Wind Load Analysis and Certification

Burk Residence by Hartley Brothers, Inc

2017 Florida Building Code section 1609 according to ASCE 7
Ultimate Design Wind Speed (Vult) = 130 MPH (3 second gust)
Nominal Design Wind Speed (Vasd)) = 101 MPH
Risk Category = II
Exposure Category = B, Enclosed Building
Applicable Internal Pressure Coefficient = .18
Design Wind Pressure for use of External Components (Components and Cladding)= +32.1psf, -43.3psf
Overhead Garage Door: +15.2psf. -16.9psf

COLUMBIA COUNTY BUILDING DEPARTMENT Received for FILE COPY Code Compliance PLANS EXAMINER

9/30/15

Roof Decking

7/16" OSB or ½", 5/8"or ¾" CDX Decking; 48"x96" Sheets, Perpendicular to Roof Framing Members
8d common (.131" dia) or 8d ring-shank (.113' dia.) nails at 4" O.C. on Ends, 8" O.C. in Interior
Trusses or Rafters at 2' O.C. (horizontal distance), No Intermediate Blocking Required
Rafters: 2x6 SYP #2 up to 10' horizontal span, 2x8 SYP #2 up to14' horizontal span

Shear Wall Segments

7/16" OSB or ½" CDX plywood, 48" Wide Sheets - Sheathing Continuous from Top Plate down to Pressure Treated Sole Plate Bearing on Foundation.
8d common (.131" dia) nails at 3" O.C. on Edges and Ends, 8" O.C. in Interior
Transverse Shearwall = 39', Longitudinal Shearwall = 49'
2x4 SPF (No. 1&2) Studs at 16" O.C., up to 12' wall height
or: 2x6 SPF (No. 1&2) Studs at 16" O.C., up to 17' wall height
See attached detail for stud and jack requirements for wall openings
Nail Together Double Top Plate 6" O.C. w/12-d Common Nails (SYP top plates)
Other Wall Segments - Same as Shear Walls

COLUMBIA COUNTY BUILDING DEPARTMENT REVIEWED FOR FIELD COPY CODE COMPLIANCE PLANS EXAMINER

See Highlights !!

Gabled End Wall Framing

Balloon Frame (see detail) or see attached alternate detail.

Special Notes: All headers and beams to be double 2x12 SP#2 except 16' garage door header to be 2 Ply 1-3/4" x 14" LVL.

Footings and Foundations (Based on Truss Engineering)

20" deep x 14" wide monolithic with 2-#5's, Continuous, 3000 psi Concrete
Garage Mono: depth of garage mono footer shall be a min of 18" below the top of garage slab and any curb shall be a min of 6" wide and a max of 6" deep or 8" wide and 8" deep. Any curb deeper than this requires special engineering design.
or: 20" Wide x 10" Deep 3000 psi Concrete Strip Footing with 2-#5's, Continuous
8"x8"x16" Concrete Masonry Stemwall, Minimum 2 Courses, Maximum 4 Courses, Fully Grouted, except sections over 3 courses need only cells with rebar to be grouted. 1-#5 Vertical Dowel at Corners **and 6'-0" O.C.** (10" hook top and bottom) (min 25" lap all #5 rebar) Max distance between top of garage floor and top of stemwall = 18" **(1) #5 continuous top course. All 4" slabs requires 6x6 WWM** Mesh laps
Interior footers: 16" wide by 10" deep (including 4" slab) with 2-#5's, Continuous,
Porch Footers: see above or: 8" wide by 8" deep bell footing with 1-#5, Continuous with minimum of 30"x30" x 15" pad under each post (w/ 3- #5 each way)
Note: footer design based on continuous bearing. Footers (grade beams) for pier foundation systems must be designed by pier foundation subcontractor. Movement – The information presented in this document is not calculated or intended for the use or purpose of mitigating or addressing unsuitable soils or subsurface conditions in any way or manner, whatsoever.

Hurricane-Resistance Hardware (Based on Truss Engineering)

Truss Clips/Headers/Girders/Posts/Beams /Top and Bottom of Wall Unit - See Table
Anchor Bolts- A-307 (1/2"Dia. x 10" with min 8" embedment) at 48"O.C. (First bolt at 9" from Corner, then 48" O.C.) and at each end of Each Opening (2" round or square washers).

I hereby certify that the accompanying Wind Load Analysis for the **Burk Residence**, demonstrates compliance with the 2017 FBC section 1609 according to ASCE 7, to the best of my knowledge.

Frank J. Sapienza Jr.
License Professional Engineer
Florida License Number 48566

HOLD-DOWN TABLE **Burk Residence** **9/30/2019**

Wood Sections	Uplift Force Lbs	Top Connector Simpson **	Rating Lbs	Bottom Connector Simpson **	Rating Lbs
HEADERS					
	up to 455 lbs	LSTA9	775	H3	455
	up to 910 lbs	LSTA12	970	2-H3	910
	up to 1235 lbs	LSTA18	1235	LTT19	1350
	up to 1750 lbs	2-LSTA12	1940	LTT20	1750
	up to 2470 lbs	2-LSTA18	2470	HD2A-2.5	2565
	up to 2775 lbs	3-LSTA18	3705	HD2A-3.5	2775
	up to 3705 lbs	3-LSTA18	3705	HD5A-3	3705

To determine uplift force on header at each end, total the uplifts for each truss resting on the header and divide by 2
(assumes uniform load) Note: must use proper bolt anchors sufficient to support required load

Trusses/Girders - Uplift

up to 600 lbs - use H2.5A top, no special device required at bottom
over 600 lbs but under 990 lbs use H10 top, no special device required at bottom
up to 1215 lbs use TS22 or equivalent at top and LTT19 at bottom
up to 1750 lbs use 2-TS22 or equivalent at top and LTT20 at bottom
up to 2430 lbs use 2-TS22 or equivalent at top and HD2A bottom
up to 3645 lbs use 3-TS22 or equivalent at top and HD5A bottom
Must Use proper bolt anchors

Note: it is the contractors responsibility to provide a continuous load path from truss/rafter/ridge beam to foundation

Strap rafters to truss or at each end with min uplift resistance of 450 lbs each end
Strap ridge beam at each end with min uplift resistance of 1800 lbs

Note: Four (4) 12d comm toenails (2 on each side) required per truss/rafter per bearing point into plate to resist both lateral loads (wall to truss) and transverse loads (max plate height =12', not including gable)

Horizontal Resistance (from truss loads) - Note: these devices are in addition to required toe-nails

up to 110 lbs - use H2.5A
up to 525 lbs use H10
up to 1090 lbs use H10 plus A23

Note: hardware to be used must satisfy both uplift and horizontal resistance, combination of devices is acceptable

Note: for combination of loads (uplift and horizontal/lateral) on a single device, the ratio of actual uplift/allowable uplift + actual horizontal load/allowable horizontal cannot exceed 1

		top		bottom	
BEAM SEATS		LSTA18*	1235	LTT19*	1350
POSTS	(Max post spacing = 12')	2-LSTA18	2400	ABU44 or ABU66	2200
	*** or per truss engineering**			Must Use proper bolt anchors	

STUDS

Wall Sheathing Nailing Adequate Exterior Walls bottom (8d nails at 3" O.C.), must cover sill plate
Wall Sheathing Nailing Adequate Exterior Walls Top (8d nails at 3" O.C.), as long as sheathing covers top plate, otherwise use SP2 @32" O.C. in addition to sheathing nailing,
Use SP2 top and SP1 bottom each stud an ancor bolts @ 32" O.C. for all interior load bearing walls that have uplift. Interior anchor bolts to be 1/2" x 8" A307 or 1/2" x 6" wedge anchor with 2" washers

Please Note: All Beams must be sheathed or strapped to Double Top Plate (if applicable)

**an equivalent device of same or other manufactures can be substituted for any of the devices specified on this page as long as it meets the required load capacities

