERIOR

- Use rows of continuous Lateral Restraint with Diagonal Bracing, gypsum board sheathing or rigid ceiling.
- Use filas de Restricción Lateral Continua con Arriostre Diagonal, entablado de yeso o techo rígido.

- The TDD provides information on the assumed support for the bottom chord.
- El TDD provee información sobre el soporte supuesto para la cuerda inferior.
- Install bottom chord permanent Lateral Restraint at the spacing indicated on the TDD and/or by the Building Designer with a maximum of 10' on center.
- Instale Restricción Lateral permanente de la cuerda inferior al espaciamento indicado en el TDD y/o por el Diseñador del Edificio con un máximo de 10 pies en el centro.



Lateral Restraint and Diagonal Bracing used to brace the Bottom Chord Plane.

3. PERMANENT BRACING FOR THE WEB MEMBER PLANE

3. ARRIOSTRE PERMANENTE PARA EL PLANO DEL MIEMBRO SECUNDARIO

Web Member Permanent Bracing collects and transfers buckling restraint forces and/or lateral loads from wind and seismic forces. The same bracing can often be used for both functions.

Arriostre Permanente de los Miembros Secundarios recogen y pasan fuerzas de restricción de torcer y/o cargas laterales de viento y fuerzas sísmicas. A menudo el mismo arriostre puede ser usado para ambos funciones.

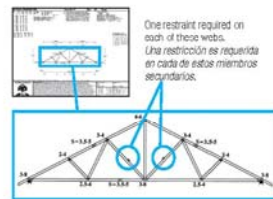
Individual Web Member Permanent Restraint & Bracing Restricción y Arriostre Permanente de Miembros Secundarios Individuales

- Check the TDD to determine which web members (if any) require restraint to resist buckling.
- Revisa el TDD para determinar cuales miembros secundarios (si algunos) requieren restricción para resistir el torcer.
- Restrain and brace with,
- Continuous Lateral Restraint & Diagonal Bracing, or
 - Individual Member Web Reinforcement.
- Restrinja y arriostre con,
- Restricción Lateral Continua y Arriostre Diagonal, o
 - Refuerzo de Miembros Secundarios Individuales.

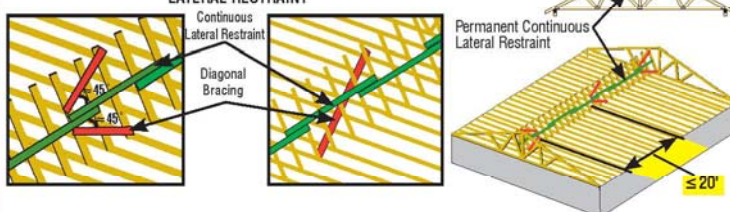
A. Continuous Lateral Restraint (CLR)

A. Restricción Lateral Continua (CLR) y Arriostre Diagonal

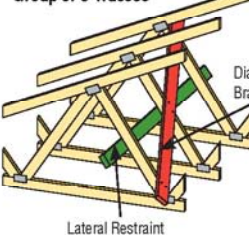
- Attach the CLR at the locations shown on the TDD.
- Sujete el CLR en las ubicaciones mostrados en el TDD.
- Install the Diagonal Bracing at approximately 45° to the CLR and position so that it crosses the web in close proximity to the CLR. Attach the Diagonal Brace as close to the Top and Bottom Chords as possible and to each web it crosses. Repeat every 20' or less.
- Instale el Arriostre Diagonal a aproximadamente 45 grados al CLR y lo coloque para que cruce la cuerda muy cerca del CLR. Sujete el Arriostre Diagonal como cercano a las cuerdas inferior y superior como sea posible y a cada cuerda que lo cruza. Repita cada 20 pies o menos.



EXAMPLES OF DIAGONAL BRACING WITH CONTINUOUS LATERAL RESTRAINT

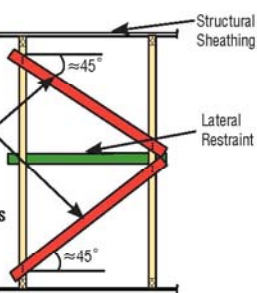


Group of 3 Trusses



- Lateral Restraint & Diagonal Bracing can also be used with small groups of trusses (i.e., three or less). Attach the Lateral Restraint & Diagonal Brace to each web member that they cross.
- Restricción Lateral y Arriostre Diagonal también puede ser usado con grupos pequeños de trusses (ej. tres o menos). Sujete la Restricción Lateral y el Arriostre Diagonal a cada miembro secundario que los cruzan.

