PERMA COLUMN

400 Carol Ann Lane
Ossian, IN 46777
Ph. 800-622-7190
Fax: 260-622-7192

November 1, 2006

DCA06-DEC-207

FILING AND ACKNOWLEDGEMENT
FILED, on this date, with the designated Agency Clerk, receipt of which is hereby acknowledged.

Miriam Snipes — Date
Deputy Agency Clerk

Florida Department of Community Affairs
Building Codes and Standards
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100

ATTN: Mr. Mo Madani

RE: Request for a Declaratory Statement on Rule 9B-72

CC: Joe Bigelow

Dear Sirs:

This is our formal request for a Declaratory Statement regarding the necessity of product approval in regards to our pre-cast concrete post (the PERMA-COLUMN®). Our product is used in post frame construction to replace the section of the support column which is in ground contact. This member is typically composed of pressure-treated lumber. The Perma-Column is beneficial in that concrete offers superior durability and insect resistance in ground contact when compared to the performance of treated lumber in similar conditions.

Our product has been widely accepted in the Midwest as a beneficial upgrade to Post-Frame Buildings, and it has been adopted by several national construction companies whose markets include Florida. They have requested that we obtain an official position on what is required to maintain compliance with the applicable codes in Florida.

During our conversation you mentioned that the likely process would be working with local code officials as opposed to going through a formal product approval due to the fact that our product is essentially a pre-cast beam which is governed by the applicable codes in the ACI 318-02/ACI318R-02. We are familiar with this process because it has been the process required by all of the States (20+) that we have worked with thus far.

We are also capable of providing AIA specifications, design and usage guides, and installation manuals to local officials. All of these documents can be downloaded from our website at http://www.permacolumn.com/downloads.htm. These documents have been prepared by Timbertech, our engineering firm, and based on the results of extensive testing done at the University of Wisconsin and Purdue University.

Thank you for your consideration,

Phillip Stoller
General Manager
Perma-Column, Inc.

Perma-Column Specification

PART 1 GENERAL

1.1 SCOPE

A. Post frame building column consisting of a pre-cast concrete embedded portion, a wood upper portion, a steel bracket connection between wood and concrete, and galvanized steel uplift anchors for post uplift resistance.

1.2 DESIGN GUIDANCE

A. Engineering Design Manual for Series 6300, 6400, 8300, 8400, Perma-Columns by David R. Bohnhoff, Ph. D., P.E., Professor, Biological Systems Engineering, University of Wisconsin-Madison

B. Perma-Column Design and Use Guide for PC6300, PC6400, PC6600, PC8300, and PC8400 Models by Brent Leatherman, P.E., Timber Tech Engineering, Inc.

1.3 STANDARDS

A. Building Code Requirements for Structural Concrete by the American Concrete Institute (ACI 318).

B. Manual of Steel Construction, Load and Resistance Factor Design by The American Institute of Steel Construction (AISC).

C. The National Design Specification for Wood Construction (NDS) by The American Forest and Paper Association (AF&PA).

D. ANSI\ASAE EP 559, Design Requirements and Bending Properties for Mechanically Laminated Columns.

PART 2 PRODUCTS

2.1 PERMA-COLUMNS

A. Manufacturer: Perma-Column, Inc.; Contact: 400 Carol Ann Lane Ossian, IN 46777; Telephone: (800) 622-7190; Fax: (260) 622-7192; Website: www.permacolumn.com

B. Models:

1. PC 6300: for a 3 ply, 2x6 Mechanically Laminated Column (5½" x 4½")
2. PC 6400: for a 4 ply, 2x6 Mechanically Laminated Column (5½" x 6")
3. PC 6600: for a 6x6 Solid Sawn Post Column (5½" x 5½")
4. PC 8300: for a 3 ply, 2x8 Mechanically Laminated Column (7¼" x 4½")
5. PC 8400: for a 4 ply, 2x8 Mechanically Laminated Column (7¼" x 6")

PART 3 EXECUTION

3.1 INSTALLATION

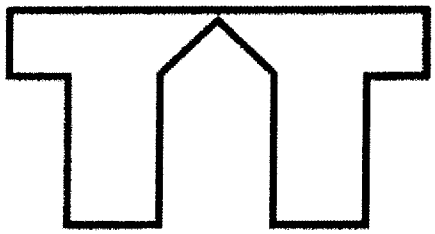
A. Columns to be erected and installed according to the Contract Documents and the Installation Manual by Perma-Column, Inc.

B. Protect installed product from damage during handling, storage, and construction. Repair or replace damaged installed products.

Perma-Column Design and Use Guide

for

PC6300, PC6400, PC6600,
PC8300, and PC8400 Models



timbertech

ENGINEERING

by
Brent Leatherman, P.E.
Timber Tech Engineering, Inc
E-Mail: bl@timbertecheng.com

April 18, 2005

East: 22 Denver Road, Suite B Denver, PA 17517
717.335.2750 Fax: 717.335.2753

West: 206 S. Main St, P.O. Box 509 Kouts, IN 46347
219.766.2499 Fax: 219.766.2394