Note: For nailing into SPF members, multiply table values by .86

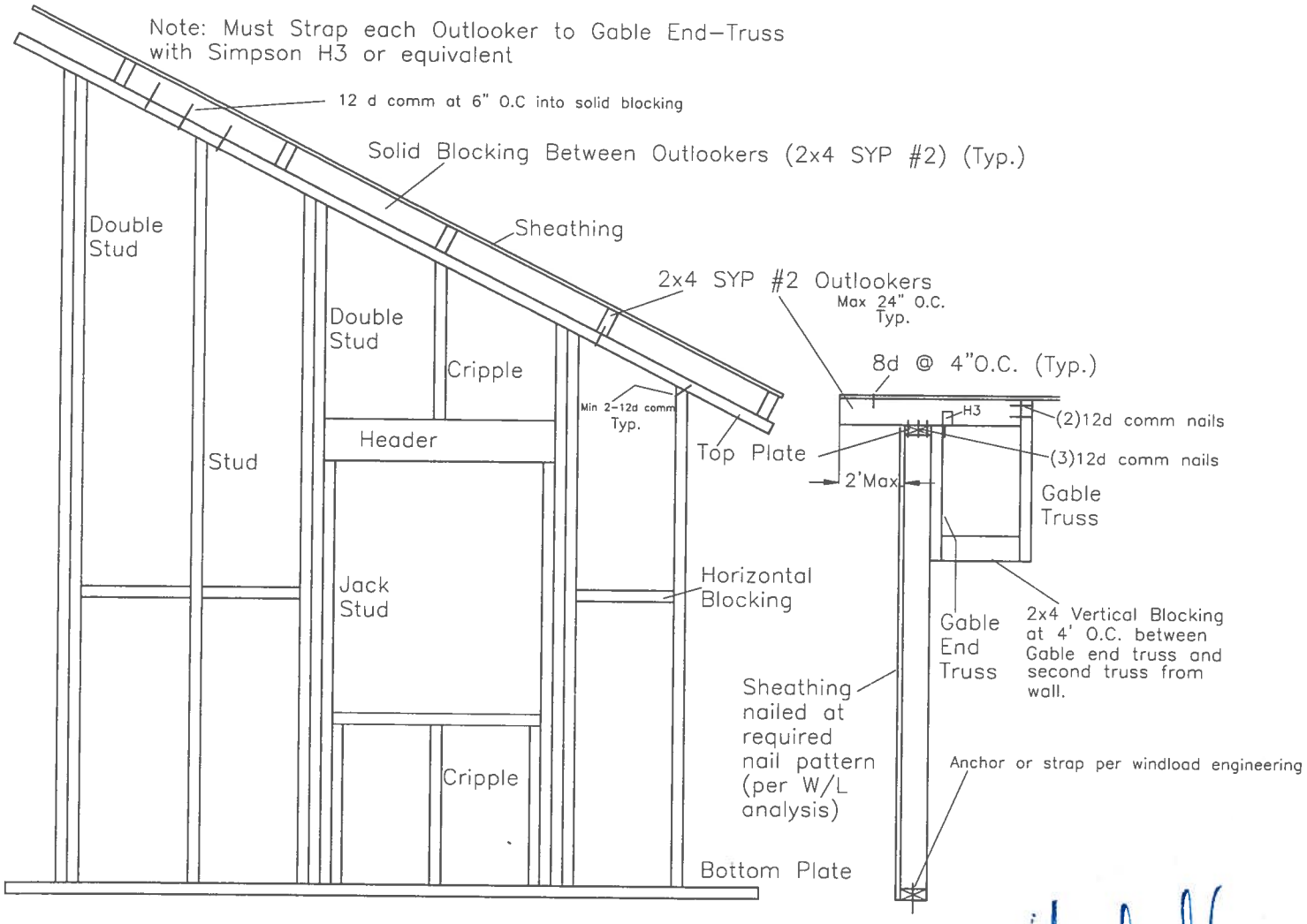
9/30/19

Acceptable Framing Method for Balloon Framed Gable End–Wall with trusses

Balloon Frame with 2x4 SPF No.1&2 @ 16" O.C. with the Following Conditions:
Up to 12' – Block at 8'
Over 12' but Under 14' – 2x4 SYP #2 at 16" O.C. and Block at 4',8'&12'
Over 14' but Under 17' – Double 2x4 SYP #2 at 16" O.C. and block at 4',8',12'&16'
Over 17' but Under 20' – Triple 2x4 SYP #2 at 16" O.C. and block at 4',8',12'&16'
Over 20' but Under 23' – Quadruple 2x4 SYP #2 at 16" O.C.and block at 4',8',12',16'&20'
Over 23' – Must be Engineered

In all cases a minimum of a double full length stud is required at each side of openings such as doors and windows

Blocking must be parallel to top and bottom plates with a minimum of 2–12d comm nails

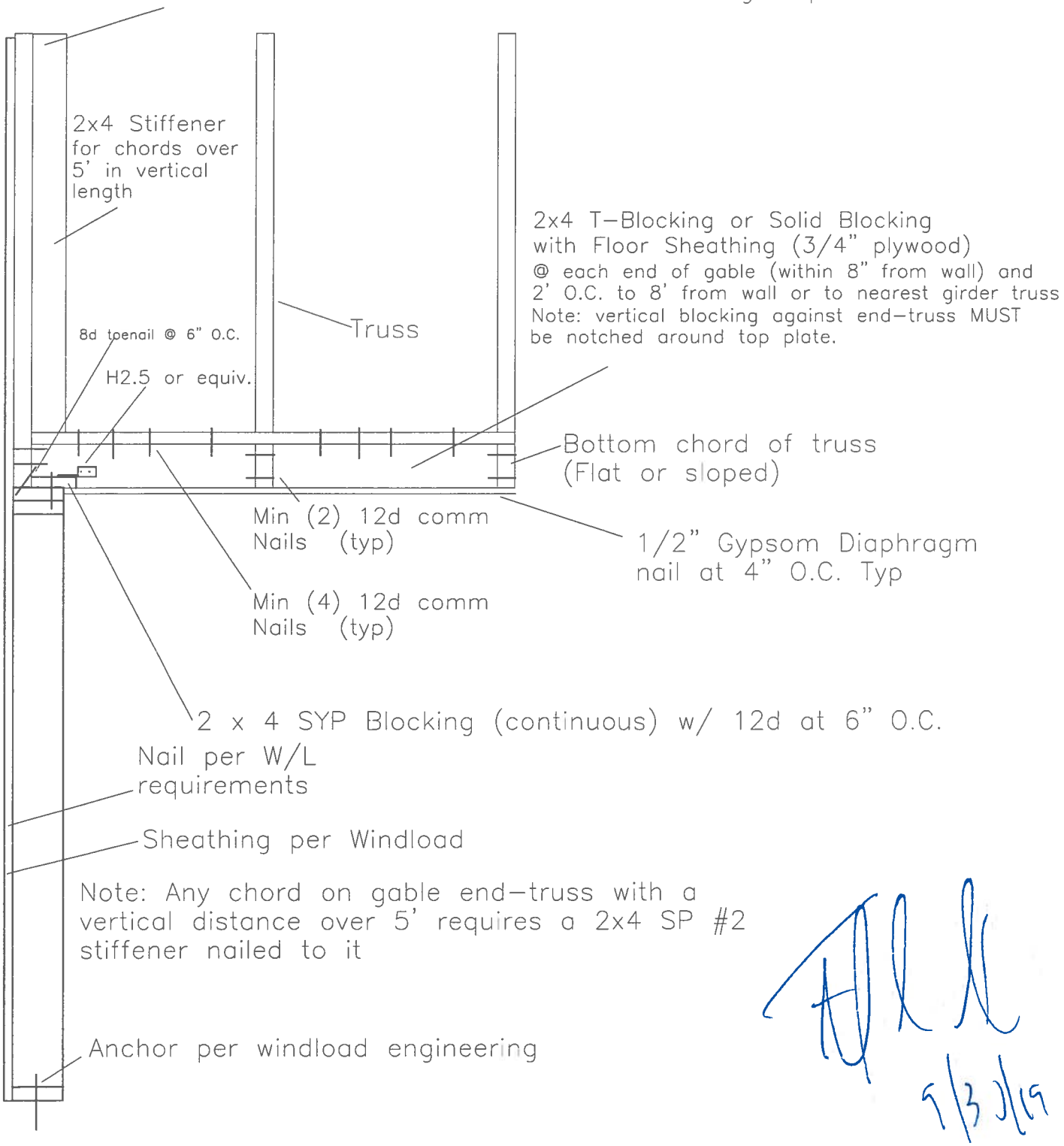


F. Sapienza, P.E.

7/30/19

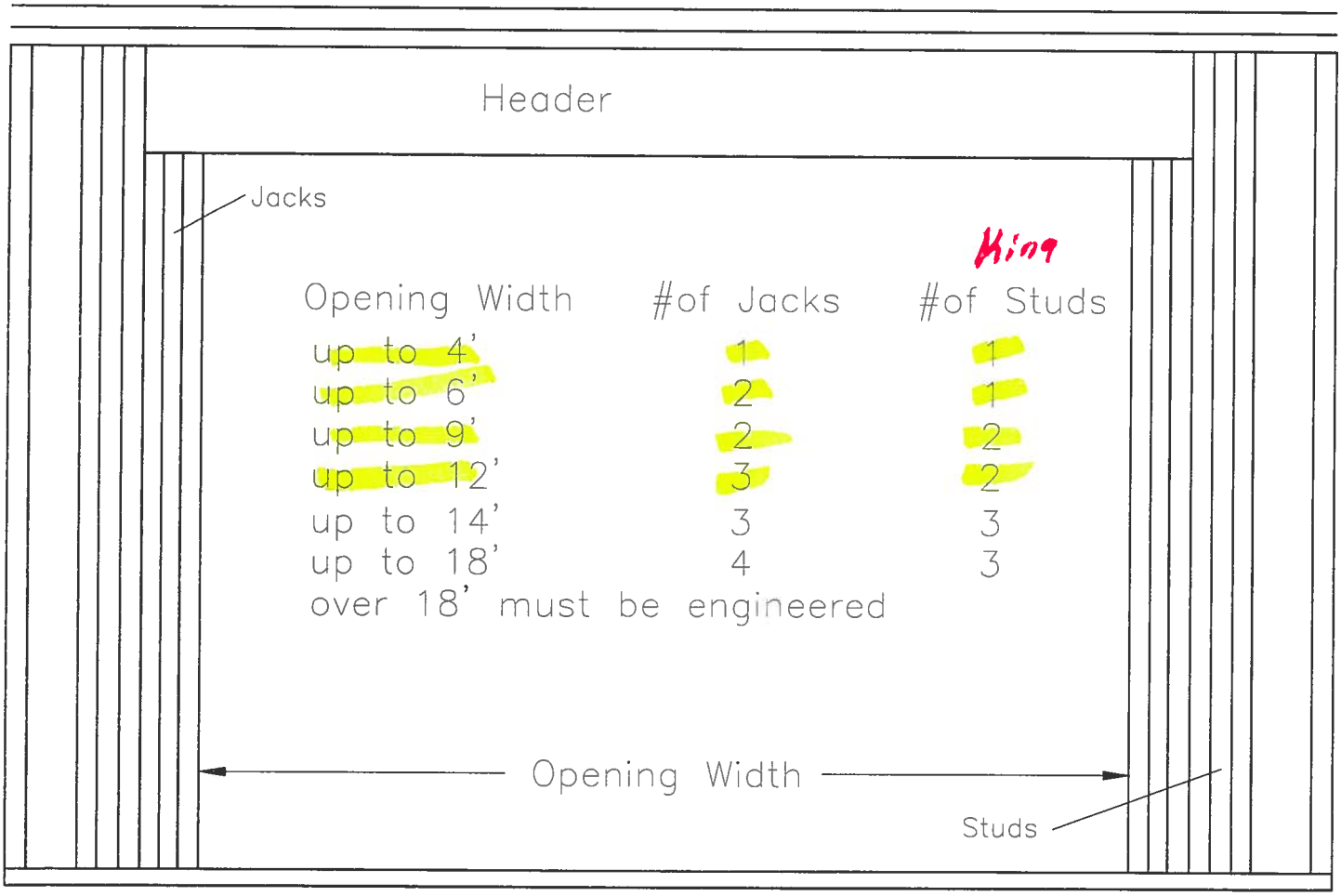
Gable Endwall Framing with Gable End–Truss

