

Location:

Project Name:

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and the product approval number(s) on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit on or after April 1, 2004. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. More information about statewide product approval can be obtained at www.floridabuilding.org

Category/Subcategory	Manufacturer	Product Description	Approval Number
A. EXTERIOR DOORS			FL 4242-R
1. Swinging			
2. Sliding			
3. Sectional			
4. Roll up			
5. Automatic			
6. Other			
B. WINDOWS			
1. Single hung			FL 5108
2. Horizontal Slider			FL 5451
3. Casement			
4. Double Hung			
5. Fixed			FL 5418
6. Awning			
7. Pass-through			
8. Projected			
9. Mullion			
10. Wind Breaker			
11. Dual Action			
12. Other			
C. PANEL WALL			
1. Siding			FL 889-R2
2. Soffits			FL 4899
3. EIFS			
4. Storefronts			
5. Curtain walls			
6. Wall louver			
7. Glass block			FL 3820-R1
8. Membrane			
9. Greenhouse			
10. Other			
D. ROOFING PRODUCTS			
1. Asphalt Shingles			FL 586-R2
2. Underlayments			FL 1814-R1
3. Roofing Fasteners			
4. Non-structural Metal Rf			FL 7518.1
5. Built-Up Roofing			
6. Modified Bitumen			
7. Single Ply Roofing Sys			
8. Roofing Tiles			
9. Roofing Insulation			
10. Waterproofing			
11. Wood shingles /shakes			
12. Roofing Slate			

Subcategory (cont.)	Manufacturer	Product Description	Approval Number(s)
Liquid Applied Roof Sys			
Cements-Adhesives - Coatings			FL 1960-R1
15. Roof Tile Adhesive			
16. Spray Applied Polyurethane Roof			
17. Other			
E. SHUTTERS			
1. Accordion			
2. Bahama			
3. Storm Panels			
4. Colonial			
5. Roll-up			
6. Equipment			
7. Others			
F. SKYLIGHTS			
1. Skylight			FL 451-R
2. Other			
G. STRUCTURAL COMPONENTS			
1. Wood connector/anchor			FL 474-R1
2. Truss plates			
3. Engineered lumber			FL 1008-R1
4. Railing			
5. Coolers-freezers			
6. Concrete Admixtures			
7. Material			
8. Insulation Forms			
9. Plastics			
10. Deck-Roof			
11. Wall			
12. Sheds			
13. Other			
H. NEW EXTERIOR ENVELOPE PRODUCTS			
1.			
2.			

The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; 1) copy of the product approval, 2) the performance characteristics which the product was tested and certified to comply with, 3) copy of the applicable manufacturers installation requirements.

I understand these products may have to be removed if approval cannot be demonstrated during inspection.

Contractor or Contractor's Authorized Agent Signature

Print Name

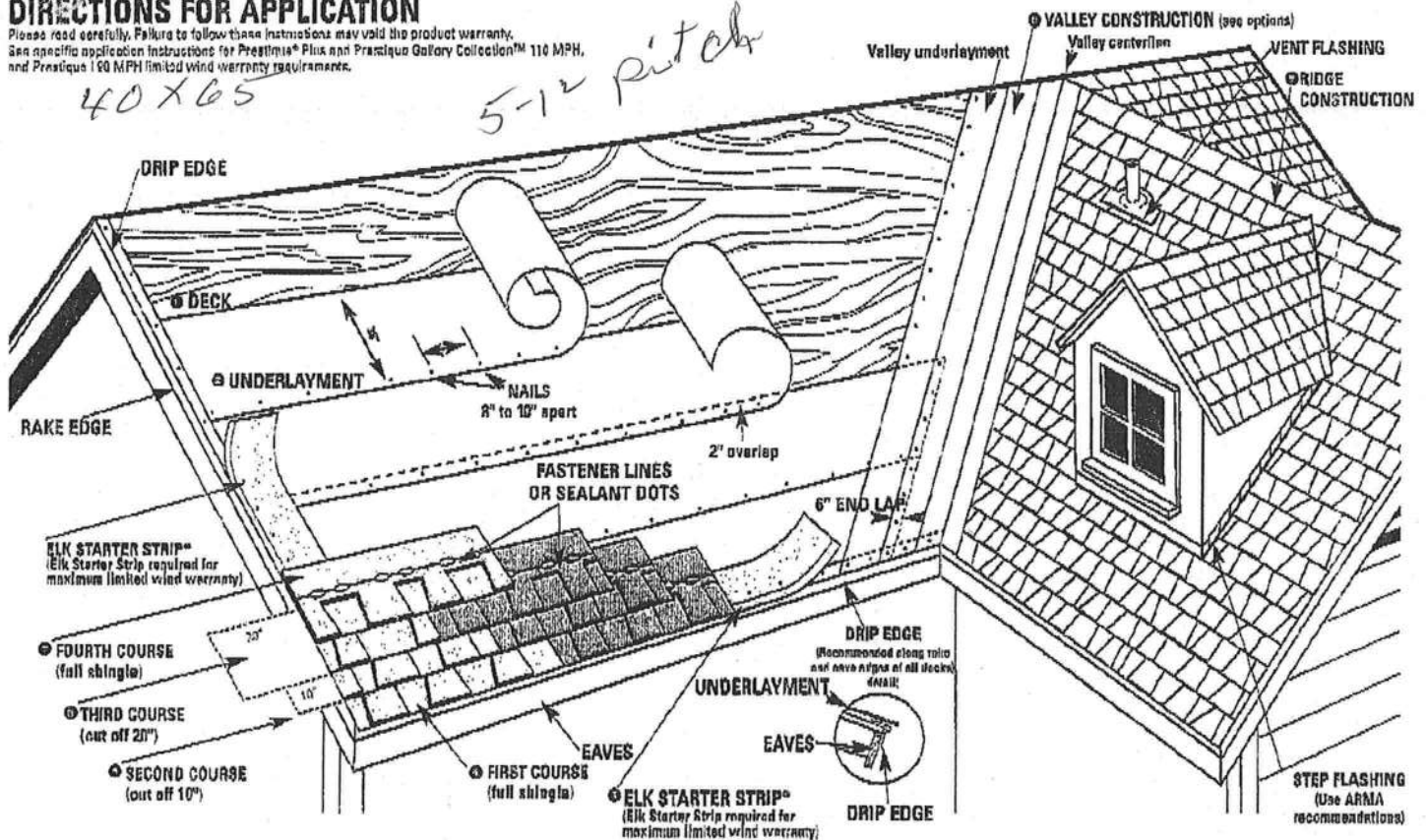
Date

Location

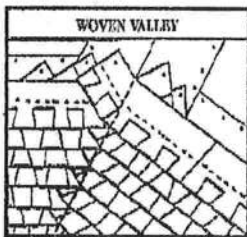
Permit # (FOR STAFF USE ONLY)

DIRECTIONS FOR APPLICATION

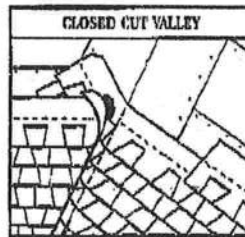
Please read carefully. Failure to follow these instructions may void the product warranty. See specific application instructions for Prestige® Plus and Prestige Galaxy Collection™ 110 MPH, and Prestige 150 MPH limited wind warranty requirements.



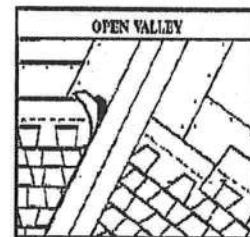
● VALLEY CONSTRUCTION OPTION (California Open and California Closed are also acceptable) NOTE: For complete ARMA valley installation details, see ARMA Residential Asphalt Roofing Manual.



VALLEY CENTER LINE



VALLEY CENTER LINE



VALLEY CENTER LINE

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.

● 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.

● UNDERLAYMENT

Apply underlayment (Non-Perforated No. 15 or 30 asphalt saturated felt). 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 18". Begin by fastening a 15" 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

● 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.

● 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 18" metal flashing (secure edge with nails). No nails are to be within 6" of valley center.

● RIDGE CONSTRUCTION

For ridge construction use Class "A" Seal-A-Ridge® with formula FLX® (See Ridge package for Installation Instructions.)

FASTENERS

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

Always nail or staple through the fastener line or on products without fastener lines, nail or staple between and in line with sealant dots.

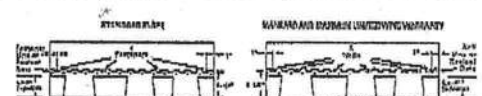
NAILS: Corrosive resistant, 3/8" head, minimum 12-gauge roofing nails. Elk recommends 1-1/4" for new roofs and 1-1/2" for re-roofs. In cases where you are applying shingles to a roof that has an exposed overhang, for new roofs only, 3/4" ring shank nails are allowed to be used from the eave's edge to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

STAPLES: Corrosive resistant, 18-gauge minimum, crown width minimum of 15/16". Note: An improperly adjusted stapler gun can result in raised staples that can cause a fish-mouthed appearance and can prevent sealing.

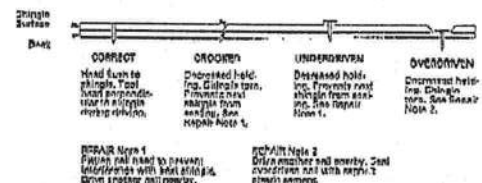
Fasteners should be long enough to obtain 3/4" deck penetration or penetration through deck, whichever is less.

MANSAARD APPLICATIONS

Correct fastening is critical to the performance of this roof. For

**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 Prestige 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,

specifications over other decks and gable slopes.

① STARTER SHINGLE COURSE

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

② 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.

③ SECOND COURSE

Start at the rake with the shingle having 10" trimmed off and continue across roof with full shingles.

④ THIRD COURSE

Start at the rake with the shingle having 20" trimmed off and continue across roof with full shingles.

Use 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 80 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 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.

DOUBLE STACK. Systematically rotate all stock so that the material that has been stored the longest will be the first to be moved out.

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All trademarks, ®, are registered trademarks of Elk Corporation of Dallas, an ELKOR company. Raised Profile, Ridgecrest, Gallery Collection and ELK are trademarks pending registration of Elk Corporation of Dallas, UL is a registered trademark of Underwriters Laboratories, Inc.

ELK 
www.elkcorp.com

ITW Building Components Group, Inc.

1950 Marley Drive Haines City, FL 33844
Florida Engineering Certificate of Authorization Number: 0 278
Florida Certificate of Product Approval # FL1999
Page 1 of 1 Document ID:ITE78228Z0316145537

Truss Fabricator: Anderson Truss Company
Job Identification: 8-019--Mike Todd Construction Starling -- , **
Truss Count: 4
Model Code: Florida Building Code 2004 and 2006 Supplement
Truss Criteria: ANSI/TPI-2002(STD)/FBC
Engineering Software: Alpine Software, Version 7.36.
Structural Engineer of Record: The identity of the structural EOR did not exist as of
Address: the seal date per section 61G15-31.003(5a) of the FAC
Minimum Design Loads: Roof - 40.0 PSF @ 1.25 Duration
Floor - N/A
Wind - 110 MPH ASCE 7-02 -Closed

Notes:

1. Determination as to the suitability of these truss components for the structure is the responsibility of the building designer/engineer of record, as defined in ANSI/TPI 1
2. The drawing date shown on this index sheet must match the date shown on the individual truss component drawing.
3. As shown on attached drawings; the drawing number is preceded by: HCUSR8228

Details: BRCLBSUB-A11015EE-GBLLETIN-140GS-

#	Ref	Description	Drawing#	Date
1	11242--A1		08016032	01/16/08
2	11243--AGE		08016060	01/16/08
3	11244--B1		08016058	01/16/08
4	11245--BGE		08016059	01/16/08