www.timbertecheng.com

1. Design Overview

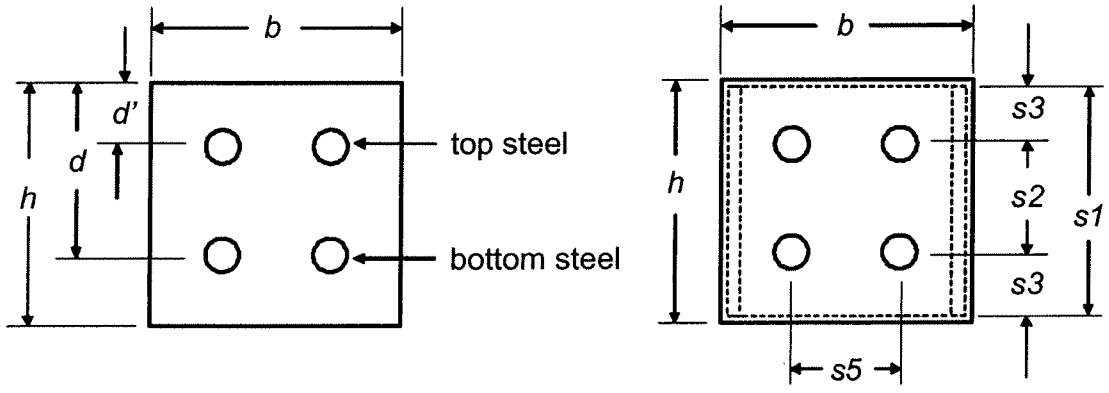
This guide is intended to be used as a companion document to the *Engineering Design Manual for Series 6300, 6400, 8300, 8400 Perma-Columns* (herein referred to as "the Manual") by David R. Bohnhoff. Each ***Perma-Column*** assembly consists of a reinforced concrete base designed according to The American Concrete Institute (ACI), a steel bracket designed according to The American Institute of Steel Construction (AISC), and a mechanically laminated wood column designed according to The American Forest and Paper Association (AF&PA) specifications. The structural analysis for each of these components was performed using a load and resistance factor (LRFD) design methodology. This was done to allow use of one set of load combinations for the entire assembly, and to provide an accurate look at column failure modes. The deflection limits used in this design were taken from *IBC 2003 Table 1604.3* for exterior walls with brittle or flexible finishes, and are L/240 and L/120, respectively. The overall column deflection is to be checked using service (unfactored) loads.

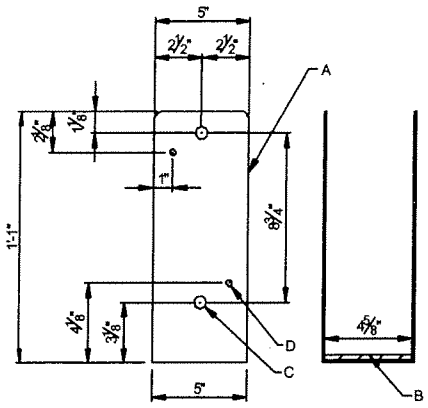
This guide will cover properties, and design issues for the reinforced concrete base, the steel bracket connection, and the mechanically laminated wood columns. We will look at creating models of the ***Perma-Column*** assemblies to simulate the results of laboratory testing. Design charts will be presented for all the ***Perma-Column*** assemblies with varying heights, and boundary conditions. The failure modes and design limitations on each ***Perma-Column*** assembly will be discussed, and we will give an example showing a straight forward design approach which can be applied to all ***Perma-Column*** assemblies. Finally, we will look at wind uplift capacity for a concrete collar or a packed fill foundation condition.

2. *Perma-Column* Descriptions

Dimensions and material properties for the PC6300, PC6400, PC6600, PC8300, and PC8400 models are given in Table 2.1. The PC6600 model is intended for new or replacement solid-sawn 6x6 posts and was not included in the laboratory testing. Variable definitions correspond to Figure 1.1 of the Manual. Section properties for 3-ply 2x6, 4-ply 2x6, 3-ply 2x8, and 4-ply 2x8 mechanically laminated wood columns are given in Table 3.5.1 of the Manual.

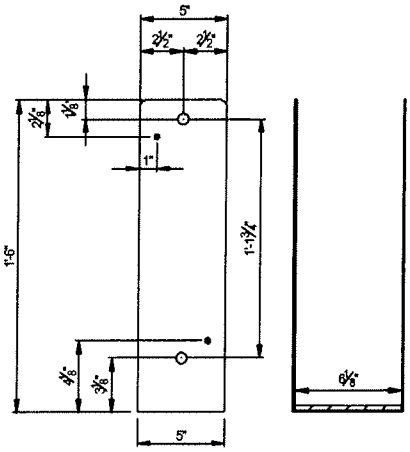
Table 2.1: PC6300, PC6400, PC6600, PC8300, and PC8400 Dimensions and Properties



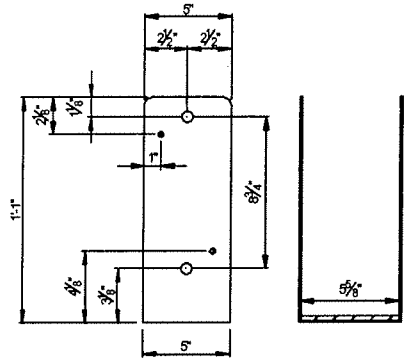


Parts Notes:
A = 1/4" steel bracket
B = 1/4" steel seat plate
C = 5/8"Ø hole for bolt
D = 5/16"Ø hole for screw