Note: Some chord and web members not shown for clarity.



RESTRICCIÓN / ARRIOSTRE PERMANENTE DE LAS CUERDAS Y LOS MIEMBROS SECUNDARIOS

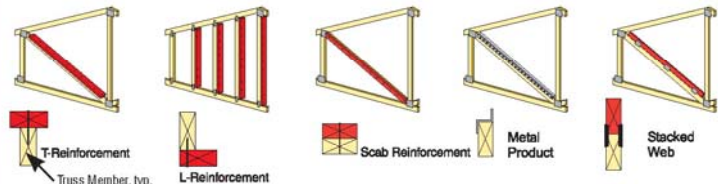
TRAMOS DE 60' PIES PUEDEN REQUERIR ARRIOSTRE PERMANENTE COMPLEJO. POR FAVOR, SIEMPRE CONSULTE A UN PROFESIONAL DE DISEÑO REGISTRADO.

BCSI-B3 SUMMARY SHEET PERMANENT RESTRAINT / BRACING OF CHORDS AND WEB SPANS OVER 60' MAY REQUIRE COMPLEX PERMANENT BRACING. PLEASE ALWAYS CONSULT A PROFESSIONAL ENGINEER

ALWAYS DIAGONALLY BRACE THE CONTINUOUS LATERAL RESTRAINT!
¡SIEMPRE ARRIOSTRE LA RESTRICCIÓN LATERAL CONTINUA DIAGONALMENTE!

B. Individual Web Member Reinforcement B. Refuerzo de Miembros Secundarios Individuales

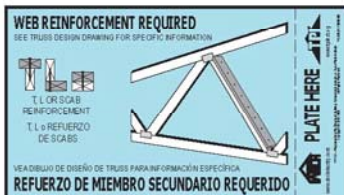
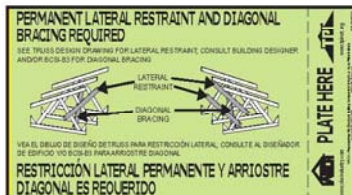
T-, L-, Scab, I-, U-Reinforcement, proprietary metal reinforcement and stacked web products provide an alternative for resisting web buckling.
 T-, L-, costra, I-, U-Refuerzo, refuerzo de metal patentando y productos de miembros secundarios amontonados proveen una alternativa para resistir el torcer de los miembros secundarios.



The following table may be used unless more specific information is provided.
 La siguiente tabla puede ser usada a menos que información más específica está provista.

WEB REINFORCEMENT FOR SINGLE PLY TRUSSES ¹						
Specified CLR	Size of Truss Web	Type & Size of Web Reinforcement				Minimum Connection of Web Reinforcement to Web
		T	L	Scab ²	I	
1 Row	2x4	2x4	2x4	2x4		Same species and grade or better than web member
	2x6	2x6	2x6	2x6		
	2x8	2x8	2x8	2x8		
2 Rows	2x4	---	---	---	2-2x4	16d Gun nails (0.131x3.5") @ 6" (150 mm) on-center ²
	2x6	---	---	---	2-2x6	
	2x8	---	---	---	2-2x8	

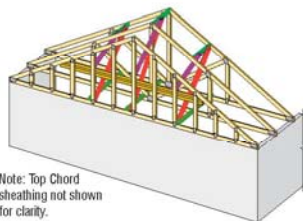
¹Maximum allowable web length is 14' (4.3 m).
²For Scab Reinforcement use 2 rows of 10d Gun nails (0.120x3") @ 6" (150 mm) on-center to attach reinforcement to web.



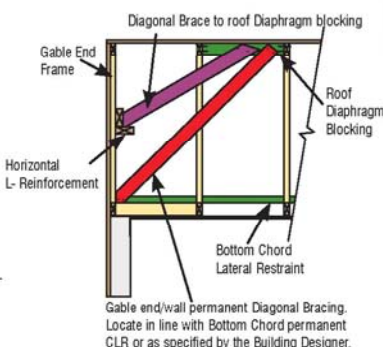
Some Truss Manufacturers mark the locations of the web Lateral Restraint or reinforcement on the truss using tags similar to those above.
 Algunos Fabricantes de Trusses marcan en el truss las ubicaciones de refuerzo o Restricción Lateral de miembros secundarios con etiquetas similares a las arriba.

