

DATE 04/05/2007

# Columbia County Building Permit

PERMIT

This Permit Expires One Year From the Date of Issue

000025700

APPLICANT GREG TALLEY PHONE 352.214.1055  
ADDRESS 1221 NW 238 TERRACE HIGH SPRINGS FL 32643  
OWNER GREG TALLEY PHONE 352.214.1055  
ADDRESS 161 SW ARROWBEND DRIVE LAKE CITY FL 32024  
CONTRACTOR G&J BUILDERS, INC.(G. ROHNER) PHONE 352.214.1055  
LOCATION OF PROPERTY 47-S TO C-242,TR TO ARROWHEAD ROAD,TR TO CANNON CREEK PLACE  
TO ARROWBEND DRIVE,TL AND THE LOT IS ON THE .

TYPE DEVELOPMENT SFD/UTILITY ESTIMATED COST OF CONSTRUCTION 83600.00  
HEATED FLOOR AREA 1672.00 TOTAL AREA 2394.00 HEIGHT 18.00 STORIES 1  
FOUNDATION CONC WALLS FRAMED ROOF PITCH 6'12 FLOOR CONC  
LAND USE & ZONING RSF-2 MAX. HEIGHT 35  
Minimum Set Back Requirments: STREET-FRONT 25.00 REAR 15.00 SIDE 10.00  
NO. EX.D.U. 0 FLOOD ZONE XPP DEVELOPMENT PERMIT NO. \_\_\_\_\_

PARCEL ID 24-4S-16-03114-117 SUBDIVISION CANNON CREEK PLACE  
LOT 17 BLOCK \_\_\_\_\_ PHASE \_\_\_\_\_ UNIT \_\_\_\_\_ TOTAL ACRES 0.50

000001362 \_\_\_\_\_ CGC021619 \_\_\_\_\_  
Culvert Permit No. Culvert Waiver Contractor's License Number Signature on file  
18"X32"MITERED 07-235 BLK JTH N  
Driveway Connection Septic Tank Number LU & Zoning checked by Approved for Issuance New Resident

COMMENTS: PLAT REQUIRES MFE @ 97.5'. FINISH FLOOR CONFIRMATION LETTER  
REQUIRED. NOC ON FILE.

Check # or Cash CASH REC'D.

## FOR BUILDING & ZONING DEPARTMENT ONLY

(footer/Slab)

Temporary Power \_\_\_\_\_ Foundation \_\_\_\_\_ Monolithic \_\_\_\_\_  
date/app. by date/app. by date/app. by  
Under slab rough-in plumbing \_\_\_\_\_ Slab \_\_\_\_\_ Sheathing/Nailing \_\_\_\_\_  
date/app. by date/app. by date/app. by  
Framing \_\_\_\_\_ Rough-in plumbing above slab and below wood floor \_\_\_\_\_  
date/app. by date/app. by  
Electrical rough-in \_\_\_\_\_ Heat & Air Duct \_\_\_\_\_ Peri. beam (Lintel) \_\_\_\_\_  
date/app. by date/app. by date/app. by  
Permanent power \_\_\_\_\_ C.O. Final \_\_\_\_\_ Culvert \_\_\_\_\_  
date/app. by date/app. by date/app. by  
M/H tie downs, blocking, electricity and plumbing \_\_\_\_\_ Pool \_\_\_\_\_  
date/app. by date/app. by  
Reconnection \_\_\_\_\_ Pump pole \_\_\_\_\_ Utility Pole \_\_\_\_\_  
date/app. by date/app. by date/app. by  
M/H Pole \_\_\_\_\_ Travel Trailer \_\_\_\_\_ Re-roof \_\_\_\_\_  
date/app. by date/app. by date/app. by

BUILDING PERMIT FEE \$ 420.00 CERTIFICATION FEE \$ 11.97 SURCHARGE FEE \$ 11.97  
MISC. FEES \$ 0.00 ZONING CERT. FEE \$ 50.00 FIRE FEE \$ 0.00 WASTE FEE \$ \_\_\_\_\_  
FLOOD DEVELOPMENT FEE \$ \_\_\_\_\_ FLOOD ZONE FEE \$ 25.00 CULVERT FEE \$ 25.00 TOTAL FEE 543.94  
INSPECTORS OFFICE \_\_\_\_\_ CLERKS OFFICE \_\_\_\_\_

NOTICE: IN ADDITION TO THE REQUIREMENTS OF THIS PERMIT, THERE MAY BE ADDITIONAL RESTRICTIONS APPLICABLE TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER GOVERNMENTAL ENTITIES SUCH AS WATER MANAGEMENT DISTRICTS, STATE AGENCIES, OR FEDERAL AGENCIES.

"WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT."

### This Permit Must Be Prominently Posted on Premises During Construction

PLEASE NOTIFY THE COLUMBIA COUNTY BUILDING DEPARTMENT AT LEAST 24 HOURS IN ADVANCE OF EACH INSPECTION, IN ORDER THAT IT MAY BE MADE WITHOUT DELAY OR INCONVENIENCE, PHONE 758-1008. THIS PERMIT IS NOT VALID UNLESS THE WORK AUTHORIZED BY IT IS COMMENCED WITHIN 6 MONTHS AFTER ISSUANCE.

The Issuance of this Permit Does Not Waive Compliance by Permittee with Deed Restrictions.



# ELK

## ROOFING PRODUCTS SPECIFICATIONS – TUSCALOOSA, AL



**PRESTIQUE®  
HIGH DEFINITION®**



**RAISED PROFILE®**

### Prestique Plus *High Definition* and Prestique Gallery Collection™

Product size	13 1/4" x 39 3/4"	50-year limited warranty period:
Exposure	5 1/2"	5-7**years non-prorated coverage for shingles and application labor with prorated coverage for remainder of limited warranty period, plus an option for transferability*. 5-year limited wind warranty*. Wind Coverage: standard 80 mph, extended 110 mph***
Pieces/Bundle	16	
Bundles/Square	4/98.5 sq.ft.	
Squares/Pallet	11	

### Raised Profile

Product size	13 1/4" x 38 1/2"	30-year limited warranty period:
Exposure	5 1/2"	5-7**years non-prorated coverage for shingles and application labor with prorated coverage for remainder of limited warranty period, plus an option for transferability*. 5-year limited wind warranty*. Wind Coverage: standard 70 mph.
Pieces/Bundle	22	
Bundles/Square	3/100 sq.ft.	
Squares/Pallet	16	

### Prestique I *High Definition*

Product size	13 1/4" x 39 3/4"	40-year limited warranty period:
Exposure	5 1/2"	5-7**years non-prorated coverage for shingles and application labor with prorated coverage for remainder of limited warranty period, plus an option for transferability*. 5-year limited wind warranty*. Wind Coverage: standard 80 mph, extended 90 mph***
Pieces/Bundle	16	
Bundles/Square	4/98.5 sq.ft.	
Squares/Pallet	14	

### HIP AND RIDGE SHINGLES

<b>Seal-A-Ridge® w/FLX™</b>
Size: 12" x 12"
Exposure: 6 1/4"
Pieces/Bundle: 45
Coverage: 4 Bundles = 100 linear feet

<b>Vented RidgeCrest™ w/FLX™</b>
Size: 13" x 13 1/4"
Exposure: 9 1/4"
Pieces/Box: 26
Coverage: 5 boxes = 100 linear feet

### Prestique *High Definition*

Product size	13 1/4" x 38 1/2"	30-year limited warranty period:
Exposure	5 1/2"	5-7**years non-prorated coverage for shingles and application labor with prorated coverage for remainder of limited warranty period, plus an option for transferability*. 5-year limited wind warranty*. Wind Coverage: standard 80 mph.
Pieces/Bundle	22	
Bundles/Square	3/100 sq.ft.	
Squares/Pallet	16	

### Elk Starter Strip

52 Bundles/Pallet
18 Pallets/Truck
936 Bundles/Truck
19 Pieces/Bundle
1 Bundle = 120.33 linear feet

Available Colors (Check Availability): Antique Slate, Weatheredwood, Shakeswood, Sablewood, Hickory, Barkwood, Forest Green, Wedgewood, Birchwood, Sandalwood. Gallery Collection: Balsam Forest™, Weathered Sage™, Sienna Sunset™.

All Prestique, Raised Profile and Seal-A-Ridge, and Prestique Starter Strip roofing products contain sealant which activates with the sun's heat, bonding shingles into a wind and weather resistant cover that resists blow-offs and leaks.

Check for availability with built-in StainGuard® treatment to inhibit the discoloration of roofing granules caused by the growth of certain types of algae.

**All Prestique and Raised Profile shingles meet UL® Wind Resistant (UL 997) and Class "A" Fire Ratings (UL 790); and ASTM Specifications D 3018, Type-I; D 3161, Type-I; E 108 and the requirements of ASTM D 3462.**

**All Prestique and Raised Profile shingles have approval from the Florida Building Code Commission, Metro-Dade County, ICBO, and Texas Department of Insurance.**

\*See actual limited warranty for conditions and limitations.

\*\* Effective January 1, 2004, the seven year non-prorated Umbrella Coverage Period applies only when a full Elk Roof System is installed with the original installation of the Elk shingles, all in accordance with Elk's application instructions for such products. A full Elk roof system includes Elk Hip and Ridge shingles on all hips and ridges, Elk Starter Strip along all rake and eave edges, an Elk ventilation system, and Elk All-Climate Self-Adhering Underlayment in all valleys. Additionally, Elk All-Climate Self-Adhering Underlayment is required along the rake and eave edges of the roof in and north of the states of VA, KY, MO, KS, CO, UT, NV, & OR.

\*\*\*For a limited Wind Warranty up to 110 mph for Prestique Gallery Collection, Prestique Plus, or 90 mph for Prestique I or Grandé, at least six (6) properly placed NAILS and Elk Starter Strip shingles are required. See application instructions printed on the shingle wrapper for additional requirements.

## SPECIFICATIONS

**SCOPE:** Work includes furnishing all labor, materials and equipment necessary to complete installation of (name) shingles specified herein. Color shall be (name of color). Hip and ridge type to be Elk Seal-A-Ridge with formula FLX.

All exposed metal surfaces (flashing, vents, etc.) to be painted with matching Elk roof accessory paint.

**PREPARATION OF ROOF DECK:** Roof deck to be dry, well-seasoned 1" x 6" (25.4mm x 152.4mm) boards; exterior-grade plywood (exposure 1 rated sheathing) at least 3/8" (9.525mm) thick conforming to the specifications of the American Plywood Association; 7/16" (11.074mm) oriented strandboard; or chipboard. Most fire retardant plywood decks are NOT approved substrates for Elk shingles. Consult Elk Field Service for application specifications over other decks and other slopes.

**Materials:** Underlayment for standard roof slopes, 4" per foot (101.6/304.8mm) or greater: apply non-perforated No. 15 or 30 asphalt-saturated felt underlayment. For Low slopes[4" per foot (101.6/304.8mm) to a minimum of 2" per foot (50.8/304.8mm)], use two plies of underlayment overlapped a minimum of 19". Fasteners shall be of sufficient length and holding power for securing material as required by the application instructions printed on shingle wrapper.

For areas where algae is a problem, shingles shall be (name) with StainGuard treatment, as manufactured by the Elk Tuscaloosa plant. Hip and ridge type to be Seal-A-Ridge with formula FLX with StainGuard treatment.

Complete application instructions are published by Elk and printed on the back of every shingle bundle. All warranties are contingent upon the correct installation as shown on the instructions. These instructions are the minimum required to meet Elk application requirements. In some areas, building codes may require additional application techniques or methods beyond our instructions. In these cases, the local code must be followed. Under no circumstances will Elk accept application requirements less than those contained in its application instructions.

For specifications in CSI format, call 800.354.SPEC (7732) or e-mail [specinfo@elkcorp.com](mailto:specinfo@elkcorp.com).

**SOUTHEAST &  
ATLANTIC OFFICE:**  
800.945.5551

**CORPORATE HEADQUARTERS:**  
800.354.7732

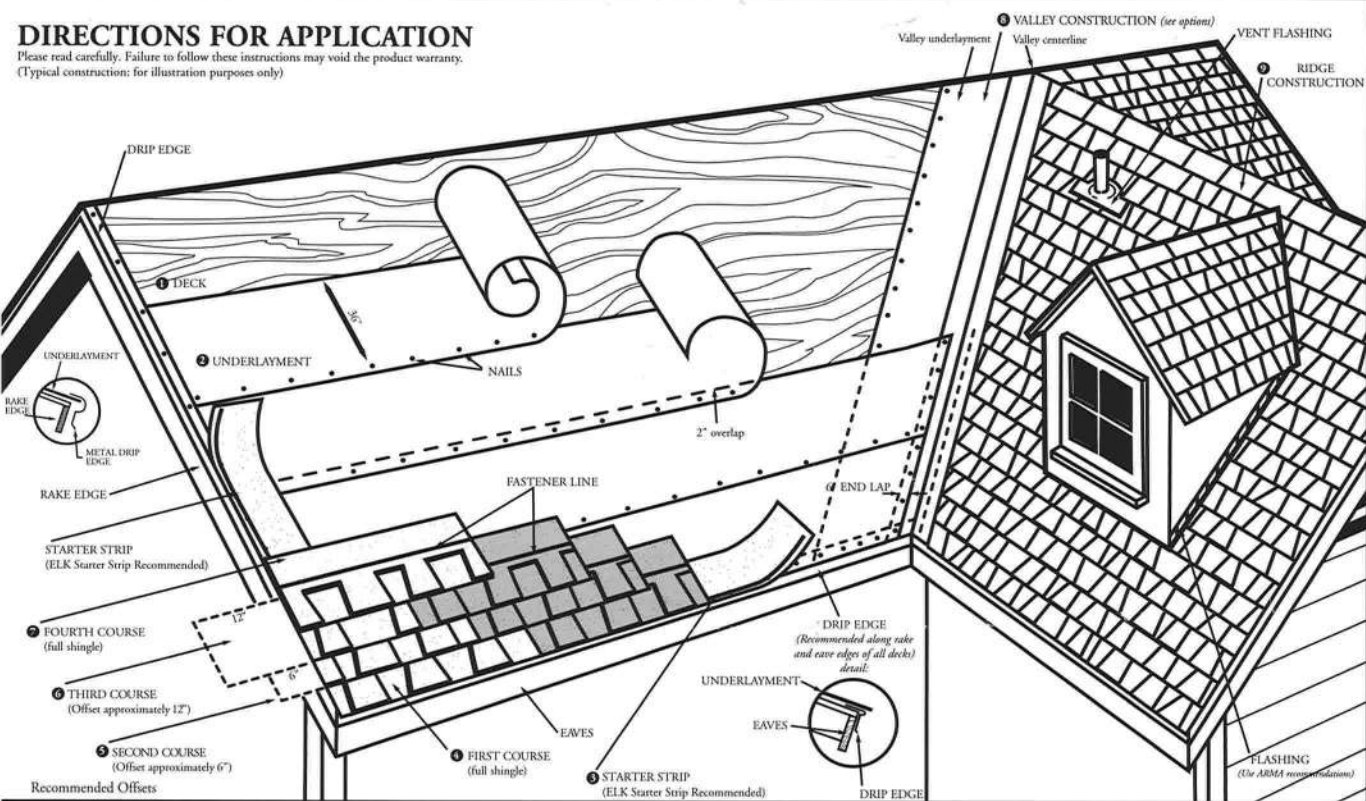
**PLANT LOCATION:**  
800.945.5545

**ELK**  
The Premium Choice®  
[www.elkcorp.com](http://www.elkcorp.com)

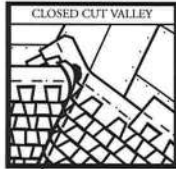
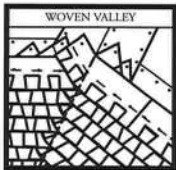
SS00T 06/04



DIRECTIONS FOR APPLICATION
Please read carefully. Failure to follow these instructions may void the product warranty.
(Typical construction: for illustration purposes only)



VALLEY CONSTRUCTION OPTION
(California Open and California Closed are also acceptable valleys.)



NOTE: For complete ARMA valley installation details, see ARMA roofing installation guide.

DIRECTIONS FOR APPLICATION

These application instructions are the minimum required to meet Elk's application requirements. Your failure to follow these instructions may void the product warranty. In some areas, the building codes may require additional application techniques or methods beyond our instructions. In these cases, the local code must be followed. Under no circumstances will Elk accept application requirements that are less than those printed here. Shingles should not be jammed tightly together. All attics should be properly ventilated. Note: It is not necessary to remove tape on back of shingle.

1 DECK PREPARATION

Roof decks should be dry, well-seasoned 1" x 6" boards or exterior grade plywood minimum 3/8" thick and conform to the specifications of the American Plywood Association or 7/16" oriented strandboard, or 7/16" chipboard.

2 UNDERLAYMENT

Apply underlayment (Non-Perforated No. 15 or 30 asphalt saturated felt). Elk Versashield® or self adhering underlayment is also acceptable. Cover drip edge at eaves only.

For low slope(2/12 up to 4/12), completely cover the deck with two plies of underlayment overlapping a minimum of 19". Begin by fastening a 19" wide strip of underlayment placed along the eaves. Place a full 36" wide sheet over the starter, horizontally placed along the eaves and completely overlapping the starter strip.

EAVE FLASHING FOR ICE DAMS (ASK A ROOFING CONTRACTOR, REFER TO ARMA MANUAL OR CHECK LOCAL CODES)

For standard slope (4/12 to less than 21/12), use coated roll roofing of no less than 50 pounds over the felt underlayment extending from the eave edge to a point at least 24" beyond the inside wall of the living space below or one layer of a self-adhered eave and flashing membrane.

For low slope (2/12 up to 4/12), use a continuous layer of asphalt plastic cement between the two plies of underlayment from the eave edge up roof to a point at least 24" beyond the inside wall of the living space below or one layer of a self-adhered eave and flashing membrane.

Consult the Elk Technical Services Department for application specifications over other decks and other slopes.

3 STARTER SHINGLE COURSE

USE AN ELK STARTER STRIP OR THE HEADLAP OF A STRIP SHINGLE WITH THE ADHESIVE STRIP POSITIONED AT THE EAVE EDGE. With at least 3" trimmed from the end of the first shingle, start at the rake edge overhanging the eave and rake edges 1/2" to 3/4". Fasten 2" from the lower edge and 1" from each side.

4 FIRST COURSE

Start at rake and continue course with full shingles laid flush with the starter course. Shingles may be applied with a course alignment of 45° on the roof

5 SECOND COURSE

Offset the second course of shingles with respect to the first by approximately 6". Other offsets are approved if greater than 4".

6 THIRD COURSE

Offset the next course by 6" with respect to the second course, or consistent with the original offset.

7 FOURTH COURSE

Start at the rake and continue with full shingles across roof.

FIFTH AND SUCCEEDING COURSES.

Repeat application as shown for second, third, and fourth courses. Do not rack shingles straight up the roof. Offsets may be adjusted around valleys and penetrations.

8 VALLEY CONSTRUCTION

Open, woven and closed cut valleys are acceptable when applied by Asphalt Roofing Manufacturing Association (ARMA) recommended procedures. For metal valleys, use 36" wide vertical underlayment prior to applying metal flashing (secure edge with nails). No nails are to be within 6" of valley center.

9 RIDGE CONSTRUCTION

For ridge construction Elk recommends Class "A" Z®Ridge or Seal-A-Ridge® with formula FLX™ or RidgeCrest™ with FLX (See ridge package for installation instructions). Vented RidgeCrest or 3-tab shingles are also approved.

FASTENERS

While nailing is the preferred method for Elk shingles, Elk will accept fastening methods according to the following instructions.

Using the fastener line as a reference, nail or staple the shingle in the double thickness common bond area. For shingles without a fastener line, nails or staples must be placed between and/or in the sealant dots.

NAILS: Corrosive resistant, 3/8" head, minimum 12-gauge roofing nails. Elk recommends 1-1/4" for new roofs and 1-1/2" for re-roofs. In cases where you are applying shingles to a roof that has an exposed overhang, for new roofs only, 3/4" ring shank nails are allowed to be used from the eave's edge to a point up the roof that is past the outside wall line. 1" ring shank nails allowed for re-roof.

STAPLES: Corrosive resistant, 16-gauge minimum, crown width minimum of 15/16". Note: An improperly adjusted staple gun can result in raised staples that can cause a fish-mouthed appearance and can prevent sealing.

Fasteners should be long enough to obtain 3/4" deck penetration or penetration through deck, whichever is less. This product meets the requirements of the IRC 2003 code when fastened with 4 nails.

MANSARD APPLICATIONS

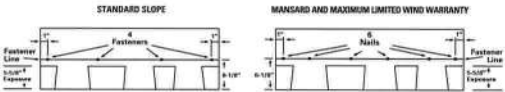
Correct fastening is critical to the performance of the roof. For slopes exceeding 60° (or 21/12) use six fasteners per shingle. Locate fasteners in the fastener area 1" from each side edge with the remaining four fasteners equally spaced along the length of the double thickness (laminated) area. Only fastening methods according to the above instructions are acceptable.

LIMITED WIND WARRANTY

- For a Limited Wind Warranty, all Prestique and Raised Profile™ shingles must be applied with 4 properly placed fasteners, or in the case of mansard applications, 6 properly placed fasteners per shingle.
- For a Limited Wind Warranty up to 110 MPH for Prestique Gallery Collection or Prestique Plus or 90 MPH for Prestique I, shingles must be applied with 6 properly placed NAILS per shingle. SHINGLES APPLIED WITH STAPLES WILL NOT QUALIFY FOR THIS ENHANCED LIMITED WIND WARRANTY. Also, Elk Starter Strip shingles must be applied at the eaves and rake edges to qualify Prestique Plus, Prestique Gallery Collection and Prestique I shingles for this enhanced Limited Wind Warranty. Under no circumstances should the Elk Shingles or the Elk Starter Strip overhang the eaves or rake edge more than 3/4 of an inch.

HELP STOP BLOW-OFFS AND CALL-BACKS

A minimum of four fasteners must be driven into the DOUBLE THICKNESS (laminated) area of the shingle. Nails or staples must be placed along – and through – the "fastener line" or on products without fastener lines, nail or staple between and in line with sealant dots. CAUTION: Do not use fastener line for shingle alignment.



Refer to local codes which in some areas may require specific application techniques beyond those Elk has specified. All Prestique and Raised Profile shingles have a U.L.® Wind Resistance Rating when applied in accordance with these instructions using nails or staples on re-roofs as well as new construction.

CAUTION TO WHOLESALER: Careless and improper storage or handling can harm fiberglass shingles. Keep these shingles completely covered, dry, reasonably cool, and protected from the weather. Do not store near various sources of heat. Do not store in direct sunlight until applied. DO NOT DOUBLE STACK. Systematically rotate all stock so that the material that has been stored the longest will be the first to be moved out.





# Columbia County Building Permit Application

**For Office Use Only** Application # 0702-39 Date Received 7/15 By JN Permit # 362/25700  
 Application Approved by - Zoning Official BLK Date 16.02.07 Plans Examiner OKJTH Date 2-23-07  
 Flood Zone Xpmt Development Permit N/A Zoning RSF-2 Land Use Plan Map Category RES. Low Den.  
 Comments LETG 2nd on file. Plat Requires MFE at 97.5' Finish Floor  
(NOC) EN. NEXT LN Confirmation Letter Required

Applicants Name GREG TALLEY Phone 352-214-1055  
 Address 21221 NW 238 AVENUE HIGH SPRINGS FL 32643  
 Owners Name GREG TALLEY Phone 352-214-1055  
 911 Address 101 SW ARROWBEND Dr. LAKE CITY FL 32024  
 Contractors Name G&J BLDGS INC Phone \_\_\_\_\_  
 Address 21221 N.W 238 AVE High SPRING  
 Fee Simple Owner Name & Address \_\_\_\_\_  
 Bonding Co. Name & Address \_\_\_\_\_  
 Architect/Engineer Name & Address NICHOLAS GEISLER, ARCHITECT  
 Mortgage Lenders Name & Address NA

Circle the correct power company - FL Power & Light - Clay Elec. - Suwannee Valley Elec. - Progressive Energy  
 Property ID Number 24-45-16-03114-117 Estimated Cost of Construction 110,000  
 Subdivision Name CANNON CREEK PLACE Lot 17 Block \_\_\_\_\_ Unit \_\_\_\_\_ Phase \_\_\_\_\_  
 Driving Directions 47-5 TO C-242-TR TO ARROWBEND RD. TR TO  
CANNON CREEK PLACE. TO ARROWBEND DR. TL Lot is on the R.

Type of Construction SFD - FRAMES Number of Existing Dwellings on Property 0  
 Total Acreage .50 Lot Size \_\_\_\_\_ Do you need a Culvert Permit or Culvert Waiver or Have an Existing Drive  
 Actual Distance of Structure from Property Lines - Front 35' Side 80' Side 46' Rear 126'  
 Total Building Height 18' Number of Stories 1 Heated Floor Area 1672 Roof Pitch 6/12  
TOTAL 2394

Application is hereby made to obtain a permit to do work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work be performed to meet the standards of all laws regulating construction in this jurisdiction.

**OWNERS AFFIDAVIT:** I hereby certify that all the foregoing information is accurate and all work will be done in compliance with all applicable laws and regulating construction and zoning.

**WARNING TO OWNER:** YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

Owner Builder or Agent (Including Contractor) \_\_\_\_\_

STATE OF FLORIDA  
COUNTY OF COLUMBIA

Sworn to (or affirmed) and subscribed before me

this 9 day of OCTOBER 2006.

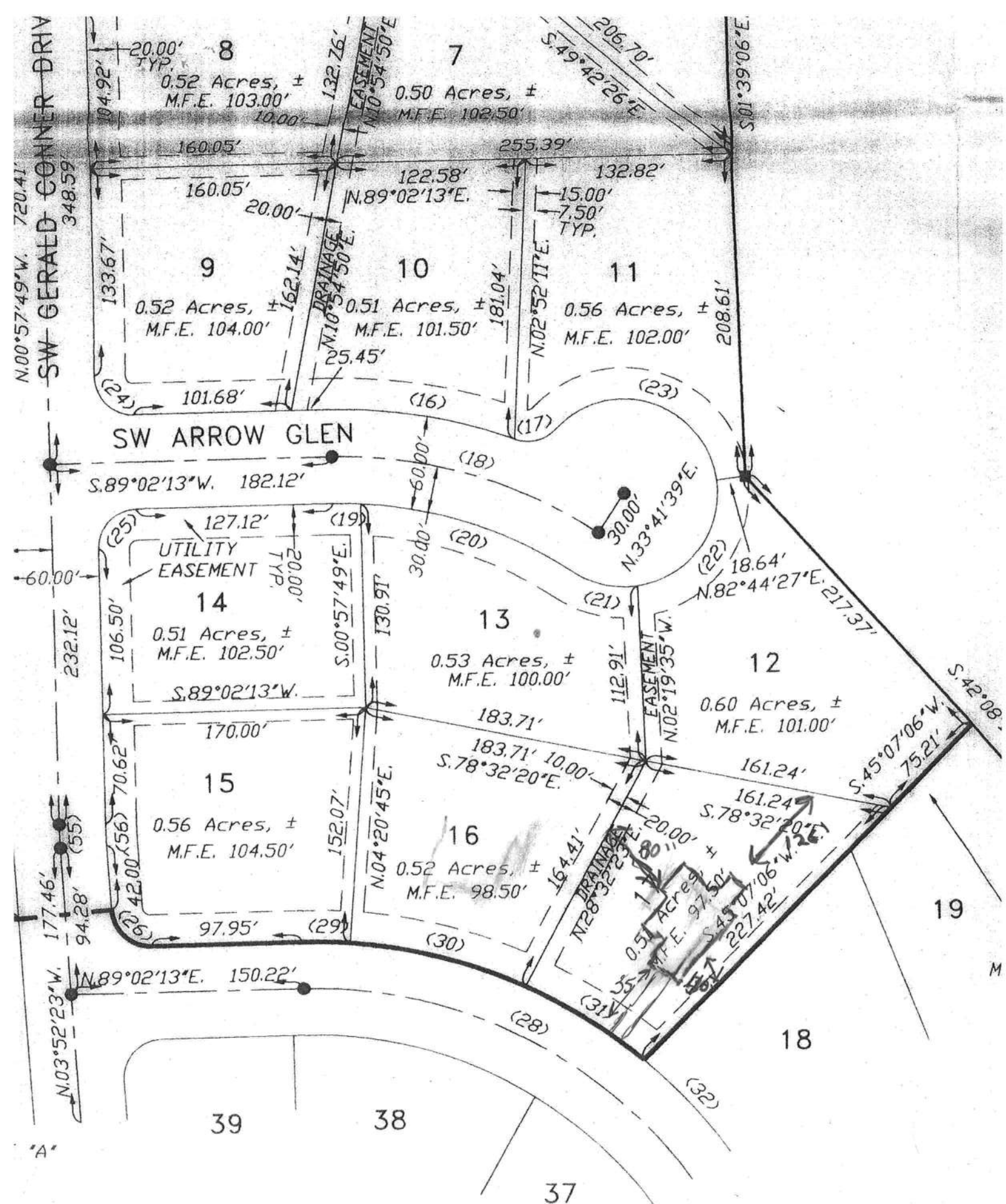
Personally known \_\_\_\_\_ or Produced Identification \_\_\_\_\_

Deong J Rohner  
 Contractor Signature  
 Contractors License Number CGC021619  
 Competency Card Number \_\_\_\_\_  
 NOTARY STAMP/SEAL

Robert  
 Notary Signature  


- To 1st Nelson for Green 7.22.07







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03:20:22 PM

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License Type	Name	Name Type	License Number/ Rank	Status/ Expires
Certified General Contractor	<u>ROHNER, GEORGE JOSEPH</u>	Primary	CGC021619 Cert General	Current, Active 08/31/2008

New 5

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	Columbia County	
36000	Land	001
	AG	000
	Bldg	000
	Xfea	000
36000	TOTAL	B

1	LOT 16 CANNON CREEK PLACE S/D.,	WD 1055-268.	2
3			4
5			6
7			8
9			10
11			12
13			14
15			16
17			18
19			20
21			22
23			24
25			26
27			28

Mnt 10/06/2005 CHUCK

**F1=Task F3=Exit F4=Prompt F10=GoTo PgUp/PgDn F24=More**

FILE COPY



NOTICE OF COMMENCEMENT FORM  
COLUMBIA COUNTY, FLORIDA

THIS DOCUMENT MUST BE RECORDED AT THE COUNTY  
CLERKS OFFICE BEFORE YOUR FIRST INSPECTION

THE UNDERSIGNED hereby gives notice that improvement will be made to certain real property, and  
in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of  
Commencement.

IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE  
RECORDING YOUR NOTICE OF COMMENCEMENT.

Tax Parcel ID Number 2445-16-03114-117 Permit Number 25700

1. Description of property: (legal description of the property and street address or 911 address)

161 SW ARROWBEND DRIVE, LAKE CITY FL 32024  
LOT 17 CANNON CREEK PLACE

2. General description of improvement:

Single Family Dwelling

3. Owner Name & Address

GRACE TALLEY  
21221 NW 238 AVENUE, HIGH SPRINGS, FL 32643 Interest in Property 100%

4. Name & Address of Fee Simple Owner (if other than owner):

5. Contractor Name GRACE BUILDERS, INC. Phone Number 386

Address 21221 NW 238th Ave - High Springs FL 32643

6. Surety Holders Name \_\_\_\_\_ Phone Number \_\_\_\_\_

Address \_\_\_\_\_

Amount of Bond \_\_\_\_\_ Inst: 2007007815 Date: 04/05/2007 Time: 14:01

7. Lender Name \_\_\_\_\_ DC, P. DeWitt Cason, Columbia County B: 1115 P: 2152

Address \_\_\_\_\_

8. Persons within the State of Florida designated by the Owner upon whom notices or other documents may be  
served as provided by section 718.13 (1)(a) 7; Florida Statutes:

Name \_\_\_\_\_ Phone Number \_\_\_\_\_

Address \_\_\_\_\_

9. In addition to himself/herself the owner designates \_\_\_\_\_ of

\_\_\_\_\_ to receive a copy of the Lien Notice as provided in Section 713.13 (1) -

(a) 7. Phone Number of the designee \_\_\_\_\_

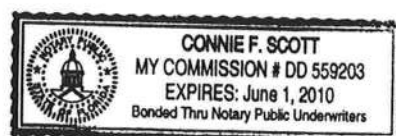
10. Expiration date of the Notice of Commencement (the expiration date is 1 (one) year from the date of  
recording, (Unless a different date is specified) \_\_\_\_\_

THE OWNER MUST SIGN THE NOTICE OF COMMENCEMENT AND NO ONE ELSE MAY BE PERMITTED TO SIGN  
IN HIS/HER STEAD.

[Signature]  
Signature of Owner

Sworn to (or affirmed) and subscribed before day of 5th April, 2007.

[Signature] NOTARY STAMP/SEAL  
Signature of Notary



# Columbia County Building Department Culvert Permit

Culvert Permit No.  
**000001362**

DATE 04/05/2007 PARCEL ID # 24-4S-16-03114-117  
APPLICANT GREG TALLEY PHONE 352.214.1055  
ADDRESS 21221 NW 238 TERRACE HIGH SPRINGS FL 32643  
OWNER GREG TALLEY PHONE 352.214.1055  
ADDRESS 161 SW ARROWBEND DRIVE LAKE CITY FL 32024  
CONTRACTOR G&J BUILDERS, INC. PHONE 352.  
LOCATION OF PROPERTY 47-S TO C-242,TR TO ARROWHEAD ROAD,TR TO CANNON CREEK PLACE S.D.  
TO ARROWBEND DRIVE,TL AND THE LOT IS ON THE R.

SUBDIVISION/LOT/BLOCK/PHASE/UNIT CANNON CREEK PLACE 17

SIGNATURE

*[Handwritten Signature: Greg Talley]*

## INSTALLATION REQUIREMENTS



Culvert size will be 18 inches in diameter with a total length of 32 feet, leaving 24 feet of driving surface. Both ends will be mitered 4 foot with a 4 : 1 slope and poured with a 4 inch thick reinforced concrete slab.

INSTALLATION NOTE: Turnouts will be required as follows:

- a) a majority of the current and existing driveway turnouts are paved, or;
  - b) the driveway to be served will be paved or formed with concrete.
- Turnouts shall be concrete or paved a minimum of 12 feet wide or the width of the concrete or paved driveway, whichever is greater. The width shall conform to the current and existing paved or concreted turnouts.



Culvert installation shall conform to the approved site plan standards.



Department of Transportation Permit installation approved standards.



Other \_\_\_\_\_

ALL PROPER SAFETY REQUIREMENTS SHOULD BE FOLLOWED  
DURING THE INSTALATION OF THE CULVERT.

135 NE Hernando Ave., Suite B-21  
Lake City, FL 32055  
Phone: 386-758-1008 Fax: 386-758-2160

Amount Paid 25.00





# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name: **Greg Talley**  
 Address: **Lot: 16, Sub: Cannon Creek, Plat:**  
 City, State: **Lake City, FL 32025-**  
 Owner: **Rosewood Model**  
 Climate Zone: **North**

Builder: **Greg Talley**  
 Permitting Office: **Columbia**  
 Permit Number: **25700**  
 Jurisdiction Number: **2270004**

1. New construction or existing New ☐
2. Single family or multi-family Single family ☐
3. Number of units, if multi-family 1 ☐
4. Number of Bedrooms 3 ☐
5. Is this a worst case? No ☐
6. Conditioned floor area (ft<sup>2</sup>) 1672 ft<sup>2</sup> ☐
7. Glass type<sup>1</sup> and area: (Label reqd. by 13-104.4.5 if not default)
  - a. U-factor: Description Area  
 (or Single or Double DEFAULT) 7a(Sngle Default) 253.7 ft<sup>2</sup> ☐
  - b. SHGC:  
 (or Clear or Tint DEFAULT) 7b. (Clear) 253.7 ft<sup>2</sup> ☐
8. Floor types
  - a. Slab-On-Grade Edge Insulation R=0.0, 180.0(p) ft ☐
  - b. N/A ☐
  - c. N/A ☐
9. Wall types
  - a. Frame, Wood, Exterior R=13.0, 974.3 ft<sup>2</sup> ☐
  - b. Frame, Wood, Adjacent R=13.0, 172.0 ft<sup>2</sup> ☐
  - c. N/A ☐
  - d. N/A ☐
  - e. N/A ☐
10. Ceiling types
  - a. Under Attic R=30.0, 1750.0 ft<sup>2</sup> ☐
  - b. N/A ☐
  - c. N/A ☐
11. Ducts(Leak Free)
  - a. Sup: Unc. Ret: Unc. AH: Garage Sup. R=6.0, 50.0 ft ☐
  - b. N/A ☐

12. Cooling systems
  - a. Central Unit Cap: 40.0 kBtu/hr  
SEER: 12.00 ☐
  - b. N/A ☐
  - c. N/A ☐
13. Heating systems
  - a. Electric Heat Pump Cap: 40.0 kBtu/hr  
HSPF: 7.20 ☐
  - b. N/A ☐
  - c. N/A ☐
14. Hot water systems
  - a. Electric Resistance Cap: 50.0 gallons  
EF: 0.90 ☐
  - b. N/A ☐
  - c. Conservation credits  
 (HR-Heat recovery, Solar  
 DHP-Dedicated heat pump) ☐
15. HVAC credits PT, ☐

(CF-Ceiling fan, CV-Cross ventilation,  
 HF-Whole house fan,  
 PT-Programmable Thermostat,  
 MZ-C-Multizone cooling,  
 MZ-H-Multizone heating)

Glass/Floor Area: 0.15

Total as-built points: 23668

Total base points: 24758

**PASS**

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: *John M. ...*DATE: 1-4-07

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: \_\_\_\_\_

DATE: \_\_\_\_\_

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: \_\_\_\_\_

DATE: \_\_\_\_\_



<sup>1</sup> Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

**SUMMER CALCULATIONS****Residential Whole Building Performance Method A - Details**

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

BASE				AS-BUILT						
<b>GLASS TYPES</b>										
.18 X Conditioned X BSPM = Points Floor Area				Type/SC	Overhang Ornt Len Hgt		Area X	SPM X	SOF =	Points
.18	1672.0	20.04	6031.2	Single, Clear	W	1.5 8.0	90.0	43.84	0.96	3780.1
				Single, Clear	W	13.5 8.0	30.0	43.84	0.43	561.4
				Single, Clear	SW	13.5 8.0	20.0	45.75	0.41	373.1
				Single, Clear	S	13.5 8.0	15.0	40.81	0.46	282.1
				Single, Clear	N	1.5 8.0	30.0	21.73	0.97	630.5
				Single, Clear	N	1.5 8.0	2.7	21.73	0.97	56.7
				Single, Clear	E	7.5 8.0	30.0	47.92	0.53	766.9
				Single, Clear	E	1.5 8.0	16.0	47.92	0.96	734.2
				Single, Clear	S	1.5 8.0	20.0	40.81	0.92	753.6
				As-Built Total:			253.7			7938.6
<b>WALL TYPES</b> Area X BSPM = Points				Type	R-Value		Area X	SPM	=	Points
Adjacent	172.0	0.70	120.4	Frame, Wood, Exterior	13.0		974.3	1.50		1461.4
Exterior	974.3	1.70	1656.3	Frame, Wood, Adjacent	13.0		172.0	0.60		103.2
Base Total:	1146.3		1776.7	As-Built Total:			1146.3			1564.6
<b>DOOR TYPES</b> Area X BSPM = Points				Type			Area X	SPM	=	Points
Adjacent	20.0	1.60	32.0	Exterior Insulated			20.0	4.10		82.0
Exterior	20.0	4.10	82.0	Adjacent Insulated			20.0	1.60		32.0
Base Total:	40.0		114.0	As-Built Total:			40.0			114.0
<b>CEILING TYPES</b> Area X BSPM = Points				Type	R-Value		Area X	SPM X SCM	=	Points
Under Attic	1672.0	1.73	2892.6	Under Attic	30.0		1750.0	1.73 X 1.00		3027.5
Base Total:	1672.0		2892.6	As-Built Total:			1750.0			3027.5
<b>FLOOR TYPES</b> Area X BSPM = Points				Type	R-Value		Area X	SPM	=	Points
Slab	180.0(p)	-37.0	-6660.0	Slab-On-Grade Edge Insulation	0.0		180.0(p)	-41.20		-7416.0
Raised	0.0	0.00	0.0							
Base Total:			-6660.0	As-Built Total:			180.0			-7416.0
<b>INFILTRATION</b> Area X BSPM = Points							Area X	SPM	=	Points
	1672.0	10.21	17071.1				1672.0	10.21		17071.1



**SUMMER CALCULATIONS****Residential Whole Building Performance Method A - Details**

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

BASE				AS-BUILT									
Summer Base Points: 21225.6				Summer As-Built Points: 22299.9									
Total Summer Points	X	System Multiplier	= Cooling Points	Total Component (System - Points)	X	Cap Ratio (DM x DSM x AHU)	X	Duct Multiplier	X	System Multiplier	X	Credit Multiplier	= Cooling Points
21225.6		0.4266	9054.9	(sys 1: Central Unit 40000 btuh ,SEER/EFF(12.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0(INS) 22300 1.00 (1.09 x 1.000 x 1.00) 0.284 0.950 6567.6 22299.9 1.00 1.090 0.284 0.950 6567.6									

# WINTER CALCULATIONS

## Residential Whole Building Performance Method A - Details

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

BASE				AS-BUILT							
GLASS TYPES .18 X Conditioned X BWPM = Points Floor Area				Type/SC	Overhang Ornt Len Hgt		Area X WPM X WOF = Points				
.18	1672.0	12.74	3834.2	Single, Clear	W	1.5	8.0	90.0	28.84	1.01	2624.5
				Single, Clear	W	13.5	8.0	30.0	28.84	1.21	1050.6
				Single, Clear	SW	13.5	8.0	20.0	24.09	1.87	902.7
				Single, Clear	S	13.5	8.0	15.0	20.24	3.42	1037.3
				Single, Clear	N	1.5	8.0	30.0	33.22	1.00	997.5
				Single, Clear	N	1.5	8.0	2.7	33.22	1.00	89.8
				Single, Clear	E	7.5	8.0	30.0	26.41	1.27	1005.1
				Single, Clear	E	1.5	8.0	16.0	26.41	1.02	430.9
				Single, Clear	S	1.5	8.0	20.0	20.24	1.04	421.4
				As-Built Total:				253.7		8559.9	
WALL TYPES Area X BWPM = Points				Type	R-Value		Area X WPM = Points				
Adjacent	172.0	3.60	619.2	Frame, Wood, Exterior	13.0		974.3	3.40		3312.6	
Exterior	974.3	3.70	3604.9	Frame, Wood, Adjacent	13.0		172.0	3.30		567.6	
Base Total: 1146.3 4224.1				As-Built Total:				1146.3		3880.2	
DOOR TYPES Area X BWPM = Points				Type	Area X WPM = Points						
Adjacent	20.0	8.00	160.0	Exterior Insulated	20.0 8.40 168.0						
Exterior	20.0	8.40	168.0	Adjacent Insulated	20.0 8.00 160.0						
Base Total: 40.0 328.0				As-Built Total:				40.0		328.0	
CEILING TYPES Area X BWPM = Points				Type	R-Value		Area X WPM X WCM = Points				
Under Attic	1672.0	2.05	3427.6	Under Attic	30.0		1750.0	2.05 X 1.00		3587.5	
Base Total: 1672.0 3427.6				As-Built Total:				1750.0		3587.5	
FLOOR TYPES Area X BWPM = Points				Type	R-Value		Area X WPM = Points				
Slab	180.0(p)	8.9	1602.0	Slab-On-Grade Edge Insulation	0.0		180.0(p)	18.80		3384.0	
Raised	0.0	0.00	0.0								
Base Total: 1602.0				As-Built Total:				180.0		3384.0	
INFILTRATION Area X BWPM = Points				Area X WPM = Points							
1672.0 -0.59 -986.5				1672.0 -0.59 -986.5							



**WINTER CALCULATIONS****Residential Whole Building Performance Method A - Details**

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

BASE				AS-BUILT						
<b>Winter Base Points: 12429.5</b>				<b>Winter As-Built Points: 18753.1</b>						
Total Winter Points	X Multiplier	= Heating Points		Total Component (System - Points)	X Cap Ratio (DM x DSM x AHU)	X Duct Multiplier (1.069 x 1.000 x 1.00)	X System Multiplier 0.474	X Credit Multiplier 0.950	= Heating Points	
<b>12429.5</b>	<b>0.6274</b>	<b>7798.2</b>		(sys 1: Electric Heat Pump 40000 btuh ,EFF(7.2) Ducts:Unc(S),Unc(R),Gar(AH),R6.0 18753.1	<b>1.000</b>	<b>1.069</b>	<b>0.474</b>	<b>0.950</b>	<b>9019.8</b>	
				<b>18753.1</b>	<b>1.00</b>	<b>1.069</b>	<b>0.474</b>	<b>0.950</b>	<b>9019.8</b>	

**WATER HEATING & CODE COMPLIANCE STATUS**

## Residential Whole Building Performance Method A - Details

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

BASE					AS-BUILT					
WATER HEATING					Tank Volume	EF	Number of Bedrooms	X Tank Ratio	X Multiplier	X Credit = Total Multiplier
Number of Bedrooms	X	Multiplier	=	Total						
3		2635.00		7905.0	50.0	0.90	3	1.00	2693.56	1.00 8080.7
					As-Built Total:					8080.7

**CODE COMPLIANCE STATUS**

BASE					AS-BUILT				
Cooling Points	+	Heating Points	+	Hot Water Points = Total Points	Cooling Points	+	Heating Points	+	Hot Water Points = Total Points
9055		7798		7905 24758	6568		9020		8081 23668

**PASS**



# Code Compliance Checklist

## Residential Whole Building Performance Method A - Details

ADDRESS: Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

PERMIT #:

**6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST**

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	606.1.ABC.1.1	Maximum: .3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	
Exterior & Adjacent Walls	606.1.ABC.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	606.1.ABC.1.2.2	Penetrations/openings >1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	
Ceilings	606.1.ABC.1.2.3	Between walls & ceilings; penetrations of ceiling plane of top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	
Recessed Lighting Fixtures	606.1.ABC.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC rated with < 2.0 cfm from conditioned space, tested.	
Multi-story Houses	606.1.ABC.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	606.1.ABC.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

**6A-22 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)**

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	612.1	Comply with efficiency requirements in Table 612.1.ABC.3.2. Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	
Swimming Pools & Spas	612.1	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower heads	612.1	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	
Air Distribution Systems	610.1	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section 610. Ducts in unconditioned attics: R-6 min. insulation.	
HVAC Controls	607.1	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	604.1, 602.1	Ceilings-Min. R-19. Common walls-Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

Tested sealed ducts must be certified in this house.

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

**ESTIMATED ENERGY PERFORMANCE SCORE\* = 84.2**

**The higher the score, the more efficient the home.**

Rosewood Model, Lot: 16, Sub: Cannon Creek, Plat: , Lake City, FL, 32025-

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 40.0 kBtu/hr
3. Number of units, if multi-family	1		SEER: 12.00
4. Number of Bedrooms	3	b. N/A	
5. Is this a worst case?	No	c. N/A	
6. Conditioned floor area (ft <sup>2</sup> )	1672 ft <sup>2</sup>		
7. Glass type <sup>1</sup> and area: (Label reqd. by 13-104.4.5 if not default)		13. Heating systems	
a. U-factor:	Description Area	a. Electric Heat Pump	Cap: 40.0 kBtu/hr
(or Single or Double DEFAULT)	7a(Sngle Default) 253.7 ft <sup>2</sup>		HSPF: 7.20
b. SHGC:		b. N/A	
(or Clear or Tint DEFAULT)	7b. (Clear) 253.7 ft <sup>2</sup>	c. N/A	
8. Floor types		14. Hot water systems	
a. Slab-On-Grade Edge Insulation	R=0.0, 180.0(p) ft	a. Electric Resistance	Cap: 50.0 gallons
b. N/A			EF: 0.90
c. N/A		b. N/A	
9. Wall types		c. Conservation credits	
a. Frame, Wood, Exterior	R=13.0, 974.3 ft <sup>2</sup>	(HR-Heat recovery, Solar	
b. Frame, Wood, Adjacent	R=13.0, 172.0 ft <sup>2</sup>	DHP-Dedicated heat pump)	
c. N/A		15. HVAC credits	PT,
d. N/A		(CF-Ceiling fan, CV-Cross ventilation,	
e. N/A		HF-Whole house fan,	
10. Ceiling types		PT-Programmable Thermostat,	
a. Under Attic	R=30.0, 1750.0 ft <sup>2</sup>	MZ-C-Multizone cooling,	
b. N/A		MZ-H-Multizone heating)	
c. N/A			
11. Ducts(Leak Free)			
a. Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 50.0 ft		
b. N/A			

I certify that this home has complied with the Florida Energy Efficiency Code For Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Address of New Home: \_\_\_\_\_ City/FL Zip: \_\_\_\_\_



*\*NOTE: The home's estimated energy performance score is only available through the FLA/RES computer program. This is not a Building Energy Rating. If your score is 80 or greater (or 86 for a US EPA/DOE EnergyStar™ designation), your home may qualify for energy efficiency mortgage (EEM) incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at 321/638-1492 or see the Energy Gauge web site at [www.fsec.ucf.edu](http://www.fsec.ucf.edu) for information and a list of certified Raters. For information about Florida's Energy Efficiency Code For Building Construction, contact the Department of Community Affairs at 850/487-1824.*

<sup>1</sup> Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.  
EnergyGauge® (Version: FLRCPB v4.1)



# Energy Code Compliance

## Duct System Performance Report

Project Name: Greg Talley Address: City, State: Lake City, FL 32025- Owner: Rosewood Model Climate Zone: North	Builder: Greg Talley Permitting Office: Permit Number: Jurisdiction Number:
--	--

### Total Duct System Leakage Test Results

CFM25 Total Duct Leakage Test Values			
Line	System	Duct Leakage Total	Duct Leakage to Outdoors
1	System1	_____ cfm25 <sub>(tot)</sub>	_____ cfm25 <sub>(out)</sub>
2	System2	_____ cfm25 <sub>(tot)</sub>	_____ cfm25 <sub>(out)</sub>
3	System3	_____ cfm25 <sub>(tot)</sub>	_____ cfm25 <sub>(out)</sub>
4	System4	_____ cfm25 <sub>(tot)</sub>	_____ cfm25 <sub>(out)</sub>
5	<b>Total House Duct System Leakage</b>	Sum lines 1-4 _____  Divide by _____ (Total Conditioned Floor Area)  = _____ (Q <sub>n,tot</sub> )  <input type="checkbox"/> Receive credit if Q <sub>n,tot</sub> ≤ 0.03	Sum lines 1-4 _____  Divide by _____ (Total Conditioned Floor Area)  = _____ (Q <sub>n,out</sub> )  <input type="checkbox"/> Receive credit if Q <sub>n,out</sub> ≤ 0.03 AND Q <sub>n,tot</sub> ≤ 0.09

I hereby certify that the above duct testing performance results demonstrate compliance with the Florida Energy Code requirements in accordance with Section 610.1.A.1, Florida Building Code, Building Volume, Chapter 13 for leak free duct system credit.

