Wind Load Analysis and Certification

Mosley Residence (Bay V) by Fla Homes

2023 Florida Building Code section 1609 according to ASCE 7-22
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

Roof Decking

7/16" or 5/8" 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 = 30', Longitudinal Shearwall = 30'
2x4 SPF (No. 1&2) Studs at 16" O.C., up to 12'
2x6 SPF (No. 1&2) Studs at 16" O.C., up to 17'
See attached detail for stud and jack requirements for wall openings
Nail Together Double Top Plate with two (2) 12-d comm nails every 16" O.C. (SYP top plates)
Other Wall Segments - Same as Shear Walls

Gabled End Wall Framing

N/A

Special Notes: All headers to be double 2x8 SP#2 and all beams to be double 2x12 SP#2.
All girders and beams to have a min of two (2) 2x4 SP#2 or two (2) 2x6 SP#2 studs under each bearing point.
This structural and windload analysis is based on the attached truss layout. Any deviation from the attached layout invalidates this structural and windload analysis.

Footings and Foundations (Based on Truss Engineering)

20" deep x 12" wide monolithic with 2-#5's, Continuous, 3000 psi Concrete
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) **(1) #5 continuous top course. All 4" slabs requires 6x6 WWM**
Porch Footers: 16" deep x 12" wide monolithic with 2-#5's, Continuous or 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 of 2000 psf. Footers for any concentrated loads greater than 10,000 lbs must be reviewed with windload engineer. 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
Note: regarding strapping of headers and beams, 50% of the strap shall be on the header/beam and 50% of the strap is on the supporting member below it (jacks and posts).
Anchor Bolts- 1/2"Dia. x 10" J Bolts (with min 7.5" 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 **Bay V**, demonstrates compliance with the 2023 FBC section 1609 according to ASCE 7-22, to the best of my knowledge.

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

This item has been digitally signed and sealed by FRANK J SAPIENZA JR PE using Digital Signature.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Frank J Sapienza Jr

Digitally signed by Frank J Sapienza Jr
Date: 2025.10.09 11:13:03 -04'00'

HOLD-DOWN TABLE

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	LTTP2	1680
	up to 1940 lbs	2-LSTA12	1940	LTTP2	2275
	up to 2470 lbs	2-LSTA18	2470	HTT4	3000
	up to 3000 lbs	3-LSTA18	3705	HTT4	3000
	up to 3705 lbs	3-LSTA18	3705	HTT5	4350

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 1230 lbs use H6 or equivalent at top and LTTP2 at bottom
up to 1680 lbs use 2-H6 or equivalent at top and LTTP2 at bottom
up to 2460 lbs use 2-H6 or equivalent at top and HTT4 bottom
up to 3690 lbs use 3-H6 or equivalent at top and HTT5 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: Three (3) 12d comm toenails (2 on one side, one on the other) required per truss/rafter per bearing point into plate to resist both lateral loads (wall to truss) and transverse loads

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

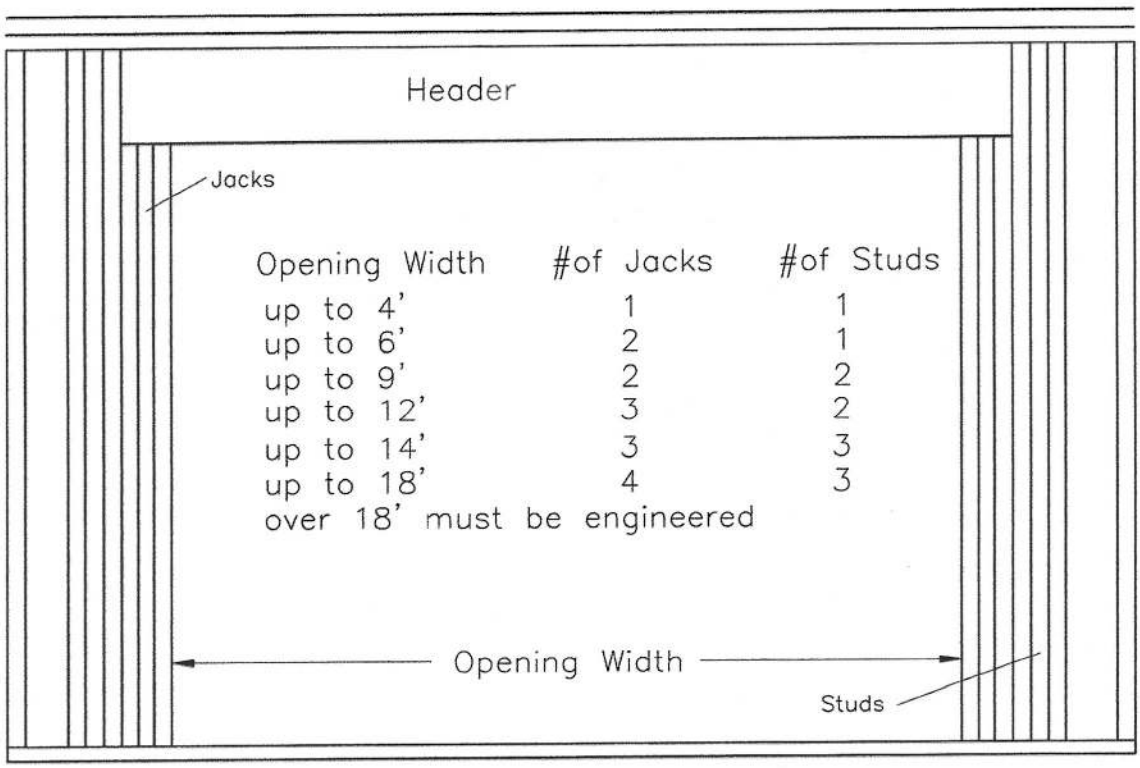
	top		bottom	
BEAM SEATS	LSTA18*	1235	LTTP2*	1680
POSTS	2-LSTA18	2400	ABU44 or ABU66	2200
*** or per truss engineering**			Must Use proper bolt anchors	

