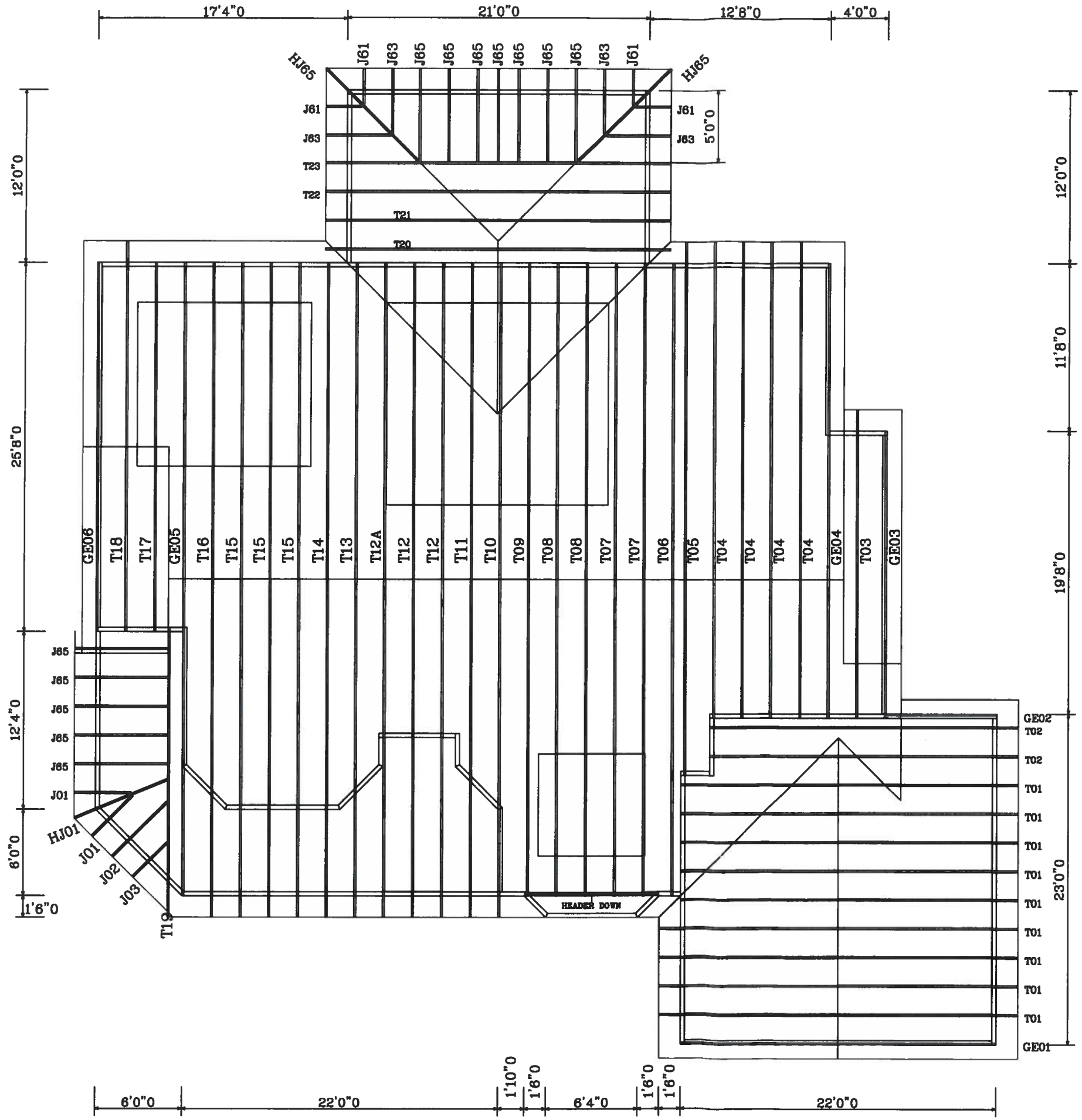


BUILDER:
SPARKES CONSTRUCTION

SUBDIVISION:

LOT NUMBER:

MODEL:
CAREY RESIDENCE

DESIGNED/CHECKED:
DB/DM

TRUE TRUSS
A DIVISION OF
TRUE HOUSE

APEX TECHNOLOGY

This drawing is not sufficient alone for installation. Additional instructions accompanying this drawing, including BCSI-B1, should be used in conjunction with the architectural and structural plans during installation. If BCSI-B1 has not been shipped to the site with the components shown on this page, please contact Apex Technology for a free copy. Permanent bracing for the building, including bracing to resist wind, seismic, or other lateral forces, and permanent bracing for all structural elements, is the responsibility of the Engineer of Record for the structure or the building designer, per ANSI/TPI 1-2002 Chapter 2.