Web Member Plane Permanent Building Stability Bracing to Transfer Wind & Seismic Forces Arrioste de Estabilidad Permanente del Edificio del Plano de Miembros Secundarios para Desplazar Fuerzas de Viento y Fuerzas Sísmicas

The web member restraint or reinforcement specified on a TDD is required to resist buckling under vertical loads. Additional restraint and bracing is typically required to transfer lateral loads due to wind and/or seismic forces. This restraint and bracing is typically provided by the Building Designer.
 La restricción o refuerzo de miembros secundarios especificada en un TDD es requerido a resistir el torcer bajo cargas verticales. Restricción y arrioste adicional es requerido típicamente para pasar cargas laterales debidas a fuerzas de viento y/o fuerzas sísmicas. Esta restricción y arrioste es típicamente provisto por el Diseñador del Edificio.



Some Truss Designers provide general design tables and details to assist the Building Designer in determining the Bracing required to transfer lateral loads due to wind and/or seismic forces from the Gable End Frame into the roof and/or ceiling diaphragm.
 Algunos Diseñadores de Trusses proveen tablas y detalles de diseño generales para asistir el Diseñador del Edificio en determinar el Arrioste requerido para pasar cargas laterales debidas a fuerzas de viento y/o fuerzas sísmicas del Armazón Hastial al diafragma del techo.



Gable End Frames and Sloped Bottom Chords Armazones Hastiales Y Cuerdas Inferiores Pendientes

The Gable End Frame should always match the profile of the adjacent trusses to permit installation of proper Bottom Chord Plane restraint & bracing unless special bracing is designed to support the end wall.
 El Armazón Hastial siempre debe encajar el perfil de los trusses contiguos para permitir la instalación de restricción y arrioste apropiada de la Cuerda Inferior a menos que arrioste especial es diseñado para soportar la pared de extremo.

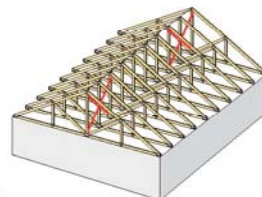


CAUTION! Using a flat Bottom Chord Gable End Frame with adjacent Trusses that have sloped Bottom Chords is prohibited by some building codes as adequate bracing of this condition is difficult and sometimes impossible. Special end wall bracing design considerations are required by the Building Designer if the Gable End Frame profile does not match the adjacent Trusses.

¡CAUTELA! El uso de un Armazón Hastial de la Cuerda Inferior con Trusses contiguos cuales tienen Cuerdas Inferiores pendientes es prohibido por algunos códigos de edificios porque arrioste adecuada de esta condición es difícil y a veces imposible. Consideraciones especiales de diseño para el arrioste de la pared de extremo son requeridos por el Diseñador del Edificio si el perfil del Armazón Hastial no hace juego con los Trusses contiguos.

PERMANENT BRACING FOR SPECIAL CONDITIONS ARRIOSTRE PERMANENTE PARA CONDICIONES ESPECIALES

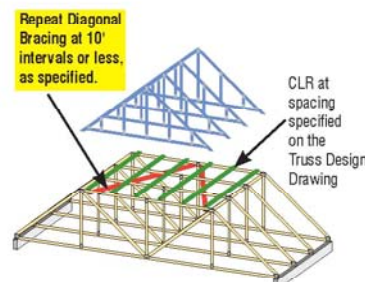
Sway Bracing—Arrioste de "Sway"
 "Sway" bracing is installed at the discretion of the Building Designer to help stabilize the truss system and minimize the lateral movement due to wind and seismic loads.
 Arrioste de "Sway" está instalado por la discreción del Diseñador del Edificio para ayudar en estabilizar el sistema de trusses y para minimizar el movimiento lateral debido a cargas de viento y cargas sísmicas.



Sway bracing installed continuously across the building also serves to distribute gravity loads between trusses of varying stiffness.
 Arrioste de "Sway" que es instalada continuamente a través del edificio también es usado para distribuir las cargas de gravedad entre trusses de rigidez variando.