Seal Date: 01/16/2008

-Truss Design Engineer-
Doug Fleming

Florida License Number: 66648
1950 Marley Drive
Haines City, FL 33844



Anderson Truss LLC

1730 NW Oakland Avenue ~ Lake City, Florida 32055

Phone (386) 752-3103 ~ Fax (386) 961-8290

Email: andersontruss@comcast.net

QUOTE

Customer

Name Mike Todd

Address _____

City _____ State _____ ZIP _____

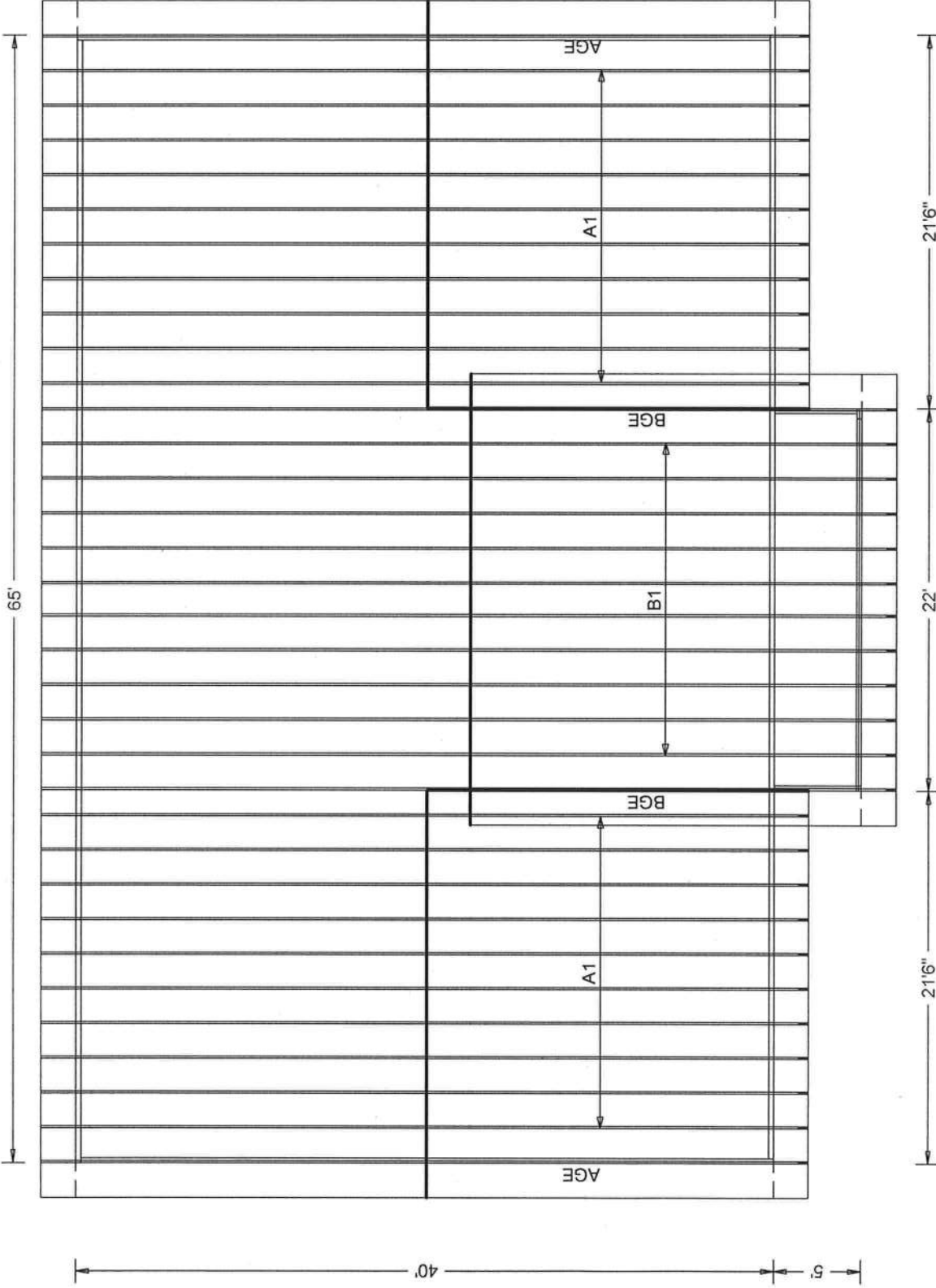
Phone _____

Date 18-Jan-08

Job Name: **Starling**

Qty	Description	Unit Price	TOTAL
1	Roof Trusses as per plans provided. <i>This price includes delivery charges.</i>	\$4,125.00	\$4,125.00
SubTotal			\$4,125.00
Taxes 7%			\$288.75
TOTAL			\$4,413.75

Thank you for choosing Anderson Truss.



#8-019 Mike Todd / Amanda Starling

Roof Plane Sheathing Area = 3514 sq. ft
 Gable Sheathing Area = 360 sq. ft
 Total Sheathing Area = 3875 sq. ft
 Fascia Material = 290 linear ft
 Ridge Cap Material = 95 linear ft

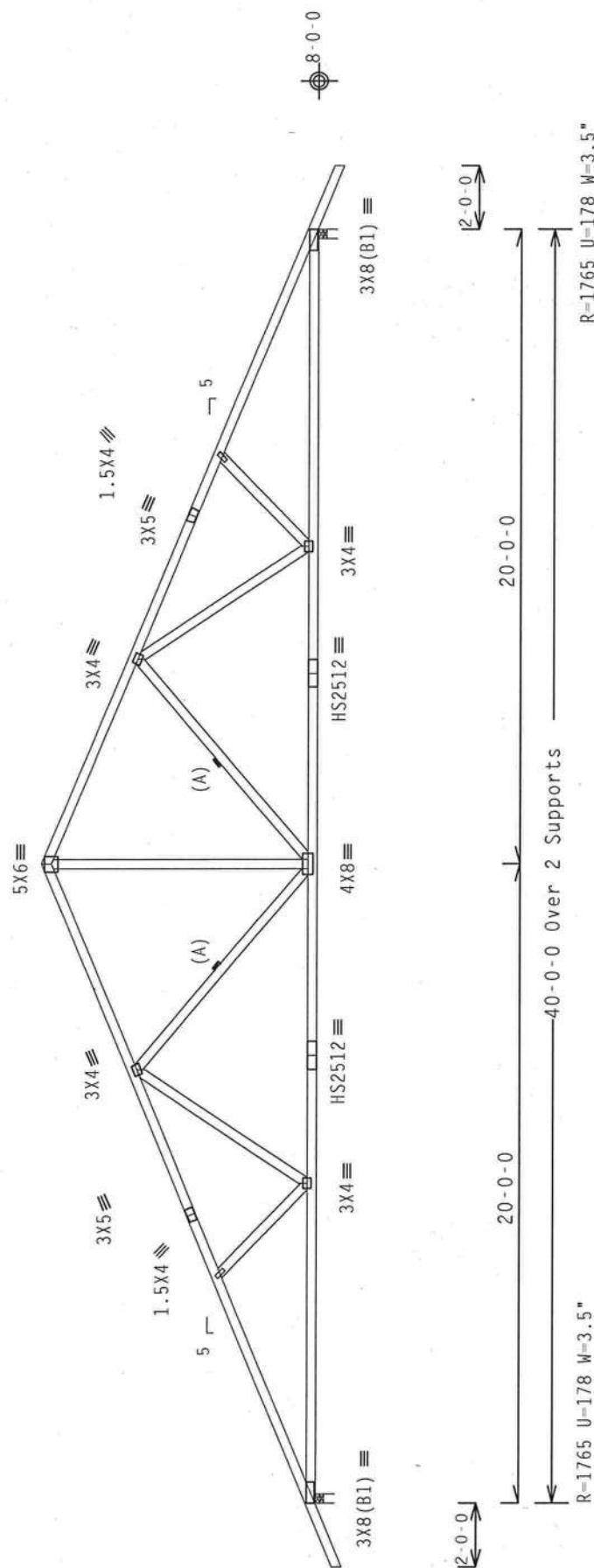
	Top	chord	2x4	SP	#2	Dense
Bot	chord	2x4	SP	#2	Dense	
	webs	2x4	SP	#3		

1110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. Iw=1.00 GCpi(+/-)=0.18

(A) Continuous lateral bracing equally spaced on member.

Wind reactions based on MWFRS pressures.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.50.



Design Crit: TPI-2002(STD)/FBC

QTY:1 FL/-/4/-/-/R/- Scale = .1875"/Ft.

0/10(0) 7.36.04

PLT TYP. 20 Gauge HS, Wave

WARNING: THUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO BCS1 (BUILDING COMPONENT SAFETY INFORMATION) PUBLISHED BY TPI, THUSSES DIVISION, 2300 NORTH LEE STREET, SUITE 312, ASHTABULA, OH 44005, (440) 932-2114, FOR SAFETY PRACTICES AND PRELIMINARY DESIGN INFORMATION. ENTERPRISE LANE, MADISON, WI 53719, FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE PROPERLY ATTACHED RIGID CEILING.

****IMPORTANT****-FURNISH A COPY OF THIS DESIGN TO THE INSTALLATION CONTRACTOR. ITW BCG, INC. SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE OR INJURY THAT OCCURS WHILE ATTEMPTING TO BUILD THE TRUSS IN COMPLIANCE WITH THIS DESIGN. THE DESIGNER'S INTENT IS TO PROVIDE AN APPROXIMATE GUIDE TO THE FABRICATING MANUFACTURING AND SHIPPING OF THE TRUSS COMPONENTS. THE DESIGNER DOES NOT WARRANT THAT THE DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF NDS (NATIONAL DESIGN SPEC., BY AF&PA) AND TP1. CONNECTOR PLATES ARE MADE OF 2018/16GGA (.475/.55%) ASTM A563 GRADE 40/60 (U. K/H-55) GALV. STEEL. APPLY LTV BCG PLATES TO EACH FACE OF TRUSS AND, OTHERWISE LOCATED ON THIS DESIGN, POSITION PER DRAWINGS 160A-Z. IF ANY INSPECTION OF PLATES FOLLOWED BY (1) SHALL BE PER AMBEX 43 OF TP11-2002 SEC-3. A SEAL ON THIS DRAWING INDICATES ACCEPTANCE OF PROFESSIONAL ENGINEERING RESPONSIBILITY SOLELY FOR THE TRUSS COMPONENT DESIGN SHOWN. THE SUBMITTAL AND USE OF THIS COMPONENT FOR ANY BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER PER AMBEX/TP1 1 SEC. 2.



TC LL	20.0	PSF	REF	R8228-	11242
TC DL	10.0	PSF	DATE	01/16/08	
BC DL	10.0	PSF	DRW	HCUSR8228	08016032
BC LL	0.0	PSF	HC-ENG	JB/DF	*
TOT.LD.	40.0	PSF	SEQN-	27830	
DUR.FAC.	1.25				
SPACING	24.0"		JREF-	1TE78228703	

ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Authorization # 0279

James City, FL 32044
 FL Certificate of Authorization # 0 778

(8-019--Mike Todd Construction Starling -- , ** - AGE)

Top chord 2x4 SP #2 Dense
Bot chord 2x4 SP #2 Dense
Webs 2x4 SP #3

Truss spaced at 24.0" OC designed to support 1-0-0 top chord
outlookers. Cladding load shall not exceed 10.00 PSF. Top chord
must not be cut or notched.

See DWGS A11015EE0207 & GBLLETIN0207 for more requirements.
Deflection meets L/240 live and L/180 total load. Creep increase
factor for dead load is 1.50.

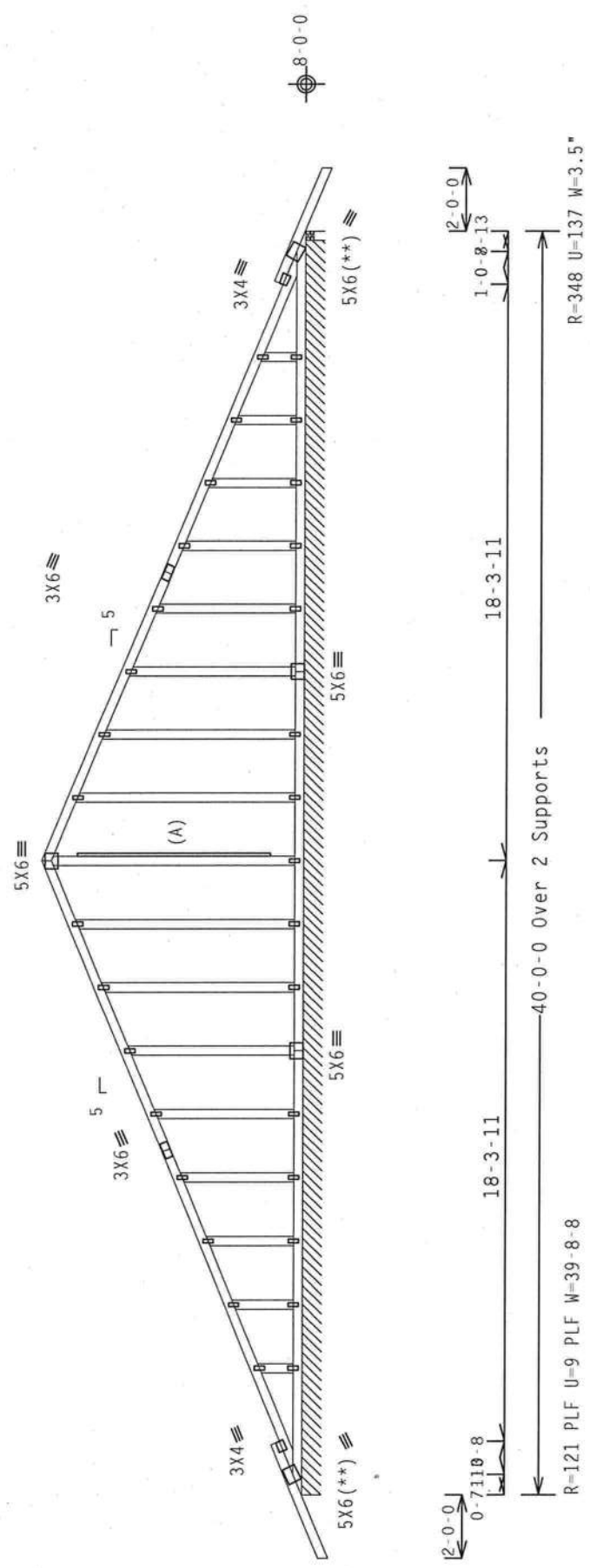
The building designer is responsible for the design of the
roof and ceiling diaphragms, gable end shear walls, and
supporting shear walls. Shear walls must provide continuous
lateral restraint to the gable end. All connections to be
designed by the building designer.

(**) 2 plate(s) require special positioning. Refer to scaled
plate plot details for special positioning requirements.

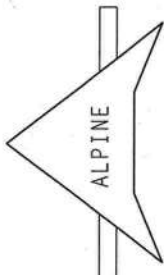
110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located
anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC
DL=5.0 psf. IW=1.00 GCpi(+/-)=0.18

Wind reactions based on MWFRS pressures.

(A) 1x4 #3 or better "L" brace. 80% length of web member. Attach
with 8d Box or Gun (0.113"x2.5",min.)nails @ 6" OC.