**Signature:** \_\_\_\_\_  
**Printed Name:** \_\_\_\_\_  
**Florida Rater Certification #:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_

Florida Building Code requires that testing to confirm leak free duct systems be performed by a Class 1 Florida Energy Gauge Certified Energy Rater. Certified Florida Class 1 raters can be found at: <http://energygauge.com/search.htm>



**BUILDING OFFICIAL:** \_\_\_\_\_  
**DATE:** \_\_\_\_\_



STATE OF FLORIDA  
DEPARTMENT OF HEALTH

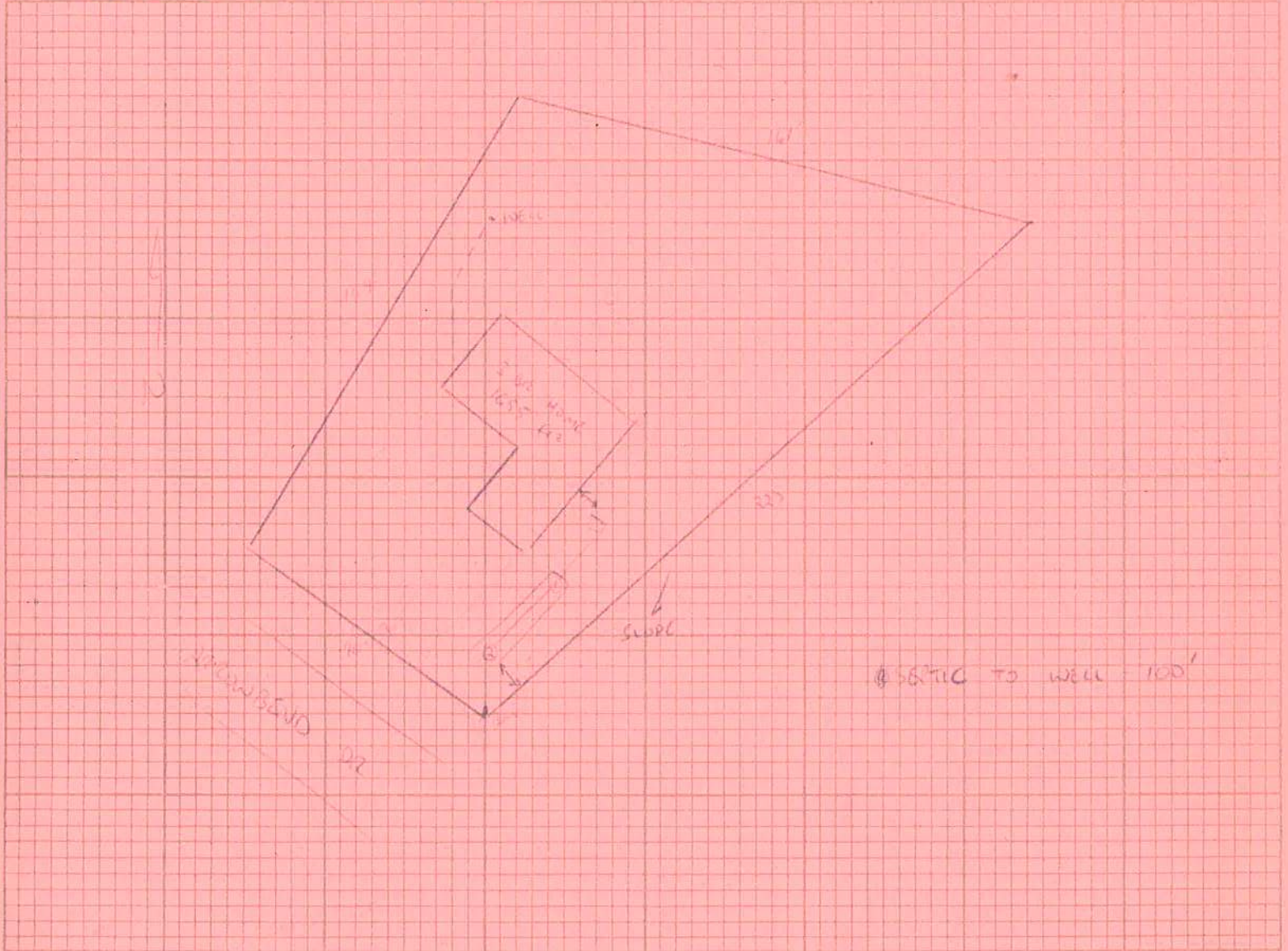
07-0235-N

APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 12-SG-113123

PART II - SITE PLAN

Scale: Each block represents 5 feet and 1 inch = 50 feet.



Notes: SEE SITE 1

Site Plan submitted by: [Signature] Signature

Plan Approved [Signature] Not Approved \_\_\_\_\_ Date 11/13

By \_\_\_\_\_ County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT



25700

Land Surveyors  
and Mappers



## BRITT SURVEYING

830 West Duval Street • Lake City, FL 32055  
Phone (386) 752-7163 • Fax (386) 752-5573

---

04/27/07

L-18353

To Whom It May Concern:

C/o: G & J Builders

Re: Lot 17 Cannon Creek Place

The elevation of the foundation wall is found to be 98.33 feet. The minimum finished floor elevation is 97.50 feet according to the plat of record. The highest adjacent grade is 97.39 feet and the lowest adjacent grade is 97.17 feet. The elevations shown hereon are based on NGVD 29 datum.

L. Scott Britt  
PLS #5757

**COLUMBIA COUNTY**  
**OFFICE OF**  
**ALLEN**

# OCCUPANCY

**COLUMBIA COUNTY, FLORIDA**

## Department of Building and Zoning Inspection

*This Certificate of Occupancy is issued to the below named permit holder for the building and premises at the below named location, and certifies that the work has been completed in accordance with the Columbia County Building Code.*

Parcel Number 24-4S-16-03114-117

Building permit No. 000025700

Use Classification SFD/UTILITY

Fire: 57.78

Permit Holder G&J BUILDERS, INC.(G. ROHNER)

Waste: 150.75

Owner of Building GREG TALLEY

Total: 208.53

Location: 161 SW ARROWBEND DR., LAKE CITY, FL

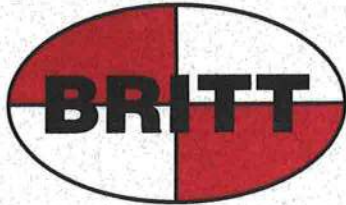
Date: 01/08/2008

Building Inspector

**POST IN A CONSPICUOUS PLACE**  
*(Business Places Only)*







## BRITT SURVEYING

830 West Duval Street • Lake City, FL 32055  
Phone (386) 752-7163 • Fax (386) 752-5573

---

*Land Surveyors  
and Mappers*

02/11/08

L-19092

To Whom It May Concern:

C/o: G & J Builders

Re: Lot 17 Cannon Creek Place

The elevation of the foundation is found to be 98.39 feet. The recommended finished floor elevation is 97.50 feet as per the plat of record. The highest adjacent grade is 152.57 feet on the building pad. The highest adjacent grade is 98.0 feet and the lowest adjacent grade is 96.84 feet. The centerline of the adjacent road SW Arrowbend Drive is 95.83 feet. The elevations shown hereon are based on NGVD 29 Datum.

L. Scott Britt  
PLS #5757

5700



**JANUARY 31, 2007 TRUSS DESIGN ENGINEER:**  
**THOMAS E. MILLER PE 56877, BYRON K. ANDERSON PE 60987**  
**STRUCTURAL ENGINEERING AND INSPECTIONS, INC. EB 9196**  
**16105 N. FLORIDA AVE. STE B. LUTZ, FL 33549**

# LATERAL TOE-NAIL DETAIL

## ST-TOENAIL

MITek Industries, Chesterfield, MO Page 1 of 1

### NOTES:

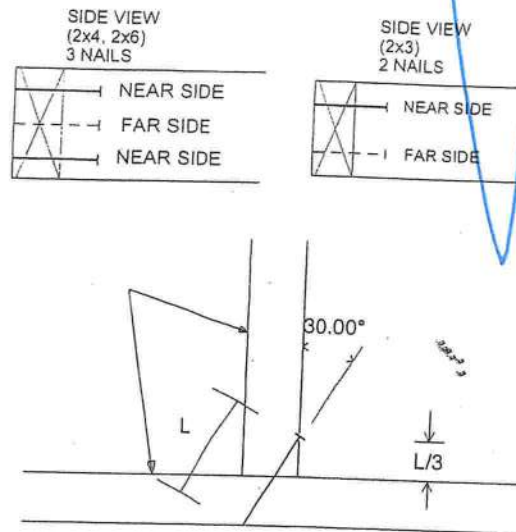
1. TOE-NAILS SHALL BE DRIVEN AT AN ANGLE OF 30 DEGREES WITH THE MEMBER AND STARTED 1/3 THE LENGTH OF THE NAIL FROM THE MEMBER END AS SHOWN.
2. THE END DISTANCE, EDGE DISTANCE, AND SPACING OF NAILS SHALL BE SUCH AS TO AVOID UNUSUAL SPLITTING OF THE WOOD.
3. ALLOWABLE VALUE SHALL BE THE LESSER VALUE OF THE BOTTOM CHORD SPECIES FOR MEMBERS OF DIFFERENT SPECIES.

TOE-NAIL SINGLE SHEAR VALUES PER NDS 2001 (lb/nail)

	DIAM.	SYP
3.5" LONG	.131	83.3
	.135	89.6
	.162	118.3
3.25" LONG	.128	80.5
	.131	83.3
	.148	102.1
3.0" LONG	.120	70.5
	.128	80.5
	.131	83.3
	.148	102.1

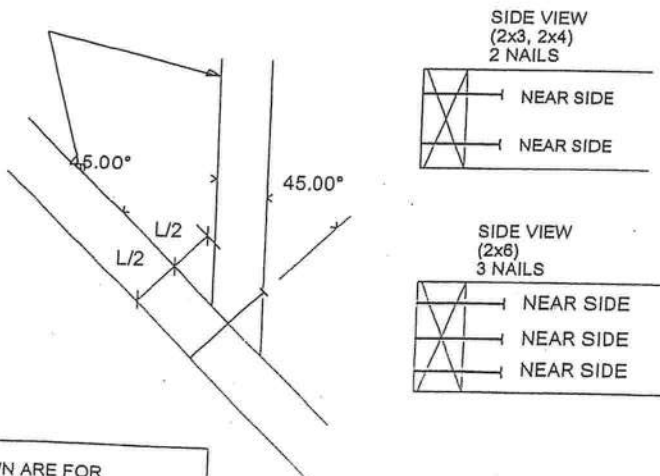
VALUES SHOWN ARE CAPACITY PER TOE-NAIL.  
APPLICABLE DURATION OF LOAD INCREASES MAY BE APPLIED.

### SQUARE CUT



### 45 DEGREE ANGLE BEVEL CUT

This detail may only be applied to Pre-engineered truss drawings signed and sealed by Structural Engineering and Inspections Inc.



VIEWS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY

The seal on this drawing indicates acceptance of professional engineering responsibility solely for the truss component design shown. The suitability and use of this component for any particular building design is the responsibility of the building designer.

JAN 31 2007



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## **Licensee Details**

### **Licensee Information**

**Name:** **ROHNER, GEORGE JOSEPH (Primary Name)**  
**R B K BUILDERS INC (DBA Name)**  
**Main Address:** **3031 SW 108 WAY**  
**PO BOX 290023**  
**DAVIE Florida 33329-0023**  
**County:** **BROWARD**

**License Mailing:**

**LicenseLocation:** **3031 SW 108 WAY**  
**PO BOX 290023**  
**DAVIE FL 33329-0023**  
**County:** **BROWARD**

### **License Information**

**License Type:** **Certified General Contractor**  
**Rank:** **Cert General**  
**License Number:** **CGC021619**  
**Status:** **Current,Active**  
**Licensure Date:** **03/14/1982**  
**Expires:** **08/31/2008**

### **Special Qualifications Qualification Effective**

**Bldg Code Core Course Credit**

**Qualified Business License Required** **02/20/2004**

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Job L223413	Truss CJ3	Truss Type JACK	Qty 16	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:51:49 2007 Page 1		

Scale = 1:10.1

LOADING (psf)	SPACING	2-0-0	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	Plates Increase	1.25	TC 0.21	Vert(LL)	0.01	2-4	>999	240	MT20	244/190
TCDL 7.0	Lumber Increase	1.25	BC 0.10	Vert(TL)	-0.01	2-4	>999	180		
BCLL 10.0	Rep Stress Incr	YES	WB 0.00	Horz(TL)	-0.00	3	n/a	n/a		
BCDL 5.0	Code FBC2004/TPI2002		(Matrix)							
Weight: 12 lb										

<b>LUMBER</b> TOP CHORD 2 X 4 SYP No.2 BOT CHORD 2 X 4 SYP No.2	<b>BRACING</b> TOP CHORD Structural wood sheathing directly applied or 3-0-0 oc purlins. BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
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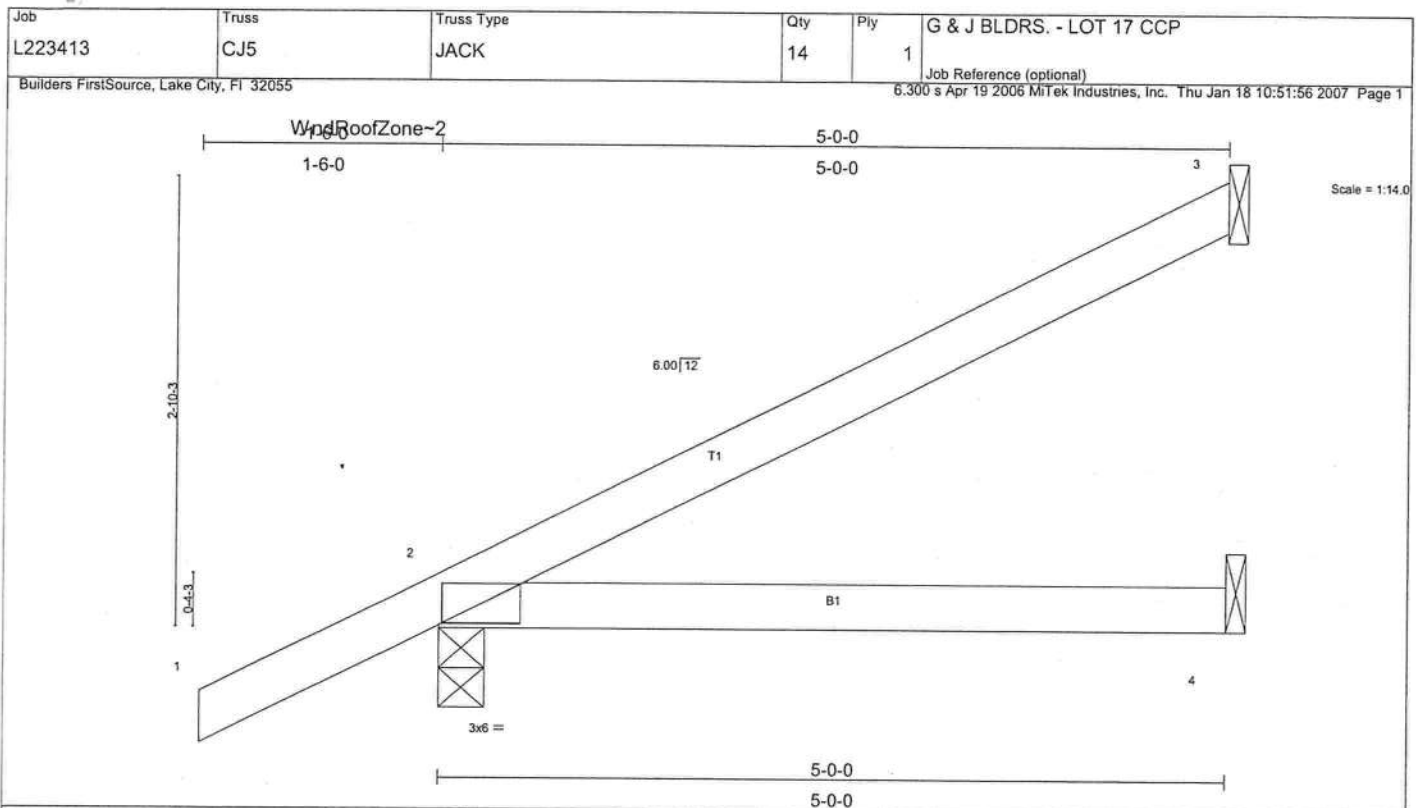
**REACTIONS** (lb/size) 3=49/Mechanical, 2=232/0-3-8, 4=42/Mechanical  
 Max Horz 2=140(load case 5)  
 Max Uplift 3=48(load case 5), 2=-234(load case 5), 4=-34(load case 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/35, 2-3=53/16  
 BOT CHORD 2-4=0/0

**JOINT STRESS INDEX**  
 2 = 0.13

**NOTES**  
 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Exterior(2) zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.  
 2) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi  
 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 3, 234 lb uplift at joint 2 and 34 lb uplift at joint 4.

**LOAD CASE(S)** Standard



LOADING (psf)	SPACING	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.31	Vert(LL)	0.11	2-4	>547	240	MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.30	Vert(TL)	0.09	2-4	>621	180		
BCLL 10.0	Lumber Increase 1.25	WB 0.00	Horz(TL)	-0.00	3	n/a	n/a		
BCDL 5.0	Rep Stress Incr YES	(Matrix)							
	Code FBC2004/TP12002								
								Weight: 18 lb	

**LUMBER**  
TOP CHORD 2 X 4 SYP No.2  
BOT CHORD 2 X 4 SYP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 3=114/Mechanical, 2=305/0-3-8, 4=72/Mechanical  
Max Horz 2=196(load case 5)  
Max Uplift 3=-127(load case 5), 2=-274(load case 5), 4=-58(load case 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-114/41  
BOT CHORD 2-4=0/0

**JOINT STRESS INDEX**  
2 = 0.16

#### NOTES

- 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Exterior(2) zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.
- 2) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 127 lb uplift at joint 3, 274 lb uplift at joint 2 and 58 lb uplift at joint 4.

**LOAD CASE(S)** Standard



Job L223413	Truss EJ5	Truss Type JACK	Qty 5	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional) 6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:52:02 2007 Page 1		

Scale = 1:14.0

<b>LOADING (psf)</b>	<b>SPACING</b> 2-0-0	<b>CSI</b>	<b>DEFL</b> in (loc) l/defl L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plates Increase 1.25	TC 0.31	Vert(LL) 0.11 2-4 >547 240	MT20	244/190
TCDL 7.0	Lumber Increase 1.25	BC 0.30	Vert(TL) 0.09 2-4 >621 180		
BCLL 10.0	Rep Stress Incr YES	WB 0.00	Horz(TL) -0.00 3 n/a n/a		
BCDL 5.0	Code FBC2004/TPI2002	(Matrix)			
				Weight: 18 lb	

<b>LUMBER</b>	<b>BRACING</b>
TOP CHORD 2 X 4 SYP No.2	TOP CHORD Structural wood sheathing directly applied or 5-0-0 oc purlins.
BOT CHORD 2 X 4 SYP No.2	BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

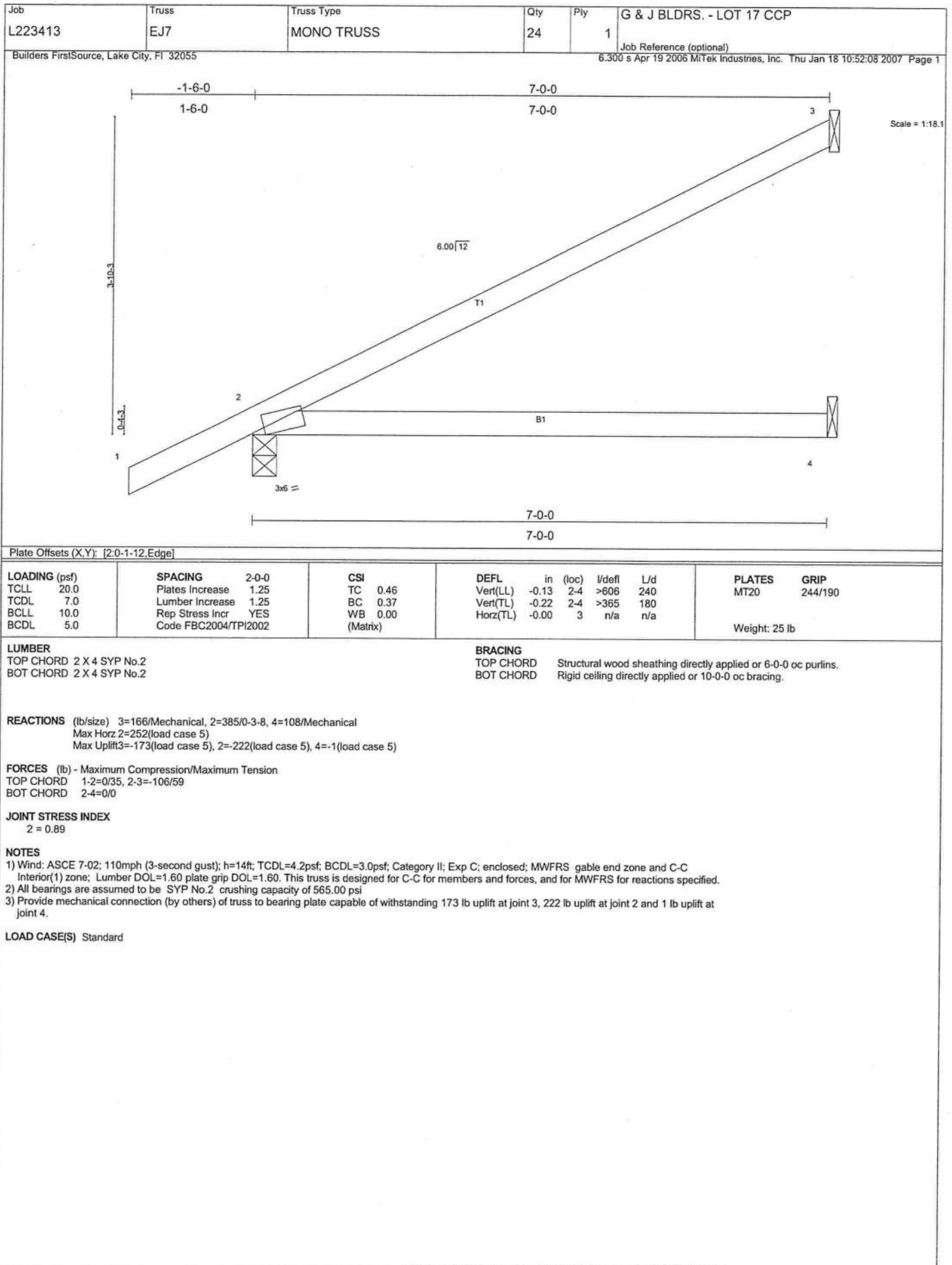
**REACTIONS** (lb/size) 3=114/Mechanical, 2=305/0-3-8, 4=72/Mechanical  
 Max Horz 2=196(load case 5)  
 Max Uplift 3=-127(load case 5), 2=-274(load case 5), 4=-58(load case 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/35, 2-3=-114/41  
 BOT CHORD 2-4=0/0

**JOINT STRESS INDEX**  
 2 = 0.16

**NOTES**  
 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Exterior(2) zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.  
 2) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi  
 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 127 lb uplift at joint 3, 274 lb uplift at joint 2 and 58 lb uplift at joint 4.

**LOAD CASE(S)** Standard



Job L223413	Truss EJ7A	Truss Type MONO TRUSS	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional) 6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:52:13 2007 Page 1		

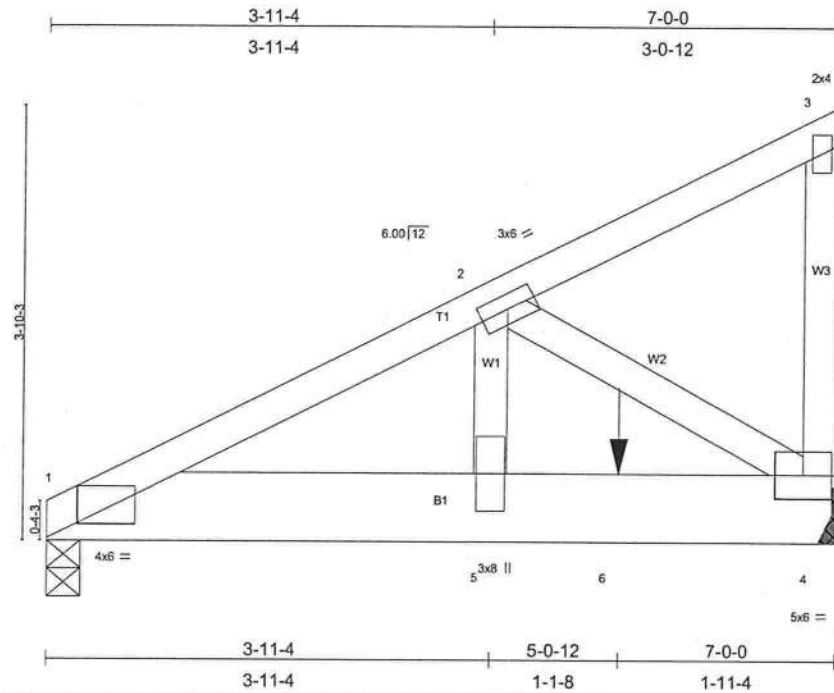


Plate Offsets (X,Y): [1:0-2-4,0-2-0]

LOADING (psf)	SPACING	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.33	Vert(LL) -0.02	4-5	>999	240		MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.54	Vert(TL) -0.03	4-5	>999	180			
BCLL 10.0	Lumber Increase 1.25	WB 0.40	Horz(TL) 0.01	4	n/a	n/a			
BCDL 5.0	Rep Stress Incr NO	(Matrix)							
	Code FBC2004/TPI2002								
								Weight: 44 lb	

**LUMBER**

TOP CHORD 2 X 4 SYP No.2  
 BOT CHORD 2 X 8 SYP No.1D  
 WEBS 2 X 4 SYP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-1-9 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=866/0-3-8, 4=1482/Mechanical

Max Horz 1=185(load case 4)

Max Uplift 1=382(load case 4), 4=778(load case 4)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1484/627, 2-3=-79/0, 3-4=-66/72

BOT CHORD 1-5=-688/1290, 5-6=-688/1290, 4-6=-688/1290

WEBS 2-5=-540/1236, 2-4=-1477/785

**JOINT STRESS INDEX**

1 = 0.63, 2 = 0.92, 3 = 0.52, 4 = 0.38 and 5 = 0.40

**NOTES**

- 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone; Lumber DOL=1.60 plate grip DOL=1.60.
- 2) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 382 lb uplift at joint 1 and 778 lb uplift at joint 4.
- 4) Girder carries tie-in span(s): 5-0-0 from 0-0-0 to 4-0-0
- 5) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1546 lb down and 763 lb up at 5-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 6) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

1) Regular: Lumber Increase=1.25, Plate Increase=1.25

Uniform Loads (plf)

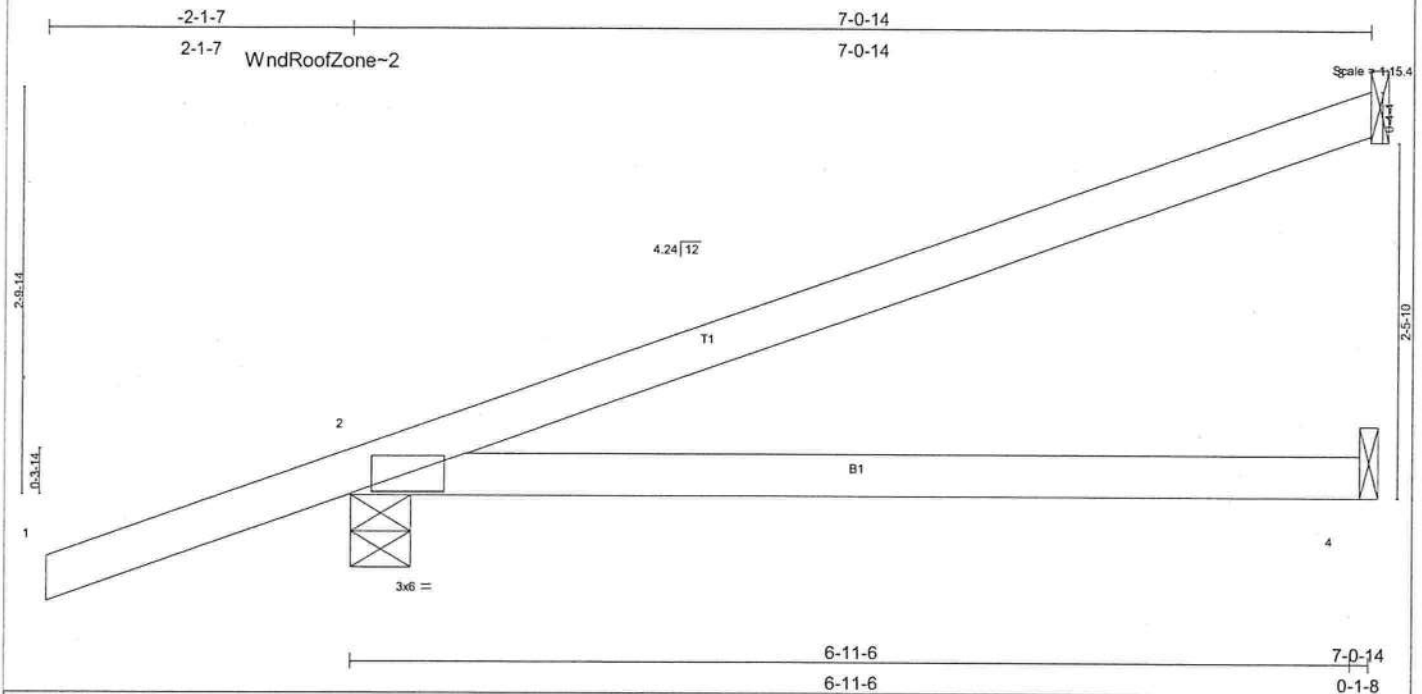
Vert: 1-5=-93(F=-63), 4-5=-30, 1-3=-54

Concentrated Loads (lb)

Vert: 6=-1546(F)



Job L223413	Truss HJ7	Truss Type MONO TRUSS	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:52:19 2007 Page 1		



LOADING (psf)	SPACING	CSI	DEFL	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.49	in (loc) l/defl L/d	MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.32	Vert(LL) 0.15 2-4 >548 240		
BCLL 10.0	Lumber Increase 1.25	WB 0.00	Vert(TL) -0.16 2-4 >496 180		
BCDL 5.0	Rep Stress Incr NO	(Matrix)	Horz(TL) -0.00 3 n/a n/a		
	Code FBC2004/TPI2002			Weight: 25 lb	

**LUMBER**  
TOP CHORD 2 X 4 SYP No.2  
BOT CHORD 2 X 4 SYP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 7-0-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 3=199/Mechanical, 2=321/0-4-15, 4=118/Mechanical  
Max Horz 2=182(load case 2)  
Max Uplift 3=204(load case 2), 2=344(load case 2), 4=75(load case 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/37, 2-3=-88/47  
BOT CHORD 2-4=0/0

**JOINT STRESS INDEX**  
2 = 0.40

#### NOTES

- 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60.
- 2) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 204 lb uplift at joint 3, 344 lb uplift at joint 2 and 75 lb uplift at joint 4.
- 4) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

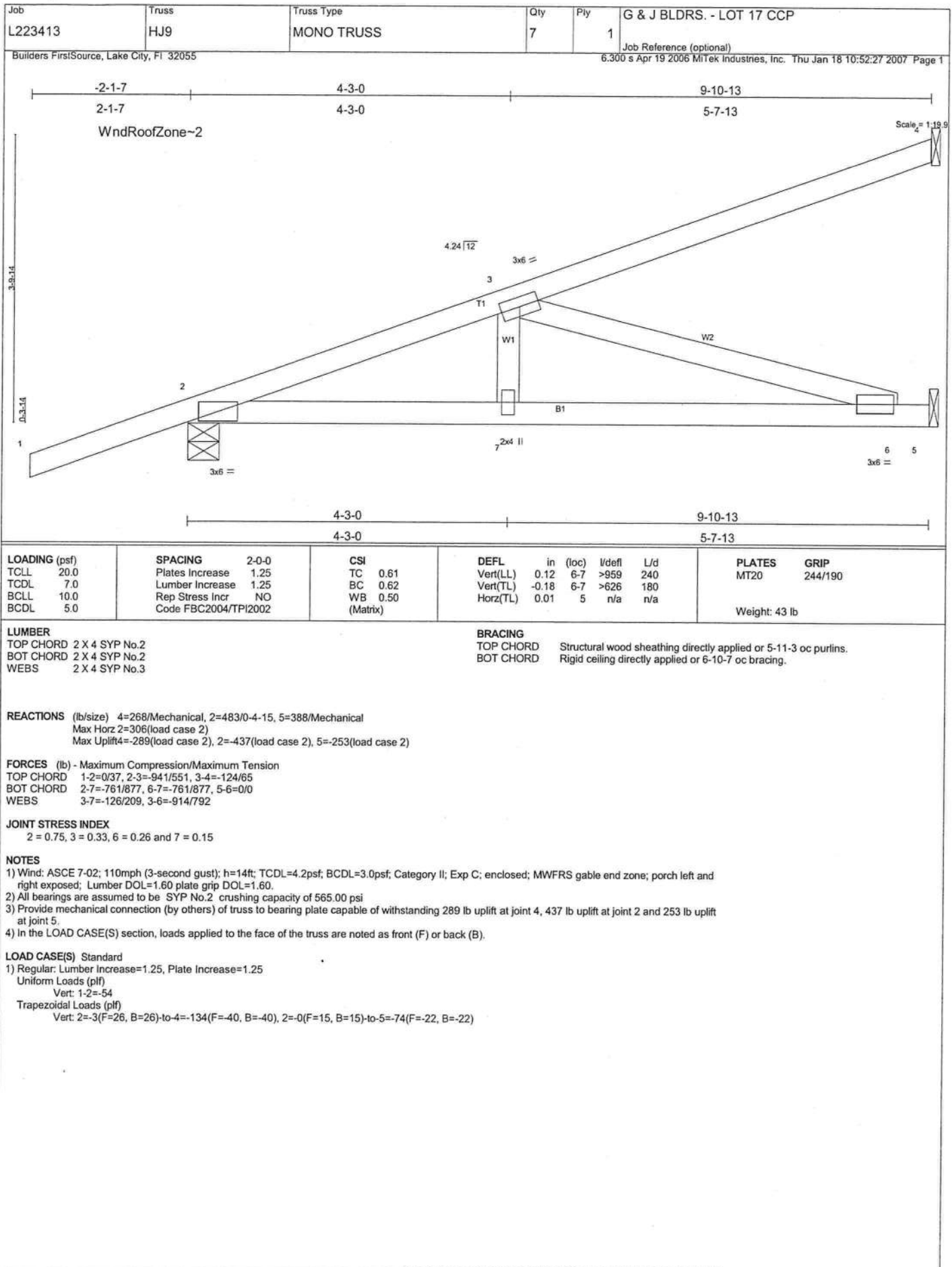
- 1) Regular: Lumber Increase=1.25, Plate Increase=1.25

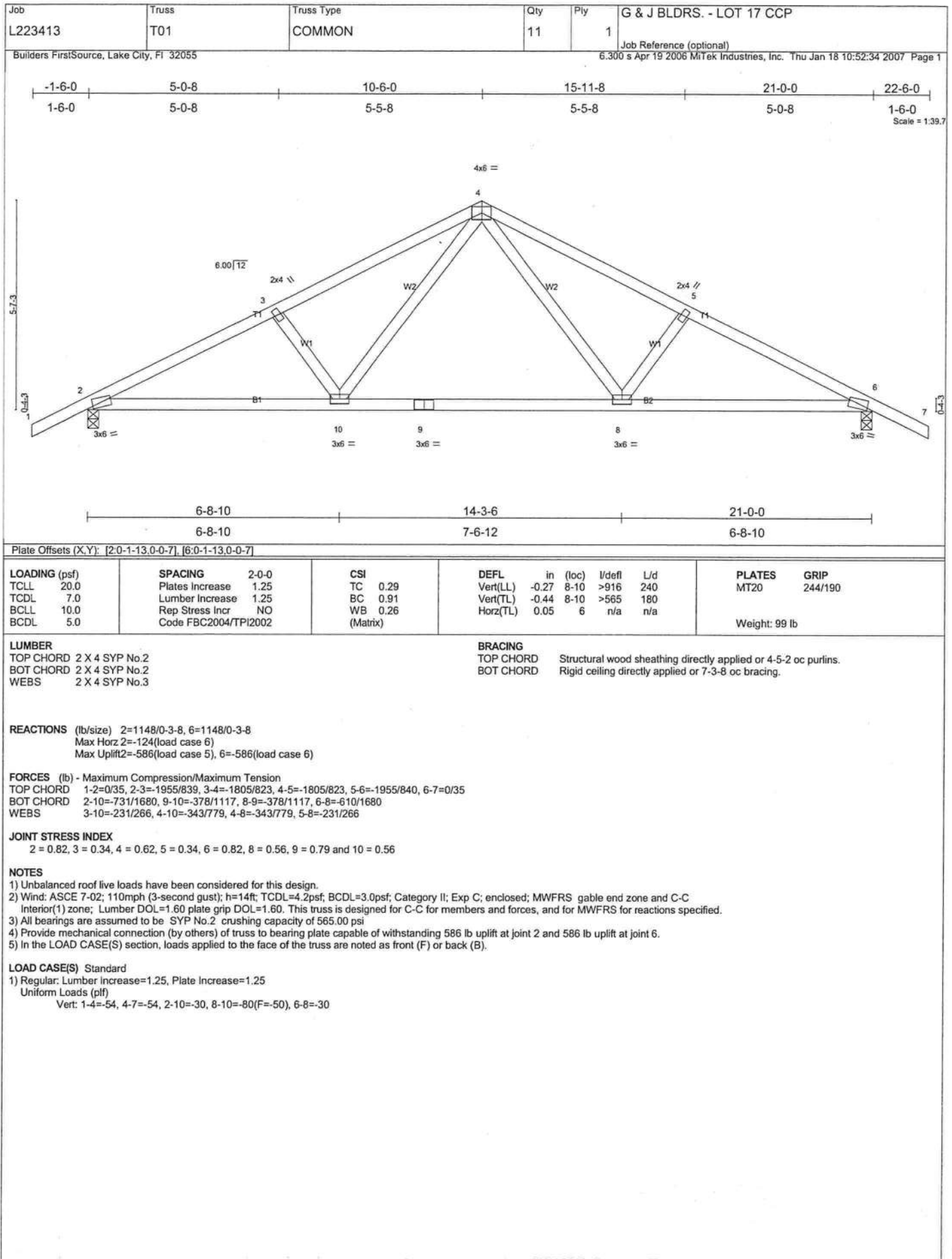
Uniform Loads (plf)

Vert: 1-2=-54

Trapezoidal Loads (plf)

Vert: 2=-3(F=26, B=26)-to-3=-95(F=-21, B=-21), 2=-0(F=15, B=15)-to-4=-53(F=-12, B=-12)









Job L223413	Truss T02	Truss Type HIP	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional) 6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:52:49 2007 Page 1		

Scale = 1:34.2

Plate Offsets (X,Y): [2.0-1-11.Edge], [5.0-0-0-0-4]								
LOADING (psf)	SPACING 2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plates Increase 1.25	TC 0.53	Vert(LL) -0.15	5-6	>999	240	MT20	244/190
TCDL 7.0	Lumber Increase 1.25	BC 0.79	Vert(TL) -0.25	5-6	>884	180		
BCLL 10.0	Rep Stress Incr NO	WB 0.28	Horz(TL) 0.08	5	n/a	n/a		
BCDL 5.0	Code FBC2004/TPI2002	(Matrix)						
Weight: 78 lb								

LUMBER	BRACING
TOP CHORD 2 X 4 SYP No.2	TOP CHORD Structural wood sheathing directly applied or 3-2-12 oc purlins.
BOT CHORD 2 X 4 SYP No.2	BOT CHORD Rigid ceiling directly applied or 5-2-14 oc bracing.
WEBS 2 X 4 SYP No.3	

**REACTIONS** (lb/size) 5=1546/Mechanical, 2=1650/0-3-8  
Max Horz 2=116(load case 4)  
Max Uplift 5=830(load case 5), 2=957(load case 4)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-2927/1564, 3-4=-2592/1524, 4-5=-2929/1594  
BOT CHORD 2-8=-1341/2533, 7-8=-1354/2566, 6-7=-1354/2566, 5-6=-1314/2559  
WEBS 3-8=-313/813, 3-6=-114/165, 4-6=-345/870

**JOINT STRESS INDEX**  
2 = 0.73, 3 = 0.79, 4 = 0.75, 5 = 0.72, 6 = 0.31, 7 = 0.88 and 8 = 0.26

**NOTES**

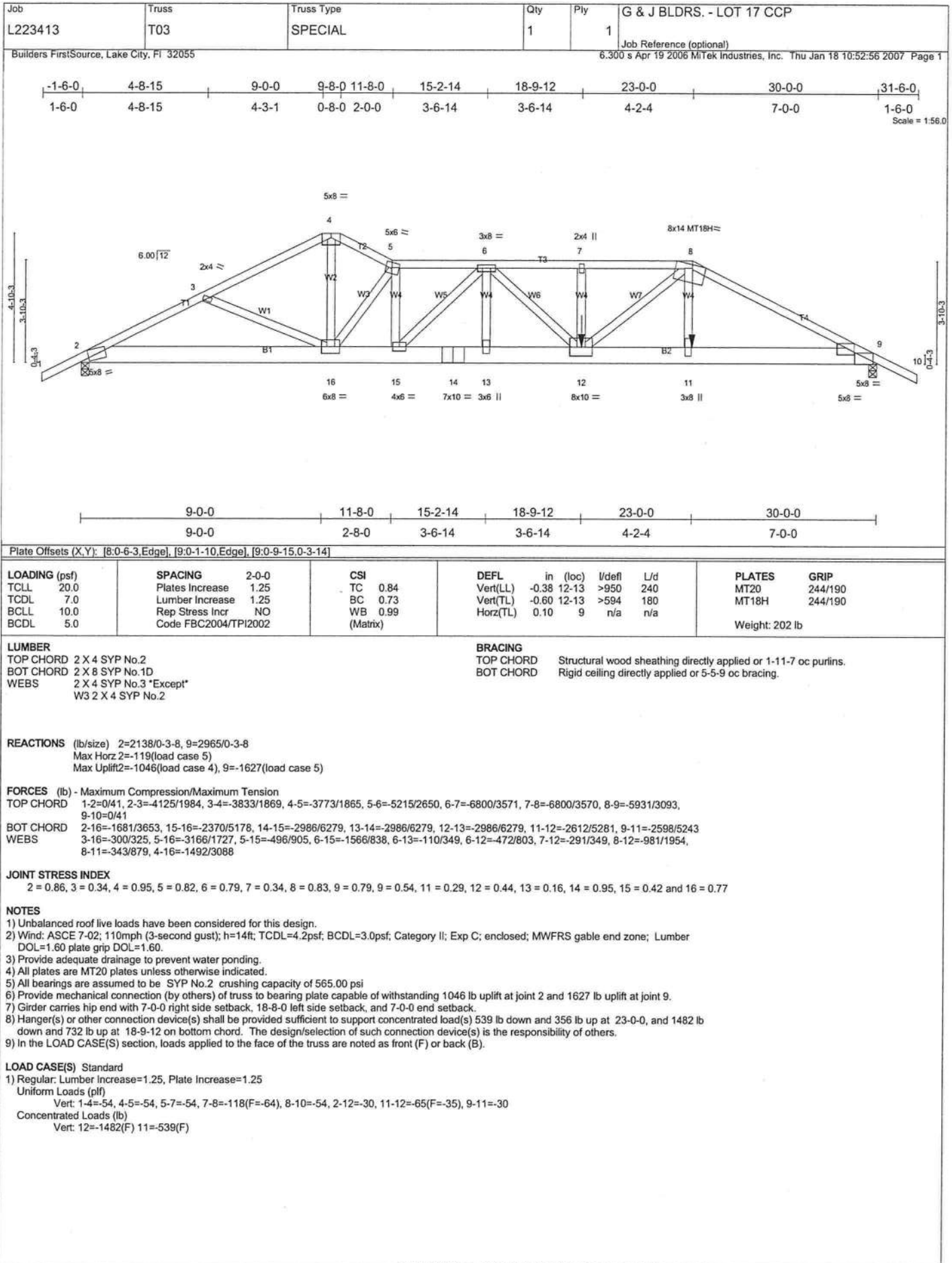
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCCL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone; Lumber DOL=1.60 plate grip DOL=1.60.
- Provide adequate drainage to prevent water ponding.
- All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 830 lb uplift at joint 5 and 957 lb uplift at joint 2.
- Girder carries hip end with 7-0-0 end setback.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 539 lb down and 356 lb up at 11-8-0, and 539 lb down and 356 lb up at 7-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

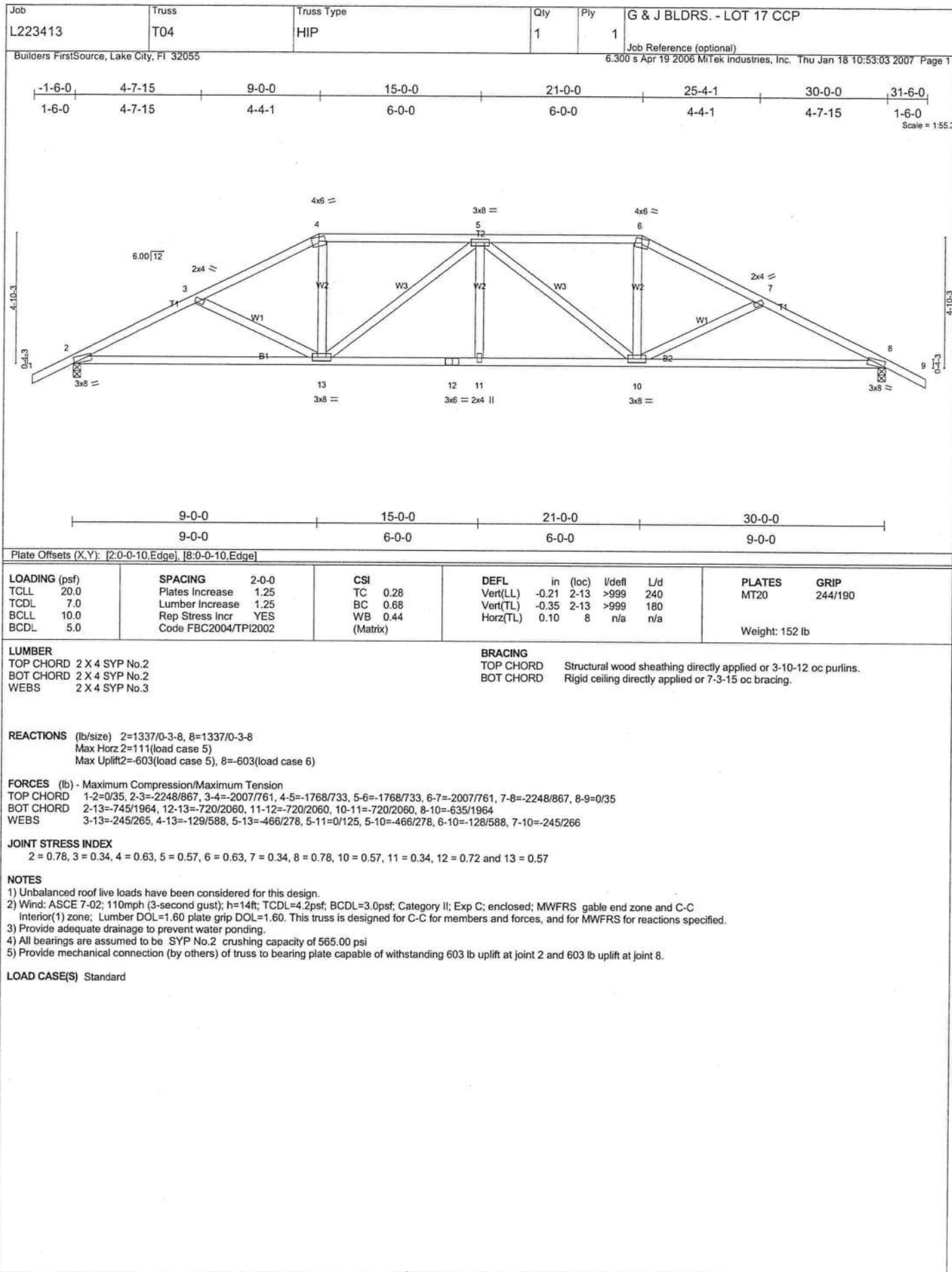
- Regular: Lumber Increase=1.25, Plate Increase=1.25

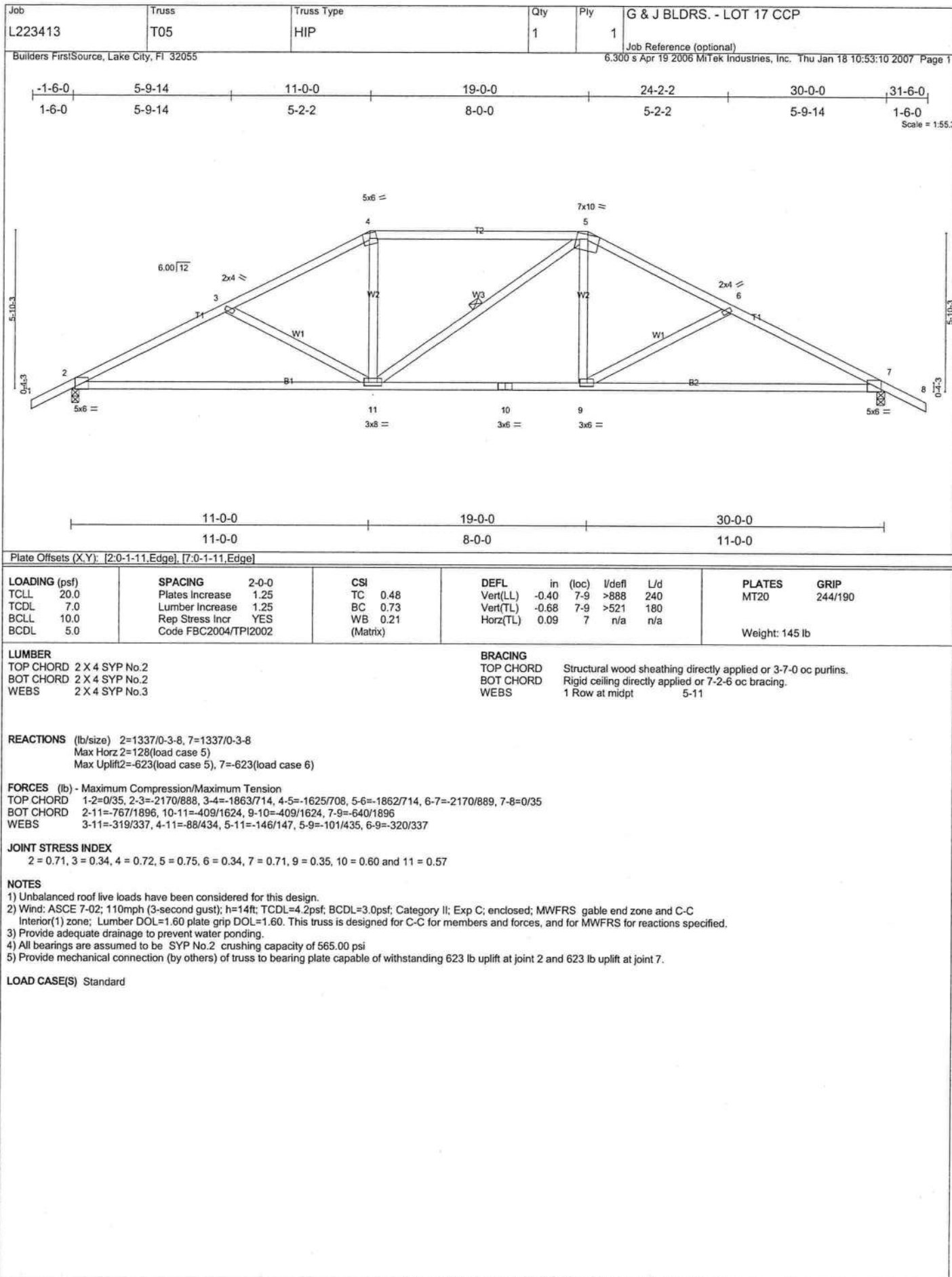
Uniform Loads (plf)  
Vert: 1-3=-54, 3-4=-121(F=-68), 4-5=-54, 2-8=-30, 6-8=-68(F=-38), 5-6=-30