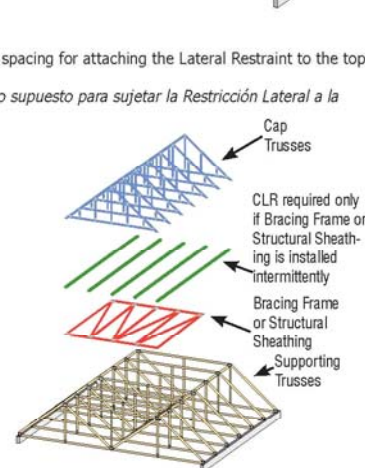
Permanent Restraint/Bracing for the Top Chord in a Piggyback Assembly Restricción/Arrioste Permanente para la Cuerda Superior en un Ensamblaje de Piggyback

Provide restraint and bracing by:
 • using rows of 4x2 stress-graded lumber CLR and Diagonal Bracing, or
 • connecting the CLR into the roof diaphragm, or
 • adding Structural Sheathing or Bracing Frames, or
 • some other equivalent means.
 Provee restricción y arrioste por:
 • usando filas de 4x2 CLR madera graduada por esfuerzo y Arrioste Diagonal, o
 • conectando el CLR al diafragma del techo, o
 • añadiendo Entablado Estructural o Armazones de Arrioste, o
 • algunos otros métodos equivalentes.



Refer to the TDD for the maximum assumed spacing for attaching the Lateral Restraint to the top chord of the supporting truss.
 Refiere al TDD para el espaciamiento máximo supuesto para sujetar la Restricción Lateral a la cuerda superior del truss soportante.

The TDD provides the assumed thickness of the restraint and minimum connection requirements between the cap and the supporting truss or restraint.
 El TDD provee el grosor supuesto de la restricción y los requisitos de conexión mínimos entre la capa y el truss soportante o la restricción.



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RESTRICCIÓN / ARRIOSTRE PERMANENTE DE LAS CUERDAS Y LOS MIEMBROS SECUNDARIOS
 TRAMOS MAS DE 60' PIES PUEDEN REQUERIR ARRIOSTRE PERMANENTE COMPLEJO. POR FAVOR, SIEMPRE CONSULTE A UN PROFESIONAL DE DISEÑO REGISTRADO

B4 Construction Loading

Cargas de Construcción



Construction loads are those loads imposed on the unfinished building as a result of the construction process. Typical construction loads include the weight of the workers, equipment, and building materials, to name a few. For example, a bundle of plywood sheathing or gypsum board stacked on trusses temporarily creates construction loads.

Cargas de construcción son las cargas que están impuestas a los edificios incompletos como resultado del proceso de construcción. Cargas de construcción típicas incluyen el peso de los trabajadores, el equipo y los materiales de construcción, etcétera. Por ejemplo, un paquete de entablado contrachapado o tabla de yeso apilados temporalmente sobre los trusses crean cargas de construcción.

- ✓ Make sure that the truss assembly is properly restrained and braced according to the guidelines in **BCSI-B1***** and **BCSI-B2***** before placing any construction loads on them. Construction loads shall only be placed on fully restrained and braced structures.

*Asegúrese que el montaje del truss está adecuadamente restringido y arriostrado según las pautas en **BCSI-B1***** y **BCSI-B2***** antes de colocar alguna carga de construcción en la estructura. Solamente coloquen cargas de construcción arriba de estructuras cuales son restringidos y arriostrados completamente.*

- ⚠ **WARNING!** Stacking excessive amounts of construction materials on floor or roof trusses is an unsafe practice. Property damage, personal injury and/or death are possible if this warning is not heeded.

¡ADVERTENCIA! Apilando cantidades excesivas de cargas de construcción sobre trusses de piso u techo es una práctica peligrosa. Daño a la propiedad, herida personal y/o muerte son posibles si no sigue esta advertencia.

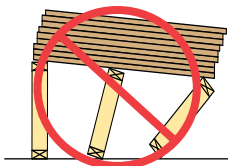
- NOTE Trusses that have been over-stressed due to excessive construction loading will usually show excessive sagging (deflection) and at least a portion of this deflection will remain even after the load has been removed. In more severe cases, broken truss members and/or failed truss joints may result.

Los trusses que han sido demasiado estresados debido a cargas de construcción excesivas usualmente demuestran una desviación excesiva, y por lo menos una parte de este desviación se quedarán aún después de que la carga se haya quitada. En casos más severos, miembros quebrados del truss y/o juntas falladas pueden resultar.

CONSTRUCTION LOADING **DO'S** AND **DON'TS** QUE **HACER** Y **NO HACER** CON LAS CARGAS DE CONSTRUCCIÓN

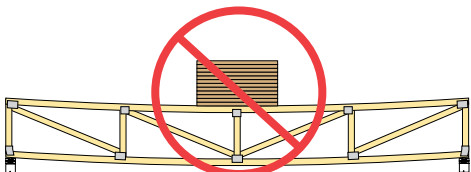
- ⊘ **DON'T** stack materials on unbraced trusses.