Note: All Plates Are 1.5X4 Except As Shown.
Design Crit: TPI-2002 (STD) /FBC
Cq/RT=1.00(1.25)/10(0) 7.36.042
PLT TYP. Wave



ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Registration 00000000

DOUGLAS FLEMING
LICENSE
No. 66648
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
16 '08

QTY: 1	FL / - / 4 / - / - / R / -	Scale = .1875" / Ft.
TC LL	20.0 PSF	REF R8228- 11243
TC DL	10.0 PSF	DATE 01/16/08
BC DL	10.0 PSF	DRW HCUSR8228 08016060
BC LL	0.0 PSF	HC-ENG JB/DF
TOT.LD.	40.0 PSF	SEON- 49533
DUR.FAC.	1.25	JREF- 1TE78228203
SPACING	24.0"	

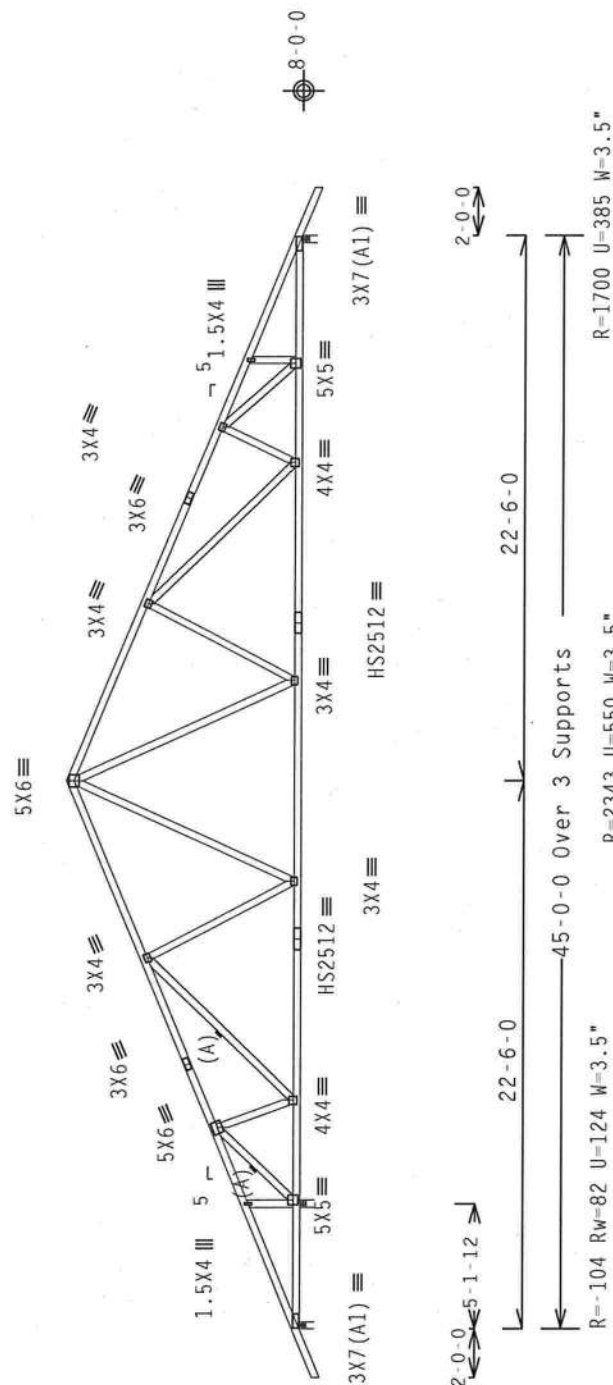
110 mph wind, 15.00 ft mean hgt., ASCE 7-02, PART_ENC. bldg, not located within 6.50 ft from roof edge, CAT II, EXP B, wind TC D1=-5.0 psf, wind BC D1=5.0 psf. Iw=1.00 GCpi(+/-)=0.55

Wind reactions based on MWFRS pressures.

WARNING: Furnish a copy of this DWG to the installation contractor. Special care must be taken during handling, shipping and installation of trusses. See "WARNING" note below.

(A) Continuous lateral bracing equally spaced on member.

Deflection meets L/240 live and L/180 total load. Creep increase factor for dead load is 1.50.



Design Crit: TPI-2002(STD)/FBC

QTY:1 FL/-/4/-/-/R/- Scale = .125"/Ft.

 $Cq/RT=1.00(1.25)/10(0)$ 7.36.042

PLT TYP. 20 Gauge HS.Wave

WARNING THUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. THESE THUSSES ARE NOT TO BE USED FOR ANY OTHER PURPOSES. PUBLISHED BY THE (CROSS PANEL) SYSTEM, 2100 NORTH LEE STREET, SUITE 319, ALPHARETTA, GA 30004. FOR MORE INFORMATION, CONTACT THE CROSS PANEL SYSTEM, 2100 NORTH LEE STREET, SUITE 319, ALPHARETTA, GA 30004. FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS, UNLESS OTHERWISE INDICATED TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE PROPERLY ATTACHED RIGID CELLING.

****IMPORTANT****-FURNISH A COPY OF THIS DESIGN TO THE INSTALLATION CONTRACTOR. ITH BCG, INC., SHALL NOT BE RESPONSIBLE FOR ANY DEVIATION FROM THIS DESIGN; ANY FAILURE TO BUILD THE TRUSS IN CONFORMANCE WITH THE DESIGN OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES.

DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF HUD (NATIONAL DESIGN SPEC, BY AFAPRA) AND TPI. ITN BCG
CONNECTION PLATES ARE MADE OF 2018/1868 (N/55/83) ALUM A653 GRADE 40/60 (N. K/H-55) GALV. STEEL, AP-
PLATES TO EACH FACE OF TRUSS AND, OTHERWISE LOCATED ON THIS DESIGN, POSITION PER DRAWINGS 160A-2,
ANY INSPECTION OF PLATES FOLLOWED BY (1) SHALL BE PER ANNEX 43 OF TPI-2002 SEC. 3., A 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 BUILDING IS THE RESPONSIBILITY OF THE
BUILDING DESIGNER PER ANNEX/TPI 1 SEC. 2.



TC LL	20.0 PSF	REF	R8228- 11244
TC DL	10.0 PSF	DATE	01/16/08
BC DL	10.0 PSF	DRW	HCUSR8228 08016058
BC LL	0.0 PSF	HC-ENG	JB/DF
TOT.LD.	40.0 PSF	SEQN-	71055
DUR.FAC.	1.25		
SPACING	24.0"	JREF-	1TE78228Z03

(**) 1 plate(s) require special positioning. Refer to scaled plate plot details for special positioning requirements.

110 mph wind, 15.00 ft mean ht, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. $I_w=1.00$ GCpi(+/-)=0.18

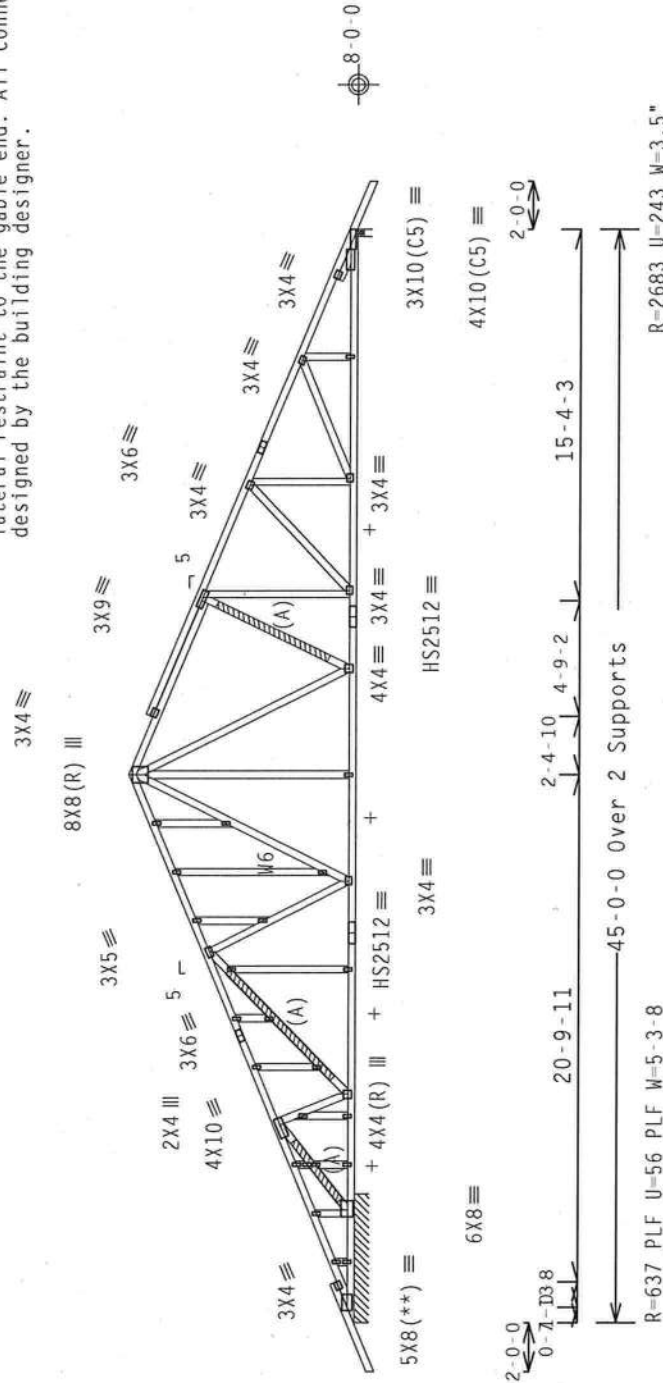
Wind reactions based on MWFRS pressures.

See DWGS A11015EE0207 & GBLLETIN0207 for more requirements.

(A) #3 or better scab brace. Same size & 80% length of web member. Attach with 10d Box or Gun (0.128"x3", min.) nails @ 6" OC.

WARNING: Furnish a copy of this DWG to the installation contractor. Special care must be taken during handling, shipping and installation of trusses. See "WARNING" note below.

The building designer is responsible for the design of the roof and ceiling diaphragms, gable end shear walls, and supporting shear walls. Shear walls must provide continuous lateral restraint to the gable end. All connections to be designed by the building designer.



Note: All Plates Are 1.5X4 Except As Shown.

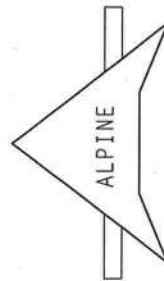
Design Crit: TPI-2002(STD)/FBC

PLT TYP. 20 Gauge HS, Wave
design call. IPT 2002 (310)/FBC
Cq/RT=1.00(1.25)/10(0)

QTY:1 FI 1-141-1-1R1-
Scale = 125"/Ft



WARNING THUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO PCSI (PULL-OUT SHEET INFORMATION), PUBLISHED BY TPI CROSS PLATE INSTITUTE, 2108 N. LEE STREET, SUITE 312, ALEXANDRIA, VA 22304, FOR SAFETY PRACTICES PERTAINING TO THESE THUSSES. OTHERWISE INDICATED FOR CORROSION SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTH IN GOOD SHAPE. ALL OTHERS ATTACHED MUST BE IN GOOD SHAPE.

[illegible]

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FL Certificate of Authorization # 00079

JREF- 1TE78228Z03

CLB WEB BRACE SUBSTITUTION

THIS DETAIL IS TO BE USED WHEN CONTINUOUS LATERAL BRACING (CLB) IS SPECIFIED ON AN ALPINE TRUSS DESIGN BUT AN ALTERNATIVE WEB BRACING METHOD IS DESIRED.

NOTES:

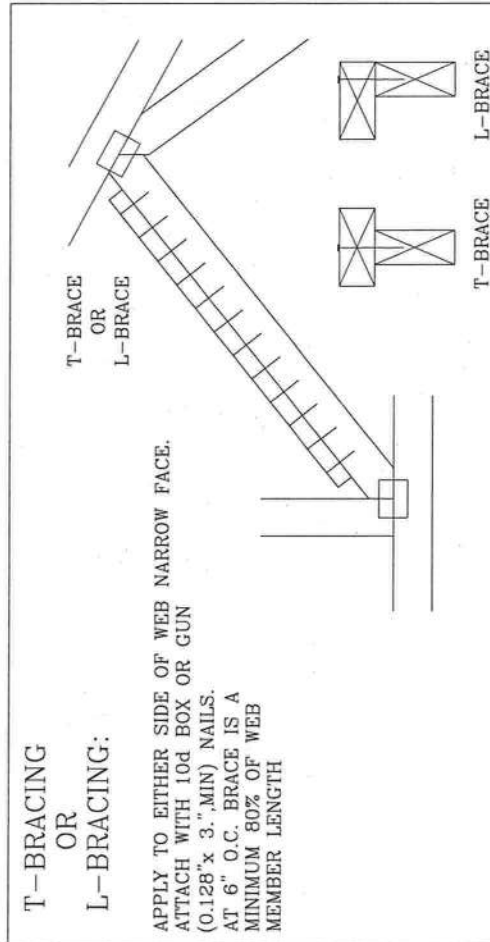
THIS DETAIL IS ONLY APPLICABLE FOR CHANGING THE SPECIFIED CLB SHOWN ON SINGLE PLY SEALED DESIGNS TO T-BRACING OR SCAB BRACING.

ALTERNATIVE BRACING SPECIFIED IN CHART BELOW MAY BE CONSERVATIVE. FOR MINIMUM ALTERNATIVE BRACING, RE-RUN DESIGN WITH APPROPRIATE BRACING.

WEB MEMBER SIZE	SPECIFIED CLB BRACING	T OR L-BRACE	ALTERNATIVE BRACING SCAB BRACE
2X3 OR 2X4	1 ROW	2X4	1-2X4
2X3 OR 2X4	2 ROWS	2X6	2-2X4
2X6	1 ROW	2X4	1-2X6
2X6	2 ROWS	2X6	2-2X4(*)
2X8	1 ROW	2X6	1-2X8
2X8	2 ROWS	2X6	2-2X6(*)

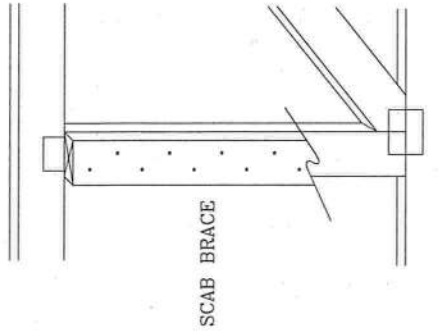
T-BRACE, L-BRACE AND SCAB BRACE TO BE SAME SPECIES AND GRADE OR BETTER THAN WEB MEMBER UNLESS SPECIFIED OTHERWISE ON ENGINEER'S SEALED DESIGN.

(*) CENTER SCAB ON WIDE FACE OF WEB. APPLY (1) SCAB TO EACH FACE OF WEB.