Concentrated Loads (lb)  
Vert: 8=-539(F) 6=-539(F)









Job L223413	Truss T06	Truss Type SPECIAL	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional)		

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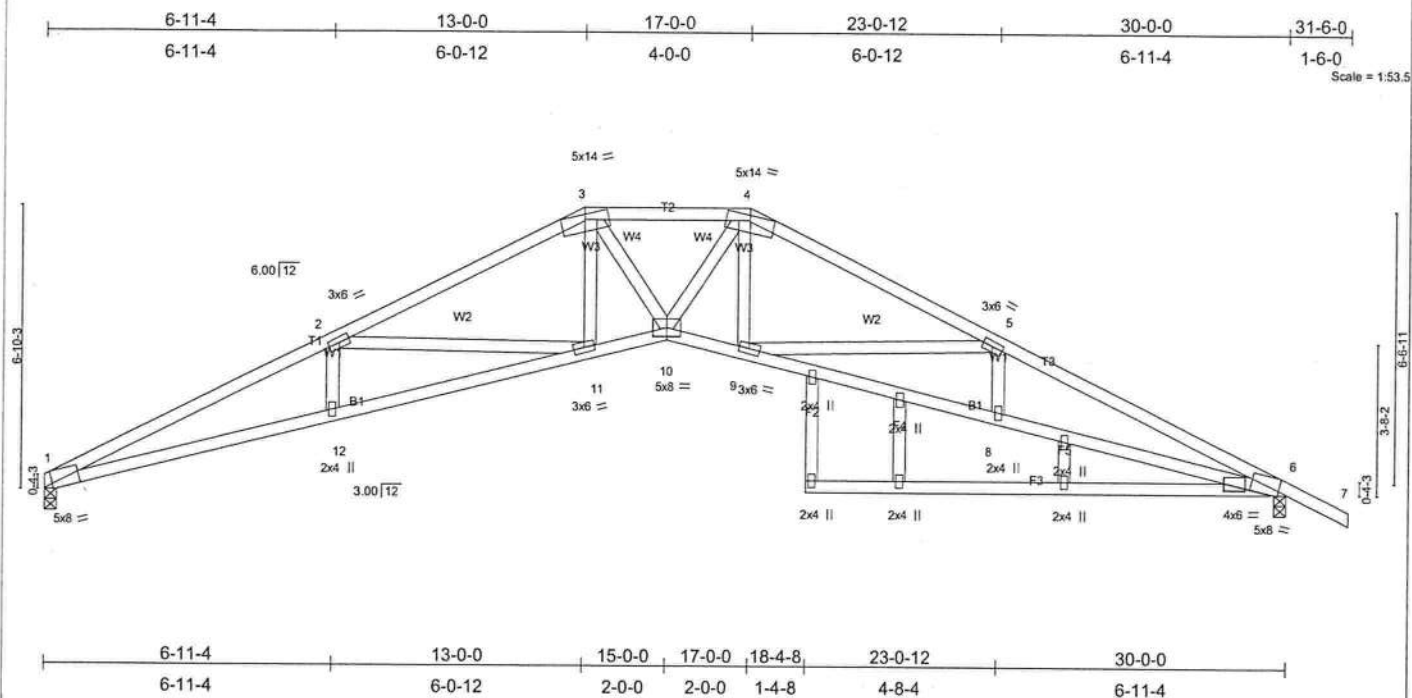


Plate Offsets (X,Y): [1:0-2-7,Edge], [6:0-1-14,Edge], [6:0-7-3.0-1-4]

LOADING (psf)	SPACING	CSI	DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	Plates Increase 2-0-0	TC 0.65	Vert(LL) -0.46	10	>778	240		MT20	244/190
TCDL 7.0	Lumber Increase 1.25	BC 0.76	Vert(TL) -0.73	8-9	>485	180			
BCLL 10.0	Rep Stress Incr YES	WB 0.66	Horz(TL) 0.53	6	n/a	n/a			
BCDL 5.0	Code FBC2004/TPI2002	(Matrix)							
									Weight: 164 lb

**LUMBER**  
 TOP CHORD 2 X 4 SYP No.2  
 BOT CHORD 2 X 4 SYP No.1D \*Except\*  
 F3 2 X 4 SYP No.2  
 WEBS 2 X 4 SYP No.3

**BRACING**  
 TOP CHORD Structural wood sheathing directly applied or 2-5-11 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 5-2-6 oc bracing. Except:  
 1 Row at midpt 8-9, 6-8  
 JOINTS 1 Brace at Jt(s): 8

**REACTIONS** (lb/size) 1=1245/0-3-8, 6=1339/0-3-8  
 Max Horz 1=165(load case 6)  
 Max Uplift 1=521(load case 5), 6=641(load case 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=-4218/1705, 2-3=-3136/1142, 3-4=-3196/1186, 4-5=-3135/1078, 5-6=-4184/1499, 6-7=0/34  
 BOT CHORD 1-12=-1552/3814, 11-12=-1548/3808, 10-11=-846/2826, 9-10=-759/2825, 8-9=-1208/3776, 6-8=-1208/3780  
 WEBS 2-12=0/216, 2-11=-957/687, 3-11=-177/479, 3-10=-217/771, 4-10=-305/772, 4-9=-169/474, 5-9=-926/649, 5-8=0/206

**JOINT STRESS INDEX**  
 1 = 0.81, 2 = 0.41, 3 = 0.69, 4 = 0.69, 5 = 0.41, 6 = 0.81, 6 = 0.48, 8 = 0.34, 9 = 0.38, 10 = 0.88, 11 = 0.38, 12 = 0.34, 13 = 0.34, 14 = 0.34, 15 = 0.34, 16 = 0.34, 17 = 0.34 and 18 = 0.34

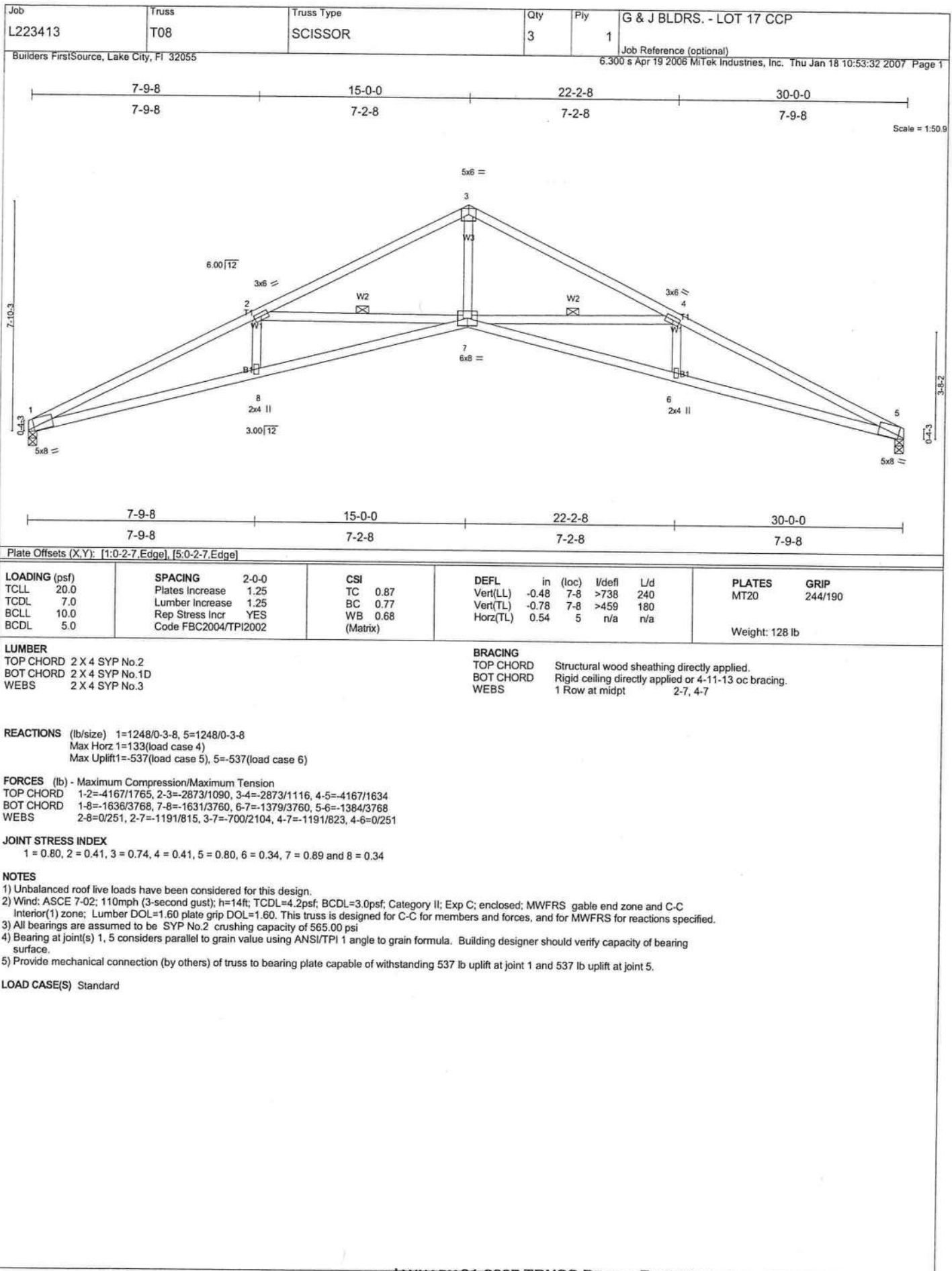
**NOTES**

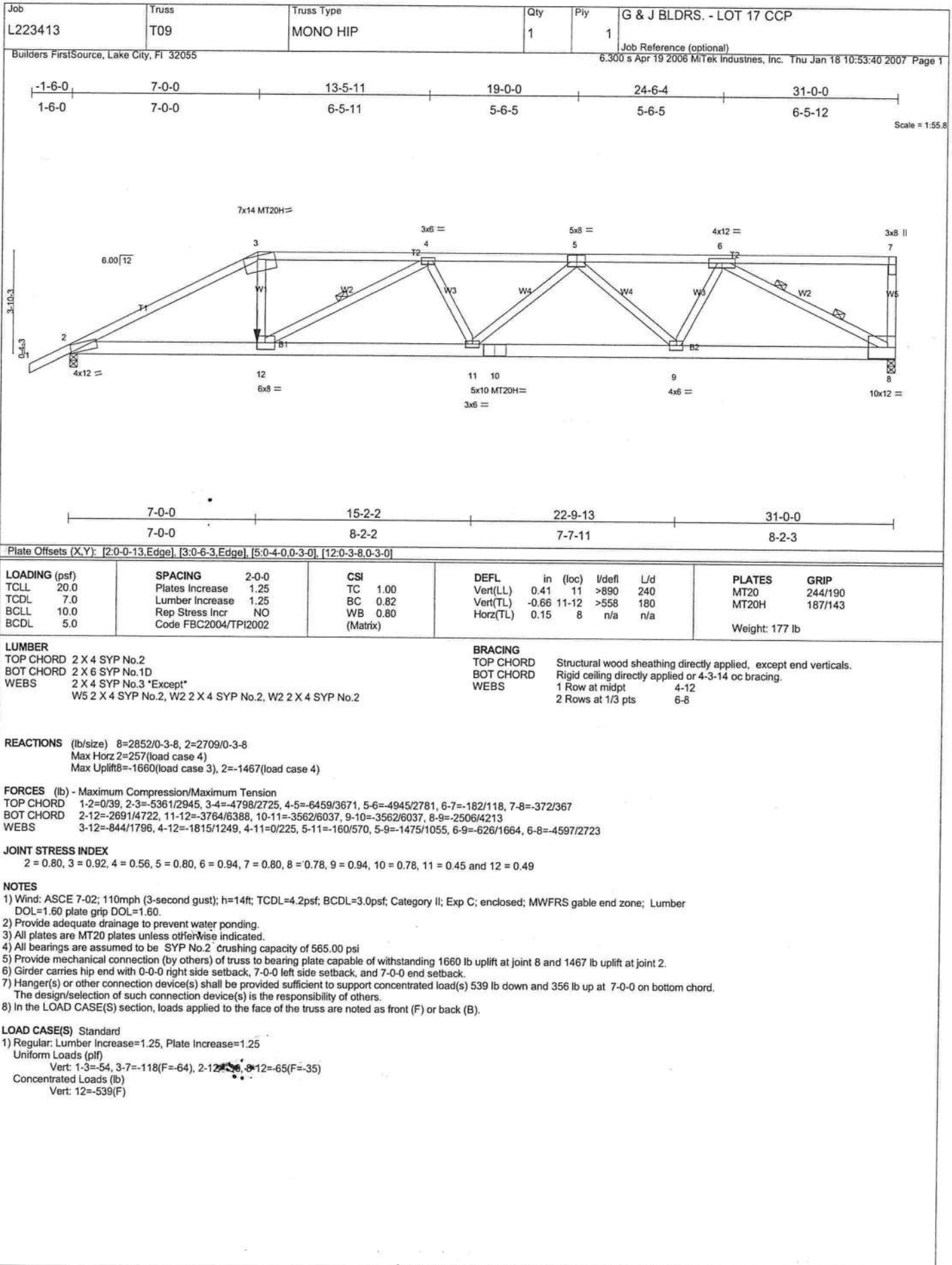
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Interior(1) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.
- 3) Provide adequate drainage to prevent water ponding.
- 4) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- 5) Bearing at joint(s) 1, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 521 lb uplift at joint 1 and 641 lb uplift at joint 6.

LOAD CASE(S) Standard

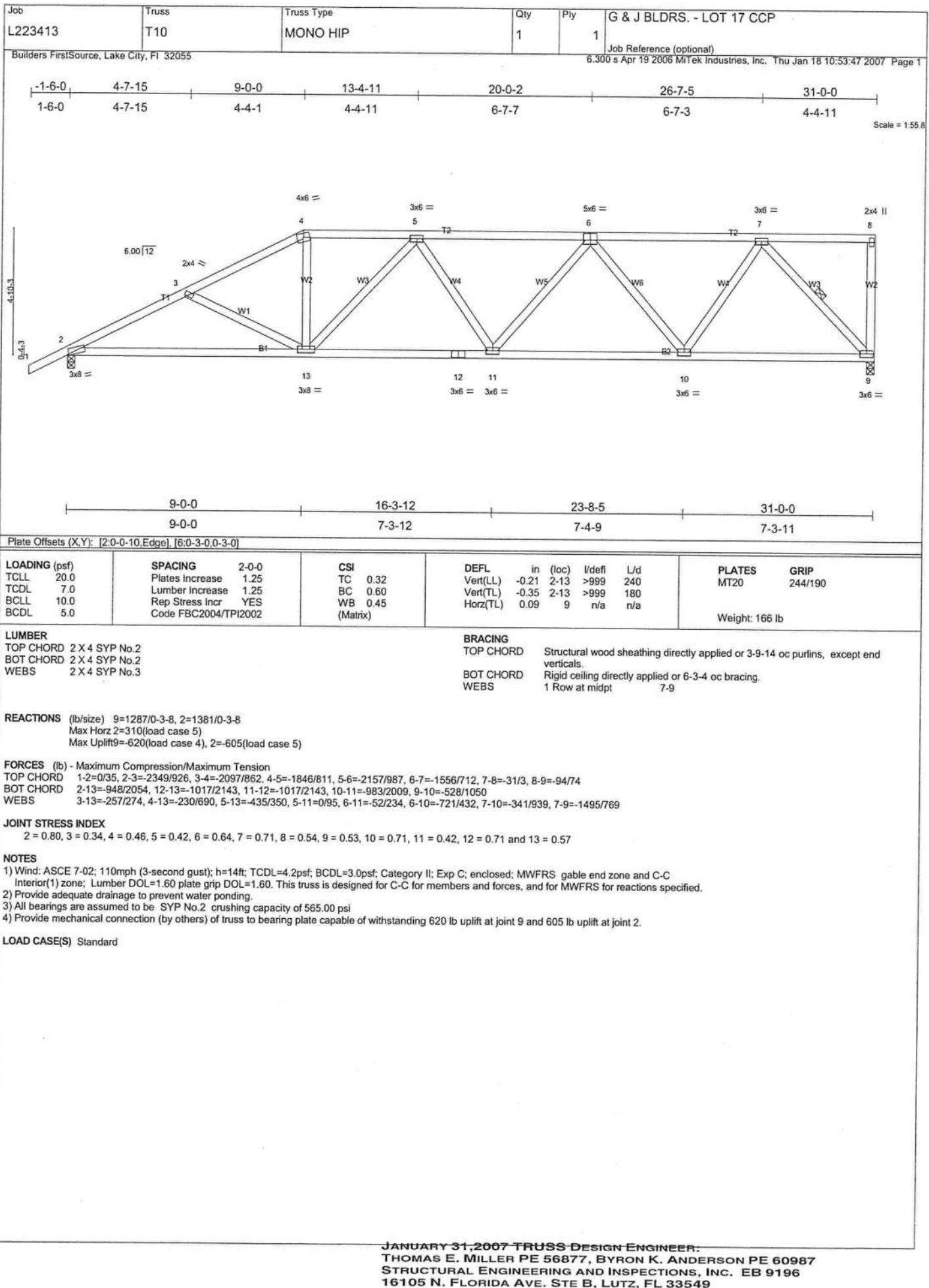




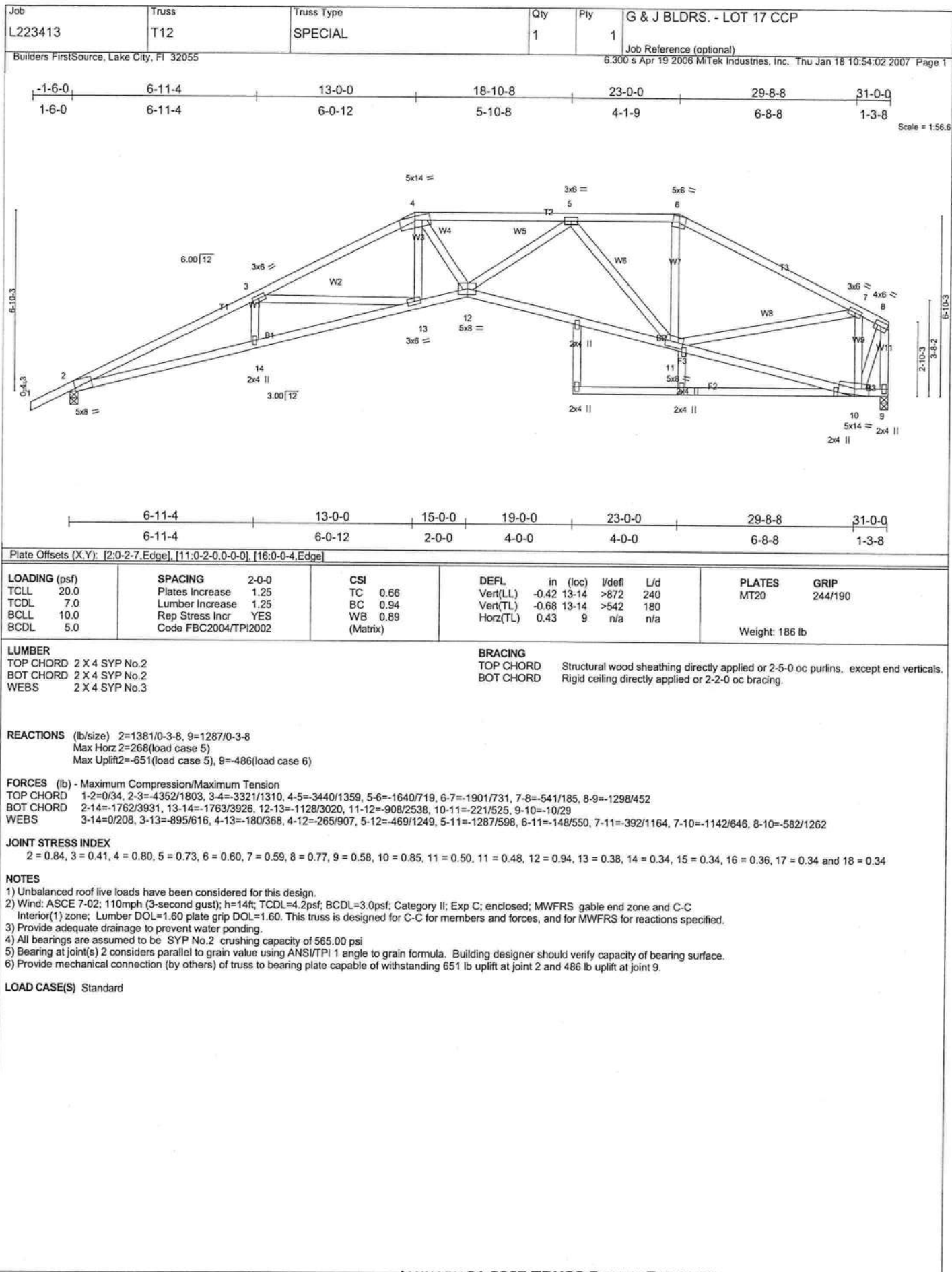


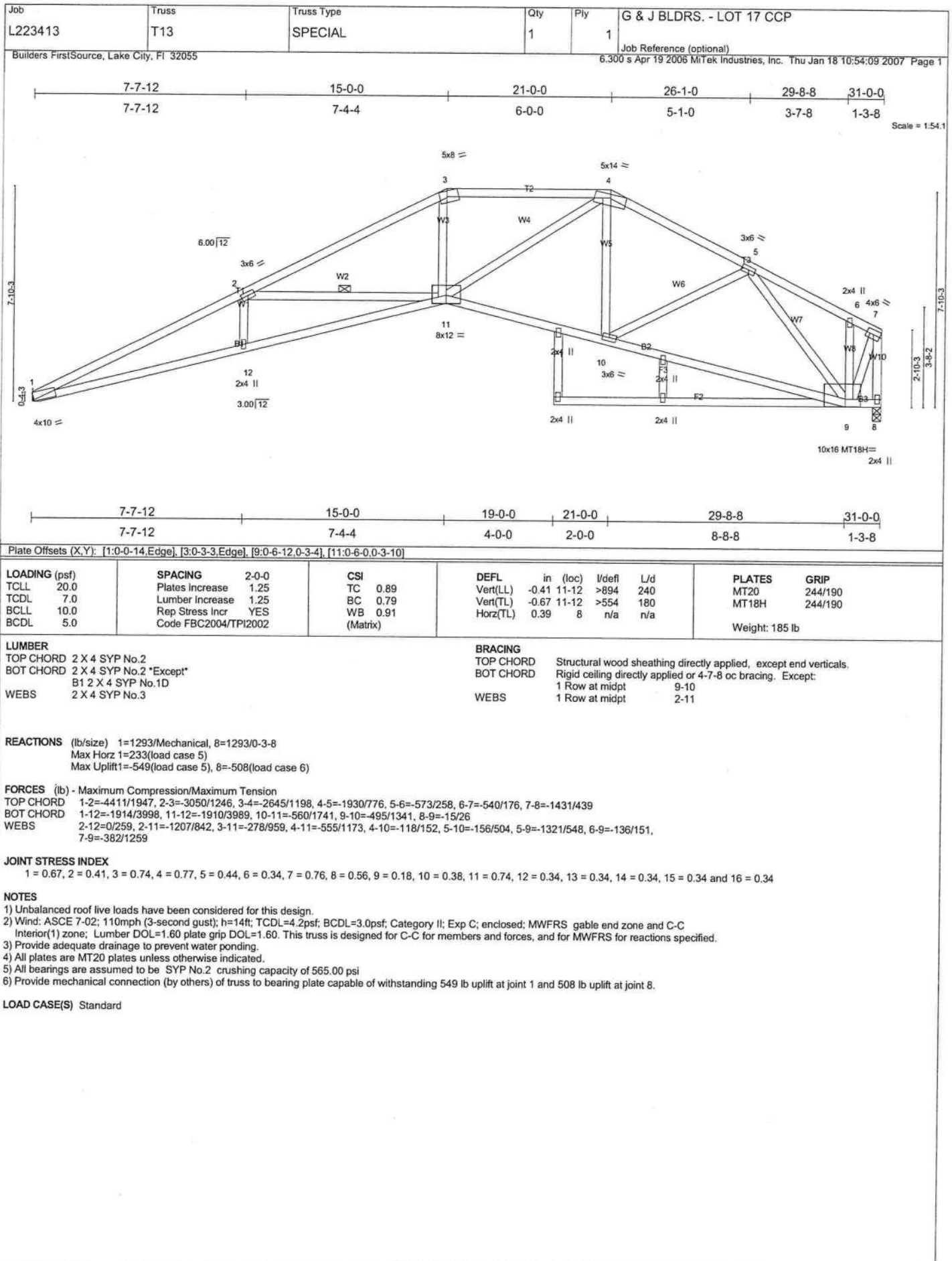














Job L223413	Truss T14	Truss Type SPECIAL	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional) 6.300 s Apr 19 2006 Miltek Industries, Inc. Thu Jan 18 10:54:16 2007 Page 1		

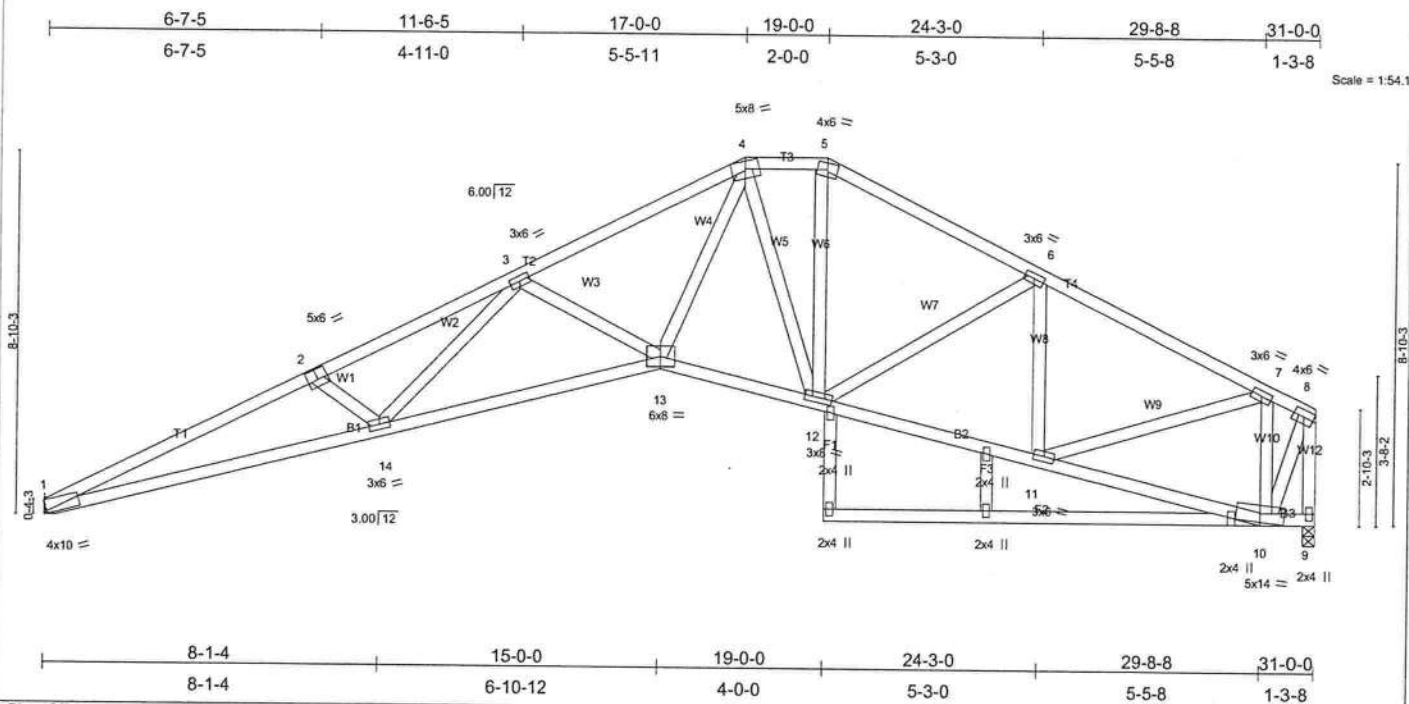


Plate Offsets (X,Y): [1:0-0-14,Edge], [2:0-3-0-0-3-0]

<b>LOADING (psf)</b>	<b>SPACING</b>	<b>CSI</b>	<b>DEFL</b>	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	2-0-0	TC 0.64	in (loc) l/defl L/d	MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.78	Vert(LL) -0.40 13-14 >929 240		
BCLL 10.0	Lumber Increase 1.25	WB 0.60	Vert(TL) -0.64 13-14 >577 180		
BCDL 5.0	Rep Stress Incr YES	(Matrix)	Horz(TL) 0.37 9 n/a n/a		
	Code FBC2004/TPI2002			Weight: 196 lb	

#### LUMBER

TOP CHORD 2 X 4 SYP No.2  
BOT CHORD 2 X 4 SYP No.2 \*Except\*  
B1 2 X 4 SYP No.1D  
WEBS 2 X 4 SYP No.3

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-15 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 4-6-7 oc bracing.  
JOINTS 1 Brace at Jt(s): 11

#### REACTIONS

(lb/size) 1=1293/Mechanical, 9=1293/0-3-8  
Max Horz 1=250(load case 5)  
Max Uplift1=-561(load case 5), 9=-526(load case 6)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-4383/2048, 2-3=-4147/1949, 3-4=-2936/1317, 4-5=-1649/810, 5-6=-1894/855, 6-7=-1768/719, 7-8=-542/211, 8-9=-1278/496  
BOT CHORD 1-14=-2032/3992, 13-14=-1503/3239, 12-13=-719/1924, 11-12=-576/1589, 10-11=-202/484, 9-10=-13/34  
WEBS 2-14=-255/317, 3-14=-408/817, 3-13=-655/516, 4-13=-831/1870, 4-12=-732/387, 5-12=-304/632, 6-12=-70/226, 6-11=-431/253, 7-11=-405/1124, 7-10=-1078/570, 8-10=-513/1158

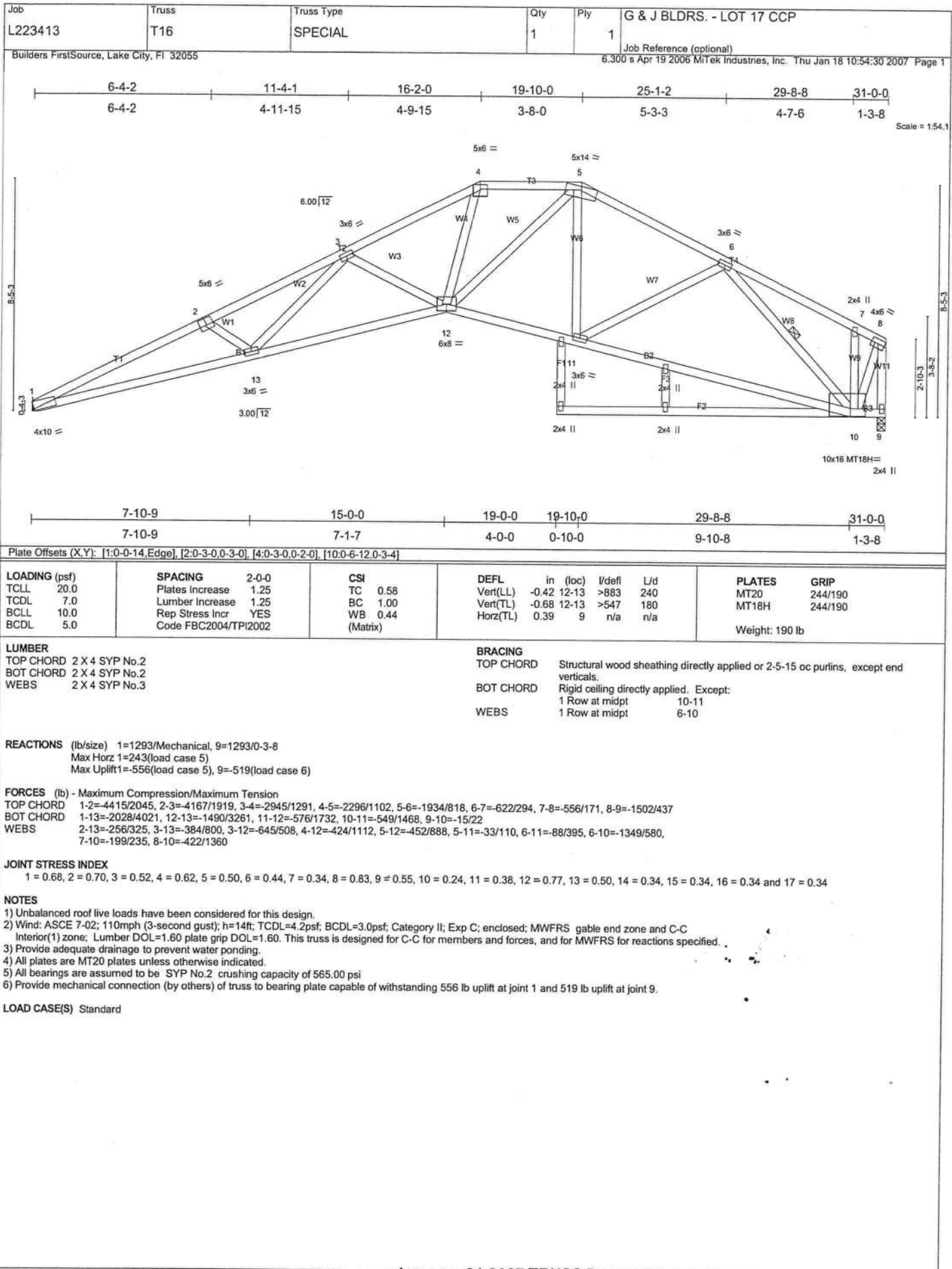
#### JOINT STRESS INDEX

1 = 0.67, 2 = 0.67, 3 = 0.53, 4 = 0.77, 5 = 0.51, 6 = 0.41, 7 = 0.60, 8 = 0.70, 9 = 0.61, 10 = 0.78, 10 = 0.36, 11 = 0.61, 12 = 0.65, 12 = 0.34, 13 = 0.77, 14 = 0.51, 15 = 0.34, 16 = 0.34 and 17 = 0.34

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Interior(1) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.
- Provide adequate drainage to prevent water ponding.
- All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 561 lb uplift at joint 1 and 526 lb uplift at joint 9.

LOAD CASE(S) Standard



Job L223413	Truss T17	Truss Type SPECIAL	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
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Builders FirstSource, Lake City, FL 32055

Job Reference (optional)

6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:54:37 2007 Page 1

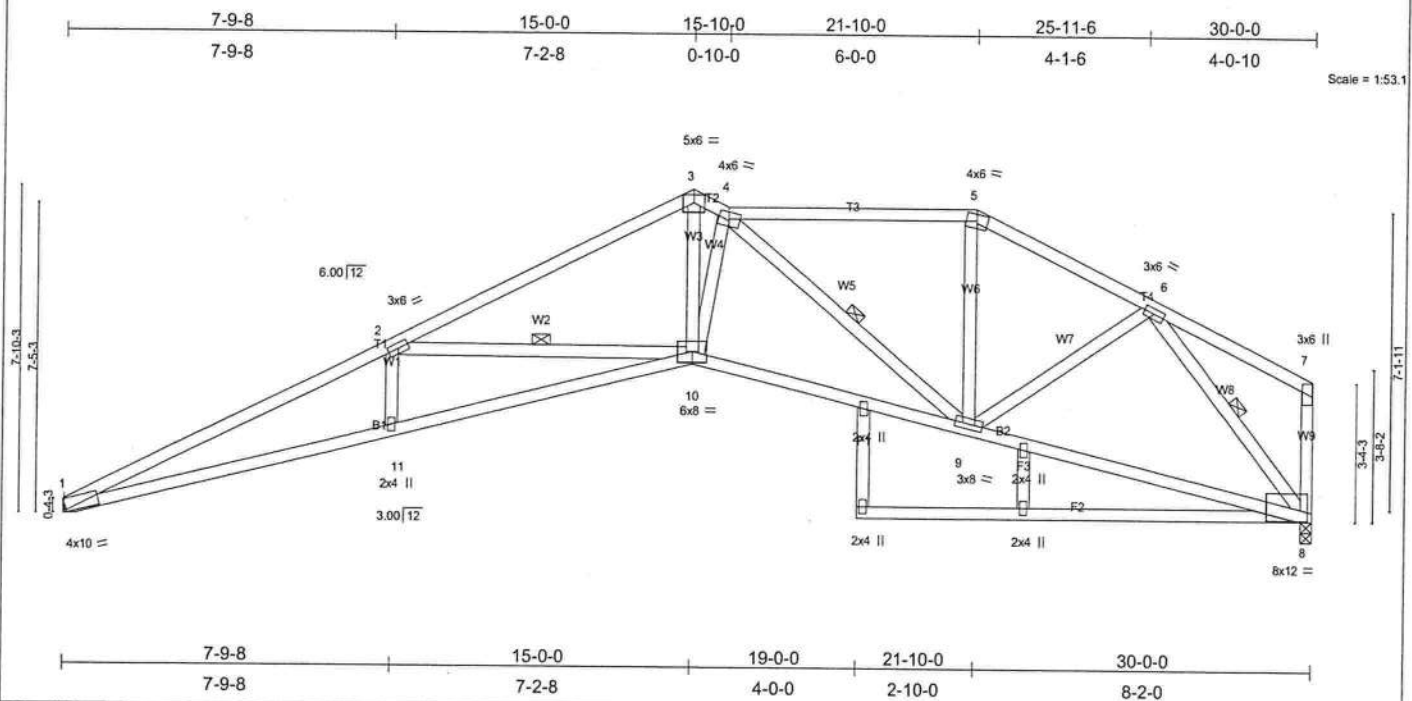


Plate Offsets (X,Y): [1:0-0-14,Edge], [8:0-9-12,0-3-4]

LOADING (psf)	SPACING	2-0-0	CSI	DEFL	in (loc)	I/defl	L/d	PLATES	GRIP
TCLL 20.0	Plates Increase	1.25	TC 0.89	Vert(LL)	-0.39 10-11	>912	240	MT20	244/190
TCDL 7.0	Lumber Increase	1.25	BC 0.78	Vert(TL)	-0.63 10-11	>566	180		
BCLL 10.0	Rep Stress Incr	YES	WB 0.65	Horz(TL)	0.39 8	n/a	n/a		
BCDL 5.0	Code FBC2004/TPI2002		(Matrix)						
								Weight: 179 lb	

**LUMBER**

TOP CHORD 2 X 4 SYP No.2  
 BOT CHORD 2 X 4 SYP No.1D \*Except\*  
 F2 2 X 4 SYP No.2  
 WEBS 2 X 4 SYP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 4-7-12 oc bracing.  
 WEBS 1 Row at midpt 2-10, 4-9, 6-8

**REACTIONS** (lb/size) 1=1251/Mechanical, 8=1251/0-3-8

Max Horz 1=252(load case 5)

Max Uplift 1=532(load case 5), 8=547(load case 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=4212/1880, 2-3=2880/1205, 3-4=2687/1182, 4-5=-1506/755, 5-6=-1708/776, 6-7=-135/74, 7-8=-155/114

BOT CHORD 1-11=-1870/3814, 10-11=-1865/3804, 9-10=-1024/2654, 8-9=-451/1050

WEBS 2-11=0/260, 2-10=-1198/814, 3-10=-789/2023, 4-10=-449/276, 4-9=-1394/639, 5-9=-131/419, 6-9=-187/609, 6-8=-1528/704

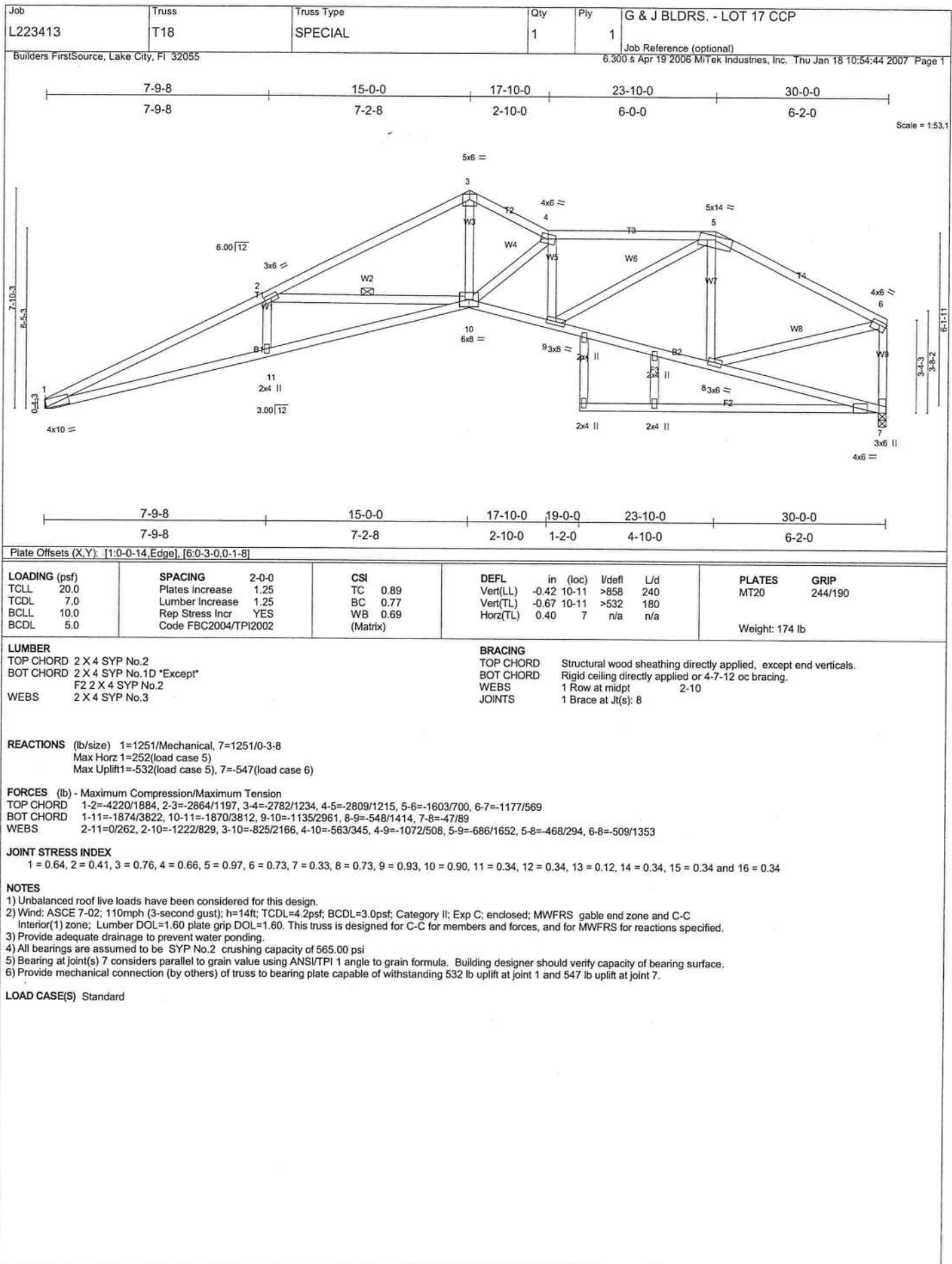
**JOINT STRESS INDEX**

1 = 0.64, 2 = 0.41, 3 = 0.71, 4 = 0.75, 5 = 0.74, 6 = 0.48, 7 = 0.28, 8 = 0.35, 9 = 0.73, 10 = 0.90, 11 = 0.34, 12 = 0.34, 13 = 0.34, 14 = 0.34 and 15 = 0.34

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Interior(1) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.
- 3) Provide adequate drainage to prevent water ponding.
- 4) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- 5) Bearing at joint(s) 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 532 lb uplift at joint 1 and 547 lb uplift at joint 8.

LOAD CASE(S) Standard





Job L223413	Truss T19	Truss Type SPECIAL	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
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Builders FirstSource, Lake City, FL 32055

6.300 s Apr 19 2006 Mitek Industries, Inc. Thu Jan 18 10:54:51 2007 Page 1

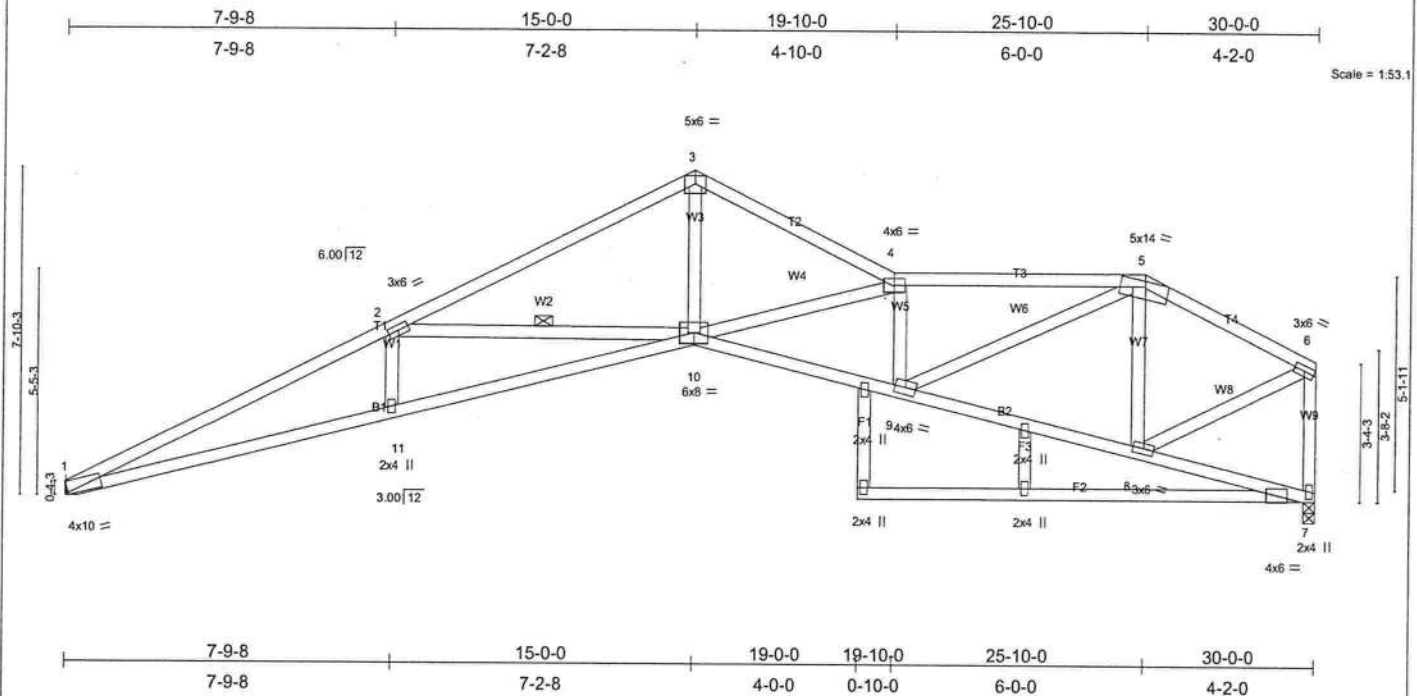


Plate Offsets (X,Y): [1:0-0-14,Edge]

LOADING (psf)	SPACING	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	Plates Increase 1.25	TC 0.89	Vert(LL) -0.43	10-11	>826	240	MT20	244/190
TCDL 7.0	Lumber Increase 1.25	BC 0.78	Vert(TL) -0.70	10-11	>513	180		
BCLL 10.0	Rep Stress Incr YES	WB 0.70	Horz(TL) 0.43	7	n/a	n/a		
BCDL 5.0	Code FBC2004/TPI2002	(Matrix)						

Weight: 172 lb

**LUMBER**

TOP CHORD 2 X 4 SYP No.2  
 BOT CHORD 2 X 4 SYP No.1D "Except"  
 F2 2 X 4 SYP No.2  
 WEBS 2 X 4 SYP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 4-7-12 oc bracing.  
 WEBS 1 Row at midpt 2-10  
 JOINTS 1 Brace at Jt(s): 8

**REACTIONS** (lb/size) 1=1251/Mechanical, 7=1251/0-3-8

Max Horz 1=252(load case 5)  
 Max Uplift 1=532(load case 5), 7=-547(load case 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-4217/1884, 2-3=-2870/1197, 3-4=-2825/1231, 4-5=-3094/1346, 5-6=-1301/578, 6-7=-1207/558  
 BOT CHORD 1-11=-1874/3819, 10-11=-1870/3810, 9-10=-1309/3283, 8-9=-468/1161, 7-8=-16/37  
 WEBS 2-11=0/259, 2-10=-1224/829, 3-10=-820/2144, 4-10=-763/475, 4-9=-1293/607, 5-9=-871/2185, 5-8=-662/367, 6-8=-503/1248

**JOINT STRESS INDEX**

1 = 0.64, 2 = 0.41, 3 = 0.75, 4 = 0.91, 5 = 0.76, 6 = 0.76, 7 = 0.50, 8 = 0.70, 9 = 0.84, 10 = 0.90, 11 = 0.34, 12 = 0.34, 13 = 0.12, 14 = 0.34, 15 = 0.34 and 16 = 0.34

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone and C-C Interior(1) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified.
- Provide adequate drainage to prevent water ponding.
- All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 532 lb uplift at joint 1 and 547 lb uplift at joint 7.

