629.38

Columbia County Building Permit Application

Revised 9-23-04

For Office Use Only Application # 0603-29 Date Received 3/9 By JW Permit # 24290

Application Approved by - Zoning Official BLK Date 3.03.06 Plans Examiner OKJTH Date 3-15-06

Flood Zone X Development Permit N/A Zoning A-3 Land Use Plan Map Category A-3

Comments

Applicants Name D. SCOTT ROSENBOOM Phone 305-525-1997 305-876-6749

Address 19802 NW 150th AVE, HIGH SPRINGS FL 32643

Owners Name RONNIE + BRIGITTE KLEIN Phone 305 525-1997

911 Address 2535 SW CR 778 FT WHITE FL 32038

Contractors Name Scott ROSENBOOM Phone 352-538-3827

Address 19802 NW 150 AVE HIGH SPRING FL 32643

Fee Simple Owner Name & Address

Bonding Co. Name & Address NA

Architect/Engineer Name & Address OTTO J LETZELTER 3860 SW 145TH CAVE MIRAMAR FL 33027

Mortgage Lender Name & Address

Circle the correct power company - FL Power & Light - Clay Elec. - Suwannee Valley Elec. - Progressive Energy

Property ID Number 07-7S-17-09940-001 Estimated Cost of Construction 150,000

Subdivision Name Lot Block Unit Phase

Driving Directions SOUTH ON 441 TO 778 TURN RT APPROX .5 mi ON RT

Type of Construction HOME-SFD Number of Existing Dwellings on Property 0

Total Acreage 40 Lot Size Do you need a - Culvert Permit or Culvert Waiver or Have an Existing Drive

Actual Distance of Structure from Property Lines - Front 525 Side 525 Side 800 Rear 800

Total Building Height 21'9" Number of Stories 1 Heated Floor Area 2093 Roof Pitch 6

Porches 845 TOTAL 2938

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

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

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

Owner Builder or Agent (including Contractor)

Contractor Signature

Contractors License Number CR-C057796

Competency Card Number

STATE OF FLORIDA
COUNTY OF COLUMBIA

Sworn to (or affirmed) and subscribed before me this 24 day of February 20 06.

Personally known ____ or Produced Identification ✓

FL DL # K 450-974-50-505-0

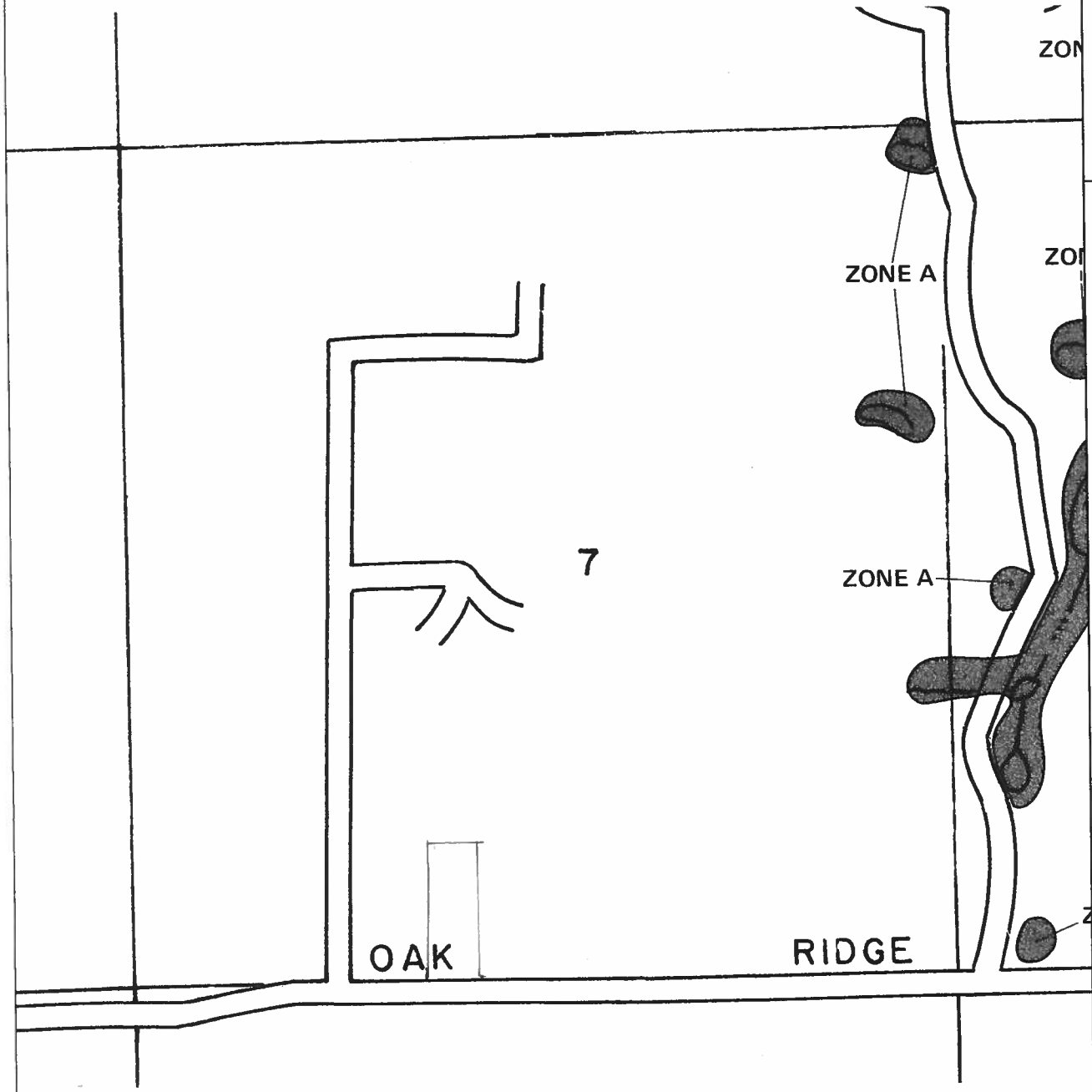
NOTARY STAMP/SEAL
BONNIE P. PRESNELL
Notary Public, State of Florida
My comm. exp. Mar. 1, 2008
Comm. No. DD 277528

Notary Signature

FL DL # K 450-937-50-174-0

FROM :COLUMBIA CO BUILDING + ZONING FAX NO. :386-758-2160 Feb. 15 2006 09:13AM P2

ADVISED SCOTT ON 3.16.06



N

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

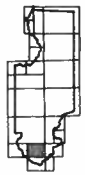
FIRM

FLOOD INSURANCE RATE MAP

COLUMBIA COUNTY, FLORIDA
(UNINCORPORATED AREAS)

PANEL 260 OF 290

PANEL LOCATION



COMMUNITY-PANEL NUMBER
120070 0260 B

EFFECTIVE DATE:
JANUARY 6, 1988

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT Version 1.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Futher information about National Flood Insurance Program flood hazard maps is available at www.fema.gov/mit/tsd.

Print Date: 3/13/2006 (printed at scale and type A)

@ CAM112M01 S CamaUSA Appraisal System Columbia County
3/09/2006 11:14 **Legal Description Maintenance** **28204 Land 002**
Year T Property Sel **6524 AG 001**
2006 R 07-7S-17-09940-001 **18952 Bldg 002**
2535 CR 778 SW FT WHITE **2800 Xfea 003**
HX KLEIN RONNIE S & BRIGITTE K **56480 TOTAL B***

1	THE S 1320 FT OF THE W 1320 FT OF SE1/4 & NW1/4 OF NE1/4		2
3	LYING N OF CR-778 IN 18-7S-17 ORB 842-418, 930-2078,		4
5			6
7			8
9			10
11			12
13			14
15			16
17			18
19			20
21			22
23			24
25			26
27			28

Mnt **8/09/2001 TERRY**

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

210

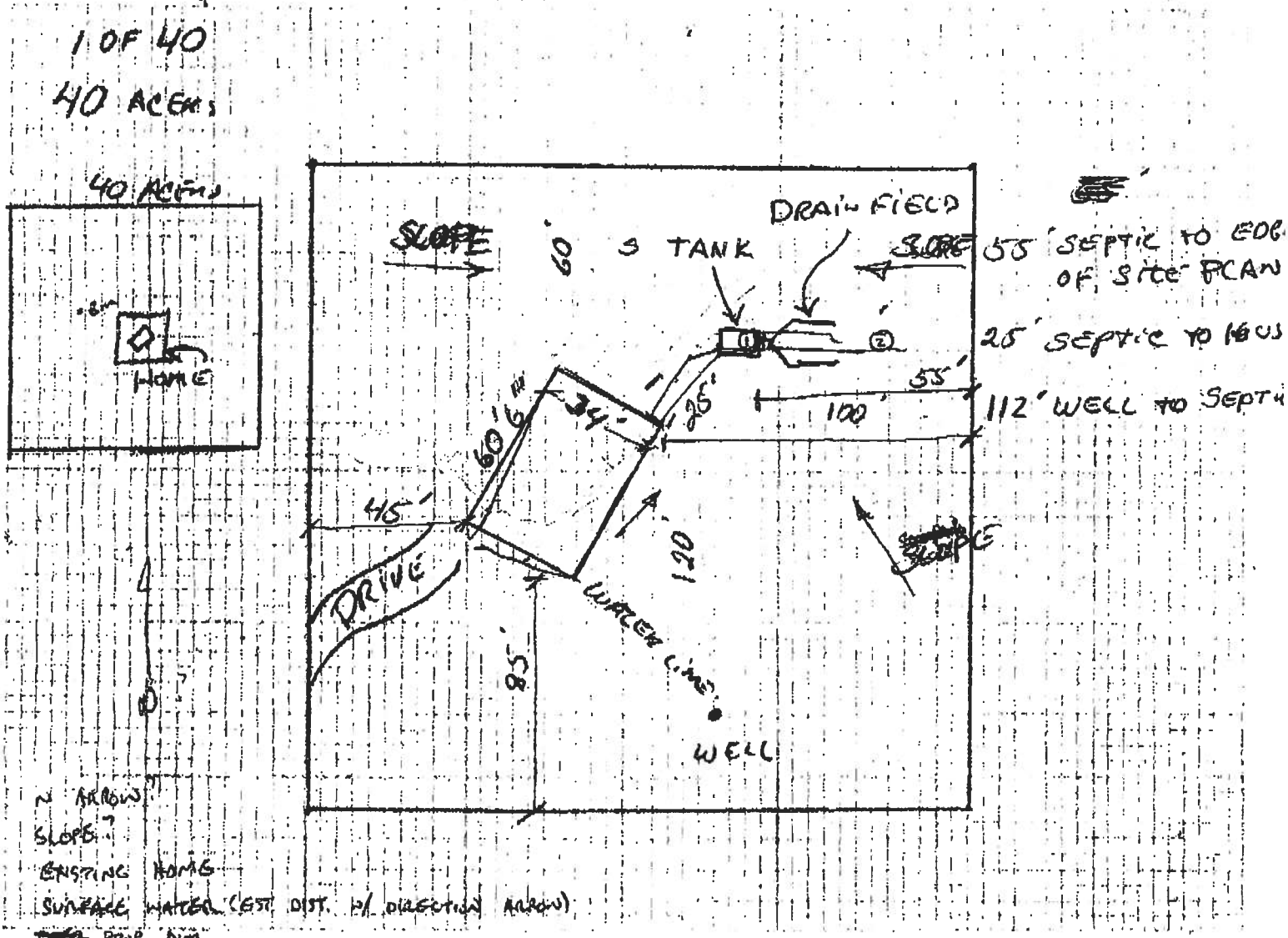
STATE OF FLORIDA
DEPARTMENT OF HEALTH

APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 06-0172

PART II - SITE PLAN

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



Notes:

DIM. FROM HOUSE to P/L

RECEIVED
3-3-06

Site Plan submitted by: Scott Rosenboom (Signature) AGENT (Title)

Plan Approved X Not Approved _____ Date _____

By _____ Columbia CHD County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT

NOTICE OF COMMENCEMENT FORM
COLUMBIA COUNTY, FLORIDA

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

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

Tax Parcel ID Number 07-7S-17-09940-001

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

2535 S.W. C.R. 778, Ft. White, FL 32038

2. General description of improvement: Single Family Home

3. Owner Name & Address Ronnie and Brigitte Klein, P.O. Box 3157, High Springs, FL 32655-3157 Interest in Property Owner, Ph 3055251997

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

5. Contractor Name Scott Rosenbloom Phone Number 386 454 2894
Address 19802 NW 190 AVE, High Springs, FL 32643

6. Surety Holders Name n/a Phone Number _____
Address _____
Amount of Bond _____

7. Lender Name n/a Phone Number _____
Address _____

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

9. In addition to himself/herself the owner designates n/a of _____ to receive a copy of the Lienor's Notice as provided in Section 713.13 (1) – (a) 7. Phone Number of the designee _____

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

NOTICE AS PER CHAPTER 713, Florida Statutes:
The owner must sign the notice of commencement and no one else may be permitted to sign in his/her stead.

Brigitte K. Klein
Signature of Owner

Sworn to (or affirmed) and subscribed before day of _____ 20

NOTARY PUBLIC/STATE OF

KAREN JOSEPHS BECKLES
MY COMMISSION # DD 430495
EXPIRES: May 17, 2009
Bonded Thru Notary Public Underwriters

Karen Josephs Beckles
Signature of Notary

Inst:2006005822 Date:03/09/2006 Time:10:34
DC,P.DeWitt Cason,Columbia County B:1076 P:1875

FORM 600A-2004 EnergyGauge® 4.0

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	**Rosenboom - Klein Res.**	Builder:	Same
Address:		Permitting Office:	Columbia
City, State:	,	Permit Number:	24290
Owner:		Jurisdiction Number:	221000
Climate Zone:	**North**		

1.	New construction or existing	New	
2.	Single family or multi-family	Single family	
3.	Number of units, if multi-family	1	
4.	Number of Bedrooms	3	
5.	Is this a worst case?	Yes	
6.	Conditioned floor area (ft²)	2093 ft²	
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		
a.	U-factor: (or Single or Double DEFAULT)	7a. (Dble Default) 273.0 ft²	
b.	SHGC: (or Clear or Tint DEFAULT)	7b. (Clear) 273.0 ft²	
8.	Floor types		
a.	Slab-On-Grade Edge Insulation	R=0.0, 197.0(p) ft	
b.	N/A		
c.	N/A		
9.	Wall types		
a.	Concrete, Int Insul, Exterior	R=4.2, 1970.0 ft²	
b.	N/A		
c.	N/A		
d.	N/A		
e.	N/A		
10.	Ceiling types		
a.	Under Attic	R=30.0, 2093.0 ft²	
b.	N/A		
c.	N/A		
11.	Ducts		
a.	Sup: Unc. Ret: Unc. AH: Interior	Sup. R=6.0, 186.0 ft	
b.	N/A		

12.	Cooling systems		
a.	Central Unit	Cap: 60.0 kBtu/hr SEER: 13.00	
b.	N/A		
c.	N/A		
13.	Heating systems		
a.	Electric Heat Pump	Cap: 60.0 kBtu/hr HSPF: 8.00	
b.	N/A		
c.	N/A		
14.	Hot water systems		
a.	Electric Resistance	Cap: 50.0 gallons EF: 0.90	
b.	N/A		
c.	Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)		
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)		

Glass/Floor Area: 0.13

Total as-built points: 29135
Total base points: 31089

PASS

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

PREPARED BY: _____

DATE: 2-21-06

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

OWNER/AGENT: _____

DATE: _____

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

BUILDING OFFICIAL: _____

DATE: _____

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

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , , PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BSPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	SPM X	SOF	= Points	
.18	2093.0	20.04	7549.9	Double, Clear	E	0.0	0.0	119.0	42.06	1.00	5005.6	
				Double, Clear	S	0.0	0.0	32.0	35.87	1.00	1147.7	
				Double, Clear	W	0.0	0.0	72.0	38.52	1.00	2773.7	
				Double, Clear	N	0.0	0.0	50.0	19.20	1.00	960.0	
				As-Built Total:				**273.0**			**9887.0**	
WALL TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Concrete, Int Insul, Exterior			4.2	1970.0	1.12		2206.4	
Exterior	1970.0	1.70	3349.0									
Base Total:	**1970.0**		**3349.0**	**As-Built Total:**				**1970.0**			**2206.4**	
DOOR TYPES	Area X	BSPM =	Points	Type				Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				37.0	4.10		151.7	
Exterior	37.0	6.10	225.7									
Base Total:	**37.0**		**225.7**	**As-Built Total:**				**37.0**			**151.7**	
CEILING TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM X SCM =		Points	
Under Attic	2093.0	1.73	3620.9	Under Attic			30.0	2093.0	1.73 X 1.00		3620.9	
Base Total:	**2093.0**		**3620.9**	**As-Built Total:**				**2093.0**			**3620.9**	
FLOOR TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Slab	197.0(p)	-37.0	-7289.0	Slab-On-Grade Edge Insulation			0.0	197.0(p	-41.20		-8116.4	
Raised	0.0	0.00	0.0									
Base Total:			**-7289.0**	**As-Built Total:**				**197.0**			**-8116.4**	
INFILTRATION	Area X	BSPM =	Points					Area X	SPM =		Points	
	2093.0	10.21	21369.5					2093.0	10.21		21369.5	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , ,	PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 28826.0			**Summer As-Built Points:**					**29119.1**
Total Summer Points	X System Multiplier	= Cooling Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Cooling Points
			(sys 1: Central Unit 60000 btuh ,SEER/EFF(13.0) Ducts:Unc(S),Unc(R),Int(AH),R6.0(INS)					
			29119	1.00	(1.09 x 1.147 x 0.91)	0.263	1.000	8697.7
28826.0	**0.4266**	**12297.2**	**29119.1**	**1.00**	**1.138**	**0.263**	**1.000**	**8697.7**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , , PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BWPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	WPM X	WOF	= Points	
.18	**2093.0**	**12.74**	**4799.7**	Double, Clear	E	0.0	0.0	119.0	18.79	1.00	2236.4	
				Double, Clear	S	0.0	0.0	32.0	13.30	1.00	425.4	
				Double, Clear	W	0.0	0.0	72.0	20.73	1.00	1492.4	
				Double, Clear	N	0.0	0.0	50.0	24.58	1.00	1228.9	
				As-Built Total:				**273.0**			**5383.2**	
WALL TYPES	Area X	BWPM	= Points	Type			R-Value	Area X	WPM	=	Points	
Adjacent	0.0	0.00	0.0	Concrete, Int Insul, Exterior			4.2	1970.0	6.34		12489.8	
Exterior	1970.0	3.70	7289.0									
Base Total:	**1970.0**		**7289.0**	**As-Built Total:**				**1970.0**			**12489.8**	
DOOR TYPES	Area X	BWPM	= Points	Type				Area X	WPM	=	Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				37.0	8.40		310.8	
Exterior	37.0	12.30	455.1									
Base Total:	**37.0**		**455.1**	**As-Built Total:**				**37.0**			**310.8**	
CEILING TYPES	Area X	BWPM	= Points	Type			R-Value	Area X	WPM X	WCM =	Points	
Under Attic	2093.0	2.05	4290.6	Under Attic			30.0	2093.0	2.05 X 1.00		4290.6	
Base Total:	**2093.0**		**4290.6**	**As-Built Total:**				**2093.0**			**4290.6**	
FLOOR TYPES	Area X	BWPM	= Points	Type			R-Value	Area X	WPM	=	Points	
Slab	197.0(p)	8.9	1753.3	Slab-On-Grade Edge Insulation			0.0	197.0(p	18.80		3703.6	
Raised	0.0	0.00	0.0									
Base Total:			**1753.3**	**As-Built Total:**				**197.0**			**3703.6**	
INFILTRATION	Area X	BWPM	= Points					Area X	WPM	=	Points	
	2093.0	-0.59	-1234.9					2093.0	-0.59		-1234.9	

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , ,	PERMIT #:

BASE			AS-BUILT						
Winter Base Points:		**17352.8**	**Winter As-Built Points:**						**24943.2**
Total Winter Points	X System Multiplier	= Heating Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Heating Points	
			(sys 1: Electric Heat Pump 60000 btuh ,EFF(8.0) Ducts:Unc(S),Unc(R),Int(AH),R6.0						
			24943.2	1.000	(1.069 x 1.169 x 0.93)	0.426	1.000	12356.4	
17352.8	**0.6274**	**10887.2**	**24943.2**	**1.00**	**1.162**	**0.426**	**1.000**	**12356.4**	

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: , , , PERMIT #:

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

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points
12297	**10887**	**7905**	**31089**	**8698**	**12356**	**8081**	**29135**

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: , , ,	PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

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

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

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

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 84.4

The higher the score, the more efficient the home.