NO amontone materiales sobre trusses que no estén arriostrados.



- ⊘ **DON'T** overload the trusses.

NO sobrecargue los trusses.

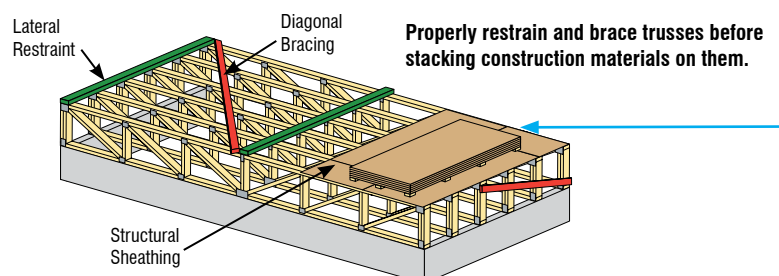


- ⊘ **DON'T** exceed stack heights listed in the table.

NO exceda la altura de montón indicada en la tabla que sigue.

Maximum Stack Height for Material on Trusses <i>Maximua Altura de Montón para Material encima de los Trusses</i>	
Material – Material	Height – Altura
Gypsum Board – Tabla de Yeso	12" – 12 pulgadas
Plywood or OSB – Madera Contrachapada u OSB	16" – 16 pulgadas
Asphalt Shingles – Teja de Asfalto	2 bundles – 2 paquetes
Concrete Block – Bloque de Hormigón	8" – 8 pulgadas
Clay Tile – Teja de Arcilla	3-4 tiles – 3-4 azulejos

Note: Limit stacking periods to approximately one week, unless alternative information is provided by the Building Designer, Truss Designer or Truss Manufacturer.



- * Webs must be SPF or better and 2x6 or smaller.
- * Scab must be the same size as the broken member.
- * No more than two broken or cracked members per truss.
- * Perimeter of chord break area must be a minimum distance X from any heel or peak, and minimum of 6" away from any i
- * Perimeter of web break area must be a minimum distance X from web joint.
- * Chords must be SPF or better and 2x6 or smaller.
- * Scab must be same grade or better as the broken member.
- * Truss must be single ply.

X = Minimum length of scab at each end of break area.

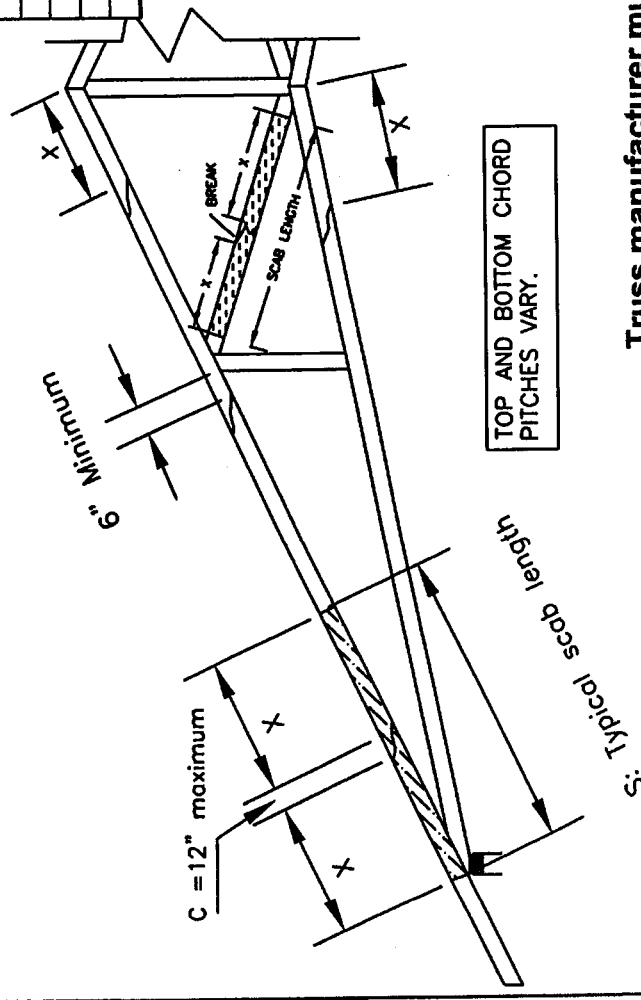
Refer to following table for minimum lengths of bolts, etc.

For all lumber plates web bracing etc. refer to original drawing sealed by Robbins Engineering, Inc.