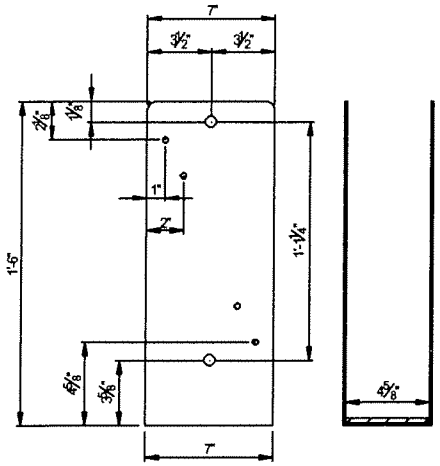
PC6300



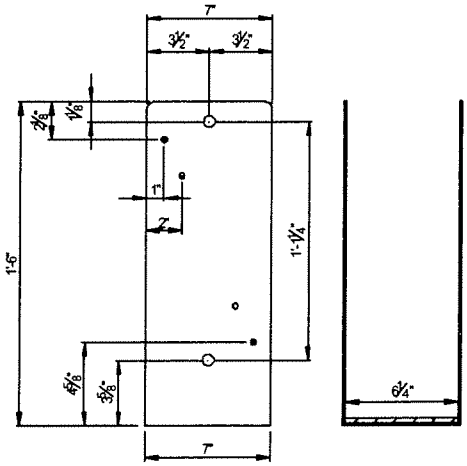
PC6400



PC6600



PC8300



PC8400

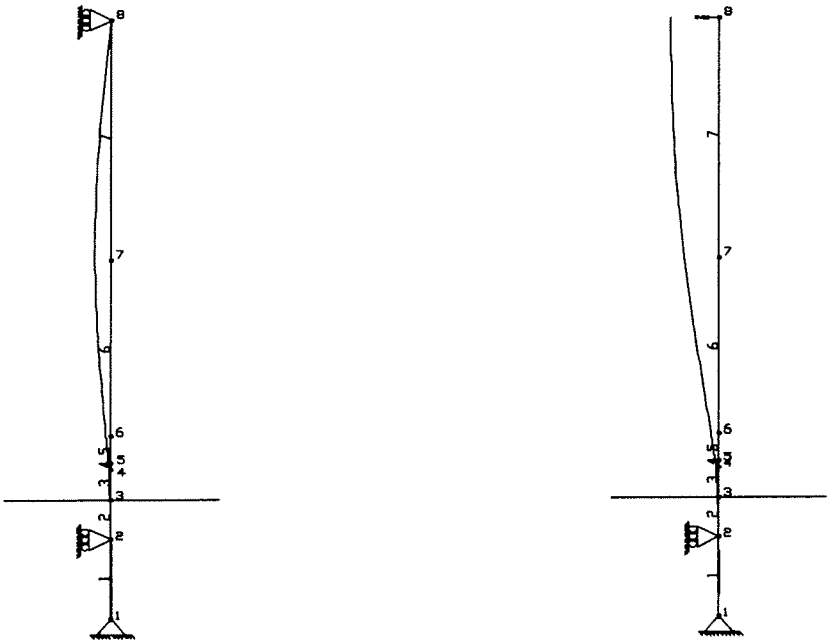
Figure 4.1 Steel Bracket Assemblies

taken from ASAE EP559 *Design Requirements and Bending Properties for Mechanically Laminated Columns* and from *The LFRD Manual.* **No wet service reductions have been used since the wood portion is not in contact with the soil or concrete**, and it is assumed to be used in an enclosed building. There are no splices in the wood laminations. Axial load is assumed to be transferred by direct bearing on the seat plate, and not through bolts or screws. Buckling length for bending about the strong axis is one foot less than the overall column height because the concrete portion extends one foot above grade. The corresponding effective buckling length factor, Ke, was conservatively taken as 1.2 for columns fixed at the base, with horizontal movement allowed at the top; and 0.8 for columns pinned at the top. Structural analyses were performed using #1 Southern Yellow Pine (SYP), and #2 Spruce Pine Fir (SPF). The #1 SYP Nail-Lam "Plus" column as manufactured by Ohio Timberland Products, Inc was also included. More wood species and column assemblies will be checked in the future.

6. Modeling

Figure 6.1 shows an example of the structural analogs that were used to check each ***Perma-Column*** assembly. The structural analysis was performed using *Frame Analysis and Design* by Digital Canal, Inc. The structural analog was created with element stiffness values that closely simulate laboratory test results. These structural analogs can be used to predict ***Perma-Column*** assembly behavior under many different load conditions. The concrete element for each ***Perma-Column*** model was created using a concrete modulus of elasticity E_c, of 5.7 million psi, and an effective moment of inertia, I_e, as given in Table 5.2.1 in the Manual. I_e for the PC6600 was taken as 30 in^4 for modeling purposes. Elements 1, 2, and 3 of the analogs shown in Figure 6.1 represent the reinforced concrete base.

Element 4 in the analog represents the steel bracket. The purpose of this element is to model the bending flexibility of the steel bracket where it attached to the concrete. This element was assigned a modulus of elasticity, Es of 29 million psi, an effective length Le of 2.5 inches, and an effective moment of inertia I equal to S(Le)/Es where S is the rotational stiffness from Table 4.1. Table 6.1 summarizes the moment of inertia used for the concrete and steel bracket elements.



8300-16-0 Analog 8300-16-120 Analog

Figure 6.1 Structural analogs for a column with pin or spring at top

Table 1.1 Perma-Column Design Chart

Maximum factored vertical load, Pu (kips), for Perma-Column assemblies under constant wind load

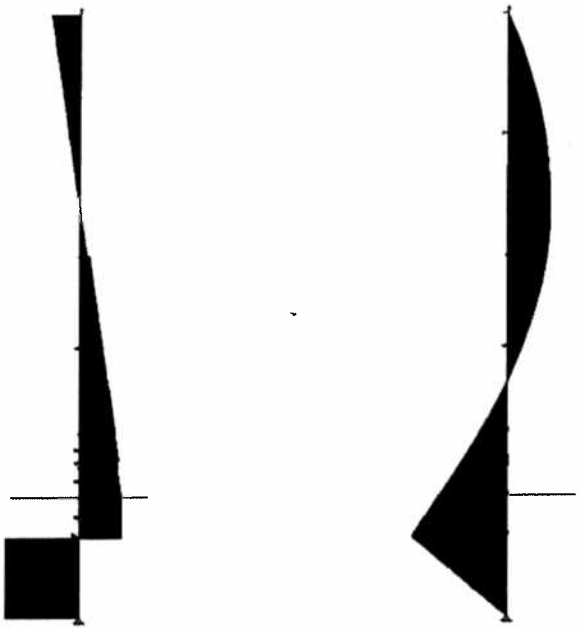
#1 SYP		Column Height (ft)																			
		8			10			12			14			16			18			20		
Eave Condition		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Eave Deflection (in)		0	0.8	0.4	0	1	0.5	0	1.2	0.6	0	1.4	0.7	0	1.6	0.8	0	1.8	0.9	0	2	1
PC6600	6x6	38	33	33	32	24.6		24	16.2		17											
PC6300	3 ply x 6	56	33.6	33.6	42	23.4	23.4	29	16.8	16.8	19	10.8		13	5.4							
PC6400	4 ply x 6	75	45	45	58	31.8	31.8	42	22.8	22.8	29	16.8		20	12		15					
PC8300	3 ply x 8	80	63	63	70	48	48	60	36	36	41	27.6	27.6	34	21.6	21.6	26	15	15	19		
PC8400	4 ply x 8	100	63	63	90	63	63	80	48	48	64	36	36	49	29.4	29.4	38	23.4	23.4	29	9	
Ohio Timberland Nail-Lam "Plus"																						
PC6300	3 ply x 6	57	35	35	41.5	20.5	20.5	27.5	12.8	12.8	20.3	9.3		12	5.4							
PC6400	4 ply x 6	78.8	49	49	58.6	29	29	40	18.6	18.6	27.2	12.4		18.7	8.4		13.8					
PC8300	3 ply x 8	84	72.6	72.6	79	54.5	54.5	63.9	34.6	36.6	43.3	23.6	23.6	35.4	16.4	16.4	27.2	12.4	12.4	20		
PC8400	4 ply x 8	114	98.6	98.6	104	71	71	89	48.7	48.7	69.2	33.8	33.8	51.5	24	24	39.6	18	18	30.4	9	