1.	New construction or existing	New			
2.	Single family or multi-family	Single family			
3.	Number of units, if multi-family	1			
4.	Number of Bedrooms	3			
5.	Is this a worst case?	Yes			
6.	Conditioned floor area (ft²)	2093 ft²			
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)				
	a. U-factor:	Description Area			
	(or Single or Double DEFAULT)	7a. (Dble Default) 273.0 ft²			
	b. SHGC:				
	(or Clear or Tint DEFAULT)	7b. (Clear) 273.0 ft²			
8.	Floor types				
	a. Slab-On-Grade Edge Insulation	R=0.0, 197.0(p) ft			
	b. N/A				
	c. N/A				
9.	Wall types				
	a. Concrete, Int Insul, Exterior	R=4.2, 1970.0 ft²			
	b. N/A				
	c. N/A				
	d. N/A				
	e. N/A				
10.	Ceiling types				
	a. Under Attic	R=30.0, 2093.0 ft²			
	b. N/A				
	c. N/A				
11.	Ducts				
	a. Sup: Unc. Ret: Unc. AH: Interior	Sup. R=6.0, 186.0 ft			
	b. N/A				
12.	Cooling systems				
	a. Central Unit		Cap: 60.0 kBtu/hr		
			SEER: 13.00		
	b. N/A				
	c. N/A				
13.	Heating systems				
	a. Electric Heat Pump		Cap: 60.0 kBtu/hr		
			HSPF: 8.00		
	b. N/A				
	c. N/A				
14.	Hot water systems				
	a. Electric Resistance		Cap: 50.0 gallons		
			EF: 0.90		
	b. N/A				
	c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)				
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)				

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

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____

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

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

PLEASE ALLOW MANUEL BERNARDO TO PICK UP THE PERMIT FOR THE KLEIN JOB

THANK YOU.
Scott Rosenbaum
Scott Rosenbaum

Bonnie P. Presnell

BONNIE P. PRESNELL
Notary Public, State of Florida
My comm. exp. Mar. 1, 2008
Comm. No. DD 277528

Date: March 14,2006

To: Mr. Joe Halmwanger, Plans Examiner Fax: 386-754-7088

From: Ron Klein

Ref: **REF 0603-29**

In response to you questions on my plan submittals please see the following comments.

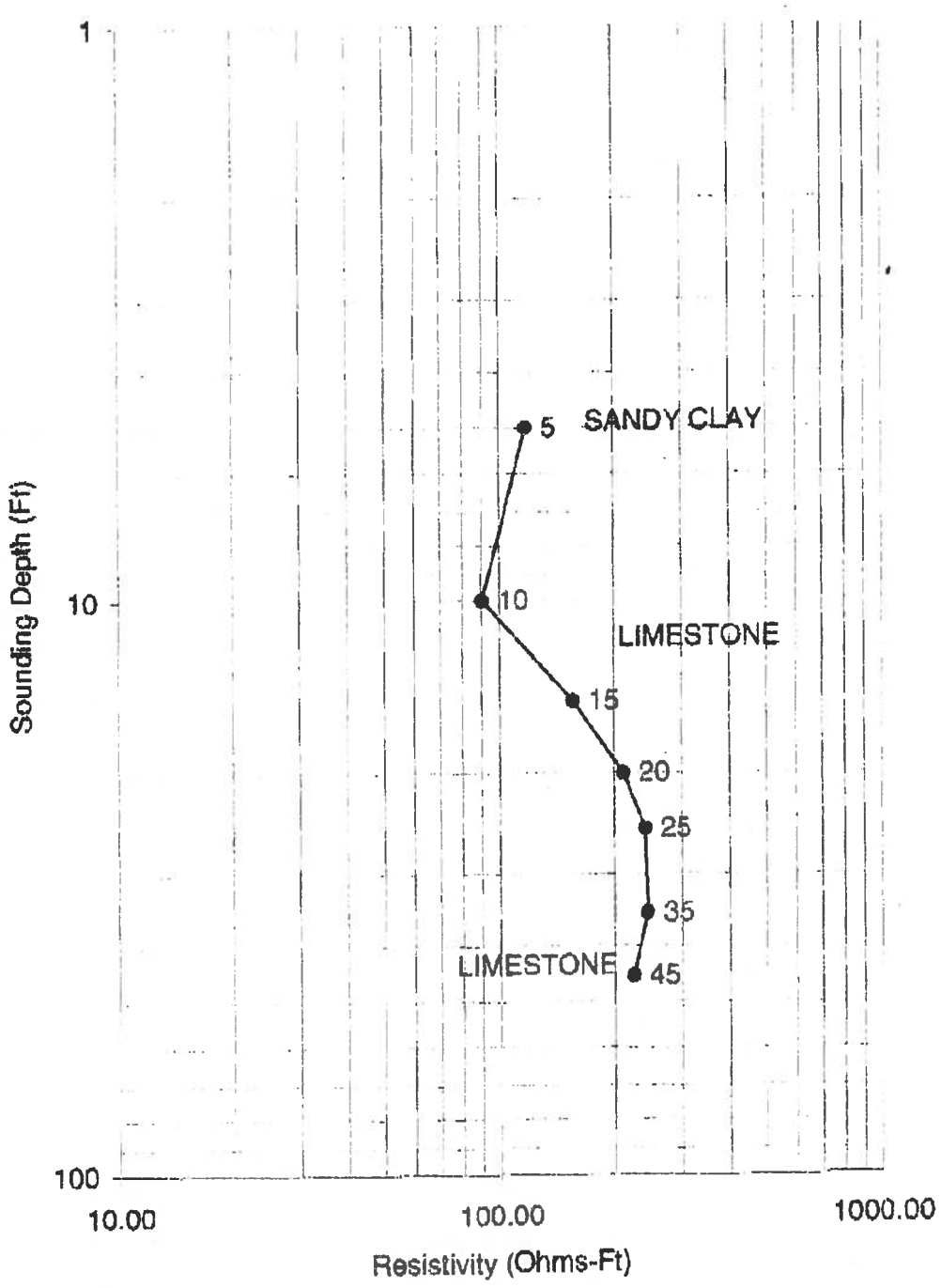
1. No response required.
2. W-7 and W-12 exceed the code for safety tempered glass. They are rated for large and small impact by Miami-Dade County product approval for wind speeds of 150 mph. The glass is laminated with an interlayer of Polyvinylbutyral making it almost shatterproof, like the front windshield on a car.
3. The Geotech report is attached. The engineer gave me 3,000 psf for soil bearing, and I used 2,000 for design.
4. If you look on sheet 1 "New Home Site Plan" Just below the proposed home site I have a note and show the location of the ground mounted transformer. All exterior disconnects are mounted at this point. Four-wire conductors will be used from this disconnect point to the interior panel with one of the conductors being used as an equipment ground.

Please contact me at 305-525-1997 if you have any additional questions.

Total Pages of Fax: 6

Revised Transmittal

GEOHAZARDS INC.
Electrical Resistivity Survey
Investigation#:2005202A
Array Orientation: N40E
Station Number: 6



Date: March 14,2006

To: Mr. Joe Halfivanger, Plans Examiner Fax: 386-754-7088

From: Ron Klein

Ref: **REF 0603-29**

In response to you questions on my plan submittals please see the following comments.

1. No response required.
2. W-7 and W-12 exceed the code for safety tempered glass. They are rated for large and small impact by Miami-Dade County product approval for wind speeds of 150 mph. The glass is laminated with an interlayer of Polyvinylbutyral making it almost shatterproof, like the front windshield on a car.
3. The Geotech report is attached. The engineer gave me 3,000 psf for soil bearing, and I used 2,000 for design.
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Please contact me at 305-525-1997 if you have any additional questions.

Total Pages of Fax: 6

Revised Transmittal

The purposes of our investigation were to determine the general subsurface conditions at the site and to provide recommendations for foundation design and construction.

Site Investigation

The subsurface conditions were investigated by performing four (4) Standard Penetration Test borings advanced to depths of 10 feet. Borings were performed at the approximate locations indicated on the attached Boring Location Plan. These locations were selected by Cal-Tech Testing, Inc., and the building limits were identified on site by painted lines at the building corners. Two borings were offset because of trees.

The Standard Penetration Test (ASTM D-1586) is performed by driving a standard split-barrel sampler into the soil by blows of a 140-pound hammer falling 30

Cal-Tech Testing, Inc.
• Engineering
• Geotechnical
• Environmental
LABORATORIES

P.O. Box 1625 • Lake City, FL 32056-1625
5919 Distribution Avenue S., Unit #5 • Jacksonville, FL 32257

Tel. (386) 755-0633 • Fax (386) 752-5456
Tel. (904) 262-4045 • Fax (904) 262-4047

September 6. 2005

Ron Kline
P. O. Box 660026
Miami, Florida 33266-0026

Reference: Proposed Kline Residence
2535 C. R. 778
Fort White, Florida
Cal-Tech Project No. 05-372

Dear Mr. Kline,

Cal-Tech Testing, Inc. has completed the subsurface investigation and engineering evaluation of the site for the proposed Kline residence to be constructed at the referenced location. Our work was authorized by you.

Introduction

We understand you will construct a single-story residence with a plan area of about 2,800 square feet. Support for the residence is to be provided by a monolithic foundation or by conventional, shallow spread footings. Detailed foundation loads have not been provided; however, we assume column and wall loads will not exceed 25 kips and 2 kips per foot, respectively.

The proposed building site is open and grassy, and the ground surface appears to slope very gently in a westerly direction.

The purposes of our investigation were to determine the general subsurface conditions at the site and to provide recommendations for foundation design and construction.

Site Investigation

The subsurface conditions were investigated by performing four (4) Standard Penetration Test borings advanced to depths of 10 feet. Borings were performed at the approximate locations indicated on the attached Boring Location Plan. These locations were selected by Cal-Tech Testing, Inc., and the building limits were identified on site by painted lines at the building corners. Two borings were offset because of trees.

The Standard Penetration Test (ASTM D-1586) is performed by driving a standard split-barrel sampler into the soil by blows of a 140-pound hammer falling 30

inches. The number of blows required to drive the sampler 1 foot, after seating 6 inches, is designated the penetration resistance, or N-value; this value is an index to soil density or consistency.

Findings

The soil borings generally encountered three soil strata. The first layer consists of 1 to 2.5 feet of very loose to loose, dark gray or tannish gray sand (SP) or sand with silt (SP/SM). The N-values of this layer are on the order of 3 to 4 blows per foot.

The second layer consists of 4.5 to 7.5 or more feet of generally loose to medium dense, tannish gray, brownish gray or gray and orange, clayey sand (SC). The N-values of this layer range from 8 to 35 blows per foot.

The third layer consists of an undetermined thickness of medium stiff to very stiff, generally tannish gray, sandy clay (CL). The N-values of this layer range from 4 to 19 blows per foot.

Groundwater was not encountered at any boring location at the time of our investigation, and we estimate the seasonal high ground water table will occur at a depth of more than 6 feet below the existing surface grade. Note however that infiltrated storm water will perch on the clayey soils following storm events and may affect normal compaction procdures.

For a more detailed description of the subsurface conditions encountered, please refer to the attached Boring Logs. Note specifically the transition between soil layers may be gradual and not abrupt as indicated by the logs; therefore, the thickness of soil layers should be considered approximate.

Discussion and Recommendations

Clayey sands were encountered at depths of 1 to 2.5 feet; however, we believe these clayey sands are not particularly active and do not need to be replaced. If fact, we recommend these clayey sands be left in place since they will help shield the potentially active clays encountered at depths of 5.5 or more feet below the ground surface. Laboratory testing was performed for representative samples of the clayey sands, and test results are attached.

Based upon our findings, it is our opinion the proposed residence can be supported by a monolithic foundation or by conventional, shallow spread footings sized to exert a maximum soil bearing pressure of 2,500 pounds per square foot. The foundations should have minimum widths of 16 and 24 inches for strip and isolated footings, respectively, even though this allowable bearing pressure may not be developed. Foundations should be embedded at least 14 inches below the lowest adjacent grade (finished surface grade, for example).

It is also our opinion the existing site soils, when compacted, are suitable to provide support for the structure. Replacement soils should not be required.

For preparation the site should be stripped of grass, roots and other deleterious materials. Excavation should then be performed as required to establish the appropriate foundation and floor grades. Clean, sandy soils should be stockpiled for later use as fill. The subgrade should then be thoroughly proof-rolled with heavy rubber-tired equipment (a large, loaded, front-end loader, for example). Proof rolling helps to compact the bearing soils and to locate zones of especially loose or soft soil that may be present. Such zones should be undercut and back-filled or otherwise treated as directed by the geotechnical engineer.

The subgrade should then be proof-compacted to a minimum of 95% of the Modified Proctor maximum dry density to a depth of 2 feet in foundation areas and to a depth of 1 foot in floor slab areas. Moderate weight, vibratory equipment should provide adequate compaction of the subgrade soils.

Fill to raise the site can be placed as required following preparation of the subgrade. Fill should consist of relatively clean, fine sand containing less than 10% passing the No. 200 sieve. Fill should be placed in maximum 12-inch, loose lifts, and each lift should be proof-compacted to a minimum of 95% of the Modified Proctor maximum dry density. Foundation cuts may be placed in the compacted fill; however, disturbed fill materials should be recompacted prior to placement of foundations or floor slabs.

Field density testing should be performed in the compacted subgrade, in each lift of fill, and in foundation excavations to verify the recommended compaction has been achieved.

Our recommendations are based upon our findings as described in this report, however, subsurface conditions may exist that were not encountered in the soil test borings. Cal-Tech Testing, Inc. should be notified immediately if different soil conditions are encountered during construction. It may be necessary to reevaluate this site and revise our recommendations.

We appreciate the opportunity to be of service on this project and look forward to a continued association. Please do not hesitate to contact us should you have questions concerning this report or if we may be of further assistance.

Respectfully submitted,
Cal-Tech Testing, Inc.

Linda Creamer
President / C.E.O.

John C. Dorman, Jr., Ph.D., P.E.
Geotechnical Engineer

5/4/05
52612

Cal-Tech Testing, Inc.
• Engineering
• Geotechnical
• Environmental
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SUMMARY OF LABORATORY TEST RESULTS

PROJECT: Proposed Kline Residence
High Springs, FL

CLIENT: Ron Kline

JOB NO.: 05-372
REPORT NO.: 1
DATE: 09/08/05

BORING NO.	SAMPLE DEPTH (ft.)	SOIL DESCRIPTION	SAMPLE TYPE*	NATURAL MOISTURE (%)	ATTERBERG LIMITS		COEFFICIENT OF PERMEABILITY (feet/day)	SIEVE ANALYSIS (% passing)						AASHTO SOIL CLASSIFICATION	UNIFIED SOIL CLASSIFICATION
					LIQUID LIMIT (%)	PLASTICITY INDEX (%)		No.4	No.10	No. 40	No. 60	No.100	No. 200		
B-1	3	Tannish Gray, Clayey Sand	SS										37.5		SC
B-3	2	Brownish Gray, Clayey Sand	SS										28.3		SC
B-4	5	Gray and Orange, Clayey Sand	SS		36	12							49.8		SC

*SS- Split Spoon
ST- Shelby Tube
A- Auger

Reviewed By:

Date: 9/8/05

Florida Registration No.: 52612

B-1

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Tannish Grey Sand with Silt, Trace Clay (SP/SM)
	3	Very Loose, Dark Tannish Grey Sand with Silt (SP/SM)
	8	Loose to Medium Dense, Tannish Grey, Clayey Sand, Trace Limestone (SC)
5	11	
	13	Medium Dense, Tannish Grey, Clayey Sand, Thin Lenses White Sandy Clay (CL)
	10	Stiff, Tannish Grey to Light Grey, Sandy Clay, Trace Limestone (CL)
	12	Stiff, Light Greyish Tan, Light Grey and Orange, Sandy Clay, Trace Limestone (CL)
10		

B-2

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Tannish Grey Sand with Silt (SP/SM)
	4	Loose, Tannish Grey Sand (SP)
	14	Medium Dense, Light Grey and Orange, Clayey Sand (SC)
5	20	
	21	Medium Dense, Tannish Grey Sand with Clay, Trace Silt (SP/SC)
	22	Medium Dense, Light Grey and Orange, Clayey Sand (SC)
	25	Medium Dense, Light Tannish Grey and Orange, Slightly Clayey Sand (SC)
10		

B-3

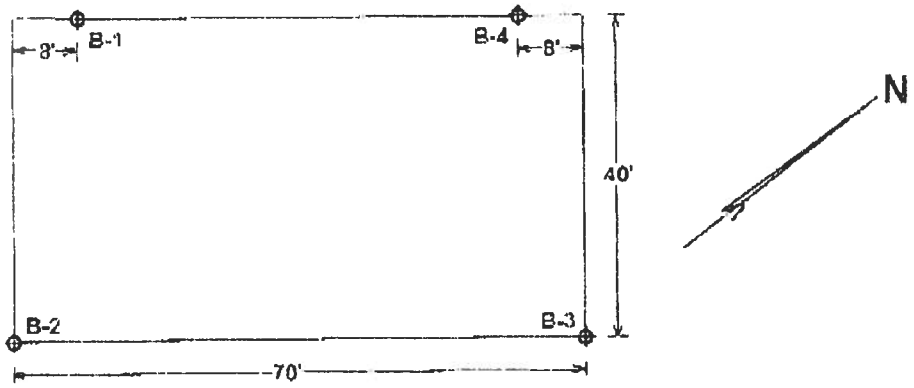
Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Grey Sand with Silt, Trace Organics (SP/SM)
	8	
	18	Loose to Medium Dense, Brownish Grey, Clayey Sand, Trace Limestone (SC)
5	19	
	19	Medium Stiff to Very Stiff, Light Tannish Grey, Sandy Clay, Trace Limestone (CL)
	6	
	4	Medium Stiff, Light Tannish Grey to Dark Grey, Sandy Clay, Trace Limestone (CL)
10		

B-4

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Grey Sand with Silt, Trace Orgnaics (SP/SM)
	9	Loose, Tannish Grey to Dark Grey, Slightly Clayey Sand (SC)
	17	Medium Dense, Tannish Grey and Orange, Clayey Sand (SC)
5	20	Medium Dense, Grey and Orange, Clayey Sand (SC)
	35	Dense, Light Grey, Tannish Grey and Orange, Very Clayey Sand, Trace Weathered Limestone (SC)
	19	Very Stiff, Greyish Tan and Orange, Sandy Clay, Trace Limestone (CL)
	19	Medium Dense, Blueish Grey and Orange to Dark Orange, Very Clayey Sand (SC)
10		



Boring Logs and Location Plan: Proposed Kline Residense
County Road 778
Fort White, Florida

GEOHAZARDS, INC.

SINKHOLES • EXPANSIVE CLAYS • LAND SUBSIDENCE

P.O. Box 14956
Gainesville, Florida 32604
Professional Geological, Geophysical and Geotechnical Services

GEOPHYSICAL INVESTIGATION OF THE GEOLOGICAL SUBSURFACE, 2535 CR 778, FORT WHITE, FLORIDA

Report #2005202A

PREPARED FOR: Mr. Ronnie S. Klein
P.O. Box 660026
Miami, Florida 33266-0026

June 2005

Telephone: (352) 371-7243 (800) 770-9990 Fax: (352) 371-4410
Web Page: http://www.sinkholes.com E-mail: geohazards@bellsouth.net

Date: March 14,2006

To: Mr. Joe Haltiwanger, Plans Examiner Fax: 386-754-7088

From: Ron Klein

Ref: **REF 0603-29**

In response to you questions on my plan submittals please see the following comments.

1. No response required.
2. W-7 and W-12 exceed the code for safety tempered glass. They are rated for large and small impact by Miami-Dade County product approval for wind speeds of 150 mph. The glass is laminated with an interlayer of Polyvinylbutyral making it almost shatterproof, like the front windshield on a car.
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Please contact me at 305-525-1997 if you have any additional questions.

GEOHAZARDS, INC.

SINKHOLES • EXPANSIVE CLAYS • LAND SUBSIDENCE

P.O. Box 14956
Gainesville, Florida 32604

Professional Geological, Geophysical and Geotechnical Engineering Services

Anthony F. Randazzo, Ph. D.
Geologist
Florida PG# 0003
Georgia PG#1136

David Bloomquist, Ph. D.
Geotechnical Engineer
Florida PE# 37235

Douglas L. Smith, Ph.D.
Geophysicist
Florida PG# 0018
Georgia PG# 1140

June 15, 2005

Geohazards, Inc., Investigation No. 2005202A

GEOPHYSICAL INVESTIGATION OF THE GEOLOGICAL SUBSURFACE AT THE KLEIN LOT, 2535 CR 778, FORT WHITE, FLORIDA

INTRODUCTION

Purpose

Geohazards, Inc. was tasked by Mr. Ronnie Klein to conduct a reconnaissance geophysical investigation at the above referenced locality.