See Balloon Framed Detail for Outlooker framing requirements



9/3/19

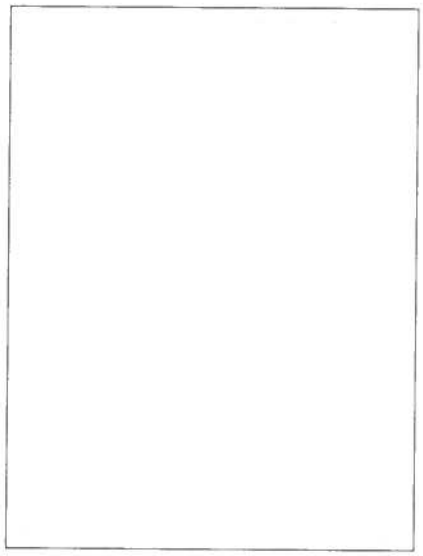
Number of Jack and Stud Requirements per Opening Width
2x4 or 2x6 SPF #1&2 Construction – max Wall Height=12'
(based on 16" O.C. Stud Spacing)



Note – Based on uniform loads. Heavy concentrated loads require engineering review

9/3/19

Project Name: Burk Residence



Location:

By: F Sapienza

Start Date: 9/30/2019

Comments:

Local Information

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

Basic Wind Speed: 130 mph

Topography: None

Optional Factors

This project uses load combinations from ASCE 7.

Section - Main Section

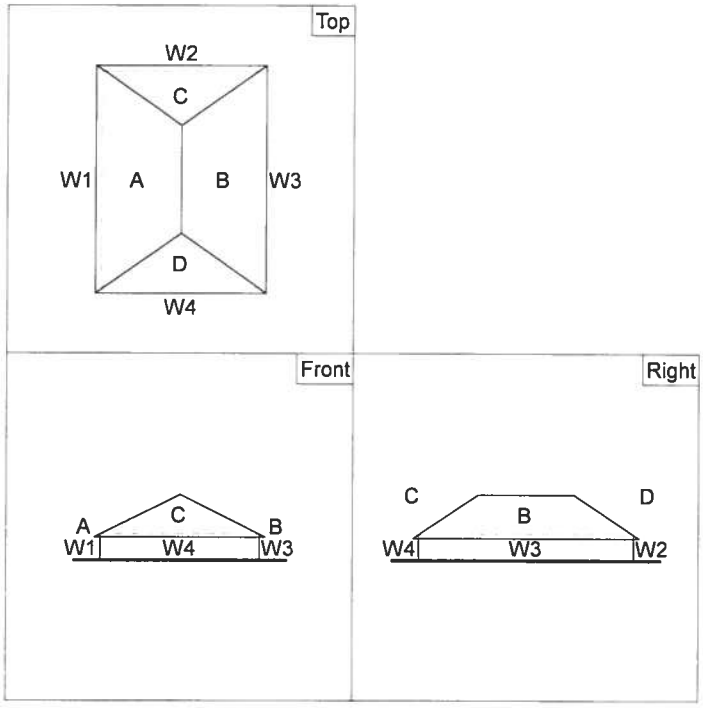
Enclosure Classification: Enclosed
Building Category: II

Wall	Length(ft)	Overhang(ft)
1	73.0	2.0
2	54.0	2.0
3	73.0	2.0
4	54.0	2.0

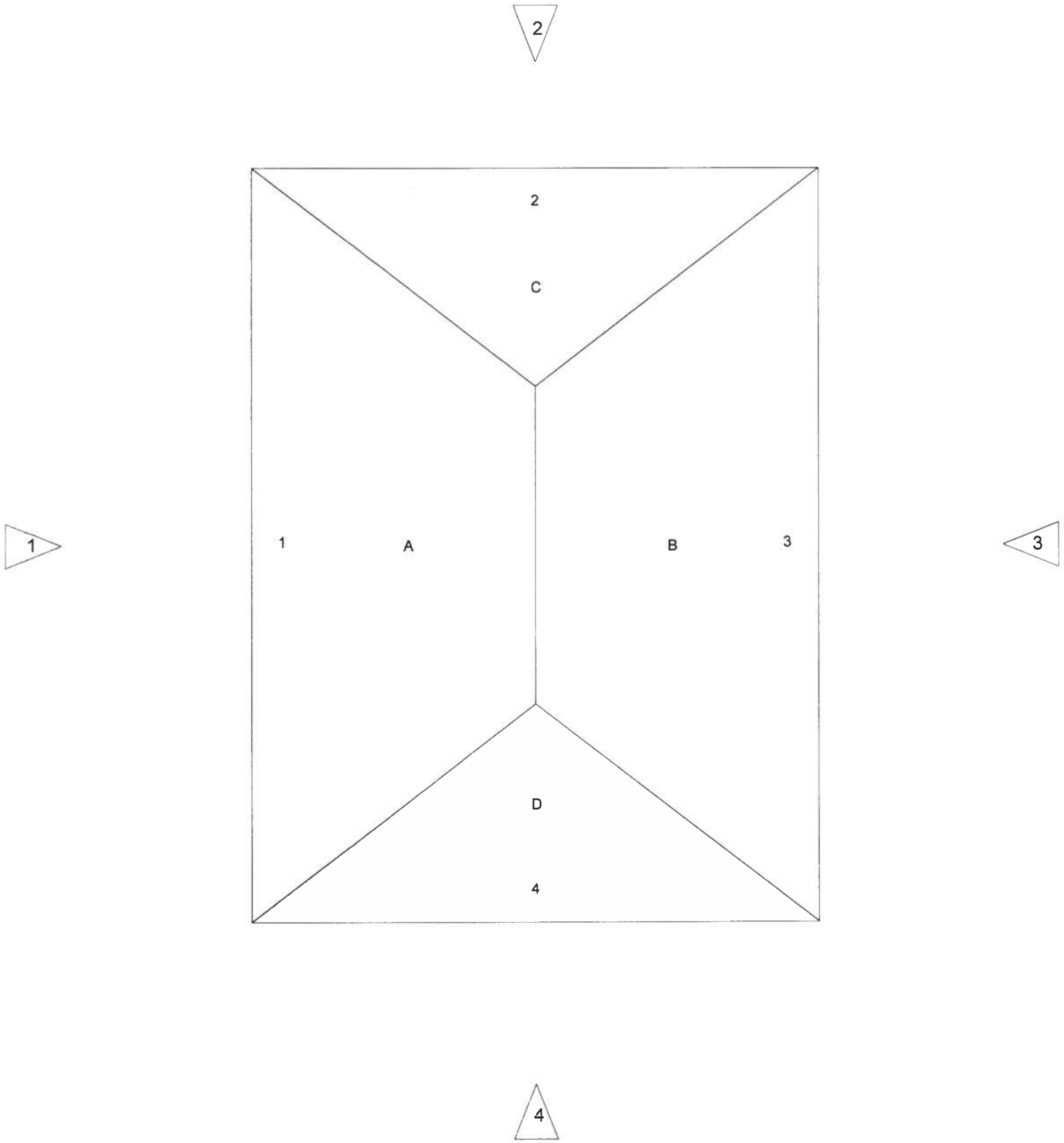
Wall Height: 9 ft
Parapet Height: 0 ft

Roof Shape: Hipped

Roof	Slope(:12)
A&B	6.0
C&D	8.0



Composite Drawing



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	9.0	21.1	0.85	0.80	0.18	14.3	10.3	18.4
	Overhang Top	18.0	22.3		0.34	0	6.4		
		18.0	22.3		-0.10		-1.9		
	Overhang Bot	9.0	21.1		0.80		14.3		
2	Side Wall	18.0	22.3	0.85	-0.70	0.18	-13.3	-17.3	-9.3
3	Leeward Wall	18.0	22.3	0.85	-0.50	0.18	-9.5	-13.5	-5.5
4	Side Wall	18.0	22.3	0.85	-0.70	0.18	-13.3	-17.3	-9.3
A	Windward Roof	18.0	22.3	0.85	0.27	0.18	5.1	1.1	9.1
		18.0	22.3		-0.22		-4.2	-8.2	-0.2
B	Leeward Roof	18.0	22.3	0.85	-0.60	0.18	-11.4	-15.4	-7.4
C&D	Roof	0 to 9.0	22.3	0.85	-0.90	0.18	-17.1	-21.1	-13.0
		9.0 to 18.0	22.3				-17.1	-21.1	-13.0
		18.0 to 36.0	22.3		-0.50		-9.5	-13.5	-5.5
		36.0 to 54.0	22.3		-0.30		-5.7	-9.7	-1.7