Comparison to typical pressure treated wood columns																						
		Column Height (ft)																				
		8			10			12			14			16			18			20		
Eave Condition		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Eave Deflection (in)		0	0.8	0.4	0	1	0.5	0	1.2	0.6	0	1.4	0.7	0	1.6	0.8	0	1.8	0.9	0	2	1
6x6 #2 trd SYP		21	21	21	16	10.8	10.8	11														
3 ply x 6 trd. #1 SYP*		41	30	30	38	20.4	20.4	19	12	12	13	5.7		8								
* Non-spliced																						

#2 SPF		Column Height (ft)																				
		8			10			12			14			16			18			20		
Eave Condition		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Eave Deflection (in)		0	0.8	0.4	0	1	0.5	0	1.2	0.6	0	1.4	0.7	0	1.6	0.8	0	1.8	0.9	0	2	1
PC6300	3 ply x 6	48	26.4	26.4	27	17.4	17.4	18	8.4	8.4	11	1.5										
PC6400	4 ply x 6	49	33	33	38	24.6	24.6	27	16.8	16.8	18	7.8		11	1.8							

Chart Assumptions:

- All members and connections designed using Load and Resistance Factor Design (LRFD) with P-delta analysis to account for forces induced by deflection
- Constant wind load of 120 pounds per lineal foot on each post based on 90 mph wind speed
- All posts pin supported at top to simulate resistance from diaphragm action
- Eave Condition I allows no horizontal movement at eave, Condition II allows L/120, and Condition III allows L/240 horizontal movement.
- Maximum deflection limit under service loads of L/120, actual deflections based on larger of sidesway or curvature
- Effective length factor, Ke, is 0.8 for Condition I, and 1.2 for Conditions II and III
- Non-constrained post foundation with 4'-0" embedment depth
- Full lateral bracing and major axis bending only; no loads acting on weak axis
- Dry use for laminated wood portion in Perma column assembly
- No splices in laminated wood portion
- Exterior sidewall post with lateral loading from wind only
- Laminated wood portion transfers axial loads through direct bearing on steel seat plate
- Blank in chart represents deflection controls design, gray box indicates wood connection at steel bracket controls
- Final column design should include a complete building analysis by a Design Professional



Shear Diagram
(Comb 3)

Moment Diagram
(Comb 3)

Figure 8.1 Shear and Moment diagram for PC8300, 16' high with 1.6" maximum deflection under load combination 3

8.2.3 Steel Bracket Element

8.2.3.1 The maximum factored bending moment at the bottom of the steel bracket is 37.7 inch-kips compared to the chosen allowable moment of 74.34 inch-kips from Table B.2 in the Manual OK

8.2.4 Bracket-to-Wood Connection Element

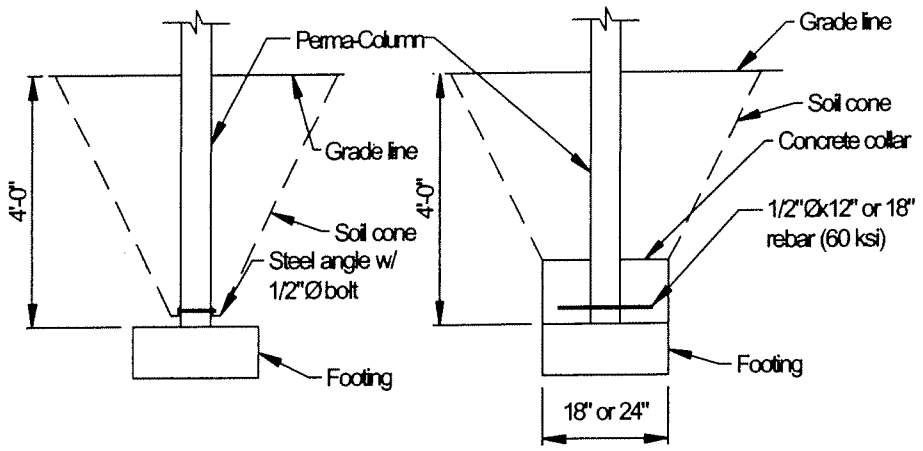
8.2.4.1 The combined shear and bending moment on the connection produce an equal and opposite force on the top and bottom fastener groups. The factored shear is 1.5 kips, and the average factored moment is 28.85 inch-kips. These combine to produce a resultant load of 4.2 kips on each fastener group assuming a distance of 11 inches between the centroid of each group. The maximum allowed connection force due to factored loads is 4.7 kips. OK

8.2.5 Concrete Elements

8.2.5.1 The maximum factored bending moment below grade under load combination 3 is 92 inch-kips along with a factored axial force of 10 kips. These are well within the allowable envelope for the PC8300 when compared to the Interaction Diagram in Figure 3.3.2 in the Manual. OK

8.2.5.2 The minimum design shear strength of the PC8300 as given in Table 3.4.1 of the Manual is 4.5 kips. The factored shear in this example problem is 3.1 kips. OK

This column is adequate for the design loading.