This investigation was conducted to provide a geophysical characterization of the geological subsurface at specific locations. In particular, efforts were designed to determine the presence of subsurface cavities and subsurface zones of disruption that might contribute to subsidence, or near surface clay. Any of these conditions could be responsible for existing or potential subsidence at the site.

Telephone: (352) 371-7243 (800) 770-9990
Web page: www.sinkholes.com
Fax: (352) 371-4410
Email: geohazards@bellsouth.net

REGIONAL GEOLOGY

Based on map consultations and personal inspection, the surficial geologic material at the study site is the Hawthorn Group of geological formations overlain by a cover of very young unconsolidated sands and sandy clays. These consist of fine to medium grained, unconsolidated quartz sand, silt, and clay in varying proportions and thickness. Shrink/swell clays of significant size, continuity and nearness to the surface are a particularly troublesome characteristic of the Hawthorn where they occur in significant thickness and lateral continuity. Concrete slabs and foundations can be severely damaged where such a geologic condition occurs.

The Ocala Limestone underlies the Hawthorn. This limestone has experienced significant dissolution and the creation of an intricate cavernous system. Problems in the development of sinkholes are related to the size and nearness to the surface of the Ocala limestone and these underground cavities. The upper surface of this limestone is highly irregular.

FIELD TEST METHODS

Hand Auger Borings

Three hand auger borings (HA-1 through HA-3) were conducted at sites shown on the location map. The borings were performed in general accordance with ASTM standards D1452-80(1995) entitled "Standard Practice for Soil Investigation and Sampling by Auger Borings." The borings were conducted by manually rotating the auger into the ground to termination depths of approximately 5 feet (or refusal) to provide a continuous profile of the near-surface materials. Increments of approximately 0.5 feet are extracted for description and, if necessary, retention for later analyses. Results of the hand auger borings are shown in the Hand Auger Investigation Profiles.

From:	The Columbia County Building Department Plans Review 135 NE Hernando Av. P. O Box 1529 Lake City Florida, 32056-1529

Reference to a building permit application Number: 0603-29

Scott Rosenboom Owner Ronnie & Brigitte Klein 2535 SW CR 778

On the date of March 13, 2006 application 0603-29 and plans for construction of a single family dwelling were reviewed and the following information or alteration to the plans will be required to continue processing this application. If you should have any question please contact the above address, or contact phone number (386) 758-1163 or fax any information to (386) 754-7088.

Please include application number 0603-29 when making reference to this application.

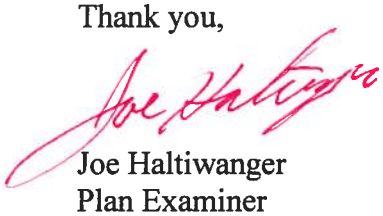
1. Please provide a copy of a signed released site plan from the Columbia County Environmental Health Department which confirms approval of the waste water disposal system.

2. Please confirm that the W7 & W12 windows in the showers will be safety tempered glass if required by section R308.4 of the FRC-2004.

3. Please submit the geotechnical report to confirm the soil bearing pressure of 2,000 psf.

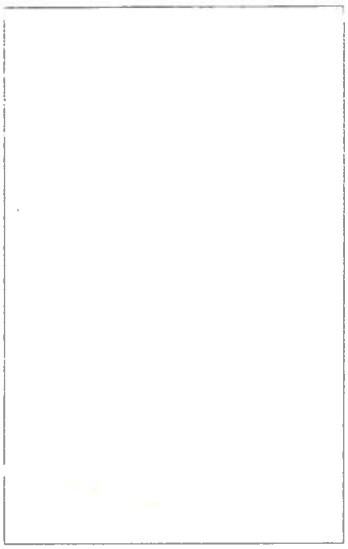
4. Show the location of the overcurrent protection device, shall be installed on the exterior of structures to serve as a disconnecting means. Conductors used from the exterior disconnecting means to a panel or sub panel shall have four-wire conductors, of which one conductor shall be used as an equipment ground.

Thank you,



Joe Haltiwanger
Plan Examiner
Columbia County Building Department

Project Name: Klein Residence



Location: 2535 sw county road 778 Fort White Fl

By: Otto J. Letzelter, P.E.

Start Date: 2/5/2006

Comments: 150 mph wind speed

Otto J. Letzelter, P.E.
PE 54716
3860 SW 145th Ave
Miramar, Fl 33027
954-650-3371

Local Information

Wind Dir.	Exposure
1	C
2	C
3	C
4	C

Basic Wind Speed: 150 mph

Topography: None

Optional Factors

This project uses load combinations from ASCE 7.

Section - Main Section

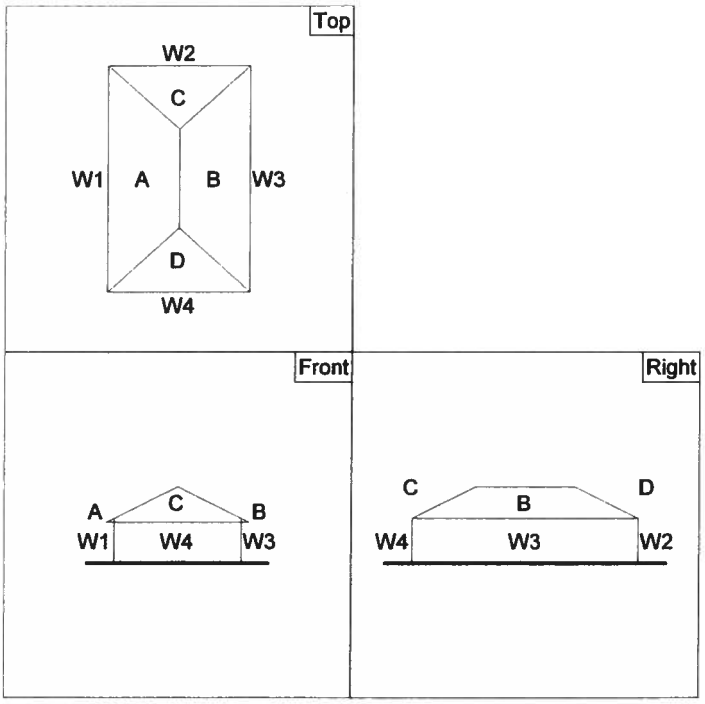
Enclosure Classification: Enclosed
Building Category: II

Wall	Length(ft)	Overhang(ft)
1	60.5	2.0
2	34.0	0.0
3	60.5	2.0
4	34.0	0.0

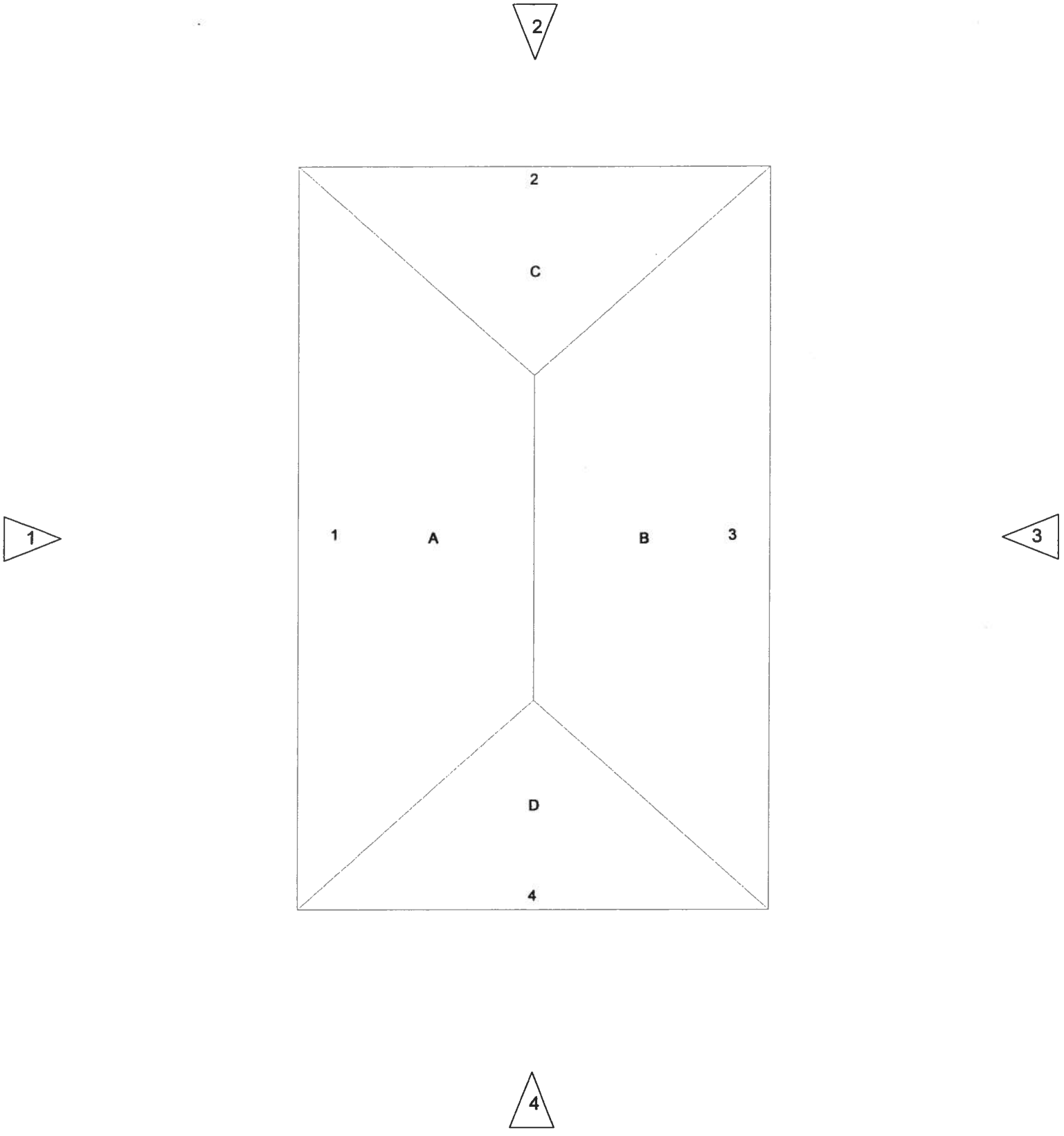
Wall Height: 12 ft
Parapet Height: 0 ft

Roof Shape: Hipped

Roof	Slope(:12)
A&B	6.0
C&D	6.0



Composite Drawing



Components and Cladding Input

Component Description	Wall/Roof	Surface Label	Zone	Span(ft)	Effective Width(ft)	Area(sqft)
sheathing	Wall	1	(All)	4.0	8.0	32.0
wall	Wall	2	(All)	12.0	1.0	48.0
windows	Wall	3	(All)	5.0	2.0	10.0
doors	Wall	1	(All)	8.0	2.5	21.3

Components and Cladding Output

Component Description	Surface	Zone	z(ft)	q(psf)	GCp	GCpi	ExtPres(psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
sheathing	1	4	16.3	42.3	0.91	0.18	38.5	30.9	46.1
			16.3	42.3	-1.01		-42.7	-50.3	-35.1
		5	16.3	42.3	0.91		38.5	30.9	46.1
			16.3	42.3	-1.22		-51.6	-59.2	-44.0
wall	2	4	16.3	42.3	0.88	0.18	37.2	29.6	44.8
			16.3	42.3	-0.98		-41.5	-49.1	-33.8
		5	16.3	42.3	0.88		37.2	29.6	44.8
			16.3	42.3	-1.16		-49.1	-56.7	-41.5
windows	3	4	16.3	42.3	1.00	0.18	42.3	34.7	49.9
			16.3	42.3	-1.10		-46.5	-54.1	-38.9
		5	16.3	42.3	1.00		42.3	34.7	49.9
			16.3	42.3	-1.40		-59.2	-66.8	-51.6
doors	1	4	16.3	42.3	0.94	0.18	39.8	32.1	47.4
			16.3	42.3	-1.04		-44.0	-51.6	-36.4
		5	16.3	42.3	0.94		39.8	32.1	47.4
			16.3	42.3	-1.28		-54.1	-61.8	-46.5

MWFRS Net Pressures

This data was calculated using the building of all heights method.

Wind Direction 1

#	Surface	z (ft)	q (psf)	G	Cp	GCpi	Ext Pres (psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
1	Windward Wall	12.0	41.6	0.88	0.80	0.18	29.3	21.7	36.9
	Overhang Top	16.3	42.3		0.21	0	7.8		
		16.3	42.3		-0.26		-9.7		
	Overhang Bot	12.0	41.6		0.80		29.3		
2	Side Wall	16.3	42.3	0.88	-0.70	0.18	-26.1	-33.7	-18.4
3	Leeward Wall	16.3	42.3	0.88	-0.50	0.18	-18.6	-26.2	-11.0
4	Side Wall	16.3	42.3	0.88	-0.70	0.18	-26.1	-33.7	-18.4
A	Windward Roof	16.3	42.3	0.88	0.21	0.18	7.8	0.2	15.4
		16.3	42.3		-0.26		-9.7	-17.3	-2.1
B	Leeward Roof	16.3	42.3	0.88	-0.60	0.18	-22.3	-29.9	-14.7
C&D	Roof	0 to 8.1	42.3	0.88	-0.90	0.18	-33.5	-41.1	-25.9
		8.1 to 16.3	42.3				-33.5	-41.1	-25.9
		16.3 to 32.5	42.3		-0.50		-18.6	-26.2	-11.0
		32.5 to 34.0	42.3		-0.30		-11.2	-18.8	-3.6

MWFRS Net Pressures

This data was calculated using the building of all heights method.

Wind Direction 2

#	Surface	z (ft)	q (psf)	G	Cp	GCpi	Ext Pres (psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
1	Side Wall	16.3	42.3	0.89	-0.70	0.18	-26.4	-34.0	-18.7
2	Windward Wall	15.0	41.6		0.80		29.6	22.0	37.2
		16.3	42.3				30.1	22.5	37.7
		20.5	44.4				31.6	24.0	39.2
3	Side Wall	16.3	42.3	0.89	-0.70	0.18	-26.4	-34.0	-18.7
4	Leeward Wall	16.3	42.3	0.89	-0.34	0.18	-12.8	-20.4	-5.2
D	Windward Roof	16.3	42.3	0.89	0.29	0.18	10.9	3.3	18.5
		16.3	42.3		-0.21		-7.9	-15.5	-0.3
C	Leeward Roof	16.3	42.3	0.89	-0.60	0.18	-22.6	-30.2	-15.0
A&B	Roof	0 to 8.1	42.3	0.89	-0.90	0.18	-33.9	-41.5	-26.3
		8.1 to 16.3	42.3				-33.9	-41.5	-26.3
		16.3 to 32.5	42.3		-0.50		-18.8	-26.4	-11.2
		32.5 to 60.5	42.3		-0.30		-11.3	-18.9	-3.7

MWFRS Net Pressures

This data was calculated using the building of all heights method.

Wind Direction 3

#	Surface	z (ft)	q (psf)	G	Cp	GCpi	Ext Pres (psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
1	Leeward Wall	16.3	42.3	0.88	-0.50	0.18	-18.6	-26.2	-11.0
2	Side Wall	16.3	42.3		-0.70		-26.1	-33.7	-18.4
3	Windward Wall	12.0	41.6	0.88	0.80	0.18	29.3	21.7	36.9
	Overhang Top	16.3	42.3		0.21	0	7.8		
		16.3	42.3		-0.26		-9.7		
	Overhang Bot	12.0	41.6		0.80		29.3		
4	Side Wall	16.3	42.3	0.88	-0.70	0.18	-26.1	-33.7	-18.4
B	Windward Roof	16.3	42.3	0.88	0.21	0.18	7.8	0.2	15.4
		16.3	42.3		-0.26		-9.7	-17.3	-2.1
A	Leeward Roof	16.3	42.3	0.88	-0.60	0.18	-22.3	-29.9	-14.7
C&D	Roof	0 to 8.1	42.3	0.88	-0.90	0.18	-33.5	-41.1	-25.9
		8.1 to 16.3	42.3				-33.5	-41.1	-25.9
		16.3 to 32.5	42.3		-0.50		-18.6	-26.2	-11.0
		32.5 to 34.0	42.3		-0.30		-11.2	-18.8	-3.6

MWFRS Net Pressures

This data was calculated using the building of all heights method.

Wind Direction 4

#	Surface	z (ft)	q (psf)	G	Cp	GCpi	Ext Pres (psf)	Net w/ +GCpi (psf)	Net w/ -GCpi (psf)
1	Side Wall	16.3	42.3	0.89	-0.70	0.18	-26.4	-34.0	-18.7
2	Leeward Wall	16.3	42.3		-0.34		-12.8	-20.4	-5.2
3	Side Wall	16.3	42.3	0.89	-0.70	0.18	-26.4	-34.0	-18.7
4	Windward Wall	15.0	41.6	0.89	0.80	0.18	29.6	22.0	37.2
		16.3	42.3				30.1	22.5	37.7
		20.5	44.4				31.6	24.0	39.2
C	Windward Roof	16.3	42.3	0.89	0.29	0.18	10.9	3.3	18.5
		16.3	42.3		-0.21		-7.9	-15.5	-0.3
D	Leeward Roof	16.3	42.3	0.89	-0.60	0.18	-22.6	-30.2	-15.0
A&B	Roof	0 to 8.1	42.3	0.89	-0.90	0.18	-33.9	-41.5	-26.3
		8.1 to 16.3	42.3				-33.9	-41.5	-26.3
		16.3 to 32.5	42.3		-0.50		-18.8	-26.4	-11.2
		32.5 to 60.5	42.3		-0.30		-11.3	-18.9	-3.7

MASONRY WALL DESIGN
ACI 530 CMU

Otto J. Letzelter, P.E.

$psf := \frac{lbf}{ft^2}$ $plf := \frac{lbf}{ft}$ $psi := \frac{lbf}{in^2}$ $ksi := 1000 \cdot psi$ $K := 1000 \cdot lbf$

Steel Properties

$E_s := 29 \cdot 10^6 \cdot psi$ Modulus of Elasticity of steel, 5.5.2.1

$f_y := 60 \cdot ksi$ Grade of steel

$f_s := 0.4 \cdot f_y$

$f_s = 24\,ksi$ Allowable stress in the steel, 7.2.1.1.b

$d_{bar} := 5$ Size of bar

Center to center spacing of filled cells

$s := 24 \cdot in$ $K := \frac{s}{12 \cdot in}$ $K = 2$ Multiplier for width of wall * wind pressure

$h_{wall} := 12.00 \cdot ft$ Effective Height of wall

The wind load to the wall section is

$w := 49.7 \cdot plf$

Load, plf, into wall section: wall weight, gravity load due to roof trusses

$P_{wall} := 2500 \cdot lbf$

Masonry Properties

$E_m := 1.6 \cdot 10^6 \cdot psi$ Modulus of Elasticity of concrete masonry units, Type S mortar, Table 5.5.2.3

$f_m := 1500 \cdot psi$ Allowable compressive strength of concrete masonry units

$F_b := \frac{f_m}{3}$ Allowable compressive stress in masonry due to bending and axial loading, 7.3.2.2

$F_b = 500\,psi$

$h_{masonry} := 7.625 \cdot in$ Overall depth of section for nominal 8" masonry.