* Use 1 row of 10d common nails spaced 3" on center into 2x3 scabs.

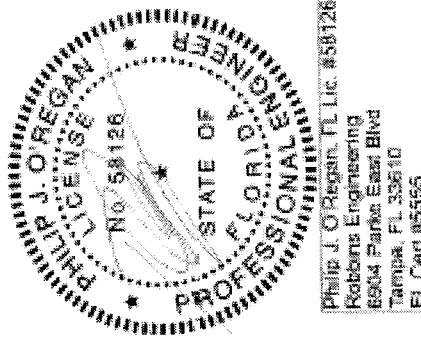
***Use 3 rows of 10d common nails spaced 3" on center in each row and staggered into 2x6 scabs.**

NOTE: Apply scab to one face of truss using nailing as specified above. If desired, two scabs may be applied, one to each face of truss; use 6" nail spacing if scabs are applied to each face.



2x3 SCABS			2x4 or 2x5 SCABS		
MINIMUM X DISTANCE (in.)	MIN. NUMBER OF NAILS AT EACH END OF	MAX. FORCE (lbs) AT 1.15 LOAD DURATION	MINIMUM X DISTANCE (in.)	MIN. NUMBER OF NAILS AT EACH END OF BREAK	MAX. FORCE (lbs) AT 1.15 LOAD DURATION
14	4	460	10	4	460
20	6	690	16	8	920
26	8	920	22	12	1380
32	10	1150	28	16	1840
38	12	1380	34	20	2300
44	14	1610	40	24	2760
50	16	1840	46	28	3220
56	18	2070	52	32	3680
62	20	2300	58	36	4140
68	22	2530	64	40	4600

2x6 SCABS		MAX. FORCE (lbs) AT 1.15 LOAD DURATION
MINIMUM X DISTANCE (in.)	MIN. NUMBER OF NAILS AT EACH END OF	
10	6	690
15	12	1380
22	18	2070
28	24	2760
32	28	3220
36	32	3680
40	36	4140
44	40	4600
48	44	5060
52	48	5520



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These manufacturers must be notified if field conditions do not match this general detail.

ROBBINS LOCK connector plates [20 ga. gals. steel-ASTM A563 S5 Grade 40] fabricating Mfg., Co. bears no responsibility for the erection of trusses.

FURNISH A COPY OF THIS DESIGN TO ERECTION CONTRACTOR
IT IS THE RESPONSIBILITY OF THE BUILDING DESIGNER AND TRUSS FAB. TO REVIEW THIS DRWG. &
VERIFY THAT DATA INCLUDING DIM. & LOADS CONFORM TO ARCH. PLAN/SPECS & FAB. TRUSS LAYOUTS.

Designed By: MG
Checked By: PO
Rev. Date: 12/02/00
Dwg. No: GD-69

ROBBINS
Engineering Inc.

P.O. Box 280055, Tampa, FL 33632

General detail for repair of broken, damaged or cut chords of PC42 floor trusses that meet the following conditions.

- * Chord size must be maximum 4x2 and southern pine species.
- * Scab must be at minimum the same size and grade as broken chord. Wide face of scab must be attached to narrow face of chord member.
- * Truss must be single ply.

* No more than two broken or cracked chords per truss.

* Perimeter of break area must be minimum of X distance from end of truss.

* and minimum of 4" away from any plates at panel points. All plates must be intact and fully embedded.

C = Maximum length of damaged area or cut section not to exceed 12".

S = Overall length of scab member must be equal or greater than 2(X)+C.

X = Minimum length of scab member at each end of break area.

Refer to following table for minimum length of scab, and minimum number of nails at each end of break area and maximum axial force of broken member.

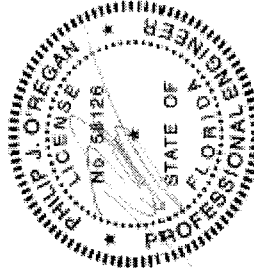
For all lumber, plates, web bracing, etc. refer to original drawing sealed by

Robbins Engineering Inc.