Standard Design Alternative Design

Figure 9.1 Foundation Details

Table 9.1 shows the wind uplift capacity in pounds for these foundation conditions:

1. 18" diameter concrete collar with ½"x12" reinforcing bar through ***Perma-Column***
2. 24" diameter concrete collar with ½"x18" reinforcing through ***Perma-Column***
3. 2x2x8 ½ x 0.134" galvanized steel anchor with packed fill around posts
4. 2x2x12 x 0.134" galvanized steel anchor with packed fill around posts

Table 9.1 Allowable Unfactored Uplift*

PermaColumn	Concrete Collar		Uplift Angle	
	18"	24"	2x2x8 ½	2x2x12
PC6300	2272	3253	1908	2693
PC6400	2257	3238	2004	2789
PC6600	2262	3243	1972	2757
PC8300	2255	3236	2005	2790
PC8400	2236	3217	2102	2887

* Units are in pounds (lb)

The values in the chart are all limited by the weight of the soil cone. The shear strength of a 1/2" Grade 2 bolt (ASTM A307 bolt) is 10.0 ksi as published by the *AISC Ninth Edition ASD Construction Manual Table J3.2*. A ½" bolt has a cross sectional area of 0.196 in^2, thus a Grade 2 bolt in double shear will resist 3.92 kips (3920 pounds). The uplift angles are analyzed as a cantilever with a unit load at the midspan. The maximum uplift is calculated by the equation: $P_{allow} = (S_x F_b)/(L/2)$ (See calculation and Fig 9.2 below).

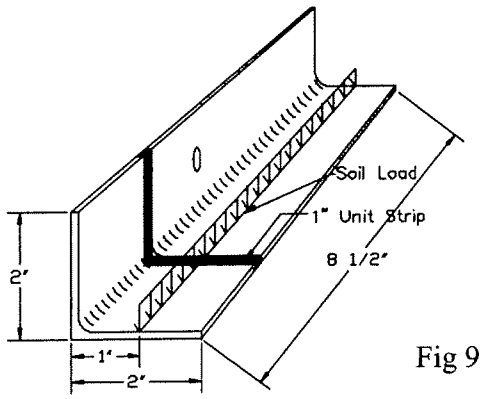


Fig 9.2

PERMA COLUMN POST SIZE CHART

TO BE USED FOR ESTIMATING PURPOSES ONLY — ENGINEER OF RECORD REQUIRED

CONDITIONS: DL INCR 1.2, LL INCR 1.6, 90 MPH WL, BLDG LENGTH NOT TO EXCEED 2 1/2 TIMES WIDTH, 4' 0" POST DEPTH

POST SPACE FT.	BLDG WIDTH FT.	TTL RF DL	TTL RF LL		TOTAL ROOF LOAD 35	10' UNDER TRUSS	12' UNDER TRUSS	14' UNDER TRUSS	16' UNDER TRUSS	18' UNDER TRUSS	20' UNDER TRUSS
8	24	7	28	=	5.11 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	26	7	28	=	5.53 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	28	7	28	=	5.96 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	30	7	28	=	6.38 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	32	7	28	=	6.81 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	34	7	28	=	7.24 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	36	7	28	=	7.66 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	38	7	28	=	8.09 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	40	7	28	=	8.51 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	42	7	28	=	8.94 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	44	7	28	=	9.36 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	46	7	28	=	9.79 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	48	7	28	=	10.21 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	50	7	28	=	10.64 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	52	7	28	=	11.07 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	54	7	28	=	11.49 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	56	7	28	=	11.92 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	58	7	28	=	12.34 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	60	7	28	=	12.77 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	62	7	28	=	13.19 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	64	7	28	=	13.62 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	66	7	28	=	14.04 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	68	7	28	=	14.47 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	70	7	28	=	14.90 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	72	7	28	=	15.32 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	74	7	28	=	15.75 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	76	7	28	=	16.17 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	78	7	28	=	16.60 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	80	7	28	=	17.02 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	82	7	28	=	17.45 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	84	7	28	=	17.88 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	86	7	28	=	18.30 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	88	7	28	=	18.73 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	3 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	4 PLY X 6 # 1 SYP 20'
8	90	7	28	=	19.15 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	3 PLY X 8 # 1 SYP 18'	4 PLY X 8 # 1 SYP 20'
8	92	7	28	=	19.58 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'	4 PLY X 6 # 1 SYP 16'	3 PLY X 8 # 1 SYP 18'	4 PLY X 8 # 1 SYP 20'
8	94	7	28	=	20.00 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'	3 PLY X 8 # 1 SYP 16'	3 PLY X 8 # 1 SYP 18'	4 PLY X 8 # 1 SYP 20'
8	96	7	28	=	20.43 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'	3 PLY X 8 # 1 SYP 16'	3 PLY X 8 # 1 SYP 18'	4 PLY X 8 # 1 SYP 20'
8	98	7	28	=	20.85 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'	3 PLY X 8 # 1 SYP 16'	3 PLY X 8 # 1 SYP 18'	4 PLY X 8 # 1 SYP 20'