$d_{masonry} := \frac{h_{masonry}}{2}$ $d_{masonry} = 3.81\,in$ **Bar is assumed to be placed at 3.81"**

$t_{faceshell} := 1.25 \cdot in$ Nominal thickness of faceshell

3

$A_e := (t_{faceshell} \cdot 12 \cdot in) \cdot 2$

$A_e = 30\,in^2$ Net area considered for loading, face shells mortared, per foot basis

The width of the compressive block is the lessor of

$b_1 := s$ $b_1 = 24\,in$ Compare these values and choose the least value for b $s = 24\,in$

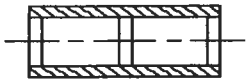
$b_2 := 6 \cdot h_{masonry}$ $b_2 = 45.75\,in$ 7.3.3.1.a and b

$b := if(b_1 < b_2, b_1, b_2)$ $b = 24\,in$

$b = 24\,in$

Masonry Wall Design

Calculate the moment of Inertia and the radius of gyration for a typical wall section.
Consider the face shell only for a one foot section



$h_{wall} = 12\,ft$

$d_{masonry} = 3.813\,in$

$b1 := 12 \cdot in$

$I1 := \frac{b1 \cdot t_{faceshell}^3}{12}$ $I1 = 2\,in^4$ $A1 := b1 \cdot t_{faceshell}$ $A1 = 15\,in^2$ $d1 := d_{masonry} - \frac{t_{faceshell}}{2}$ $d1 = 3.19\,in$

$I := (I1 + A1 \cdot d1^2) \cdot 2$ $I = 308.71\,in^4$ $A := A1 \cdot 2$ $A = 30\,in^2$

$r := \sqrt{\frac{I}{A}}$ $r = 3.208\,in$ $\frac{h_{wall}}{r} = 44.89$ < 99 Thus

Check for the allowable stress which is dependent upon the h/r ratio < 99

$F_{a1} := \frac{1}{4} \cdot f_m \cdot \left[1 - \left(\frac{h_{wall}}{140 \cdot r}\right)^2\right]$ $F_{a1} = 336.4\,psi$ 6.3.1a yields F_{a1}

$F_{a2} := \frac{1}{4} \cdot f_m \cdot \left(\frac{70 \cdot r}{h_{wall}}\right)^2$ $F_{a2} = 911.9\,psi$ 6.3.2a yields F_{a2}

$F_a := if\left(\frac{h_{wall}}{r} < 99, F_{a1}, F_{a2}\right)$ $F_a = 336.4\,psi$

Masonry Wall Design

Check for horizontal joint reinforcement

$w = 49.7\,plf$

$W := w \cdot \frac{8}{12}$ $\quad W = 33.1\,plf$ Normalized the load for an 8" tall by $s = 24\,in$ wide section

$l := s$ $\quad l = 24\,in$

$M2 := \frac{W \cdot l^2}{12}$ $\quad M2 = 132.5\,lbf \cdot in$

The moment of inertia for the masonry block is calculated

$b1 := t_{faceshell}$ $\quad d := h_{masonry}$

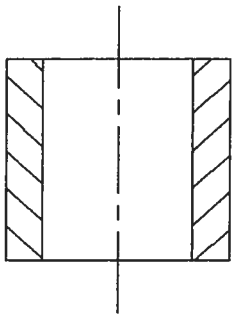
$b1 = 1.25\,in$ $\quad d = 7.625\,in$

$d2 := \frac{d}{2} - \frac{b1}{2}$ $\quad d2 = 3.188\,in$

$c := \frac{d}{2}$ $\quad c = 3.813\,in$

$A2 := b1 \cdot d$ $\quad A2 = 9.531\,in^2$

$I2 := \frac{d \cdot b1^3}{12}$ $\quad I2 = 1.241\,in^4$



Then by the parallel axis thereom the complete moment of Inertia is given by

$I_{block} := 2 \cdot \left(I2 + A2 \cdot d2^2\right)$ $\quad I_{block} = 196.2\,in^4$

$f_{tension\_actual} := \frac{M2 \cdot c}{I_{block}}$

$f_{tension\_actual} = 2.6\,psi$

$f_t := 30 \cdot psi$ Allowable flexure tension for concrete masonry units laid in Type S mortar, Table 6.3.1.1

$f_{tension\_actual} < f_t$ **O.K.** Horizontal joint reinforcement is not required

Masonry Wall Design

Ratio of steel stress to masonry stress

$$n := \frac{E_s}{E_m} \qquad n = 18.125$$

$$A_{bar} := \frac{\pi}{4}\cdot\left(\frac{d_{bar}}{8}\right)^2\cdot in^2 \qquad A_{bar} = 0.307\,in^2$$

The moment at mid-span of the wall section is calculated

$$M := \frac{K\cdot w\cdot h_{wall}^2}{8} \qquad M = 21470.4\,lbf\cdot in$$ The moment at mid-span of the wall section

$$\rho := \frac{A_{bar}}{b\cdot d_{masonry}} \qquad \rho = 0.003353$$ Ratio of Area of steel to uncracked section

$$k := \left[\sqrt{2\cdot\rho\cdot n + (\rho\cdot n)^2} - \rho\cdot n\right] \qquad k = 0.293$$

$k\cdot d_{masonry} = 1.118\,in$ Location of neutral axis from outside face of block. Note that the neutral axis should be within the faceshell of the block, 1.25 inches

$$j := 1 - \frac{k}{3}$$

$j = 0.90229$

$j\cdot d_{masonry} = 3.44\,in$ Length of lever arm between centers of Compression and Tension

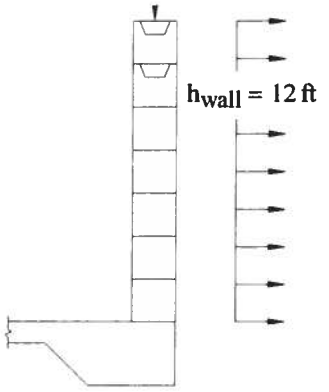
$$f_b := \frac{M}{b\cdot d_{masonry}^2}\cdot\frac{2}{j\cdot k} \qquad f_b = 465.4\,psi$$ Compressive stress in masonry due to bending

$$f_{s1} := \frac{M}{A_{bar}\cdot j\cdot d_{masonry}} \qquad f_{s1} = 20.34\,ksi$$ Te

$A_{bar} = 0.307\,in^2$ Area of $d_{bar} = 5$ bar

$P_{wall} = 2500\,lbf$

$w = 49.7\,plf$



Actual axial stresses due to wall weight, roof and floor load

$$f_a := \frac{P_{wall}}{A_e} \qquad f_a = 83.3\,psi$$

Check allowable stresses in masonry and steel and combined stresses

ACTUAL STRESS		ALLOWABLE STRESSES		
$f_{s1} = 20.3\,ksi$	<	$f_s\cdot\frac{4}{3} = 32\,ksi$	O.K.	
$f_a + f_b = 548.8\,psi$	<	$\left(\frac{1}{3}\cdot f_m\right)\cdot\frac{4}{3} = 667\,psi$	O.K.	7.3.2.2
$f_a = 83.3\,psi$	<<	$(F_{a1})\cdot\frac{4}{3} = 448.6\,psi$	O.K.	6.3.1.a

$\frac{f_a}{F_a} + \frac{f_b}{F_b} = 1.179$ **< 1.33 O.K.**

Therefore the typical wall section can be reinforced with $d_{bar} = 5$ bar @ $s = 24\,in$ o.c.. Further investigation should be given for openings, taller wall sections, shear wall reinforcing, and bond beam restraint for uplif

Masonry Pier Design openings WINDOW B END JAMBS

Assume that the load is transfered into the entire pier
This pier section shall carry the entire moment

$h_{wall} := 12.0 \cdot ft$ $A_{bar} := .31 \cdot in^2$

$W_{pier} := 1.33 \cdot ft$ width of masonry pier $K := \frac{W_{pier}}{1 \cdot ft}$

$W_{opening} := 1.1 \cdot ft$ width of tributary opening(s)

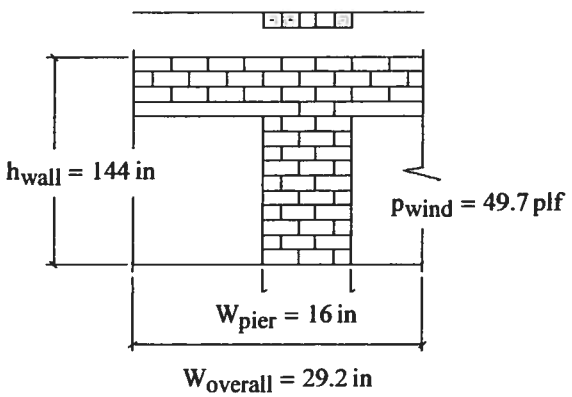
$W_{overall} := W_{pier} + W_{opening}$

$w = 49.7\,plf$ zone 5 wind pressures

$p_{wind} := w$ The wind force into the pier and door(s), due to components cladding pressures

$A_{bar} := .31 \cdot in^2$ #5 bar PLACED AT 5.25"

$n_{bar} := 2$ number of bars in the masonry pier



The moment at mid-span of the wall section is calculated

$$M := \frac{p_{wind} \cdot \frac{(W_{pier} + W_{opening})}{12 \cdot in} \cdot h_{wall}^2}{8}$$

$M = 2173.9\,lbf \cdot ft$ The moment at mid-span of the pier section

$$\rho := \frac{n_{bar} \cdot A_{bar}}{W_{pier} \cdot d_{masonry}} \qquad \rho = 0.01019$$ Ratio of Area of steel to uncracked section

$$k := \left[\sqrt{2 \cdot \rho \cdot n + (\rho \cdot n)^2} - \rho \cdot n\right] \qquad k = 0.451$$

$k \cdot d_{masonry} = 1.718\,in$ Location of neutral axis from outside face of block
Check position of neutral axis, should be within faceshell of block, 1.25 in.

$$j := 1 - \frac{k}{3} \qquad j = 0.84983$$ Fill wall solid

$j \cdot d_{masonry} = 3.24\,in$ Length of lever arm between centers of Compression and Tension

$$f_b := \frac{M}{W_{pier} \cdot d_{masonry}^2} \cdot \frac{2}{j \cdot k} \qquad f_b = 587.4\,psi$$ Compressive stress in masonry due to bending

$$f_{s1} := \frac{M}{n_{bar} \cdot A_{bar} \cdot j \cdot d_{masonry}} \qquad f_{s1} = 12.99\,ksi$$ Tensile stress in the steel

$P := 1654 \cdot lbf$ **Axial loads due to wall weight, and roof system**

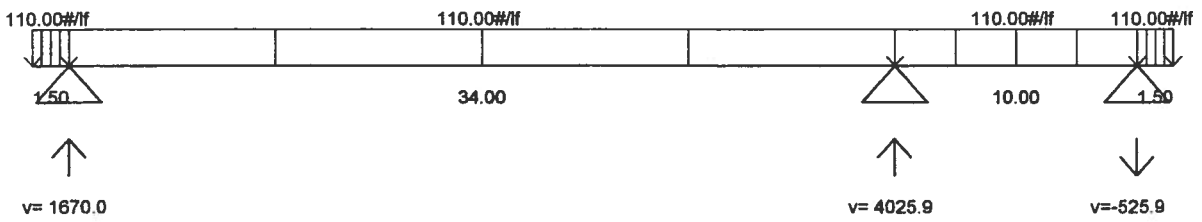
$$f_a := \frac{P}{A_e \cdot K} \qquad f_a = 41.5\,psi$$ Stress due to axial loads

$F_a := F_b$ $F_a = 500\,psi$ Allowable axial stress in masonry

Check allowable stresses in masonry pier and steel and combined stresses

ACTUAL STRESS		ALLOWABLE STRESS		
$f_{s1} = 12.99\,ksi$	<	$f_s \cdot \frac{4}{3} = 32\,ksi$	O.K.	
$f_a + f_b = 628.9\,psi$	<	$\left(\frac{1}{3} \cdot f_m\right) \cdot \frac{4}{3} = 667\,psi$	O.K.	7.3.2.2
$f_a = 41.45\,psi$	<<	$(F_{a1}) \cdot \frac{4}{3} = 448.59\,psi$	O.K.	6.3.1.a
$\frac{f_a}{F_{a1}} + \frac{f_b}{F_b} = 1.298$	<	1.33	O.K.	Load checks for 2-#5, pier detailed with 2-#5's MID

Therefore use 2-#5's MIN at EACH JAMB OF THE 16" CMU PIER, f'm=1500 units



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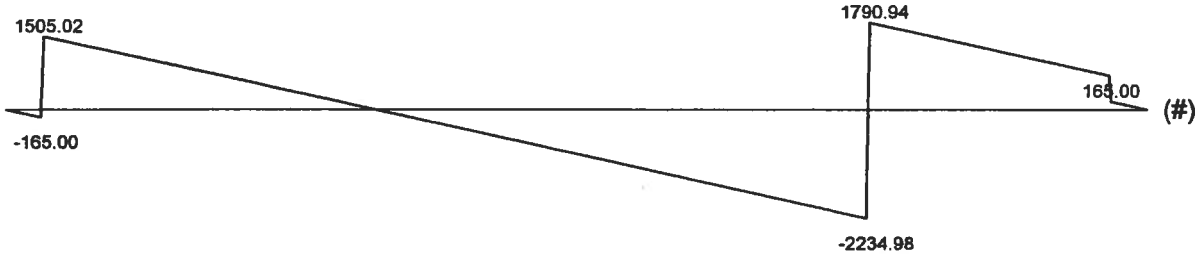

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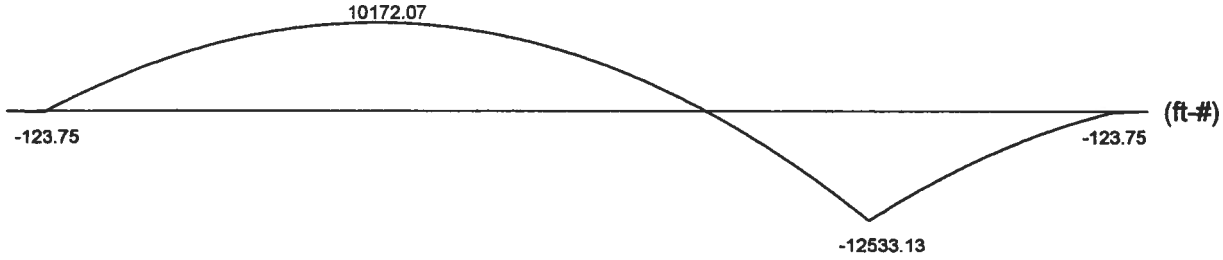

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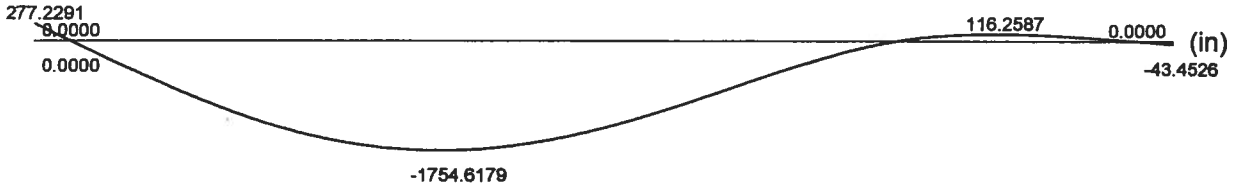

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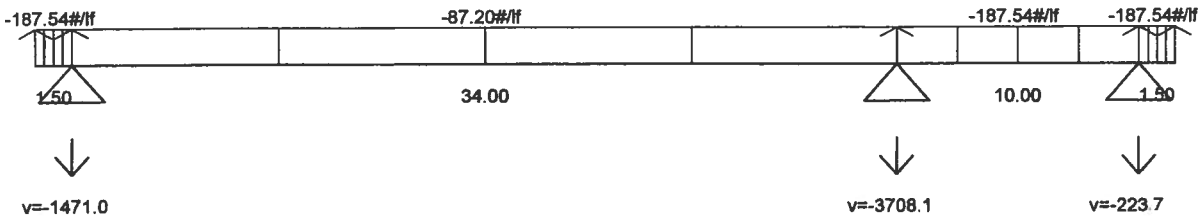

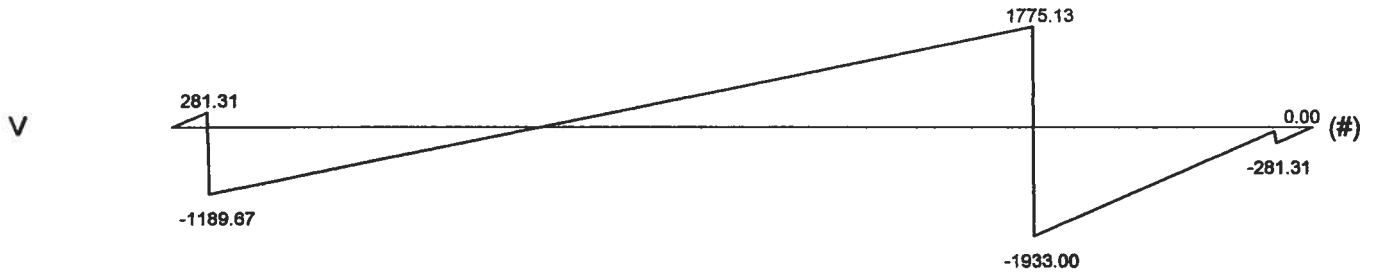

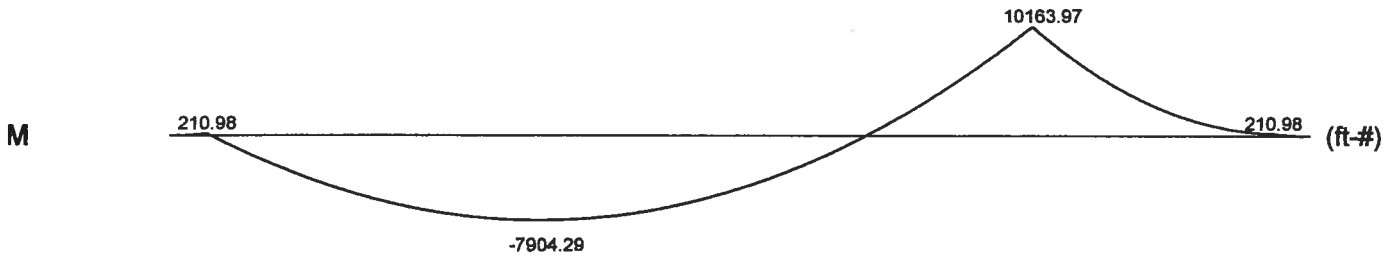

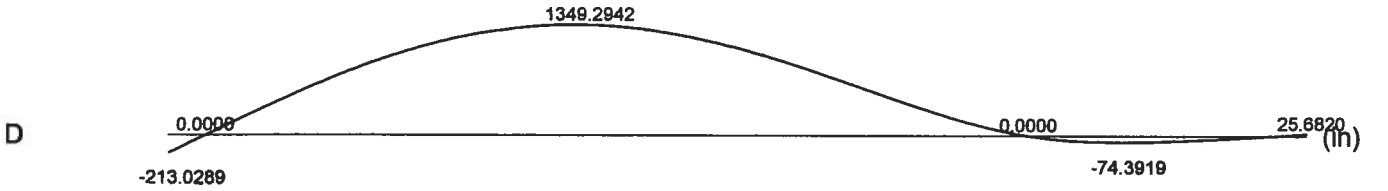

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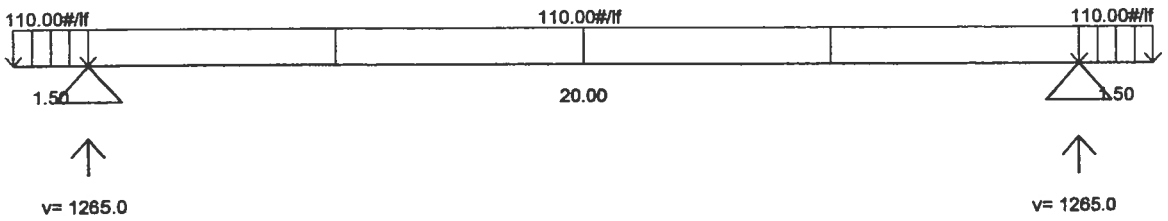
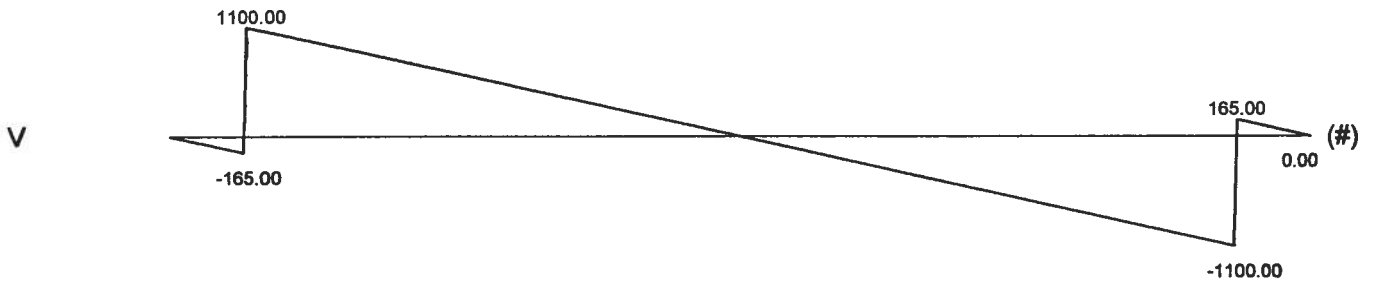
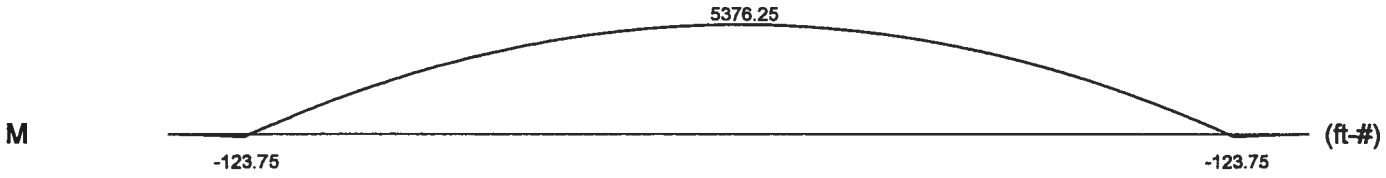
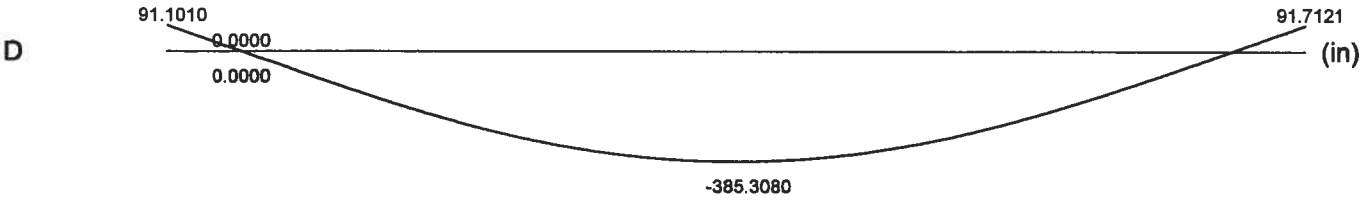
BACK PORCH