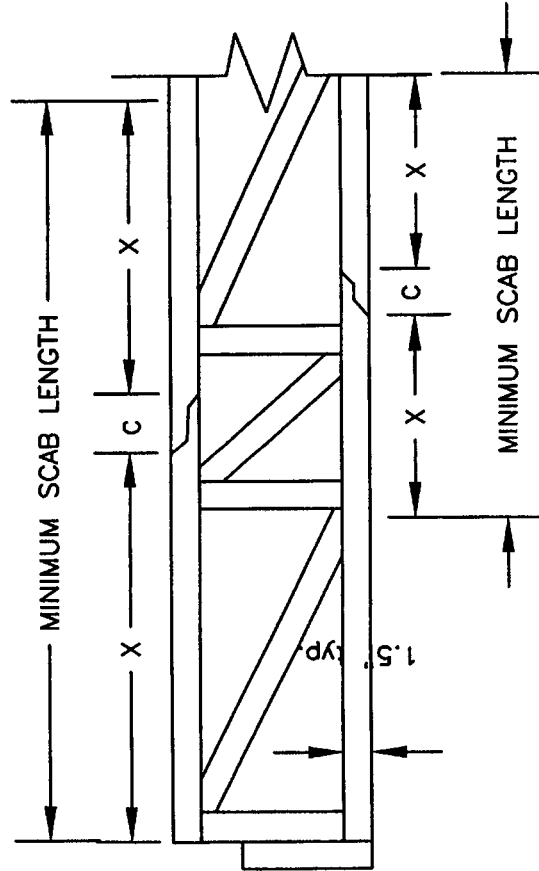
- 1) Apply all nails so as to avoid damaging of lumber and loosening of plates at joints.

- 2) Attach the scab with one row of 10d common nails at 3" on center into 4x2 chord members.

Axial force and number of nails may be doubled or X distance divided by 2, if scabs applied to each face of truss at the same location. Minimum end distance of 3" must be provided for all members.



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TOTAL NUMBER OF NAILS AT EACH END OF BREAK	X (INCHES)	MAXIMUM AXIAL FORCE IN CHORD MEMBER (LBS.)
4	18	512
6	24	768
8	30	1024
10	36	1280
12	42	1536
14	48	1792
16	54	2048
18	60	2304
20	66	2560
22	72	2816
24	78	3072

Truss manufacturer must be notified if field conditions do not match this general detail.

ROBBINS LOCK connector plates (20 ga. galv. steel-ASTM A653 SS Grade 40) shall be applied on both faces of truss at each joint. Center the plates, unless shown otherwise by circles (c) or dimensions. Unless otherwise indicated by a "v", all slots in plates run parallel with the chords or horizontally at the peak and / or heel. No loose knots or waves in plate contact area. Splice only where shown. Overall spans assume 4" bearings at each end, unless indicated otherwise. Cutting and fabrications shall be performed on equipment which produces snug-fitting joints and plates. This design was prepared in accordance with "Minimum Design Specifications for Structural Steel" and its Footings (AFPA), "Design Specifications for Light Metal Framing" (CISDI), and "Design Criteria for Trussed Rollers".

Robbins Mfg. Co. bears no responsibility for the erection of trusses, field bracing or permanent truss bracing. Refer to MB-91 as published by the Truss Plate Institute, 363 D'Oroville Drive, Suite 200, Madison, Wisconsin 53719. Persons erecting trusses are cautioned to seek professional advice concerning proper erection bracing to prevent topping and "doming". Care should be taken to prevent damage during fabrication, storage, shipping and erection. Top and bottom members shall be braced during erection to prevent buckling or crushing. If the design loads imposed by the structure and the design meet or exceed the actual dead loads imposed by the structure and the live loads imposed by the local building code or historical climatic records.

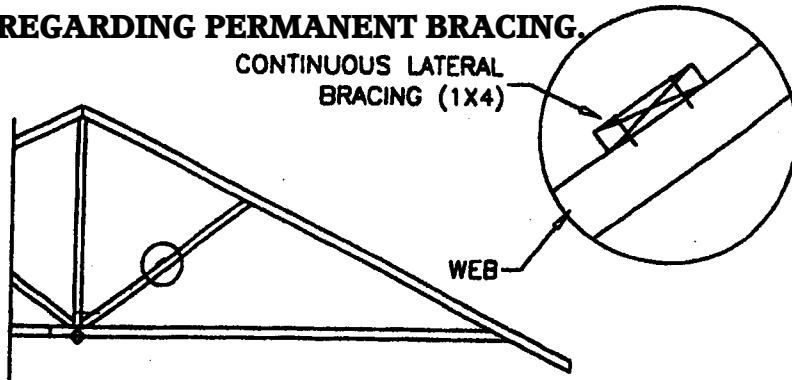
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P.O. Box 280055, Tampa, FL 33682

FURNISH A COPY OF THIS DESIGN TO ERECTION CONTRACTOR
IT IS THE RESPONSIBILITY OF THE BUILDING DESIGNER AND TRUSS FAB. TO REVIEW THIS DRAWG. & VERIFY THAT DATA INCLUDING DIM. & LOADS CONFORM TO ARCH. PLAN/SPECS & FAB. TRUSS LAYOUTS.