3 PLY X 6 # 1 SYP = 4 PLY X 6 # 2 SPF MAY ALSO BE UTILIZED

PERMA COLUMN POST SIZE CHART

TO BE USED FOR ESTIMATING PURPOSES ONLY — ENGINEER OF RECORD REQUIRED

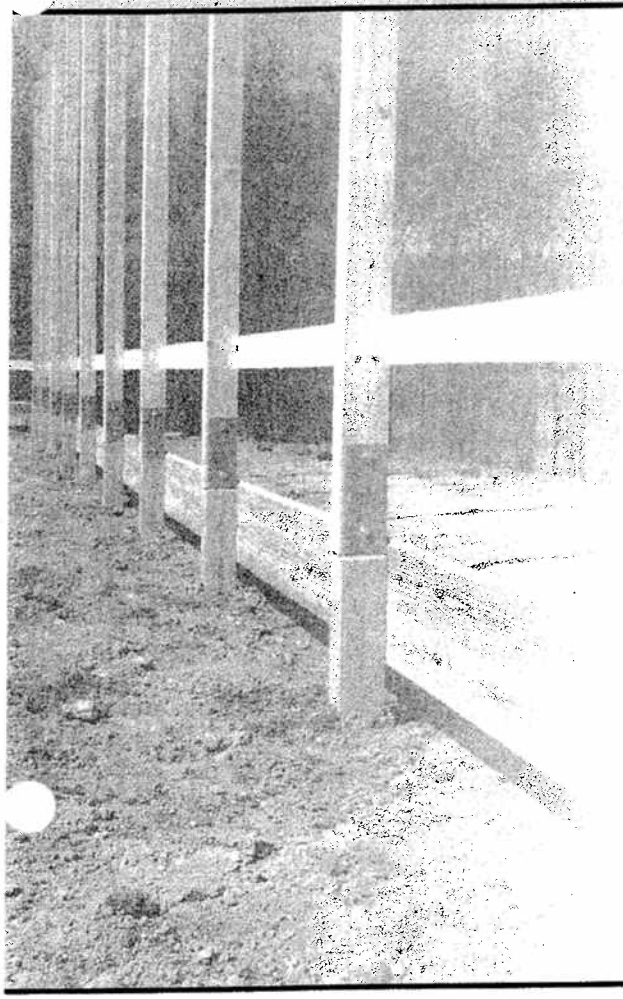
CONDITIONS: DL INCR 1.2, LL INCR 1.6, 90 MPH WL, BLDG LENGTH NOT TO EXCEED 2 1/2 TIMES WIDTH, 4' 0" POST DEPTH

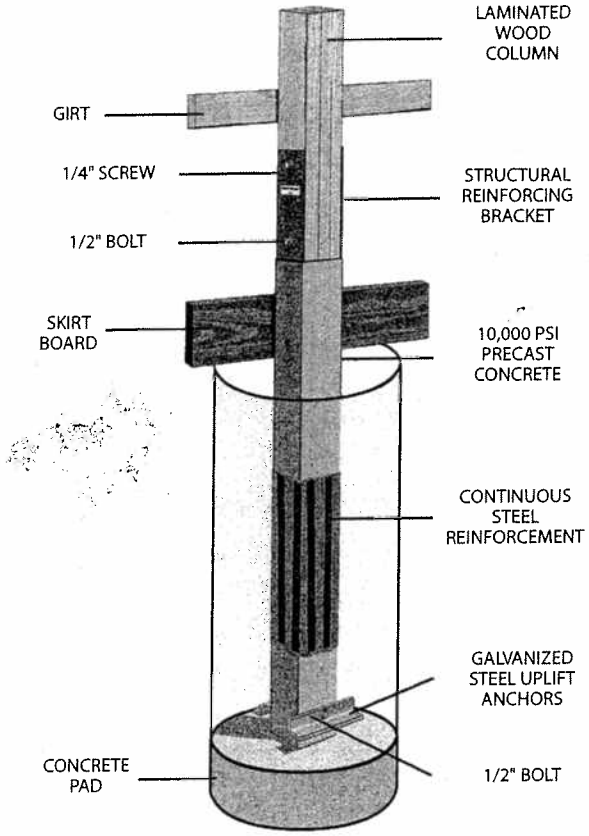
POST SPACE FT.	BLDG WIDTH FT.	TTL RF DL	TTL RF LL		TOTAL ROOF LOAD 50	10' UNDER TRUSS	12' UNDER TRUSS	14' UNDER TRUSS	16' UNDER TRUSS	18' UNDER TRUSS	20' UNDER TRUSS
8	24	10	40	=	7.30 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	26	10	40	=	7.90 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	28	10	40	=	8.51 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SP 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	30	10	40	=	9.12 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	32	10	40	=	9.73 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	34	10	40	=	10.34 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	36	10	40	=	10.94 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	3 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	38	10	40	=	11.55 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'		4 PLY X 6 # 1 SYP 18'	
8	40	10	40	=	12.16 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'		4 PLY X 6 # 1 SYP 18'	
8	42	10	40	=	12.77 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 1 SYP 14'		4 PLY X 6 # 1 SYP 18'	
8	44	10	40	=	13.38 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	46	10	40	=	13.98 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	48	10	40	=	14.59 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'	4 PLY X 6 # 1 SYP 18'	
8	50	10	40	=	15.20 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'		
8	52	10	40	=	15.81 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'		
8	54	10	40	=	16.42 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'		
8	56	10	40	=	17.02 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'		
8	58	10	40	=	17.63 KIPS	3 PLY X 6 # 2 SPF 10'	3 PLY X 6 # 2 SPF 12'	3 PLY X 6 # 2 SP 14'	4 PLY X 6 # 1 SYP 16'		
8	60	10	40	=	18.24 KIPS	3 PLY X 6 # 2 SPF 10'					
8	62	10	40	=	18.85 KIPS	3 PLY X 6 # 2 SPF 10'					
8	64	10	40	=	19.46 KIPS	3 PLY X 6 # 2 SPF 10'					
8	66	10	40	=	20.06 KIPS	3 PLY X 6 # 2 SPF 10'					
8	68	10	40	=	20.67 KIPS	3 PLY X 6 # 2 SPF 10'					
8	70	10	40	=	21.28 KIPS	3 PLY X 6 # 2 SPF 10'					
8	72	10	40	=	21.89 KIPS	3 PLY X 6 # 2 SPF 10'					
8	74	10	40	=	22.50 KIPS	3 PLY X 6 # 2 SPF 10'					
8	76	10	40	=	23.10 KIPS	3 PLY X 6 # 2 SPF 10'					
8	78	10	40	=	23.71 KIPS	3 PLY X 6 # 2 SPF 10'					
8	80	10	40	=	24.32 KIPS	3 PLY X 6 # 2 SPF 10'					
8	82	10	40	=	24.93 KIPS	3 PLY X 6 # 2 SPF 10'					
8	84	10	40	=	25.54 KIPS	3 PLY X 6 # 2 SPF 10'					
8	86	10	40	=	26.14 KIPS	3 PLY X 6 # 2 SPF 10'					
8	88	10	40	=	26.75 KIPS	3 PLY X 6 # 2 SPF 10'					
8	90	10	40	=	27.36 KIPS	3 PLY X 6 # 1 SYP 12'					
8	92	10	40	=	27.97 KIPS	3 PLY X 6 # 1 SYP 12'					
8	94	10	40	=	28.58 KIPS	3 PLY X 6 # 1 SYP 12'					
8	96	10	40	=	29.18 KIPS	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'				
8	98	10	40	=	29.79 KIPS	3 PLY X 6 # 1 SYP 12'	4 PLY X 6 # 1 SYP 14'				