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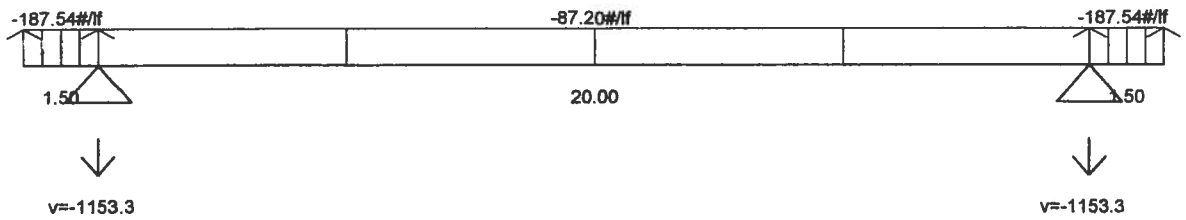

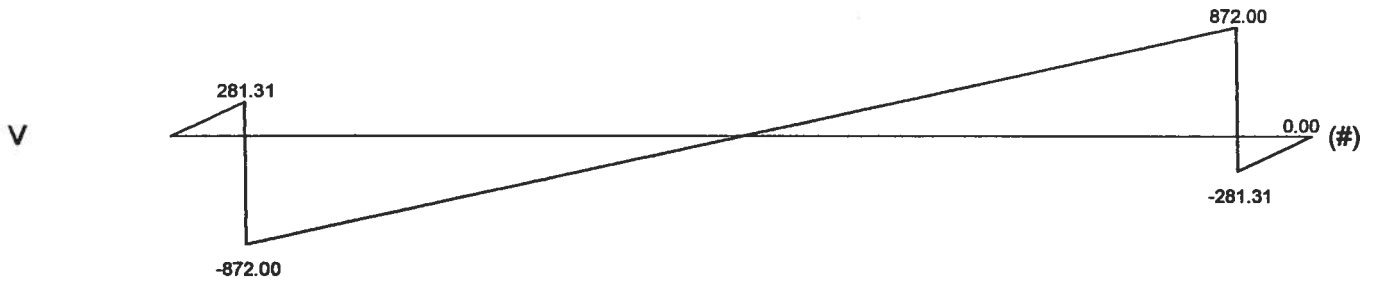

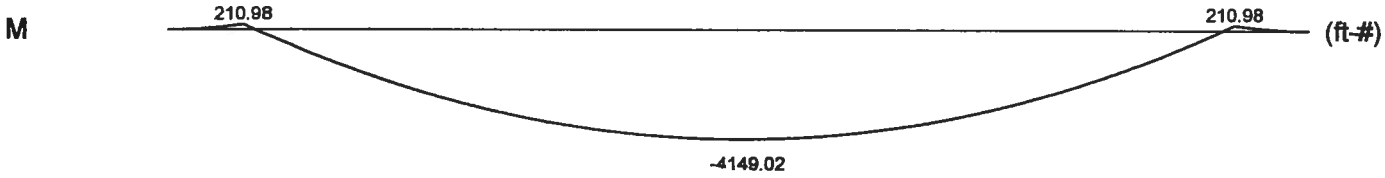

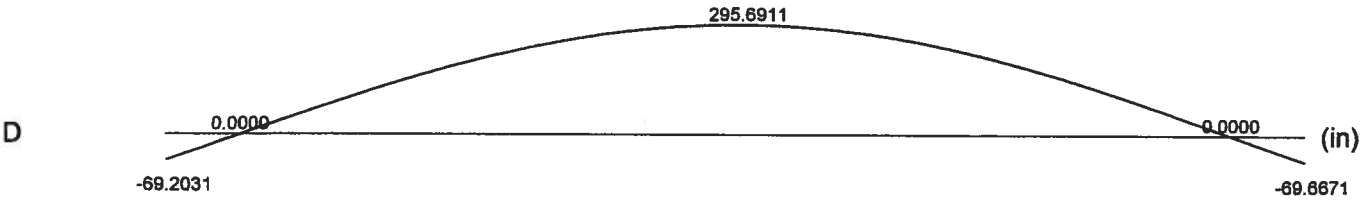

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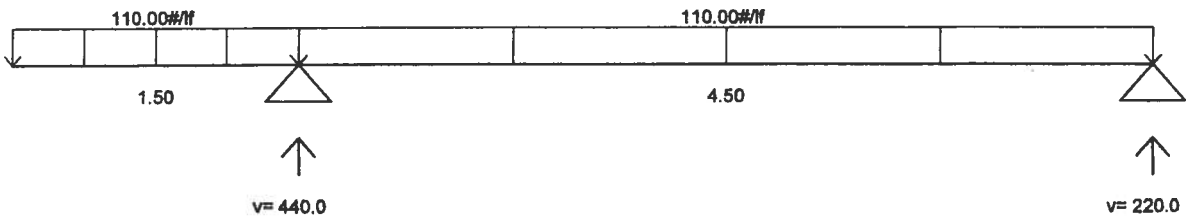

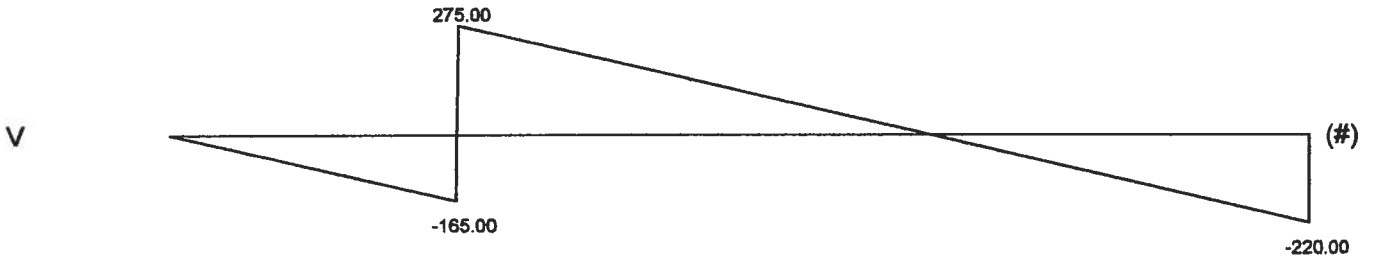

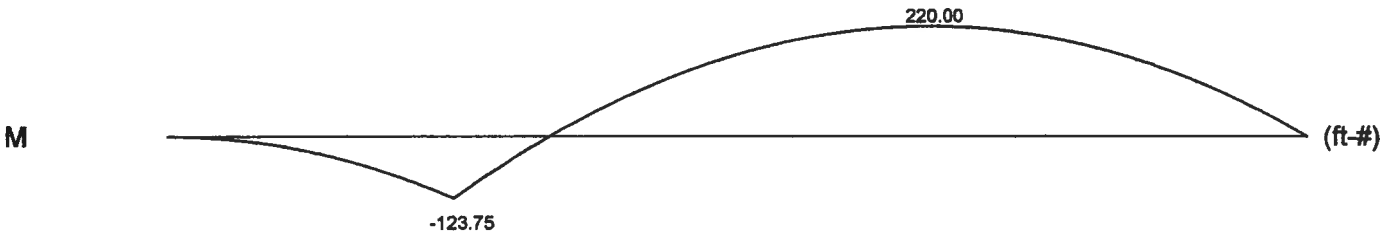

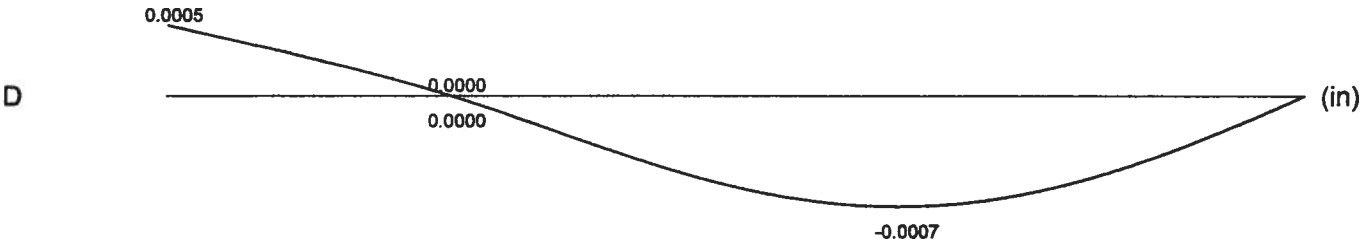

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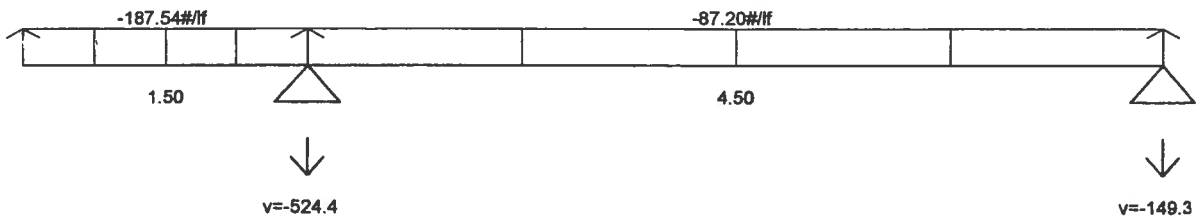

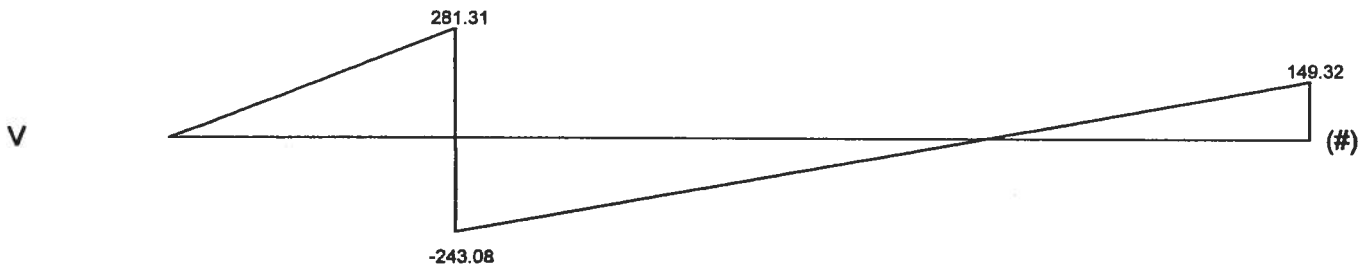

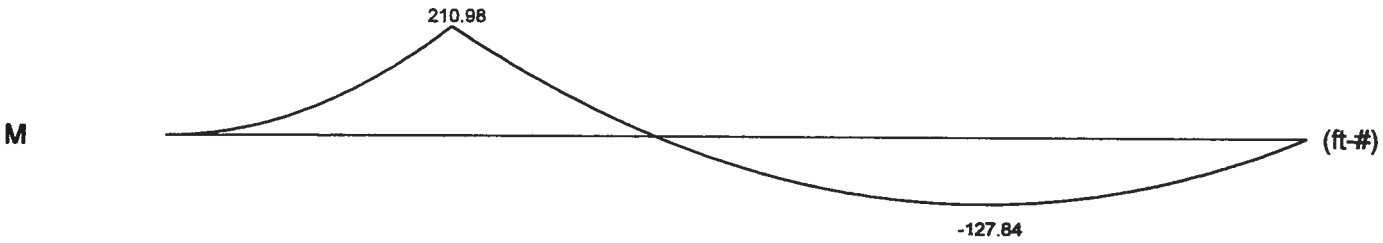

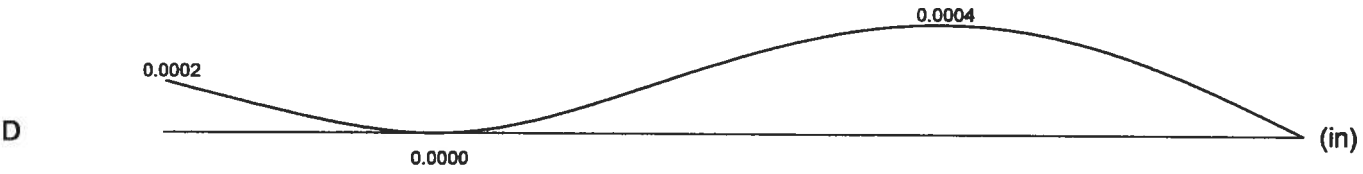

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8 INCH LINTEL
ALLOWABLE SERVICE MOMENTS (FT-LB)

Miami Dade 03-0605.05 Ft 158

CAST-CRETE				GRAVITY						
LENGTH*		TYPE	8U8	8F8-08 8F8-18	8F12-08 8F12-18	8F16-08 8F16-18	8F20-08 8F20-18	8F24-08 8F24-18	8F28-08 8F28-18	8F32-08 8F32-18
2'-10"	(34")	PRECAST	4161	4357 8791 (16)	4705 15309 (17)	6528 21897 (18)	8353 28494 (46)	10180 23365 (48)	12010 27784 (19)	13841 32211 (19)
3'-6"	(42")	PRECAST	4144	4329 8763 (16)	4662 15266 (17)	6472 21841 (18)	8282 28423 (46)	10095 23280 (18)	11911 27685 (19)	13727 32097 (19)
4'-0"	(48")	PRECAST	4129	4303 8737 (16)	4624 15228 (17)	6420 21789 (18)	8218 28359 (46)	10019 23204 (19)	11821 27595 (19)	13625 31995 (19)
4'-6"	(54")	PRECAST	4111	4274 8708 (16)	4580 15184 (17)	6362 21731 (18)	8144 28285 (46)	9930 23115 (19)	11718 27492 (19)	13507 31877 (19)
5'-4"	(64")	PRECAST	4077	4217 8651 (16)	4494 15098 (17)	6247 21616 (18)	8001 28142 (46)	9759 22944 (19)	11518 27292 (19)	13278 31648 (19)
5'-10"	(70")	PRECAST	4053	4177 8611 (16)	4435 15039 (17)	6168 21537 (18)	7903 28044 (46)	9640 22825 (19)	11380 27154 (19)	13121 31491 (19)
6'-6"	(78")	PRECAST	6508	7403 11341 (11)	12230 19880 (12)	17097 28546 (13)	14408 37228 (13)	17619 45957 (14)	20836 54716 (45)	24057 41950 (14)
7'-6"	(90")	PRECAST	6448	7303 11241 (11)	12080 19730 (12)	16897 28346 (13)	14158 36978 (13)	17319 45657 (14)	20486 54366 (45)	23657 41550 (14)
9'-4"	(112")	PRECAST	6315	7081 11019 (11)	11747 19397 (12)	16452 27901 (13)	28926 36422 (14)	36384 44991 (14)	28534 53588 (44)	33430 77326 (55)
10'-6"	(126")	PRECAST	6214	6913 10851 (11)	11495 19145 (12)	16117 27546 (13)	28507 36003 (14)	35880 44487 (14)	27947 53001 (44)	32759 76655 (55)
11'-4"	(136")	PRECAST	8472	10405 13738 (7)	17567 24527 (9)	24826 35533 (10)	39300 46566 (10)	49316 57683 (10)	59372 68849 (10)	69456 80049 (11)
12'-0"	(144")	PRECAST	8404	10291 13624 (7)	17397 24357 (9)	24599 35306 (10)	39017 46283 (10)	48976 57343 (10)	58975 68452 (11)	69003 79596 (11)
13'-4"	(160")	PRECAST	8256	10045 13378 (8)	17027 23987 (9)	24106 34813 (10)	38400 45686 (10)	48236 56603 (11)	58112 67589 (11)	68016 78609 (11)
14'-0"	(168")	PRECAST	8176	9911 13244 (8)	16827 23787 (9)	23839 34546 (10)	38067 45333 (10)	47836 56203 (11)	57645 67122 (11)	67483 78076 (11)
14'-8"	(176")	PRESTRESSED	NR	NR 13670 (7)	NR 22196 (10)	NR 41777 (9)	NR 57838 (8)	NR 74110 (8)	NR 90452 (8)	NR 106443 (8)
15'-4"	(184")	PRESTRESSED	NR	NR 13524 (7)	NR 21976 (10)	NR 41494 (9)	NR 57471 (8)	NR 73670 (8)	NR 89939 (8)	NR 105856 (8)
17'-4"	(208")	PRESTRESSED	NR	NR 13044 (7)	NR 21256 (11)	NR 40524 (9)	NR 56271 (8)	NR 72230 (9)	NR 88259 (9)	NR 103936 (8)
19'-4"	(232")	PRESTRESSED	NR	NR 12504 (7)	NR 20446 (11)	NR 39444 (9)	NR 54921 (9)	NR 70610 (9)	NR 86369 (9)	NR 101776 (9)
21'-4"	(256")	PRESTRESSED	NR	NR 13101 (10)	NR 20532 (12)	NR 41977 (9)	NR 68139 (14)	NR 88670 (14)	NR 109199 (14)	NR 129587 (14)
22'-0"	(264")	PRESTRESSED	NR	NR 12887 (10)	NR 20212 (13)	NR 41550 (9)	NR 67606 (14)	NR 88030 (14)	NR 108452 (14)	NR 128734 (14)
24'-0"	(288")	PRESTRESSED	NR	NR 12207 (10)	NR 19192 (13)	NR 40190 (10)	NR 65906 (14)	NR 85990 (15)	NR 106072 (15)	NR 126014 (15)

* LENGTH = OVERALL LENGTH OF LINTEL

(#) - INDICATES PERCENT REDUCTION FOR GRADE 40 FIELD ADDED REBAR

ALLOWABLE SERVICE SHEARS (POUNDS)