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	18.0	22.3	0.86	-0.70	0.18	-13.4	-17.4	-9.4
2	Windward Wall	15.0	21.1		0.80		14.5	10.5	18.5
		18.0	22.3				15.3	11.3	19.4
		20.0	22.9				15.8	11.7	19.8
		25.0	24.5				16.9	12.8	20.9
		27.0	25.0				17.2	13.2	21.2
	Overhang Top	18.0	22.3		0.37	0	7.1		
		18.0	22.3		-0.05		-1.0		
	Overhang Bot	9.0	21.1		0.80		14.5		
3	Side Wall	18.0	22.3	0.86	-0.70	0.18	-13.4	-17.4	-9.4
4	Leeward Wall	18.0	22.3	0.86	-0.43	0.18	-8.2	-12.3	-4.2
D	Windward Roof	18.0	22.3	0.86	0.37	0.18	7.1	3.1	11.1
		18.0	22.3		-0.05		-1.0	-5.0	3.1
C	Leeward Roof	18.0	22.3	0.86	-0.60	0.18	-11.5	-15.5	-7.5
A&B	Roof	0 to 9.0	22.3	0.86	-0.90	0.18	-17.3	-21.3	-13.2
		9.0 to 18.0	22.3				-17.3	-21.3	-13.2
		18.0 to 36.0	22.3		-0.50		-9.6	-13.6	-5.6
		36.0 to 73.0	22.3		-0.30		-5.8	-9.8	-1.7

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	18.0	22.3	0.85	-0.50	0.18	-9.5	-13.5	-5.5
2	Side Wall	18.0	22.3		-0.70		-13.3	-17.3	-9.3
3	Windward Wall	9.0	21.1	0.85	0.80	0.18	14.3	10.3	18.4
	Overhang Top	18.0	22.3		0.34	0	6.4		
		18.0	22.3		-0.10		-1.9		
	Overhang Bot	9.0	21.1		0.80		14.3		
4	Side Wall	18.0	22.3	0.85	-0.70	0.18	-13.3	-17.3	-9.3
B	Windward Roof	18.0	22.3	0.85	0.27	0.18	5.1	1.1	9.1
		18.0	22.3		-0.22		-4.2	-8.2	-0.2
A	Leeward Roof	18 0	22.3	0.85	-0.60	0.18	-11.4	-15.4	-7.4
C&D	Roof	0 to 9.0	22.3	0.85	-0.90	0.18	-17.1	-21.1	-13.0
		9.0 to 18.0	22.3				-17.1	-21.1	-13.0
		18.0 to 36.0	22.3		-0.50		-9.5	-13.5	-5.5
		36.0 to 54.0	22.3		-0.30		-5.7	-9.7	-1.7

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	18.0	22.3	0.86	-0.70	0.18	-13.4	-17.4	-9.4
2	Leeward Wall	18.0	22.3		-0.43		-8.2	-12.3	-4.2
3	Side Wall	18.0	22.3	0.86	-0.70	0.18	-13.4	-17.4	-9.4
4	Windward Wall	15.0	21.1	0.86	0.80	0.18	14.5	10.5	18.5
		18.0	22.3				15.3	11.3	19.4
		20.0	22.9				15.8	11.7	19.8
		25.0	24.5				16.9	12.8	20.9
		27.0	25.0				17.2	13.2	21.2
	Overhang Top	18.0	22.3		0.37	0	7.1		
		18.0	22.3		-0.05		-1.0		
	Overhang Bot	9.0	21.1		0.80		14.5		
C	Windward Roof	18.0	22.3	0.86	0.37	0.18	7.1	3.1	11.1
		18.0	22.3		-0.05		-1.0	-5.0	3.1
D	Leeward Roof	18.0	22.3	0.86	-0.60	0.18	-11.5	-15.5	-7.5
A&B	Roof	0 to 9.0	22.3	0.86	-0.90	0.18	-17.3	-21.3	-13.2
		9.0 to 18.0	22.3				-17.3	-21.3	-13.2
		18.0 to 36.0	22.3		-0.50		-9.6	-13.6	-5.6
		36.0 to 73.0	22.3		-0.30		-5.8	-9.8	-1.7

COLUMBIA COUNTY BUILDING DEPARTMENT
RESIDENTIAL CHECK LIST

MINIMUM PLAN REQUIREMENTS: FLORIDA BUILDING CODE RESIDENTIAL 2017 EFFECTIVE 1 JANUARY 2018 AND THE NATIONAL ELECTRICAL 2014 EFFECTIVE 1 JANUARY 2018

ALL REQUIREMENTS ARE SUBJECT TO CHANGE

ALL BUILDING PLANS MUST INDICATE COMPLIANCE WITH THE CURRENT FLORIDA BUILDING CODES RESIDENTIAL AND THE NATIONAL ELECTRICAL CODE. ALL PLANS OR DRAWINGS SHALL PROVIDE 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, FBC 1609.3.1 THRU 1609.3.3.

FOR DESIGN PURPOSES THE FOLLOWING BASIC WIND SPEEDS ARE PER FLORIDA BUILDING CODE FIGURE 1609-A THROUGH 1609-C ULTIMATE DESIGN WIND SPEEDS FOR RISK CATEGORY AND BUILDINGS AND OTHER STRUCTURES

Revised 7/1/18

Website: http://www.columbiacountyfla.com/BuildingandZoning.asp

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL			Items to Include- Each Box shall be Circled as Applicable		
				Select From Drop down		
1	Two (2) complete sets of plans containing the following:					
2	All drawings must be clear, concise, drawn to scale, details that are not used shall be marked void					
3	**Condition space (Sq. Ft.)** 2,521	**Total (Sq. Ft.) under roof** 3,633		Yes	No	NA

Designers name and signature shall be on all documents and a licensed architect or engineer, signature and official embossed seal shall be affixed to the plans and documents as per the FLORIDA BUILDING CODES RESIDENTIAL 107.1.

Site Plan information including:

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

Wind-load Engineering Summary, calculations and any details are required.

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
8	**Plans or specifications must show compliance with FBCR Chapter 3**	Yes	No	NA

		Select From Drop down		
9	Basic wind speed (3-second gust), miles per hour	✓		
10	(Wind exposure – if more than one wind exposure is used, the wind exposure and applicable wind direction shall be indicated)	✓		
11	Wind importance factor and nature of occupancy	✓		
12	The applicable internal pressure coefficient, Components and Cladding	✓		
13	The design wind pressure in terms of psf (kN/m²), to be used for the design of exterior component, cladding materials not specifally designed by the registered design professional.	✓		

Elevations Drawing including:

14	All side views of the structure	- ✓		
15	Roof pitch	-		
16	Overhang dimensions and detail with attic ventilation	- ✓		
17	Location, size and height above roof of chimneys	- ✓		
18	Location and size of skylights with Florida Product Approval	-		✓
19	Number of stories – 1	-		✓
20	Building height from the established grade to the roofs highest peak	- ✓		

Floor Plan Including:

21	Dimensioned area plan showing rooms, attached garage, breeze ways, covered porches, deck, balconies	- ✓		
22	Raised floor surfaces located more than 30 inches above the floor or grade	✓		
23	All exterior and interior shear walls indicated	✓		
24	Shear wall opening shown (Windows, Doors and Garage doors)	✓		
25	Show compliance with Section FBCR 310 Emergency escape and rescue opening shown in each bedroom (net clear opening shown) and Show compliance with Section FBC 1405.13.2 where the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches shall be fixed or have openings through which a 4-inch-diameter sphere cannot pass.	✓ -		
26	Safety glazing of glass where needed	✓		
27	Fireplaces types (gas appliance) (vented or non-vented) or wood burning with Hearth (see chapter 10 and chapter 24 of FBCR)	-		
28	Show stairs with dimensions (width, tread and riser and total run) details of guardrails, Handrails	-		✓
29	Identify accessibility of bathroom (see FBCR SECTION 320)	- ✓		✓

All materials placed within opening or onto/into exterior walls, soffits or roofs shall have Florida product approval number and mfg. installation information submitted with the plans (see Florida product approval form)

GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

FBCR 403: Foundation Plans

Select From Drop down

30	Location of all load-bearing walls footings indicated as standard, monolithic, dimensions, size and type of reinforcing.	- ✓		
31	All posts and/or column footing including size and reinforcing	- ✓		
32	Any special support required by soil analysis such as piling.	-		✓
33	Assumed load-bearing valve of soil Pound Per Square Foot	-		
34	Location of horizontal and vertical steel, for foundation or walls (include # size and type) For structures with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an grounding electrode system. Per the National Electrical Code article 250.52.3	- ✓		

FBCR 506: CONCRETE SLAB ON GRADE

35	Show Vapor retarder (6mil. Polyethylene with joints lapped 6 inches and sealed)	- ✓		
36	Show control joints, synthetic fiber reinforcement or welded fire fabric reinforcement and Supports	- ✓		

FBCR 318: PROTECTION AGAINST TERMITES

37	Indicate on the foundation plan if soil treatment is used for subterranean termite prevention or Submit other approved termite protection methods. **Protection shall be provided by registered termiticides**	- ✓		

FBCR 606: Masonry Walls and Stem walls (load bearing & shear Walls)

38	Show all materials making up walls, wall height, and Block size, mortar type	-		N/A
39	Show all Lintel sizes, type, spans and tie-beam sizes and spacing of reinforcement	-		N/A

Metal frame shear wall and roof systems shall be designed, signed and sealed by Florida Prof. Engineer or Architect