3 PLY X 6 # 1 SYP = 4 PLY X 6 # 2 SPF MAY ALSO BE UTILIZED

August 25, 2005

Installation Manual





"THE PERMANENT SOLUTION"

Extreme Strength

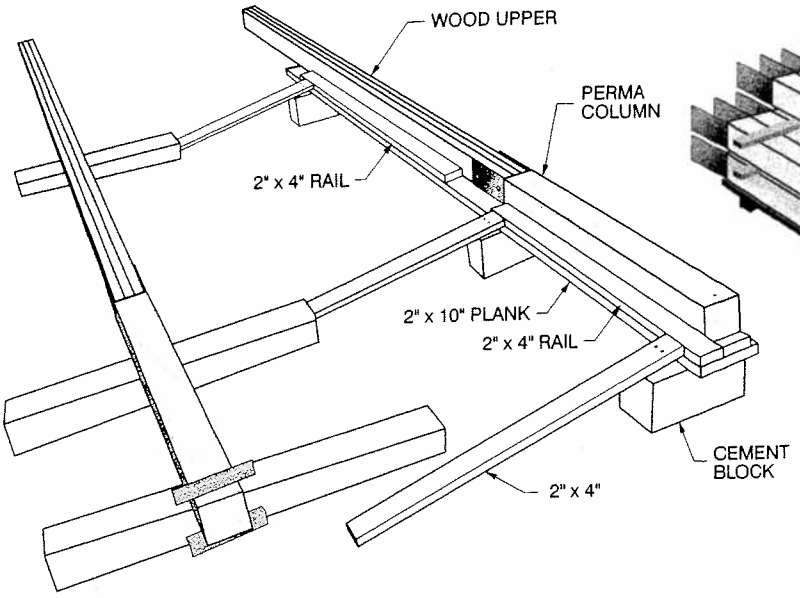
Lasting Longevity

Environmentally Friendly

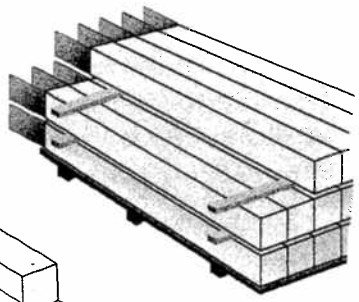
PERMA COLUMN

Option 1: Preassembled Column

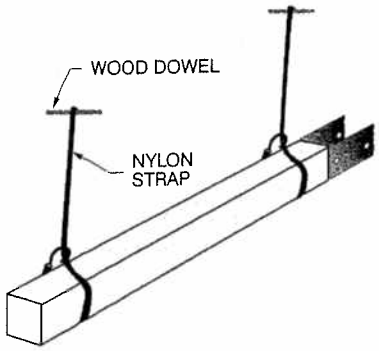
1. Place unassembled PC's close to the assembly table.
2. Assembly table to be level and no more that 12" off the ground to facilitate manual lifting. (C) If a hoist is available, the assembly table works best at around 30" high.
3. A 2" x 10" plank with a 2" x 4" back rail setting on cement blocks will suffice. (C)



(C)



4. Lift PC using a nylon "choke" strap around each end. (D)
5. Place PC on assembly table and insert wood column in steel bracket. Wood column must sit tight against the steel seat. Bottom of wood column may need to be square cut to insure tight fit. (E)
6. Clamp wood column to table before drilling or inserting screws to hold joint tight during assembly.
7. Install 1/4" x 3" Simpson™ SDS screws (or equal) before drilling 1/2" bolt holes through wood column.

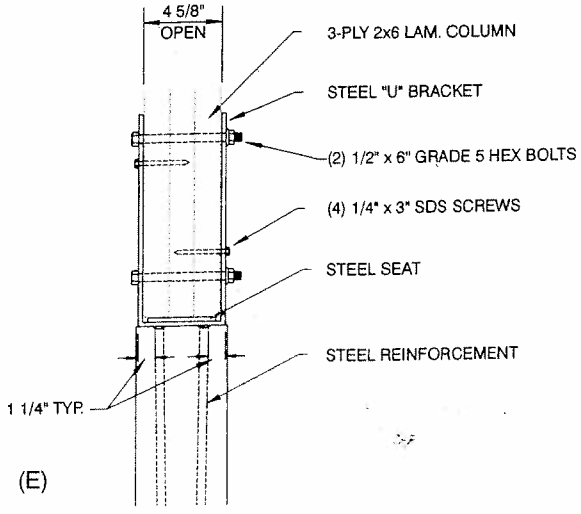


(D)

Fastener Requirements*

(4) 1/4" x 3" Simpson™ SDS screws (or equal) required for PC6300, PC 6400 and PC6600.
(8) 1/4" x 3" Simpson™ SDS screws (or equal) required for PC8300 and PC8400.
(2) 1/2" x 6" Grade #5 HHCS bolt, nut and washer required for PC6300 and PC8300.
(2) 1/2" x 7" Grade #5 HHCS bolt, nut and washer required for PC6600.
(2) 1/2" x 8" Grade #5 HHCS bolt, nut and washer required for PC6400 and PC8400.
*Fasteners are not provided.