CAST-CRETE				GRAVITY						
LENGTH*		TYPE	8U8	8F8-08	8F12-08	8F16-08	8F20-08	8F24-08	8F28-08	8F32-08
				8F8-18	8F12-18	8F16-18	8F20-18	8F24-18	8F28-18	8F32-18
2'-10"	(34")	PRECAST	2212	3037	4587	6129	7617	9118	10632	12162
				3037	4587	6129	7617	9118	10632	12162
3'-6"	(42")	PRECAST	2200	3017	4557	6089	7567	9058	10562	12082
				3017	4557	6089	7567	9058	10562	12082
4'-0"	(48")	PRECAST	2191	3002	4535	6059	7530	9013	10510	12022
				3002	4535	6059	7530	9013	10510	12022
4'-6"	(54")	PRECAST	2182	2987	4512	6029	7492	8968	10457	11962
				2987	4512	6029	7492	8968	10457	11962
5'-4"	(64")	PRECAST	2167	2962	4475	5979	7430	8893	10370	11862
				2962	4475	5979	7430	8893	10370	11862
5'-10"	(70")	PRECAST	2158	2947	4452	5949	7392	8848	10317	11802
				2947	4452	5949	7392	8848	10317	11802
6'-6"	(78")	PRECAST	2146	2927	4422	5909	7342	8788	10247	11722
				2927	4422	5909	7342	8788	10247	11722
7'-6"	(90")	PRECAST	2128	2897	4377	5849	7267	8698	10142	11602
				2897	4377	5849	7267	8698	10142	11602
9'-4"	(112")	PRECAST	2095	2842	4295	5739	7130	8533	9950	11382
				2842	4295	5739	7130	8533	9950	11382
10'-6"	(126")	PRECAST	2074	2807	4242	5669	7042	8428	9827	11242
				2807	4242	5669	7042	8428	9827	11242
11'-4"	(136")	PRECAST	1731	2782	4205	5619	6980	8353	9740	11142
				2782	4205	5619	6980	8353	9740	11142
12'-0"	(144")	PRECAST	1724	2762	4175	5579	6930	8293	9670	11062
				2762	4175	5579	6930	8293	9670	11062
13'-4"	(160")	PRECAST	1711	2722	4115	5499	6830	8173	9530	10902
				2722	4115	5499	6830	8173	9530	10902
14'-0"	(168")	PRECAST	1706	2702	4085	5459	6780	8113	9460	10822
				2702	4085	5459	6780	8113	9460	10822
14'-8"	(176")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				3010	4886	8092	10600	11763	12349	12402
15'-4"	(184")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				2845	4647	7799	10236	11469	12156	12329
17'-4"	(208")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				2372	4150	6878	9158	10576	11537	12090
19'-4"	(232")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				2093	3601	6188	8199	9708	10968	11851
21'-4"	(256")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				1783	3255	5525	7526	9550	11198	11606
22'-0"	(264")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				1690	3120	5265	7244	9325	11016	11527
24'-0"	(288")	PRESTRESSED	NR	NR	NR	NR	NR	NR	NR	NR
				1450	2727	4758	6697	8757	10454	11291

* LENGTH = OVERALL LENGTH OF LINTEL

8 INCH LINTEL

ALLOWABLE SERVICE MOMENTS (FT-LB)

CAST-CRETE			UPLIFT						
LENGTH*		TYPE	8F8-1T 8F8-2T	8F12-1T 8F12-2T	8F16-1T 8F16-2T	8F20-1T 8F20-2T	8F24-1T 8F24-2T	8F28-1T 8F28-2T	8F32-1T 8F32-2T
2'-10"	(34")	PRECAST	4737 (31) 8670 (29)	6238 (3) 7775	10353 (17) 13834	13494 (17) 21126	16655 (17) 29512 (9)	19828 (17) 38387 (17)	23014 (17) 44624 (17)
3'-6"	(42")	PRECAST	4765 (31) 8698 (29)	6281 (3) 7818	10409 (16) 13890	13565 (16) 21197	16740 (16) 29597 (9)	19927 (16) 38486 (17)	23127 (16) 44737 (17)
4'-0"	(48")	PRECAST	4791 (31) 8724 (29)	6319 (3) 7856	10461 (16) 13942	13629 (16) 21261	16817 (16) 29674 (9)	20017 (16) 38576 (17)	23229 (16) 44839 (17)
4'-6"	(54")	PRECAST	4820 (31) 8753 (29)	6363 (3) 7900	10519 (16) 14000	13703 (16) 21335	16905 (16) 29762 (9)	20120 (16) 38679 (16)	23347 (16) 44957 (16)
5'-4"	(64")	PRECAST	4878 (30) 8811 (29)	6449 (3) 7986	10634 (16) 14115	13846 (16) 21478	17077 (16) 29934 (9)	20320 (16) 38879 (16)	23576 (16) 45186 (16)
5'-10"	(70")	PRECAST	4917 (30) 8850 (29)	6508 (3) 8045	10713 (16) 14194	13944 (16) 21576	17195 (16) 30052 (9)	20458 (16) 39017 (16)	23734 (16) 45344 (16)
6'-6"	(78")	PRECAST	4975 (30) 8908 (28)	6596 (3) 8133	10829 (16) 14310	14090 (16) 21722	17370 (16) 30227 (9)	20662 (16) 39221 (16)	23967 (16) 45577 (16)
7'-6"	(90")	PRECAST	5075 (29) 9008 (28)	6746 (3) 8283	11029 (16) 14510	14340 (16) 21972	17670 (16) 30527 (9)	21012 (16) 39571 (16)	24367 (16) 45977 (16)
9'-4"	(112")	PRECAST	8167 (16) 11564 (19)	7079 (3) 8616	11474 (15) 14955	14896 (15) 22528	18337 (15) 31194 (9)	21790 (15) 40349 (16)	25256 (15) 46866 (16)
10'-6"	(126")	PRECAST	8334 (16) 11731 (19)	7331 (3) 8868	11809 (14) 15290	15315 (15) 22947	18840 (15) 31697 (8)	22377 (15) 40936 (16)	25927 (15) 47537 (16)
11'-4"	(136")	PRECAST	8467 (15) 11864 (18)	7529 (3) 9066	12074 (14) 15555	15646 (14) 23278	19237 (14) 32094 (8)	22840 (14) 41399 (15)	26456 (14) 48066 (15)
12'-0"	(144")	PRECAST	8580 (15) 11977 (18)	7699 (3) 9236	12301 (14) 15782	15929 (14) 23561	19577 (14) 32434 (8)	23237 (14) 41796 (15)	26909 (14) 48519 (15)
13'-4"	(160")	PRECAST	8827 (15) 12224 (18)	8069 (2) 9606	12794 (13) 16275	16546 (13) 24178	20317 (14) 33174 (8)	24100 (14) 42659 (15)	27896 (14) 49586 (15)
14'-0"	(168")	PRECAST	8960 (15) 12357 (18)	8269 (2) 9806	13061 (13) 16542	16879 (13) 24511	20717 (13) 33574 (8)	24567 (13) 43126 (15)	28429 (13) 50039 (15)
14'-8"	(176")	PRESTRESSED	7041 (12) 9166 (15)	8479 (2) 10016	13341 (13) 16822	17229 (13) 24861	21137 (13) 33994 (8)	25057 (13) 43616 (15)	28989 (13) 50599 (15)
15'-4"	(184")	PRESTRESSED	7188 (12) 9313 (15)	8699 (2) 10236	13634 (13) 17115	17596 (13) 25228	21577 (13) 34434 (8)	25570 (13) 44129 (14)	29576 (13) 51186 (14)
17'-4"	(208")	PRESTRESSED	7668 (11) 9793 (14)	9419 (2) 10956	14594 (12) 18075	18796 (12) 26428	23017 (12) 35874 (7)	27250 (12) 45809 (14)	31496 (12) 53106 (14)
19'-4"	(232")	PRESTRESSED	8208 (11) 10333 (13)	10229 (2) 11766	15674 (11) 19155	20146 (11) 27778	24637 (11) 37494 (7)	29140 (11) 47699 (13)	33656 (11) 55266 (13)
21'-4"	(256")	PRESTRESSED	8808 (10) 13746 (16)	11129 (2) 12666	16874 (10) 20355	21646 (10) 29278	26437 (10) 39294 (7)	31240 (10) 49799 (13)	36056 (11) 57666 (13)
22'-0"	(264")	PRESTRESSED	9021 (10) 13959 (16)	11449 (2) 12986	17301 (10) 20782	22179 (10) 29811	27077 (10) 39934 (7)	31987 (10) 50546 (13)	36909 (10) 58519 (13)
24'-0"	(288")	PRESTRESSED	9701 (9) 14639 (15)	12469 (2) 14006	18661 (9) 22142	23879 (9) 31511	29117 (9) 41974 (6)	34367 (10) 52926 (12)	39629 (10) 61239 (12)

* LENGTH = OVERALL LENGTH OF LINTEL

(#) - INDICATES PERCENT REDUCTION FOR GRADE 40 FIELD ADDED REBAR

ALLOWABLE SERVICE SHEARS (POUNDS)

CAST-CRETE			UPLIFT						
LENGTH*		TYPE	8F8-1T 8F8-2T	8F12-1T 8F12-2T	8F16-1T 8F16-2T	8F20-1T 8F20-2T	8F24-1T 8F24-2T	8F28-1T 8F28-2T	8F32-1T 8F32-2T
2'-10"	(34")	PRECAST	2465	3967	5575	7184	8792	10402	12010
			2465	3967	5575	7184	8792	10402	12010
3'-6"	(42")	PRECAST	2485	3997	5615	7234	8852	10472	12090
			2485	3997	5615	7234	8852	10472	12090
4'-0"	(48")	PRECAST	2500	4019	5645	7271	8897	10524	12150
			2500	4019	5645	7271	8897	10524	12150
4'-6"	(54")	PRECAST	2515	4042	5675	7309	8942	10577	12210
			2515	4042	5675	7309	8942	10577	12210
5'-4"	(64")	PRECAST	2540	4079	5725	7371	9017	10664	12310
			2540	4079	5725	7371	9017	10664	12310
5'-10"	(70")	PRECAST	2555	4102	5755	7409	9062	10717	12370
			2555	4102	5755	7409	9062	10717	12370
6'-6"	(78")	PRECAST	2575	4132	5795	7459	9122	10787	12450
			2575	4132	5795	7459	9122	10787	12450
7'-6"	(90")	PRECAST	2605	4177	5855	7534	9212	10892	12570
			2605	4177	5855	7534	9212	10892	12570
9'-4"	(112")	PRECAST	2660	4259	5965	7671	9377	11084	12790
			2660	4259	5965	7671	9377	11084	12790
10'-6"	(126")	PRECAST	2695	4312	6035	7759	9482	11207	12930
			2695	4312	6035	7759	9482	11207	12930
11'-4"	(136")	PRECAST	2720	4349	6085	7821	9557	11294	13030
			2720	4349	6085	7821	9557	11294	13030
12'-0"	(144")	PRECAST	2740	4379	6125	7871	9617	11364	13110
			2740	4379	6125	7871	9617	11364	13110
13'-4"	(160")	PRECAST	2780	4439	6205	7971	9737	11504	13270
			2780	4439	6205	7971	9737	11504	13270
14'-0"	(168")	PRECAST	2800	4469	6245	8021	9797	11574	13350
			2800	4469	6245	8021	9797	11574	13350
14'-8"	(176")	PRESTRESSED	3008	4499	6285	8071	9857	11644	13430
			3008	4499	6285	8071	9857	11644	13430
15'-4"	(184")	PRESTRESSED	3028	4529	6325	8121	9917	11714	13510
			3028	4529	6325	8121	9917	11714	13510
17'-4"	(208")	PRESTRESSED	3088	4619	6445	8271	10097	11924	13750
			3088	4619	6445	8271	10097	11924	13750
19'-4"	(232")	PRESTRESSED	3148	4709	6565	8421	10277	12134	13990
			3148	4709	6565	8421	10277	12134	13990
21'-4"	(256")	PRESTRESSED	3208	4799	6685	8571	10457	12344	14230
			3208	4799	6685	8571	10457	12344	14230
22'-0"	(264")	PRESTRESSED	3228	4829	6725	8621	10517	12414	14310
			3228	4829	6725	8621	10517	12414	14310
24'-0"	(288")	PRESTRESSED	3288	4919	6845	8771	10697	12624	14550
			3288	4919	6845	8771	10697	12624	14550

* LENGTH = OVERALL LENGTH OF LINTEL

8 INCH LINTEL

ALLOWABLE SERVICE MOMENTS (FT-LB)

CAST-CRETE			LATERAL		
LENGTH* \ TYPE			8U8	8F8	REINF. CMU**
2'-10"	THRU	5'-10"	1258	1283	2294
6'-6"	THRU	7'-6"	3428	3428	2294
9'-4"	THRU	10'-6"	5180	5180	2294
11'-4"	THRU	14'-0"	6836	6836	2294
14'-8"	THRU	19'-4"	NR	8250	2294
21'-4"	THRU	24'-0"	NR	9938	2294

* LENGTH = OVERALL LENGTH OF LINTEL

** SEE SAFE LOAD TABLES BROCHURE DATED JUNE 2003 FOR APPLICATION

8 INCH LINTEL

ALLOWABLE SERVICE SHEAR (POUNDS)

CAST-CRETE			LATERAL		
LENGTH* \ TYPE			8U8	8F8	REINF. CMU**
2'-10"	THRU	14'-0"	1293	2621	2135
14'-8"	THRU	24'-0"	NR	3187	2135

* LENGTH = OVERALL LENGTH OF LINTEL

** SEE SAFE LOAD TABLES BROCHURE DATED JUNE 2003 FOR APPLICATION

February 3, 2006

To: Scott Rosenboom

From: Ron Klein

Attached are the two signed and sealed record sets for the permit application.
I think the only additional things you need are the manual J and D forms.

I included the standard electrical load calculations and one sealed and one copy of the survey.

You need to get me a contract. I am ready to start ASAP now that I have finally been able to finish the plans.

NOTE: we made one change since we talked. Brigitte just didn't like the way the dormer looked., so I removed it. You will need to let the truss people know so they can revise their drawings. If they want a new electronic file I can send it up to them.

STANDARD CALCULATION: ONE-FAMILY DWELLING

1. GENERAL LIGHTING: *Table 220-3(a)*

2100 sq ft × 3 VA = 6300 VA

Small appliances: *220-16(a)*

1500 VA × 3 circuits = 4500 VA

Laundry: *220-16(b)*

1500 VA × 1 = 1500 VA

12300 VA

Applying Demand Factors: *Table 220-11*

		PHASES	NEUTRAL
First 3000 VA × 100% =	3000 VA		
Next 9300 VA × 35% =	3255 VA		
Remaining 0 VA × 25% =	0 VA		
Total	6255 VA	6255 VA	_____ VA

2. FIXED APPLIANCES: *220-17*

Dishwasher =	1500 VA	
Disposer =	1500 VA	
Compactor =	0 VA	
Water heater =	10000 VA	
_____ =	_____ VA	
_____ =	_____ VA	
_____ =	_____ VA	
Total	13000 VA × 75% = 9750 VA	9750 VA (120 V Loads × 75%) _____ VA

3. DRYER: *220-18; Table 220-18*

5000 VA × 100 % = 5000 VA 5000 VA × 70% = _____ VA

4. COOKING EQUIPMENT: *Table 220-19; Notes*

Col A 4000 VA × 100 % =	_____ VA	
Col B 4000 VA × 100 % =	_____ VA	
Col C _____ VA × _____ % =	_____ VA	
Total	_____ VA	2000 VA × 70% = _____ VA

5. HEATING or A/C: *220-21*

Heating unit = 12500 VA × 100% =	12500 VA	
A/C unit = _____ VA × 100% =	_____ VA	
Heat pump = _____ VA × 100% =	_____ VA	
Largest Load	_____ VA	12500 VA _____ VA

6. LARGEST MOTOR: *220-14*

ϕ 2500 VA × 25% =	625 VA	625 VA
N _____ VA × 25% =	_____ VA	_____ VA

1ϕ service: PHASES $I = \frac{12500 \text{ VA}}{\text{V}} = 125$ A

NEUTRAL $I = \frac{\text{VA}}{\text{V}} =$ _____ A ☐ VA ☐ VA

220-22; First 200 A × 100% = 200 A

Remaining _____ A × 70% = _____ A

Total _____ A

2/3/06

ARROW EXTERMINATORS
TERMITE AND PEST CONTROL

24290

5602 N.W. 13th STREET
GAINESVILLE, FLORIDA 32653-2198

P.O. BOX 5875
GAINESVILLE, FLORIDA 32627-5875

PHONE (352) 373-3642
FAX (352) 373-9037

CERTIFICATE OF PROTECTIVE TREATMENT

Builder: Rosenbloom

Date: 5-30-06 Time: _____ AM _____ PM

Site Location: 2535 SWCR 778

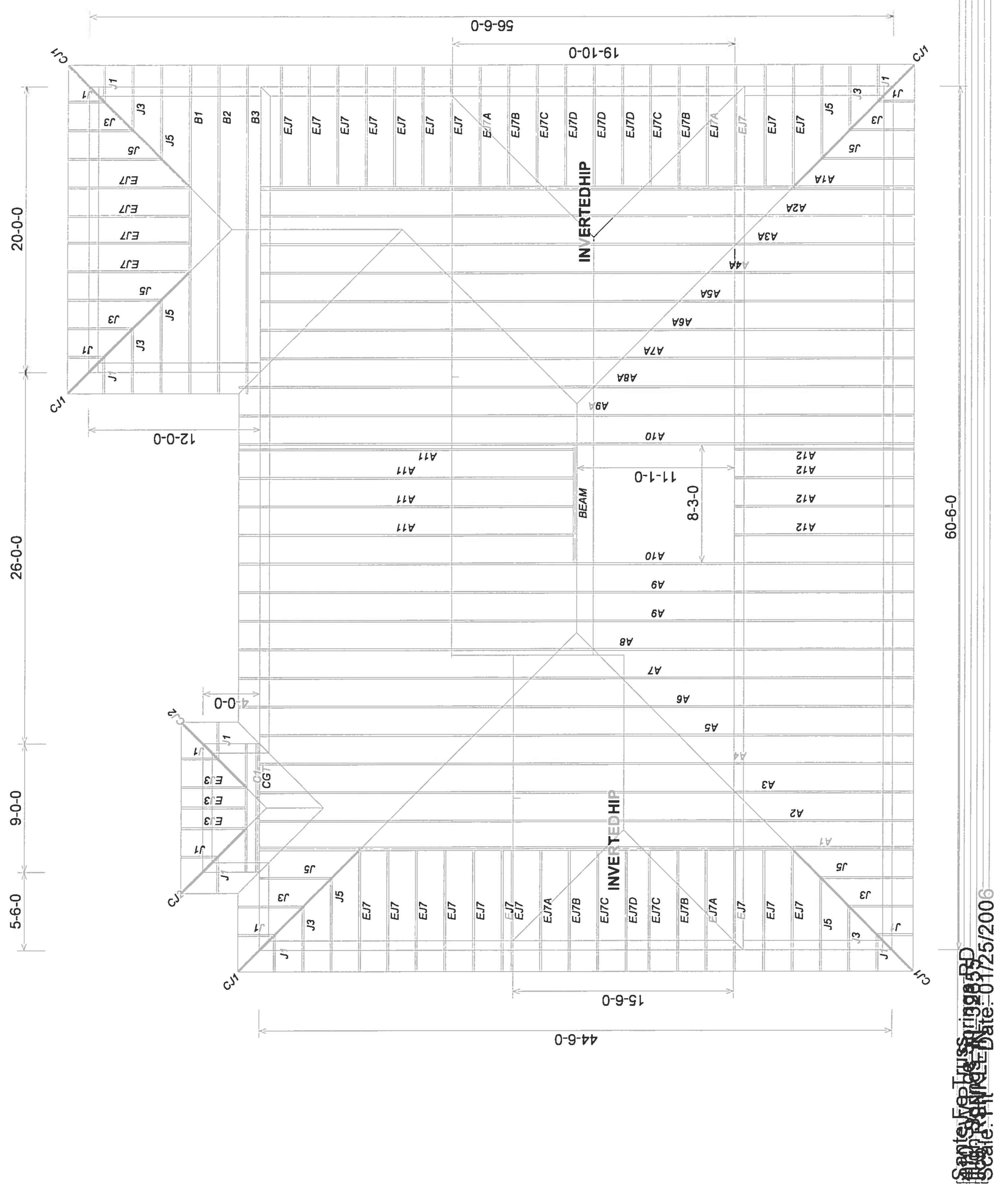
Area Treated: Living, Entry, Porch

Product Used: B. Fen IT Chemical Used: Bifenthrin

% Concentration: .06% # Gallons Used: 500

Applicator: Jerry

ATT GKOW KLEIN



COLUMBIA COUNTY BUILDING DEPARTMENT

Revised 10-01-05

RESIDENTIAL MINIMUM PLAN REQUIREMENTS AND CHECKLIST FOR FLORIDA BUILDING CODE 2004 and FLORIDA RESIDENTIAL CODE 2004 WITH AMENDMENTS ONE (1) AND TWO (2) FAMILY DWELLINGS

ALL REQUIREMENTS ARE SUBJECT TO CHANGE
EFFECTIVE OCTOBER 1, 2005

ALL BUILDING PLANS MUST INDICATE THE FOLLOWING ITEMS AND INDICATE COMPLIANCE WITH CHAPTER 16 OF THE FLORIDA BUILDING CODE 2004 BY PROVIDING 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 SPEED AS PER FIGURE 1609 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

APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL

GENERAL REQUIREMENTS: Two (2) complete sets of plans containing the following:

Applicant	Plans Examiner	
☑	☐	All drawings must be clear, concise and drawn to scale ("Optional " details that are not used shall be marked void or crossed off). Square footage of different areas shall be shown on plans.
☑	☐	Designers name and signature on document (FBC 106.1). If licensed architect or engineer, official seal shall be affixed.
☑	☐	**Site Plan including:** a) Dimensions of lot b) Dimensions of building set backs c) Location of all other buildings on lot, well and septic tank if applicable, and all utility easements. d) Provide a full legal description of property.
☑	☐	**Wind-load Engineering Summary, calculations and any details required** Plans or specifications must state compliance with FBC Section 1609. The following information must be shown as per section 1603.1.4 FBC a. Basic wind speed (3-second gust), miles per hour (km/hr) b. Wind importance factor, Iw, and building classification from Table 1604.5 or Table 6-1, ASCE 7 and building classification in Table 1-1, ASCE 7. c. Wind exposure, if more than one wind exposure is utilized, the wind exposure and applicable wind direction shall be indicated. d. The applicable enclosure classifications and, if designed with ASCE 7, internal pressure coefficient. e. Components and Cladding. The design wind pressures in terms of psf (kN/m²) to be used for the design of exterior component and cladding materials not specifally designed by the registered design professional.
☑	☐	**Elevations including:** a) All sides
☐	☐	b) Roof pitch
☐	☑	c) Overhang dimensions and detail with attic ventilation

d) Location, size and height above roof of chimneys.
e) Location and size of skylights
f) Building height
e) Number of stories

Floor Plan including:

a) Rooms labeled and dimensioned.
b) Shear walls identified.
c) Show product approval specification as required by Fla. Statute 553.842 and Fla. Administrative Code 9B-72 **(see attach forms).**
d) Show safety glazing of glass, where required by code.
e) Identify egress windows in bedrooms, and size.
f) Fireplace (gas vented), (gas non-vented) or wood burning with hearth, **(Please circle applicable type).**
g) Stairs with dimensions (width, tread and riser) and details of guardrails and handrails.
h) Must show and identify accessibility requirements (accessible bathroom)

Foundation Plan including:

a) Location of all load-bearing wall with required footings indicated as standard or monolithic and dimensions and reinforcing.
b) All posts and/or column footing including size and reinforcing
c) Any special support required by soil analysis such as piling
d) Location of any vertical steel.