LOAD CASE(S) Standard

Job L223413	Truss T20	Truss Type HIP	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
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Builders FirstSource, Lake City, FL 32055

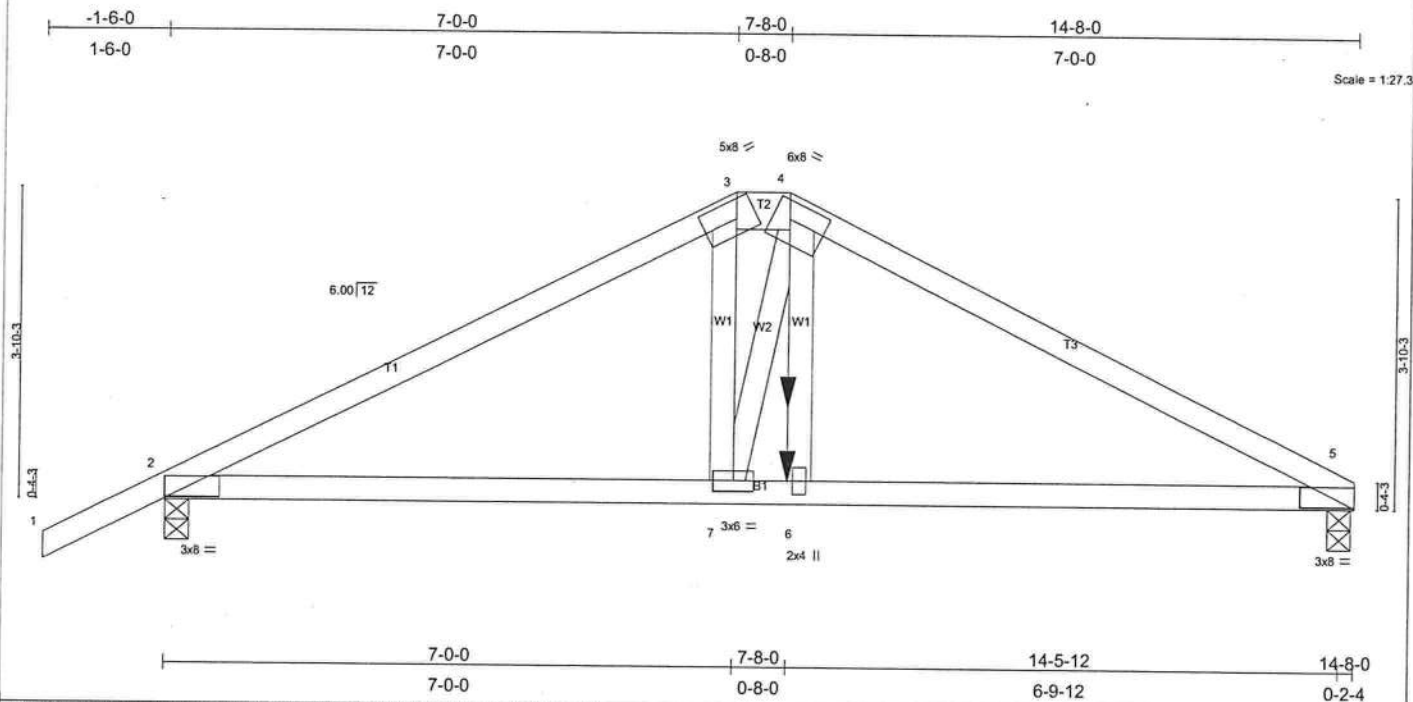
Job Reference (optional)  
6.300 s Apr 19 2006 Mitek Industries, Inc. Thu Jan 18 10:54:57 2007 Page 1

Plate Offsets (X,Y): [2-0-4-12,0-1-8], [3-0-5-1,0-2-11], [4-0-5-7,0-2-9], [5-0-4-12,0-1-8]

LOADING (psf)	SPACING	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.55	Vert(LL) 0.17	5-6	>999	240		MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.70	Vert(TL) -0.19	5-6	>921	180			
BCLL 10.0	Lumber Increase 1.25	WB 0.31	Horz(TL) 0.04	5	n/a	n/a			
BCDL 5.0	Rep Stress Incr NO	(Matrix)							
	Code FBC2004/TPI2002								
								Weight: 64 lb	

**LUMBER**

TOP CHORD 2 X 4 SYP No.2 \*Except\*  
T2 2 X 6 SYP No.1D  
BOT CHORD 2 X 4 SYP No.2  
WEBS 2 X 4 SYP No.3

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-10-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 5-5-1 oc bracing.

**REACTIONS**

(lb/size) 5=1176/0-3-8, 2=1275/0-3-8  
Max Horz 2=115(load case 4)  
Max Uplift 5=850(load case 5), 2=975(load case 4)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-2151/1459, 3-4=-1822/1367, 4-5=-2149/1462  
BOT CHORD 2-7=-1244/1850, 6-7=-1196/1821, 5-6=-1216/1850  
WEBS 3-7=-625/969, 4-7=-318/358, 4-6=-493/720

**JOINT STRESS INDEX**

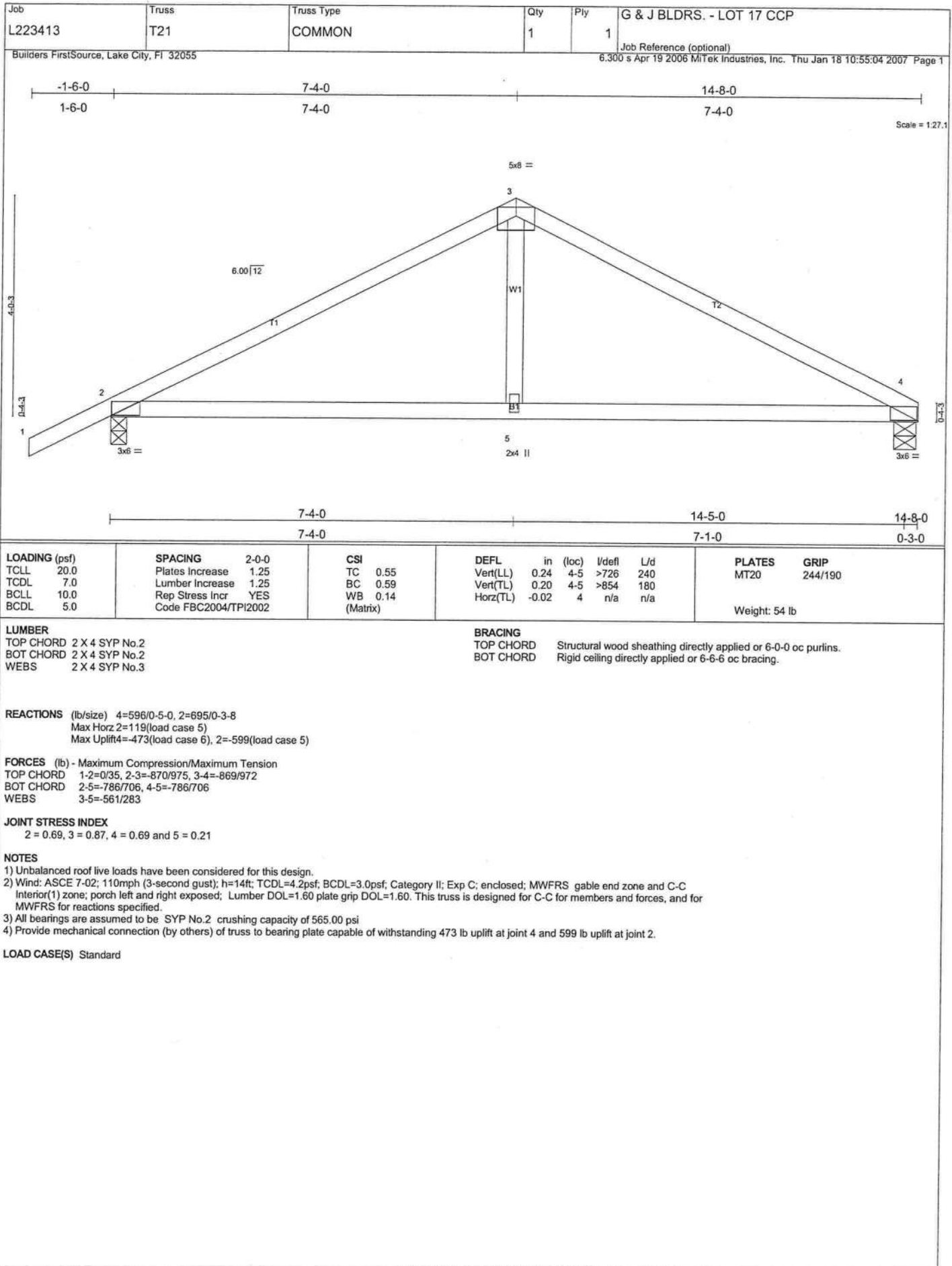
2 = 0.80, 3 = 0.48, 4 = 0.58, 5 = 0.76, 6 = 0.53 and 7 = 0.63

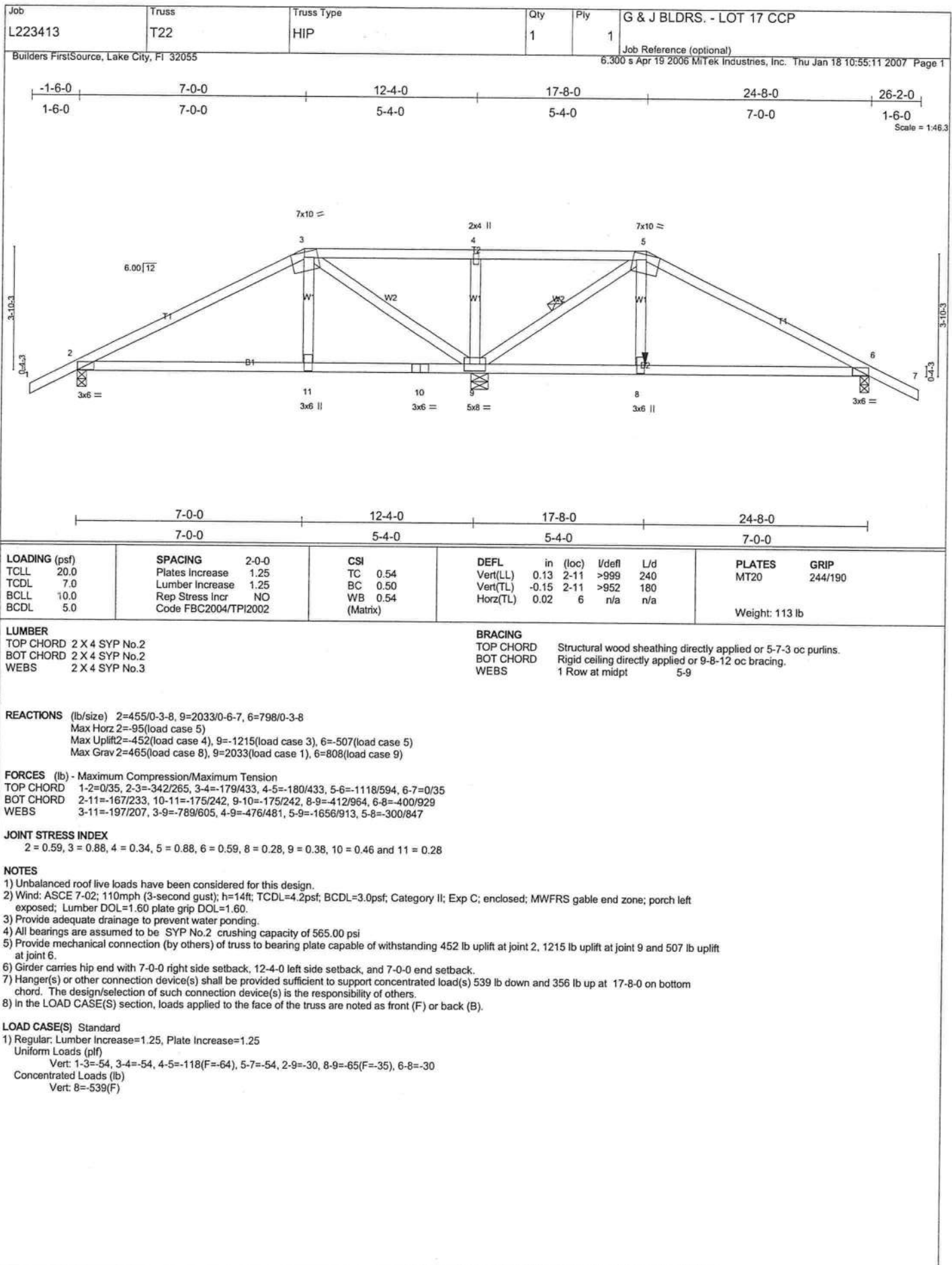
**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60.
- Provide adequate drainage to prevent water ponding.
- All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 850 lb uplift at joint 5 and 975 lb uplift at joint 2.
- Girder carries hip end with 7-0-0 end setback.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 539 lb down and 356 lb up at 7-8-0, and 539 lb down and 356 lb up at 7-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

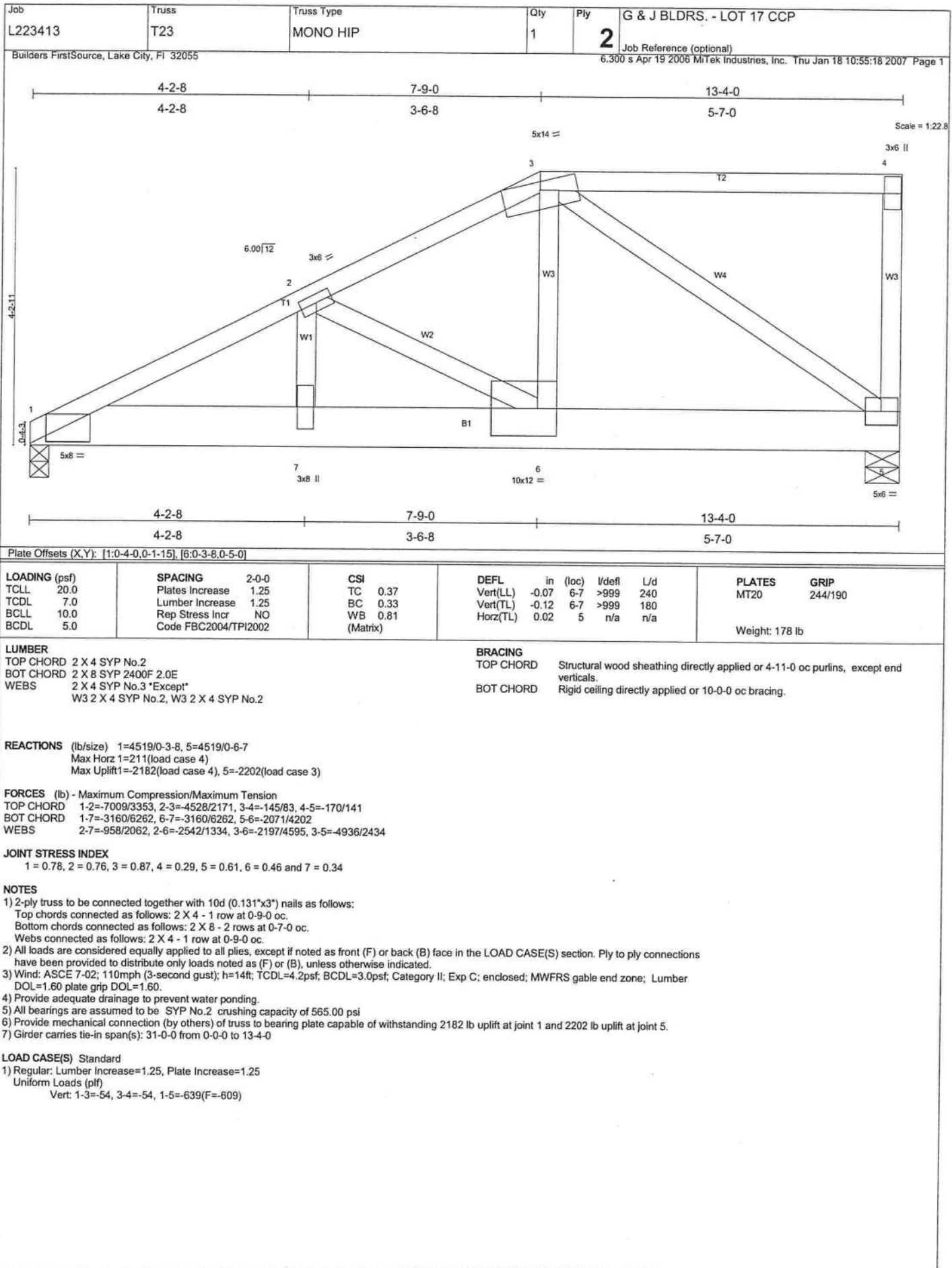
**LOAD CASE(S)**

- Standard  
1) Regular: Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (plf)  
Vert: 1-3=-54, 3-4=-118(F=-64), 4-5=-54, 2-7=-30, 6-7=-65(F=-35), 5-6=-30  
Concentrated Loads (lb)  
Vert: 7=-539(F) 6=-539(F)









Job L223413	Truss T24	Truss Type MONO HIP	Qty 1	Ply 1	G & J BLDRS. - LOT 17 CCP
Builders FirstSource, Lake City, FL 32055			Job Reference (optional) 6.300 s Apr 19 2006 MiTek Industries, Inc. Thu Jan 18 10:55:24 2007 Page 1		

Scale = 1:25.3

LOADING (psf)	SPACING	CSI	DEFL	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.54	in (loc) l/defl L/d	MT20	244/190
TCDL 7.0	Plates Increase 1.25	BC 0.45	Vert(LL) 0.08 6-7 >999 240		
BCLL 10.0	Lumber Increase 1.25	WB 0.58	Vert(TL) -0.11 6-7 >999 180		
BCDL 5.0	Rep Stress Incr NO	(Matrix)	Horz(TL) 0.02 5 n/a n/a		
	Code FBC2004/TPI2002			Weight: 70 lb	

**LUMBER**  
 TOP CHORD 2 X 4 SYP No.2  
 BOT CHORD 2 X 4 SYP No.2  
 WEBS 2 X 4 SYP No.3

**BRACING**  
 TOP CHORD Structural wood sheathing directly applied or 4-7-15 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 5-10-5 oc bracing.

**REACTIONS** (lb/size) 1=950/0-3-8, 5=1059/0-3-8  
 Max Horz 1=143(load case 4)  
 Max Uplift 1=681(load case 4), 5=809(load case 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=-1738/1211, 2-3=-1442/1096, 3-4=-1442/1096, 4-5=-933/750  
 BOT CHORD 1-7=-1120/1507, 6-7=-1136/1533, 5-6=-73/94  
 WEBS 2-7=-298/461, 2-6=-103/154, 3-6=-446/461, 4-6=-1163/1530

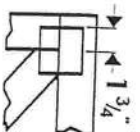
**JOINT STRESS INDEX**  
 1 = 0.73, 2 = 0.72, 3 = 0.26, 4 = 0.74, 5 = 0.39, 6 = 0.70 and 7 = 0.34

**NOTES**  
 1) Wind: ASCE 7-02; 110mph (3-second gust); h=14ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp C; enclosed; MWFRS gable end zone; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60.  
 2) Provide adequate drainage to prevent water ponding.  
 3) All bearings are assumed to be SYP No.2 crushing capacity of 565.00 psi  
 4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 681 lb uplift at joint 1 and 809 lb uplift at joint 5.  
 5) Girder carries hip end with 0-0-0 right side setback, 5-0-0 left side setback, and 5-0-0 end setback.  
 6) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 245 lb down and 162 lb up at 5-0-0 on bottom chord.  
 The design/selection of such connection device(s) is the responsibility of others.  
 7) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

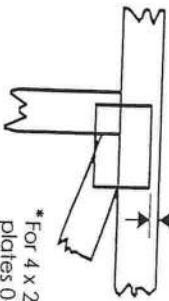
**LOAD CASE(S)** Standard  
 1) Regular: Lumber Increase=1.25, Plate Increase=1.25  
 Uniform Loads (plf)  
 Vert: 1-2=-54, 2-4=-91(F=-37), 1-7=-30, 5-7=-50(F=-20)  
 Concentrated Loads (lb)  
 Vert: 7=-245(F)

# 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 securely seal.



\*For 4 x 2 orientation, locate plates 0- $\frac{1}{16}$ " from outside edge of truss.



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

\*Plate location details available in Mitek 20/20 software or upon request.

## PLATE SIZE

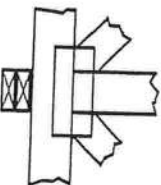
4 X 4

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

## LATERAL BRACING



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

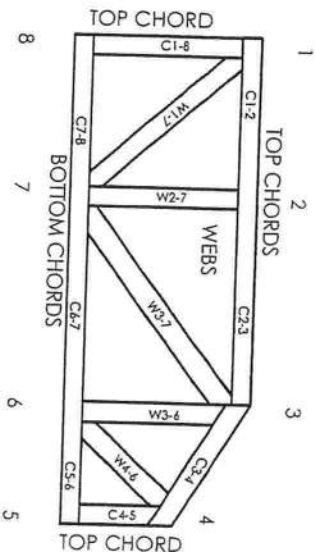


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur.

## Industry Standards:

ANSI/FP11: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Design Standard for Bracing.  
BCS11: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



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.

## CONNECTOR PLATE CODE APPROVALS

BOCA	96-31, 95-43, 96-20-1, 96-67, 84-32
ICBO	4922, 5243, 5363, 3907
SBCCI	9667, 9730, 9604B, 9511, 9432A

# 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 BCS11.
2. Never exceed the design loading shown and never stock materials on inadequately braced trusses.
3. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
4. Cut members to bear tightly against each other.
5. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/FP11.
6. Design assumes trusses will be suitably protected from the environment in accord with ANSI/FP11.
7. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
8. Unless expressly noted, this design is not applicable for use with fire retardant or preservative treated lumber.
9. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
10. Plate type, size, orientation and location dimensions shown indicate minimum plating requirements.
11. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
12. Top chords must be sheathed or purlins provided at spacing shown on design.
13. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
14. Connections not shown are the responsibility of others.
15. Do not cut or alter truss member or plate without prior approval of a professional engineer.
16. Install and load vertically unless indicated otherwise.



Mitek Engineering Reference Sheet: Mill-7473

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**PRODUCT PERFORMANCE DATA**

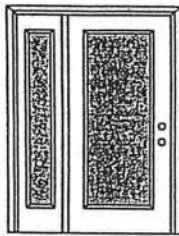
**HURRICANE CODE**

**WOOD-EDGE STEEL DOOR IN WOOD FRAME**

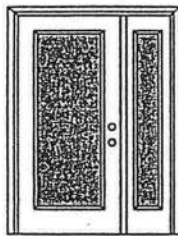
**PRODUCT CERTIFICATION SHEET** 01-0314.29 (PADE-OUTSWING)

Valid for the following side-hinged door arrangements (Sheet 1 of 2):

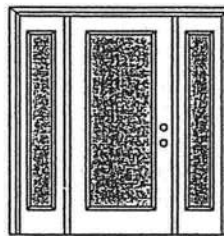
**GLAZED DOORS - 6'8" NOMINAL HEIGHT:**



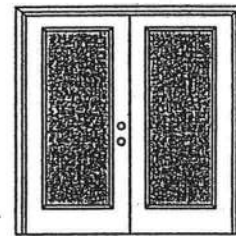
Single Door with Sidelite  
on Hinge side



Single Door with Sidelite  
on Strike side



Single Door with 2 Sidelites

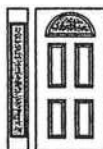


Double Doors

**DOOR STYLES - 1/4 GLASS:**



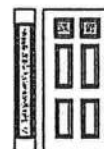
100 Series



133, 135 Series



136 Series

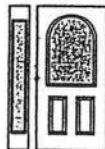


680 Series



822 Series

**1/2 GLASS:**



105 Series



106, 160 Series



129 Series



200 Series



12 R/L, 23 R/L,  
24 R/L Series



107 Series



108 Series



304 Series

MULTI\_WE\_STL\_WD\_GLZ-1

**Entergy**  
Entry Systems

Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

**PREM**  
makes  
it!

FILE COPY



# PRODUCT PERFORMANCE DATA

HURRICANE CODE

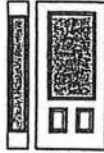
## WOOD-EDGE STEEL DOOR IN WOOD FRAME

### PRODUCT CERTIFICATION SHEET

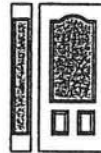
01-0314.29 (DADE-OUTSWING)

Valid for the following side-hinged door arrangements (Sheet 2 of 2):

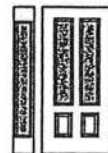
#### 3/4 GLASS:



404 Series

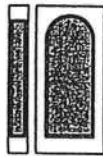


410 Series

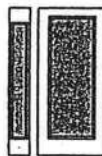


450 Series

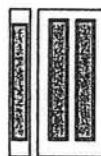
#### PULL GLASS:



109 Series



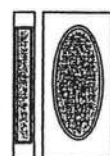
114, 120, 122 Series



152 Series

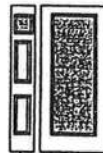


149 Series

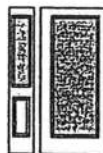


300 Series

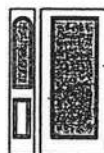
#### SIDELITE STYLES:



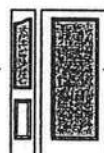
680 Series



129 Series



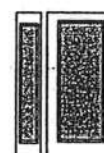
200 Series



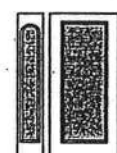
12R, 12L, 23R,  
23L, 24R, 24L  
Series



450 Series



152 Series



149 Series

DP 150.5-50.5

IMPACT

NO

MULTI\_WE\_STL\_WD\_GLZ-2

Entergy  
Entry Systems

Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.


PREMI  
makes  
it!

BUILDING CODE COMPLIANCE OFFICE  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908CONTRACTOR LICENSING SECTION  
(305) 375-2527 FAX (305) 375-2558CONTRACTOR ENFORCEMENT DIVISION  
(305) 375-2966 FAX (305) 375-2908PRODUCT CONTROL DIVISION  
(305) 375-2902 FAX (305) 375-6339**PRODUCT CONTROL NOTICE OF ACCEPTANCE**Premdor Entry Systems  
911 E. Jefferson, P.O. Box 76  
Pittsburgh, KS 66762

Your application for Notice of Acceptance (NOA) of:  
**Entergy 6-8 S-W/E Outswing Glazed Double w/sidelites Residential Insulated Steel Doors**  
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 01-0314.29  
EXPIRES: 04/02/2006  
Raul Rodriguez  
Chief Product Control Division**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL**  
**CONDITIONS**  
**BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance OfficeAPPROVED: 06/05/2001

Premdor Entry Systems

ACCEPTANCE No.: 01-0314.29

APPROVED : JUN 05 2001

EXPIRES : April 02, 2006

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

**1. SCOPE**

- 1.1 This renews the Notice of Acceptance No. 00-0321.31 which was issued on April 28, 2000. It approves a residential insulated door, as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code (SFBC), 1994 Edition for Miami-Dade County, for the locations where the pressure requirements, as determined by SFBC Chapter 23, do not exceed the Design Pressure Rating values indicated in the approved drawings.

**2. PRODUCT DESCRIPTION**

- 2.1 The Series Entergy 6-8 S-W/E Outswing Glazed Double Residential Insulated Steel Door with Sidelites and its components shall be constructed in strict compliance with the following documents: Drawing No 31-1028-EW-O, Sheets 1 through 6 of 6, titled "Premdor (Entergy Brand) Double Door with Sidelites in Wood Frames with Bumper Threshold (Outswing)," prepared by manufacturer, dated 7/29/97 with revision C dated 01/11/00, bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

**3. LIMITATIONS**

- 3.1 This approval applies to single unit applications of pair of doors and single door only, as shown in approved drawings. Single door units shall include all components described in the active leaf of this approval.

**4. INSTALLATION**

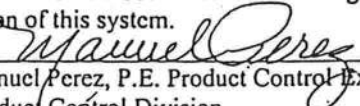
- 4.1 The residential insulated steel door and its components shall be installed in strict compliance with the approved drawings.
- 4.2 Hurricane protection system (shutters): the installation of this unit will require a hurricane protection system.

**5. LABELING**

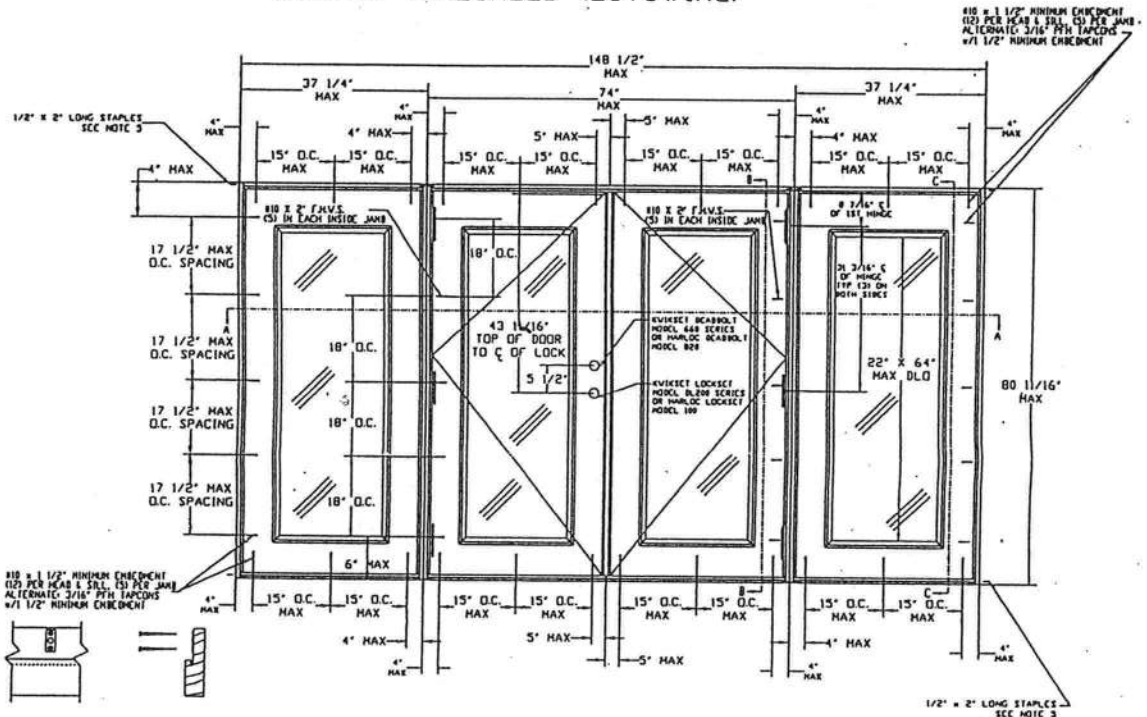
- 5.1 Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved".

**6. BUILDING PERMIT REQUIREMENTS**

- 6.1 Application for building permit shall be accompanied by copies of the following:
- 6.1.1 This Notice of Acceptance
- 6.1.2 Duplicate copies of the approved drawings, as identified in Section 2 of this Notice of Acceptance, clearly marked to show the components selected for the proposed installation.
- 6.1.3 Any other documents required by the Building Official or the South Florida Building Code (SFBC) in order to properly evaluate the installation of this system.

  
Manuel Perez, P.E. Product Control Examiner  
Product Control Division

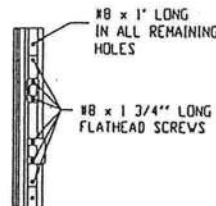
# PREMDOR (ENTERGY BRAND) DOUBLE DOOR WITH SIDELITES IN WOOD FRAMES WITH A BUMPER THRESHOLD (OUTSWING)



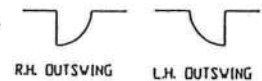
ATTACH ASTRAGAL THROW BOLT  
STRIKE PLATE TO THE HEADER  
AND THRESHOLD WITH #10 x 1 3/4\"/>

## NOTES:

- 1.) WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
- 2.) THE PRECEDING DRAWINGS ARE INTENDED TO QUALIFY THE FOLLOWING INSTALLATIONS.
  - A. WOOD FRAME CONSTRUCTION WHERE DOOR SYSTEM IS ANCHORED TO A MINIMUM TWO BY WOOD OPENING.
  - B. MASONRY OR CONCRETE CONSTRUCTION WHERE DOOR SYSTEM IS ANCHORED TO A MINIMUM TWO BY STRUCTURAL WOOD BUCK.
  - C. MASONRY OR CONCRETE CONSTRUCTION WHERE DOOR SYSTEM IS ANCHORED DIRECTLY TO CONCRETE OR MASONRY WITH OR WITHOUT A NON-STRUCTURAL ONE BY WOOD BUCK.
3. ALL ANCHORING SCREWS TO BE #10 WITH MINIMUM 1 1/2\"/>
4. UNIT MUST BE INSTALLED WITH 'MIAMI-DADE COUNTY APPROVED' SHUTTERS.
5. THREE STAPLES PER SIDE JAMB INTO HEADER ON SIDELITES AND DOOR, THREE STAPLES PER JAMB INTO THRESHOLD ON SIDELITES AND DOOR.
6. LATEX SEALANT TO BE APPLIED AT SIDE BY SIDE JAMBS AND SIDELITES.
7. DOOR/SIDELITE HEADER, DOOR/SIDELITE JAMBS, AND SIDELITE BASE CORNERS ARE COPED AND BUTT JOINED.
8. DOORS SHALL BE PRE-PAINTED WITH A WATER-BASED EPOXY RUST INHIBITIVE PRIMER PAINT WITH A DRY FILM THICKNESS OF 0.8 TO 1.2 MIL.
9. FRAMES SHALL BE PRE-PAINTED WITH AN ACRYLIC LATEX WATER-BASED/ WATER-REDUCIBLE WHITE PRIMER WITH A DRY FILM THICKNESS OF 0.8 TO 1.2 MIL.



ASTRAGAL

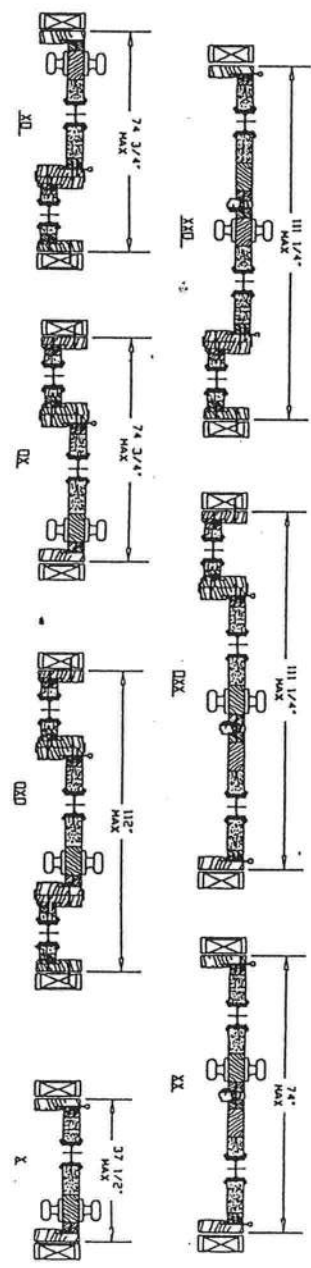
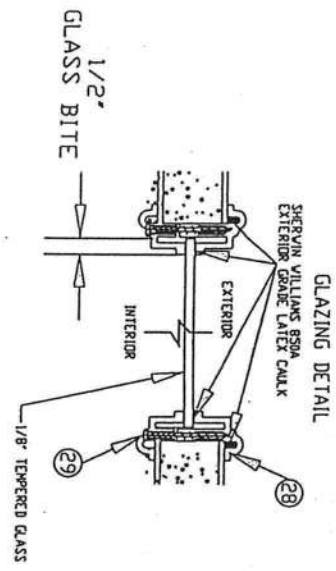
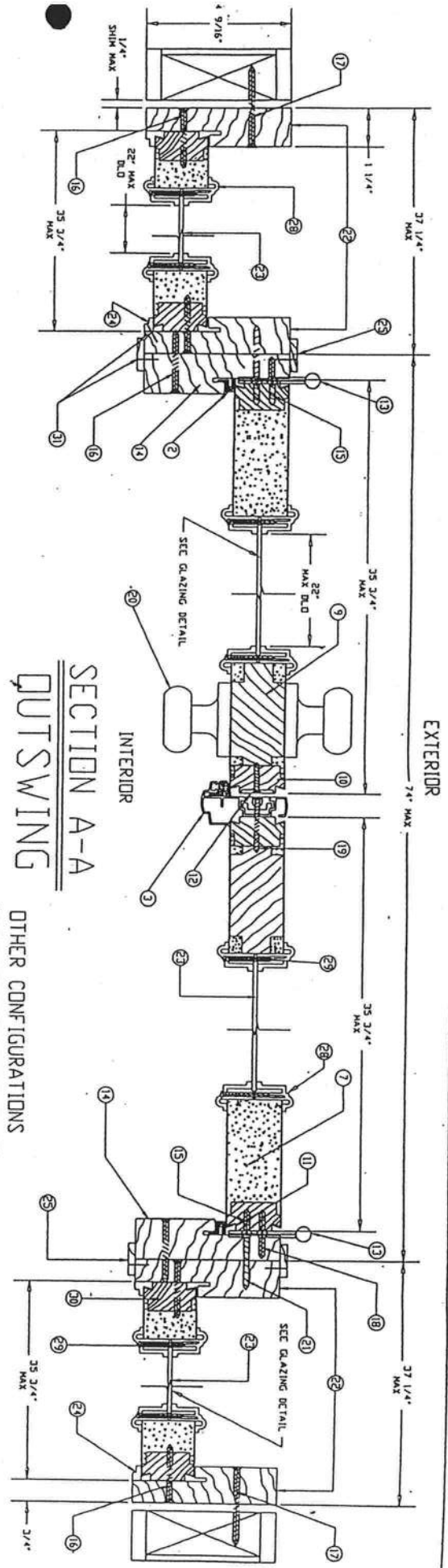


DESIGN PRESSURE RATINGS		
	WHERE WATER INFILTRATION REQUIREMENT IS NEEDED *	WHERE WATER INFILTRATION REQUIREMENT IS NOT NEEDED
Positive	+ 50.5 psf	+50.5 psf
Negative	NOT APPROVED*	-50.5 psf

\* UNITS SHALL BE INSTALLED ONLY AT LOCATIONS PROTECTED BY A CANOPY OR OVERHANG SUCH THAT THE ANGLE BETWEEN THE EDGE OF CANOPY OR OVERHANG TO SILL IS LESS THAN 45 DEGREES. UNLESS UNIT IS INSTALLED IN NON-HABITABLE AREAS WHERE THE UNIT AND THE AREA ARE DESIGNED TO ACCEPT WATER INFILTRATION.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE: **JUN 03 2009**  
BY: *[Signature]*  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. **01-0314.2**

LIMITS UNLESS NOTED, FRAC. : DEC. : ANG. :		C	BASE COUNTY MODIFICATIONS	1/11/08	JB
EXTRACTIONS UNLESS NOTED, SIB. COM. TOL. :		A	ADDED PAGE 5 (DOOR OPTIONS)	10-1-08	RS
ENGINEER:		A	ADD OTHER DOOR CONFIGURATIONS	12/16/97	RS
DE. IT. R.S. [W/ 7-29-97]		LIR	REVISIONS	DATE	IT
PREMDOR ENTRY SYSTEMS		PART NAME: ENTERGY POWER ENTRY DOUBLE DOOR SYSTEMS	DATE:	1/24/01	RS
911 E. JEFFERSON		31-1028-EW-0			
PITTSBURGH, PA 15222		SHEET 1 OF 6			
		REVISION LETTER: C			



APPROVED AS CORRELATING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE JUN 05 2004  
BY Michael J. [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 01-0314-29

REVISION	DATE	DESCRIPTION
1	10-28-03	INITIAL DESIGN
2	10-28-03	REVISION
3	10-28-03	REVISION
4	10-28-03	REVISION
5	10-28-03	REVISION
6	10-28-03	REVISION
7	10-28-03	REVISION
8	10-28-03	REVISION
9	10-28-03	REVISION
10	10-28-03	REVISION
11	10-28-03	REVISION
12	10-28-03	REVISION
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24	10-28-03	REVISION
25	10-28-03	REVISION
26	10-28-03	REVISION
27	10-28-03	REVISION
28	10-28-03	REVISION
29	10-28-03	REVISION
30	10-28-03	REVISION
31	10-28-03	REVISION



# MATERIALS LIST

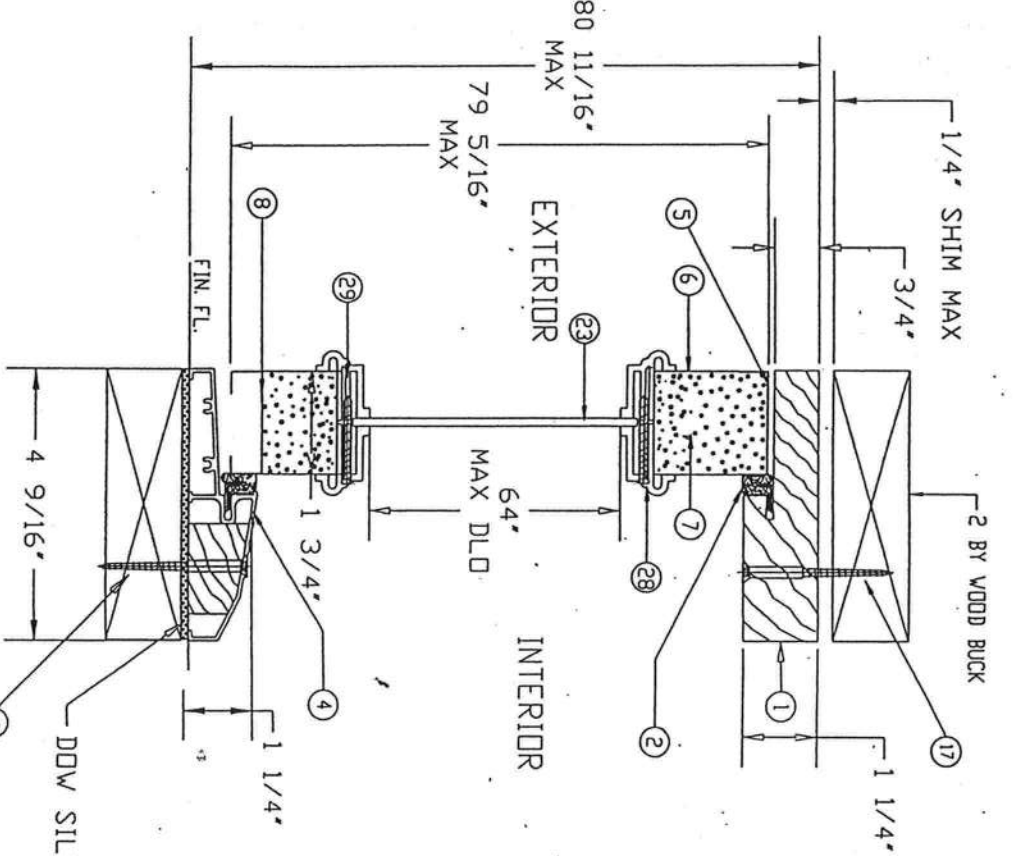
ITEM NO.	DESCRIPTION	PART NUMBER	COMMENTS
1	WOOD HEAD JAMB	EV-14	1 1/4" X 4 9/16" HTL TO BE PINE OR EQUIVALENT
2	COMPRESSION WEATHERSTRIP	EV-25	LOCKSCREEN BRAND LOCKSEAL 9650 (BRONZE)
3	ALUMINUM ASTRAGAL	EV-12	PREHODOR BRAND OR EQUIVALENT - 5/8" ALUMINUM ASTRAGAL
4	ALUMINUM-BUMPER THRESHOLD	EV-15	PREHODOR BRAND OR EQUIVALENT - 1 1/4" X 4 9/16"
5	TOP CHANNEL	EV-08	PREHODOR BRAND - 1 1/16" - 20 GA STEEL
6	STEEL SKIN	26 GA. UNF. 104" - 100"	SEE NOTE 10 FOR DETAILS
7	POLYURETHANE FOAM CORE	BASF FOAM - DENSITY 2.0 TO 2.5 LBS./FT <sup>3</sup>	
8	BOTTOM CHANNEL	PREHODOR BRAND - 1 1/16" - 20 GA STEEL	
9	WOOD LOCK BLOCK	EV-09	4" X 9 1/2" HTL TO BE PINE OR EQUIVALENT
10	STRIKE STILE	EV-06	15/16" X 1 1/16" HTL TO BE PINE OR EQUIVALENT
11	HINGE STILE	EV-05	15/16" X 1 1/16" HTL TO BE PINE OR EQUIVALENT
12	LOCK PREP FILLER PLATE	EV-10	PREHODOR BRAND - .050" THICK - HTL TO BE POLYURETHANE
13	4"x4" HINGE	EV-16	HAGER BRAND HINGE OR EQUIVALENT - .097 THICK (STEEL)
14	WOOD HINGE JAMB	EV-13	1 1/4" X 4 9/16" HTL TO BE PINE OR EQUIVALENT
15	H10 X 3/4" F.H.V.S.		(4) SCREWS PER HINGE INTO DOOR
16	H10 X 2" F.H.V.S.		(3) SCREWS THROUGH HINGE JAMB INTO SIDELITE JAMB, 8" DOWN FROM TOP, MAX 18" O.C. THEREAFTER (2) SCREWS THROUGH STRIKE JAMB INTO SIDELITE JAMB, 4" DOWN FROM TOP, MAX 18" O.C. THEREAFTER (2) SCREWS THROUGH LOCK BLOCK INTO SIDELITE, 4" DOWN FROM TOP, MAX 18" O.C. THEREAFTER
17	H10 X 3/4" F.H.V.S.		REFER TO ELEVATION VIEW FOR 1" SCREWS USED AND LOCATIONS
18	H10 X 3/4" F.H.V.S.		(2) SCREWS PER HINGE INTO JAMB
19	H8 X 2" F.H.V.S.		(2) SCREWS AT EACH STRIKE PLATE
20	LOCKSET		KWIKSET BRAND 200 LOCK OR HARTLDC BRAND 100 LOCK
21	H10 X 1 3/4" F.H.V.S.		(2) SCREWS PER HINGE INTO JAMB
22	WOOD SIDELITE JAMB	EV-19	1 1/4" X 4 9/16" HTL TO BE PINE OR EQUIVALENT
23	22" X 64" SINGLE PANEL GLASS	EV-20	TEMPERED GLASS IN POLYPROPYLENE FRAME - DC-1643 - (10L-23) 1/8" CLEAR THEREFOR GLASS
24	SIDELITE TRIM (WOOD)	EV-21	5/16" X 1 1/2" HTL TO BE PINE OR EQUIVALENT
25	WOOD CASING	EV-22	1 1/4" X 1" HTL TO BE PINE OR EQUIVALENT - TICS ARE HOLDINGS USED FOR SIDE JAMBS AS NOTED
26	WOOD SIDELITE HEAD JAMB	EV-23	1 1/4" X 4 9/16" HTL TO BE PINE OR EQUIVALENT
27	WOOD SIDELITE BASE	EV-24	1 1/4" X 4 9/16" HTL TO BE PINE OR EQUIVALENT
28	POLYPROPYLENE LITE FRAME	DC-1643, DDL-2	HP Polypropylene by DDL
29	H6 X 1 1/2" PAN HEAD SCREWS		SCREWS SPACING TO BE 3" IN FROM EACH CORNER AND NOT 18" PER FRAME TO EXCEED 14" OF THEREAFTER
30	SIDELITE STILES	EV-26	15/16" X 1 1/16" HTL TO BE PINE OR EQUIVALENT
31	PIN NAIL		3/4" LONG NAIL, 4" IN FROM END, MAX 8" O.C. THEREAFTER, USED ON WALLS AND TRIM

#995

LIMITS	UNLESS NOTED, FRAC.	DC.	ANG.	B	DATE	MODIFIED	UNITS	JO
EXTENSIONS	UNLESS NOTED, SIN. DIM. 10.5			A	MODIFIED PAGE 5	CHODR OPTIONS	10-1-98	RS
ENGINEER:				IR	REVISIONS		DATE	BT
DR. BT. RS.	DATE 7-29-97			PROJ. NAME: ENTRANCE WOOD FINE DOOR (8-B)	SCALE:			

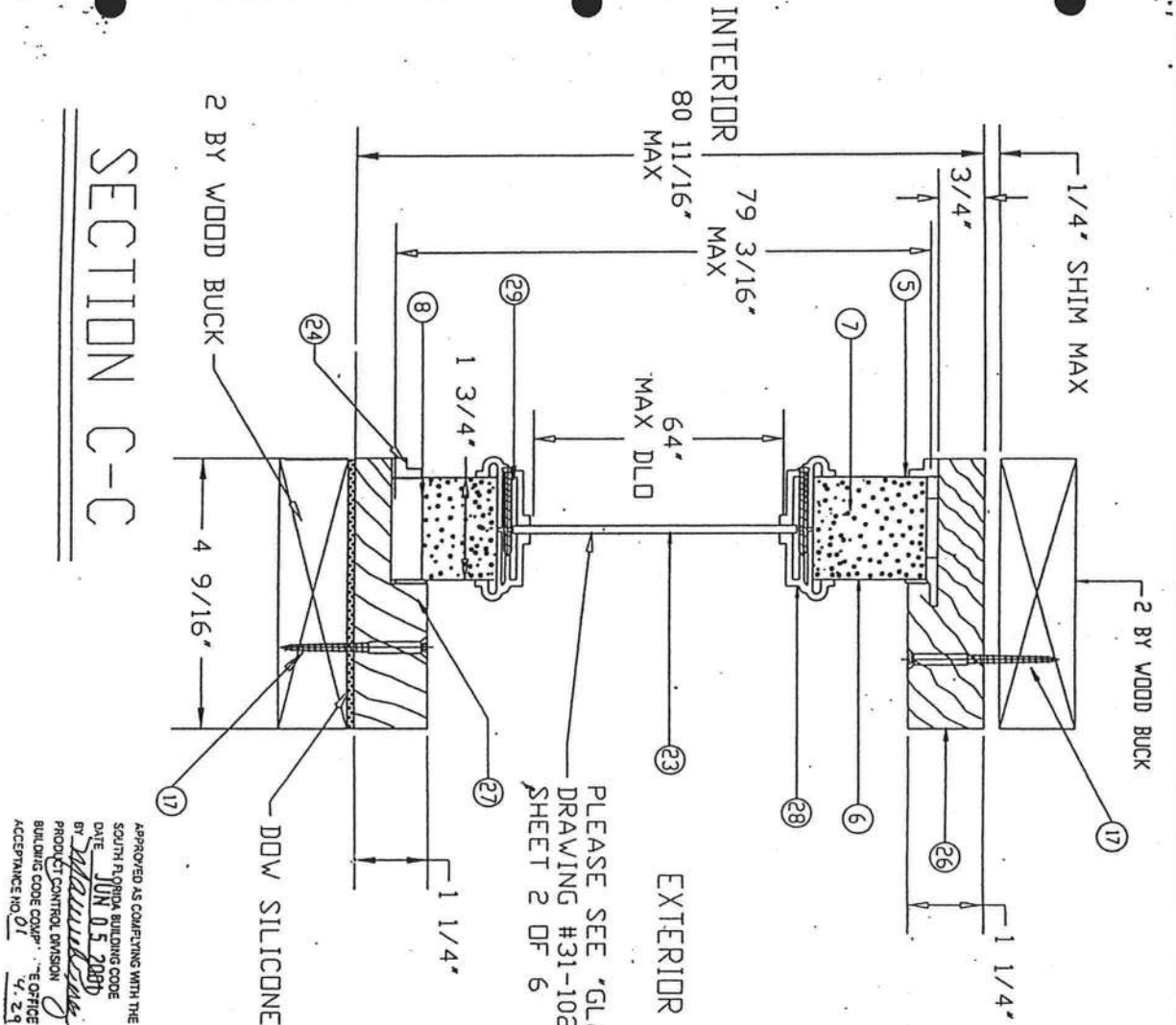
PREHODOR ENTRY SYSTEMS  
31-1028-EW-D  
SHEET 3 OF 6

REVISION LETTER B



## SECTION B-B

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE JUN 05 2004  
BY *[Signature]*  
PROJECT CONTROL DIVISION  
BUILDING CODE OFFICE  
3/4" - 2/4"  
ACCEPTANCE NO. \_\_\_\_\_