SCAB BRACING:

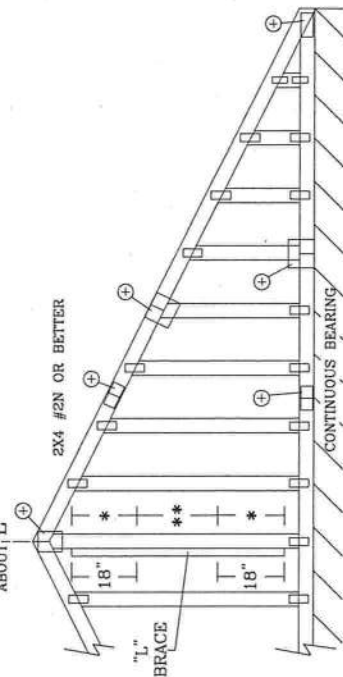
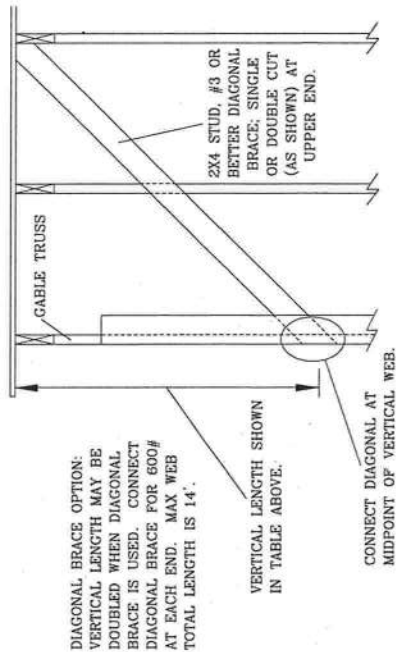
APPLY SCAB(S) TO WIDE FACE OF WEB. NO MORE THAN (1) SCAB PER FACE. ATTACH WITH 10d BOX OR GUN (0.128" x 3", MIN) NAILS. AT 6" O.C. BRACE IS A MINIMUM 80% OF WEB MEMBER LENGTH



THIS DRAWING REPLACES DRAWING 579.640

 /T/ BUILDING COMPONENTS GROUP, INC. POMPANO BEACH, FLORIDA		DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER		TC LL	PSF	REF	CLB SUBST.
		TC DL	PSF	DATE	2/23/07		
		BC DL	PSF	DRWG	BRCLBSUB0207		
		BC LL	PSF	-ENG	MLH/KAR		
		TOT. LD.	PSF				
		DUR. FAC.					
		SPACING					

2x4 GABLE VERTICAL LENGTH		BRACE		(1) 1X4 "L" BRACE		(2) 2X4 "L" BRACE		(1) 2X6 "L" BRACE		(2) 2X6 "L" BRACE	
		SPACING	GRADE	GROUP A	GROUP B	GROUP A	GROUP B	GROUP A	GROUP B	GROUP A	GROUP B
MAX GABLE VERTICAL LENGTH	12" O.C.	SPF	#1 / #2	6' 8"	6' 10"	7' 11"	8' 1"	9' 5"	9' 8"	12' 5"	12' 9"
		SPF	#3	6' 0"	6' 0"	7' 11"	7' 11"	9' 5"	9' 5"	12' 4"	12' 4"
		HF	STANDARD	6' 0"	6' 0"	7' 11"	7' 11"	9' 5"	9' 5"	12' 3"	12' 3"
		HF	STANDARD	5' 2"	5' 2"	6' 9"	6' 9"	9' 1"	9' 1"	10' 7"	10' 7"
24" O.C.	SP	SP	#1	6' 8"	7' 2"	7' 11"	8' 6"	9' 5"	10' 2"	12' 5"	13' 5"
		SP	#2	4' 2"	6' 8"	7' 2"	8' 6"	9' 5"	10' 2"	12' 5"	13' 5"
		DFL	#3	4' 0"	6' 2"	7' 11"	8' 1"	9' 5"	10' 2"	12' 5"	13' 5"
		DFL	STANDARD	4' 0"	6' 1"	7' 11"	8' 0"	9' 5"	9' 11"	12' 5"	12' 6"
16" O.C.	SPF	SPF	#1 / #2	7' 8"	7' 10"	9' 1"	9' 4"	10' 10"	11' 1"	14' 0"	14' 0"
		SPF	#3	4' 4"	7' 4"	9' 1"	9' 1"	10' 10"	10' 10"	14' 0"	14' 0"
		HF	STANDARD	4' 4"	7' 4"	9' 1"	9' 1"	10' 10"	10' 10"	14' 0"	14' 0"
		HF	STANDARD	4' 4"	6' 4"	8' 3"	8' 3"	9' 9"	9' 9"	12' 11"	12' 11"
12" O.C.	SP	SP	#1	7' 8"	8' 3"	9' 1"	9' 9"	10' 10"	11' 8"	14' 0"	14' 0"
		SP	#2	4' 9"	7' 8"	8' 3"	9' 1"	9' 9"	10' 10"	14' 0"	14' 0"
		DFL	#3	4' 6"	7' 7"	9' 1"	9' 6"	10' 10"	11' 4"	14' 0"	14' 0"
		DFL	STANDARD	4' 5"	7' 6"	9' 1"	9' 6"	10' 10"	11' 4"	14' 0"	14' 0"
12" O.C.	SPF	SPF	#1 / #2	8' 5"	8' 8"	10' 0"	10' 3"	11' 11"	12' 3"	14' 0"	14' 0"
		SPF	#3	4' 9"	8' 5"	10' 0"	10' 0"	11' 11"	11' 11"	14' 0"	14' 0"
		HF	STANDARD	4' 9"	8' 5"	10' 0"	10' 0"	11' 11"	11' 11"	14' 0"	14' 0"
		HF	STANDARD	5' 4"	8' 5"	10' 0"	10' 9"	11' 11"	12' 10"	14' 0"	14' 0"
12" O.C.	SP	SP	#1	5' 3"	8' 5"	10' 0"	10' 9"	11' 11"	12' 10"	14' 0"	14' 0"
		SP	#2	5' 3"	8' 5"	10' 0"	10' 9"	11' 11"	12' 10"	14' 0"	14' 0"
		DFL	#3	5' 0"	8' 5"	10' 0"	10' 6"	11' 11"	12' 6"	14' 0"	14' 0"
		DFL	STANDARD	4' 11"	7' 5"	9' 10"	9' 10"	11' 11"	12' 3"	14' 0"	14' 0"



REFER TO CHART ABOVE FOR MAX GABLE VERTICAL LENGTH.

BRACING GROUP SPECIES AND GRADES:	
GROUP A:	
SPRUCE-PINE-FIR	HEM-FIR
#1 / #2 STANDARD	#2 STUD
#3 STUD	#3 STANDARD
DOUGLAS FIR-LARCH	
#3 STUD	#3 STANDARD
GROUP B:	
HEM-FIR	DOUGLAS FIR-LARCH
#1 & BTR	#1
SOUTHERN PINE	#2

GABLE TRUSS DETAIL NOTES:

- LIVE LOAD DEFLECTION CRITERIA IS L/240.
- PROVIDE UPLIFT CONNECTIONS FOR 80 PLF OVER CONTINUOUS BEARING (5 PSF TC DEAD LOAD).
- GABLE END SUPPORTS LOAD FROM 4' 0" OUTLOOKERS WITH 2' 0" OVERHANG, OR 12" PLYWOOD OVERHANG.
- ATTACH EACH "L" BRACE WITH 10d NAILS.
- * FOR (1) "L" BRACE: SPACE NAILS AT 2' O.C. IN 18" END ZONES AND 4' O.C. BETWEEN ZONES.
- ** FOR (2) "L" BRACES: SPACE NAILS AT 3' O.C. IN 18" END ZONES AND 6' O.C. BETWEEN ZONES.
- "L" BRACING MUST BE A MINIMUM OF 80% OF WEB MEMBER LENGTH.

GABLE VERTICAL PLATE SIZES	
VERTICAL LENGTH	NO SPLICE
LESS THAN 4' 0"	1X4 OR 2X3
GREATER THAN 4' 0" BUT LESS THAN 11' 6"	2X4
GREATER THAN 11' 6"	2.5X4
+ REFER TO COMMON TRUSS DESIGN FOR PEAK, SPLICE, AND HEEL PLATES.	

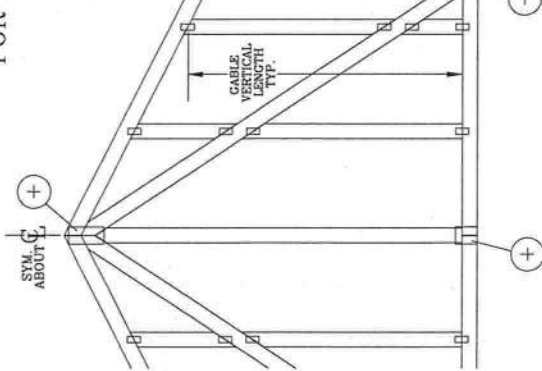
ALPINE BUILDING COMPONENTS GROUP, INC.
POMPANO BEACH, FLORIDA

ITV BCG, INC. SHALL NOT BE RESPONSIBLE FOR ANY DEVIATION FROM THIS DESIGN, ANY FAILURE TO BUILD THE TRUSSES IN CONFORMANCE WITH TPI, OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES. DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF NDS NATIONAL DESIGN SPEC. BY AEP&P AND TPI. GALV. STEEL APPLY PLATES TO EACH FACE OF TRUSS AND, UNLESS OTHERWISE SPECIFIED, PER DESIGN, POSITION PER DRAWINGS 160A-2. ANY INSPECTION OF PLATES FOLLOWED BY CD SHALL BE PER ANNEX A3 OF TPI 1-2002 SEC. 3. A 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 BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER, PER ANSI/TPI 1 SEC. 2.

REF: ASCE7-02-GABI1015
DATE: 2/23/07
DRWG: A11015EE0207
-ENG

MAX. TOT. LD. 60 PSF
MAX. SPACING 24.0"

GABLE DETAIL FOR LET-IN VERTICALS



GABLE VERTICAL PLATE SIZES

VERTICAL LENGTH BETWEEN CHORDS	PLATE SIZE	IF PLATES OVERLAP*
LESS THAN 4' 0"	1X4 OR 2X3	2X8
GREATER THAN 4' 0", BUT LESS THAN 11' 6"	2X4	2X8
GREATER THAN 11' 6"	2.5X4	2.5X8

* IF GABLE VERTICAL PLATES OVERLAP, USE A SINGLE PLATE TO SPAN THE WEB.

REFER TO ENGINEERED TRUSS DESIGN FOR PEAK, SPICE, WEB AND HEEL PLATES.

EXAMPLE: 2X4 2X4 2X8

2X4 2X4 2X8

2X4 2X4 2X8

2X4 2X4 2X8

2X4 2X4 2X8

2X4 2X4 2X8

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2X4 2X4 2X8

2X4 2X4 2X8

PROVIDE CONNECTIONS FOR UPLIFT SPECIFIED ON THE ENGINEERED TRUSS DESIGN.

ATTACH EACH "T" REINFORCING MEMBER WITH

HAND DRIVEN NAILS:

10d COMMON (0.148" X 3.1" MIN) TOENAILS AT 4" O.C. PLUS

(4) 16d COMMON (0.182" X 3.5" MIN) TOENAILS IN TOP AND BOTTOM CHORD.

GUN DRIVEN NAILS:

8d COMMON (0.131" X 2.5" MIN) TOENAILS AT 4" O.C. PLUS

(4) TOENAILS IN TOP AND BOTTOM CHORD.

THIS DETAIL TO BE USED WITH THE APPROPRIATE ALPINE GABLE DETAIL FOR ASCE OR SBCCI WIND LOAD.

ASCE 7-93 GABLE DETAIL DRAWINGS

A11015EN0207, A10015EN0207, A09015EN0207, A08015EN0207, A07015EN0207,

A11030EN0207, A10030EN0207, A09030EN0207, A08030EN0207, A07030EN0207

ASCE 7-98 GABLE DETAIL DRAWINGS

A13015EC0207, A12015EC0207, A11015EC0207, A10015EC0207, A08015EC0207,

A13030EC0207, A12030EC0207, A11030EC0207, A10030EC0207, A08030EC0207

ASCE 7-02 GABLE DETAIL DRAWINGS

A13015EE0207, A12015EE0207, A11015EE0207, A10015EE0207, A08015EE0207,

A13030EE0207, A12030EE0207, A11030EE0207, A10030EE0207, A08030EE0207

ASCE 7-05 GABLE DETAIL DRAWINGS

A13015E50207, A12015E50207, A11015E50207, A10015E50207, A08015E50207,

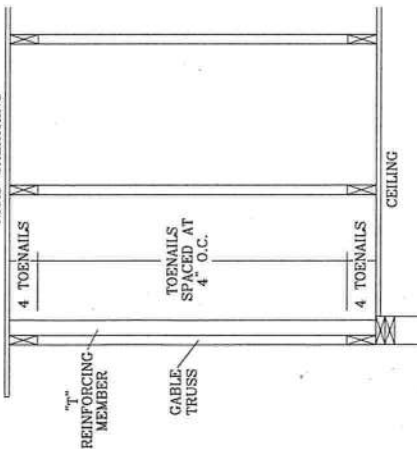
A13030E50207, A12030E50207, A11030E50207, A10030E50207, A08030E50207

SEE APPROPRIATE ALPINE GABLE DETAIL (ASCE OR SBCCI

WIND LOAD) FOR MAXIMUM UNREINFORCED GABLE

VERTICAL LENGTH.

RIGID SHEATHING



CEILING

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2X6 "T" REINFORCING MEMBER

2X4 "T" REINFORCING MEMBER

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TO CONVERT FROM "L" TO "T" REINFORCING MEMBERS, MULTIPLY "T" FACTOR BY LENGTH (BASED ON GABLE VERTICAL SPECIES, GRADE AND SPACING) FOR (1) 2X4 "L" BRACE, GROUP A, OBTAINED FROM THE APPROPRIATE ALPINE GABLE DETAIL FOR ASCE OR SBCCI WIND LOAD.

MAXIMUM ALLOWABLE "T" REINFORCED GABLE VERTICAL LENGTH IS 14' FROM TOP TO BOTTOM CHORD.