Roof System:

a) Truss package including:
   1. Truss layout and truss details signed and sealed by Fl. Pro. Eng.
   2. Roof assembly (FBC 106.1.1.2)Roofing system, materials, manufacturer, fastening requirements and product evaluation with wind resistance rating)

b) Conventional Framing Layout including:
   1. Rafter size, species and spacing
   2. Attachment to wall and uplift
   3. Ridge beam sized and valley framing and support details
   4. Roof assembly (FBC 106.1.1.2)Roofing systems, materials, manufacturer, fastening requirements and product evaluation with wind resistance rating)

Wall Sections including:

a) Masonry wall
   1. All materials making up wall
   2. Block size and mortar type with size and spacing of reinforcement
   3. Lintel, tie-beam sizes and reinforcement
   4. Gable ends with rake beams showing reinforcement or gable truss and wall bracing details
   5. All required connectors with uplift rating and required number and size of fasteners for continuous tie from roof to foundation
   6. Roof assembly shown here or on roof system detail (FBC 106.1.1.2) Roofing system, materials, manufacturer, fastening requirements and product evaluation with resistance rating)
   7. Fire resistant construction (if required)
   8. Fireproofing requirements
   9. Shoe type of termite treatment (termiticide or alternative method)
   10. Slab on grade
      a. Vapor retarder (6mil. Polyethylene with joints lapped 6 inches and sealed)
      b. Must show control joints, synthetic fiber reinforcement or Welded fire fabric reinforcement and supports
   11. Indicate where pressure treated wood will be placed
   12. Provide insulation R value for the following:
      a. Attic space
      b. Exterior wall cavity

c. Crawl space (if applicable)

b) Wood frame wall
1. All materials making up wall
2. Size and species of studs
3. Sheathing size, type and nailing schedule
4. Headers sized
5. Gable end showing balloon framing detail or gable truss and wall hinge bracing detail
6. All required fasteners for continuous tie from roof to foundation (truss anchors, straps, anchor bolts and washers)
7. Roof assembly shown here or on roof system detail (FBC 106.1.1.2) Roofing system, materials, manufacturer, fastening requirements and product evaluation with wind resistance rating)
8. Fire resistant construction (if applicable)
9. Fireproofing requirements
10. Show type of termite treatment (termiticide or alternative method)
11. Slab on grade
    a. Vapor retarder (6Mil. Polyethylene with joints lapped 6 inches and sealed
    b. Must show control joints, synthetic fiber reinforcement or welded wire fabric reinforcement and supports
12. Indicate where pressure treated wood will be placed
13. Provide insulation R value for the following:
    a. Attic space
    b. Exterior wall cavity
    c. Crawl space (if applicable)

c) Metal frame wall and roof (designed, signed and sealed by Florida Prof. Engineer or Architect)

Floor Framing System:

a) Floor truss package including layout and details, signed and sealed by Florida Registered Professional Engineer

b) Floor joist size and spacing

c) Girder size and spacing

d) Attachment of joist to girder

e) Wind load requirements where applicable

Plumbing Fixture layout

Electrical layout including:

a) Switches, outlets/receptacles, lighting and all required GFCI outlets identified

b) Ceiling fans

c) Smoke detectors

d) Service panel and sub-panel size and location(s)

e) Meter location with type of service entrance (overhead or underground)

f) Appliances and HVAC equipment

g) Arc Fault Circuits (AFCI) in bedrooms

h) Exhaust fans in bathroom

HVAC information

a) Energy Calculations (dimensions shall match plans)

b) Manual J sizing equipment or equivalent computation

c) Gas System Type (LP or Natural) Location and BTU demand of equipment

Disclosure Statement for Owner Builders

***Notice Of Commencement Required Before Any Inspections Will Be Done

Private Potable Water

a) Size of pump motor

b) Size of pressure tank

c) Cycle stop valve if used

PGT WinGuard

PRODUCT	
Single Hung Window (Impact)	SH-701
Horizontal Roller Window (Impact)	HR-710
Casement Window (Impact)	CA-740
~~Casement Projected Window (Impact)~~	~~CA-740~~
Fixed Window (Impact, Picture Window & Shapes)	PW-701 - New
~~Sliding Glass Door (Impact, 2-track)~~	~~SGD-70R~~
French Door (Impact)	SWD-101
French Door w/Sidelites (Impact)	SWD-101
French Door w/Sidelites (Impact)	FD-750

1" Clipped Mullions

MIAMI-DADE
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

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

NOTICE OF ACCEPTANCE (NOA)

PGT Industries
1070 Technology Drive
Nokomis, FL 34274

SCOPE:

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

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

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

DESCRIPTION: Series "HS 710" Aluminum Horizontal Sliding Window

APPROVAL DOCUMENT: Drawing No.**4112**, titled "Aluminum Horizontal Sliding Window", sheets 1 through 6 of 6, prepared by PGT Industries, dated 2/16/98, with revisions 12/29/03 signed sealed by Robert L. Clark, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

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

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

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

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

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

This NOA **revises NOA # 02-0305.02** and, consists of this page 1 and evidence page E-1 and E-2, as well as approval document mentioned above.
The submitted documentation was reviewed by **Theodore Berman, P.E.**

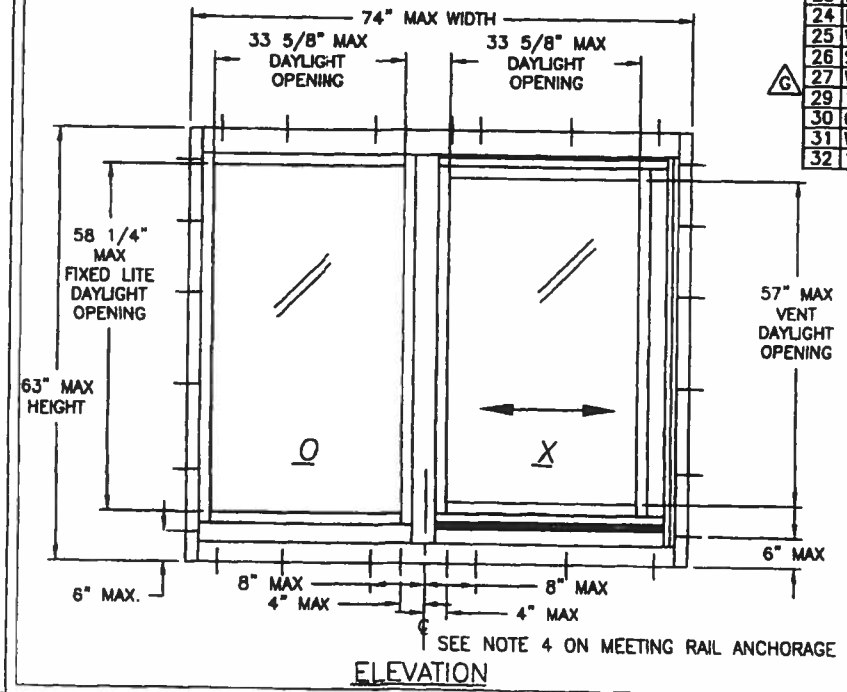
3/17/2004

NOA No 03-0612.06
Expiration Date: May 20, 2007
Approval Date: April 08, 2004

NOTES: LARGE MISSILE IMPACT WINDOWS

1. GLAZING OPTIONS:
   - A. 5/16" (.350) LAMINATED CONSISTING OF AN .090 PVB INNER LAYER OF DUPONT BUTACITE OR SAFLEX/KEEPSAFE MAXIMUM BETWEEN (2) LITES OF 1/8" ANNEALED GLASS.
   - B. 5/16" (.350) LAMINATED CONSISTING OF AN .090 PVB INNER LAYER OF DUPONT BUTACITE OR SAFLEX/KEEPSAFE MAXIMUM BETWEEN (2) LITES OF 1/8" HEAT STRENGTHENED GLASS.
   - C. 13/16" LAMI I.G. GLASS CONSISTING OF: 1/8" HEAT STRENGTHENED GLASS, 3/8" AIR SPACE AND 5/16" LAMINATED GLASS. THE 5/16" LAMINATED COMPONENT CONSISTS OF AN .090 PVB LAYER OF DUPONT OR SAFLEX/KEEPSAFE MAXIMUM BETWEEN (1) LITE OF 1/8" ANNEALED GLASS AND (1) LITE OF HEAT STRENGTHENED GLASS.
   - D. 13/16" LAMI I.G. GLASS CONSISTING OF: 1/8" HEAT STRENGTHENED GLASS, 3/8" AIR SPACE AND 5/16" LAMINATED GLASS. THE 5/16" LAMINATED COMPONENT CONSISTS OF AN .090 PVB LAYER OF DUPONT OR SAFLEX/KEEPSAFE MAXIMUM BETWEEN (2) LITES OF 1/8" HEAT STRENGTHENED GLASS.
2. CONFIGURATIONS: XO or OX
3. DESIGN PRESSURE RATING: SEE TABLES 1-3 ON SHEET 2

ITEM	DESCRIPTION	V.T. #	QTY./LOCATION	VENDOR	VENDOR #
1	FLANGE FRAME JAMB (Alum. 6063-T5)	612225	2	ALUMAX	AF-12225
2	FIXED MEETING RAIL (Alum. 6063HS-T54)	4054A	1	INDALEX	64054A
3	SASH MEETING RAIL (Alum. 6063HS-T54)	4006C	1	INDALEX	64006C
4	SASH SIDE RAIL (Alum. 6063-T5)	612230	1	ALUMAX	AF-12230
5	GLAZING BEAD (Alum. 6063-T5)	6534571	8	ALUMAX	AF-534571
6	WINDLOAD ADAPTER (5 7/8" RIGID PVC)	1207	1 (● midspan of frame sill)		6WCLIP
7	FLANGE FRAME HEAD (Alum. 6063-T5)	612237	1	ALUMAX	AF-12237
8	FLANGE FRAME SILL (Alum. 6063-T5)	612238	1	ALUMAX	AF-12238
9	FRAME SILL ADAPTER (Alum. 6063-T5)	612239	1	ALUMAX	AF-12239
10	SASH TOP/BOT. RAIL (Alum. 6063-T5)	612240	2	ALUMAX	AF-12240
11	SCREEN RETAINER (Alum. 6063-T5)	6532377	1	ALUMAX	AF-532377
12	5/16" (.350) LAMINATED USING (2) LITES OF 1/8" ANNEALED GLASS				
13	5/16" (.350) LAMINATED USING (2) LITES 1/8" HEAT STRENGTHENED GLASS				
14	ANTI-LIFT CHANNEL (Alum. 6063-T5)	612244	1 (● midspan of vent)	ALUMAX	AF-12244
15	#10 x 1.000 Ph. Fl. SMS	710X1	4 (Windload Adapter screws)	FASTEC	
16	#6 x 1.000 PH. PAN SMS	76X1PPA	2 (for anti-lift channel)	MERCHANTS FASTENER	
17	WEATHERSTRIP, THIN WALL BULB VINYL	6TP247	8 (1 per Glazing Bead)	TEAM PLASTICS	TP-247
18	#8 x .500 PHIL. FI SMS	7856A	2 (Sweep Latch screws) 4 (when using 2 Sweep Latches)	MERCHANTS FASTENER	
19	#8 x 1.000 PHIL. P.H. SMS	781PQA	22 (Frame/Vent assy. screws)	MERCHANTS FASTENER	
20	SWEEP LATCH	71096	1 (11.5" from ends-vent mtg. rail) 2 (if height is >= 42")	MINIATURE DIE CASTING	PGT.214.XX
21	WEEP HOUSING	70250	3 (1 ●midspan/2 1/4" from ends)	MASTER TOOL	7-M10-250
22	WEEP FLAP	70251	3 (1 ●midspan/2 1/4" from ends)	MASTER TOOL	7-M10-251
23	ROLLER HOUSING		2 (● ea. end of vent top rail)	MASTER TOOL	70312
24	BRASS WHEELS	7BRWHL2	4 (2 per Roller Housing)	VINYL-TECH/P.G.T.	
25	WSTP, .270 x .170 BACK, FIN SEAL	61062W	2 (●vent top/bot rails & mtg. rail)	SCHLEGEL OR EQUIV.	FS7826-187
26	SILICON	62899		DOW CORNING	899 OR 995
27	WEATHERSTRIP, BULB VINYL	6TP249	1 (● vent jamb rail)	TEAM PLASTICS	TP-249
29	13/16" I.G., 1/8" HEAT STRENGTHENED GLASS, 3/8" SPACE, 5/16" LAMI (1/8" A, .090, 1/8" HS)				
30	GLAZING BEAD (13/16" I.G.) 6063-T5	4067	8	INDALEX	64067
31	WSTP, .187 x .230 BACK, FIN SEAL	1060	1 ● MEETING RAIL	SCHLEGEL OR EQUIV.	61060G
32	13/16" I.G., 1/8" HEAT STRENGTHENED GLASS, 3/8" SPACE, 5/16" LAMI (1/8" HS, .090, 1/8" HS)				



ELEVATION

4. ANCHORAGE: SINGLE ROW OF FASTENERS LOCATED AS FOLLOWS & PER SHT 5.
   - HEAD & SILL:
     - MAX. 6" FROM CORNERS.
     - MAX. 4" & 8" ON EACH SIDE OF MEETING RAIL CENTERLINE.
     - MAX. 15" SPACING.
   - JAMBS:
     - MAX. 5" FROM CORNERS.
     - MAX. 12 1/2" SPACING.
5. SHUTTER REQUIREMENT: NO SHUTTERS REQ'D.
6. REF. TEST REPORTS: FTL-1969 & FTL-3740

PRODUCT REVISED in complying with the Florida Building Code. Acceptance No. 03-0612.04 Expiration Date: 07/01/07

Revised By:	Date:	Revisions:
F.K.	12/29/03	G-REMOVE ITEM 29 GLASS
F.K.	7/23/03	F-ADD #995 TO ITEM 26
F.K.	4/4/03	E- 2,3,6 ADD 129-132
F.K.	9/6/02	D-REVISED NOTE 1
Drawn By: D.B.	Date: 2/16/98	

Robert L. Clark, P.E.
PE #39712
Structural

PGT INDUSTRIES

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275

P.O. BOX 1529
NOKOMIS, FL 34274

Description: OX ELEVATION & B.O.M. (LG. MISSILE)

Title: ALUMINUM HORIZONTAL SLIDING WINDOW

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	1 of 6	4112	G

COMPARATIVE ANALYSIS TABLE 1. GLASS TYPES A & C — FTL-1969 & FTL-3740

A. 5/16" LAMINATED (1/8" ANNEALED, .090 PVB, 1/8" ANNEALED)

C. 13/16" LAMI I.G. - 1/8"HEAT STRENGTHENED, 3/8" SPACE, 5/16 LAMI (1/8"HEAT STRENGHTENED, .090 PVB, 1/8"ANNEALED)

WINDOW	WINDOW HEIGHTS																	
WIDTHS	26.000		38.375		44.000		50.625		59.000		60.000		61.000		62.000		63.000	
26.500	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
37.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
44.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-74.0	66.7	-74.0
53.125	66.7	-75.0	66.7	-75.0	66.7	-73.1	61.6	-61.6	56.0	-56.0	55.0	-55.0	54.2	-54.2	53.4	-53.4	52.7	-52.7
60.000	66.7	-75.0	66.7	-73.5	62.0	-62.0	54.8	-54.8	46.0	-46.0	45.1	-45.1	44.3	-44.3	43.7	-43.7	43.2	-43.2
63.000	66.7	-75.0	66.7	-69.4	58.9	-58.9	51.7	-51.7	43.0	-43.0	42.2	-42.2	41.3	-41.3	40.5	-40.5	40.0	-40.0
66.000	66.7	-75.0	65.5	-65.5	56.6	-56.6	49.0	-49.0	41.2	-41.2	40.4	-40.4	39.5	-39.5	38.7	-38.7	37.9	-37.9
70.000	66.7	-75.0	60.8	-60.8	53.7	-53.7	46.3	-46.3	39.1	-39.1	38.3	-38.3	37.4	-37.4	36.8	-36.8	36.1	-36.1
74.000	66.7	-75.0	58.2	-58.2	51.3	-51.3	44.2	-44.2	37.4	-37.4	36.8	-36.8	36.1	-36.1	35.5	-35.5	34.8	-34.8

COMPARATIVE ANALYSIS TABLE 2. GLASS TYPES B & D — FTL-1969 & FTL-3740

B. 5/16" LAMINATED (1/8" HEAT STRENGTHENED, .090 PVB, 1/8" HEAT STRENGTHENED)

D. 13/16" LAMI I.G. - 1/8"HEAT STRENGTHENED, 3/8" SPACE, 5/16 LAMI (1/8"HEAT STRENGTHENED, .090 PVB, 1/8"HEAT STRENGTHENED)

WINDOW	WINDOW HEIGHTS																	
WIDTHS	26.000		38.375		44.000		50.625		59.000		60.000		61.000		62.000		63.000	
26.500	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
37.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
44.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
53.125	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
60.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
63.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
66.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0
70.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-74.9	66.7	-73.5	66.7	-72.3
74.000	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-75.0	66.7	-74.8	66.7	-73.5	66.7	-72.2	66.7	-70.9	66.7	-69.6

NOTES:

A. NEGATIVE DESIGN LOADS BASED ON TESTED PRESSURE AND GLASS TABLES ASTM E 1300-98 (AND ASTM E 1300-94 OUTSIDE MIAMI-DADE COUNTY).

B. POSITIVE DESIGN LOADS BASED ON WATER TEST PRESSURE AND GLASS TABLES ASTM E 1300-98 (AND ASTM E 1300-94 OUTSIDE MIAMI-DADE COUNTY).