Floor Framing System: First and/or second story

40	Floor truss package shall including layout and details, signed and sealed by Florida Registered Professional Engineer	-			N/A
41	Show conventional floor joist type, size, span, spacing and attachment to load bearing walls, stem walls and/or priers	-			
42	Girder type, size and spacing to load bearing walls, stem wall and/or priers	-			
43	Attachment of joist to girder	-			
44	Wind load requirements where applicable	-			
45	Show required under-floor crawl space	-			
46	Show required amount of ventilation opening for under-floor spaces	-			
47	Show required covering of ventilation opening	-			
48	Show the required access opening to access to under-floor spaces	-			
49	Show the sub-floor structural panel sheathing type, thickness and fastener schedule on the edges & intermediate of the areas structural panel sheathing	-			
50	Show Draftstopping, Fire caulking and Fire blocking	-			
51	Show fireproofing requirements for garages attached to living spaces, per FBCR section 302.6	-			
52	Provide live and dead load rating of floor framing systems (psf).	-			N/A

FBCR CHAPTER 6 WOOD WALL FRAMING CONSTRUCTION

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

Select from Drop down

53	Stud type, grade, size, wall height and oc spacing for all load bearing or shear walls	- ✓			
54	Fastener schedule for structural members per table FBC-R602.3.2 are to be shown	- ✓			
55	Show Wood structural panel's sheathing attachment to studs, joist, trusses, rafters and structural members, showing fastener schedule attachment on the edges & intermediate of the areas structural panel sheathing	- ✓			
56	Show all required connectors with a max uplift rating and required number of connectors and oc spacing for continuous connection of structural walls to foundation and roof trusses or rafter systems	- ✓			
57	Show sizes, type, span lengths and required number of support jack studs, king studs for shear wall opening and girder or header per FBC-R602.7.	✓			
58	Indicate where pressure treated wood will be placed	✓			
59	Show all wall structural panel sheathing, grade, thickness and show fastener schedule for structural panel sheathing edges & intermediate areas	- ✓			
60	A detail showing gable truss bracing, wall balloon framing details or/ and wall hinge bracing detail	- ✓			

FBCR :ROOF SYSTEMS:

61	Truss design drawing shall meet section FBC-R 802.10. 1 Wood trusses	- ✓			
62	Include a layout and truss details, signed and sealed by Florida Professional Engineer	- ✓			
63	Show types of connector's assemblies' and resistance uplift rating for all trusses and rafters	- ✓			
64	Show gable ends with rake beams showing reinforcement or gable truss and wall bracing details	- ✓			
65	Provide dead load rating of trusses	✓			

FBCR 802:Conventional Roof Framing Layout

66	Rafter and ridge beams sizes, span, species and spacing	-			N/A
67	Connectors to wall assemblies' include assemblies' resistance to uplift rating	-			N/A
68	Valley framing and support details	-			N/A
69	Provide dead load rating of rafter system	-			N/A

FBCR 803 ROOF SHEATHING

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

ROOF ASSEMBLIES FRC Chapter 9

72	Include all materials which will make up the roof assembles covering	- ✓			
73	Submit Florida Product Approval numbers for each component of the roof assembles covering	- ✓			

FBCR Chapter 11 Energy Efficiency Code for Residential Building

Residential construction shall comply with this code by using the following compliance methods in the FBCR Chapter 11 Residential buildings compliance methods. **Two of the required forms are to be submitted**, *N1100.1.1.1 As an alternative to the computerized Compliance Method A, the Alternate Residential Point System Method hand calculation, Alternate Form 600A, may be used. All requirements specific to this calculation are located in Sub appendix C to Appendix G. Buildings complying by this alternative shall meet all mandatory requirements of this chapter. Computerized versions of the Alternate Residential Point System Method shall not be acceptable for code compliance.*

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable			
		Select from Drop Down			
74	Show the insulation R value for the following areas of the structure	- ✓			
75	Attic space	- ✓			
76	Exterior wall cavity	-		✓	
77	Crawl space	-		✓	

HVAC information

78	Submit two copies of a Manual J sizing equipment or equivalent computation study	- ✓			
79	Exhaust fans shown in bathrooms **Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous required**	- ✓			
80	Show clothes dryer route and total run of exhaust duct	- ✓			

Plumbing Fixture layout shown

81	All fixtures waste water lines shall be shown on the foundation plan	- ✓			
82	Show the location of water heater	- ✓			

Private Potable Water

83	Pump motor horse power	- ✓			
84	Reservoir pressure tank gallon capacity	- ✓			
85	Rating of cycle stop valve if used	- ✓			

Electrical layout shown including

86	Show Switches, receptacles outlets, lighting fixtures and Ceiling fans	- ✓			
87	Show all 120-volt, single phase, 15- and 20-ampere branch circuits outlets required to be protected by **Ground-Fault Circuit Interrupter (GFCI) Article 210.8 A**	- ✓			
88	Show the location of smoke detectors & Carbon monoxide detectors	- ✓			
89	Show service panel, sub-panel, location(s) and total ampere ratings	- ✓			
90	On the electrical plans identify the electrical service overcurrent protection device for the main electrical service. This device shall be installed on the exterior of structures to serve as a disconnecting means for the utility company electrical service. 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. Indicate if the utility company service entrance cable will be of the overhead or underground type. **For structures** with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an Grounding electrode system. Per the National Electrical Code article 250.52.3	- ✓			
91	Appliances and HVAC equipment and disconnects	- ✓			
92	Show all 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed **Combination arc-fault circuit interrupter,** Protection device.	- ✓			

Notice Of Commencement:

A notice of commencement form RECORDED in the Columbia County Clerk Office is required to be filed with the Building Department BEFORE ANY INSPECTIONS can be performed.

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

****ITEMS 95, 96, & 98 Are Required After APPROVAL from the ZONING DEPT.****

Select from Drop down

93	**Building Permit Application** A current Building Permit Application is to be completed, by following the Checklist all supporting documents must be submitted. There is a **$15.00** application fee. The completed application with attached documents and application fee can be mailed.	- ✓		
94	**Parcel Number** The parcel number (Tax ID number) from the Property Appraisers Office (386) 758-1083 is required. A copy of property deed is also required. www.columbiacountyfla.com	- ✓		
95	**Environmental Health Permit or Sewer Tap Approval** A copy of a approved Columbia County Environmental Health (386) 758-1058 - Applied	-		
96	**City of Lake City** A City Water and/or Sewer letter. Call 386-752-2031	-		✓
97	**Toilet facilities shall be provided for all construction sites**	- ✓		
98	**Town of Fort White** (386) 497-2321 If the parcel in the application for building permit is within the Corporate city limits of Fort White, an approval land use development letter issued by the Town of Fort is required to be submitted with the application for a building permit.	-		✓
99	**Flood Information:** All projects within the Floodway of the Suwannee or Santa Fe Rivers shall require permitting through the Suwannee River Water Management District, before submitting a application to this office. Any project located within a flood zone where the base flood elevation (100 year flood) has been established shall meet the requirements of Section 8.5.2 of the Columbia County Land Development Regulations. Any project located within a flood zone where the base flood elevation has not been established (Zone A) shall meet the requirements of Section 8.5.3 of the Columbia County Land Development Regulations (Municode.com)	- ✓		
100	**CERTIFIED FINISHED FLOOR ELEVATIONS** will be required on any project where the approved FIRM Flood Maps show the property is in a AE, Floodway, and AH flood zones. Additionally One Foot Rise letters are required for AE and AH zones. In the Floodway Flood zones a Zero Rise letter is required.	-		✓
101	A Flood development permit is also required for AE, Floodway & AH. Development permit cost is **$50.00**	-		✓
102	**Driveway Connection:** If the property does not have an existing access to a public road, then an application for a culvert permit (**$25.00**) must be made. County Public Works Dept. determines the size and length of every culvert before instillation and completes a final inspection before permanent power is granted. If the applicant feels that a culvert is not needed, they may apply for a culvert waiver (**$50.00**) Separate Check when issued. If the project is to be located on an F.D.O.T. maintained road, then an F.D.O.T. access permit is required.	✓		
103	**911 Address:** An application for a 911address must be applied for and **received** through the Columbia County Emergency Management Office of 911 Addressing Department (386) 758-1125.	✓		

Ordinance Sec. 90-75. - Construction debris. (e) It shall be unlawful for any person to dispose of or discard solid waste, including construction or demolition debris at any place within the county other than on an authorized disposal site or at the county's solid waste facilities. The temporary storage, not to exceed seven days of solid waste (excluding construction and demolition debris) on the premises where generated or vegetative trash pending disposition as authorized by law or ordinance, shall not be deemed a violation of this section. The temporary storage of construction and demolition debris on the premises where generated or vegetative trash pending disposition as authorized by law or ordinance shall not be deemed in violation of this section, provided, however, such construction and demolition debris must be disposed of in accordance with this article prior to the county's issuance of a certificate of occupancy for the premises. The burning of lumber from a construction or demolition project or vegetative trash when done so with legal and proper permits from the authorized agencies and in accordance with such agencies' rules and regulations, shall not be deemed a violation of this section. No person shall bury, throw, place, or deposit, or cause to be buried, thrown, placed, or deposited, any solid waste, special waste, or debris of any kind into or on any of the public streets, road right-of-way, highways, bridges, alleys, lanes, thoroughfares, waters, canals, or vacant lots or lands within the county. No person shall bury any vegetative trash on any of the public streets, road right-of-way, highways, bridges, lanes, thoroughfares, waters, canals, or lots less than ten acres in size within the county.

Disclosure Statement for Owner Builders:

If you as the Applicant will be acting as your own contractor or owner/builder under section 489.103(7) Florida Statutes, you must submit the required notarized Owner Builder Disclosure Statement form.

**This form can be printed from the Columbia County Website on the Building and Zoning page under Documents. Web address is - http://www.columbiacountyfla.com/BuildingandZoning.asp

Section 105 of the Florida Building Code defines the:

Time limitation of application.

An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Single-family residential dwelling.