11-13-07
JEFFREY P. ARNESON
PE No. 58544

APEX TECHNOLOGY IS A FICTITIOUS NAME OWNED BY JAX APEX TECHNOLOGY INC., A FLORIDA CORPORATION FBPE CA NO. 7547-4745 SUTTON PARK COURT,STE. 402 JACKSONVILLE , FL, 32224- 904.821.5200

WARNING! BCSI-B1 SUMMARY SHEET - GUIDE FOR HANDLING, INSTALLING, RESTRAINING AND BRACING OF TRUSSES (2006 EDITION)

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.

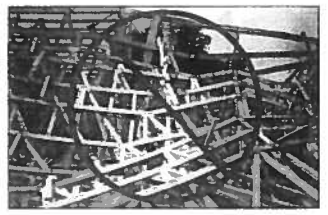
NOTAS GENERALES

Los trusses no están marcados de ningún modo que identifique la frecuencia o localización de restricción lateral y arriostre diagonal temporales. Use las recomendaciones de manejo, instalación, restricción y arriostre temporal de los trusses. Vea el folleto BCSI Guía de Buena Práctica para el Manejo, Instalación, Restricción y Arriostre 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/Arriostre Permanente de Cuerdas y Miembros Secundarios para más información. El resto de los diseños de arriostres permanentes son la responsabilidad del Diseñador del Edificio.

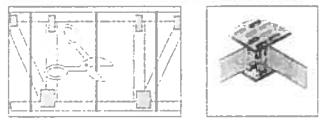
The consequences of improper handling, erecting, installing, restraining and bracing can result in a collapse of the structure, or worse, serious personal injury or death.

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



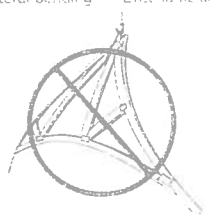
Banding and truss plates have sharp edges. Wear gloves when handling and safety glasses when cutting banding.

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



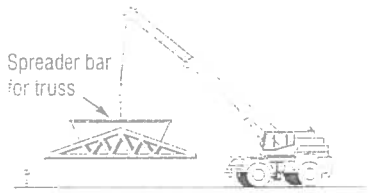
HANDLING — MANEJO

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.

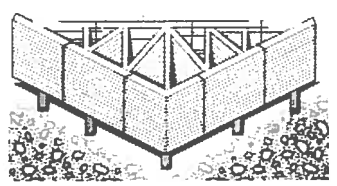


The contractor is responsible for properly receiving, unloading and storing the trusses at the jobsite.

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

Use proper lifting and hoisting equipment.

Use equipo apropiado para levantar e improvisar.



If trusses are to be stored horizontally, place blocking of sufficient height beneath the stack of trusses at 8' o.c. (or closer).

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.

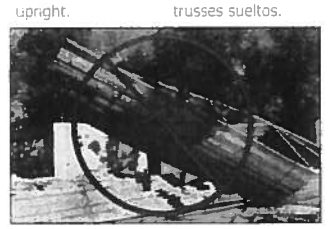
Si los trusses estarán guardados horizontalmente, ponga bloqueando de altura suficiente detrás de la pila de los trusses.

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 Arriostres de los Trusses de Madera Conectados con Placas de Metal para información más detallada sobre el manejo y almacenado 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.

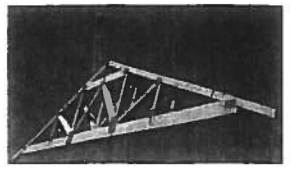
HOISTING RECOMMENDATIONS FOR TRUSS BUNDLES
RECOMENDACIONES PARA LEVANTAR PAQUETES DE TRUSSES

Warning! Don't overload the crane.

¡Advertencia! ¡No sobrecarga la grua!

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 empaques individuales.



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 más de 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.

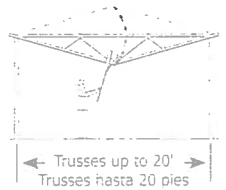
Place truss bundle in stable position.

Puse paquetes de trusses en una posición estable.