PLEASE SEE "GLAZING DETAIL"  
DRAWING #31-1028-EW-D  
SHEET 2 OF 6

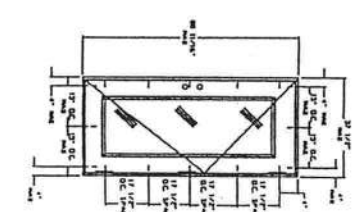
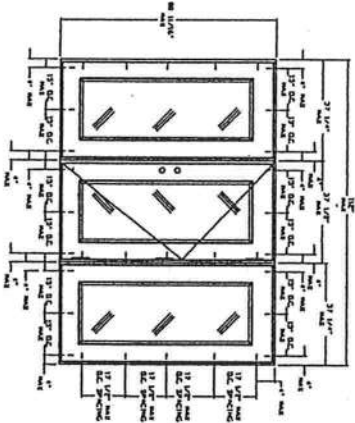
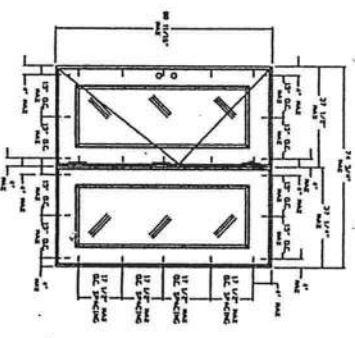
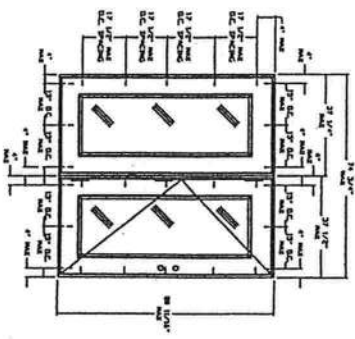
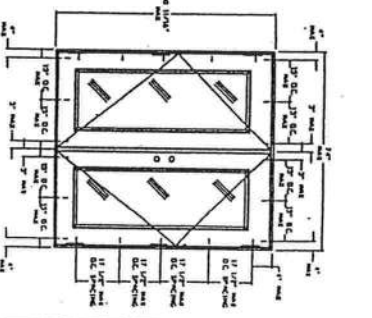
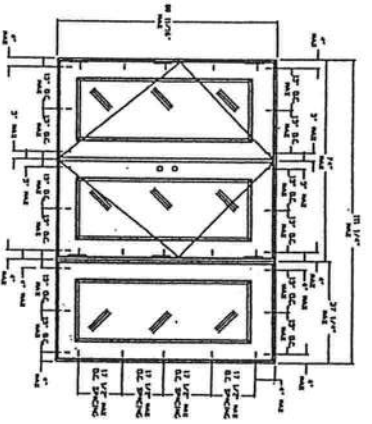
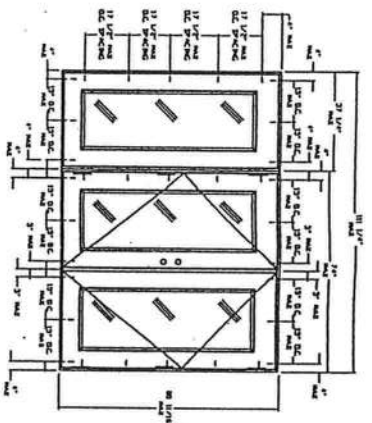
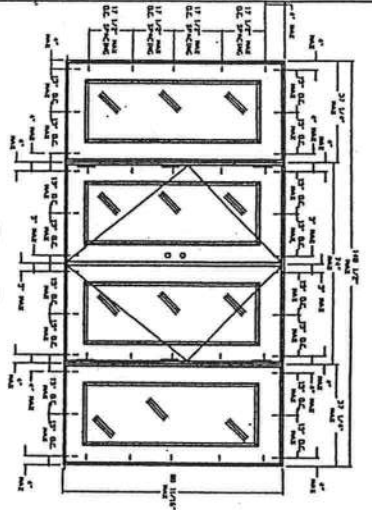
# SECTION C-C

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE JUN 05 2007  
BY *[Signature]*  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLEX OFFICE  
ACCEPTANCE NO. 01 4, 29

RE. BY	R.S.	DATE	7-29-97	REV.	NO.	1
PREMIER ENTRY SYSTEMS						
911 E. JEFFERSON						
PILLSBURY, KS 66762						
DATE COUNTY MODIFICATIONS						
D			7/11/01	J.D.		
C			6-2-99	R.S.		
B			10-1-98	R.S.		
A			12-18-97	R.S.		
REVISIONS						
REV.	NO.	DATE	BY			
1						
SCALE: 3/4\"/>						

31-1028-EW-D  
SHEET 4 OF 6  
REVISION LETTER D

# OTHER DOOR CONFIGURATIONS

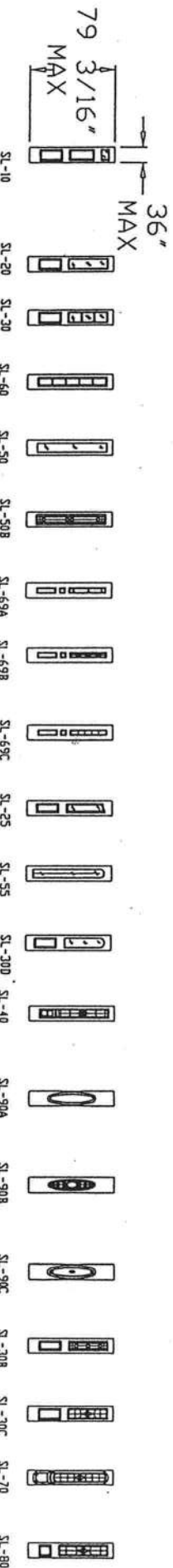
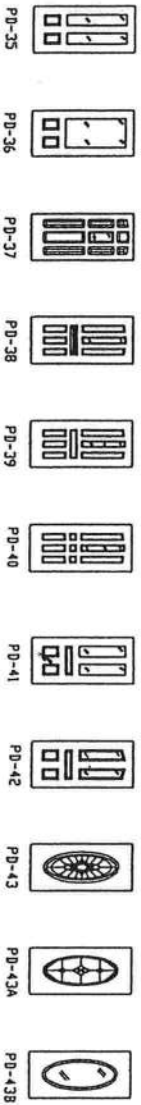
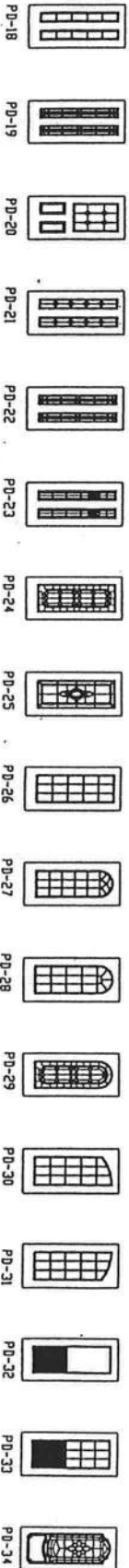
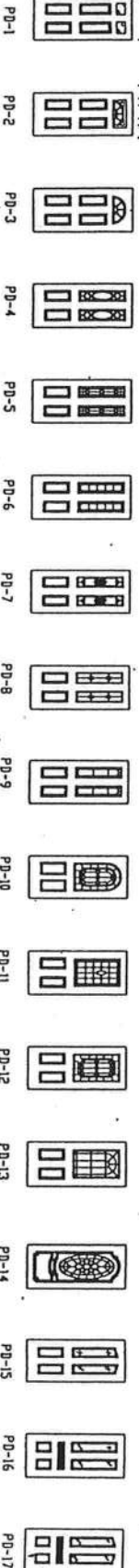


APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE JUN 05 2001  
BY *Matthew*  
PROJECT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
PHILADELPHIA, PA 19102  
ACCEP

UNITS: INCHES AND FRACTIONS	DATE: 7-11-01	REVISION LETTER
ENGINEER: <i>Matthew</i>	DATE: 7-11-01	REVISION LETTER
PREMOR ENTRY SYSTEMS	DATE: 7-11-01	REVISION LETTER
PHILADELPHIA, PA 19102	DATE: 7-11-01	REVISION LETTER
31-1028-EW-D	DATE: 7-11-01	REVISION LETTER
SHEET 5 OF 6	DATE: 7-11-01	REVISION LETTER

# OTHER GLAZED DOOR PANEL/SIDELITE STYLES W/SURFACE APPLIED MUNTINS

79 5/16" MAX  
36" MAX



APPROVED AS COORDINATING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE: JUN 15 2007  
BY: [Signature]  
PRODUCT CONTROL DIVISION  
FLOOR CODE COMPLIANCE OFFICE  
FLOOR NO. 01-0314, 29

UNITS: UNLESS NOTED, INCH.	DC :	ANG :
ENGINEER:		
DATE: <u>JUN 17/15/2011</u>	REV:	DATE:
BY: <u>[Signature]</u>	REV:	DATE:
PROJECT NAME: <u>PREMIER ENTRY SYSTEMS</u>	SCALE:	
PROJECT LOCATION: <u>31-1028-EW-D</u>		
PROJECT ADDRESS: <u>SHEET 6 OF 6</u>		
REVISION LETTER:		

# Residential System Sizing Calculation

## Summary

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

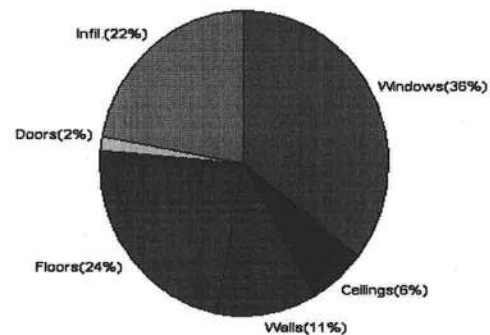
1/10/2007

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature	33	F	Summer design temperature	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
<b>Total heating load calculation</b>	<b>33349</b>	<b>Btuh</b>	<b>Total cooling load calculation</b>	<b>35273</b>	<b>Btuh</b>
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	119.9	40000	Sensible (SHR = 0.75)	105.7	30000
Heat Pump + Auxiliary(0.0kW)	119.9	40000	Latent	144.9	10000
			Total (Electric Heat Pump)	113.4	40000

## WINTER CALCULATIONS

Winter Heating Load (for 1672 sqft)

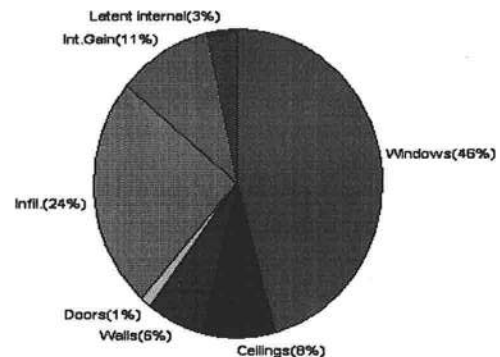
Load component			Load	
Window total	254	sqft	11921	Btuh
Wall total	1146	sqft	3765	Btuh
Door total	40	sqft	518	Btuh
Ceiling total	1750	sqft	2062	Btuh
Floor total	180	sqft	7859	Btuh
Infiltration	178	cfm	7224	Btuh
Duct loss			0	Btuh
<b>Subtotal</b>			<b>33349</b>	<b>Btuh</b>
Ventilation	0	cfm	0	Btuh
<b>TOTAL HEAT LOSS</b>			<b>33349</b>	<b>Btuh</b>



## SUMMER CALCULATIONS

Summer Cooling Load (for 1672 sqft)

Load component			Load	
Window total	254	sqft	16103	Btuh
Wall total	1146	sqft	2292	Btuh
Door total	40	sqft	392	Btuh
Ceiling total	1750	sqft	2898	Btuh
Floor total			0	Btuh
Infiltration	156	cfm	2904	Btuh
Internal gain			3780	Btuh
Duct gain			0	Btuh
Sens. Ventilation	0	cfm	0	Btuh
<b>Total sensible gain</b>			<b>28370</b>	<b>Btuh</b>
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			5703	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
<b>Total latent gain</b>			<b>6903</b>	<b>Btuh</b>
<b>TOTAL HEAT GAIN</b>			<b>35273</b>	<b>Btuh</b>



For Florida residences only

EnergyGauge® System Sizing

PREPARED BY: *John Talley*

DATE: *1-10-07*



# System Sizing Calculations - Winter

## Residential Load - Whole House Component Details

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

1/10/2007

Component Loads for Whole House						
Window	Panes/SHGC/Frame/U	Orientation	Area(sqft)	X	HTM=	Load
1	1, Clear, Metal, 1.27	W	90.0		47.0	4229 Btuh
2	1, Clear, Metal, 1.27	W	30.0		47.0	1410 Btuh
3	1, Clear, Metal, 1.27	SW	20.0		47.0	940 Btuh
4	1, Clear, Metal, 1.27	S	15.0		47.0	705 Btuh
5	1, Clear, Metal, 1.27	N	30.0		47.0	1410 Btuh
6	1, Clear, Metal, 1.27	N	2.7		47.0	127 Btuh
7	1, Clear, Metal, 1.27	E	30.0		47.0	1410 Btuh
8	1, Clear, Metal, 1.27	E	16.0		47.0	752 Btuh
9	1, Clear, Metal, 1.27	S	20.0		47.0	940 Btuh
Window Total			254(sqft)			11921 Btuh
Walls	Type	R-Value	Area	X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	974		3.3	3200 Btuh
2	Frame - Wood - Adj(0.09)	13.0	172		3.3	565 Btuh
Wall Total			1146			3765 Btuh
Doors	Type		Area	X	HTM=	Load
1	Insulated - Adjacent		20		12.9	259 Btuh
2	Insulated - Exterior		20		12.9	259 Btuh
Door Total			40			518 Btuh
Ceilings	Type/Color/Surface	R-Value	Area	X	HTM=	Load
1	Vented Attic(D/Shin)	30.0	1750		1.2	2062 Btuh
Ceiling Total			1750			2062 Btuh
Floors	Type	R-Value	Size	X	HTM=	Load
1	Slab On Grade	0	180.0 ft(p)		43.7	7859 Btuh
Floor Total			180			7859 Btuh
Zone Envelope Subtotal:						26125 Btuh
Infiltration	Type	ACH X	Zone Volume	CFM=		
	Natural	0.80	13376	178.3		7224 Btuh
Ductload	Proposed leak free, R6.0, Supply(Attic), Return(Attic) (DLM of 0.00)					0 Btuh
Zone #1	Sensible Zone Subtotal					33349 Btuh

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/10/2007

### WHOLE HOUSE TOTALS

	Subtotal Sensible Ventilation Sensible Total Btuh Loss	33349 Btuh 0 Btuh 33349 Btuh
--	--	------------------------------------

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)  
(Frame types - metal, wood or insulated metal)  
(U - Window U-Factor or 'DEF' for default)  
(HTM - ManualJ Heat Transfer Multiplier)

Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types )



For Florida residences only

# System Sizing Calculations - Winter

## Residential Load - Room by Room Component Details

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

1/10/2007

### Component Loads for Zone #1: Main

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	1, Clear, Metal, 1.27	W	90.0	47.0	4229 Btuh
2	1, Clear, Metal, 1.27	W	30.0	47.0	1410 Btuh
3	1, Clear, Metal, 1.27	SW	20.0	47.0	940 Btuh
4	1, Clear, Metal, 1.27	S	15.0	47.0	705 Btuh
5	1, Clear, Metal, 1.27	N	30.0	47.0	1410 Btuh
6	1, Clear, Metal, 1.27	N	2.7	47.0	127 Btuh
7	1, Clear, Metal, 1.27	E	30.0	47.0	1410 Btuh
8	1, Clear, Metal, 1.27	E	16.0	47.0	752 Btuh
9	1, Clear, Metal, 1.27	S	20.0	47.0	940 Btuh
Window Total			254(sqft)		11921 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	974	3.3	3200 Btuh
2	Frame - Wood - Adj(0.09)	13.0	172	3.3	565 Btuh
Wall Total			1146		3765 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Adjacent		20	12.9	259 Btuh
2	Insulated - Exterior		20	12.9	259 Btuh
Door Total			40		518 Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shin)	30.0	1750	1.2	2062 Btuh
Ceiling Total			1750		2062 Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	180.0 ft(p)	43.7	7859 Btuh
Floor Total			180		7859 Btuh
Zone Envelope Subtotal:					26125 Btuh
Infiltration	Type	ACH X	Zone Volume	CFM=	Load
	Natural	0.80	13376	178.3	7224 Btuh
Ductload	Proposed leak free, R6.0, Supply(Attic), Return(Attic) (DLM of 0.00)				0 Btuh
Zone #1	Sensible Zone Subtotal				33349 Btuh

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/10/2007

### WHOLE HOUSE TOTALS

	Subtotal Sensible	33349 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	33349 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)

(Frame types - metal, wood or insulated metal)

(U - Window U-Factor or 'DEF' for default)

(HTM - ManualJ Heat Transfer Multiplier)

Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types )



For Florida residences only

# System Sizing Calculations - Summer

## Residential Load - Whole House Component Details

Rosewood Model

Project Title:

Code Only

Lake City, FL 32025-

Greg Talley

Professional Version

Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

1/10/2007

### Component Loads for Whole House

Window	Type*	Ornt	Overhang		Window Area(sqft)			HTM		Load	
	Pn/SHGC/U/InSh/ExSh/IS		Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	90.0	0.0	90.0	37	94	8464	Btuh
2	1, Clear, 1.27, None,N,N	W	13.5f	8ft.	30.0	30.0	0.0	37	94	1124	Btuh
3	1, Clear, 1.27, None,N,N	SW	13.5f	8ft.	20.0	20.0	0.0	37	75	749	Btuh
4	1, Clear, 1.27, None,N,N	S	13.5f	8ft.	15.0	15.0	0.0	37	43	562	Btuh
5	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	30.0	0.0	30.0	37	37	1124	Btuh
6	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	2.7	0.0	2.7	37	37	101	Btuh
7	1, Clear, 1.27, None,N,N	E	7.5ft	8ft.	30.0	19.3	10.7	37	94	1726	Btuh
8	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	16.0	0.0	16.0	37	94	1505	Btuh
9	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	20.0	20.0	0.0	37	43	749	Btuh
Window Total					254 (sqft)					16103 Btuh	
Walls	Type	R-Value/U-Value		Area(sqft)			HTM		Load		
1	Frame - Wood - Ext	13.0/0.09		974.3			2.1		2032 Btuh		
2	Frame - Wood - Adj	13.0/0.09		172.0			1.5		260 Btuh		
Wall Total				1146 (sqft)					2292 Btuh		
Doors	Type				Area (sqft)		HTM		Load		
1	Insulated - Adjacent				20.0		9.8		196 Btuh		
2	Insulated - Exterior				20.0		9.8		196 Btuh		
Door Total				40 (sqft)					392 Btuh		
Ceilings	Type/Color/Surface	R-Value		Area(sqft)			HTM		Load		
1	Vented Attic/DarkShingle	30.0		1750.0			1.7		2898 Btuh		
Ceiling Total				1750 (sqft)					2898 Btuh		
Floors	Type	R-Value		Size			HTM		Load		
1	Slab On Grade	0.0		180 (ft(p))			0.0		0 Btuh		
Floor Total				180.0 (sqft)					0 Btuh		
Zone Envelope Subtotal:										21685 Btuh	
Infiltration	Type	ACH		Volume(cuft)			CFM=		Load		
	SensibleNatural	0.70		13376			156.1		2904 Btuh		
Internal gain	Occupants		Btuh/occupant			Appliance		Load			
	6		X 230 +			2400		3780 Btuh			
Duct load	Proposed leak free, R6.0, Supply(Attic), Return(Attic)							DGM = 0.00		0.0 Btuh	
Sensible Zone Load										28370 Btuh	



# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/10/2007

### WHOLE HOUSE TOTALS

<b>Whole House Totals for Cooling</b>	<b>Sensible Envelope Load All Zones</b>	<b>28370 Btuh</b>
	Sensible Duct Load	0 Btuh
	<b>Total Sensible Zone Loads</b>	<b>28370 Btuh</b>
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	<b>Total sensible gain</b>	<b>28370 Btuh</b>
	Latent infiltration gain (for 54 gr. humidity difference)	5703 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	<b>Latent total gain</b>	<b>6903 Btuh</b>
	<b>TOTAL GAIN</b>	<b>35273 Btuh</b>

\*Key: Window types (Pn - Number of panes of glass)

(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)

(U - Window U-Factor or 'DEF' for default)

(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))

(ExSh - Exterior shading device: none(N) or numerical value)

(BS - Insect screen: none(N), Full(F) or Half(H))

(Ornt - compass orientation)



For Florida residences only

# System Sizing Calculations - Summer

## Residential Load - Room by Room Component Details

Rosewood Model

Project Title:

Code Only

Lake City, FL 32025-

Greg Talley

Professional Version

Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

1/10/2007

### Component Loads for Zone #1: Main

Window	Type*	Ornt	Overhang		Window Area(sqft)			HTM		Load	
	Pn/SHGC/U/InSh/ExSh/IS		Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	90.0	0.0	90.0	37	94	8464	Btuh
2	1, Clear, 1.27, None,N,N	W	13.5f	8ft.	30.0	30.0	0.0	37	94	1124	Btuh
3	1, Clear, 1.27, None,N,N	SW	13.5f	8ft.	20.0	20.0	0.0	37	75	749	Btuh
4	1, Clear, 1.27, None,N,N	S	13.5f	8ft.	15.0	15.0	0.0	37	43	562	Btuh
5	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	30.0	0.0	30.0	37	37	1124	Btuh
6	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	2.7	0.0	2.7	37	37	101	Btuh
7	1, Clear, 1.27, None,N,N	E	7.5ft	8ft.	30.0	19.3	10.7	37	94	1726	Btuh
8	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	16.0	0.0	16.0	37	94	1505	Btuh
9	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	20.0	20.0	0.0	37	43	749	Btuh
Window Total					254 (sqft)					16103 Btuh	
Walls	Type	R-Value/U-Value		Area(sqft)		HTM		Load			
1	Frame - Wood - Ext	13.0/0.09		974.3		2.1		2032 Btuh			
2	Frame - Wood - Adj	13.0/0.09		172.0		1.5		260 Btuh			
Wall Total					1146 (sqft)				2292 Btuh		
Doors	Type			Area (sqft)		HTM		Load			
1	Insulated - Adjacent			20.0		9.8		196 Btuh			
2	Insulated - Exterior			20.0		9.8		196 Btuh			
Door Total					40 (sqft)				392 Btuh		
Ceilings	Type/Color/Surface	R-Value		Area(sqft)		HTM		Load			
1	Vented Attic/DarkShingle	30.0		1750.0		1.7		2898 Btuh			
Ceiling Total					1750 (sqft)				2898 Btuh		
Floors	Type	R-Value		Size		HTM		Load			
1	Slab On Grade	0.0		180 (ft(p))		0.0		0 Btuh			
Floor Total					180.0 (sqft)				0 Btuh		
Zone Envelope Subtotal:										21685 Btuh	
Infiltration	Type	ACH		Volume(cuft)		CFM=		Load			
	SensibleNatural	0.70		13376		156.1		2904 Btuh			
Internal gain	Occupants		Btuh/occupant		Appliance		Load				
	6		X 230 +		2400		3780 Btuh				
Duct load	Proposed leak free, R6.0, Supply(Attic), Return(Attic)							DGM = 0.00		0.0 Btuh	
Sensible Zone Load										28370 Btuh	

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/10/2007

### WHOLE HOUSE TOTALS

<b>Whole House Totals for Cooling</b>	<b>Sensible Envelope Load All Zones</b>	<b>28370 Btuh</b>
	Sensible Duct Load	0 Btuh
	<b>Total Sensible Zone Loads</b>	<b>28370 Btuh</b>
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	<b>Total sensible gain</b>	<b>28370 Btuh</b>
	Latent infiltration gain (for 54 gr. humidity difference)	5703 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	<b>Latent total gain</b>	<b>6903 Btuh</b>
	<b>TOTAL GAIN</b>	<b>35273 Btuh</b>

\*Key: Window types (Pn - Number of panes of glass)

(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)

(U - Window U-Factor or 'DEF' for default)

(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))

(ExSh - Exterior shading device: none(N) or numerical value)

(BS - Insect screen: none(N), Full(F) or Half(H))

(Ornt - compass orientation)



For Florida residences only

# Residential Window Diversity

## MidSummer

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

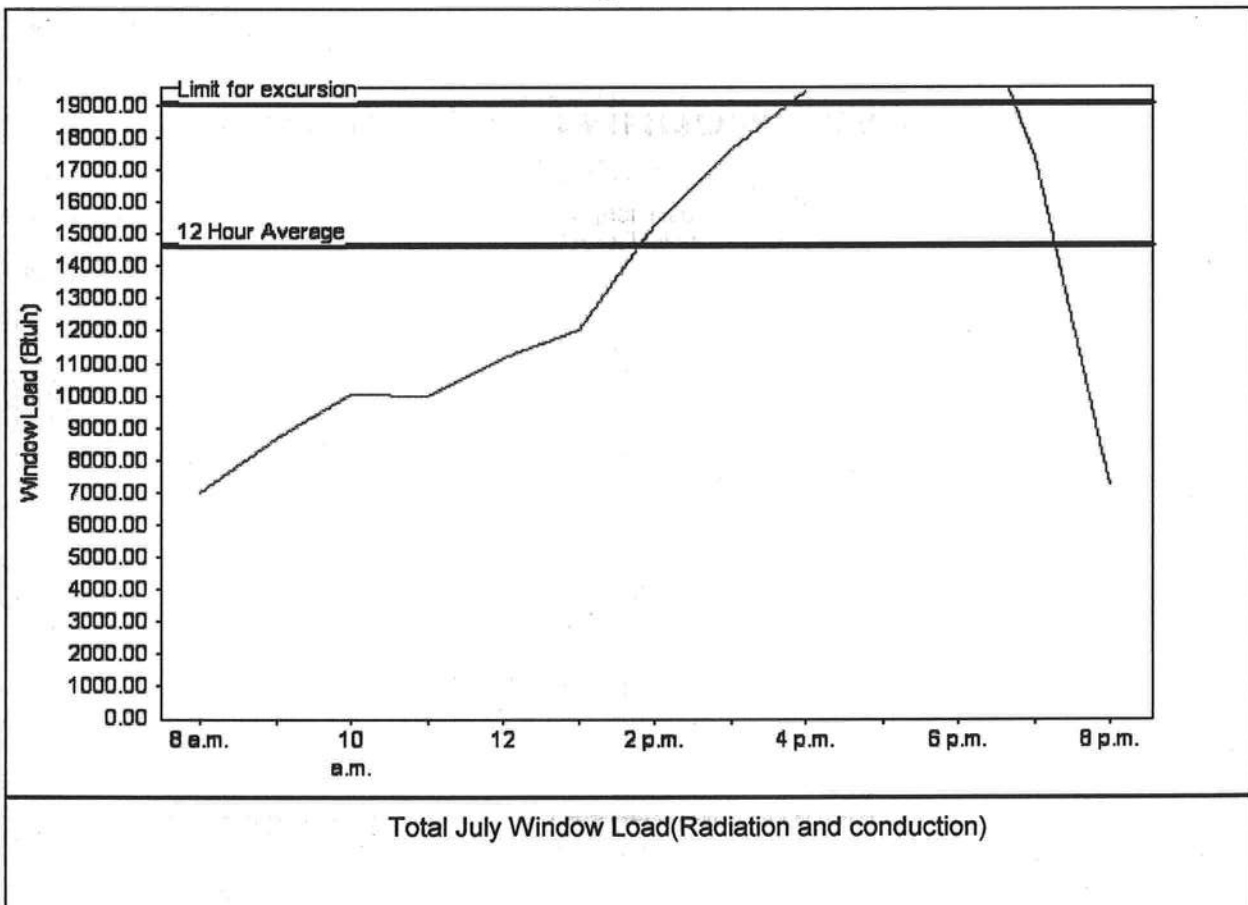
Lake City, FL 32025-

1/10/2007

Weather data for: Gainesville - Defaults

Summer design temperature	92 F	Average window load for July	14659 Btu
Summer setpoint	75 F	Peak window load for July	24192 Btu
Summer temperature difference	17 F	Excursion limit(130% of Ave.)	19056 Btu
Latitude	29 North	Window excursion (July)	5136 Btuh

## WINDOW Average and Peak Loads



This application has glass areas that produce large heat gains for part of the day. Variable air volume devices are required to overcome spikes in solar gain for one or more rooms. Install a zoned system or provide zone control for problem rooms. Single speed equipment may not be suitable for the application.

EnergyGauge® System Sizing for Florida residences only

PREPARED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

EnergyGauge® FLRCPB v4.1





# National Evaluation Service, Inc.

5203 Leesburg Pike, Suite 708, Falls Church, Virginia 22041-3401

Phone: 703/931-2187 Fax: 703/931-6506

website: www.nateval.org



## NATIONAL EVALUATION REPORT

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Report No. NER-432

Reissued June 1, 2000

### SIMPSON STRONG-TIE® COMPANY, INC., CONNECTORS

SIMPSON STRONG-TIE® COMPANY, INC.  
4637 CHABOT DRIVE, SUITE 200  
PLEASANTON, CALIFORNIA 94588

#### 1.0 SUBJECT

Simpson Strong-Tie® Connectors:

- 1.1 ABE Adjustable Post Bases
- 1.2 CBA Adjustable Column Bases
- 1.3 EPB44T Elevated Post Base
- 1.4 H2.5, H10-2, H15, and H15-2, Hurricane Ties
- 1.5 HGT-2, HGT-3, and HGT-4 Heavy Girder Tiedowns
- 1.6 LSSU Field Slope and Skewable Hangers
- 1.7 LTHMA Light Multiple Truss Hanger
- 1.8 LTHJ Light Truss Hip/Jack Hangers
- 1.9 LTP4 Lateral Tie Plate
- 1.10 LTTI31 Tension Tie
- 1.11 MSC Multiple Seat Connectors
- 1.12 RSP4 Reversible Stud Plate Tie
- 1.13 SP Stud Plate Connectors
- 1.14 SS Stud Shoes
- 1.15 THG2A Skewed Truss Girder Hangers
- 1.16 TWB T-Type Wall Bracing

#### 2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

Structural

#### 3.0 DESCRIPTION

##### 3.1 ABE ADJUSTABLE POST BASES

The two-part bases are die-formed from No. 16 gage galvanized steel complying with ASTM A653 CS, with a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). The base plate includes an adjustment slot for a 1/2 inch (12.7 mm) diameter anchor bolt, and a 1 inch (25.4 mm) pedestal is built into the four-sided standoff plate. The post bases are manufactured to fit nominal 3 1/2 inch by 3 1/2 inch (89 mm by 89 mm) wood posts. See Table 1 of this report for details and fastener schedules.

##### 3.2 CBA ADJUSTABLE COLUMN BASES

The two piece bases attach a wood post to existing concrete footings and slabs and are adjustable to accommodate minimum 5 1/2 inch by 5 1/2 inch (140 mm by 140 mm) posts. The two pieces have two 3/4 inch (19 mm) diameter bolt holes in the base for attachment to the concrete elements. To connect to the posts, the projecting side flanges have 5/8 inch (15.9 mm) diameter bolt holes. Both pieces are formed from No. 10 gage galvanized steel that conforms to ASTM A653 SS Grade 33, with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). See Table 2 of this report for details, allowable loads, and fastener schedules.

##### 3.3 EPB44T ELEVATED POST BASE

The two part base consists of a No. 12 gage galvanized steel channel. The channel includes a die drawn 5/8 inch (15.9 mm) diameter threaded hole trunnion at its center, which accommodates a 5 inch long (127 mm), 5/8 inch (15.9 mm) diameter zinc plated threaded rod. The threaded rod and channel assembly adjusts to a maximum post elevation of 2 1/2 inches (63.4 mm) above the concrete and a minimum concrete embedment of 2 1/2 inches (63.4 mm). The post base is manufactured to accommodate nominal 4 inch by 4 inch (101.6 mm by 101.6 mm) wood posts. The steel meets ASTM A653 SS Grade 33 specifications with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). See Table 3 of this report for details, allowable loads, and fastener schedules.

##### 3.4 H2.5, H10-2, H15, H15-2 HURRICANE TIES

Hurricane Ties are anchors designed to connect rafters or joists to wall plates or studs. The H2.5 and H10-2 are formed from No. 18 gage galvanized steel. The H15 and H15-2 are formed from No. 16 gage galvanized steel. The steel meets ASTM A653 FS with a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). See Table 4 of this report for details and fastener schedules.

The H2.5 is a twisted strap tie used to attach a rafter or stud member to the side of a top plate or bottom sole plate. The lower end is fastened to the wall plate and is long enough to locate the nails into each of the two top plates.

The H10-2 is formed from a 5 1/2 inch (140 mm) plate, and has one 3 1/8 inch (79.4 mm) wide, 3 1/32 inch (80 mm) deep slot in the upper half of the plate, diagonal to the edge. The slot material is bent to form a 1 9/16 inch (39.7 mm) flange on each side. The H10-2 attaches double nominal 2 inch (50.8 mm) wide solid sawn rafters or joists to the top of a wall at the double plate.

*This report is limited to the specific product and data and test reports submitted by the applicant in its application requesting this report. No independent tests were performed by the National Evaluation Service, Inc. (NES), and NES specifically does not make any warranty, either expressed or implied, as to any finding or other matter in this report or as to any product covered by this report. This disclaimer includes, but is not limited to, merchantability. This report is also subject to the limitation listed herein.*



The H15 and H15-2 are formed into an inverted U-shaped element with a 2 1/2 inch (63.5 mm) wide flange bent at right angles near the U-bend. The flanges are twisted again at 90 degree angles at the bottom of the connector. The H15 has a formed seat 1 5/8 inches (41.3 mm) wide and attaches over the heel of a single ply truss or rafter to the wall stud member below. The H15-2 has a formed seat 3 1/4 inches (82.6 mm) wide and attaches the heel of a double ply truss or rafter to a double nominal 2 inch (50.8 mm) thick wall stud member below. Both ties are capable of being field formed to accommodate rafter or truss pitches from 0:12 minimum to 7:12 maximum.

### 3.5 HGT-2, HGT-3, AND HGT-4 HEAVY GIRDER TIEDOWNS

The HGT-2, HGT-3, and HGT-4 are formed from No. 7 gage steel conforming to ASTM A570 Grade 33 with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 52,000 psi (358 MPa), and a welded insert plate made from 1/2 inch (12.7 mm) thick A36 hot-rolled steel with a minimum yield strength of 33,000 psi (227 MPa) and a minimum ultimate strength of 45,000 psi (310 MPa). The HGT-2 attaches to the heel of a two-ply truss. The HGT-3 attaches to the heel of a three-ply truss. The HGT-4 attaches to the heel of a four-ply truss. The HGT tiedowns are anchored to concrete or wood construction with bolts, can accommodate top chord slopes from 3:12 minimum to 8:12 maximum and are provided with crescent washers for sloped top chord installations. See Table 5 of this report for details, allowable loads and fastener schedules.

### 3.6 LSSU FIELD SLOPE AND SKEWABLE HANGERS

The LSSU is fabricated from No. 18 gage galvanized steel. It is designed to be sloped up or down 45 degrees and skewed right or left to 45 degrees. The steel complies with ASTM A653 FS having a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). Use of the hangers to laterally support members is beyond the scope of this report. See Table 6 of this report for details, allowable loads, and fastener schedules.

### 3.7 LTHMA LIGHT MULTIPLE TRUSS HANGER

The LTHMA is fabricated from No. 16 gage galvanized steel conforming to ASTM A653 FS with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). The LTHMA is designed to carry up to three single-ply truss members intersecting at one point. The connector has three formed stirrups that are capable of being field sloped down from 0 to 45 degrees from the horizontal. See Table 7 of this report for details and fastener schedules.

### 3.8 LTHJ LIGHT TRUSS HIP/JACK HANGERS

The LTHJ hangers are formed from No. 18 gage galvanized steel conforming to ASTM A653 FS having a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). The hangers allow a 45 degree member and a 90 degree member to attach to the supporting member at the same location. Use of the hangers to laterally support members is beyond the scope of this report. See Table 8 of this report for hanger details, allowable loads, and fastener schedules.

### 3.9 LTP4 LATERAL TIE PLATE

The LTP4 is a 3 inch by 4 1/4 inch (76.2 mm by 108 mm), No. 20 gage, galvanized flat steel plate. The steel complies with ASTM A653 FS with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength

of 45,000 psi (310 MPa). See Table 9 of this report for details, allowable loads, and fastener schedules.

### 3.10 LTTI31 TENSION TIE

The LTTI31 is formed from No. 18 gage steel strap that is 3 3/4 inches (95.2 mm) wide with a 90 degree bend at one end. The bend is 2 3/4 inches (69.8 mm) long, with an 11/16 inch (17.5 mm) diameter hole punched in the center to provide anchorage with a 5/8 inch (15.9 mm) diameter bolt. A No. 3 gage load transfer plate is installed in the bend in lieu of a washer. The No. 18 gage steel complies with ASTM A653 SS and has a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). The No. 3 gage steel complies with ASTM A570 with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 52,000 psi (358 MPa). See Table 10 of this report for allowable loads and fastener schedules.

### 3.11 MSC MULTIPLE SEAT CONNECTORS

The MSC1.81 and MSC2 connectors are three No. 11 gage U-shaped hangers that are factory-welded to a single No. 3 gage steel angle with 1/8 inch (3.2 mm) fillet welds. The MSC4 connector consists of three No. 7 gage U-shaped stirrups that are factory-welded to a single No. 3 gage steel angle with 3/16 inch (4.8 mm) fillet welds. The MSC series connector is designed to carry up to three members intersecting at one point, with the center member perpendicular to the carried member. The two U-shaped stirrups for the side members can accommodate horizontal skews up to 45 degrees from the center member and down slopes from 0 to 45 degrees. The Nos. 11, 7 and 3 gage steel conform to ASTM A570 Grade 33 with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 52,000 psi (358 MPa). See Table 11 of this report for details, allowable loads, and fastener schedules.

### 3.12 RSP4 REVERSIBLE STUD PLATE TIE

The RSP4 Reversible Stud Plate Tie is a No. 20 gage galvanized sheet metal plate cut in the shape of a "1/4". The RSP4 has two triangular and two rectangular tabs, bent at 90 degrees from the face of the "1/4", which act as placement guides. The RSP4 is a dual-purpose, reversible tie-plate used to secure vertical wood-stud framing members (typically 2 x 4, 2 x 6, and 2 x 8) to the bottom sole plate of a stud wall, or secure the top of the same stud member to the double top plate members.

In a stud-to-double-top-plate condition, the RSP4 rectangular tabs on the vertical leg of the "1/4" act as guides to position the nailing pattern to allow for an equal number of nails to be distributed to each top plate. In the stud-to-bottom sole-plate application, the RSP4 is inverted (the horizontal leg is on the bottom), and is installed such that the triangular tabs on the horizontal leg rest on top of the sole plate to position the tie plate for consistent nail placement. The steel complies with ASTM A653 FS, with a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). See Table 12 of this report for details, allowable loads, and fastener schedules.

### 3.13 SP STUD PLATE CONNECTORS

SP connectors are die-formed from No. 20 gage galvanized steel conforming to ASTM A653 FS, with a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). SP1 and SP2 connectors fasten to a single plate, or a double plate, respectively. See Table 13 of this report for allowable loads and fastener schedules.

### 3.14 SS STUD SHOES

SS stud shoes are formed from No.18 gage galvanized steel complying with ASTM A653 FS with a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). The stud shoes reinforce notched wood studs. See Table 14 of this report for allowable loads and fastener schedules.

### 3.15 THG2A SKEWED TRUSS GIRDER HANGERS

THG2A hangers are formed from No. 10 gage galvanized steel, complying with ASTM A653 SS Grade 33, with a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). The hangers allow the 45 degree attachment of a multiple girder truss to a carrying member that is attached to a vertical component with two 3/4 inch (19 mm) diameter machine bolts. Use of the hangers to laterally support members is beyond the scope of this report. See Table 15 of this report for details, allowable loads, and fastener schedules.

### 3.16 TWB T-Type Wall Bracing

The TWB10, TWB12 and TWB14 bracing are formed from No. 22 gage (0.030 inch) galvanized steel complying with ASTM A653 FS, having a minimum yield strength of 28,000 psi (193 MPa) and a minimum tensile strength of 38,000 psi (262 MPa). The flanges are 9/16 inch (14.3 mm) wide. The kerf leg is 9/16 inch (14.3 mm) deep with an overall width of 1/8 inch (3.2 mm). The wall bracings provide racking resistance for wood-framed walls during construction. See Table 16 of this report for details and fastener schedules.

## 4.0 DESIGN AND INSTALLATION

### 4.1 DESIGN CRITERIA

Load capacities shall be limited to lumber members with a minimum specific gravity of 0.50. Adjustments to allowable loads are permitted in accordance with the applicable code as referenced in this report. The maximum adjusted load shall not exceed the maximum design load shown in the tables.

The allowable loads for Simpson Strong-Tie Connectors are based on the lowest load obtained from comparing the following:

1. Test load, at which 1/8 inch (3.2 mm) deflection occurs at either end.
2. Lowest ultimate test load divided by 3.0.
3. Allowable loads on fasteners and wood, calculated in accordance with the applicable code as referenced in this report.

### 4.2 INSTALLATION

Connectors shall be installed in accordance with this report and the manufacturers installation instructions. Current copies of the installation instructions shall be available at all times on the job site during installation.

### 4.3 NAILS

Nails used with the Simpson Strong-Tie products described in this report shall comply with Federal Specification FF-N-105B and shall have the following minimum bending yield strengths,  $F_y$ :

PENNYWEIGHT, COMMON TYPE	NAIL DIAMETER (in.)	$F_y$ (psi)
8d	0.131	100,000
10d	0.148	90,000
12d	0.148	90,000
16d	0.162	90,000

For SI: 1 in. = 25.4 mm, 1 psi = 6.89 kPa.

### 4.4 SHEET METAL COATING

Galvanized connectors conform to ASTM A653, G 60.

### 4.5 BOLTS

References to anchors, bolts or MB's (machine bolts) are for structural quality studs or through bolts equal to or better than ASTM Standard A307, Grade A.

## 5.0 IDENTIFICATION

Connectors described in this report shall be stamped with the words "Simpson Strong-Tie", the model number, and the National Evaluation Service report number, for field identification.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Manufacturer's descriptive literature and published installation instructions dated January 1996.
- 6.2 Load tests performed in accordance with applicable provisions of ASTM D1761 witnessed by TEI Consulting Engineers, signed by Rostam Esfandiari, P.E.
- 6.3 Structural calculations prepared by Simpson Strong-Tie Co., Inc., signed and sealed by Karen W. Colonias, P.E., Daphne N. Schonert, P.E., and Evon M. C. Ballash, P.E.
- 6.4 LSU Series-torsional capacity tests performed in accordance with ASTM D1761, prepared by Testing Engineers Incorporated, File 01325, Lab MN087, dated November 30, 1981, signed by Dushyant Manmohan.
- 6.5 Simpson Strong-Tie Welding Operations and Procedures Manual, dated October 20, 1998, Revision 8. Signed by representatives of Simpson Strong-Tie and Professional Services Industries.

## 7.0 CONDITIONS OF USE

The National Evaluation Service Committee finds that the Simpson Strong-Tie® Connectors described in this report comply with the requirements of the 2000 *International Building Code*, the *BOCA National Building Code/1999*, the 1999 *Standard Building Code*, the 2000 *International Residential Code*, and the 1997 *Uniform Building Code*, subject to the following conditions:

- 7.1 Loads shall not exceed values shown in the tables of this report. These loads are based on the use of the tabulated fasteners, wood species with a specific gravity of 0.50 or higher, lumber moisture content less than 19 percent, and a maximum in-service temperature of 100 °F (37.8 °C).
- 7.2 Framing members are designed in accordance with the requirements of the applicable code, as referenced in this report.

- 7.3 Load capacities of connectors used under conditions different from those indicated in Section 7.1 of this report, are beyond the scope of this report and shall be verified by tests or calculations by a registered engineer.
- 7.4 Beams or headers shall have the following minimum widths, based on nail sizes attaching the hanger to the beams or headers:

NAIL SIZE	BEAM OR HEADER WIDTH (in.)
8d common	1.57
10d common	1.78
18d common	1.94

For SI: 1 in. = 25.4 mm.

- 7.5 Design calculations and details for specific applications shall be furnished to the code official verifying compliance with this report and the 2000 *International Building Code*, the *BOCA National Building Code/1999*, the *1999 Standard Building Code*, the *2000 International Residential Code*, and the *1997 Uniform Building Code*, as applicable. The individual preparing such documents shall possess the necessary credentials regarding competency and qualifications as required by the applicable code and the professional registration laws of the state where the construction is undertaken.
- 7.6 This report is subject to periodic re-examination. For information on the current status, consult the evaluation report listing or contact the NES.

Table 1 — ABE ADJUSTABLE POST BASES <sup>1,2,3</sup>

MODEL NO.	DIMENSIONS		FASTENERS <sup>5</sup>		ALLOWABLE LOADS <sup>6</sup>	
	W (in.)	L (in.)	Post (qty - size)	Anchor (in.)	Uplift <sup>7,8</sup> (133/160) (lbf)	Down (100) (lbf)
ABE44	3 9/16	3-1/2	8 - 10d	1/2 MB	520	6665

For SI: 1 in. = 25.4 mm; 1 psi = 6.89 kPa; 1 lbf = 4.45 N.

- Use a 1/2 inch diameter anchor bolt embedded a minimum of 4 inches into the concrete in accordance with the applicable code.
- Anchor bolt type, length and embedment to be specified by the designer, shall be designed to resist the uplift force, and shall be specified on the approved construction documents.
- Minimum side cover shall be 2 inches.
- Minimum concrete strength shall be 2,000 psi.
- Nails shall be 0.148 inch in diameter by 3 inches long (10d common).
- Loads shall not be increased for short-term load duration.
- Both 133 % and 160 % load durations shall be limited to the loads listed.
- A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.

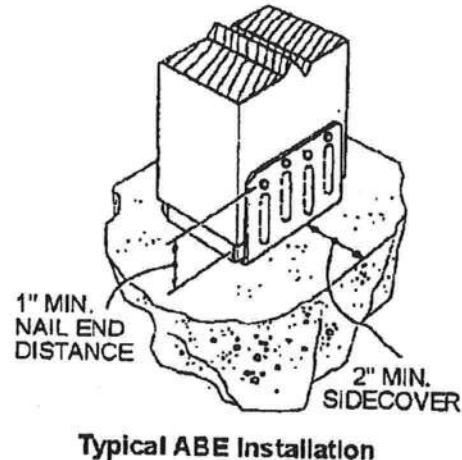
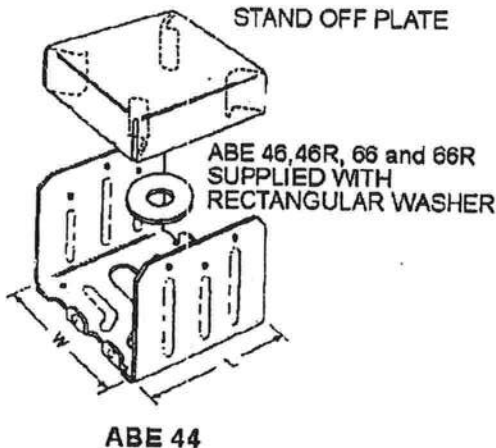
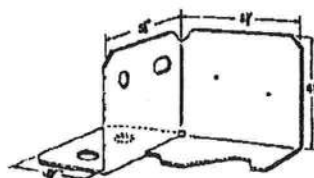


Table 2 — CBA ADJUSTABLE COLUMN BASES <sup>1,2</sup>

MODEL NO.	FASTENERS		ALLOWABLE UPLIFT LOAD <sup>4,5,6,8,9</sup> (133/160) (lbf)
	Anchor <sup>3</sup> qty-dia (In.)	Post qty-dia (In.)	
CBA66	4 - 3/4	2 - 5/8 MB	3,000

For SI: 1 in. = 25.4 mm; 1 psi = 6.89 kPa; 1 lbf = 4.45 N.

1. Minimum concrete strength shall be 2,000 psi.
2. Anchor bolt side cover shall be as specified on the approved construction documents.
3. Anchor bolt type, length and embedment to be specified by the designer, shall be designed to resist the uplift force, and shall be specified on the approved construction documents.
4. Loads shall not be increased for short-term load duration.
5. Loads apply only when the products are installed in pairs.
6. Loads are in pounds.
7. Allowable load has been increased 33 % and 60 % for wind or earthquake loading with no further increase allowed.
8. Both 133 % and 160 % load durations shall be limited to the loads listed.
9. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



CBA66

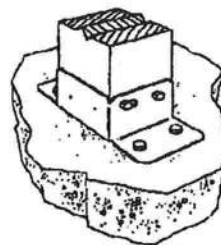
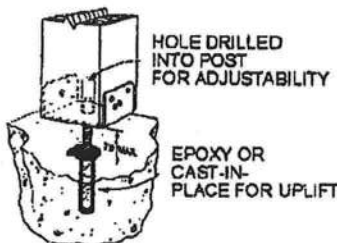
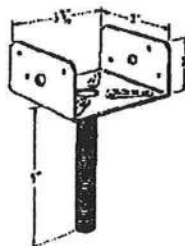
Typical CBA66  
Installation

Table 3 — EPB44T ELEVATED POST BASE

MODEL NO.	NAILS (qty - size)	ALLOWABLE LOADS (lbf)			
		Uplift		Lateral <sup>4,5,6</sup> (133/160)	Down (100)
		(133)	(160)		
EPB44T	6 - 10d	1130	1185	410	3275

For SI: 1 lbf = 4.45 N.

1. Load shall not be increased for short-term loading.
2. Uplift & lateral loads require the threaded rod to be set in wet concrete or attached to cured concrete with epoxy.
3. Lateral load is for both perpendicular and parallel to the connector directions.
4. Allowable load has been increased 33 % and 60 % for wind or earthquake loading with no further increases allowed.
5. Both 133 % and 160 % load durations shall be limited to the loads listed.
6. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.