Designed By: MG
Checked By: TAA
Rev. Date: 5/17/04
Dwg. No: GD-62-FL

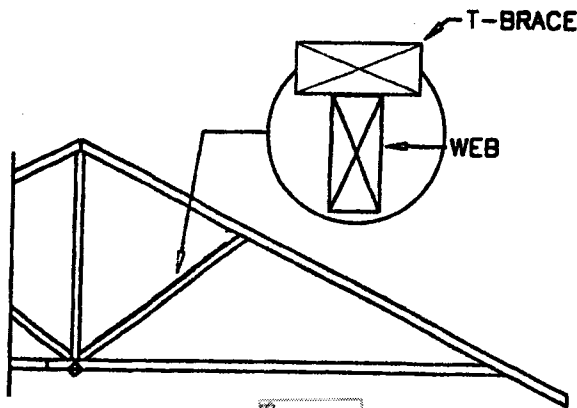
PERMANENT WEB BRACING

SEE INSIDE DESIGN MANUAL FOR BCSI PERMANENT BRACING
INSTALLATION INSTRUCTIONS AND FOR FURTHER INFORMATION.
CONSULT THE ENGINEER OF RECORD FOR EXPLICIT INSTRUCTION
REGARDING PERMANENT BRACING.



CONTINUOUS LATERAL BRACING

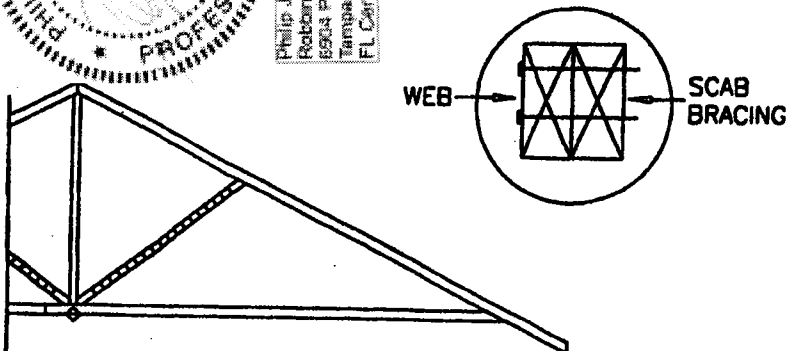
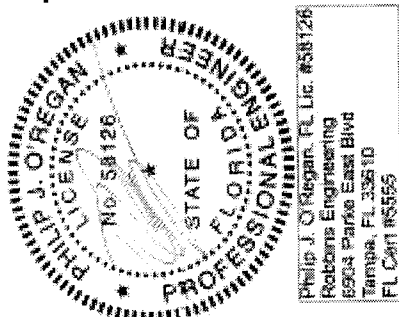
1x4 #3 HEM-FIR OR
BETTER CONTINUOUS LATERAL
BRACING TO BE EQUALLY SPACED.
ATTACH WITH (2) 8d NAILS.
BRACING MATERIAL TO BE SUPPLIED
AND ATTACHED AT BOTH ENDS
TO A SUITABLE SUPPORT BY
ERECTION CONTRACTOR.



T-BRACE

THESE DETAILS APPLY TO 1.5" WIDE WOOD
TRUSSES.

- USE A 2x4 T-BRACE IF THE TRUSS DESIGN SPECIFIES ONE LATERAL BRACE (MID POINT OF WEB).
- USE A 2x6 T-BRACE IF THE TRUSS DESIGN SPECIFIES TWO LATERAL BRACES (AT THE THIRD POINTS OF THE WEB).
- USE A CONTINUOUS PIECE FOR THE T-BRACE, OF THE SAME GRADE AS THE WEB AND COVERING AT LEAST 90% OF THE WEB LENGTH.
- CENTER THE T-BRACE ON THE WEB AND FASTEN WITH 10d COMMON NAILS SPACED 4" ON CENTER.



SCAB BRACE

SCAB BRACE SAME SIZE, GRADE,
AND LENGTH AS WEB MEMBER.
ATTACH WITH 10d NAILS @ 4" O.C.
BRACING MATERIAL TO BE SUPPLIED
BY ERECTION CONTRACTOR.