C. DESIGN PRESSURES UNDER 40 P.S.F. NOT APPLICABLE IN MIAMI-DADE COUNTY.

1/16/04

Robert L. Clark, P.E.
PE #39712
Structural

PGT INDUSTRIES

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275

P.O. BOX 1529
NOKOMIS, FL 34274

Revised By:	Date:	Revisions:
F.K.	12/29/03	F-UPDATE TABLES
F.K.	7/23/03	F-CORRECT TABLE 3 "D&E"
F.K.	4/4/03	E-ADD 13/16" LG./NOTES
F.K.	9/6/02	D-REVISED TABLES
Drawn By: D.B.	Date: 2/16/98	

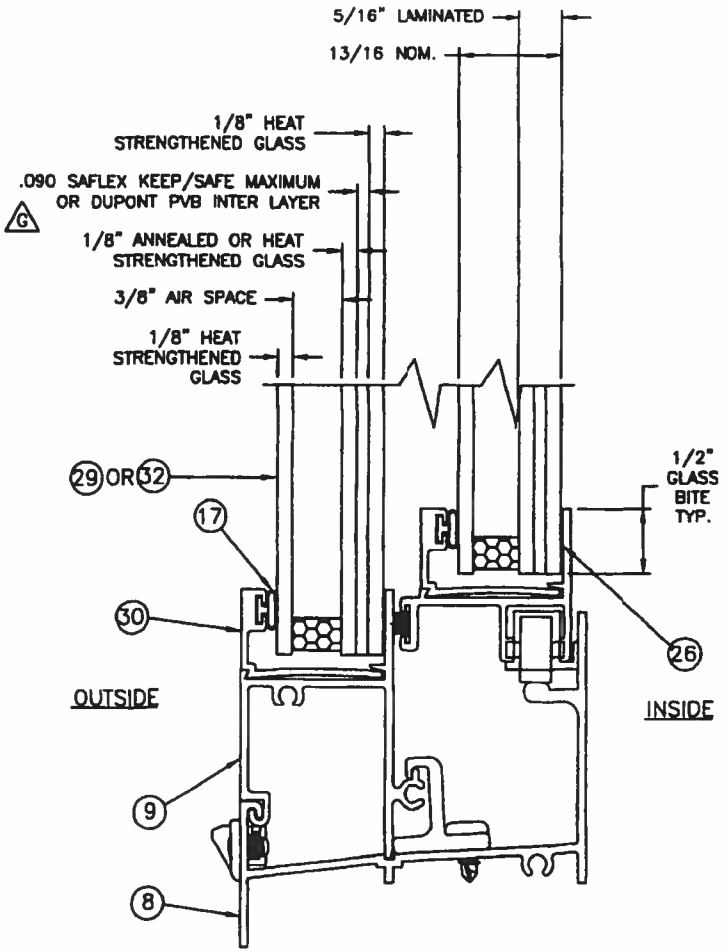
PRODUCT REVISED in complying with the Florida Building Code. Acceptance No. 03-1217.06 Expiration Date: 03-12-07

By: Miami-Dade Product Control Section

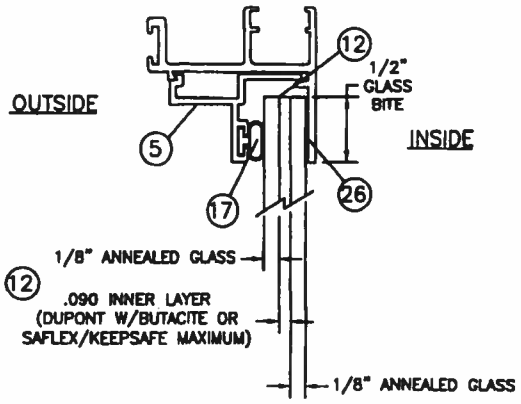
Description: GLASS TYPE COMPARATIVE ANALYSIS

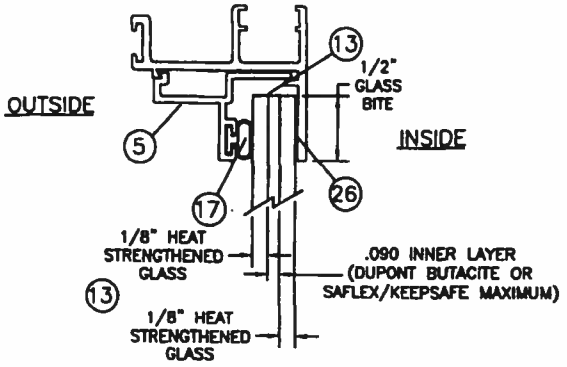
Title: ALUMINUM HORIZONTAL SLIDING WINDOW

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	2 of 6	4112	G



GLAZING DETAILS: 13/16" (.825) I.G.





GLAZING DETAILS: 5/16" (.350) LAMINATED GLASS

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 03-0612.06
Expiration Date: 6/1/2010
Miami-Dade Product Control Division

REFERENCE TEST REPORTS: FTL-1969 & FTL-3740

Robert L. Clark, P.E.
PE #39712
Structural

PGT INDUSTRIES

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275

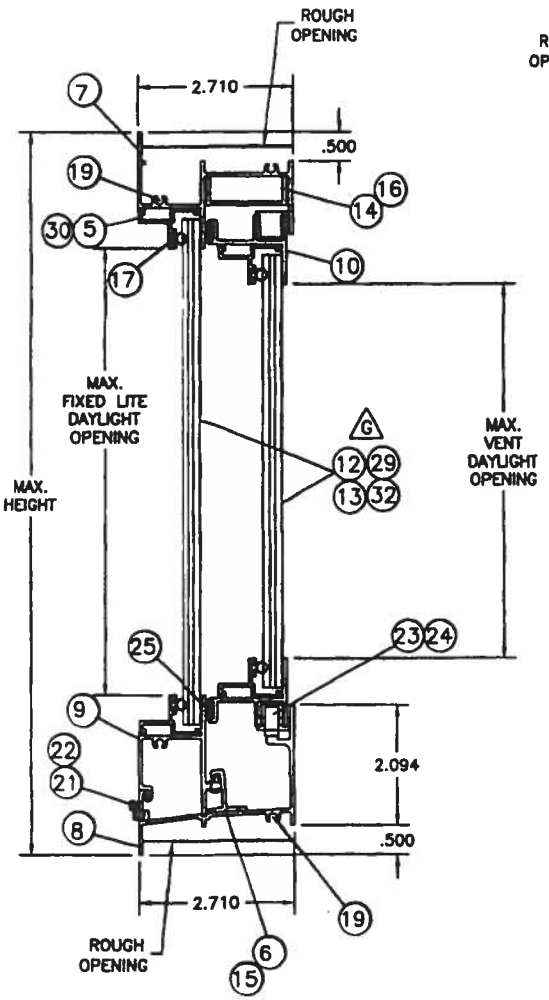
P.O. BOX 1529
NOKOMIS, FL 34274

Revised By:	Date:	Revisions:
F.K.	12/29/03	C-REMOVE ITEM 28 GLASS TYPE
F.K.	7/23/03	F-ITEM 17 SCALE
F.K.	4/4/03	E-ADD 13/16" I.G.
F.K.	9/6/02	D-ADD GLASS TYPE
D.B.	2/16/98	

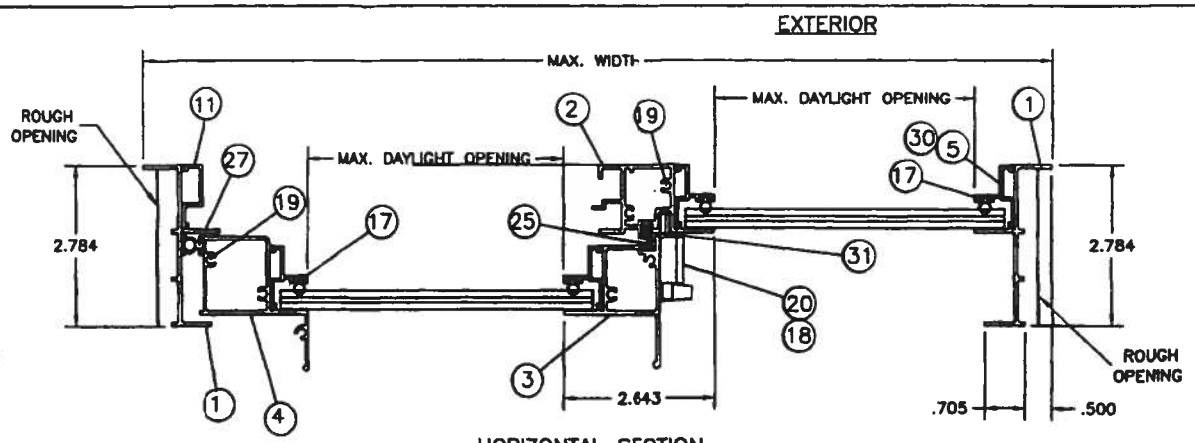
Description: SECTIONS & GLAZING DETAILS

Title: ALUMINUM HORIZONTAL SLIDING WINDOW

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	3 of 6	4112	G



VERTICAL SECTION



HORIZONTAL SECTION

PRODUCT REVISED
in complying with the Florida Building Code
Acceptance No. 03-0612.06
Expiration Date: 12/20/07
Miami-Dade Product Control Division

Revised By:	Date:	Revisions:
F.K.	12/29/03	G-REMOVE ITEM 28 GLASS TYPE
F.K.	7/23/03	F-NO CHG THIS SHT
F.K.	4/4/03	E-ADD 129-132
F.K.	9/6/02	D-ADD GLASS TYPE
Drawn By: D.B.	Date: 2/16/98	

1/16/04
Robert L. Clark, P.E.
PE #39712
Structural

PGT INDUSTRIES

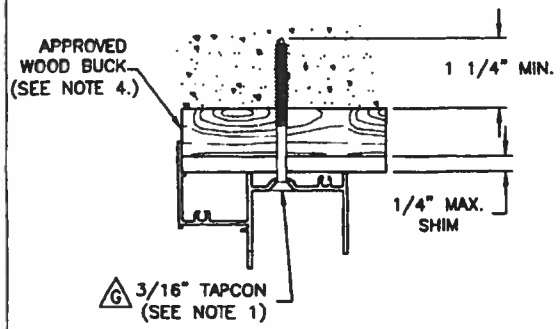
1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275

P.O. BOX 1529
NOKOMIS, FL 34274

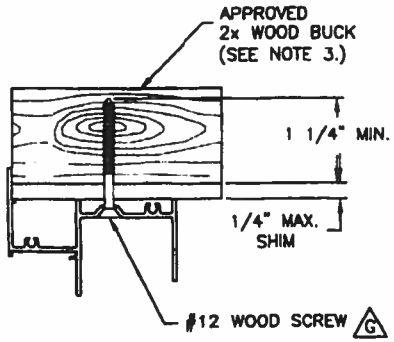
Description: SECTIONS & GLAZING DETAILS

Title: ALUMINUM HORIZONTAL SLIDING WINDOW

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	4 of 6	4112	G



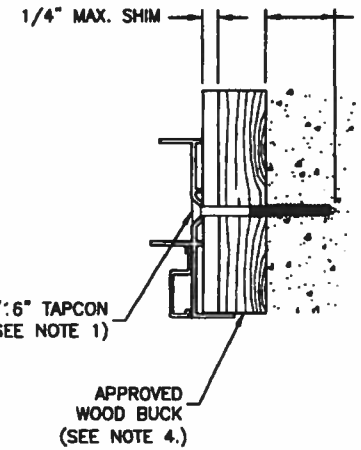
TYPICAL HEAD SECTION
SUBSTRATE ANCHORING



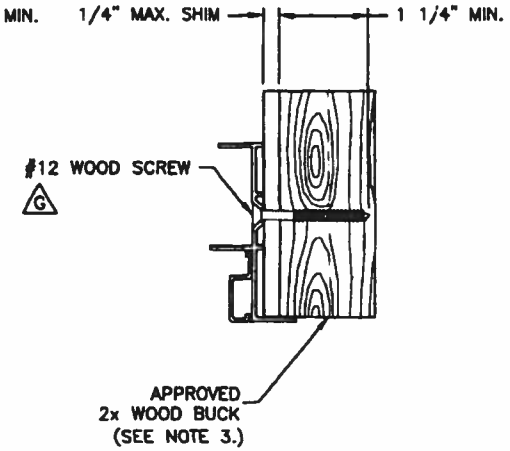
TYPICAL HEAD SECTION
WOOD ANCHORING

NOTES:

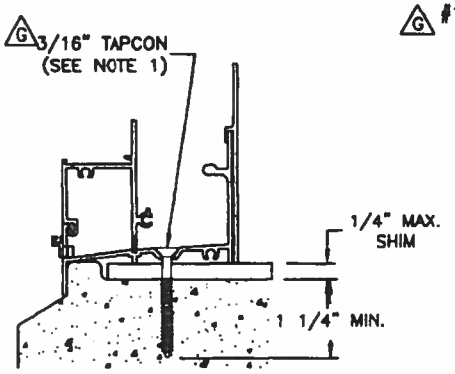
1. USE ONLY MIAMI-DADE COUNTY APPROVED ELCO TAPCONS. G
2. REFERENCE TEST REPORT: FTL-1969 & FTL-3740
3. INSTALLATION OF 2x WOOD BUCK TO THE SUBSTRATE ENGINEERED SEPARATELY AND TO BE REVIEWED BY BUILDING OFFICIAL.
4. INSTALLATION OF 1x WOOD BUCK TO THE SUBSTRATE TO BE ENGINEERED SEPARATELY.



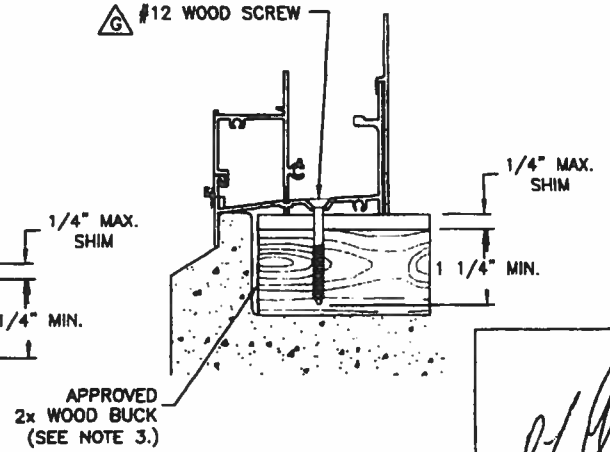
TYPICAL JAMB SECTION
SUBSTRATE ANCHORING



TYPICAL JAMB SECTION
WOOD ANCHORING



TYPICAL SILL SECTION
SUBSTRATE ANCHORING



TYPICAL SILL SECTION
WOOD ANCHORING

PRODUCT REVISED
to comply with the Florida
Building Code
Acceptance No. 03-0812.06
Expiration Date 05/12/07
By: [signature]
Miami-Dade Product Control
Division

Revised By:	Date:	Revisions:
F.K.	12/29/03	G-CHG 3/16" TAPCON & #12 SCR
F.K.	7/23/03	F-REMOVE 3/16 TAPCONS
F.K.	4/4/03	E-NO CHG THIS SHT
F.K.	9/6/02	D-ADD NOTES 3 & 4
Drawn By: D.B.	Date: 2/16/98	

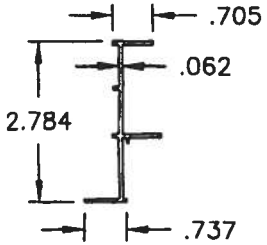
Description: ANCHORAGE

Title: ALUMINUM HORIZONTAL SLIDING WINDOW

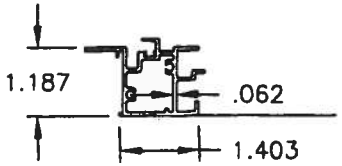
Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	5 of 6	4112	G

[signature]
1/16/04
Robert L. Clark, P.E.
PE #39712
Structural

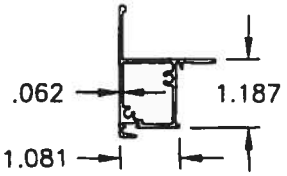
PGT INDUSTRIES
1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275
P.O. BOX 1529
NOKOMIS, FL 34274



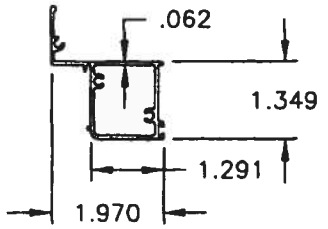
① FLANGE FRAME JAMB
6063–T5 ALUM.



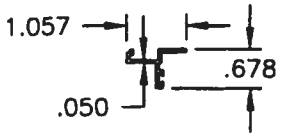
② FIXED MEETING RAIL
6063HS–T54 ALUM.



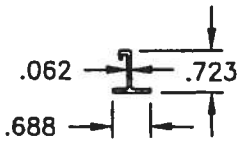
③ SASH MEETING RAIL
6063HS–T54 ALUM.



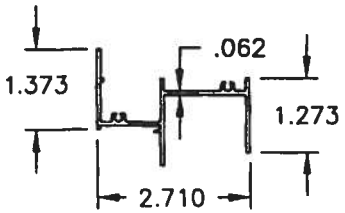
④ SASH SIDE RAIL
6063–T5 ALUM.



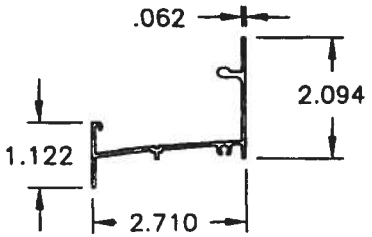
⑤ 5/16" GLAZING BEAD
6063–T5 ALUM.



⑥ WIND LOAD ADAPTER
6063–T5 ALUM.

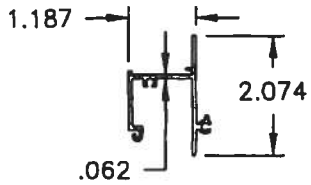


⑦ FLANGE FRAME HEAD
6063–T5 ALUM.

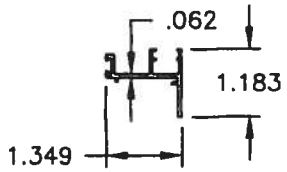


⑧ FLANGE FRAME SILL
6063–T5 ALUM.

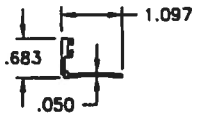
PRODUCT REVIEWED
as complying with the Florida
Building Code
Acceptance No. 08-0617.04
Expiration Date 05/20/07



⑨ FRAME SILL ADAPTER
6063–T5 ALUM.



⑩ SASH TOP & BOTTOM RAIL
6063–T5 ALUM.



30 13/16" GLAZING BEAD
6063–T5 ALUM.

REFERENCE TEST REPORTS: FTL–1969 & FTL–3740

1/16/04
Robert L. Clark, P.E.
PE #39712
Structural

PGT INDUSTRIES

1070 TECHNOLOGY DRIVE
NOKOMIS, FL 34275

P.O. BOX 1529
NOKOMIS, FL 34274

Revised By:	Date:	Revisions:
F.K.	12/29/03	F-NO CHG THIS SHT
F.K.	7/23/03	F-NO CHG THIS SHT
F.K.	4/4/03	E-ADD 13/16" BEAD
F.K.	9/6/02	D-NO CHG THIS SHT
Drawn By: F.K.	Date: 11/2/01	

Description: EXTRUSION PROFILES

Title: ALUMINUM HORIZONTAL SLIDING WINDOW

Series/Model:	Scale:	Sheet:	Drawing No.	Rev:
HS-710	NTS	6 of 6	4112	G

PREIS, Mike

From: Steve Clements [steve.clements@virginamerica.com]

Sent: Monday, February 20, 2006 11:17

To: PREIS, Mike; BUSSIERE, Alain; VAUDON, Jean-paul; GEBBIA, Giovanna; RUNDLETT, Miriam; WALBY, Thomas; RIVENBARK, William

Cc: Joe Houghton; Bob Weatherly; michael.a.barnett@faa.gov

Good Morning All from San Francisco,

Although we are not in the office today I wanted to bring you up to date on our schedule of events. The MFTD installation is on schedule and we will have an update this week if any changes. The remainder of the schedule remains unchanged and we are awaiting the detailed schedule for the simulators. Our POI will adjust his schedule as necessary. I have copied him on this communiqué.

On other issues, Bob, Joe and I met last week prior to their departure and are requesting the following:

1. Mike Preis and Jeff Prine have been instrumental in assisting with the development of our program. We would like to keep that relationship in place and on an unofficial basis want to designate these two individuals as our liasons.
2. We would like to have Mike oversee the simulator events in Miami and Jeff Prine oversee the MFTD/Ground Training events in SFO on an extended rotation basis if possible.
    a. As this is our program, being instructed by airbus persons, we have complete flexibility on the ground curriculum and we believe Jeff is the perfect candidate to assist with the transition and instruction in the MFTD. Although we understand Jeff is not a Pilot, his professionalism, knowledge of the aircraft, and the manual system have earned him the respect of the Virgin America team and the FAA. These areas are essential to the success of our program. Virgin America will train Jeff in the areas necessary to comply with our program per our FAA approved program and FOTM.
3. We need the list of items from our teleconference last week so I can complete our bridge training curriculum.

I look forward to seeing you in early April.

Kindest Regards

Steve Clements
Director of Training
virgin america