EPB44T installed  
with Epoxy

EPB44T

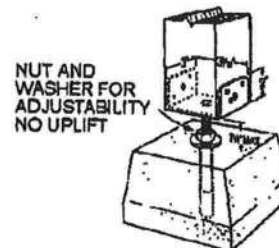
EPB44T installed with  
Nut and Washer  
(not supplied)

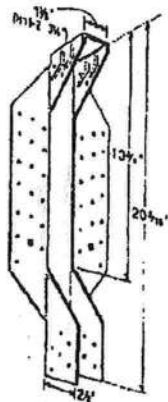


Table 4 — HURRICANE TIES

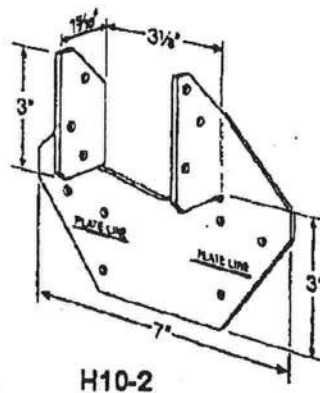
MODEL NO.	FASTENERS (qty - size)			ALLOWABLE LOADS <sup>1,2,4,5</sup> (lbf)			
	To Rafters	To Plates	To Studs	Uplift		Lateral (133/160) <sup>4</sup>	
				(133)	(160)	F1	F2
H2.5	---	4-8d×1-1/2	5-8d×1-1/2	400	400	---	---
H10-2	6-10d	6-10d	---	760	760	455	395
H15	4-10d×1-1/2	4-10d×1-1/2	12-10d×1-1/2	1300	1300	575	---
H15-2	4-10d×1-1/2	4-10d×1-1/2	12-10d×1-1/2	1300	1300	575	---

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

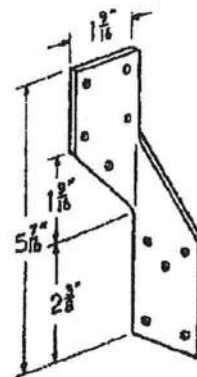
1. Loads have been increased 33 % and 60 % for wind or earthquake loading with no further increases allowed.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2-1/2 inches shall be used when framing anchors are installed on each side of the joist and on the same side of the plate.
3. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to all such forces shall be provided where required.
4. Both 133 % and 160 % load durations shall be limited to the loads listed.
5. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



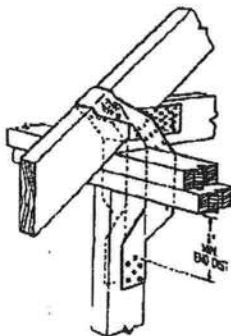
H15  
(15-2 similar)



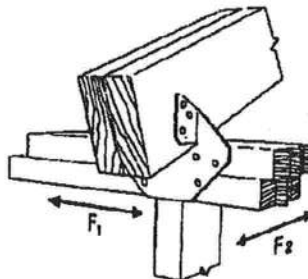
H10-2



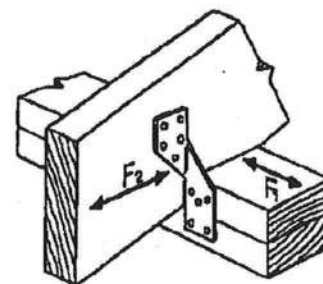
H2.5



Typical H15  
Installation



H10-2 Installed



Typical H2.5  
Installation

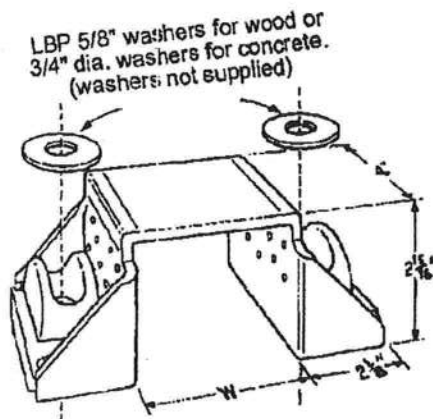


Table 5 — HGT HEAVY GIRDER TIEDOWNS

MODEL NO.	W (In.)	O.C. DIM BETWEEN ANCHORS (In.)	FASTENERS			ALLOWABLE UPLIFT (133/160) <sup>5,6</sup> (lbf)
			Anchor Dia. (In.)		Girder (qty - size)	
			Concrete	Wood		
HGT-2	3-7/16	5-3/4	3/4	LBP 5/8	16-10d	10980
HGT-3	5-1/8	7-1-2	3/4	LBP 5/8	16-10d	10530
HGT-4	6-3/4	9-3/8	3/4	LBP 5/8	16-10d	10530

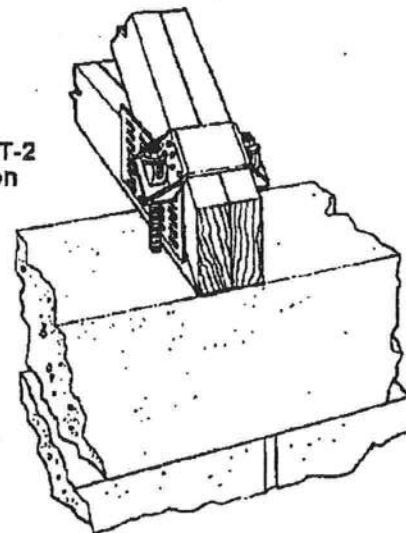
For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

1. Attached members shall be designed to resist applied loads.
2. Allowable loads have been increased 33 % and 60 % for wind or earthquake loading with no further increase allowed.
3. When the HGT-3 is used with a 2-ply girder or beam, shimming shall be required. Shimming shall be a similar size and grade of lumber as the girder, and the entire assembly shall be fastened to act as one unit.
4. Anchor bolt type, length and embedment to be specified by the designer, shall be designed to resist the uplift force, and shall be specified on the approved construction documents.
5. Both 133 % and 160 % load durations shall be limited to the loads listed.
6. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



HGT-2  
(HGT-3 & 4 similar)

Typical HGT-2  
Installation



Typical HGT-3  
Shimmed Installation

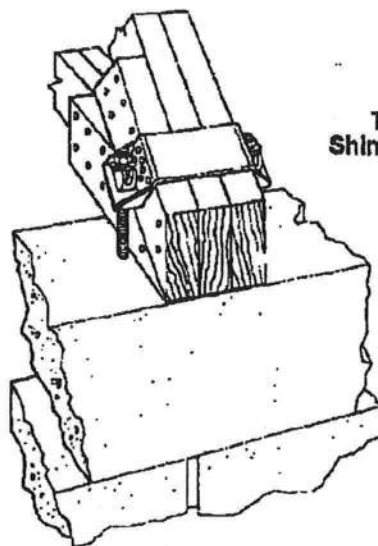


Table 6 — LSSU FIELD SLOPE AND SKEWABLE HANGERS<sup>1,2</sup>

MODEL NO.	DIMENSIONS		FASTENERS <sup>3</sup>		ALLOWABLE LOADS					
	W (in.)	H (in.)	Header (qty-size)	Joist (qty-size)	Uplift <sup>4,5</sup>		Slope Only		Skewed <sup>3,5</sup>	
					(133)	(160)	Norm (100)	Max (125)	Norm (100)	Max (125)
LSSU28	1-9/16	7-1/8	10-10d	5-10d×1-1/2	450	450	1110	1390	990	990
LSSU210	1-9/16	8-1/2	10-10d	7-10d×1-1/2	730	785	1110	1390	1000	1205
LSSU125	1-13/16	8-1/2	10-10d	7-10d×1-1/2	730	785	1110	1390	1000	1205
LSSU135	5-5/16	8-1/2	10-10d	7-10d×1-1/2	730	785	1110	1390	1000	1205

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

1. Loads are in pounds force.

2. Torsional capacity is 75 pounds times joist depth, summarized as follows:

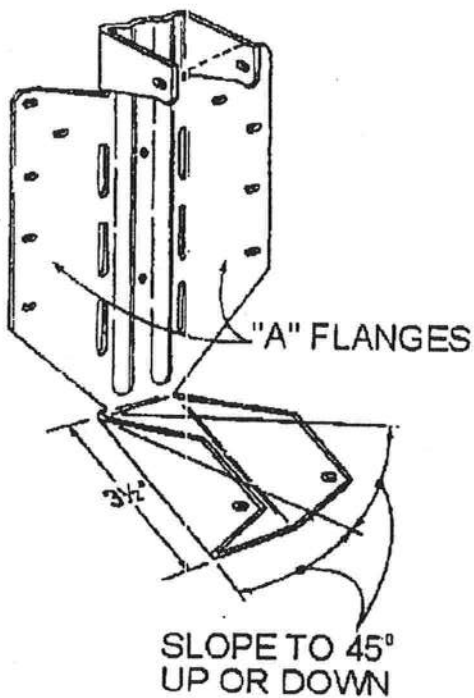
JOIST DEPTH (in.)	TORSIONAL CAPACITY (lbf)
8	600
10	750

3. Nails shall be 0.148 inch in diameter by 3 inches long (10d common) and 0.148 inch in diameter by 1½ inches long for N10.

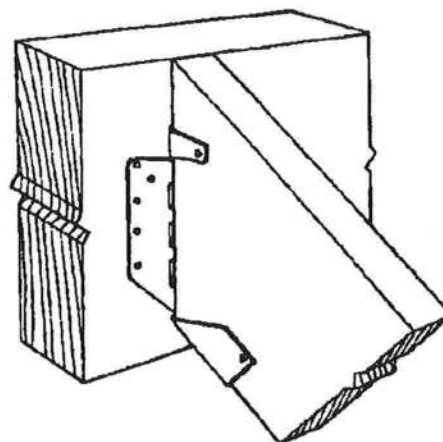
4. Uplift loads have been increased 33 % and 60 % for wind or earthquake loading with no further increase allowed.

5. Use nine (9) header nails for skewed LSSU28, LSSU210, LSSU125, LSSU135.

6. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



LSSU28



Typical LSSU Sloped Installation

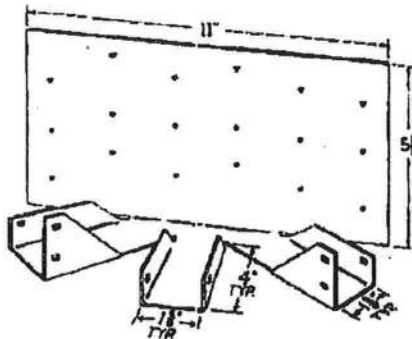
Table 7 — LTHMA LIGHT MULTIPLE TRUSS HANGER

MODEL NO.	HEADER NOMINAL SIZE (in.)	FASTENERS (qty - size)		
		Header	Hips	Jack
LTHMA	1 ply 2x4	12-10d×1-1/2	6-10d×1-1/2	2-10d×1-1/2
	2 ply 2x4	12-10d	6-10d×1-1/2	2-10d×1-1/2
	1 ply 2x6	18-10d×1-1/2	6-10d×1-1/2	2-10d×1-1/2
	2 ply 2x6	18-10d	6-10d×1-1/2	2-10d×1-1/2

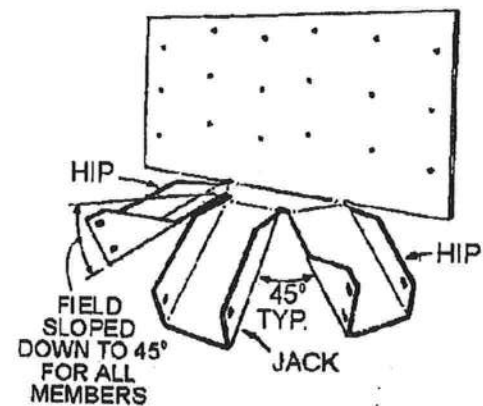
MODEL NO.	HEADER NOMINAL SIZE (in.)	WOOD SPECIES	ALLOWABLE LOADS (lbf)											
			Uplift (133/160) <sup>a</sup>			Floor (100)			Snow (115)			Roof (125/133/160) <sup>a,b</sup>		
			Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
LTHMA	1 ply 2x4	Douglas Fir	55	20	130	485	110	1080	540	125	1205	540	125	1205
	2 ply 2x4		55	20	130	600	130	1330	675	150	1500	675	150	1500
	1 ply 2x6		55	20	130	635	140	1410	635	140	1410	635	140	1410
	2 ply 2x6		85	25	195	900	200	2000	1035	230	2300	1050	240	2340

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

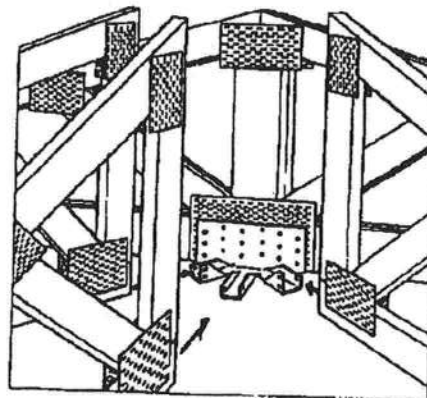
1. The total load is the sum of all three carried members.
2. Uplift loads include 133 % and 160 % increase for wind and earthquake loading with no further increases allowed.
3. Snow and roof loads are 115 % and 125 % of floor, respectively, unless limited by other criteria.
4. Combine two hips and one jack load for total capacity.
5. Total load shall be evenly distributed about the centerline to avoid eccentric loading.
6. Both 133 % and 160 % load durations shall be limited to the loads listed.
7. 125%, 133 % and 160 % load durations shall be limited to the loads listed.
8. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code



LTHMA with jacks and hips non-sloped



LTHMA with jacks and hips sloped down 45°



Typical LTHMA Installation

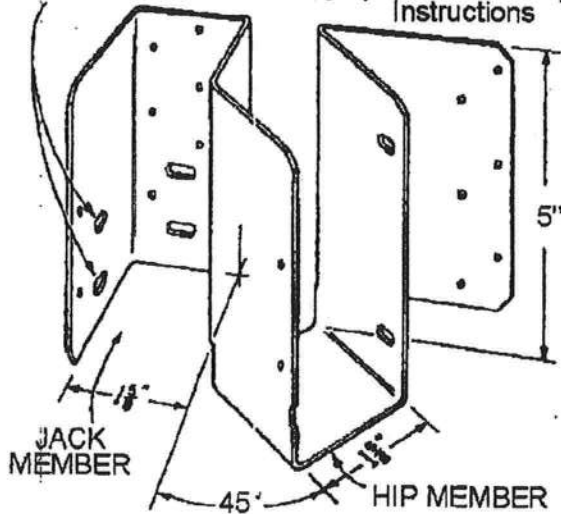
Table 8 — LTHJ HIP/JACK HANGERS<sup>1</sup>

MODEL NO.	FASTENERS <sup>2</sup>			AVG ULT (lb/f)	ALLOWABLE LOADS <sup>3,4</sup> (lb/f)				
	Header (qty-size)	Hip (qty-size)	Jack (qty-size)		Uplift		Floor (100)	Roof	
					(133)	(160)		Snow (115)	Const (125)
LTHJR/L	12-10d	4-10d×1-1/2	2-10d×1-1/2 and 2-10d	7,317	HIP				
					490	590	1150	1320	1435
					JACK				
					250	250	385	440	480

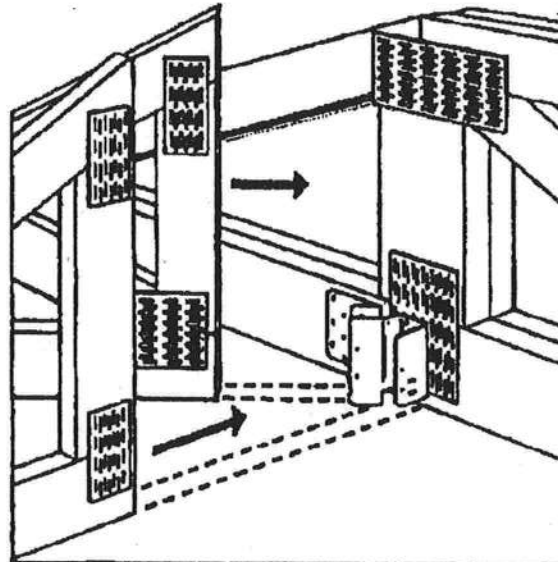
For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

1. Use of the hanger to laterally support members is beyond the scope of this report.
2. Nails shall be 0.148 inch in diameter by 3 inches long (10d common) and 0.148 inch in diameter by 1½ inches long for N10. The 16d nails shall be 0.162 inch in diameter by 3½ inches long.
3. Distribute 75 % maximum of the total load to the hip member and 25 % maximum to the jack member.
4. Uplift loads have been increased 33 % and 60 % for wind or earthquake loading with no further increase allowed.

DOUBLE SHEAR NAILING (See Installation Instructions)



**LTHJR**  
Hip Skewed 45° Right  
(LTHJL similar)



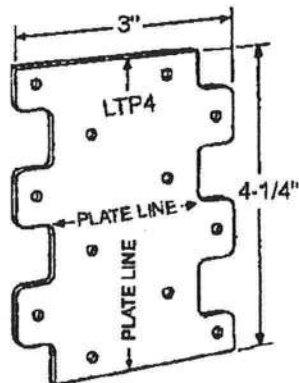
**Typical LTHJL Installation**

Table 9 — LTP LATERAL TIE PLATE

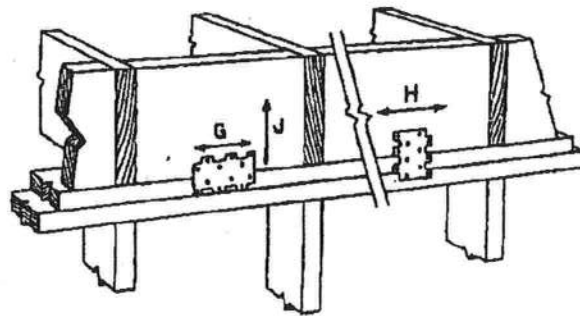
MODEL NO.	FASTENERS (qty-size)		DIRECTION OF LOAD	ALLOWABLE LOADS <sup>1</sup> (lbf)		
	Plates	Joist		(100)	(125)	(133)
LTP4	6-8d×1-1/2	6-8d×1-1/2	G	515	645	685
	6-8d×1-1/2	6-8d×1-1/2	J	515	645	685
	6-8d×1-1/2	6-8d×1-1/2	H	515	645	685

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

1. 125 % and 133 % values are permitted to be used for roof and wind or earthquake loading, respectively.



LTP4  
Lateral Tie Plate



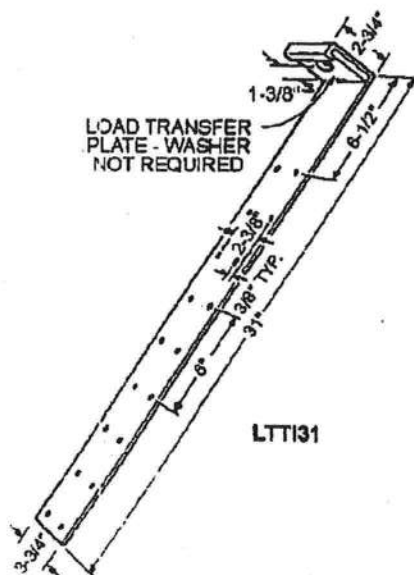
Typical LTP4 Installations to  
Transfer Shear Forces

Table 10 — LTTI TENSION TIE

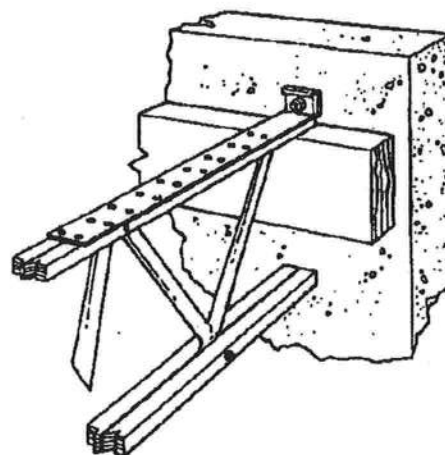
MODEL NO.	DIMENSIONS (in.)		FASTENERS		ALLOWABLE LOADS <sup>2</sup> (lbf)	
	W	L	Anchor Diameter (in.)	Nails (qty-size)	Douglas Fir	
					Tension (133)	Compression (133)
LTT131	3-3/4	31	5/8	18-10d×1-1/2	1805	305

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

- Anchor bolt type, length and embedment to be specified by the designer, shall be designed to resist the tension force, and shall be specified on the approved construction documents.
- Allowable loads have been increased 33 % for wind or earthquake loads with no further increases allowed.



LTTI31



Typical LTTI31  
Installation



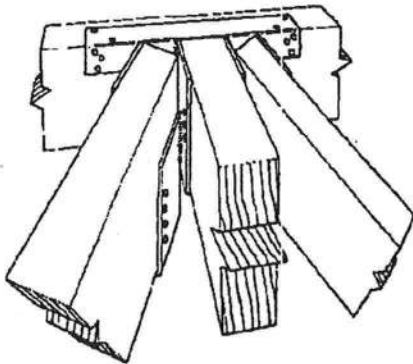
Table 11 — MSC MULTIPLE SEAT CONNECTORS

MODEL NO.	DIMENSIONS (in.)				HIPS		FASTENERS (qty-size)	
	W	H	TF	L	Max. Skew	Max. Slope	Header	Joists
MSC2	1-9/16	5-1/2 min.	2-7/8	12	45°	0°	10-16d	18-10d×1-1/2
						45°	10-16d	26-10d×1-1/2
MSC1.81	1-13/16	5-1/2 min.	2-7/8	12	45°	0°	10-16d	18-10d×1-1/2
						45°	10-16d	26-10d×1-1/2
MSC4	3-9/16	7-1/2 min.	2-7/8	18	45°	0°	10-16d	18-10d
						45°	10-16d	26-10d

MODEL NO.	HIPS		ALLOWABLE LOADS (lbf)					
	Max. Skew	Max. Slope	Floor (100)			Snow (115) / Roof (125) <sup>7</sup>		
			Hip	Jack	Total	Hip	Jack	Total
MSC2	45°	0°	2535	1265	6335	2535	1265	6335
		45°	2010	1005	5025	2010	1005	5025
MSC1.81	45°	0°	2535	1265	6335	2535	1265	6335
		45°	2010	1005	5025	2010	1005	5025
MSC4	45°	0°	3335	1665	8335	3335	1665	8335
		45°	3335	1665	8335	3335	1665	8335

For SI: 1 in. = 25.4 mm, 1 lbf = 4.45 N.

1. Allowable loads are per member.
2. Snow and roof loads are 115 % and 125 % of floor, respectively, unless limited by other criteria.
3. For hips with combined skew and slope angles  $> 0^\circ$  and  $\leq 45^\circ$ , use load values for maximum skew =  $45^\circ$ , and maximum slope =  $45^\circ$ .
4. Use total load for cases when there is no center member.
5.  $W1 = W2 = W3$  unless specified otherwise.
6. Total load shall be evenly distributed about the centerline to avoid eccentric loading.
7. Both 115 % and 125 % load durations shall be limited to the loads listed.



Typical MSC410 Installation

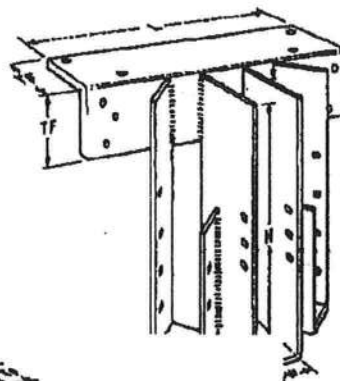
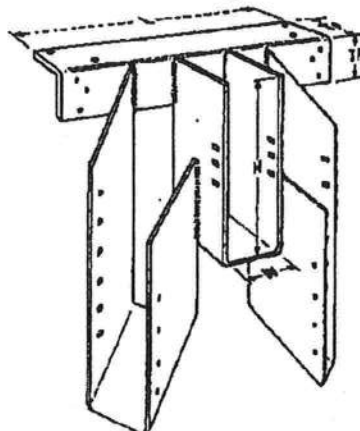
MSC1.81 Hips are skewed  $45^\circ$  and sloped  $0^\circ$ MSC410 Hips are sloped and skewed  $45^\circ$

Table 12 — RSP4 REVERSIBLE STUD PLATE TIE

MODEL NO.	W (in.)	L (in.)	FASTENERS		ALLOWABLE LOADS (lbf)		
			Stud (qty-size)	Plate (qty-size)	Uplift <sup>4,5</sup> (133/160)	Lateral (133/160) <sup>4,5</sup>	
						F1 <sup>1</sup>	F2 <sup>2</sup>
RSP4(1)	2-1/8	4-1/2	4-8d×1-1/2	4-8d×1-1/2	315	210	280
RSP4(2)	2-1/8	4-1/2	4-8d×1-1/2	4-8d×1-1/2	450	210	305

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N

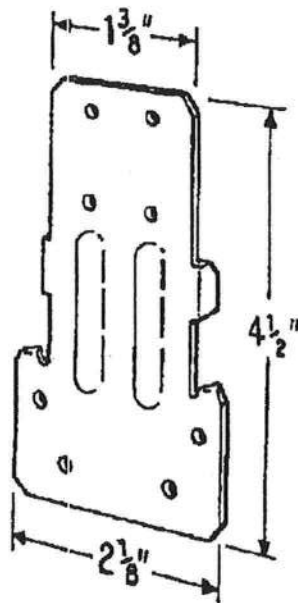
1. "F1" denotes direction parallel to plate load.

2. "F2" denotes direction perpendicular to plate load.

3. Allowable loads have been increased 33 % and 60 % for wind or earthquake load with no further increase allowed.

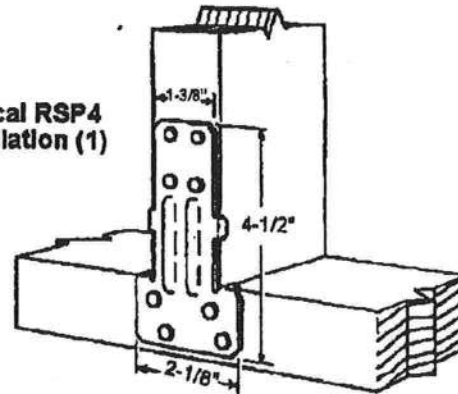
4. Both 133 % and 160 % load durations shall be limited to the loads listed.

5. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



RSP4

Typical RSP4 Installation (1)



Typical RSP4 on Double Top Plates Installation (2)

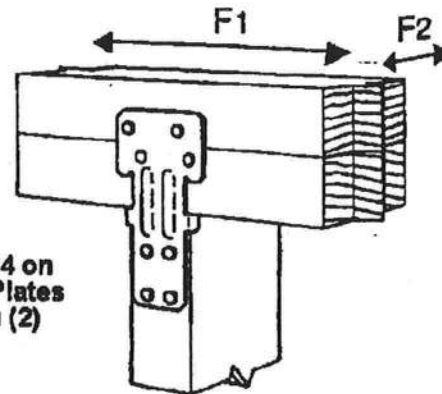
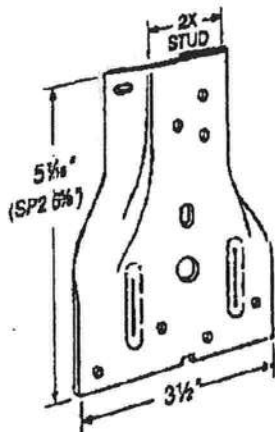


TABLE 13 - SP STUD PLATE CONNECTORS

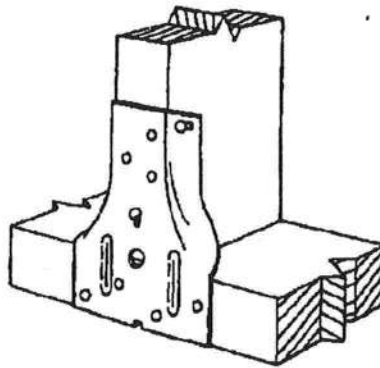
MODEL NO.	FASTENERS <sup>2</sup> (qty-size)		ALLOWABLE UPLIFT LOAD <sup>3,4</sup> (lbf)	
	Stud <sup>1</sup>	Plate	(133)	(160)
SP1	6-10d	4-10d	585	585
SP2	6-10d	6-10d	890	1065

For SI: 1 in. = 25.4 mm; 1 lbf = 4.45 N.

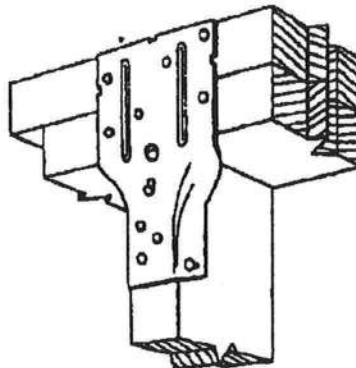
1. One stud nail shall be driven at an angle through the stud into the plate.
2. Nails shall be 0.148 inch in diameter by 3 inches long (10d common).
3. Allowable load includes a 33 % and 60 % Increase for wind or earthquake loading with no further increase allowed.
4. A maximum value of 133 % load duration shall be used for wind and seismic loading in regions adopting the Uniform Building Code.



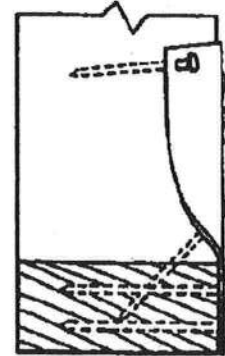
SP1



Typical SP1 Installation



Typical SP2 Installation



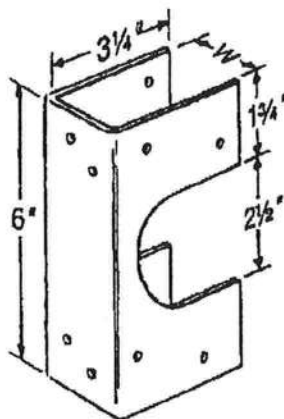
SP1 Nailing Profile

Table 14 — SS STUD SHOES

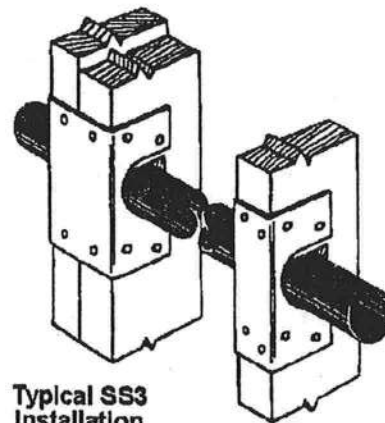
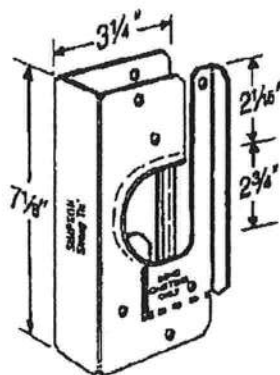
MODEL NO.	W (in.)	FASTENERS <sup>1</sup> (qty-size)	ALLOWABLE LOADS (lbf)		
			Floor (100)	Roof <sup>2</sup> (125)	Uplift (133)
SS1.5	1-9/16	12-10d×1-1/2	500	500	-----
SS2.5	2-9/16	12-10d×1-1/2	500	500	-----
SS3	3	12-10d	665	785	-----
SS4.5	4-9/16	14-10d×1-1/2	665	785	-----
HSS2	1-9/16	12-SDS 1/4×1-1/2	1215	1215	1025
HSS2-2	3	12-SDS 1/4×1-1/2	1215	1215	1025
HSS4	3-9/16	12-SDS 1/4×1-1/2	1215	1215	1025

For SI: 1 in. = 25.4 mm; 1 lb. = 4.45 N.

1. Nails shall be 0.148 inch in diameter by 1½ (N10) or 3 inches long (10d common).
2. Roof loads are 125 % of floor loads, unless limited by other criteria.



SS

Typical SS3  
InstallationTypical SS1.5  
Installation

HSS

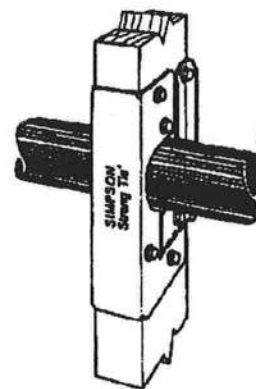
Typical HSS  
Installation

TABLE 15 — THG2A SKEWED TRUSS GIRDER HANGERS<sup>1</sup>

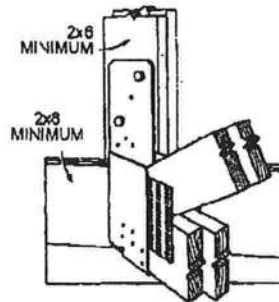
MODEL NO.	FASTENERS <sup>2</sup>			ALLOWABLE LOADS <sup>4</sup> (lbf)				
	Carrying Member		Carried Member (qty-size)	Uplift <sup>3</sup> (133)	Length of Bolt in Carrying Member	Floor (100)	Roof <sup>5</sup>	
	Bolts (In.)	Nails (qty-size)					Snow (115)	Const (125)
THG2AR/L	2-3/4 MB	4-10d	9-10d	1465	1-1/2	1385	1595	1735
					3	2750	3160	3435
					4-1/2	2985	3435	3730
					6	2985	3435	3730

For SI: 1 in. = 25.4 mm; 1 psi = 6.89 kPa; 1 lbf = 4.45 N.

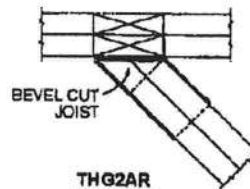
1. Use of the hanger to laterally support trusses is beyond the scope of this report.
2. Nails shall be 0.148 inch in diameter by 3 inches long (10d common).
3. Uplift loads have been increased by 33% for wind or earthquake, with no further increase allowed.
4. The allowable loads given are based on southern pine lumber and the lower of the following: test ultimate divided by three, the load producing 1/8 inch deflection, the bolt values and the seat bearing value at 565 psi plus the allowable joist nail rating.
5. Down loads given include a 25 % increase above the normal allowable load for a seven-day load duration. Load adjustments for other load durations in accordance with the applicable code, as referenced herein, are permitted but shall not exceed the table values.



THG2AR



Typical THG2AR Installation



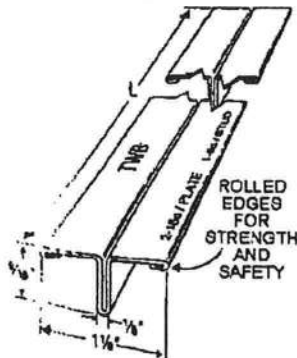
THG2AR Plan View

TABLE 16 — TWB T-TYPE WALL BRACING<sup>1,2</sup>

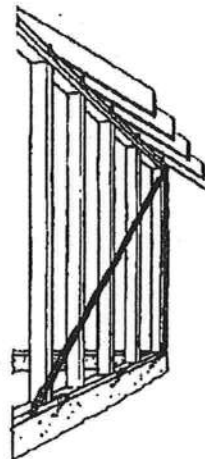
MODEL NO.	LENGTH	ANGLE FOR 8 ft WALL	FASTENERS <sup>3</sup> (qty-size)	
			Plates	Studs
TWB10	9'-3"	55°	2-16d	1-8d
TWB12	11'-4"	45°	2-16d	1-8d
TWB14	14'-2"	45°	2-16d	1-8d

For SI: 1 ft = 304.8 mm; 1 in. = 25.4 mm; 1 lbf = 4.45 N.

1. The TWB is intended to provide racking resistance to woodframe walls during construction. It is not designed to replace the shearwall load-carrying components.
2. The TWB10 shall be limited to a maximum load of 160 pounds. The TWB12 and TWB14 shall be limited to a maximum load of 190 pounds.
3. The 16d nails shall be 0.62 inch in diameter by 3 1/2 inches long; the 8d nails shall be 0.131 inch in diameter by 2 1/4 inches long.



TWB



Typical TWB Exterior Wall Installation

THE DRAWINGS CONTAINED WITHIN THIS REPORT ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED FOR USE AS CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF DESIGN, FABRICATION OR ERECTION.





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## NATIONAL EVALUATION REPORT

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NER-443

Reissued December 1, 1996

### SIMPSON STRONG-TIE® CONNECTORS

SIMPSON STRONG-TIE® COMPANY, INC.  
4637 CHABOT DRIVE, SUITE 200  
PLEASANTON, CALIFORNIA 94588

### 1.0 SUBJECT

Simpson Strong-Tie® Connectors:

- 1.1 CWB Compression Wall Brace
- 1.2 GH Girder Hangers
- 1.3 GLTV and HGLTV Beam Hangers
- 1.4 LPC4 Light Post Cap
- 1.5 LS Skewable Angle Series
- 1.6 LSTA/MSTA Light and Medium Strap Tie Series
- 1.7 LTB Light Tension Bridging
- 1.8 MA Series Mud sill Anchors
- 1.9 PB Series Post Bases
- 1.10 PC/EPC Series Post Caps
- 1.11 SP/SPA Stud Plate Ties
- 1.12 THM-2 Truss Multiple Hanger
- 1.13 WB/WBC Wall Bracing
- 1.14 DJT14 Deck Joist Tie
- 1.15 DBT1 Deck Board Tie
- 1.16 DPT Deck Post Ties
- 1.17 DRT 8 Deck Railing Tie

### 2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

Structural Connections for Wood Construction.

### 3.0 DESCRIPTION

#### 3.1 CWB COMPRESSION WALL BRACE

The CWB106 and CWB126 braces are cold-formed to a 90-degree angle from No. 18 gage galvanized steel complying with ASTM A 653-SQ Grade 33, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). Angle legs are  $1\frac{5}{16}$  inch (23.8 mm) long. One leg provides a staggered pattern of 0.136-inch-diameter (3.45 mm) holes spaced at  $\frac{1}{2}$  inch (12.7 mm) on center. The brace ends have angular cuts and a three-hole pattern of 0.171-inch-diameter (4.34 mm) holes. The CWB106 and the CWB126 braces are 9 feet  $5\frac{3}{4}$  inches (2.89 m) and 11 feet  $4\frac{3}{8}$  inches (3.46 m) long, respectively. The devices are used to brace wood-frame construction, with a single brace considered equivalent to one nominal 1-by-4 wood let-in brace. The braces have been evaluated for both tension and compression loads. The CWB106 and CWB126 braces shall be installed at angles of 60 and 45 degrees from the horizontal, respectively. The wall studs shall be spaced at 16 inches (406 mm) on center, maximum. A 1-inch-deep (25.4 mm) saw cut shall be provided in the studs and plates for installation of the brace. The brace shall be attached at both the top and bottom plates with two 16d common nails and at each intermediate stud with one 8d common nail. Dimension details and fastener schedules shall be in accordance with Table 1.

#### 3.2 GH GIRDER HANGERS

The GH46 and GH48 girder hangers provide support for floor girders connected to concrete or grouted masonry foundation walls, complying with the applicable code. The devices are No. 12 gage painted steel. The U-shaped stirrups are welded to the face of a semi-U top which is 6 inches (153 mm) wide and not less than 6 inches (153 mm) in depth on one face with a 1-inch (25.4 mm) return leg. The device shall be mounted on top of the foundation wall and under a minimum nominal 2-inch-by-6-inch (51 mm by 153 mm) mudsill, which shall be installed in accordance with the applicable code. The steel complies with ASTM A 570 Grade 33, with a minimum yield of 33,000 psi (230 MPa) and a minimum tensile strength of 52,000 psi (360 MPa). Dimension details, allowable loads and fastener schedules shall be in accordance with Table 2.

#### 3.3 GLTV AND HGLTV BEAM HANGERS

The GLTV stirrup is formed from a strip of sheet steel, No. 7 gage by 5 inches (127 mm) wide, bent into a "U" shape and welded to an angled top flange made of No. 3 gage steel. The hangers are designed for use with structural composite lumbers. They shall be installed on a wood header having a minimum allowable compression

This report is limited to the specific product and data and test reports submitted by the applicant in its application requesting this report. No independent tests were performed by the National Evaluation Service (NES), and NES specifically does not make any warranty, either expressed or implied, as to any finding or other matter in this report or as to any product covered by this report. This disclaimer includes, but is not limited to, merchantability. This report is also subject to the limitation listed herein.

sion perpendicular-to-the-grain value of 500 psi (3447 kPa), or on a steel header. The HGLTV is similar, except that the stirrup is 6 inches (153 mm) wide and the top flange dimension, nailing schedule and welds are increased. The steel complies with ASTM A 570 Grade 33 specifications, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 52,000 psi (360 MPa). Dimension details, allowable loads and fastener schedules shall be in accordance with Table 3.

### 3.4 LPC4 LIGHT POST CAP

The light post cap is a two-piece connector formed from No. 18 gage, galvanized steel. The connector is designed to join a nominal 4-by post to members 2 1/2 to 3 1/2 inches (63.5 mm to 88.9 mm) wide. The connectors shall be used in pairs. The steel complies with ASTM A 653-SQ Grade 33, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). Allowable loads and the fastener schedule shall be in accordance with Table 4.

### 3.5 LS SKEWABLE ANGLE SERIES

The skewable angle is formed from No. 18 gage, galvanized, die-formed steel complying with ASTM A 653-LFQ, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). The angle is designed with slots at the bend to allow field skewing from 0 to 135 degrees. Allowable loads and fastener schedules shall be in accordance with Table 5.

### 3.6 LSTA/MSTA LIGHT AND MEDIUM STRAP TIE SERIES

The light and medium straps are designed to act as tension ties between two butting wood members. The straps are formed from Nos. 16, 18 and 20 gage galvanized steel and punched to receive 10d or 16d common nails. The steel complies with ASTM A 653-SQ Grade 40 Special, with a minimum yield strength of 42,000 psi (290 MPa) and a minimum tensile strength of 56,000 psi (390 MPa). Allowable loads and fastener schedules shall be in accordance with Table 6.

### 3.7 LTB LIGHT TENSION BRIDGING

The LTB is die-formed from No. 22 gage galvanized steel complying with ASTM A 653-LFQ, with a minimum yield strength of 33,000 psi (230 MPa) and minimum tensile strength of 45,000 psi (310 MPa) for LTB21 and LTB42; and a 28,000 psi (195 MPa) yield strength and 38,000 psi (260 MPa) tensile strength for LTB20 and LTB40. The bridging is a tension-type utilizing either a single or an over/under application. The bridging shall be installed in pairs. Installation details and the fastener schedule shall be in accordance with Table 7.

### 3.8 MA SERIES MUDSILL ANCHORS

The mudsill anchors, formed from No. 16 gage galvanized steel, have a tapered, U-shaped body with the outboard flanges extending 4 1/2 inches (114.3 mm) upwards beyond the web section to bear against the sides and top of the mudsill. The web sections are 4 5/8 inches (117.5 mm) deep with a top width between outboard flanges of either 3 5/8 or 5 5/8 inches (92.1 mm or 142.9 mm) for nominal 4-by or 6-by sill plates, respectively. Adjacent to the flanges, at each side of the web, triangular tabs are bent horizontally to act as a gage and as a restraint to the flanges. The flanges are prepunched with 5/32-inch-diameter (4 mm) holes at 1/4 inch (6.4 mm) on center, staggered in two rows, for 10d common nails 1 1/2 inches (38 mm) long. The nails shall be installed at the edge and top of the mudsill. The steel complies with ASTM A 653-LFQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Allowable loads and fastener schedules shall be in accordance with Table 8.

### 3.9 PB SERIES POST BASES

The post bases consist of No. 12 gage, galvanized, die-formed, channel-shaped members, having deformed prongs protruding

from the back of the web in line with each channel flange. The prongs shall be embedded into uncured concrete immediately after screeding to provide shear and uplift resistance for the supported post. The base-channel flanges shall be nailed to the post with 16d common nails. The post bases are manufactured to fit nominal 4-by-4, 4-by-6 and 6-by-6 surfaced and rough-sawn posts. The steel complies with ASTM A 653-CQ, with a minimum yield strength of 28,000 psi (195 MPa) and minimum tensile strength of 38,000 psi (260 MPa). Allowable loads and fastener schedules shall be in accordance with Table 9.

### 3.10 PC/EPC SERIES POST CAPS

The post caps are die-formed from No. 12 or No. 16 gage galvanized steel into a channel section to support beams on posts. Model numbers with a -16 suffix are formed from No. 16 gage material. The ends of the channel web are cut along each side of the beam seat and bent downward as tabs to engage opposite faces of the post. The post caps are manufactured to fit various combinations of post and beams and shall be attached to both the beam and post with 16d common nails. The EPC post caps are designed for end-post connections in lieu of continuous members. The steel complies with ASTM A 653-CQ and ASTM A 653-LFQ requirements for No. 12 gage and No. 16 gage, respectively, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Dimension details, allowable loads and fastener schedules shall be in accordance with Table 10.

### 3.11 SP/SPA STUD PLATE TIES

The SP/SPA 4, 6 and 8 stud plate ties are die-formed from No. 20 gage galvanized steel complying with ASTM A 653-LFQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). The SP tie is attached to the edge of the wood member, while the SPA is twisted and attaches to the face of the member. They are designed to anchor double top plates to the stud. Dimension details, allowable loads and fastener schedules shall be in accordance with Table 11.

### 3.12 THM-2 TRUSS MULTIPLE HANGER

The THM-2 is designed to carry multiple truss members. The hanger is fabricated from No. 10 gage galvanized steel complying with ASTM A 653-SQ Grade 33, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). The code-required minimum-7-bolt diameter distance from the end of the vertical member has been designed into the connector. The bottom cord of the carrying truss shall not exceed a nominal 2-by-8 member in order to maintain the required distance. Allowable loads and fastener schedules shall be in accordance with Table 12.

### 3.13 WB/WBC WALL BRACING

WB106 and WB126 wall braces are formed from 1 1/4-inch-wide (32 mm), No. 18 gage galvanized steel strips, complying with ASTM A 653-SQ Grade 33, with a minimum yield strength of 33,000 psi (230 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). Wall bracing is also available in coiled form designated as WB106C, WB126C and WB143C straps. The braces are used in wood-frame construction, with a pair of braces equivalent to one nominal 1-by-4 let-in brace as prescribed by the applicable code. Braces shall be installed opposing each other, with each brace installed at an angle not more than 60 degrees nor less than 45 degrees from the horizontal. Four nail holes are provided at the ends of each brace for 16d nails, and shall be used to attach the top and bottom plates with two 16d common nails. Additionally, 9/64-inch-diameter (3.6 mm) holes are punched at 1 inch (25.4 mm) on center for the entire length of the brace in two staggered rows spaced 3/4 inch (19 mm) apart, to permit attachment to each intermediate stud with one 8d common nail. Dimension details and fastener schedules shall be in accordance with Table 13.

### 3.14 DJT14 DECK JOIST TIE

The tie is used to attach joists to posts and is die-formed from No. 14 gage galvanized steel. The connector shall be bolted or nailed to

a minimum nominal 4-by-4 post and a minimum nominal 2-by-4 joist. Steel complies with ASTM A 653-CQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Allowable loads and fastener schedules shall be in accordance with Table 14.

### 3.15 DBT1 DECK BOARD TIE

The tie is used to attach minimum 1 1/4-inch-thick (32 mm) board decking to joists in conjunction with toe-nailed 16d common nails and 10d by 1 1/2-inch (38 mm) common nails. Ties are die-formed from No. 18 gage (galvanized steel complying with ASTM A 653-CQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Fastener installation shall be in accordance with Table 15.

### 3.16 DPT DECK POST TIES

The DPT 5, DPT 6 and DPT 7 are die-formed from No. 14 gage galvanized steel. The DPT 5 attaches 2-by-4 posts to the outside of a deck. The DPT 7 attaches 4-by-4 posts to the edges of a deck. Connectors shall be used in pairs spaced 5 inches (127 mm) on center. The DPT 6 attaches 4-by posts to the top surface of a deck. For the DPT 5 and DPT 7, the deck construction shall include a nominal 2-by-10 minimum fascia and a nominal 2-by-8 minimum rim joist. For the DPT 6, the deck construction shall include a nominal 2-by-8 minimum fascia and a nominal 2-by-6 minimum rim joist. Steel for the post ties complies with ASTM A 653-CQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Allowable loads and fastener schedules shall be in accordance with Table 16.

### 3.17 DRT 8 DECK RAILING TIE

The DRT 8 is die-formed from No. 18 gage galvanized steel, and connects the handrail to a post. The connector shall be attached to the post and handrail with wood screws. Steel complies with ASTM A 653-CQ, with a minimum yield strength of 28,000 psi (195 MPa) and a minimum tensile strength of 38,000 psi (260 MPa). Allowable loads and the fastener schedule shall be in accordance with Table 17.

### 3.18 MATERIALS

Galvanized connectors conform to ASTM A 653, G 60. Nongalvanized connectors have a painted coating.

Nails shall be common nails and have a diameter, length and bending yield strength complying with the values noted in the 1991 National Design Specification for Wood Construction, except for the length of special nails noted in Tables 8, 12, 15 and 16.

### 3.19 DESIGN

The design of the connected wood members shall be submitted to and approved by the building official. Tabulated design loads for the Simpson Strong-Tie connectors are based on the following criteria:

- Test load that causes 1/8-inch (3 mm) deflection.
- Lowest ultimate test load with a safety factor of 3.
- Allowable fastener and compression perpendicular-to-grain values in accordance with the 1991 National Design Specification for Wood Construction, based on wood with a specific gravity of 0.50, such as Douglas fir-larch, except for allowable loads noted in Tables 16 and 17, which have also been evaluated for redwood.
- Torsional capacity is based on the ability of the joist hanger to resist 75 pounds (334 N) times the depth of the joist at 0.125 inch (3 mm) of movement.

## 4.0 INSTALLATION

Load capacities shown are based on wood with a minimum specific gravity of 0.50 and a moisture content of less than 19 percent. Tab-

ulated allowable design loads are for normal duration of loading. Adjustments to these values are permitted for other durations of loading, i.e., plus 15 percent for two months duration (snow), or plus 33 percent for wind or earthquake. Tabulated allowable design loads shall be reduced by 10 percent for full design load applied longer than 10 years. The resulting allowable design load after duration-of-load adjustments shall not exceed the maximum design load indicated in the tables.

Connector Installation shall comply with this report and the manufacturer's installation instructions. Connectors for Wood Construction, Product and Instruction Manual, dated January 1995. A copy of these instructions and this report shall be available at all times on the jobsite during installation.

For conditions of high temperature, a load reduction is required. See the National Design Specification for temperature effects.

## 5.0 IDENTIFICATION

Each of the connectors described in this report shall be stamped with the words "Simpson Strong-Tie," the model number and the evaluation report number (NER-443) for field identification.

## 6.0 EVIDENCE SUBMITTED

6.1 Manufacturer's descriptive literature and published installation instructions.

6.2 Load tests performed by TEI Consulting Engineers and signed by Rostam Esfandlari, P.E.:

Item	Work No.	Date
CWB	85328	April 22, 1986
CWB	85328-62	August 25, 1986
GH46	93085.120	November 29, 1993
GLTV	95001.100	July 26, 1995
HGLTV	95001.099	July 12, 1995
LPC4	89008.136	February 27, 1990
LPC4	89008.135	February 27, 1990
LS30	93085.118	November 24, 1993
LS50	93085.119	November 24, 1993
LS90	89008-46	August 2, 1989
LS90	89008-30	July 20, 1989
LS90	89008-47	August 2, 1989
MA4	OL18-290-424	February 22, 1974
PB66	86085	August 5, 1986
PB44	88018.190	March 31, 1989
PB44	88018.185	March 31, 1989
PB44	89008-25	June 5, 1989
PC-46	85328-139	February 23, 1987
EPC-46	85328-140	February 23, 1987
PC46	88018-20	April 29, 1988
EPC46	88-18-19	April 29, 1988
PC44-16	88018-118	October 19, 1988
EPC44-16	88018-115	October 19, 1988
PC48-16	88018-117	October 19, 1988
GLTI430	87005-16	May 18, 1987
EPC48-16	88018-118	October 19, 1988
PC44	88018-97	October 7, 1988
EPC44	88018-96	October 6, 1988
PC48	88018.103	October 12, 1988
EPC48	88018-102	October 12, 1988
LSTA	89008-48	August 8, 1989
THM-2	89008-95	November 15, 1989



Item	Work No.	Date
THM-2	88-18-57	July 29, 1988
DJT14	89008-101	November 15, 1989
DPT5 & DRT8	91006-38, 91006-44	July 31, 1991
DPT6 & DRT8	91006-41	July 31, 1991
DPT6 & DRT8	91006-98	October 23, 1991
DPT7 & DRT8	91006-39, 91006-45	July 31, 1991

6.3 Structural calculations prepared by Simpson Strong-Tie Company, Inc., and signed and sealed by Karen W. Colonias, P.E.:

Item	Date
CWB	April 12, 1990
GH	April 12, 1990, and February 28, 1996
GLTV/HGLTV	April 12, 1990, and February 22, 1996
LPC4	April 12, 1990
LS	April 12, 1990, and February 28, 1996
LSTA/MSTA	April 12, 1990, revised May 10, 1996
LTB	February 12, 1990
MA	June 23, 1987
FB	July 26, 1988, revised April 12, 1990
PC/EPC	April 12, 1990, revised May 10, 1996
SP4, 6, 8	August 10, 1989
LSTA	November 3, 1989
THM2	August 18, 1988, revised August 24, 1990
GLTV/HGLTV	August 24, 1990
WB/WBC	September 20, 1991
DJT14	October 25, 1991, revised May 10, 1996

6.4 Load tests performed by TEI Consultants and signed by Roger Tansley, P.E.:

Item	Work No.	Date
GLTV410	95001.100	July 26, 1995
HGLTV410	95001.099	July 12, 1995

6.5 Letter dated July 14, 1995, from TEI Consultants and signed by Roger Tansley, P.E., regarding verification of testing in accordance with ASTM D 1761.

6.6 Quality control manual, dated December 1994.

## 7.0 CONDITIONS OF USE

The National Evaluation Service Committee finds that the Simpson Strong-Tie® connectors described in this report comply with the BOCA National Building Code/1996, the 1994 Standard Building

Code, and the 1994 Uniform Building Code, subject to the following conditions:

7.1 Connector loads are determined in accordance with the applicable code. Loads in the tables are predicated on the use of fasteners indicated in the tables, wood with a minimum specific gravity of 0.50 (except redwood) and a lumber moisture content less than 19 percent. Where redwood is referenced, specific gravity is assumed to be 0.37.

7.2 The scope of this evaluation report is limited to use of these connectors with lumber that has not been pressure-treated with chemicals such as those for fire-retardant treatment and preservative treatment.

7.3 Framing members shall be designed in accordance with the requirements referenced in the applicable code.

7.4 Loads for duration of load other than normal shall be adjusted in accordance with the 1991 National Design Specification for Wood Construction up to the "maximum" allowable tabulated load.