Section 105.3.4 A building permit for a single-family residential dwelling must be issued within 30 working days of application therefor unless unusual circumstances require a longer time for processing the application or unless the permit application fails to satisfy the Florida Building Code or the enforcing agency's laws or ordinances.

Permit intent.

Section 105.4.1: A permit issued shall be constructed to be a license to proceed with the work and not as authority to violate, cancel, alter or set aside any of the provisions of the technical codes, nor shall issuance of a permit prevent the building official from thereafter requiring a correction of errors in plans, construction or violations of this code. Every permit issued shall become invalid unless the work authorized by such permit is commenced within six months after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of six months after the time the work is commenced.

If work has commenced.

Section 105.4.1.1: If work has commenced and the permit is revoked, becomes null and void, or expires because of lack of progress or abandonment, a new permit covering the proposed construction shall be obtained before proceeding with the work.

New Permit.

Section 105.4.1.2: If a new permit is not obtained within 180 days from the date the initial permit became null and void, the building official is authorized to require that any work which has been commenced or completed be removed from the building site. Alternately, a new permit may be issued on application, providing the work in place and required to complete the structure meets all applicable regulations in effect at the time the initial permit became null and void and any regulations which may have become effective between the date of expiration and the date if issuance of the new permit.

Work Shall Be:

Section 105.4.1.3: Work shall be considered to be in active progress when the permit has received an approved inspection within 180 days. This provision shall not be applicable in case of civil commotion or strike or when the building work is halted due directly to judicial injunction, order or similar process.

The Fee:

Section 105.4.1.4: The fee for renewal reissuance and extension of a permit shall be set forth by the administrative authority.

Notification:

When the application is approved for permitting the applicant will be notified by phone as to the status by the Columbia County Building & Zoning Department.

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and approval numbers on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. Statewide approved products are listed online @ www.floridabuilding.org

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)
1. EXTERIOR DOORS			
A. SWINGING	Plastpro	Double French PVC Doors - 8'	FL 15220.12
B. SLIDING			
C. SECTIONAL/ROLL UP	Overhead Door	Non Insulated Steel Garage Door - 16' x 7'	
D. OTHER	Plastpro	Single Glazed PVC Door - 8'	FL 15220.11
	Plastpro	Single Unglazed PVC Door - 6'8"	FL 15220.6
2. WINDOWS			
A. SINGLE/DOUBLE HUNG	MI	SH Vinyl Frame, Low E Window	FL 17676-R7
B. HORIZONTAL SLIDER			
C. CASEMENT			
D. FIXED	MI	Fixed, Vinyl Frame, Low E Window	FL 18644-R2
E. MULLION			
F. SKYLIGHTS			
G. OTHER			
3. PANEL WALL			
A. SIDING	James Hardie	Fiber Cement Lap Siding	FL 13192.2-R5
B. SOFFITS	ACM	Aluminum Soffit	FL 12019.1-R5
C. STOREFRONTS			
D. GLASS BLOCK			
E. OTHER			
4. ROOFING PRODUCTS			
A. ASPHALT SHINGLES	Tamko	30 yr. Arch. Asphalt Shingles	FL 18355-R4
B. NON-STRUCT METAL	Tarco	Self-Adhering Underlayment	FL 10450-R9
C. ROOFING TILES			
D. SINGLE PLY ROOF			
E. OTHER			
5. STRUCT COMPONENTS			
A. WOOD CONNECTORS			
B. WOOD ANCHORS			
C. TRUSS PLATES			
D. INSULATION FORMS			
E. LINTELS			
F. OTHERS			
6. NEW EXTERIOR			
ENVELOPE PRODUCTS			

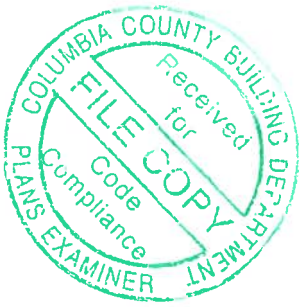
The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; 1) copy of the product approval, 2) performance characteristics which the product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

NOTES: _____

CP-HB-Burk
HVAC Load Calculations

for

Hartley Brothers, Inc.
1325 NW 53rd Ave, Suite D
Gainesville, FL 32609



Prepared By:

Ken Fonorow
Florida H.E.R.O., Inc.
15220 NW 5th Ave
Newberry, Fl 32669
(352) 472-5661
Friday, September 13, 2019

Rhvac is an ACCA approved Manual J, D and S computer program.
Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.

Miscellaneous Report

System 1 Whole House Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	33	30.8	80%	n/a	72	n/a
Summer:	92	77	51%	50%	75	51.69

Duct Sizing Inputs

	Main Trunk		Runouts	
Calculate:	Yes		Yes	
Use Schedule:	Yes		Yes	
Roughness Factor:	0.15000		0.15000	
Pressure Drop:	0.1000	in.wg./100 ft.	0.1000	in.wg./100 ft.
Minimum Velocity:	650	ft./min	450	ft./min
Maximum Velocity:	900	ft./min	750	ft./min
Minimum Height:	0	in.	0	in.
Maximum Height:	0	in.	0	in.

Outside Air Data

	Winter		Summer	
Infiltration Specified:	0.220	AC/hr	0.110	AC/hr
	88	CFM	44	CFM
Infiltration Actual:	0.220	AC/hr	0.110	AC/hr
Above Grade Volume:	X 23,885	Cu.ft.	X 23,885	Cu.ft.
	5,255	Cu.ft./hr	2,627	Cu.ft./hr
	X 0.0167		X 0.0167	
Total Building Infiltration:	88	CFM	44	CFM
Total Building Ventilation:	100	CFM	100	CFM

---System 1---

Infiltration & Ventilation Sensible Gain Multiplier: 18.60 = (1.10 X 0.995 X 17.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier: 34.96 = (0.68 X 0.995 X 51.69 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier: 42.66 = (1.10 X 0.995 X 39.00 Winter Temp. Difference)
Winter Infiltration Specified: 0.220 AC/hr (88 CFM), Construction: Semi-Tight
Summer Infiltration Specified: 0.110 AC/hr (44 CFM), Construction: Semi-Tight

Duct Load Factor Scenarios for System 1

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply	Main	Attic	16B	0.09	6	255	No
1	Return	Main	Attic	16B	0.15	6	95	No

Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.23, outdoor insect screen with 50% coverage, medium color blinds at 45° with 25% coverage, U-value 0.34, SHGC 0.23	206	2,737	0	2,771	2,771
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.32, outdoor insect screen with 50% coverage, medium color blinds at 45° with 25% coverage, U-value 0.34, SHGC 0.23	90	1,195	0	760	760
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.32, outdoor insect screen with 50% coverage, medium color blinds at 45° with 50% coverage, U-value 0.34, SHGC 0.23	18	239	0	158	158
10C-f: Glazing-French door, double pane low-e glass (e = 0.40), insulated fiberglass frame, ground reflectance = 0.32, medium color blinds at 45° with 25% coverage, U-value 0.45, SHGC 0.43	72	1,263	0	1,220	1,220
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.23, outdoor insect screen with 50% coverage, medium color blinds at 45° with 75% coverage, U-value 0.34, SHGC 0.23	36	478	0	728	728
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.23, U-value 0.34, SHGC 0.23	6	80	0	63	63
10C-f: Glazing-French door, double pane low-e glass (e = 0.40), insulated fiberglass frame, ground reflectance = 0.32, medium color blinds at 45° with 100% coverage, U-value 0.45, SHGC 0.43	20	351	0	261	261
VYN 34 23: Glazing-Dbl Pn Vyn Fr U .34 SHGC .23, ground reflectance = 0.32, medium color blinds at 45° with 25% coverage, U-value 0.34, SHGC 0.23	36	478	0	304	304
11P: Door-Metal - Polyurethane Core, U-value 0.29	35.6	402	0	290	290
12D-0sw: Wall-Frame, R-15 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs, U-value 0.086	2084.5	6,993	0	3,843	3,843
16CR-38: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic with Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-38 insulation, U-value 0.026	2060.8	2,092	0	2,252	2,252
22A-pl: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, light dry soil, U-value 0.989	285	10,994	0	0	0
Subtotals for structure:		27,302	0	12,650	12,650
People:	6		1,200	1,380	2,580
Equipment:			1,450	3,200	4,650
Lighting:	0			0	0
Ductwork:		3,629	589	3,422	4,011
Infiltration: Winter CFM: 88, Summer CFM: 44		3,737	1,530	816	2,346
Ventilation: Winter CFM: 100, Summer CFM: 100		4,266	3,496	1,860	5,356
Exhaust: Winter CFM: 100, Summer CFM: 100					
AED Excursion:		0	0	882	882
Total Building Load Totals:		38,935	8,265	24,210	32,475

Check Figures

Total Building Supply CFM:	1,200	CFM Per Square ft.:	0.476
Square ft. of Room Area:	2,521	Square ft. Per Ton:	931
Volume (ft³):	23,885		

System 1 Room Load Summary

No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
1	Master Bedroom	244	2,724	50	2-6	469	3,256	509	149	184
2	M Bath	179	2,946	54	1-6	353	1,224	493	56	69
3	Master Closet	132	2,299	42	1-4	465	717	127	33	41
4	Laundry	54	1,395	25	1-4	715	1,102	305	50	62
5	Dining Room	180	3,268	60	1-6	429	1,488	129	68	84
6	Kitchen	204	1,175	21	1-7	477	2,254	609	103	128
7	Drop Zone	77	2,048	37	1-4	495	764	95	35	43
8	Pantry	63	893	16	1-4	251	388	37	18	22
9	Foyer	84	1,210	22	1-4	613	946	45	43	54
10	Office	178	2,000	37	1-6	351	1,217	82	56	69
11	Bedroom 2	190	3,815	70	1-6	529	1,835	189	84	104
12	Bath 2	81	1,207	22	1-4	296	456	308	21	26
13	Bedroom 3	158	1,334	24	1-4	556	858	56	39	49
14	Bedroom 4	163	2,708	50	1-4	599	924	138	42	52
15	Bath 3	50	1,779	33	1-4	530	817	329	37	46
16	Living Room	485	3,254	59	2-6	427	2,960	729	135	168
	Ventilation		4,266				1,860	3,496		
	Duct Latent							188		
	Return Duct		613				1,146	401		
	System 1 total	2,521	38,935	623			24,210	8,265	969	1,200