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

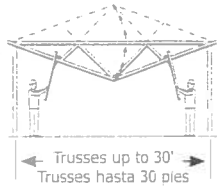
Trusses 20' or less: lift from at peak.

Levante del pico los trusses de 20 pies o menos.



Trusses 30' or less: support at third points.

Levante de los puntos de tramo los trusses de 30 pies o menos.

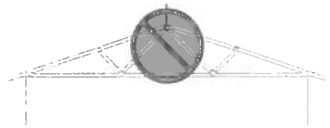


HOISTING OF SINGLE TRUSSES — LEVANTAMIENTO DE TRUSSES INDIVIDUALES

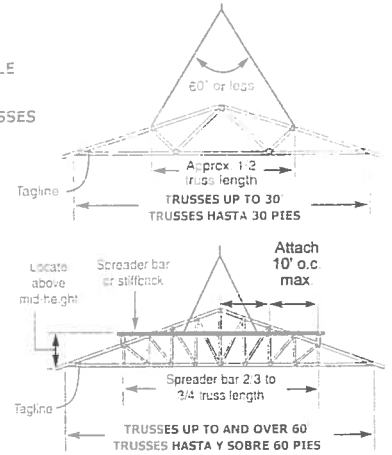
[illegible]

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

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



HOISTING RECOMMENDATIONS FOR SINGLE TRUSSES
RECOMENDACIONES PARA LEVANTAR TRUSSES INDIVIDUALES



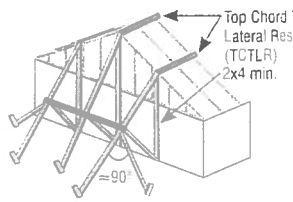
TEMPORARY RESTRAINT & BRACING
RESTRICCIÓN Y ARRIOSTRE TEMPORAL

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

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

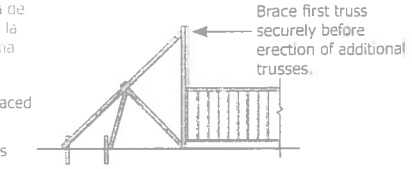
Locate ground braces for first truss directly in line with all rows of top chord temporary lateral restraint (see table in the next column).

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.



STEPS TO SETTING TRUSSES
LAS MEDIDAS DE LA INSTALLACIÓN 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 cuatro 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 estable 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 resúmen BCSI-B2 - Instalación de Trusses y Arriostre Temporal para mayor información.

RESTRAINT/BRACING FOR ALL PLANES OF TRUSSES
EL RESTRICCIÓN/ARRIOSTRE EN 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

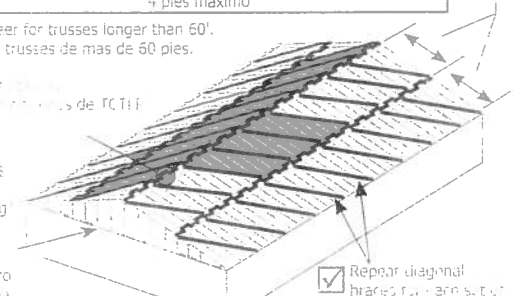
Truss Span Longitud de Tramo	Top Chord Temporary Lateral Restraint (TCTLR) Spacing Espaciamiento del Arriostre Temporal de la Cuerda Superior
Up to 30' Hasta 30 pies	10' o.c. max. 10 pies máximo
30' to 45' 30 a 45 pies	8' o.c. max. 8 pies máximo
45' to 60' 45 a 60 pies	6' o.c. max. 6 pies maximo
60' to 90'* 60 a 60 pies*	4' o.c. max. 4 pies máximo

*Consult a Professional Engineer for trusses longer than 60'.
*Consulte a un ingeniero para trusses de mas de 60 pies.

[illegible] 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 armazón de hastial vea el resumen BCSI-B3 – Restricción/Arriostre Permanente de Cuerdas y Miembros Secundarios.



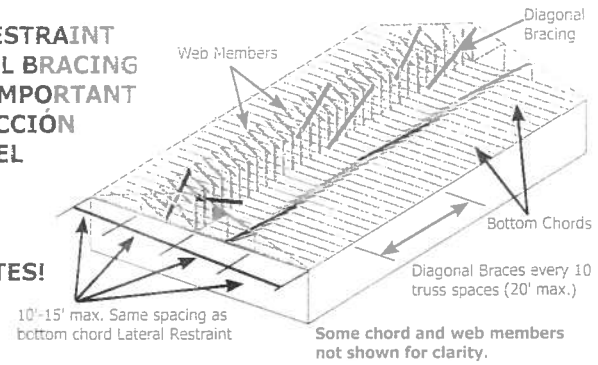
Ground bracing not shown for clarity.