WEB LENGTH INCREASE W/ "T" BRACE

WIND SPEED AND MRH	"T" REINF. MBR. SIZE	SBCCI	ASCE
110 MPH	2x4	10 %	10 %
15 FT	2x6	40 %	50 %
110 MPH	2x4	10 %	10 %
30 FT	2x6	50 %	50 %
100 MPH	2x4	10 %	10 %
15 FT	2x6	30 %	50 %
100 MPH	2x4	10 %	10 %
30 FT	2x6	40 %	40 %
90 MPH	2x4	20 %	10 %
15 FT	2x6	20 %	40 %
90 MPH	2x4	10 %	10 %
30 FT	2x6	30 %	50 %
80 MPH	2x4	10 %	20 %
15 FT	2x6	10 %	30 %
80 MPH	2x4	20 %	10 %
30 FT	2x6	20 %	40 %
70 MPH	2x4	0 %	20 %
15 FT	2x6	0 %	20 %
70 MPH	2x4	10 %	20 %
30 FT	2x6	10 %	30 %

EXAMPLE:

ASCE WIND SPEED = 100 MPH

MEAN ROOF HEIGHT = 30 FT

GABLE VERTICAL = 24" O.C. SP #3

"T" REINFORCING MEMBER SIZE = 2X4

"T" BRACE INCREASE (FROM ABOVE) = 10% = 1.10

(1) 2X4 "L" BRACE LENGTH = 6' 7"

MAXIMUM "T" REINFORCED GABLE VERTICAL LENGTH

1.10 x 6' 7" = 7' 3"

THIS DRAWING REPLACES DRAWINGS GAB98117 876.719 & HC26294035

REF LET-IN VERT

DATE 2/23/07

DRWG GBLLETIN0207

-ENG DLJ/KAR

MAX TOT. LD. 60 PSF

DUR. FAC. ANY

MAX SPACING 24.0"

WARNING TRUSSES REQUIRE EXTREME CARE IN FABRICATING, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO BEST BUILDING COMPONENT SAFETY INFORMATION, PUBLISHED BY TPI TRUSS PLATE INSTITUTE, 218 NORTH LEE STR., SUITE 312, ALEXANDRIA, VA 22304 AND VITCA C/O VITCO TRUSS COUNCIL OF AMERICA, 6300 ENTERPRISE LN., MADISON, WI 53719 FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE ACTIVITIES. UNLESS OTHERWISE INDICATED, ALL DIMENSIONS AND MATERIALS SHALL BE AS SHOWN ON THESE PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING.

IMPORTANT FURNISH COPY OF THIS DESIGN TO INSTALLATION CONTRACTOR. ITV BCG, INC., SHALL NOT BE RESPONSIBLE FOR ANY DEVIATION FROM THIS DESIGN; ANY FAILURE TO BUILD THE TRUSS IN CONFORMANCE WITH TPI OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES. DESIGN CONFORMANCE WITH APPLICABLE PROVISIONS OF NIS NATIONAL DESIGN SPEC. BY AF&PA AND TPI. DESIGN CONFORMANCE WITH APPLICABLE PROVISIONS OF NIS NATIONAL DESIGN SPEC. BY AF&PA AND TPI. GALV. STEEL PLATES TO BE USED IN EACH PANEL SHALL BE AS SHOWN ON THESE PANELS. PER TPI DESIGN, POSITION PER DRAWINGS 160A-Z. ANY INSPECTION OF PLATES FILLED BY (1) SHALL BE PER ANNEX A3 OF TPI 1-2002 SEC. 3. A 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 BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER, PER ANSI/TPI 1 SEC. 2.



ITW BUILDING COMPONENTS GROUP, INC.
POMPANO BEACH, FLORIDA



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**COLUMBIA COUNTY BUILDING DEPARTMENT
RESIDENTIAL MINIMUM PLAN REQUIREMENTS AND CHECKLIST
FOR THE FLORIDA RESIDENTIAL BUILDING CODE 2004 with 2005 & 2006
Supplements and One (1) and Two (2) Family Dwellings**

ALL REQUIREMENTS ARE SUBJECT TO CHANGE

ALL BUILDING PLANS MUST INDICATE COMPLIANCE with the Current FLORIDA BUILDING CODES and the Current FLORIDA RESIDENTIAL CODE. ALL PLANS OR DRAWING SHALL PROVIDED CALCULATIONS AND DETAILS THAT HAVE THE SEAL AND SIGNATURE OF A CERTIFIED ARCHITECT OR ENGINEER REGISTERED IN THE STATE OF FLORIDA, OR ALTERNATE METHODOLOGIES, APPROVED BY THE STATE OF FLORIDA BUILDING COMMISSION FOR ONE- AND-TWO FAMILY DWELLINGS.

FOR DESIGN PURPOSES THE FOLLOWING BASIC WIND SPEEDS ARE PER FIGURE R301.2(4) of the Residential Code (Florida Wind speed map) SHALL BE USED.

WIND SPEED LINE SHALL BE DEFINED AS FOLLOWS: THE CENTERLINE OF INTERSTATE 75.

1. ALL BUILDINGS CONSTRUCTED EAST OF SAID LINE SHALL BE ----- 100 MPH
2. ALL BUILDINGS CONSTRUCTED WEST OF SAID LINE SHALL BE ----- 110 MPH
3. NO AREA IN COLUMBIA COUNTY IS IN A WIND BORNE DEBRIS REGION

GENERAL REQUIREMENTS:

- ✓ Two (2) complete sets of plans containing the following:
- ✓ All drawings must be clear, concise and drawn to scale, details that are not used shall be marked void
- ✓ Condition space (Sq. Ft.) and total (Sq. Ft.) under roof shall be shown on the plans.
- ✓ Designers name and signature shall be on all documents and a licensed architect or engineer, signature and official embossed seal shall be affixed to the plans and documents per FBC 106.1.

Site Plan information including:

- Dimensions of lot or parcel of land
- Dimensions of all building set backs
- Location of all other structures (include square footage of structures) on parcel, existing or proposed well and septic tank and all utility easements.
- Provide a full legal description of property.

Wind-load Engineering Summary, calculations and any details required:

- ✓ Plans or specifications must meet state compliance with FRC Chapter 3
- ✓ The following information must be shown as per section FRC
- ✓ Basic wind speed (3-second gust), miles per hour
- ✓ Wind importance factor and nature of occupancy
- ✓ Wind exposure – if more than one wind exposure is used, the wind exposure and applicable wind direction shall be indicated
- ✓ The applicable internal pressure coefficient, Components and Cladding The design wind pressure in terms of psf (kN/m²), to be used for the design of exterior component and cladding materials not specifiically designed by the registered design professional.

Elevations Drawing including:

- All side views of the structure
- ✓ Roof pitch
- ✓ Overhang dimensions and detail with attic ventilation
- Location, size and height above roof of chimneys
- Location and size of skylights with Florida Product Approval
- ✓ Number of stories
- ✓ e) Building height from the established grade to the roofs highest peak

WOOD WALL FRAMING CONSTRUCTION FRC CHAPTER 6

- ✓ Stud type, grade, size, wall height and oc spacing for all load bearing or shear walls.
- ✓ Fastener schedule for structural members per table R602.3 (1) are to be shown.
- ✓ Show wood structural panel's sheathing attachment to studs, joist, trusses, rafters and structural members, showing fastener schedule attachment on the edges & intermediate of the areas structural panel sheathing
- ✓ Show all required connectors with a max uplift rating and required number of connectors and oc spacing for continuous connection of structural walls to foundation and roof trusses or rafter systems.
- ✓ Show sizes, type, span lengths and required number of support jack studs, king studs for shear wall opening and girder or header per FRC Table R502.5 (1)
- ✓ Indicate where pressure treated wood will be placed.
- Show all wall structural panel sheathing, grade, thickness and show fastener schedule for structural panel sheathing edges & intermediate areas
- A detail showing gable truss bracing, wall balloon framing details or/ and wall hinge bracing detail

ROOF SYSTEMS:

- ✓ Truss design drawing shall meet section FRC R802.10 Wood trusses. Include a layout and truss details and be signed and sealed by Fl. Pro. Eng.
- ✓ Show types of connector's assemblies' and resistance uplift rating for all trusses and rafters
- ✓ Show gable ends with rake beams showing reinforcement or gable truss and wall bracing details
- ✓ Provide dead load rating of trusses

Conventional Roof Framing Layout Per FRC 802:

- Rafter and ridge beams sizes, span, species and spacing
- Connectors to wall assemblies' include assemblies' resistance to uplift rating.
- Valley framing and support details
- Provide dead load rating of rafter system.

ROOF SHEATHING FRC Table R602.3(2) FRC 803

- ✓ Include all materials which will make up the roof decking, identification of structural panel sheathing, grade, thickness and show fastener schedule for structural panel sheathing on the edges & intermediate areas

ROOF ASSEMBLIES FRC Chapter 9

- Include all materials which will make up the roof assemblies covering; with Florida Product Approval numbers for each component of the roof assemblies covering.

FCB Chapter 13 Florida Energy Efficiency Code for Building Construction

- ✓ Residential construction shall comply with this code by using the following compliance methods in the FBC Subchapter 13-6, Residential buildings compliance methods. Two of the required forms are to be submitted, showing dimensions condition area equal to the total condition living space area
- ✓ Show the insulation R value for the following areas of the structure: Attic space, Exterior wall cavity and Crawl space (if applicable)

HVAC information shown

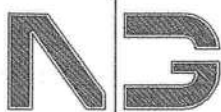
- ✓ Manual J sizing equipment or equivalent computation
- ✓ Exhaust fans locations in bathrooms

Plumbing Fixture layout shown

- ✓ All fixtures waste water lines shall be shown on the foundation plan

Electrical layout shown including:

- ✓ Switches, outlets/receptacles, lighting and all required GFCI outlets identified
- ✓ Ceiling fans
- ✓ Smoke detectors
- ✓ Service panel, sub-panel, location(s) and total ampere ratings



**NICHOLAS
PAUL
GEISLER
ARCHITECT**
N.C.A.R.B. Certified

1758 NW Brown Road
Lake City, FL 32055
386/755-9021

FLORIDA BUILDING CODE SECTION 1609

COMPLIANCE SUMMARY

PROJECT: STARLING RESIDENCE, COLUMBIA COUNTY, FL (110 WIND ZONE)

TYPE OF CONSTRUCTION

ROOF: Gable Construction, Wood Trusses @ 24" O.C., SYP
WALLS: 2x4 Wood Studs @ 16" O.C.
FLOOR: 4" Thk. Conc. Slab, w/ Fibermesh concrete additive
FOUNDATION: Continuous Footer/Stemwall
EDGE STRIP: 4.0 ft. END ZONE: 8.0 ft.

ROOF DECKING

MATERIAL: 7/16" O.S.B.
SHEET SIZE: 48"x96" Sheets Placed Perpendicular to Roof Framing
FASTENERS: 8d Common Nails @ 4" O.C. Ends, 8" O.C. Interior

SHEAR WALLS

MATERIAL: 7/16" O.S.B. "WindStorm Sheathing"
SHEET SIZE: 48"x97 1/8" Sheets Placed Vertical
FASTENERS: 8d Common Nails @ 4" O.C. Edges, 8" O.C. Interior
DRAGSTRUT: Dbl. Top Plate Nailed w/ 16d Nails @ 16" O.C.
WALL STUDS: S-P-F Nr. 2 and better, 2x4 Studs @ 16" O.C.

HURRICANE UPLIFT CONNECTORS

TRUSS CLIPS: "Simpson" H16
WALL TENSION: 1/2" CDX plywd. w/ 8d Common Nails @ 4" O.C. Edges,
8" O.C. Interior for all exterior non-shear walls
HOLD-DOWN CONNECTORS: A307 Bolts, within 6" of corners
WALL SILL: 1/2" x 10" A.B., w/ 2" washers @ 48" o.c., 7" embedment
CORNER HOLD-DOWN DEVICE: 1 Typical Anchor Bolt, Ea. Corner

FOOTINGS AND FOUNDATIONS

HOUSE FOOTINGS: 20"x10" Continuous w/ 2 - #5 Rebars
HOUSE STEMWALL: 8" CMU w/ #5 Rebar Dowels Gd. 40, @ 48" O.C.
CONCRETE: Fb = 2500 p.s.i. or greater

PREPARER'S CERTIFICATION

I hereby certify that the attached Wind Load Design and Analysis
calculations are in compliance with the Florida Building Code,
Section 1606, to the best of my knowledge and belief.


Nicholas Paul Geisler, Architect AR0007005

Date: 17 June 2008

Data entry by: MT Date: 01 - 14 - 08

Project name: STARLING
Location : COLUMBIA COUNTY

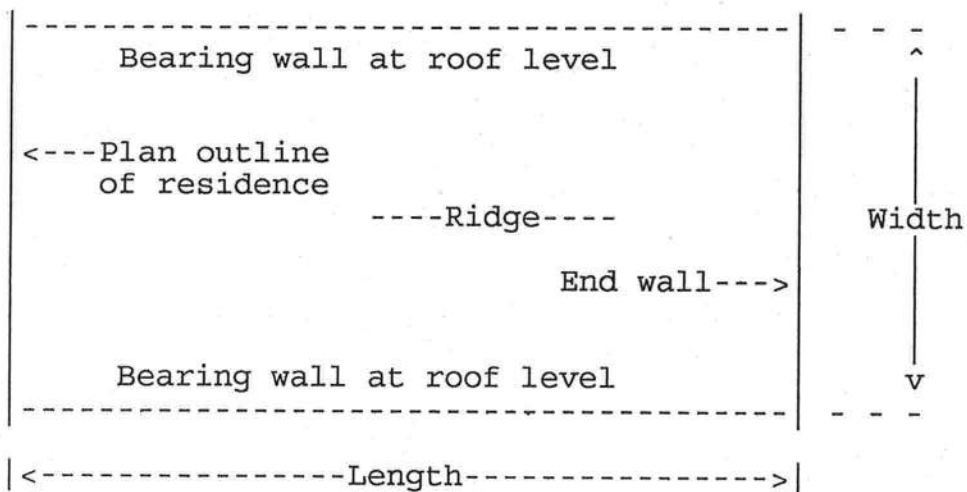
R E S I D E N T I A L W I N D D E S I G N A N D A N A L Y S I S

A product of EDA Software, Inc.

Based on the Standard Building Code, 1994 edition

**** GENERAL INPUT DATA ****

Permanent construction
Simple rectangular building



Length along bearing walls out to out of studs = 65 feet
Width along end walls out to out of studs = 40 feet
Roof overhang in long direction from outer face of stud = 2 feet generally
Roof overhang at short end wall from outer face of stud = 1.33 feet generally
Height of exterior wall to top of plate on long side = 9 feet constant
Roof cross slope = 5 /12

Wind velocity = 110 mph

**** DEGREE OF ENCLOSURE ****

Assume that this building is an 'Enclosed building' per Code 1606.2.3.