7.5 Beams or headers shall have the following minimum widths based on nail sizes attaching the hanger to the beams or headers, except that the GLTV and HGLTV connectors require a minimum 3-inch (76.2 mm) header:

Nail Size	Beam or Header Width	$F_y$
6d	1.36 inches (34.5 mm)	100,000 psi (690 MPa)
8d	1.57 inches (39.9 mm)	100,000 psi (690 MPa)
10d	1.78 inches (45.2 mm)	90,000 psi (620 MPa)
16d	1.94 inches (49.3 mm)	90,000 psi (620 MPa)

7.6 Plans specifying connectors listed in this report shall be accompanied by calculations demonstrating that the allowable loads noted in this report are not exceeded. These calculations shall be signed and sealed by a registered design professional, as required by the applicable code.

7.7 The connectors shall be manufactured, identified and installed in accordance with this report and the manufacturer's installation instructions.

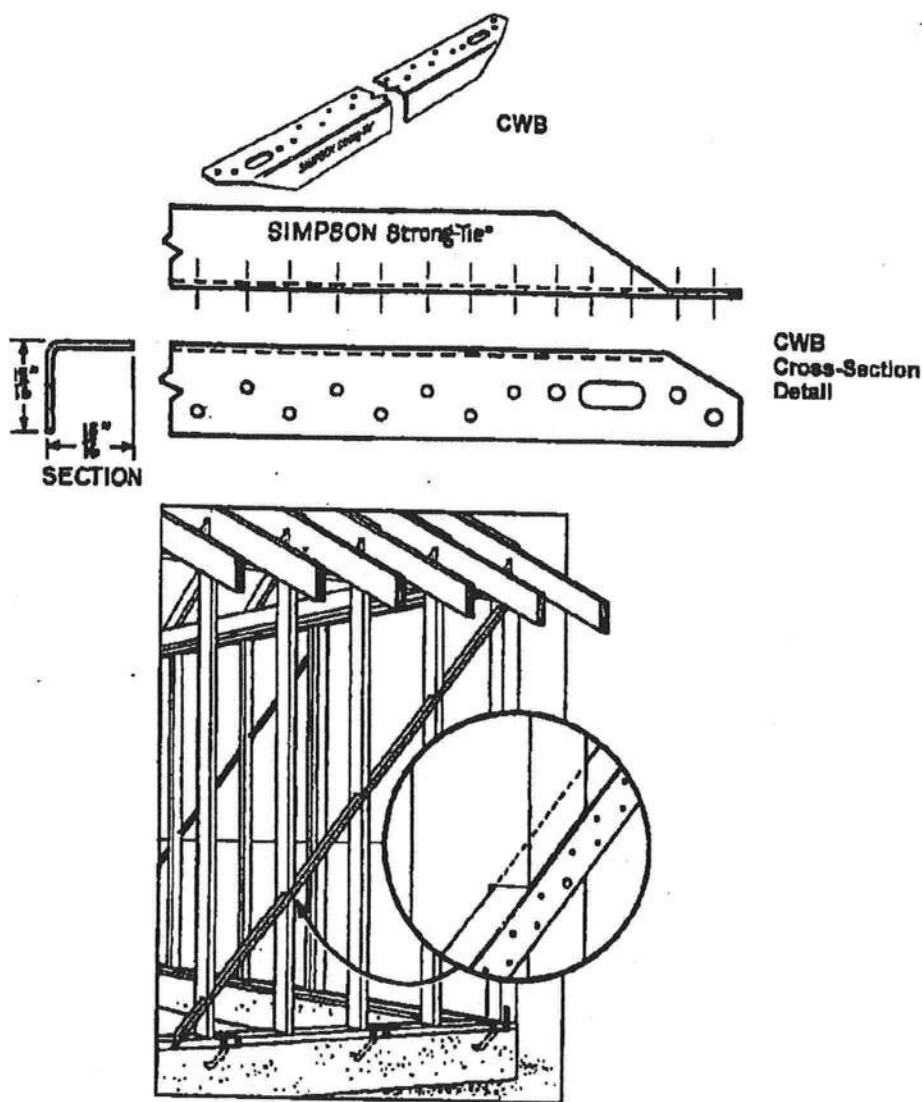
7.8 Connectors have not been evaluated for simultaneous loadings such as wind or seismic plus live and dead loads.

7.9 This report is subject to periodic re-examination. For information on the current status, consult the evaluation report listing or contact one of the participating members of the NES.

TABLE 1 - CWB<sup>1,2</sup>

MODEL NO.	DIMENSIONS (feet - x 304.8 for mm) (inches - x 25.4 for mm)		ANGLE FOR 8' WALL	FASTENERS <sup>3</sup>	
	LENGTH	SECTION		PLATES	STUDS
CWB106	9' - 5 $\frac{3}{4}$ "	1 $\frac{5}{16}$ " x 1 $\frac{5}{16}$ "	80°	2 - 16d	1 - 8d
CWB126	11' - 4 $\frac{3}{8}$ "	1 $\frac{5}{16}$ " x 1 $\frac{5}{16}$ "	45°	2 - 16d	1 - 8d

1. The CWB is designed to provide racking resistance equivalent to a 1x4 let in during construction. It is not designed to replace the shearwall load carrying components.
2. The CWB is limited to a maximum load of 200 pounds (x 4.45 for N).
3. The 16d common nails are 0.162" x 3 $\frac{1}{2}$ " long. The 8d common nails are 0.131" x 2 $\frac{1}{2}$ " long (x 25.4 for mm).



Typical CWB Installation



TABLE 2 - GH<sup>1,2</sup>

MODEL NO.	GIRDER	H (INCH)	S (INCH)	ALLOWABLE GRAVITY LOADS (LBS) <sup>3,4</sup> (x 4.45 for N)
		x 25.4 for mm		FLOOR/ROOF
GH48-8	4 x 8	4	8	2000
GH48-8	4 x 8	4	8	2000
GH48-8	4 x 8	8	8	2000
GH48-8	4 x 8	8	8	2000

1. Install 4 - 18d common nails into the girder.
2. Nails are 18d common 0.162" x 3 1/2" long (x 25.4 for mm).
3. Loads are in pounds.
4. Allowable loads in the table are limited by test results. No load duration increase is allowed.

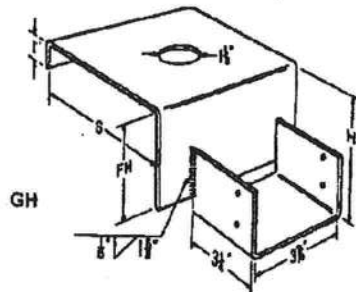
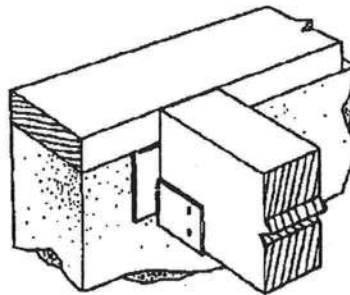
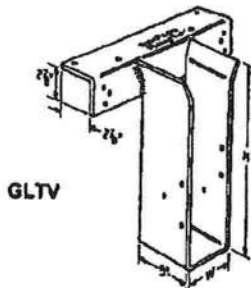
Typical  
GH installation

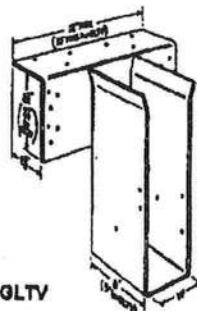
TABLE 3 - GLTV &amp; HGLTV

MODEL NO.	DIMENSIONS (INCH) (x 25.4 for mm)				FASTENERS <sup>1</sup>			ALLOWABLE GRAVITY LOADS <sup>2,3,4</sup>	
	W	MIN H	B	L	CARRYING MEMBER		CARRIED MEMBER	FLOOR (100)	ROOF (125)
					TOP	FACE			
GLTV3.5	3 5/8	9 1/4	5	10	4 - 18d	6 - 18d	6 - 18d	7000	7000
GLTV5.5	5 1/2	9 1/4	5	10	4 - 18d	6 - 18d	6 - 18d	7000	7000
HGLTV3.5	3 5/8	9 1/4	8	12	8 - 18d	12 - 18d	6 - 18d	10500	10500
HGLTV5.5	5 1/2	9 1/4	8	12	8 - 18d	12 - 18d	6 - 18d	10500	10500

1. Nails are 18d common 0.162 x 3 1/2" long (x 25.4 for mm).
2. Loads are in pounds (x 4.45 for N).
3. Allowable loads in the table are limited by test results. No load duration increase is allowed.
4. The connectors provide torsional resistance up to a maximum joint depth of 32 inches (x 25.4 for mm).
5. Wood headers supporting the hangers shall have a minimum width of 3 inches and a minimum allowable compression perpendicular to the grain value of 600 psi (x 6.895 for kPa).



GLTV

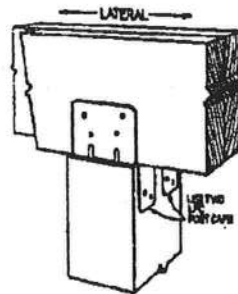


HGLTV

TABLE 4 - LPC4

MODEL NO.	FASTENERS <sup>1</sup>		ALLOWABLE LOADS <sup>2,3</sup> (lbs.) (x 4.45 for N)	
	BEAM	POST	UPLIFT	LATERAL <sup>4</sup>
LPC4	8-10d	8-10d	760	325

1. Nails are 10d common 0.148 x 3" long (x 25.4 for mm).
2. Loads are in pounds (x 4.45 for N).
3. Allowable loads in the table are limited by test results. No load duration increase is allowed.
4. Allowable loads are for hangers used in pairs.



Typical LPC4 Installation

Allows For  
Beam Widths  
2½" to 3½"

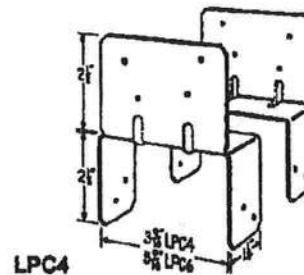
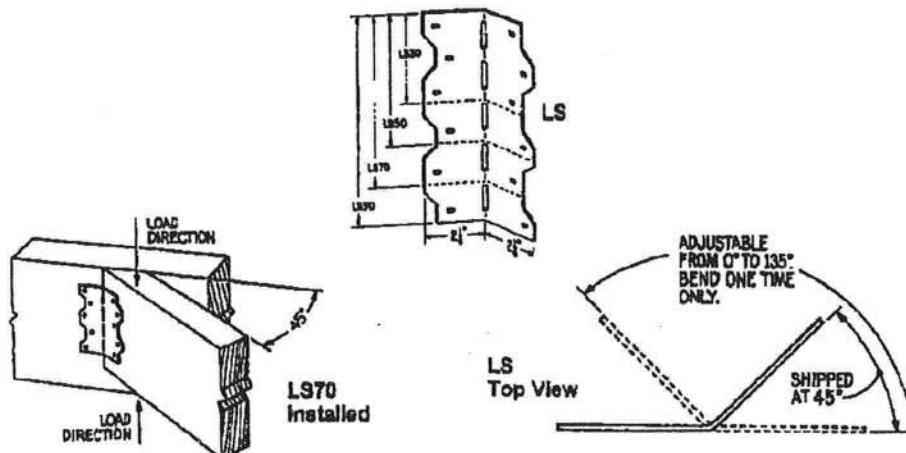


TABLE 5 - LS

MODEL NO.	LENGTH	FASTENERS <sup>1</sup>	ALLOWABLE LOADS <sup>2,3</sup> (lbs.) (x 4.45 for N)	
			NORMAL	MAXIMUM
LS30	3¾"	6 - 10d	335	420
LS50	4¾"	8 - 10d	450	580
LS70	6¾"	10 - 10d	560	670
LS90	7¾"	12 - 10d	670	840

1. Nails are 10d common 0.148 x 3" long (x 25.4 for mm).
2. Loads are in pounds (x 4.45 for N).
3. Allowable loads are for vertical loads only, no lateral loads allowed.



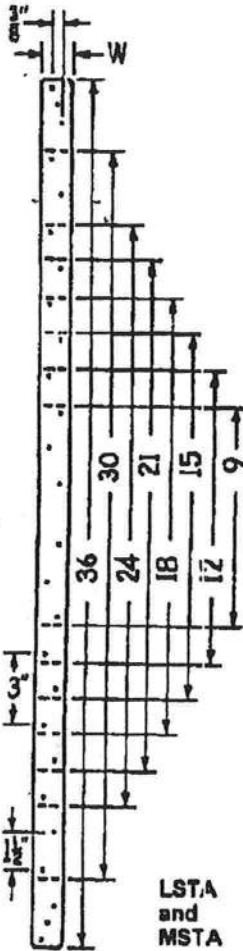


TABLE 6 - LSTA/MSTA

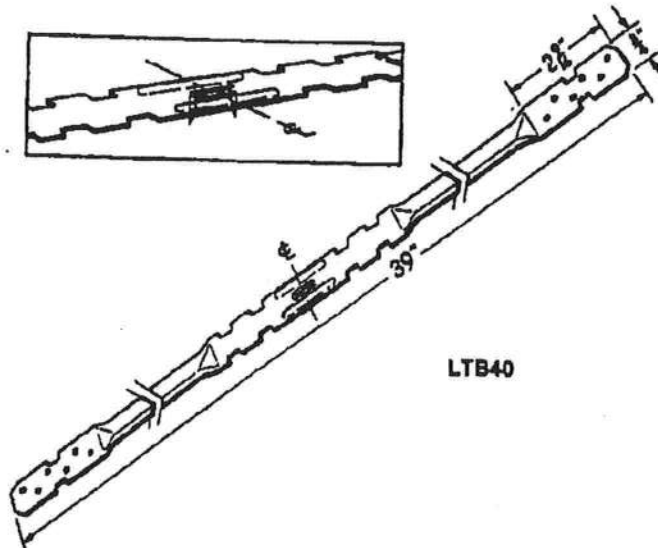
MODEL NO.	MATERIAL	DIMENSIONS(inch) (x 25.4 for mm)		FASTENERS (TOTAL)	MAXIMUM ALLOWABLE LOADS <sup>2,3</sup> (x 4.45 for N)	
		W	L		10d	16d
LSTA9	20 GA	1 1/4	9	8	805	720
LSTA12	20 GA	1 1/4	12	10	755	900
LSTA15	20 GA	1 1/4	15	12	905	1080
LSTA18	20 GA	1 1/4	18	14	1055	1260
LSTA21	20 GA	1 1/4	21	16	1205	1295
LSTA24	20 GA	1 1/4	24	18	1295	1295
LSTA30	18 GA	1 1/4	30	22	1670	1715
LSTA36	18 GA	1 1/4	36	26	1715	1715
MSTA9	18 GA	1 1/4	9	8	610	725
MSTA12	18 GA	1 1/4	12	10	760	905
MSTA15	18 GA	1 1/4	15	12	910	1080
MSTA18	18 GA	1 1/4	18	14	1065	1270
MSTA21	18 GA	1 1/4	21	16	1215	1450
MSTA24	18 GA	1 1/4	24	18	1370	1630
MSTA30	18 GA	1 1/4	30	22	1685	2010
MSTA36	18 GA	1 1/4	36	26	1995	2135

1. Nails are 16d common 0.162 x 3 1/2" long or 10d common 0.148 x 3" long (x 25.4 for mm).
2. Loads are in pounds.
3. Maximum allowable loads have been increased 33% for wind or earthquake loading, no further increase allowed. Reduce the allowable loads by 33% for normal loading criteria.

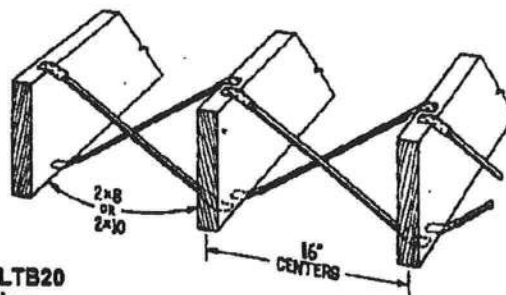
TABLE 7 - LTB

MODEL NO.	JOIST	SPACING(inch) (x 25.4 for mm)	LENGTH(inch) (x 25.4 for mm)
LTB20 <sup>1,2</sup>	2x8, 2x10	16"	19.5"
LTB21 <sup>1,2</sup>	2x8, 2x10, 2x12	16"	21"
LTB40 <sup>2,3</sup>	2x8, 2x10	16"	39"
LTB42 <sup>2,3</sup>	2x8, 2x10, 2x12	16"	42"

1. Install 2 - 6d nails each end for the LTB20 and LTB21.
2. Nails are 6d common 0.113 x 2" long (x 25.4 for mm).
3. Install prongs and 2 - 6d nails in the other end for the LTB40 and LTB42.



LTB40



Typical LTB20  
Installation  
(LTB40 Similar)

Space Bridging  
to Avoid Contact  
Noises

TABLE 8 - MA<sup>1</sup>

MODEL NO.	SILL SIZE	W	FASTENERS <sup>2,3</sup>		ALLOWABLE LOADS <sup>4,5</sup> (lbs.) (x 4.45 for N)		
			SIDES TOTAL	TOP	UPLIFT	PARALLEL TO SILL PLATE	PERPENDICULAR TO SILL PLATE
MA4	2 x 4	3 <sup>5</sup> / <sub>8</sub>	2 - 10d x 1 <sup>1</sup> / <sub>2</sub>	2 - 10d x 1 <sup>1</sup> / <sub>2</sub>	830	480	1180
	3 x 4		4 - 10d x 1 <sup>1</sup> / <sub>2</sub>	2 - 10d x 1 <sup>1</sup> / <sub>2</sub>	1060	680	1180
MA6	2 x 6	5 <sup>5</sup> / <sub>8</sub>	2 - 10d x 1 <sup>1</sup> / <sub>2</sub>	4 - 10d x 1 <sup>1</sup> / <sub>2</sub>	1060	680	1180
	3 x 6		4 - 10d x 1 <sup>1</sup> / <sub>2</sub>	4 - 10d x 1 <sup>1</sup> / <sub>2</sub>	1290	680	1180

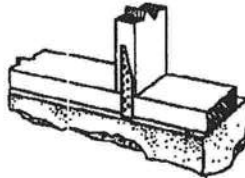
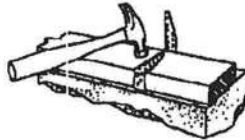
1. Minimum concrete strength shall be 2000 psi (x 6.896 for kPa) at 28 days and shall have a minimum thickness of 6 inches (x 25.4 for mm).

2. Nails are evenly divided between each side at the spacing and edge distance required by code.

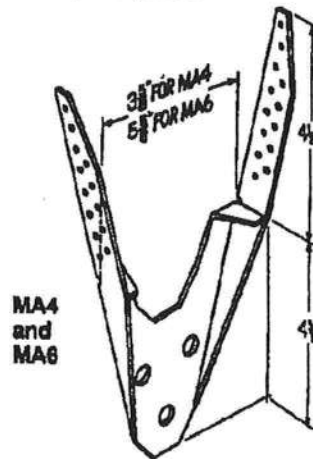
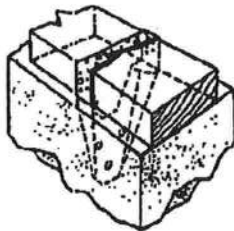
3. Nails are 0.148 x 1<sup>1</sup>/<sub>2</sub>" long (x 25.4 for mm).

4. Loads shall not be increased for short-term load duration.

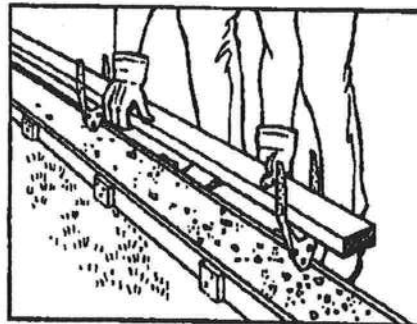
5. Loads are in pounds (x 4.45 for N).



Typical MA4  
and  
MA6 installed



MA4  
and  
MA6



Optional method with  
mud sill anchors in place for  
positioning into screeded  
concrete.



TABLE 9 - PB<sup>1,2</sup>

MODEL NO.	DIMENSIONS(Inch) (x 25.4 for mm)		ALLOWABLE LOADS <sup>3,4</sup> (lbs.) (x 4.45 for N)			
	W	L	12 - 16d NAILS <sup>5</sup>			2 - 1/2 MB <sup>6</sup>
			UPLIFT	F <sub>1</sub>	F <sub>2</sub>	UPLIFT
PB44	3 1/8	3 1/4	1385	765	1325	—
PB44R	4	3 1/4	1385	765	1325	—
PB48	5 1/2	3 1/4	1385	765	1325	—
PB68	5 1/2	5 3/8	1640	765	1325	1640
PB48R	8	3 3/8	1385	765	1325	1640
PB68R	8	5 3/8	1640	765	1325	1640

1. Minimum concrete strength is 2000 psi (x 0.895 for kPa).
2. Minimum side cover is 2" (x 25.4 for mm).
3. Loads are in pounds (x 4.45 for N).
4. Allowable loads in the table are limited by test results. No load duration increase is allowed.
5. Nails are 16d common D.162 x 3 1/2" long (x25.4 for mm).
6. The 1/2 - inch diameter (x 25.4 for mm) machine bolts shall be equal to or better than ASTM A307 quality. The length of the bolt shall be sufficient to allow proper installation of a nut and washer on the threaded end.

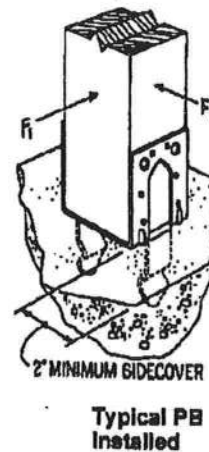
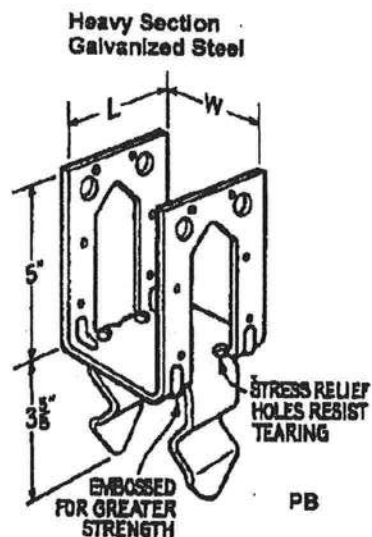


TABLE 10 - PC/EPC

MODEL NO.	POST SIZE	DIMENSIONS (Inch) (x 25.4 for mm)					FASTENERS <sup>1</sup>			ALLOWABLE LOADS <sup>2,3</sup> (lbs.) (x 4.45 for N)			
		W1	W2	L1	L2	L3	SURFACE A	SURFACE B	SURFACE C	UPLIFT		LATERAL <sup>4</sup>	
										NORM	MAX	PC <sup>5</sup>	EPC <sup>6</sup>
PC44-16	4 x 4	3 3/16	3 3/16	2 5/8	11	7 3/8	4 - 16d	6 - 16d	4 - 16d	1000	1000	925	1000
PC44	4 x 4	3 3/16	3 3/16	2 5/8	11	7 3/8	4 - 16d	6 - 16d	4 - 16d	1105	1470	925	1070
PC48-16	4 x 6	3 3/16	5 1/2	2 5/8	13	8 1/4	4 - 16d	6 - 16d	4 - 16d	1000	1000	925	1000
PC48	4 x 6	3 3/16	5 1/2	2 5/8	13	8 1/4	4 - 16d	6 - 16d	4 - 16d	1105	1470	925	1070
PC48-18	4 x 8	3 3/16	7 1/2	2 5/8	15	11 1/4	4 - 16d	8 - 16d	6 - 16d	1000	1000	1475	1285
PC48	4 x 8	3 3/16	7 1/2	2 5/8	15	11 1/4	4 - 16d	8 - 16d	6 - 16d	1105	1470	2075	1610
PC64-16	4 x 6	5 1/2	3 3/16	4 9/16	11	7 3/8	4 - 16d	6 - 16d	4 - 16d	1000	1000	925	1000
PC64	4 x 6	5 1/2	3 3/16	4 9/16	11	7 3/8	4 - 16d	6 - 16d	4 - 16d	1105	1470	925	1070
PC68-16	6 x 6	5 1/2	5 1/2	4 9/16	13	9 1/4	4 - 16d	6 - 16d	6 - 16d	1000	1000	925	1285
PC68	6 x 6	5 1/2	5 1/2	4 9/16	13	9 1/4	4 - 16d	6 - 16d	6 - 16d	1105	1470	925	1610
PC88-16	6 x 8	5 1/2	7 1/2	4 9/16	15	11 1/4	4 - 16d	8 - 16d	6 - 16d	1105	1470	2075	1610
PC88	6 x 8	7 1/2	5 1/2	6 9/16	13	9 1/4	4 - 16d	6 - 16d	6 - 16d	1105	1470	925	1610
PC88	8 x 8	7 1/2	7 1/2	6 9/16	15	11 1/4	4 - 16d	8 - 16d	6 - 16d	1105	1470	2075	1610

1. Nails are 16d common 0.162 x 3 1/2" long (x 25.4 for mm).
2. Loads are in pounds.
3. Loads shall not be increased for short term load duration.
4. Allowable lateral loads are for loads applied parallel to the beam.
5. PC = post cap.
6. EPC = end post cap.

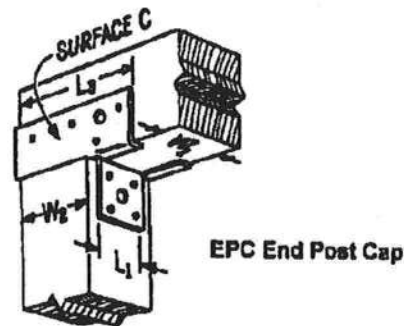
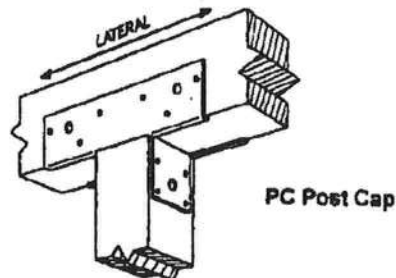
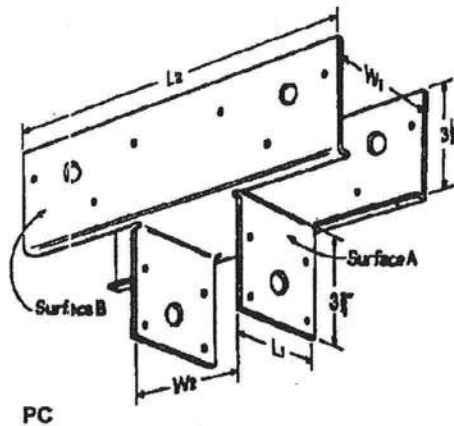


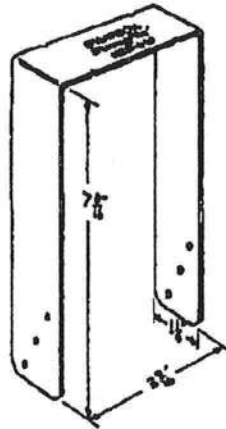
TABLE 11 - SP/SPA

MODEL NO.	MATERIAL	DIMENSIONS (Inch) (x 25.4 for mm)		NUMBER OF FASTENERS <sup>1</sup>	NORMAL ALLOWABLE LOADS <sup>2,3</sup> (lbs.) (x 4.45 for N)	
		W	L		10d x 1½	16d x 2½
SP4/SP4A	20 GA	3¾	7¾	6	550	600
SP6/SP6A	20 GA	5¾	7¾	6	550	600
SP8/SP8A	20 GA	7¾	8¾	8	550	600

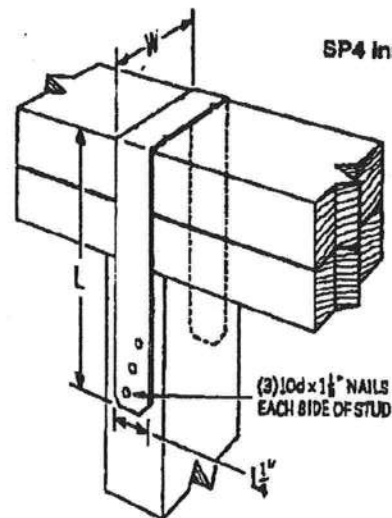
1. Nails are 10d common, 0.148 x 1½" long or 16d common 0.162 x 2½" long (x 25.4 for mm).

2. Loads are in pounds.

3. Loads are permitted to be increased for short-term load duration.



SP4  
(SP6 & SP7 Similar)



SP4 installed

TABLE 12 - THM-2

MODEL NO.	FASTENERS <sup>2</sup>				ALLOWABLE LOADS <sup>3,4,5</sup> (x 4.45 for N)								
	CARRYING MEMBER		CARRIED MEMBER		UPLIFT				LENGTH OF BOLT IN WOOD MEMBER (inch) (x 25.4 for mm)	ROOF			
					HIP		JACK			(100)		(125)	
	BOLTS <sup>5</sup>	NAILS	HIP	JACK	NORM	MAX	NORM	MAX		HIP	JACK	HIP	JACK
THM-2	3 - 1	2 - 16d	5 - 10d x 1½	2 - 10d x 1½	490	520	195	260	1½	1105	555	1385	690
									3	2215	1110	2770	1385
									4½	3250	1625	3640	1820
									6	3250	1625	3640	1820

1. Use of the hanger to laterally support trusses where required by design is beyond the scope of this report.

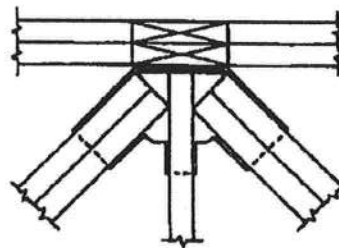
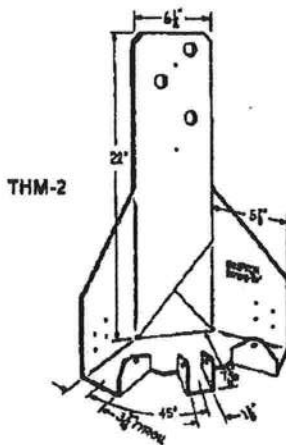
2. Nails are 10d common 0.148 x 1½" long and 16d common 0.162 x 3½" long (x 25.4 for mm).

3. Loads are in pounds.

4. Loads shall not be increased for short-term load duration.

5. The total load shall be evenly distributed about the center line to avoid eccentric loading.

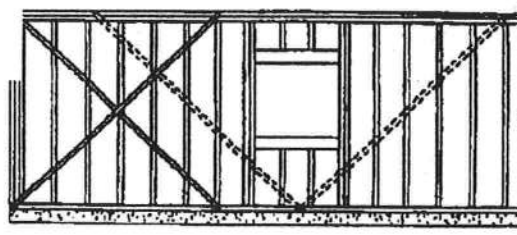
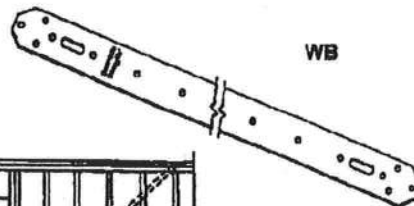
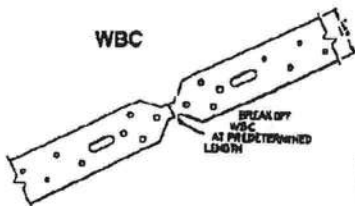
6. The 1-inch diameter machine bolts must be equal to or better than ASTM A 307 quality. Length of the bolt shall be sufficient to allow proper installation of a nut and washer on the threaded end.



THM-2 Plan View

TABLE 13 - FASTENER SCHEDULE FOR WB AND WBC WALL BRACING

MODEL NO.	DIMENSIONS (feet/inches) (x 304.8 for mm)/(x 25.4 for mm)		ANGLE & WALL SIZE	FASTENERS	
	LENGTH	SECTION		PLATES	STUDS
WB108	9' - 6 5/8"	1 1/4	8° at 60°	2 - 16d	1 - 8d
WB126	11' - 4 3/4"	1 1/4	8° at 45°	2 - 16d	1 - 8d
WB106C	9' - 6"	1 1/4	8° at 60°	2 - 16d	1 - 8d
WB126C	11' - 4 3/4"	1 1/4	8° at 45°	2 - 16d	1 - 8d
WB143C	14' - 3"	1 1/4	10° at 45°	2 - 16d	1 - 8d



WB or WBC Wall Bracing "X" and "V" Applications

TABLE 14 - FASTENER SCHEDULE FOR THE DJT14

MODEL NO.	FASTENERS		ALLOWABLE GRAVITY LOADS <sup>1,2</sup> (lbs.)			
			(x 4.45 for N)			
	NAILS	BOLTS <sup>3</sup>	NAILS	BOLTS	FLOOR (100)	ROOF (125)
DJT14	8 - 16d	2 - 5/8 MB	FLOOR (100)	ROOF (125)	1100	1375
					1400	1400

1. Loads and fasteners noted in the table are for one DJT.
2. Roof loads are 125% of floor loads. When floor loads are adjusted for other load duration, in accordance with the applicable code, they shall not exceed those in the roof column.
3. The 5/8 - inch - diameter machine bolts shall be equal to or greater than ASTM A 307 quality, length shall be sufficient to allow proper installation of a nut and washer on the threaded end.

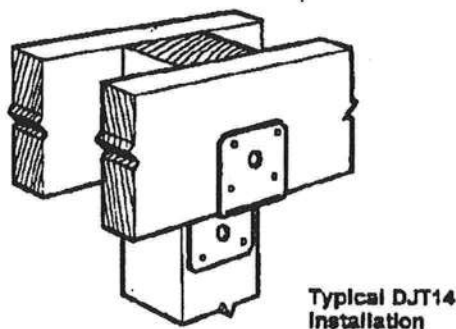
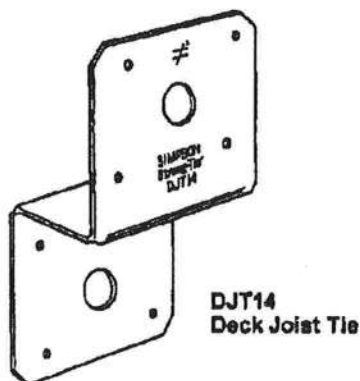
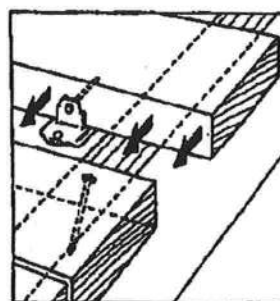
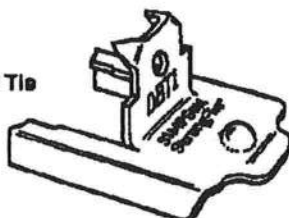


TABLE 15 - FASTENER SCHEDULE FOR THE DBT1

MODEL NO.	FASTENERS <sup>1,2</sup>
	DECK BOARD
DBT1	2 PRONGS & 1 - 10d X 1 1/2"

1. 2-Prongs and 1-10d x 1 1/2 rail are used to attach DBT1 to edge of deck board. Other edge of deck board shall be toe nailed using 1-16d common.
2. Minimum deck board thickness shall be 1 1/4" (5/4).

DBT1  
Deck Board Tie

Typical DBT1 Installation.  
Connectors slide under anchored deck  
board.



TABLE 16 - FASTENER SCHEDULE FOR THE DPT5, DPT6 AND DPT7<sup>1,2</sup>

MODEL NO.	FASTENERS		MINIMUM POST SPACING <sup>3</sup> (feet/inches) (x 304.8 for mm/ x 25.4 for mm)	
	FASCIA/RIM JOIST	POST	DOUGLAS FIR-LARCH	REDWOOD (Close Grain)
DPT5 <sup>4</sup>	2 - 3/8 MB <sup>5</sup>	5 - 10d x 1 1/2	2 - 1	1 - 2
DPT6	8 - 16d	8 - 18d	1 - 7	1 - 3
DPT7 <sup>4</sup>	2 - 3/8 MB <sup>5</sup>	5 - 10d	2 - 5	1 - 9

1. Limited to Group R residential dwellings and a maximum rail height of 36 inches.
2. For DPT5 and DPT7, minimum rim joist size is 2x8, nominal and minimum fascia size is 2x10, nominal. For DPT6, minimum rim joist size is 2x8, nominal, and minimum fascia size is 2x8, nominal.
3. Post spacing is based on an assumed handrail loading of 50 pif or a 300 pound point load.
4. Fastener quantities are for a single DPT5 or DPT7. Proper installation is in pairs 5 inches apart, center to center. A standard washer is required with each nut.
5. Bolts shall penetrate through a minimum nominal 2x rim joist (1 1/2-inch minimum)(x 25.4 for mm) and a minimum nominal 2x fascia (1 1/2-inch minimum)(x 25.4 for mm). Machine bolts shall be ASTM A 307 quality or better and have sufficient length to allow proper installation of a nut and washer on the threaded end.

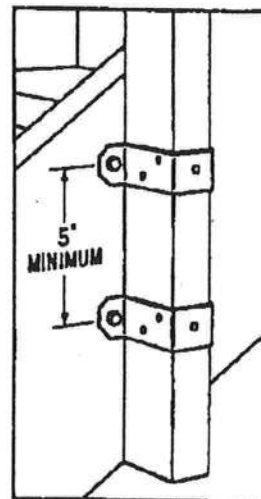
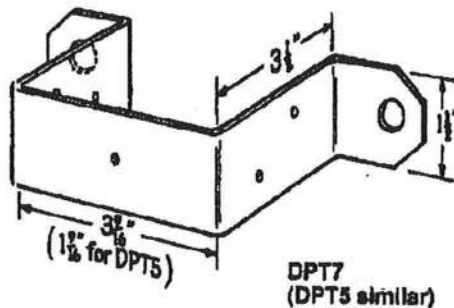
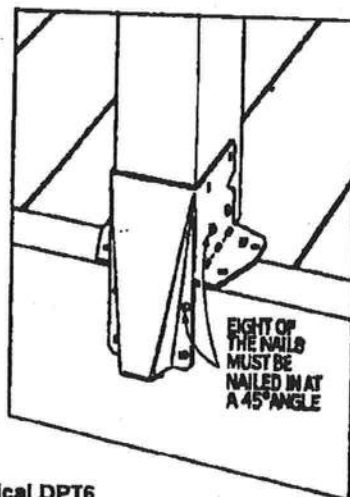
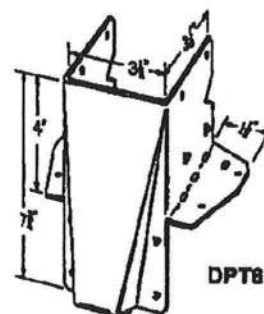
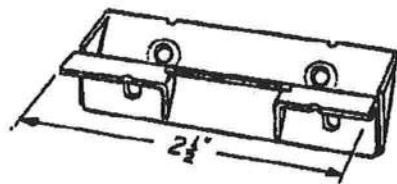
Typical DPT5  
Stairway InstallationTypical DPT6  
Installation

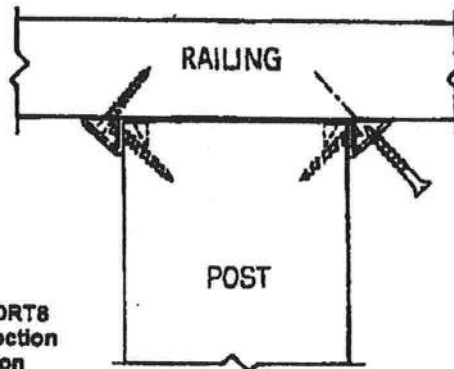
TABLE 17 - FASTENER SCHEDULE FOR THE DRT8

MODEL NO.	FASTENERS <sup>1</sup>		ALLOWABLE HORIZONTAL LOADS (lbs.) (x 4.45 for N)		MAXIMUM SPACING (feet/inches) <sup>4</sup> (x 304.8 for mm/x 25.4 for mm)	
	RAIL <sup>2</sup>	POST <sup>3</sup>	REDWOOD (Close Grain)	DOUG FIR-LARCH	REDWOOD (Close Grain)	DOUG FIR-LARCH
DRT8	2	2	80	113	4' 0"	5' 7"

1. Fastener quantities are for a single DRT8. Installation is in pairs with one DRT8 on either side of the post. Fasteners are No. 8 x 1 1/4 -inch wood screws.
2. Minimum deck rail thickness is 1 1/2 inches (x 25.4 for mm).
3. Minimum post size is 2 x 4, nominal.
4. Post spacing is based on an assumed handrail loading of 50 plf (x .0146 for N/mm) or a 300 pound (x 4.45 for N) point load.



DRT8

Typical DRT8  
Cross Section  
Installation



MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908

## PRODUCT CONTROL NOTICE OF ACCEPTANCE

Simpson Strong Tie Company, Inc.  
4637 Chabot Drive  
Pleasanton CA 94588

CONTRACTOR LICENSING SECTION  
(305) 375-2527 FAX (305) 375-2558

CONTRACTOR ENFORCEMENT SECTION  
(305) 375-2966 FAX (305) 375-2908

PRODUCT CONTROL DIVISION  
(305) 375-2902 FAX (305) 372-6339

Your application for Product Approval of:  
*Wood Connectors*

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This approval shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at anytime from a jobsite or manufacturer's plant for quality control testing.

If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

Acceptance No.: 99-0713.05

Expires: 10/13/2002

Raul Rodriguez  
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL  
CONDITIONS

BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.

Director

Miami-Dade County

Building Code Compliance Office

Approved: 10/14/1999

1 of 3



Simpson Strong-Tie Co., Inc.ACCEPTANCE NO: 99-0713.05APPROVED : OCT 13 1999EXPIRES : OCT 13 2002NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

## 1. SCOPE

- 1.1 This approves wood connectors; as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code (SFBC), 1994 Edition for Miami-Dade County. For the locations where the actual loads as determined by SFBC Chapter 23, do not exceed the design load indicated in the approved drawings.

## 2. PRODUCT DESCRIPTION

- 2.1 The Simpson Strong-Tie Wood Connectors shall be fabricated and used in strict compliance with the following documents: Drawing No. no number, titled "ABA Standoff Post Bases", "ABA Standoff Post Bases", "AC/ACE Post Caps", "BC Post Caps", "L/LS Reinforcing and Skeable Angles", "MTS Twist Straps", & "TA9 Staircase Angles", prepared by Simpson Strong-Tie Co., Inc., dated 03/04/99 sheet 1 through 7 of 7. The drawings shall bear the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

## 3. LIMITATIONS

- 3.1 Allowable loads are for Douglas Fir-Larch or better with a specific gravity of 0.50 and moisture content of 19% or less.
- 3.2 Allowable loads are based on testing per ASTM D1761 and calculations per National Design Specifications for Wood Construction 1991 Edition & 1993 Errata.

## 4. INSTALLATION

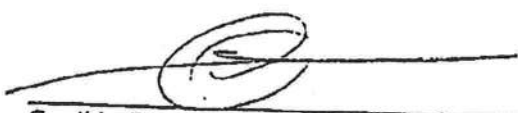
- 4.1 The wood connectors shall be installed in strict compliance with the approved drawings.

## 5. LABELING

- 5.1 Each wood connector shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved".

## 6. BUILDING PERMIT

- 6.1 Application for Building Permit shall be accompanied by copies of the following:
- 6.1.1 This Notice of Acceptance
- 6.1.2 Duplicate copies of the approved drawings as identified in Section 2 of this Notice of Acceptance, clearly marked to show the hangers and angles selected for the proposed installation.
- 6.1.3 Any other document required by the Building Official or the SFBC in order to properly evaluate the installation of these products.

  
Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

Simpson Strong-Tie Co., Inc.


ACCEPTANCE NO.: 99-0713.05

APPROVED : OCT 13 1999

EXPIRES : OCT 13 2002

NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted is no longer practicing the engineering profession.
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process.
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purpose.
6. The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reveal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

  
Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

END OF THIS ACCEPTANCE

3 of 3



9/15/94  
2-0-14 C. T. Walker



MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING

## PRODUCT CONTROL NOTICE OF ACCEPTANCE

Simpson Strong-Tie Company, Inc.  
4637 Chabot Drive Suite 200  
Pleasanton, CA 94588

BUILDING CODE COMPLIANCE OFFICE  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1363  
(305) 375-2901 FAX (305) 375-2908

CONTRACTOR LICENSING SECTION  
(305) 375-2327 FAX (305) 375-2333

CONTRACTOR ENFORCEMENT DIVISION  
(305) 375-2966 FAX (305) 375-2908

PRODUCT CONTROL DIVISION  
(305) 375-2902 FAX (305) 372-6339

Your application for Notice of Acceptance (NOA) of:

**Various Connectors: H, HH, FC, A**

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 00-0926.01  
EXPIRES: 01/11/2004

Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL  
CONDITIONS  
BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance Office

APPROVED: 01/11/2001

Simpson Strong-Tie Co., Inc.ACCEPTANCE NO: 00-0926.01APPROVED: JAN 11 2001EXPIRES: JAN 11 2004**NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS****1. SCOPE**

- 1.1 This renews the Notice of Acceptance No. 97-0107.05, which was issued on 08/14/97. It approves wood connectors; as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code (SFBC), 1994 Edition for Miami-Dade County. For the locations where the actual loads as determined by SFBC Chapter 23, do not exceed the design load indicated in the approved drawings.

**2. PRODUCT DESCRIPTION**

- 2.1 The Simpson Strong-Tie Wood Connectors shall be fabricated and used in strict compliance with the following documents: Drawing with No. SSTMD-001 and sheets 1 through 6 of 6, titled "Hurricane Ties, HH Header Hangers, FC Framing Clips, A34 Framing Anchors, A35 Framing Anchors and A35F Framing Anchors", prepared by Simpson Strong-Tie Co., Inc., dated 09/14/00 with no revisions. The drawings shall bear the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

**3. LIMITATIONS**

- 3.1 Allowable loads are for Douglas Fir-Larch or better with a specific gravity of 0.50 and moisture content of 19% or less.
- 3.2 Allowable loads are based on testing per ASTM D1761 and calculations per National Design Specifications for Wood Construction 1991 Edition & 1993 Errata.

**4. INSTALLATION**


- 4.1 The wood connectors shall be installed in strict compliance with the approved drawings.

**5. LABELING**

- 5.1 Each wood connector shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved".

**6. BUILDING PERMIT**

- 6.1 Application for Building Permit shall be accompanied by copies of the following:
- 6.1.1 This Notice of Acceptance
- 6.1.2 Duplicate copies of the approved drawings as identified in Section 2 of this Notice of Acceptance, clearly marked to show the hangers and angles selected for the proposed installation.
- 6.1.3 Any other document required by the Building Official or the SFBC in order to properly evaluate the installation of these products.

  
Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

Simpson Strong-Tie Co., Inc.


ACCEPTANCE NO.: 00-0926.01

APPROVED: JAN 11 2001

EXPIRES: JAN 11 2004

**NOTICE OF ACCEPTANCE STANDARD CONDITIONS**

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted is no longer practicing the engineering profession.
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process.
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purpose.
6. The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

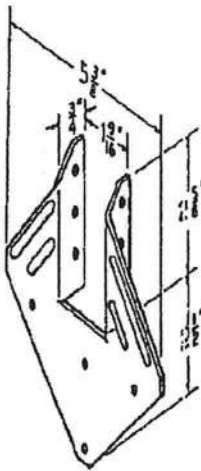
  
Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

END OF THIS ACCEPTANCE

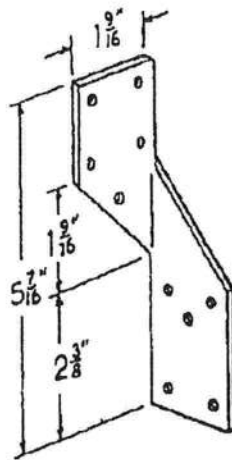
## HURRICANE TIES

Model No.	GA.	Fasteners		Allowable Loads		
		Rafter	Plate or Stud	Uplift	F1	F2
H1	18	6 - 8d x 1½	4 - 8d	490	445	165
H2.5	18	5 - 8d x 1½	5 - 8d	410	150	150
H3	18	4 - 8d x 1½	4 - 8d	435	110	125
H4	20	4 - 8d x 1½	4 - 8d	—	150	150
H5	18	4 - 8d x 1½	4 - 8d	—	115	180

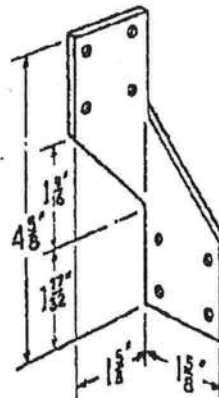
1. In order to comply with the South Florida Building Code Section 2908.05, two (2) H2, H2.5, or H3 connectors shall be installed for a minimum uplift of 700#.
2. Allowable loads are for one tie only.
3. A minimum rafter thickness of 2 ½" must be used when framing anchors are installed on each side of the rafter and on the same side of the plate.



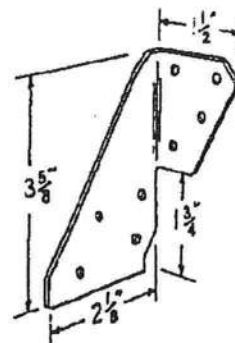
H1



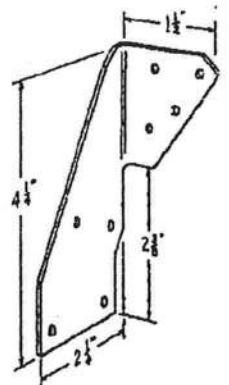
H2.5



H3



H4



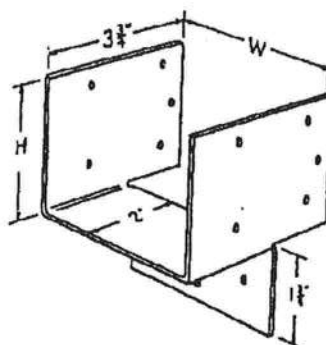
H5



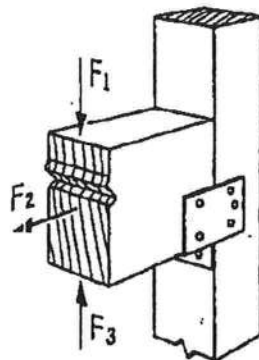
## HEADER HANGERS

MODEL NO.	GA	Dimensions		Fasteners 16d		Allowable Loads		
		W	H	Stud	Header	F1	F2	F3
HH4	16	3½	2 - 1¾	9	4	1195	530	530
HH6	16	5½	5 - 1½	12	6	1595	800	800

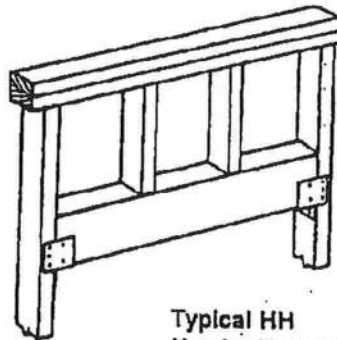
1. The above allowable loads require a minimum 2½" lumber thickness.



HH4



HH Load Directions

Typical HH  
Header Hanger  
Installation

## GENERAL NOTES

- 1) Steel for the HH4 and HH6 shall conform to ASTM A-653 FS with  $F_{y,min} = 28$  ksi and  $F_{u,min} = 38$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable down loads have not been increased by any duration factor.
- 5) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch ( $G=.50$  or better) and tests performed in accordance with ASTM D1761.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE January 11, 2001  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-0926.01

ICE USE

SIMPSON STRONG-TIE CO., INC.  
4637 Chabot Drive, Suite 200  
Pleasanton, CA 94588

TITLE: HH HEADER HANGERS

Drawing No. SSTMD-001

Sheet No. 2/6

Drawing Date: 9-14-00

Revision Date: --

Evon M.C. Ballash, P.E.