Repeat diagonal braces for every 4 trusses.

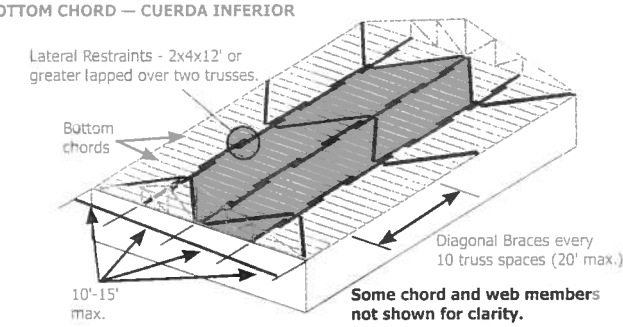
Repita los arriostres diagonales para cada grupo de 4 trusses.

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!



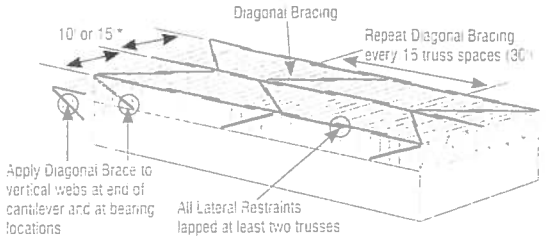
3) BOTTOM CHORD — CUERDA INFERIOR



RESTRAINT & BRACING FOR 3x2 AND 4x2 PARALLEL CHORD TRUSSES
LA RESTRICCIÓN Y EL 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.

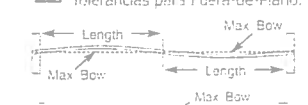
Vea el resumen BCSI-B7 – Restricción y Arriostre Temporal y Permanente de Trusses de Cuerdas Paralelas para más información.



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

INSTALLING — INSTALACION

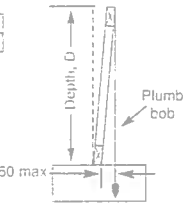
Tolerances for Out-of-Plane
Tolerancias para Fuera-de-Plano.



Out of Plumb	
D/50	D (ft.)
1/4"	1'
1/2"	2'
3/4"	3'
1"	4'
1-1/4"	5'
1-1/2"	6'
1-3/4"	7'
2"	≥8'

Out of Plane	
Max. Bow	Truss Length
3/4"	12.5'
7/8"	14.6'
1"	16.7'
1-1/8"	18.8'
1-1/4"	20.8'
1-3/8"	22.9'
1-1/2"	25.0'
1-3/4"	29.2'
2"	≥33.3'

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



CONSTRUCTION LOADING — CARGA DE CONSTRUCCION

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

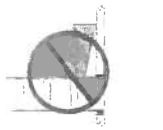
No proceda con la construcción hasta que todas las restricciones laterales y los arriostres estén colocados en forma apropiada y segura.

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

No exceda las máximas alturas recomendadas. Vea el resumen BCSI-B4 Carga de Construcción para mayor información.

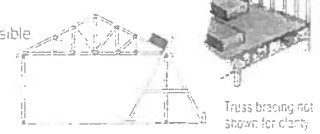
Maximum Stack Height for Material on Trusses	
Material	Height
Gypsum Board	12"
Plywood or OSB	16"
Asphalt Shingles	2 bundles
Concrete Block	8"
Clay Tile	3-4 tiles high

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



Never stack materials near the peak.
Nunca amontone material cerca del pico.

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



Place loads over load bearing walls.
Coloque las cargas sobre los muros soportantes.

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 perfore ningun miembro estructural de los trusses, a menos que este 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 una autorización previa del Fabricante de Trusses, pueden reducir o eliminar la garantía del Fabricante de Trusses.

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 these 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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B1WARN11x17 20061115

This document summarizes the information provided in Section B1 of the 2006 edition of the Building Component Safety Information (BCSI) Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

¡ADVERTENCIA! HOJA RESUMEN DE LA GUÍA DE BUENA PRÁCTICA PARA EL MANEJO, INSTALACIÓN, RESTRICCIÓN Y ARRIOSTRE DE LOS TRUSSES (2006 EDICIÓN)