AR2005 17 Jan 2008

**** STRUCTURAL FRAMING INPUT DATA ****

*** Roof Structural Data ***

Member number 1

Normal gable type house truss--supported by exterior walls only

Span length out to out of supports = 40 feet

Roof cross slope = 5 /12

Truss spacing = 24 inches

Overhang = 2 feet

*** Wall Structural Data ***

Spacing of wall studs = 16 inches

Total number of plates = 3

Wall stud number 1 is 9 feet high out to out of plates

COEFFICIENTS AND PRESSURES
Main Wind Force Resisting Systems

Actual pressure = Velocity pressure x Use factor x Coefficient

Wind velocity is 110 mph

Mean roof height is 13.52778 feet

Velocity pressure is 24.7 psf

Use factor is 1.0

Roof cross slope is 5 on 12, which equals 22.61987 degrees to horizontal

End zone width is 8 feet

	Coefficient	Design Pressure (psf)

End zone		
Windward wall (1E)	.7	17.29
Windward roof (2E)	-1	-24.7
Leeward roof (3E)	-1	-24.7
Leeward wall (4E)	-.95	-23.47
Overhang	-1.5	-37.06
Interior zone		
Windward wall (1)	.4	9.88
Windward roof (2)	-.75	-18.53
Leeward roof (3)	-.75	-18.53
Leeward wall (4)	-.7	-17.3
Overhang	-1.5	-37.06
=====		

ROOF LOADING--Roof Number 1 (pounds per square foot)

Roof cross slope = 5 inches per foot

Seamed metal deck	= 2.5
No insulation	
15/32 in. roof sheathing	= 1.41
2 in. x 4 in. wood trusses at 24 in. spacing	= 2.193387

Total roof unit weight on slope	= 6.103387
Cosine of roof cross slope	= .9230769

Roof unit weight on horizontal	= 6.612002
1 layer of 1/2 in. gypsum board ceiling--plain	= 2
Ceiling insulation R-30	= .5
Air-conditioning ductwork	= 1
Full lighting	= .3
Miscellaneous	= 0
=====	
Total	= 10.412

Roof Unit Dead Load = 11 psf

Roof dead load supported generally by wall = 219.7401 plf

ROOF LOADING--Roof Number 2 (pounds per square foot)

Roof cross slope = 5 inches per foot

Seamed metal deck	= 2.5
No insulation	
15/32 in. roof sheathing	= 1.41
2 in. x 4 in. wood trusses at 24 in. spacing	= 2.193387

Total roof unit weight on slope	= 6.103387
Cosine of roof cross slope	= .9230769

Roof unit weight on horizontal	= 6.612002
1 layer of 1/2 in. gypsum board ceiling--plain	= 2
Ceiling insulation R-30	= .5
Air-conditioning ductwork	= 1
Full lighting	= .3
Miscellaneous	= 0
=====	
Total	= 10.412

Roof Unit Dead Load = 11 psf

Roof dead load supported generally by wall = 219.7401 plf

ROOF MEMBER DEAD LOAD REACTIONS AT BEARINGS
All values are in pounds

Roof member number 1 --Span 40 feet, Slope 5 /12, interior zone---- 439
Roof member number 2 --Span 40 feet, Slope 5 /12, end zone----- 439

EXTERIOR WALL LOADING (pounds per linear foot)

Wood frame wall-- 9 ft. out to out plates

3--2 in. x 4 in. plates	= 2.865625
2 in. x 4 in. studs at 16 in. spacing	= 6.179004
R-13 Insulation	= 2.15625
Vinyl siding	= 4.5
1/2 in. Gypsum board--Total 1 layer---	= 18
=====	
Total	= 33.70088

Exterior Wall Unit Dead Load = 34 plf

S U M M A R Y O F H U R R I C A N E A N C H O R A N A L Y S I S

All values of forces are in pounds. Resistances have been increased for wind.
End zone width = 8 feet

Code: C = Compliance

N = Non-compliance

Simpson hurricane anchors

Member 1 --Gable roof--Span 40 feet, at 24 inches oc--in interior zone:
Uplift = 1283 Dead = 439 Net = 844 Model Special, Resistance = 1205 C
Model H16--all nails installed per manufacturers catalog
Data supplied by operator--not from EDA database

Member 2 --Gable roof--Span 40 feet, at 24 inches oc--in end zone:
Uplift = 1940 Dead = 439 Net = 1501 Model Special, Resistance = 1947 C
Model 1 - H16 & 1 - H10--all nails installed per manufacturers catalog
Data supplied by operator--not from EDA database

**** ANALYSIS OF ROOF SHEATHING AS SHEAR DIAPHRAGM TRANSVERSE ****
Shear analysis applies along supporting shearwalls.

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is Oriented Strand Board, 7/16 inch thick
Sheathing has no intermediate blocking
Fasteners on panel ends are 8d nails spaced at 4 inches
Fasteners in panel interior are 8d nails spaced at 8 inches

Total lateral wind force on building = 16918 pounds
Total force transferred through diaphragm to shearwalls = 8459 pounds
Total length of shearwalls = 80 feet
MINIMUM REQUIRED TOTAL SHEARWALL LENGTH = 26.8 FT.--LOCATE EVENLY THROUGHOUT

Actual diaphragm force per unit length of shearwall = 105 plf
Allowable diaphragm force per unit length of shearwall = 314 plf

*** Summary of Analysis ***

Roof sheathing diaphragm satisfies Code requirements.

**** ANALYSIS OF ROOF SHEATHING AS SHEAR DIAPHRAGM LONGITUDINAL ****
Shear analysis applies along supporting shearwalls.

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is Oriented Strand Board, 7/16 inch thick
Sheathing has no intermediate blocking
Fasteners on panel ends are 8d nails spaced at 4 inches
Fasteners in panel interior are 8d nails spaced at 8 inches

Total lateral wind force on building = 12435 pounds
Total force transferred through diaphragm to shearwalls = 6217.5 pounds
Total length of shearwalls = 130 feet
MINIMUM REQUIRED TOTAL SHEARWALL LENGTH = 19.5 FT.--LOCATE EVENLY THROUGHOUT

Actual diaphragm force per unit length of shearwall = 47 plf
Allowable diaphragm force per unit length of shearwall = 314 plf

*** Summary of Analysis ***

Roof sheathing diaphragm satisfies Code requirements.

**** ANALYSIS OF ROOF SHEATHING FOR FASTENER WITHDRAWAL ****

Interior zone (area Ri)

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end trusses are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 813 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

Edge strip (area Si) width = 4 feet

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end trusses are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 1259 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

End zone (areas Se and C) width = 8 feet

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end truss are 8d nails spaced at 4 inches
Fasteners along end wall are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 1734 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

**** ANALYSIS OF WALL STUDS ****

*** Analysis of Wall Stud Number 1 ***

2 in. x 4 in. single studs at 16 in. spacing
Stud height is 8.625 feet--located in interior zone
Top of studs is laterally supported by ceiling diaphragm or other method
Spruce--Pine--Fir lumber----Number 1--Number 2 grade
Sheathing is inch rated OSB, span rating 24/16

Cross-sectional area = 5.25 sq.in.
Moment of inertia = 5.359375 in.^4
Section Modulus = 3.0625 in.^3
Elastic modulus of wood stud = 1400000 in.^2

Total outward force on stud = 367 pounds
Stud moment = 395 ft-lb.

Stresses:

Stud bending vert : Actual = 1550 psi Allowable = 2415 psi (adjusted)
Stud shear : Actual = 48 psi Allowable = 112 psi (adjusted)
Stud tensile : Actual = 65 psi Allowable = 1020 psi (adjusted)
Interaction bending and tension actual/allowable stress ratio total = .7055475
Sheathing bending hor: Actual = 177 psi Allowable = 222 psi(adjusted)

Deflections:

Stud : Actual = .4413 in. Allowable = .575 in.

*** Summary of Analysis ***

Wall structure satisfies all Code requirements.

**** ANALYSIS OF WALL STUDS ****

*** Analysis of Wall Stud Number 2 ***

2 in. x 4 in. single studs at 16 in. spacing
Stud height is 8.625 feet--located in end zone
Top of studs is laterally supported by ceiling diaphragm or other method
Spruce--Pine--Fir lumber---Number 1--Number 2 grade
Sheathing is inch rated OSB, span rating 24/16

Cross-sectional area = 5.25 sq.in.
Moment of inertia = 5.359375 in.^4
Section Modulus = 3.0625 in.^3
Elastic modulus of wood stud = 1400000 in.^2

Total outward force on stud = 422 pounds
Stud moment = 454 ft-lb.

Stresses:

Stud bending vert : Actual = 1782 psi Allowable = 2415 psi (adjusted)
Stud shear : Actual = 56 psi Allowable = 112 psi (adjusted)
Stud tensile : Actual = 65 psi Allowable = 1020 psi (adjusted)
Interaction bending and tension actual/allowable stress ratio total = .8016137
Sheathing bending hor: Actual = 204 psi Allowable = 222 psi(adjusted)

Deflections:

Stud : Actual = .5074 in. Allowable = .575 in.

*** Summary of Analysis ***

Wall structure satisfies all Code requirements.

**** ALLOWABLE STRESS PROPERTIES ****

Base stresses (psi):

Wood:

Bending = 875
Tension = 425
Shear = 70
Elastic modulus = 1400000

Adjustment factors for wood:

Duration (Du) = 1.6
Wet service (Wt) = 1
Temperature (Tm) = 1
Stability (St) = 1
Size (Sz) = 1.5
Volume (Vm) = 1
Flat use (Fu) = 1
Repetitive (Rp) = 1.15
Curvature (Cu) = 1
Form (Fm) = 1
Shear stress (Sh) = 1

Allowable stresses (psi):

Wood:

Bending = 2415 (Base x Du x Wt x Tm x St x Sz x Vm x Fu x Rp x Cu x Fm)
Tension = 1020 (Base x Du x Wt x Tm x Sz)
Shear = 112 (Base x Du x Wt x Tm x Sh)
Elastic modulus = 2240000 (Base x Wt x Tm)

Sheathing:

Bending = 222 (Base x 1.33)
Elastic modulus = 61904.76 (Base)

TRANSVERSE DRAGSTRUT NAIL ANALYSIS

Wall framing is 2 in. x 4 in. studs

Wall stud framing lumber is Spruce--Pine--Fir

Fasteners are 16d common nails

Approximate nail spacing = 16 inches

Total lateral force on building = 16918 pounds

Force applied at top of walls = 8459 pounds

Total dragstrut length = 80 feet

Shear per unit dragstrut length = 105 pounds per linear foot

Actual shear on each nail = 140 pounds

Allowable shear on each nail = 192 pounds

Dragstrut nailing satisfies Code requirements.

LONGITUDINAL DRAGSTRUT NAIL ANALYSIS

Wall framing is 2 in. x 4 in. studs

Wall stud framing lumber is Spruce--Pine--Fir

Fasteners are 16d common nails

Approximate nail spacing = 16 inches

Total lateral force on building = 12435 pounds

Force applied at top of walls = 6217 pounds

Total dragstrut length = 130 feet

Shear per unit dragstrut length = 47 pounds per linear foot

Actual shear on each nail = 62 pounds

Allowable shear on each nail = 192 pounds

Dragstrut nailing satisfies Code requirements.

**** T R A N S V E R S E S H E A R W A L L A N A L Y S I S ****

Wall framing is 2 in. x 4 in. studs at 16 inch spacing
Wall stud framing lumber is Spruce--Pine--Fir
Wall shear siding is Oriented Strand Board -- 7/16 inch thick
Wall sheathing has all edges nailed
Fasteners: 8d common nails spaced along edges at 4 inch centers
Fasteners: 8d common nails spaced in interior at 8 inch centers

Total lateral force on building = 16918 pounds
Force applied at top of walls = 8459 pounds
Accumulated total shearwall length = 80 feet

Actual unit shear on shearwalls = 105 pounds per linear foot
Allowable unit shear on shearwalls = 322 pounds per linear foot

Shearwall satisfies Code requirements.

**** L O N G I T U D I N A L S H E A R W A L L A N A L Y S I S ****

Wall framing is 2 in. x 4 in. studs at 16 inch spacing
Wall stud framing lumber is Spruce--Pine--Fir
Wall shear siding is Oriented Strand Board -- 7/16 inch thick
Wall sheathing has all edges nailed
Fasteners: 8d common nails spaced along edges at 4 inch centers
Fasteners: 8d common nails spaced in interior at 8 inch centers

Total lateral force on building = 12435 pounds
Force applied at top of walls = 6217 pounds
Accumulated total shearwall length = 130 feet

Actual unit shear on shearwalls = 47 pounds per linear foot
Allowable unit shear on shearwalls = 322 pounds per linear foot

Shearwall satisfies Code requirements.

*** A N A L Y S I S O F O U T W A R D F O R C E S O N W A L L S H E A T H I N G ***

Wall number 1 : Total outward wind force on sheathing = 1101 pounds
 : Total withdrawal resistance of 100 nails = 5580 pounds

Wall number 2 : Total outward wind force on sheathing = 1266 pounds
 : Total withdrawal resistance of 100 nails = 5580 pounds

**** ANALYSIS OF SHEATHING FASTENERS ****

Wall framing is Spruce--Pine--Fir lumber
Sheathing is 7/16 inch Oriented Strand Board
Sheathing extends from bottom of bottom plate to top of top plate
Fasteners are 8d common nails at 4 inch spacing

Total uniform wind uplift in first story at top of wall level = 476 plf
Uniform dead loads per linear foot:

Roof = 219.7401 plf

Total = 219.7401 plf

Total uniform dead load in first story at top of wall level = 219 plf

Net wind uplift in first story at top of wall level = 257 plf

Total uplift force on each nail = 85 pounds

Allowable shear on each nail = 97 pounds (increased for wind)

Sheathing to plate fastening satisfies all Code requirements.