Civil #PE0051762

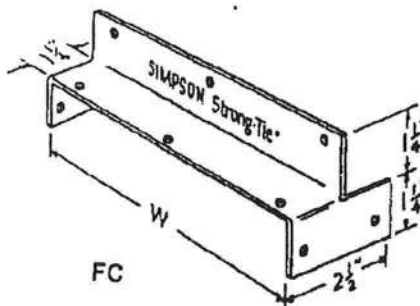
12/18/02

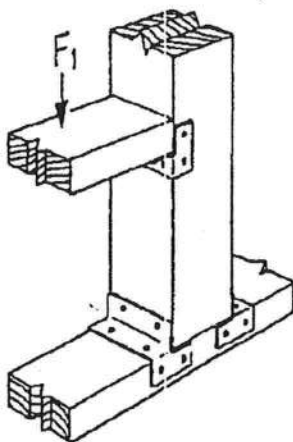
Evon M. C. Ballash

## FC FRAMING CLIPS

MODEL NO.	GA	W	FASTENERS		ALLOWABLE LOAD
		In	Post	Header	
FC4	16	3 $\frac{9}{16}$	6 - 16d	2 - 16d	800
FC6	16	5 $\frac{1}{2}$	7 - 16d	3 - 16d	920

1. The above allowable loads require a minimum 2 $\frac{1}{2}$ " lumber thickness.
2. Loads may not be increased for short-term loading.





Typical FC Load  
Direction

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE January 11, 2001  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-092601

#### GENERAL NOTES

- 1) Steel for the FC4 and FC6 shall conform to ASTM A-653 FS with  $F_{y,min} = 28$  ksi and  $F_{u,min} = 38$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable down loads have not been increased by any duration factor.
- 5) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch (G=.50 or better) and tests performed in accordance with ASTM D1761.

OFFICE USE

SIMPSON STRONG-TIE CO., INC.

4637 Chabot Drive, Suite 200

Pleasanton, CA 94588

TITLE: FC FRAMING CLIPS

Drawing No. 9-14-00

Sheet No. 3/6

Drawing Date: SSTMD-001

Revision Date: --

Evan M C Balleash P.E.

Civil #DE0051000

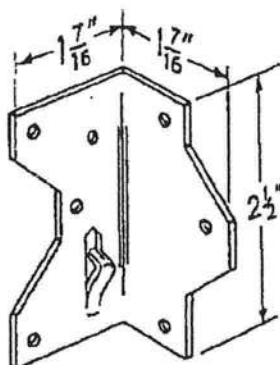
12/15/00

Evan M C Balleash

## FRAMING ANCHORS

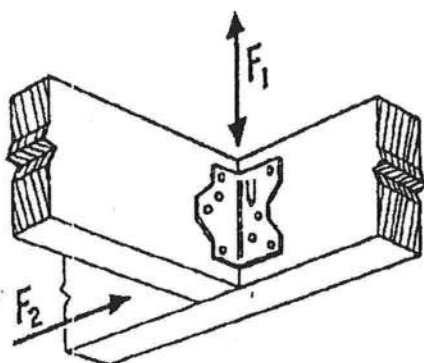
Model No.	GA	Load Direction	Fasteners 8d x 1 1/2"		Allowable Load
			Header	Joist	
A34	18	F1	4	4	345
A34	18	F2	4	4	280

1. Allowable loads are for one anchor. When anchors are installed on each side of the joist, the minimum joist thickness is 3".



A34





A34

## GENERAL NOTES

- 1) Steel for the A34, A35 and A35F shall conform to ASTM A-653 FS with  $F_{y,min} = 33$  ksi and  $F_{u,min} = 45$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable down loads have not been increased by any duration factor.
- 5) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch ( $G=.50$  or better) and tests performed in accordance with ASTM D1761.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE January 11, 2001  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-0926.01

FICE USE

SIMPSON STRONG-TIE CO., INC.

4637 Chabot Drive, Suite 200  
Pleasanton, CA 94588

TITLE: A34 FRAMING ANCHORS

Drawing No. SSTMD-001

Sheet No. 4/6

Drawing Date: 9-14-00

Revision Date: --

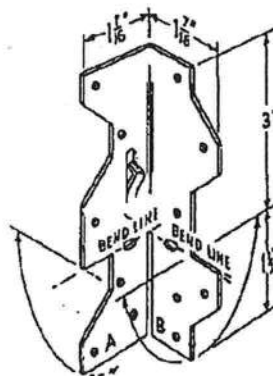
Evon M.C. Ballash, P.E.

Civil #PE0051762

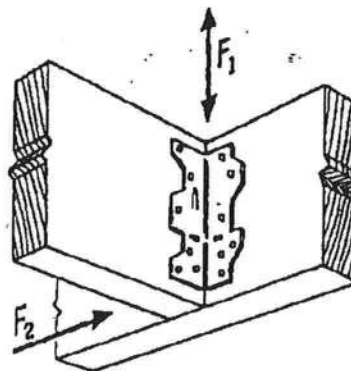
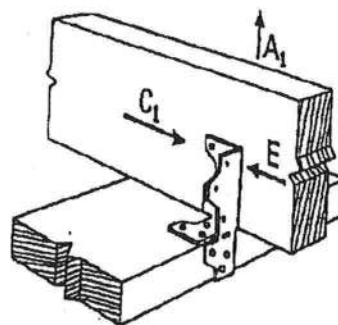
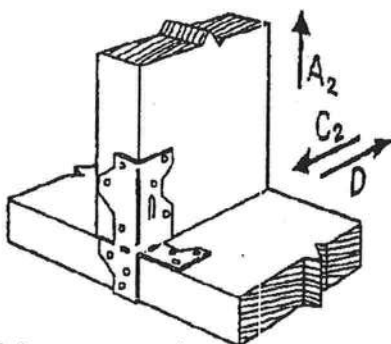
12/15/00  
Evon M.C. Ballash

## FRAMING ANCHORS

Model No.	GA	Load Direction	Fasteners 8d x 1½		Allowable Load
			Header	Joist	
A35	18	A1	6	3	260
A35	18	E	6	3	260
A35	18	C1	6	3	170
A35	18	A2	6	6	260
A35	18	C2	6	6	260
A35	18	D	6	6	150
A35	18	F1	6	6	450
A35	18	F2	6	6	430



A35



## GENERAL NOTES

- 1) Steel for the A34, A35 and A35F shall conform to ASTM A-653 FS with  $F_{y,min} = 33$  ksi and  $F_{u,min} = 45$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable down loads have not been increased by any duration factor.
- 5) Allowable loads are based on National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch ( $G=.50$  or better) and tests performed in accordance with ASTM D1761.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE January 11, 2001  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-0926.01

DE USE

SIMPSON STRONG-TIE CO., INC.

4637 Chabot Drive, Suite 200

Pleasanton, CA 94588

TITLE: A35 FRAMING ANCHORS

Drawing No. SSTMD-001

Sheet No. 5/6

Drawing Date: 9-14-00

Revision Date: --

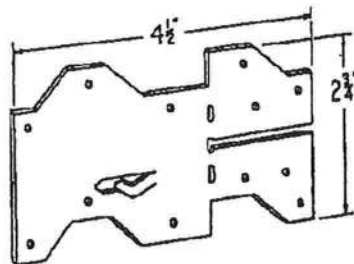
Evon M.C. Ballash, P.E.

Civil #PE0051762

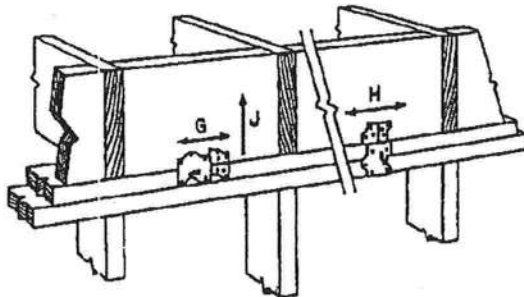
12/15/00  
Evon M. C. Ballash

## FRAMING ANCHORS

Model No.	GA	Load Direction	Fasteners 8 x 1½		Allowable Load
			Header	Jolst	
A35F	18	G	6	6	500
A35F	18	J	6	6	200
A35F	18	H	6	6	440



A35F



Typical A35F  
Installation

APPROVED AS CORRELATING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE January 11, 2001  
BY [Signature]  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-0926.01

#### GENERAL NOTES

- 1) Steel for the A34, A35 and A35F shall conform to ASTM A-653 FS with  $F_{y,min} = 33$  ksi and  $F_{u,min} = 45$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable down loads have not been increased by any duration factor.
- 5) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch ( $G=.50$  or better) and tests performed in accordance with ASTM D1761.

OFFICE USE

SIMPSON STRONG-TIE CO., INC.

4637 Chabot Drive, Suite 200

Pleasanton, CA 94588

TITLE: A35F FRAMING ANCHORS

Drawing No. SSTMD-001 Sheet No. 6/6

Drawing Date: 9-14-00 Revision Date: --

Evon M.C. Ballash, P.E. Civil #PE0051762

12/4/00  
Evon M.C. Ballash



MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDINGBUILDING CODE COMPLIANCE OFFICE  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901  
FAX (305) 375-2908PRODUCT CONTROL DIVISION  
(305) 375-2902  
FAX (305) 372-6339Jeff Dunagan  
Simpson Strong-Tie Company, Inc.  
4120 Dublin Boulevard Suite 400  
Dublin, CA 94568

## NOTICE OF PROPOSED ACTION

To: *Members of the Board of Rules and Appeals and*  
Simpson Strong-Tie Company, Inc., Applicant

In accordance with Dade County Administrative Order 10-3, which governs the product review process, the Product Control Division of the Office of Code Compliance, intends to issue a Product Control Notice of Acceptance to Simpson Strong-Tie Company, Inc. for Wood Connectors, No. 02-0402.01, to allow its use in Dade County and its municipalities.

To: *Members of the Board of Rules and Appeals*

The documentation being provided to you represents the recommendation of the Product Control Division of the Office of Code Compliance in regards to the submittal of Simpson Strong-Tie Company, Inc. for Wood Connectors, No. 02-0402.01. Under the provisions of Dade County Administrative Order 10-3, which governs the product review process. You must review this documentation. If within 20 days from the date of mailing, we do not receive any written objection stating the reason(s) for your disapproval, this product will be automatically approved.

To: Simpson Strong-Tie Company, Inc., Applicant

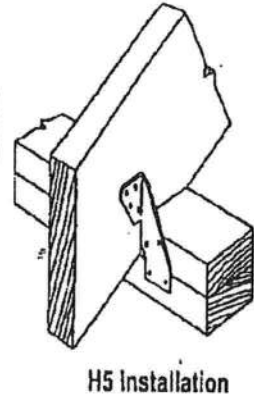
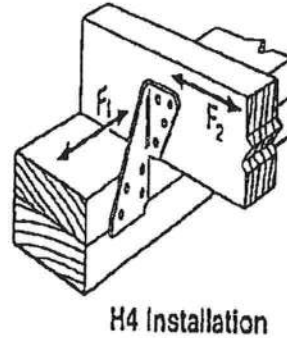
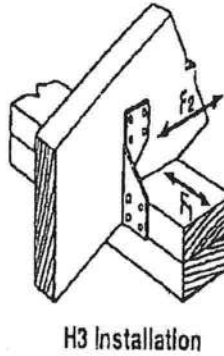
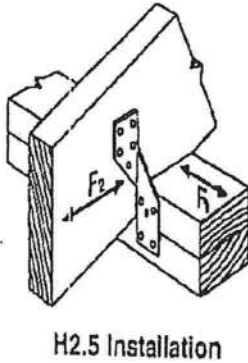
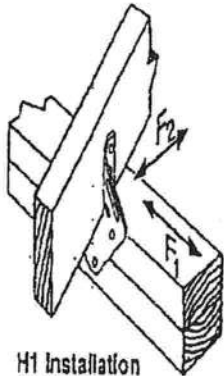
The Product Control Division of the Office of Code Compliance, in accordance with Dade County Administrative Order 10-3, which governs the product review process, has issued this notice of proposed action and intends to issue a Product Control Notice of Acceptance for your Wood Connectors, No. 02-0402.01, to be used in Dade County and its municipalities, unless a member of the Board of Rules and Appeals or yourself has any objections. Should you not be in accord with this notice of proposed action and wish to appeal our recommendation, you must make a written request, stating the reasons for your objection(s), to our office within 20 days of the date of mailing. Upon receipt of your written request a hearing date will be set so that you can present your objection(s) to the Board of Rules and Appeals.

Sincerely,

Raul Rodriguez  
Chief Product Control DivisionFrancisco J. Quintana, R.A.  
Director

DATE OF MAILING: 04/12/2002

Mailed by:



## GENERAL NOTES

- 1) Steel for the H1, H2.5, H3, and H5 shall conform to ASTM A-653 FS with  $F_{y,min} = 28$  ksi and  $F_{u,min} = 38$  ksi and have a minimum galvanized coating of G90. Steel for the H4 shall conform to ASTM A-653 SS GR 33 with  $F_{y,min} = 33$  ksi and  $F_{u,min} = 45$  ksi and have a minimum galvanized coating of G90.
- 2) Fasteners are common wire nails unless otherwise noted.
- 3) Allowable uplift loads have been increased 33% for wind loading with no other duration increases allowed.
- 4) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Errata, for Douglas Fir-Larch ( $G=$ .50 or better) and tests performed in accordance with ASTM D1761.

APPROVED AS COMPLYING WITH THE:  
 SOUTH FLORIDA BUILDING CODE  
 DATE January 11, 2001  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 00-092601

OFFICE USE

SIMPSON STRONG-TIE CO., INC.

4637 Chabot Drive, Suite 200  
 Pleasanton, CA 94588

TITLE: HURRICANE TIES

Drawing No.: SSTMD-001

Sheet No.: 1/6

Drawing Date: 9-14-00

Revision Date: --

Evon M.C. Ballash, P.E.

Civil #PE0051762

12/18/02

Evon M. C. Ballash



BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908

## NOTICE OF ACCEPTANCE (NOA)

Simpson Strong-Tie Co., Inc.  
4120 Dublin Blvd., Suite 400  
Dublin, CA 94568

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

### DESCRIPTION: Wood Connectors

**APPROVAL DOCUMENT:** Drawing No. no number, titled "A Angles", "CS Coiled Strap", "LPC Post Caps", "LTHJ Truss Hip/Jack Hangers", & "SP Stud Plate Ties", sheets 1 through 5, prepared, signed and sealed by Evon Ballash, P.E., dated 7/9/99, bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

### MISSILE IMPACT RATING: None

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

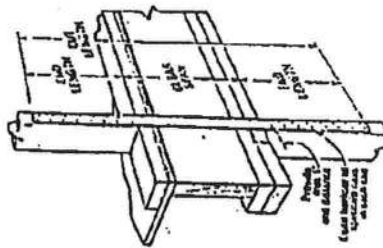
**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA # 99-0623.04 and, consists of this page 1 as well as approval document mentioned above. The submitted documentation was reviewed by Raul Rodriguez.

NOA No 02-0402.01  
Expiration Date: May 5, 2007  
Approval Date: May 2, 2002  
Page 1

## CS Coiled Strap



Typical CS Installation  
As a Floor-Joist  
Floor Tie

Model No.	Total Length	End Length	Clear Length	Fasteners (Total)	Allowable Loads
CS10S	100"	12"	clear span + 24"	22-6d	
CS10S	200"	10"	clear span + 20"	18-10d	925
CS18-R	25"	10"	clear span + 20"	18-10d	

3) Minimum Nail Penetration shall be 1 3/8" for 8d & 176" for 10d



CS Strap Pattern

APPROVED AS COORDINATING WITH THE  
SOUTH (WEST) BUILDING CODE  
CITY OF LOS ANGELES 1993  
BY *[Signature]*  
PRODUCT CONTROL DIVISION  
SIMPSON STRONG TIE CO  
10000 W. 99th St., Suite 100  
Los Angeles, CA 90047

## GENERAL NOTES:

- 1) Steel shall conform to 18 gauge ASTM A-653 F5 with  $F_{u, min} = 33$  ksi and  $F_{y, min} = 45$  ksi and have a minimum galvanized coating of C60.
- 2) Fasteners are companion wire nails unless noted.
- 3) Allowable uplift loads have been increased 33%, for wind loading with no other duration increases allowed.
- 4) Allowable loads are based on the National Design Specification for Wood Construction 1991 Edition & 1993 Edition, for Douglas Fir-Larch (G=0.90 or better) and tests performed in accordance with ASTM D1761.

FOR OFFICE USE

SIMPSON STRONG-TIE CO., INC.  
4637 Chobot Drive, Suite 200  
Pleasanton, CA 94588

DATE: CS Coiled Strap

Drawing No.

Sheet No. 2/5

Drawing Date 2-2-98

Revision Date

Evon M.C. Ballash, P.E. Civil #PE0051762

WHT  
E.M.C. Ballash

MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING**PRODUCT CONTROL NOTICE OF ACCEPTANCE**Simpson Strong-Tie Company, Inc.  
4637 Chabot Drive Suite 200  
Pleasanton, CA 94588BUILDING CODE COMPLIANCE OFFICE  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908CONTRACTOR LICENSING SECTION  
(305) 375-2527 FAX (305) 375-2558CONTRACTOR ENFORCEMENT DIVISION  
(305) 375-2966 FAX (305) 375-2908PRODUCT CONTROL DIVISION  
(305) 375-2902 FAX (305) 372-6339Your application for Notice of Acceptance (NOA) of:  
**Wood Connectors**

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 00-0512.11  
EXPIRES: 05/10/2004Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET. SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS**  
**BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance OfficeAPPROVED: 05/10/2001



Simpson Strong-Tie Co., Inc.

ACCEPTANCE NO: 00-0512.11

APPROVED: MAY 10 2001

EXPIRES: MAY 10 2004

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. **SCOPE**

- 1.1 This approves wood connectors; as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code (SFBC), 1994 Edition for Miami-Dade County. For the locations where the actual loads as determined by SFBC Chapter 23; do not exceed the design load indicated in the approved drawings.

2. **PRODUCT DESCRIPTION**

- 2.1 The Simpson Strong-Tie Wood Connectors shall be fabricated and used in strict compliance with the following documents: Drawing with No. S-2068 and sheets 1 through 5 of 5, titled "Post Bases, Seismic & Hurricane Ties and Embedded Truss Anchors", prepared by Simpson Strong-Tie Co., Inc., dated 10/23/00 with latest revision on 03/08/01. The drawings shall bear the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

3. **LIMITATIONS**

- 3.1 Allowable loads are for Douglas Fir-Larch or better with a specific gravity of 0.50 and moisture content of 19% or less.
- 3.2 Allowable loads are based on testing per ASTM D1761 and calculations per National Design Specifications for Wood Construction 1991 Edition & 1993 Errata.

4. **INSTALLATION**


- 4.1 The wood connectors shall be installed in strict compliance with the approved drawings.

5. **LABELING**

- 5.1 Each wood connector shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved".

6. **BUILDING PERMIT**

- 6.1 Application for Building Permit shall be accompanied by copies of the following:
- 6.1.1 This Notice of Acceptance
- 6.1.2 Duplicate copies of the approved drawings as identified in Section 2 of this Notice of Acceptance, clearly marked to show the hangers and angles selected for the proposed installation.
- 6.1.3 Any other document required by the Building Official or the SFBC in order to properly evaluate the installation of these products.

  
Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

Simpson Strong-Tie Co., Inc.


ACCEPTANCE NO.: 00-0512.11

APPROVED: MAY 10 2001

EXPIRES: MAY 10 2004

NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted is no longer practicing the engineering profession;
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process.
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purpose.
6. The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

  
Candido Font, P.E., Sr. Product Control Examiner  
Product Control Division

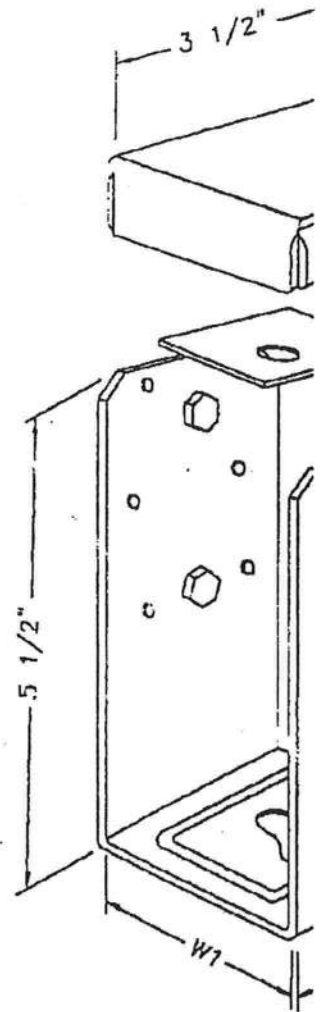
END OF THIS ACCEPTANCE

# SIMPSON STRONG-TIE CO., INC.

ABU & EPB ELEVATED POST BASES, H10 SEISMIC & HURRICANE TIE  
HETA/HETAL EMBEDDED TRUSS ANCHORS & PB44 POST BASE

## ABU ELEVATED POST BASES GENERAL NOTES

1. THIS PRODUCT IS DESIGNED TO MEET THE SOUTH FLORIDA BUILDING CODE 1994 EDITION FOR MIAMI-DADE COUNTY.
2. THE STEEL SHALL CONFORM TO ASTM A-653 CS WITH  
Fy. MIN. = 28ksi & Fu. MIN. = 38ksi FOR BASE & ASTM  
A-653 SS GRADE 33 WITH Fy MIN. = 33 ksi & Fu MIN.  
= 45ksi FOR THE STRAP, & HAVE A MINIMUM GALVANIZED  
COATING OF G60.
3. FASTENERS ARE COMMON WIRE NAILS UNLESS OTHERWISE  
NOTED.
4. ALLOWABLE DOWNLIFT LOADS HAVE NOT BEEN INCREASED  
BY ANY DURATION FACTOR.
5. ALLOWABLE UPLIFT LOADS HAVE BEEN INCREASED 33%  
FOR WIND LOADING. LOADS MAY NOT BE INCREASED FOR  
SHCRT-TERM LOADING.
6. ALLOWABLE LOADS ARE BASED ON THE NATIONAL DESIGN  
SPECIFICATION FOR WOOD CONSTRUCTION 1991 EDITION &  
1993 ERRATA, FOR DOUGLAS FIR-LARCH (G = 0.50 OR  
BETTER) & TESTS PERFORMED IN ACCORDANCE WITH  
ASTM D1761.
7. NOT RECOMMENDED FOR NON-TOP SUPPORTED  
INSTALLATIONS SUCH AS FENCES.
8. FOR PRE-POUR INSTALLED ANCHORS, EMBED 4" INTO  
CONCRETE. FOR EPOXY OR WEDGE ANCHORS, SELECT  
DESIGN & INSTALL ACCORDING TO MANUFACTURER'S  
RECOMMENDATIONS & SOUND ENGINEERING PRACTICES.



ABU44 ELEVATED

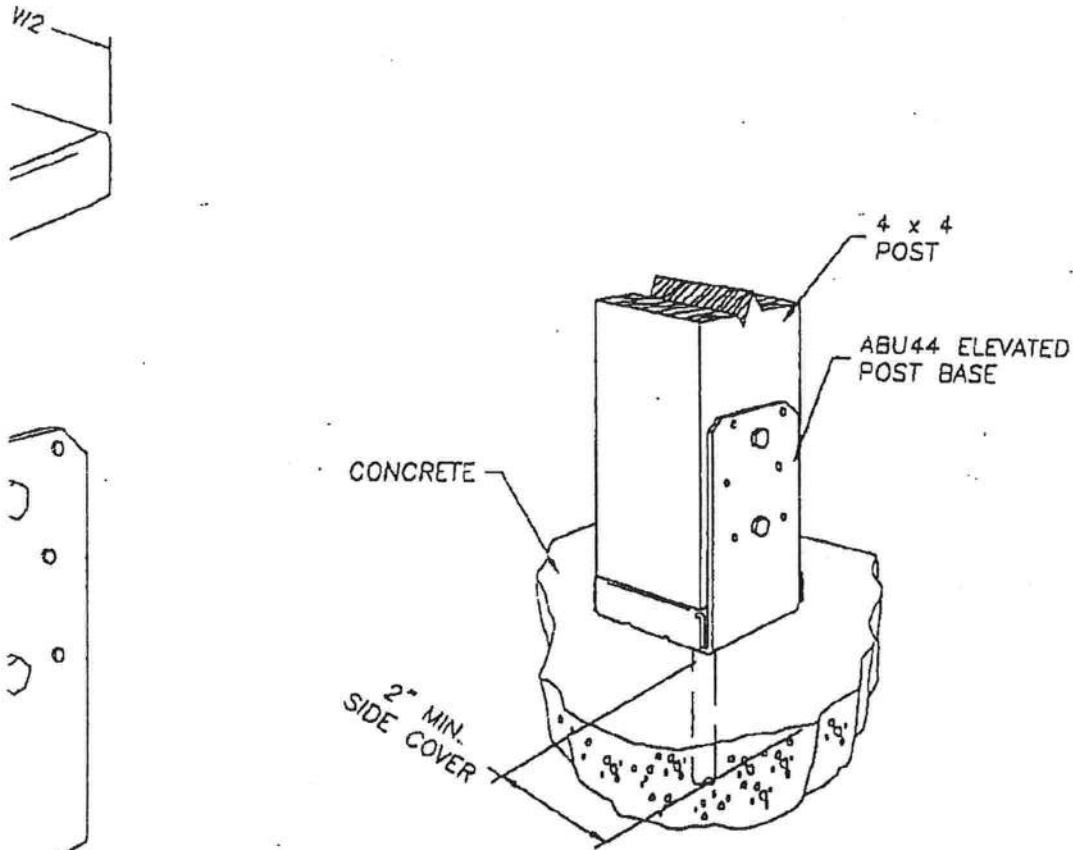
## TABLE OF CONTENTS

SHEET #	DESCRIPTION
1	ABU ELEVATED POST BASES, NOTES & CHART
2	EPB ELEVATED POST BASES, NOTES & CHART
3	H10 SEISMIC & HURRICANE TIE, NOTES & CHART
4	HETA/HETAL EMBEDDED TRUSS ANCHORS, NOTES & CHART
5	PB44 POST BASE, NOTES & CHART

MODEL NO.	NOMINAL POST SIZE	MATERIAL		DIMENSIONS					FASTENER		
		BASE	STRAP	W1	W2	D	L	HB	ANCHOR DIA.	NAILS	PC
ABU44	4 x 4	16GA.	12GA.	3 9/16"	3 1/2"	-	3"	1 3/4"	5/8"	12-16d	C
ABU46	4 x 6	12GA.	12GA.	3 9/16"	5 3/8"	-	5"	2 5/8"	5/8"	12-16d	
ABU66	6 x 6	12GA.	10GA.	5 1/2"	5 3/8"	-	5"	1 3/4"	5/8"	12-16d	

Mark  
State Of Florida  
March

Mark C.



ABU44 ELEVATED POST BASE  
TYPICAL INSTALLATION

SIMPSON STRONG-TIE CO., INC.  
4637 CHABOT DRIVE, SUITE 200  
PLEASANTON, CA. 94588  
PH. 800.925.5099  
FAX. 925.847.3068

PRODUCT:  
POST BASES, SEISMIC &  
HURRICANE TIES &  
EMBEDDED TRUSS ANCHORS  
PART OR ASSEMBLY:  
ABU ELEVATED POST BASES  
NOTES & CHART

NO.	DATE	GENERAL REVISION	TJH	BY
1	3/08/01			

RW BUILDING  
CONSULTANTS, INC.  
813.684.3831

BASE

ALLOWABLE LOADS			
UPLIFT (133)			DOWN (100)
TS DIA.	NAILS	BOLTS	
1/2"	1340	1250	6400
1/2"	2300	1665	9635
1/2"	1980	1700	10000

therman  
ional Engineer #40116  
01

MAY 10 2001

DATE: 10/23/00

SCALE: N.T.S.

DWG. BY: TJH

CHK. BY: RW

DRAWING NO.:

S-2068

SHEET 1 OF 5

# Residential System Sizing Calculation

## Summary

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

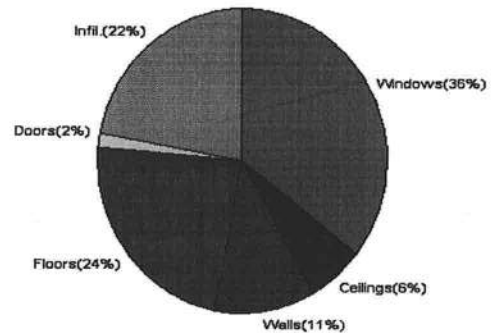
1/4/2007

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)			
Winter design temperature	33 F	Summer design temperature	92 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	37 F	Summer temperature difference	17 F
<b>Total heating load calculation</b>	<b>33349 Btuh</b>	<b>Total cooling load calculation</b>	<b>40409 Btuh</b>
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	119.9 40000	Sensible (SHR = 0.75)	89.5 30000
Heat Pump + Auxiliary(0.0kW)	119.9 40000	Latent	144.9 10000
		Total (Electric Heat Pump)	99.0 40000

## WINTER CALCULATIONS

Winter Heating Load (for 1672 sqft)

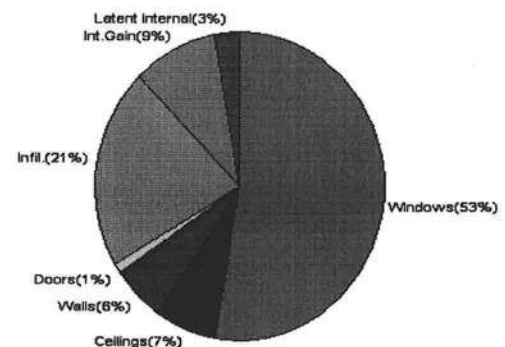
Load component		Load	
Window total	254 sqft	11921	Btuh
Wall total	1146 sqft	3765	Btuh
Door total	40 sqft	518	Btuh
Ceiling total	1750 sqft	2062	Btuh
Floor total	180 sqft	7859	Btuh
Infiltration	178 cfm	7224	Btuh
Duct loss		0	Btuh
<b>Subtotal</b>		<b>33349</b>	<b>Btuh</b>
Ventilation	0 cfm	0	Btuh
<b>TOTAL HEAT LOSS</b>		<b>33349</b>	<b>Btuh</b>



## SUMMER CALCULATIONS

Summer Cooling Load (for 1672 sqft)

Load component		Load	
Window total	254 sqft	21239	Btuh
Wall total	1146 sqft	2292	Btuh
Door total	40 sqft	392	Btuh
Ceiling total	1750 sqft	2898	Btuh
Floor total		0	Btuh
Infiltration	156 cfm	2904	Btuh
Internal gain		3780	Btuh
Duct gain		0	Btuh
Sens. Ventilation	0 cfm	0	Btuh
<b>Total sensible gain</b>		<b>33506</b>	<b>Btuh</b>
Latent gain(ducts)		0	Btuh
Latent gain(infiltration)		5703	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
<b>Total latent gain</b>		<b>6903</b>	<b>Btuh</b>
<b>TOTAL HEAT GAIN</b>		<b>40409</b>	<b>Btuh</b>



For Florida residences only

EnergyGauge® System Sizing

PREPARED BY: *Greg Talley*

DATE: 1-4-07



# System Sizing Calculations - Winter

## Residential Load - Whole House Component Details

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

1/4/2007

### Component Loads for Whole House

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft)	X	HTM=	Load
1	1, Clear, Metal, 1.27	W	90.0		47.0	4229 Btuh
2	1, Clear, Metal, 1.27	W	30.0		47.0	1410 Btuh
3	1, Clear, Metal, 1.27	SW	20.0		47.0	940 Btuh
4	1, Clear, Metal, 1.27	S	15.0		47.0	705 Btuh
5	1, Clear, Metal, 1.27	N	30.0		47.0	1410 Btuh
6	1, Clear, Metal, 1.27	N	2.7		47.0	127 Btuh
7	1, Clear, Metal, 1.27	E	30.0		47.0	1410 Btuh
8	1, Clear, Metal, 1.27	E	16.0		47.0	752 Btuh
9	1, Clear, Metal, 1.27	S	20.0		47.0	940 Btuh
Window Total			254(sqft)			11921 Btuh
Walls	Type	R-Value	Area	X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	974		3.3	3200 Btuh
2	Frame - Wood - Adj(0.09)	13.0	172		3.3	565 Btuh
Wall Total			1146			3765 Btuh
Doors	Type		Area	X	HTM=	Load
1	Insulated - Adjacent		20		12.9	259 Btuh
2	Insulated - Exterior		20		12.9	259 Btuh
Door Total			40			518Btuh
Ceilings	Type/Color/Surface	R-Value	Area	X	HTM=	Load
1	Vented Attic/D/Shin)	30.0	1750		1.2	2062 Btuh
Ceiling Total			1750			2062Btuh
Floors	Type	R-Value	Size	X	HTM=	Load
1	Slab On Grade	0	180.0	ft(p)	43.7	7859 Btuh
Floor Total			180			7859 Btuh
Zone Envelope Subtotal:						26125 Btuh
Infiltration	Type	ACH X	Zone Volume	CFM=		
	Natural	0.80	13376	178.3		7224 Btuh
Ductload	Proposed leak free, R6.0, Supply(Attic), Return(Attic) (DLM of 0.00)					0 Btuh
Zone #1	Sensible Zone Subtotal					33349 Btuh

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/11/2007

### WHOLE HOUSE TOTALS

	Subtotal Sensible	33349 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	33349 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)  
(Frame types - metal, wood or insulated metal)  
(U - Window U-Factor or 'DEF' for default)  
(HTM - ManualJ Heat Transfer Multiplier)

Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types )



For Florida residences only

# System Sizing Calculations - Winter

## Residential Load - Room by Room Component Details

Rosewood Model

Project Title:

Code Only

Lake City, FL 32025-

Greg Talley

Professional Version

Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

1/4/2007

### Component Loads for Zone #1: Main

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft)	X	HTM=	Load
1	1, Clear, Metal, 1.27	W	90.0		47.0	4229 Btuh
2	1, Clear, Metal, 1.27	W	30.0		47.0	1410 Btuh
3	1, Clear, Metal, 1.27	SW	20.0		47.0	940 Btuh
4	1, Clear, Metal, 1.27	S	15.0		47.0	705 Btuh
5	1, Clear, Metal, 1.27	N	30.0		47.0	1410 Btuh
6	1, Clear, Metal, 1.27	N	2.7		47.0	127 Btuh
7	1, Clear, Metal, 1.27	E	30.0		47.0	1410 Btuh
8	1, Clear, Metal, 1.27	E	16.0		47.0	752 Btuh
9	1, Clear, Metal, 1.27	S	20.0		47.0	940 Btuh
Window Total			254(sqft)			11921 Btuh
<b>Walls</b>	Type	R-Value	Area	X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	974		3.3	3200 Btuh
2	Frame - Wood - Adj(0.09)	13.0	172		3.3	565 Btuh
Wall Total			1146			3765 Btuh
<b>Doors</b>	Type		Area	X	HTM=	Load
1	Insulated - Adjacent		20		12.9	259 Btuh
2	Insulated - Exterior		20		12.9	259 Btuh
Door Total			40			518Btuh
<b>Ceilings</b>	Type/Color/Surface	R-Value	Area	X	HTM=	Load
1	Vented Attic(D/Shin)	30.0	1750		1.2	2062 Btuh
Ceiling Total			1750			2062Btuh
<b>Floors</b>	Type	R-Value	Size	X	HTM=	Load
1	Slab On Grade	0	180.0 ft(p)		43.7	7859 Btuh
Floor Total			180			7859 Btuh
Zone Envelope Subtotal:						26125 Btuh
<b>Infiltration</b>	Type	ACH X	Zone Volume		CFM=	
	Natural	0.80	13376		178.3	7224 Btuh
<b>Ductload</b>	Proposed leak free, R6.0, Supply(Attic), Return(Attic) (DLM of 0.00)					0 Btuh
<b>Zone #1</b>	Sensible Zone Subtotal					33349 Btuh

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/11/2007

### WHOLE HOUSE TOTALS

	Subtotal Sensible	33349 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	33349 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)  
(Frame types - metal, wood or insulated metal)  
(U - Window U-Factor or 'DEF' for default)  
(HTM - ManualJ Heat Transfer Multiplier)

Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types )



For Florida residences only

# System Sizing Calculations - Summer

## Residential Load - Whole House Component Details

Rosewood Model

Project Title:

Code Only

Lake City, FL 32025-

Greg Talley

Professional Version

Climate: North

Reference City: Gainesville (Defaults)

Summer Temperature Difference: 17.0 F

1/4/2007

### Component Loads for Whole House

Window	Type*	Ornt	Overhang		Window Area(sqft)			HTM		Load	
	Pn/SHGC/U/InSh/ExSh/IS		Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	90.0	0.0	90.0	37	94	8464	Btuh
2	1, Clear, 1.27, None,N,N	W	13.5f	8ft.	30.0	30.0	0.0	37	94	1124	Btuh
3	1, Clear, 1.27, None,N,N	SW	13.5f	8ft.	20.0	20.0	0.0	37	75	749	Btuh
4	1, Clear, 1.27, None,N,N	S	13.5f	8ft.	15.0	15.0	0.0	37	43	562	Btuh
5	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	30.0	0.0	30.0	37	37	1124	Btuh
6	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	2.7	0.0	2.7	37	37	101	Btuh
7	1, Clear, 1.27, None,N,N	E	7.5ft	8ft.	30.0	19.3	10.7	37	94	1726	Btuh
8	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	16.0	0.0	16.0	37	94	1505	Btuh
9	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	20.0	20.0	0.0	37	43	749	Btuh
	Excursion									5136	Btuh
	Window Total				254 (sqft)					21239 Btuh	
Walls	Type		R-Value/U-Value		Area(sqft)			HTM		Load	
1	Frame - Wood - Ext		13.0/0.09		974.3			2.1		2032 Btuh	
2	Frame - Wood - Adj		13.0/0.09		172.0			1.5		260 Btuh	
	Wall Total				1146 (sqft)					2292 Btuh	
Doors	Type				Area (sqft)			HTM		Load	
1	Insulated - Adjacent				20.0			9.8		196 Btuh	
2	Insulated - Exterior				20.0			9.8		196 Btuh	
	Door Total				40 (sqft)					392 Btuh	
Ceilings	Type/Color/Surface		R-Value		Area(sqft)			HTM		Load	
1	Vented Attic/DarkShingle		30.0		1750.0			1.7		2898 Btuh	
	Ceiling Total				1750 (sqft)					2898 Btuh	
Floors	Type		R-Value		Size			HTM		Load	
1	Slab On Grade		0.0		180 (ft(p))			0.0		0 Btuh	
	Floor Total				180.0 (sqft)					0 Btuh	
	Zone Envelope Subtotal:									26821 Btuh	
Infiltration	Type		ACH		Volume(cuft)			CFM=		Load	
	SensibleNatural		0.70		13376			156.1		2904 Btuh	
Internal gain			Occupants		Btuh/occupant			Appliance		Load	
			6		X 230 +			2400		3780 Btuh	
Duct load	Proposed leak free, R6.0, Supply(Attic), Return(Attic)									DGM = 0.00	
	Sensible Zone Load									33506 Btuh	



# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/4/2007

### WHOLE HOUSE TOTALS

<b>Whole House Totals for Cooling</b>	<b>Sensible Envelope Load All Zones</b>	<b>33506 Btuh</b>
	Sensible Duct Load	0 Btuh
	<b>Total Sensible Zone Loads</b>	<b>33506 Btuh</b>
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	<b>Total sensible gain</b>	<b>33506 Btuh</b>
	Latent infiltration gain (for 54 gr. humidity difference)	5703 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	<b>Latent total gain</b>	<b>6903 Btuh</b>
	<b>TOTAL GAIN</b>	<b>40409 Btuh</b>

\*Key: Window types (Pn - Number of panes of glass)  
 (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)  
 (U - Window U-Factor or 'DEF' for default)  
 (InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))  
 (ExSh - Exterior shading device: none(N) or numerical value)  
 (BS - Insect screen: none(N), Full(F) or Half(H))  
 (Ornt - compass orientation)



For Florida residences only

# System Sizing Calculations - Summer

## Residential Load - Room by Room Component Details

Rosewood Model

Project Title:

Code Only

Lake City, FL 32025-

Greg Talley

Professional Version

Climate: North

Reference City: Gainesville (Defaults)

Summer Temperature Difference: 17.0 F

1/4/2007

### Component Loads for Zone #1: Main

Window	Type*	Ornt	Overhang		Window Area(sqft)			HTM		Load	
	Pn/SHGC/U/InSh/ExSh/IS		Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	90.0	0.0	90.0	37	94	8464	Btuh
2	1, Clear, 1.27, None,N,N	W	13.5f	8ft.	30.0	30.0	0.0	37	94	1124	Btuh
3	1, Clear, 1.27, None,N,N	SW	13.5f	8ft.	20.0	20.0	0.0	37	75	749	Btuh
4	1, Clear, 1.27, None,N,N	S	13.5f	8ft.	15.0	15.0	0.0	37	43	562	Btuh
5	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	30.0	0.0	30.0	37	37	1124	Btuh
6	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	2.7	0.0	2.7	37	37	101	Btuh
7	1, Clear, 1.27, None,N,N	E	7.5ft	8ft.	30.0	19.3	10.7	37	94	1726	Btuh
8	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	16.0	0.0	16.0	37	94	1505	Btuh
9	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	20.0	20.0	0.0	37	43	749	Btuh
	Excursion									5136	Btuh
	Window Total				254 (sqft)					21239	Btuh
Walls	Type		R-Value/U-Value		Area(sqft)			HTM		Load	
1	Frame - Wood - Ext		13.0/0.09		974.3			2.1		2032 Btuh	
2	Frame - Wood - Adj		13.0/0.09		172.0			1.5		260 Btuh	
	Wall Total				1146 (sqft)					2292 Btuh	
Doors	Type				Area (sqft)			HTM		Load	
1	Insulated - Adjacent				20.0			9.8		196 Btuh	
2	Insulated - Exterior				20.0			9.8		196 Btuh	
	Door Total				40 (sqft)					392 Btuh	
Ceilings	Type/Color/Surface		R-Value		Area(sqft)			HTM		Load	
1	Vented Attic/DarkShingle		30.0		1750.0			1.7		2898 Btuh	
	Ceiling Total				1750 (sqft)					2898 Btuh	
Floors	Type		R-Value		Size			HTM		Load	
1	Slab On Grade		0.0		180 (ft(p))			0.0		0 Btuh	
	Floor Total				180.0 (sqft)					0 Btuh	
	Zone Envelope Subtotal:									26821 Btuh	
Infiltration	Type		ACH		Volume(cuft)			CFM=		Load	
	SensibleNatural		0.70		13376			156.1		2904 Btuh	
Internal gain			Occupants		Btuh/occupant			Appliance		Load	
			6		X 230 +			2400		3780 Btuh	
Duct load	Proposed leak free, R6.0, Supply(Attic), Return(Attic)									DGM = 0.00	
	Sensible Zone Load									33506 Btuh	

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

Rosewood Model

Project Title:  
Greg Talley

Code Only  
Professional Version  
Climate: North

Lake City, FL 32025-

1/4/2007

### WHOLE HOUSE TOTALS

<b>Whole House Totals for Cooling</b>	<b>Sensible Envelope Load All Zones</b>	<b>33506 Btuh</b>
	Sensible Duct Load	0 Btuh
	<b>Total Sensible Zone Loads</b>	<b>33506 Btuh</b>
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	<b>Total sensible gain</b>	<b>33506 Btuh</b>
	Latent infiltration gain (for 54 gr. humidity difference)	5703 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	<b>Latent total gain</b>	<b>6903 Btuh</b>
	<b>TOTAL GAIN</b>	<b>40409 Btuh</b>

\*Key: Window types (Pn - Number of panes of glass)  
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)  
(U - Window U-Factor or 'DEF' for default)  
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))  
(ExSh - Exterior shading device: none(N) or numerical value)  
(BS - Insect screen: none(N), Full(F) or Half(H))  
(Ornt - compass orientation)



For Florida residences only

# Residential Window Diversity

## MidSummer

Rosewood Model

Lake City, FL 32025-

Project Title:  
Greg Talley

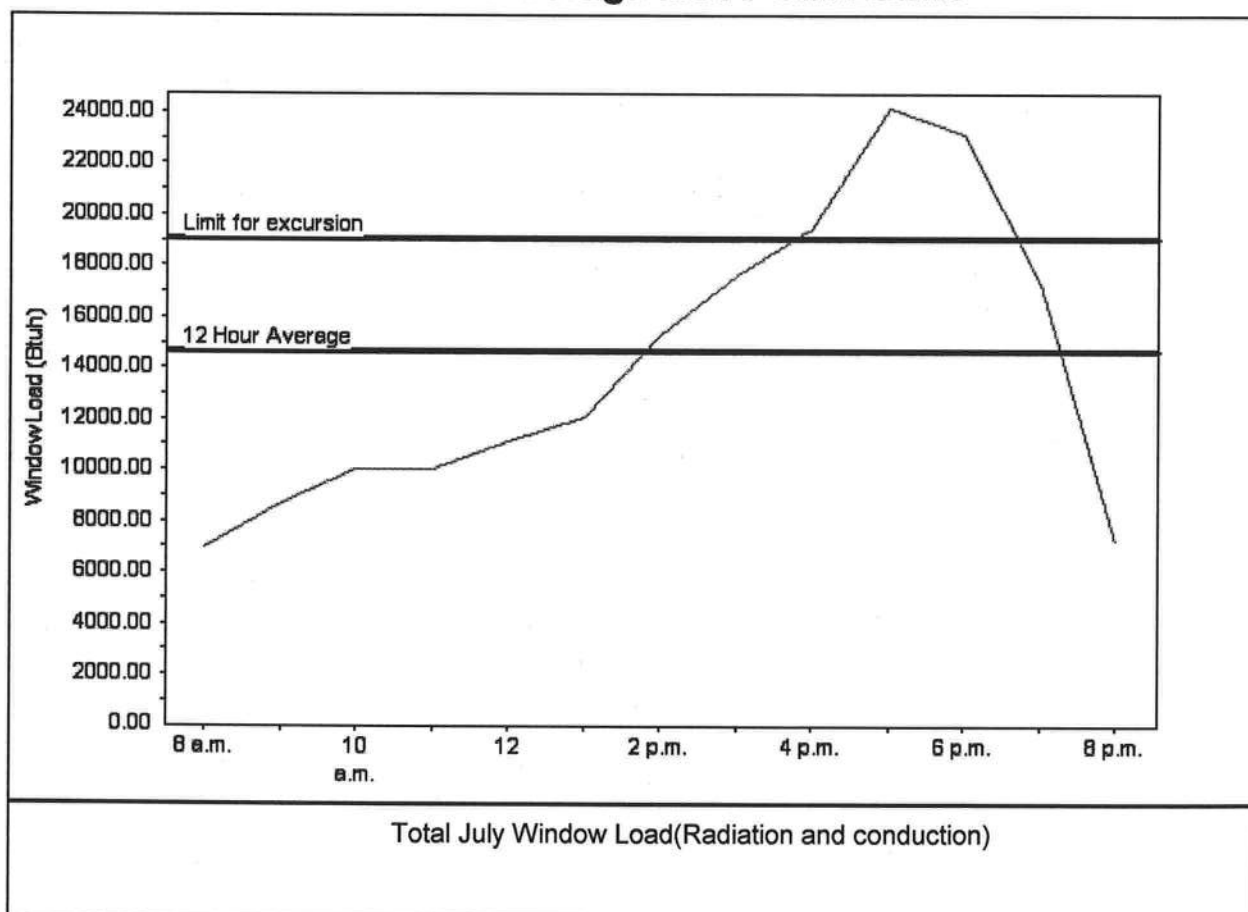
Code Only  
Professional Version  
Climate: North

1/4/2007

Weather data for: Gainesville - Defaults

Summer design temperature	92 F	Average window load for July	14659 Btu
Summer setpoint	75 F	Peak window load for July	24192 Btu
Summer temperature difference	17 F	Excursion limit(130% of Ave.)	19056 Btu
Latitude	29 North	Window excursion (July)	5136 Btu

### WINDOW Average and Peak Loads



This application has glass areas that produce large heat gains for part of the day. Variable air volume devices are required to overcome spikes in solar gain for one or more rooms. Install a zoned system or provide zone control for problem rooms. Single speed equipment may not be suitable for the application.

EnergyGauge® System Sizing for Florida residences only

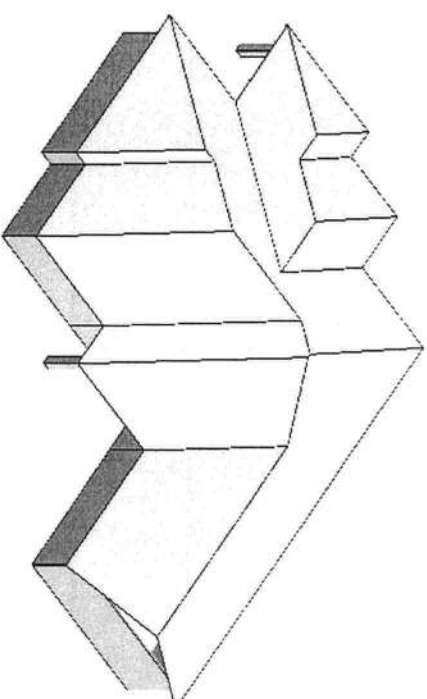
PREPARED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

EnergyGauge® FLRCPB v4.1



$$8'-1\frac{1}{8}"$$



1) REFER TO HIB 91 RECOMMENDATIONS FOR HANDLING INSTALLATION AND TEMPORARY BRACING REFER TO ENGINEERED DRAWINGS FOR PERMANENT BRACING REQUIRED.

- 2) ALL TD05565, (INCLUDING TD05565 UNDER THE ROOF) ARE TO BE COMPLETELY DECEDED OR REEFED TO MEET THE MINOR ALTERNATE BRACING REQUIREMENTS.
- 3) ALL VALVEES ARE TO BE CONVENTIONALLY FRAMED BY BULDER.
- 4) ALL TD05565 ARE DESIGNED FOR 2' o.c. MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
- 5) ALL WALLS SHOWN ON PLACEMENT PLAN ARE CONSIDERED TO BE LOAD BEARING, UNLESS OTHERWISE NOTED.
- 6) 5/4X2 TD05565 MUST BE INSTALLED WITH THE TOP BRING UP.
- 7) ALL 6/0X6 TD055 HANDEES TO BE 5/8X5/8 HIDE, UNLESS OTHERWISE NOTED. ALL FLOOR TD055 HANDEES TO BE 5/8X5/8 THA427 UNLESS OTHERWISE NOTED.
- 8) DECAHMEADERINTEL (HXX) TO BE FURNISHED BY BULDER.

THIS LAYOUT IS THE SOLE SOURCE FOR FABRICATION OF TD0525S AND VOIDS ALL PREVIOUS ARCHITECTURAL OR OTHER TD055 LAYOUTS. REVIEW AND APPROVAL OF THIS LAYOUT MUST BE RECEIVED BEFORE ANY TD0525S WILL BE BUILT. VERIFY ALL CONDITIONS TO INSURE AGAINST CHANGES THAT WILL RESULT IN EXTRA CHARGES TO YOU.

Approved by \_\_\_\_\_ Date \_\_\_\_\_



**Jacksonville**  
**Lake City**  
**Sanford**

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PHONE: 904-772-6100 FAX: 904-772-1973

PHONE: 904-795-6894 FAX: 904-795-7473

PHONE: 407-322-0094 FAX: 407-322-9553

LOT 17 CANNON CREEK PL

DATE:	1-18-07	SCALE:	NTS
CUSTOMER:	K.L.H.	ORDER #:	L223413