System 1 Main Trunk Size: 16x16 in.
Velocity: 675 ft./min
Loss per 100 ft.: 0.237 in.wg

Cooling System Summary

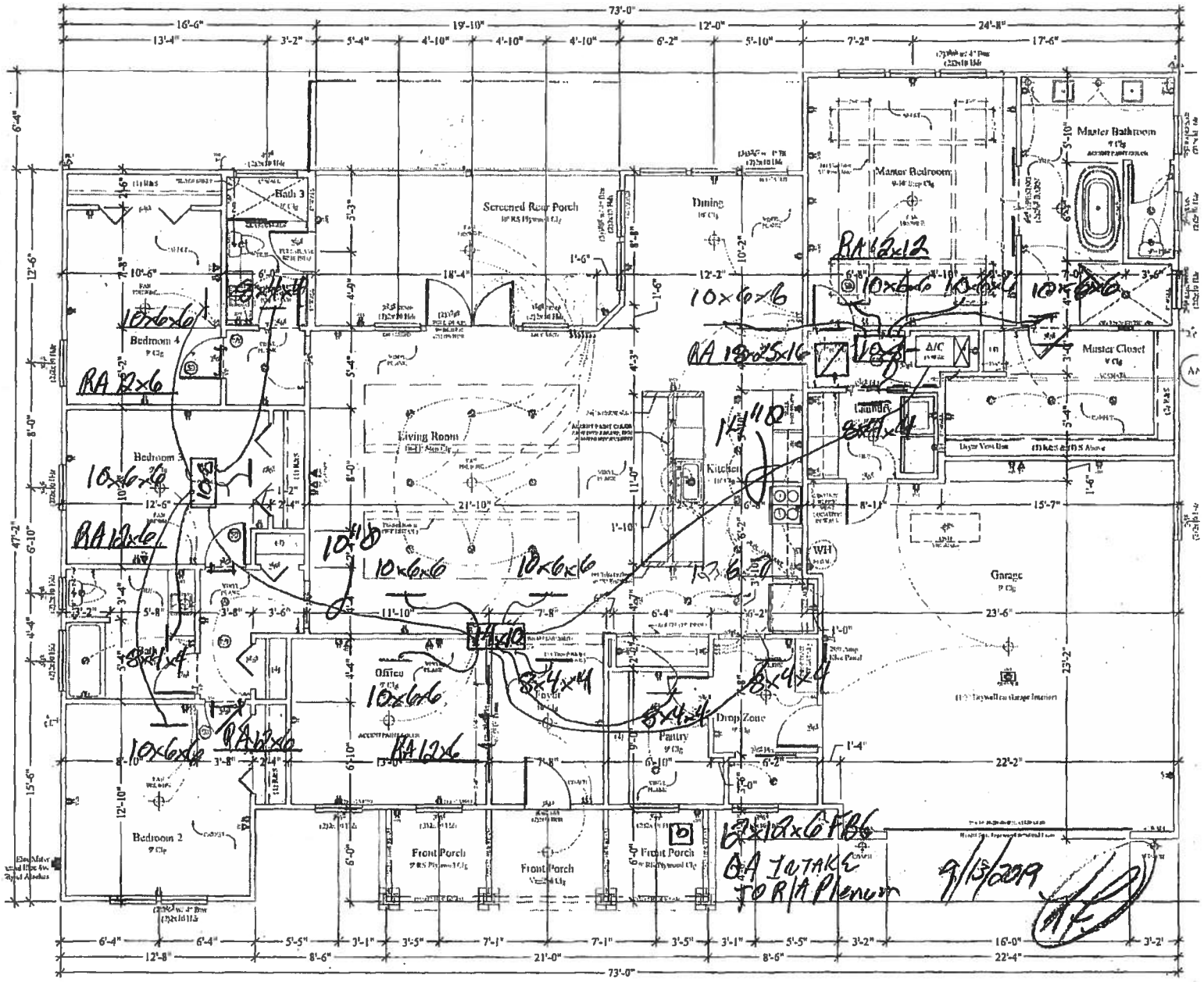
	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	2.71	75% / 25%	24,210	8,265	32,475
Actual:	2.98	77% / 23%	27,566	8,234	35,800

Equipment Data

	Heating System	Cooling System
Type:	Air Source Heat Pump	Air Source Heat Pump
Model:	25HBC536A*030*	25HBC536A*030*
Indoor Model:		FX4DN(B,F)049L
Brand:		
Description:	Air Source Heat Pump	Air Source Heat Pump
Efficiency:	8.5 HSPF	15 SEER
Sound:	0	0
Capacity:	34,800 Btuh	35,800 Btuh
Sensible Capacity:	n/a	27,566 Btuh
Latent Capacity:	n/a	8,234 Btuh
AHRI Reference No.:	n/a	10514204

This system's equipment was selected in accordance with ACCA Manual S.
Manual S equipment sizing data: SODB: 92F, SOWB: 77F, WODB: 33F, SIDB: 75F, SIRH: 50%, WIDB: 72F, Sen. gain: 24,210 Btuh, Lat. gain: 8,265 Btuh, Sen. loss: 38,935 Btuh, Entering clg. coil DB: 77.3F, Entering clg. coil WB: 64.2F, Entering htg. coil DB: 68.3F, Clg. coil TD: 20F, Htg. coil TD: 50F, Req. clg. airflow: 969 CFM, Req. htg. airflow: 623 CFM

CP-HB-Burk



Floor Plan

1/4"=1'-0"

FORM R405-2017

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	New Project BURK	Builder Name:	HARTLEY BROTHERS
Street:		Permit Office:	
City, State, Zip:	, FL ,	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia (Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Single-family
3. Number of units, if multiple family	1
4. Number of Bedrooms	4
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	2521
Conditioned floor area below grade (ft²)	0

7. Windows(419.5 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.34	419.50 ft²
SHGC:	SHGC=0.23	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
d. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.015 ft.
Area Weighted Average SHGC:		0.230

8. Floor Types (2521.0 sqft.)	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	2521.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types (2502.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=15.0	2079.00 ft²
b. Frame - Wood, Adjacent	R=15.0	423.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types (2521.0 sqft.)	Insulation	Area
a. Under Attic (Vented)	R=38.0	2521.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Attic, Ret: Attic, AH: Main	6	302

12. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	35.8	SEER:15.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	34.8	HSPF:8.50

14. Hot water systems	
a. Electric	Cap: 50 gallons EF: 0.960
b. Conservation features	
None	
15. Credits	Pstat

COLUMBIA COUNTY BUILDING DEPARTMENT
Received for
FILE COPY
Code Compliance
PLANS EXAMINER

Glass/Floor Area: 0.166

Total Proposed Modified Loads: 67.98
Total Baseline Loads: 69.93

PASS

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

PREPARED BY: Mark Hartley
DATE: 9-17-19

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

OWNER/AGENT:
DATE: 09-18-2019

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: _____

GREAT SEAL OF THE STATE OF FLORIDA
IN GOD WE TRUST

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	New Project BURK	Bedrooms:	4	Address Type:	Street Address
Building Type:	User	Conditioned Area:	2521	Lot #	
Owner Name:		Total Stories:	1	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	HARTLEY BROTHERS	Rotate Angle:	0	Street:	
Permit Office:		Cross Ventilation:		County:	Columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	, FL ,
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2521	22689

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2521	22689	Yes	1	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Main	278 ft		2521 ft²	----	0.3	0.3	0.4

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	2731 ft²	0 ft²	Medium	N	0.96	No	0.9	No	0	22.6

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2521 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	38	Blown	2521 ft²	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
____	1	SE	Exterior	Frame - Wood	Main	15	49	0	9	0	441.0 ft²		0.23	0.65	0
____	2	NE	Exterior	Frame - Wood	Main	15	41	0	9	0	369.0 ft²		0.23	0.65	0
____	3	NW	Exterior	Frame - Wood	Main	15	40	0	9	0	360.0 ft²		0.23	0.65	0
____	4	NW	Exterior	Frame - Wood	Main	15	12	0	9	0	108.0 ft²		0.23	0.65	0
____	5	NW	Exterior	Frame - Wood	Main	15	20	0	9	0	180.0 ft²		0.23	0.65	0
____	6	SW	Exterior	Frame - Wood	Main	15	69	0	9	0	621.0 ft²		0.23	0.65	0
____	7	NE	Garage	Frame - Wood	Main	15	23	0	9	0	207.0 ft²		0.23	0.65	0
____	8	SE	Garage	Frame - Wood	Main	15	24	0	9	0	216.0 ft²		0.23	0.65	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	SE	Insulated	Main	None	.46	3		8		24 ft²
_____	2	NE	Insulated	Main	None	.46	2	6	6	8	16.7 ft²
_____	3	NW	Insulated	Main	None	.46	6		8		48 ft²
_____	4	NE	Insulated	Main	None	.46	2	8	6	8	17.8 ft²
_____	5	SE	Insulated	Main	None	.46	2	8	6	8	17.8 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	SE	1	Vinyl	Low-E Double	Yes	0.34	0.23	N	108.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	2	SE	1	Vinyl	Low-E Double	Yes	0.34	0.23	N	10.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	3	NE	2	Vinyl	Low-E Double	Yes	0.34	0.23	N	37.5 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	4	NE	2	Vinyl	Low-E Double	Yes	0.34	0.23	N	10.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	5	NW	3	Vinyl	Low-E Double	Yes	0.34	0.23	N	54.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	6	NW	3	Vinyl	Low-E Double	Yes	0.34	0.23	N	6.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	7	NW	4	Vinyl	Low-E Double	Yes	0.34	0.23	N	54.0 ft²	6 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	8	NW	5	Vinyl	Low-E Double	Yes	0.34	0.23	N	36.0 ft²	16 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	9	NW	5	Vinyl	Low-E Double	Yes	0.34	0.23	N	20.0 ft²	16 ft 0 in	0 ft 0 in	Drapes/blinds	None
_____	10	SW	6	Vinyl	Low-E Double	Yes	0.34	0.23	N	72.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	11	SW	6	Vinyl	Low-E Double	Yes	0.34	0.23	N	6.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None
_____	12	SW	6	Vinyl	Low-E Double	Yes	0.34	0.23	N	6.0 ft²	1 ft 6 in	0 ft 0 in	Drapes/blinds	None