**** ANALYSIS OF SHEATHING FASTENERS ****

Wall framing is Spruce--Pine--Fir lumber
Sheathing is 7/16 inch Oriented Strand Board
Sheathing extends from bottom of bottom plate to top of top plate
Fasteners are 8d common nails at 4 inch spacing

Total uniform wind uplift in first story at floor level = 476 plf

Uniform dead loads per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load in first story at floor level = 253 plf

Net wind uplift in first story at floor level = 223 plf

Total uplift force on each nail = 74 pounds

Allowable shear on each nail = 97 pounds (increased for wind)

Sheathing to plate fastening satisfies all Code requirements.

**** ANALYSIS OF FOUNDATION ANCHORAGE ****

Anchor bolts are 1/2 inch A307, with 2 inch round washer at 48 inch centers.

Total uniform wind uplift on foundation = 476 pounds per linear foot

Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force on foundation = 308 pounds per linear foot

Total uplift force on each anchor bolt = 1232 pounds

Safe tension value of each anchor bolt = 1634 pounds (increased by 1/3)

Bolt safe tension value is governed by washer failure

*** Summary of Analysis ***

Foundation anchorage satisfies all Code requirements.

**** ANALYSIS OF CORNER HOLD-DOWN REQUIREMENTS ****

Hold-down is one typical anchor bolt with washer, each wall

Normal anchor bolt spacing = 48 inches

Distance from corner to hold-down device = 6 inches

Distance from corner to first interior anchor bolt = 48 inches

Net uplift force on foundation = 308 pounds per linear foot

Tributary distance to corner device = 2.25 feet

Net uplift on corner hold-down device = 693 pounds

Uplift tension due to shearwall action in a transverse shearwall segment:

Distance from corner to hold-down device = 6 inches

Distance from corner to first interior anchor bolt = 48 inches

Total shear from shearwall segment = 317 pounds

Height of wall = 9 feet

Uniform dead load times 2/3 = 22 pounds per linear foot

Shearwall moment at bottom of wall = 2854 foot-pounds

Additional tension at corner device = 1393 pounds

Total uplift tension on corner hold-down devices = 2086 pounds

Allowable tension on corner hold-down devices = 3268 pounds

*** Summary of Analysis ***

Corner hold-down device COMPLIES with Code requirements.

**** ANALYSIS OF FOUNDATION ****

Stemwall is 8 inch concrete masonry, filled with grout, 24 inches high
Footing is 20 inches wide by 10 inches deep
Earth cover over top of footing is 4 inches

Total uniform wind uplift on foundation = 476 pounds per linear foot

Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force at top of foundation = 308 pounds per linear foot

Weight of stemwall footing earth x 2/3 = 325 pounds per linear foot

Net uplift at bottom of footing = 0 pounds per linear foot

*** Summary of Analysis ***

Foundation is stable.

**** ANALYSIS OF REINFORCING STEEL ****

Grade 40 reinforcing steel, Number 5 vert. bars at 48 inch centers

Total uniform wind uplift on foundation = 476 pounds per linear foot

Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force on foundation = 308 pounds per linear foot

Weight of concrete block stemwall x 2/3 = 122 pounds per linear foot

Net uplift at top of footing = 186 pounds per linear foot

Total uplift force on each re-bar = 744 pounds

Safe tension value of each re-bar = 8181 pounds (increased by 1/3)

*** Summary of Analysis ***

Reinforcing steel satisfies all Code requirements.

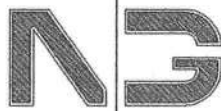
**** SUMMARY OF REINFORCING DATA ****

Foundation wall data:

Wall is composed of 8 inch concrete masonry, fully grouted.
Wall reinforcing is Grade 40 steel, Number 5 at 48 inch centers
Minimum required lap splice for Number 5 bar is 25 inches.
Minimum required clearance for Number 5 bar is 1.5 inches.
Wall reinf. in footing has a std. A.C.I. hook, 6 inches below top of footing.

Footing data:

Footing is continuous, 20 inches wide by 10 inches deep.
Footing concrete is 2500 psi
Footing reinforcing is Grade 40 steel, 2--#() longitudinal.
Minimum required splice length = 25 inches
Reinforcing steel shall have cover as follows:
 Top-----6 inches
 Sides-----3 inches
 Bottom----3 inches



**NICHOLAS
PAUL
GEISLER
ARCHITECT**
N.C.A.R.B. Certified

1758 NW Brown Road
Lake City, FL 32055
386/755-9021

FLORIDA BUILDING CODE SECTION 1609

COMPLIANCE SUMMARY

PROJECT: STARLING RESIDENCE, COLUMBIA COUNTY, FL (110 WIND ZONE)

TYPE OF CONSTRUCTION

ROOF: Gable Construction, Wood Trusses @ 24" O.C., SYP
WALLS: 2x4 Wood Studs @ 16" O.C.
FLOOR: 4" Thk. Conc. Slab, w/ Fibermesh concrete additive
FOUNDATION: Continuous Footer/Stemwall
EDGE STRIP: 4.0 ft. END ZONE: 8.0 ft.

ROOF DECKING

MATERIAL: 7/16" O.S.B.
SHEET SIZE: 48"x96" Sheets Placed Perpendicular to Roof Framing
FASTENERS: 8d Common Nails @ 4" O.C. Ends, 8" O.C. Interior

SHEAR WALLS

MATERIAL: 7/16" O.S.B. "WindStorm Sheathing"
SHEET SIZE: 48"x97 1/8" Sheets Placed Vertical
FASTENERS: 8d Common Nails @ 4" O.C. Edges, 8" O.C. Interior
DRAGSTRUT: Dbl. Top Plate Nailed w/ 16d Nails @ 16" O.C.
WALL STUDS: S-P-F Nr. 2 and better, 2x4 Studs @ 16" O.C.

HURRICANE UPLIFT CONNECTORS

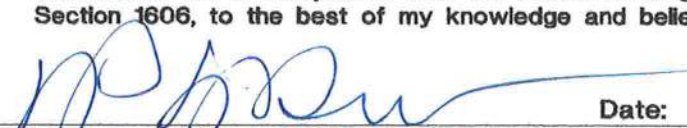
TRUSS CLIPS: "Simpson" H16
WALL TENSION: 1/2" CDX plywd. w/ 8d Common Nails @ 4" O.C. Edges,
8" O.C. Interior for all exterior non-shear walls
HOLD-DOWN CONNECTORS: A307 Bolts, within 6" of corners
WALL SILL: 1/2" x 10" A.B., w/ 2" washers @ 48" o.c., 7" embedment
CORNER HOLD-DOWN DEVICE: 1 Typical Anchor Bolt, Ea. Corner

FOOTINGS AND FOUNDATIONS

HOUSE FOOTINGS: 20"x10" Continuous w/ 2 - #5 Rebars
HOUSE STEMWALL: 8" CMU w/ #5 Rebar Dowels Gd. 40, @ 48" O.C.
CONCRETE: Fb = 2500 p.s.i. or greater

PREPARER'S CERTIFICATION

I hereby certify that the attached Wind Load Design and Analysis
calculations are in compliance with the Florida Building Code,
Section 1606, to the best of my knowledge and belief.


Nicholas Paul Geisler, Architect AR0007005

Date: 17 Jan 2008

Data entry by: MT Date: 01 - 14 - 08

Project name: STARLING
Location : COLUMBIA COUNTY

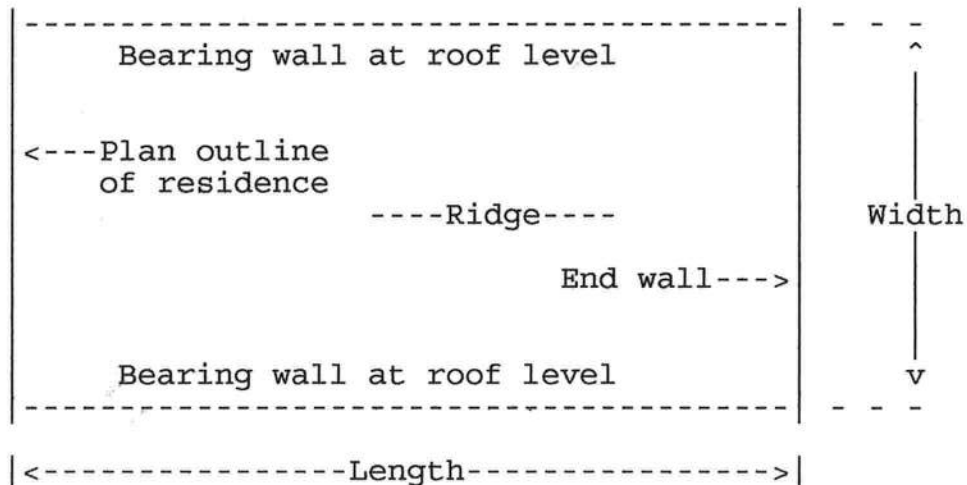
R E S I D E N T I A L W I N D D E S I G N A N D A N A L Y S I S

A product of EDA Software, Inc.

Based on the Standard Building Code, 1994 edition

**** GENERAL INPUT DATA ****

Permanent construction
Simple rectangular building



Length along bearing walls out to out of studs = 65 feet
Width along end walls out to out of studs = 40 feet
Roof overhang in long direction from outer face of stud = 2 feet generally
Roof overhang at short end wall from outer face of stud = 1.33 feet generally
Height of exterior wall to top of plate on long side = 9 feet constant
Roof cross slope = 5 /12

Wind velocity = 110 mph

**** DEGREE OF ENCLOSURE ****

Assume that this building is an 'Enclosed building' per Code 1606.2.3.

APD 22
APR 10 05 17 Jan 2K8

**** STRUCTURAL FRAMING INPUT DATA ****

*** Roof Structural Data ***

Member number 1

Normal gable type house truss--supported by exterior walls only

Span length out to out of supports = 40 feet

Roof cross slope = 5 /12

Truss spacing = 24 inches

Overhang = 2 feet

*** Wall Structural Data ***

Spacing of wall studs = 16 inches

Total number of plates = 3

Wall stud number 1 is 9 feet high out to out of plates

COEFFICIENTS AND PRESSURES
Main Wind Force Resisting Systems

Actual pressure = Velocity pressure x Use factor x Coefficient

Wind velocity is 110 mph

Mean roof height is 13.52778 feet

Velocity pressure is 24.7 psf

Use factor is 1.0

Roof cross slope is 5 on 12, which equals 22.61987 degrees to horizontal

End zone width is 8 feet

	Coefficient	Design Pressure (psf)

End zone		
Windward wall (1E)	.7	17.29
Windward roof (2E)	-1	-24.7
Leeward roof (3E)	-1	-24.7
Leeward wall (4E)	-.95	-23.47
Overhang	-1.5	-37.06
Interior zone		
Windward wall (1)	.4	9.88
Windward roof (2)	-.75	-18.53
Leeward roof (3)	-.75	-18.53
Leeward wall (4)	-.7	-17.3
Overhang	-1.5	-37.06
=====		

ROOF LOADING--Roof Number 1 (pounds per square foot)

Roof cross slope = 5 inches per foot

Seamed metal deck	= 2.5
No insulation	
15/32 in. roof sheathing	= 1.41
2 in. x 4 in. wood trusses at 24 in. spacing	= 2.193387

Total roof unit weight on slope	= 6.103387
Cosine of roof cross slope	= .9230769

Roof unit weight on horizontal	= 6.612002
1 layer of 1/2 in. gypsum board ceiling--plain	= 2
Ceiling insulation R-30	= .5
Air-conditioning ductwork	= 1
Full lighting	= .3
Miscellaneous	= 0
=====	
Total	= 10.412

Roof Unit Dead Load = 11 psf

Roof dead load supported generally by wall = 219.7401 plf

ROOF LOADING--Roof Number 2 (pounds per square foot)

Roof cross slope = 5 inches per foot

Seamed metal deck	= 2.5
No insulation	
15/32 in. roof sheathing	= 1.41
2 in. x 4 in. wood trusses at 24 in. spacing	= 2.193387

Total roof unit weight on slope	= 6.103387
Cosine of roof cross slope	= .9230769

Roof unit weight on horizontal	= 6.612002
1 layer of 1/2 in. gypsum board ceiling--plain	= 2
Ceiling insulation R-30	= .5
Air-conditioning ductwork	= 1
Full lighting	= .3
Miscellaneous	= 0
=====	
Total	= 10.412

Roof Unit Dead Load = 11 psf

Roof dead load supported generally by wall = 219.7401 plf

ROOF MEMBER DEAD LOAD REACTIONS AT BEARINGS
All values are in pounds

Roof member number 1 --Span 40 feet, Slope 5 /12, interior zone---- 439
Roof member number 2 --Span 40 feet, Slope 5 /12, end zone----- 439

ROOF MEMBER DEAD LOAD REACTIONS AT BEARINGS

All values are in pounds

Roof member number 1 --Span 40 feet, Slope 5 /12, interior zone---- 439
Roof member number 2 --Span 40 feet, Slope 5 /12, end zone----- 439

EXTERIOR WALL LOADING (pounds per linear foot)

Wood frame wall-- 9 ft. out to out plates

3--2 in. x 4 in. plates	= 2.865625
2 in. x 4 in. studs at 16 in. spacing	= 6.179004
R-13 Insulation	= 2.15625
Vinyl siding	= 4.5
1/2 in. Gypsum board--Total 1 layer---	= 18
=====	
Total	= 33.70088

Exterior Wall Unit Dead Load = 34 plf

S U M M A R Y O F H U R R I C A N E A N C H O R A N A L Y S I S

All values of forces are in pounds. Resistances have been increased for wind.
End zone width = 8 feet

Code: C = Compliance

N = Non-compliance

Simpson hurricane anchors

Member 1 --Gable roof--Span 40 feet, at 24 inches oc--in interior zone:
Uplift = 1283 Dead = 439 Net = 844 Model Special, Resistance = 1205 C
Model H16--all nails installed per manufacturers catalog
Data supplied by operator--not from EDA database

Member 2 --Gable roof--Span 40 feet, at 24 inches oc--in end zone:
Uplift = 1940 Dead = 439 Net = 1501 Model Special, Resistance = 1947 C
Model 1 - H16 & 1 - H10--all nails installed per manufacturers catalog
Data supplied by operator--not from EDA database

**** ANALYSIS OF ROOF SHEATHING AS SHEAR DIAPHRAGM TRANSVERSE ****
Shear analysis applies along supporting shearwalls.

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is Oriented Strand Board, 7/16 inch thick
Sheathing has no intermediate blocking
Fasteners on panel ends are 8d nails spaced at 4 inches
Fasteners in panel interior are 8d nails spaced at 8 inches

Total lateral wind force on building = 16918 pounds
Total force transferred through diaphragm to shearwalls = 8459 pounds
Total length of shearwalls = 80 feet
MINIMUM REQUIRED TOTAL SHEARWALL LENGTH = 26.8 FT.--LOCATE EVENLY THROUGHOUT

Actual diaphragm force per unit length of shearwall = 105 plf
Allowable diaphragm force per unit length of shearwall = 314 plf

*** Summary of Analysis ***

Roof sheathing diaphragm satisfies Code requirements.