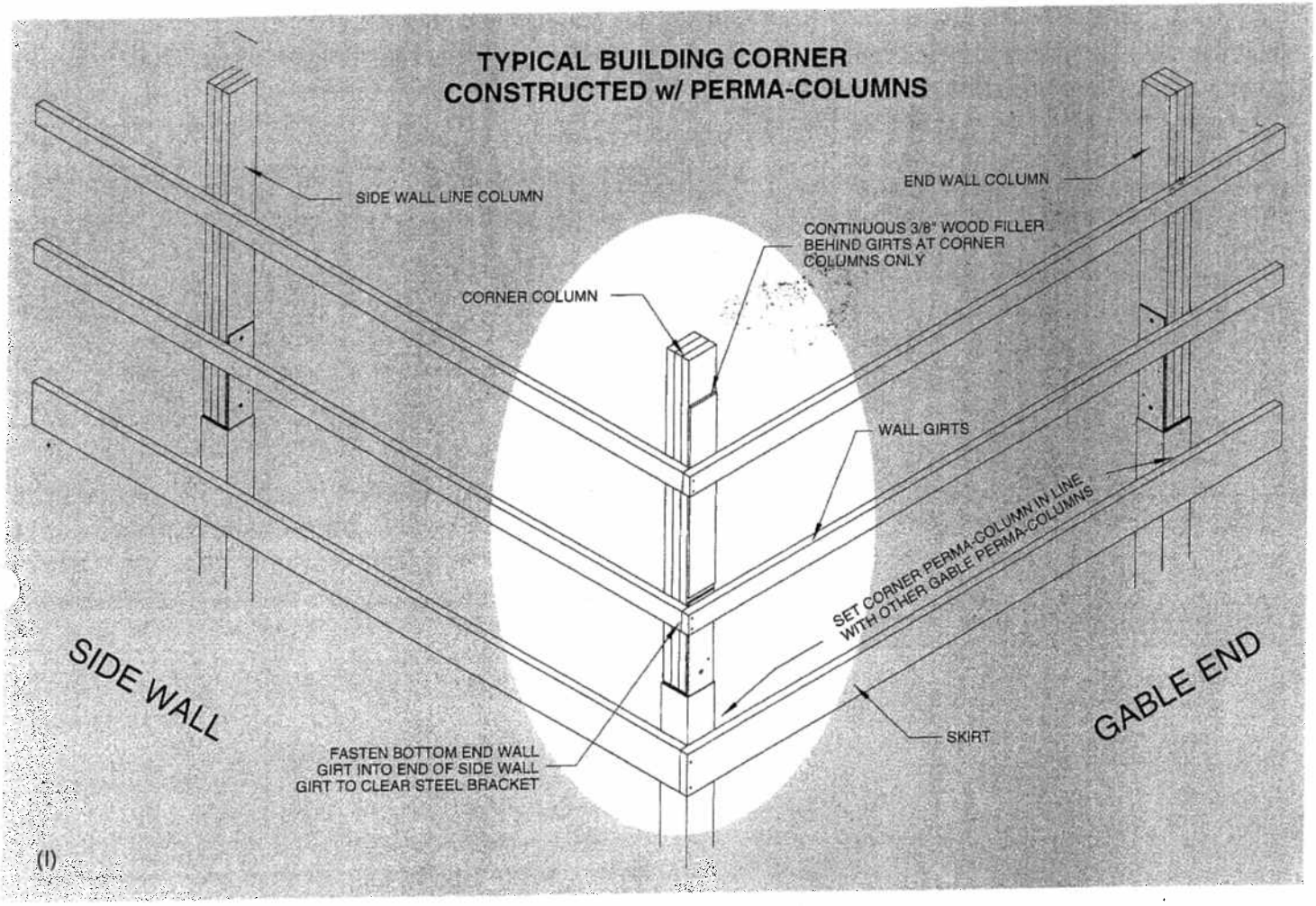
8. Insert 1/2" grade 5 bolts in drilled holes and tighten nuts to approximately 110 foot pounds of torque.
9. Roll assembled column off the back side of the table onto wood stickers for skid loader pick-up.



(E)

Column Placement and Leveling

1. Attach a 3/8" wood filler to the (4) corner columns to make girts and skirt flush. (I)
2. Lift multiple PC assemblies with a skid loader and drive along the post hole line.
3. Place concrete pad in bottom of hole prior to setting PC. Consult design professional to determine thickness of concrete pad.
4. Tilt PC assemblies off skid loader forks into post hole. (J)
5. Plumb the PC columns using standard leveling procedures. (K)
6. Backfill post holes with appropriate materials, tamping 6" layers until hole is filled.



(I)


(J)


(K)

PERMA COLUMN

400 Carol Ann Lane
Ossian, IN 46777
Ph. 800-622-7190
Fax: 260-622-7192

November 1, 2006

Florida Department of Community Affairs
Building Codes and Standards
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100

ATTN: Mr. Mo Madani

RE: Request for a Declaratory Statement on Rule 9B-72

CC: Joe Bigelow

Dear Sirs:

This is our formal request for a Declaratory Statement regarding the necessity of product approval in regards to our pre-cast concrete post (the PERMA-COLUMN®). Our product is used in post frame construction to replace the section of the support column which is in ground contact. This member is typically composed of pressure-treated lumber. The Perma-Column is beneficial in that concrete offers superior durability and insect resistance in ground contact when compared to the performance of treated lumber in similar conditions.

Our product has been widely accepted in the Midwest as a beneficial upgrade to Post-Frame Buildings, and it has been adopted by several national construction companies whose markets include Florida. They have requested that we obtain an official position on what is required to maintain compliance with the applicable codes in Florida.

During our conversation you mentioned that the likely process would be working with local code officials as opposed to going through a formal product approval due to the fact that our product is essentially a pre-cast beam which is governed by the applicable codes in the ACI 318-02/ACI318R-02. We are familiar with this process because it has been the process required by all of the States (20+) that we have worked with thus far.

We are also capable of providing AIA specifications, design and usage guides, and installation manuals to local officials. All of these documents can be downloaded from our website at http://www.permacolumn.com/downloads.htm. These documents have been prepared by Timbertech, our engineering firm, and based on the results of extensive testing done at the University of Wisconsin and Purdue University.

Thank you for your consideration,

Phillip Stoller
General Manager
Perma-Column, Inc.