GARAGE

√	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____	1	552 ft²	552 ft²	64 ft	8 ft	1

INPUT SUMMARY CHECKLIST REPORT

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000286	1890.8	103.8	195.21	.1128	5

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	Split	HSPF:8.5	34.8 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	Split	SEER: 15	35.8 kBtu/hr	1074 cfm	0.85	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Garage	0.96	50 gal	70 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	---- Supply ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	Cool
_____	1	Attic	6	302 ft²	Attic	126.05	Default Leakage	Main	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X]	[X]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]
Venting	[ ]	[ ]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[ ]

INPUT SUMMARY CHECKLIST REPORT

Thermostat Schedule: HERS 2006 Reference		Hours											
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Main

FORM R405-2017 Alt

ENERGY PERFORMANCE LEVEL (EPL) ALTERNATIVE DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

The lower the EnergyPerformance Index, the more efficient the home.

, , FL,

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Single-family
3. Number of units, if multiple family		1
4. Number of Bedrooms		4
5. Is this a worst case?		No
6. Conditioned floor area (ft²)		2521
7. Windows**	Description	Area
a. U-Factor: SHGC:	Dbl, U=0.34 SHGC=0.23	419.50 ft²
b. U-Factor: SHGC:	N/A	ft²
c. U-Factor: SHGC:	N/A	ft²
d. U-Factor: SHGC:	N/A	ft²
Area Weighted Average Overhang Depth:		4.015 ft.
Area Weighted Average SHGC:		0.230

8. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	2521.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types	Insulation	Area
a. Frame - Wood, Exterior	R=15.0	2079.00 ft²
b. Frame - Wood, Adjacent	R=15.0	423.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types	Insulation	Area
a. Under Attic (Vented)	R=38.0	2521.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Attic, Ret: Attic, AH: Main	6	302

12. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	35.8	SEER:15.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	34.8	HSPF:8.50

14. Hot water systems	
a. Electric	Cap: 50 gallons EF: 0.96
b. Conservation features None	
15. Credits	Pstat

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.

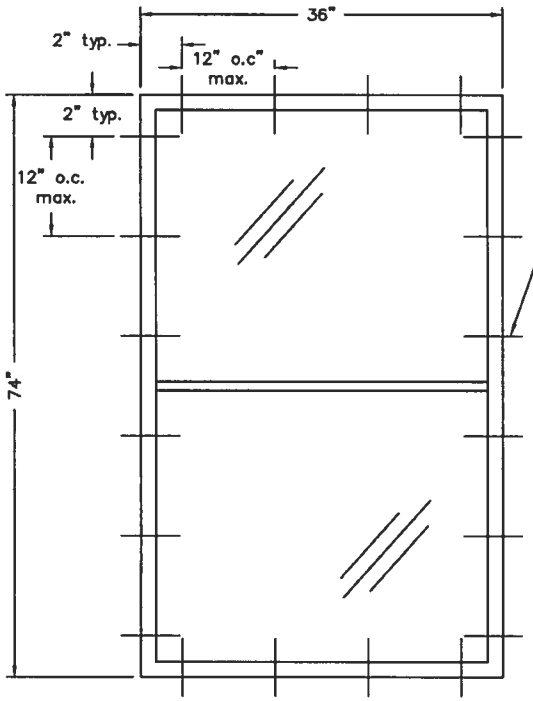
Builder Signature: _____ Date: 09/18/2019

Address of New Home: ~~TBD SW Rock Way~~ 644 SW Rock Way City/FL Zip: Fort White, FL 32038

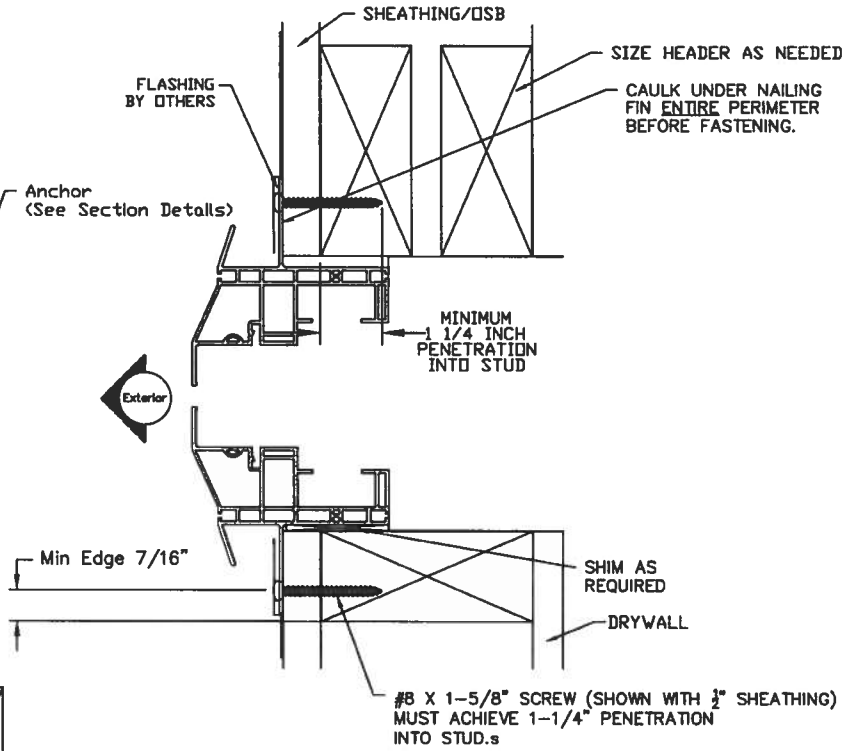
*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida EnergyGauge Rating. Email EnergyGauge tech support at techsupport@energygauge.com or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

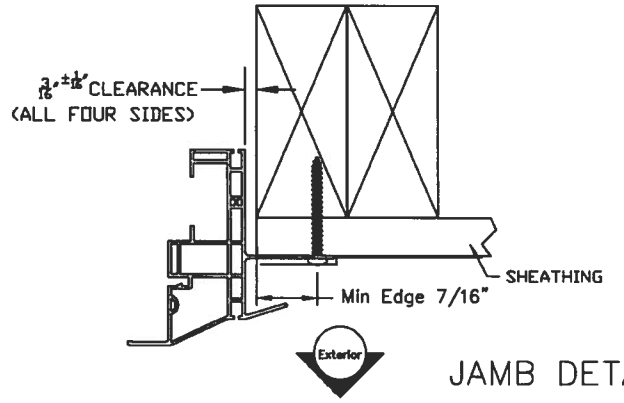
ELEVATION



HEAD DETAIL



SILL DETAIL



JAMB DETAIL

* "NAIL FIN" IS A GENERIC TERM WHICH MEANS "MOUNTING FLANGE". (NOT TO BE CONFUSED WITH "1/2" FRONT FLANGE)

Notes:

1. Installation depicted based off of structural test report #C7327.01-109-47.
2. Wood screws shall satisfy the National Design Specification for Wood Construction for material type and dimensional requirements.
3. Wood buck installations are assumed 2x S-P-F (G=0.42) or denser. Buck width shall be greater than the window frame width. Tapered or partial width bucks are not allowed. Wood buck shall be secured to the structure to resist all design loads.
4. Wood screw lengths shall be sufficient to guarantee 1-1/4" penetration into wood buck.
5. Maximum shim thickness of 1/4" permitted at each fastener location. Shims shall be load bearing, non-compressible type.
6. These drawings depict the details necessary to meet structural load requirements. They do not address the air infiltration, water penetration, intrusion or thermal performance requirements of the installation.
7. Installation shown is that of the test window for the size shown and the design pressure claimed. For window sizes smaller than shown, locate fasteners approx. 2" from corners and no more than 12" on center. Design pressures of smaller window sizes are limited to that of the test window.

SIZE AND DESIGN PRESSURE CHART
FASTENER TYPE AND SPACING SHOWN WILL ALLOW DESIGN PRESSURES UP TO +35/ -50 UNITS UP TO 36" x 74"
(SEE TEST REPORTS FOR INDIVIDUAL UNIT SIZE AND APPLICABLE DESIGN PRESSURE LIMITATIONS)

Windows & Doors
Gratz, PA

TITLE: INSTALLATION INSTRUCTIONS & FASTENER SCHEDULE — FIN—

PRODUCT: 3540 Single Hung

DRAWN BY:	DATE:
V.M.R.	12-14-09
CHECKED:	DATE:
SCALE:	SHEET:
NONE	1 OF 1
DWG. NO.	REV.
3540-3240 SH FIN	—