**** ANALYSIS OF ROOF SHEATHING AS SHEAR DIAPHRAGM LONGITUDINAL ****
Shear analysis applies along supporting shearwalls.

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is Oriented Strand Board, 7/16 inch thick
Sheathing has no intermediate blocking
Fasteners on panel ends are 8d nails spaced at 4 inches
Fasteners in panel interior are 8d nails spaced at 8 inches

Total lateral wind force on building = 12435 pounds
Total force transferred through diaphragm to shearwalls = 6217.5 pounds
Total length of shearwalls = 130 feet
MINIMUM REQUIRED TOTAL SHEARWALL LENGTH = 19.5 FT.--LOCATE EVENLY THROUGHOUT

Actual diaphragm force per unit length of shearwall = 47 plf
Allowable diaphragm force per unit length of shearwall = 314 plf

*** Summary of Analysis ***

Roof sheathing diaphragm satisfies Code requirements.

**** ANALYSIS OF ROOF SHEATHING FOR FASTENER WITHDRAWAL ****

Interior zone (area Ri)

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end trusses are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 813 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

Edge strip (area Si) width = 4 feet

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end trusses are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 1259 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

End zone (areas Se and C) width = 8 feet

Roof trusses are Southern Pine lumber, spaced at 24 inches
Sheathing is 15/32 inch with no intermediate blocking
Size of sheathing is 48 inches by 96 inches
Fasteners along end truss are 8d nails spaced at 4 inches
Fasteners along end wall are 8d nails spaced at 4 inches
Fasteners along int. trusses are 8d nails spaced at 8 inches
Total outward wind force on sheathing = 1734 pounds
Total withdrawal resistance of 47 nails = 3512 pounds (increased for wind)
Fastening of roof sheathing satisfies Code requirements.

**** ANALYSIS OF WALL STUDS ****

*** Analysis of Wall Stud Number 1 ***

2 in. x 4 in. single studs at 16 in. spacing
Stud height is 8.625 feet--located in interior zone
Top of studs is laterally supported by ceiling diaphragm or other method
Spruce--Pine--Fir lumber---Number 1--Number 2 grade
Sheathing is inch rated OSB, span rating 24/16

Cross-sectional area = 5.25 sq.in.
Moment of inertia = 5.359375 in.^4
Section Modulus = 3.0625 in.^3
Elastic modulus of wood stud = 1400000 in.^2

Total outward force on stud = 367 pounds
Stud moment = 395 ft-lb.

Stresses:

Stud bending vert : Actual = 1550 psi Allowable = 2415 psi (adjusted)
Stud shear : Actual = 48 psi Allowable = 112 psi (adjusted)
Stud tensile : Actual = 65 psi Allowable = 1020 psi (adjusted)
Interaction bending and tension actual/allowable stress ratio total = .7055475
Sheathing bending hor: Actual = 177 psi Allowable = 222 psi (adjusted)

Deflections:

Stud : Actual = .4413 in. Allowable = .575 in.

*** Summary of Analysis ***

Wall structure satisfies all Code requirements.

**** ANALYSIS OF WALL STUDS ****

*** Analysis of Wall Stud Number 2 ***

2 in. x 4 in. single studs at 16 in. spacing
Stud height is 8.625 feet--located in end zone
Top of studs is laterally supported by ceiling diaphragm or other method
Spruce--Pine--Fir lumber---Number 1--Number 2 grade
Sheathing is inch rated OSB, span rating 24/16

Cross-sectional area = 5.25 sq.in.
Moment of inertia = 5.359375 in.^4
Section Modulus = 3.0625 in.^3
Elastic modulus of wood stud = 1400000 in.^2

Total outward force on stud = 422 pounds
Stud moment = 454 ft-lb.

Stresses:

Stud bending vert : Actual = 1782 psi Allowable = 2415 psi (adjusted)
Stud shear : Actual = 56 psi Allowable = 112 psi (adjusted)
Stud tensile : Actual = 65 psi Allowable = 1020 psi (adjusted)
Interaction bending and tension actual/allowable stress ratio total = .8016137
Sheathing bending hor: Actual = 204 psi Allowable = 222 psi (adjusted)

Deflections:

Stud : Actual = .5074 in. Allowable = .575 in.

*** Summary of Analysis ***

Wall structure satisfies all Code requirements.

**** ALLOWABLE STRESS PROPERTIES ****

Base stresses (psi):

Wood:

Bending = 875
Tension = 425
Shear = 70
Elastic modulus = 1400000

Adjustment factors for wood:

Duration (Du) = 1.6
Wet service (Wt) = 1
Temperature (Tm) = 1
Stability (St) = 1
Size (Sz) = 1.5
Volume (Vm) = 1
Flat use (Fu) = 1
Repetitive (Rp) = 1.15
Curvature (Cu) = 1
Form (Fm) = 1
Shear stress (Sh) = 1

Allowable stresses (psi):

Wood:

Bending = 2415 (Base x Du x Wt x Tm x St x Sz x Vm x Fu x Rp x Cu x Fm)
Tension = 1020 (Base x Du x Wt x Tm x Sz)
Shear = 112 (Base x Du x Wt x Tm x Sh)
Elastic modulus = 2240000 (Base x Wt x Tm)

Sheathing:

Bending = 222 (Base x 1.33)
Elastic modulus = 61904.76 (Base)

TRANSVERSE DRAGSTRUT NAIL ANALYSIS

Wall framing is 2 in. x 4 in. studs

Wall stud framing lumber is Spruce--Pine--Fir

Fasteners are 16d common nails

Approximate nail spacing = 16 inches

Total lateral force on building = 16918 pounds

Force applied at top of walls = 8459 pounds

Total dragstrut length = 80 feet

Shear per unit dragstrut length = 105 pounds per linear foot

Actual shear on each nail = 140 pounds

Allowable shear on each nail = 192 pounds

Dragstrut nailing satisfies Code requirements.

LONGITUDINAL DRAGSTRUT NAIL ANALYSIS

Wall framing is 2 in. x 4 in. studs

Wall stud framing lumber is Spruce--Pine--Fir

Fasteners are 16d common nails

Approximate nail spacing = 16 inches

Total lateral force on building = 12435 pounds

Force applied at top of walls = 6217 pounds

Total dragstrut length = 130 feet

Shear per unit dragstrut length = 47 pounds per linear foot

Actual shear on each nail = 62 pounds

Allowable shear on each nail = 192 pounds

Dragstrut nailing satisfies Code requirements.

**** T R A N S V E R S E S H E A R W A L L A N A L Y S I S ****

Wall framing is 2 in. x 4 in. studs at 16 inch spacing
Wall stud framing lumber is Spruce--Pine--Fir
Wall shear siding is Oriented Strand Board -- 7/16 inch thick
Wall sheathing has all edges nailed
Fasteners: 8d common nails spaced along edges at 4 inch centers
Fasteners: 8d common nails spaced in interior at 8 inch centers

Total lateral force on building = 16918 pounds
Force applied at top of walls = 8459 pounds
Accumulated total shearwall length = 80 feet

Actual unit shear on shearwalls = 105 pounds per linear foot
Allowable unit shear on shearwalls = 322 pounds per linear foot

Shearwall satisfies Code requirements.

**** L O N G I T U D I N A L S H E A R W A L L A N A L Y S I S ****

Wall framing is 2 in. x 4 in. studs at 16 inch spacing
Wall stud framing lumber is Spruce--Pine--Fir
Wall shear siding is Oriented Strand Board -- 7/16 inch thick
Wall sheathing has all edges nailed
Fasteners: 8d common nails spaced along edges at 4 inch centers
Fasteners: 8d common nails spaced in interior at 8 inch centers

Total lateral force on building = 12435 pounds
Force applied at top of walls = 6217 pounds
Accumulated total shearwall length = 130 feet

Actual unit shear on shearwalls = 47 pounds per linear foot
Allowable unit shear on shearwalls = 322 pounds per linear foot

Shearwall satisfies Code requirements.

*** A N A L Y S I S O F O U T W A R D F O R C E S O N W A L L S H E A T H I N G ***

Wall number 1 : Total outward wind force on sheathing = 1101 pounds
 : Total withdrawal resistance of 100 nails = 5580 pounds

Wall number 2 : Total outward wind force on sheathing = 1266 pounds
 : Total withdrawal resistance of 100 nails = 5580 pounds

**** ANALYSIS OF SHEATHING FASTENERS ****

Wall framing is Spruce--Pine--Fir lumber
Sheathing is 7/16 inch Oriented Strand Board
Sheathing extends from bottom of bottom plate to top of top plate
Fasteners are 8d common nails at 4 inch spacing

Total uniform wind uplift in first story at top of wall level = 476 plf
Uniform dead loads per linear foot:

Roof = 219.7401 plf

Total = 219.7401 plf

Total uniform dead load in first story at top of wall level = 219 plf

Net wind uplift in first story at top of wall level = 257 plf

Total uplift force on each nail = 85 pounds

Allowable shear on each nail = 97 pounds (increased for wind)

Sheathing to plate fastening satisfies all Code requirements.

**** ANALYSIS OF SHEATHING FASTENERS ****

Wall framing is Spruce--Pine--Fir lumber
Sheathing is 7/16 inch Oriented Strand Board
Sheathing extends from bottom of bottom plate to top of top plate
Fasteners are 8d common nails at 4 inch spacing

Total uniform wind uplift in first story at floor level = 476 plf
Uniform dead loads per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load in first story at floor level = 253 plf

Net wind uplift in first story at floor level = 223 plf

Total uplift force on each nail = 74 pounds

Allowable shear on each nail = 97 pounds (increased for wind)

Sheathing to plate fastening satisfies all Code requirements.

**** ANALYSIS OF FOUNDATION ANCHORAGE ****

Anchor bolts are 1/2 inch A307, with 2 inch round washer at 48 inch centers.

Total uniform wind uplift on foundation = 476 pounds per linear foot

Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force on foundation = 308 pounds per linear foot

Total uplift force on each anchor bolt = 1232 pounds

Safe tension value of each anchor bolt = 1634 pounds (increased by 1/3)

Bolt safe tension value is governed by washer failure

*** Summary of Analysis ***

Foundation anchorage satisfies all Code requirements.

**** ANALYSIS OF CORNER HOLD-DOWN REQUIREMENTS ****

Hold-down is one typical anchor bolt with washer, each wall

Normal anchor bolt spacing = 48 inches

Distance from corner to hold-down device = 6 inches

Distance from corner to first interior anchor bolt = 48 inches

Net uplift force on foundation = 308 pounds per linear foot

Tributary distance to corner device = 2.25 feet

Net uplift on corner hold-down device = 693 pounds

Uplift tension due to shearwall action in a transverse shearwall segment:

Distance from corner to hold-down device = 6 inches

Distance from corner to first interior anchor bolt = 48 inches

Total shear from shearwall segment = 317 pounds

Height of wall = 9 feet

Uniform dead load times 2/3 = 22 pounds per linear foot

Shearwall moment at bottom of wall = 2854 foot-pounds

Additional tension at corner device = 1393 pounds

Total uplift tension on corner hold-down devices = 2086 pounds

Allowable tension on corner hold-down devices = 3268 pounds

*** Summary of Analysis ***

Corner hold-down device COMPLIES with Code requirements.

**** ANALYSIS OF FOUNDATION ****

Stemwall is 8 inch concrete masonry, filled with grout, 24 inches high
Footing is 20 inches wide by 10 inches deep
Earth cover over top of footing is 4 inches

Total uniform wind uplift on foundation = 476 pounds per linear foot
Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force at top of foundation = 308 pounds per linear foot

Weight of stemwall footing earth x 2/3 = 325 pounds per linear foot

Net uplift at bottom of footing = 0 pounds per linear foot

*** Summary of Analysis ***

Foundation is stable.

**** ANALYSIS OF REINFORCING STEEL ****

Grade 40 reinforcing steel, Number 5 vert. bars at 48 inch centers

Total uniform wind uplift on foundation = 476 pounds per linear feet

Uniform dead loads in pounds per linear foot:

Roof = 219.7401 plf

Wall = 33.70088 plf

Total = 253.4409 plf

Total uniform dead load times 2/3 = 168 pounds per linear foot

Net uplift force on foundation = 308 pounds per linear foot

Weight of concrete block stemwall x 2/3 = 122 pounds per linear foot

Net uplift at top of footing = 186 pounds per linear foot

Total uplift force on each re-bar = 744 pounds

Safe tension value of each re-bar = 8181 pounds (increased by 1/3)

*** Summary of Analysis ***

Reinforcing steel satisfies all Code requirements.

**** SUMMARY OF REINFORCING DATA ****

Foundation wall data:

Wall is composed of 8 inch concrete masonry, fully grouted.

Wall reinforcing is Grade 40 steel, Number 5 at 48 inch centers

Minimum required lap splice for Number 5 bar is 25 inches.

Minimum required clearance for Number 5 bar is 1.5 inches.

Wall reinf. in footing has a std. A.C.I. hook, 6 inches below top of footing.

Footing data:

Footing is continuous, 20 inches wide by 10 inches deep.

Footing concrete is 2500 psi

Footing reinforcing is Grade 40 steel, 2--#() longitudinal.

Minimum required splice length = 25 inches

Reinforcing steel shall have cover as follows:

Top-----6 inches

Sides-----3 inches

Bottom----3 inches