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 anchor bolts @ 32" O.C. for all interior load bearing walls that have uplift. Interior anchor bolts to be 1/2" x 10" A307 or 1/2" x 6" Titan HD 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

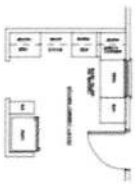
Number of Jack and Stud Requirements per Opening Width
2x4 or 2x6 SPF #1&2 Construction – max Wall Height=12'
(based on 16" O.C. Stud Spacing)

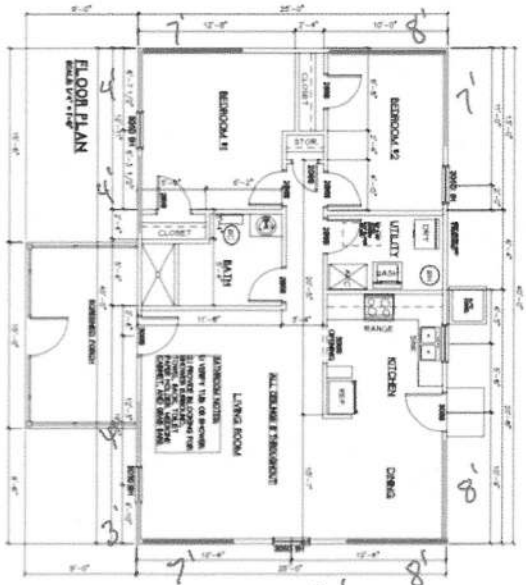


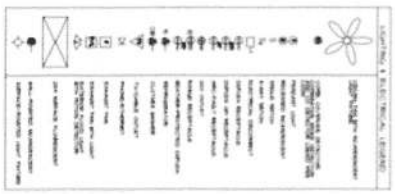
Opening Width	#of Jacks	#of Studs
up to 4'	1	1
up to 6'	2	1
up to 9'	2	2
up to 12'	3	2
up to 14'	3	3
up to 18'	4	3

over 18' must be engineered

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

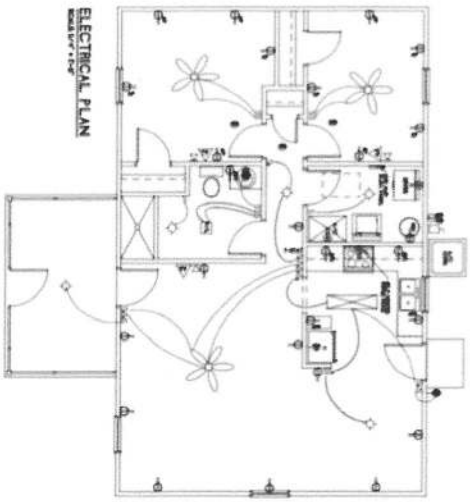


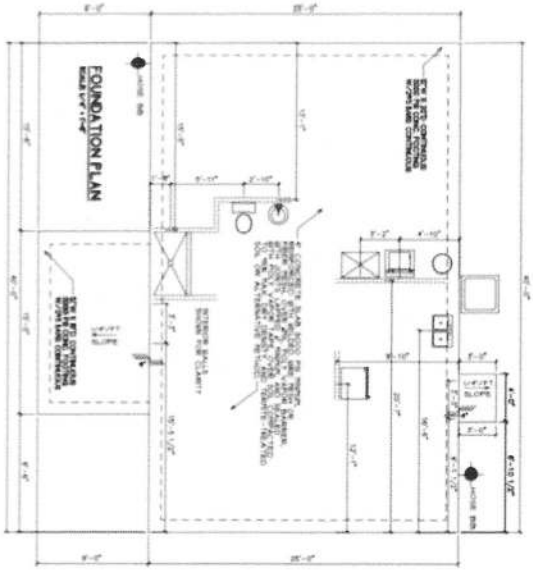




Σ Trans. S.W. = 30'

Σ Long. S.W. = 30'





CUSTOMER NAME:

FLA HOMES, INC. R/C

13916 NW 140TH AVENUE, ALACHUA, FLORIDA 32615
(386)418-4883 flahomes@windstream.net LICENSE # CGC 062062

SHEET NUMBER: 1 of 2

PLAN NAME: Bay V Model

SCALE: 1/4" = 1'-0" UNLESS OTHERWISE NOTED

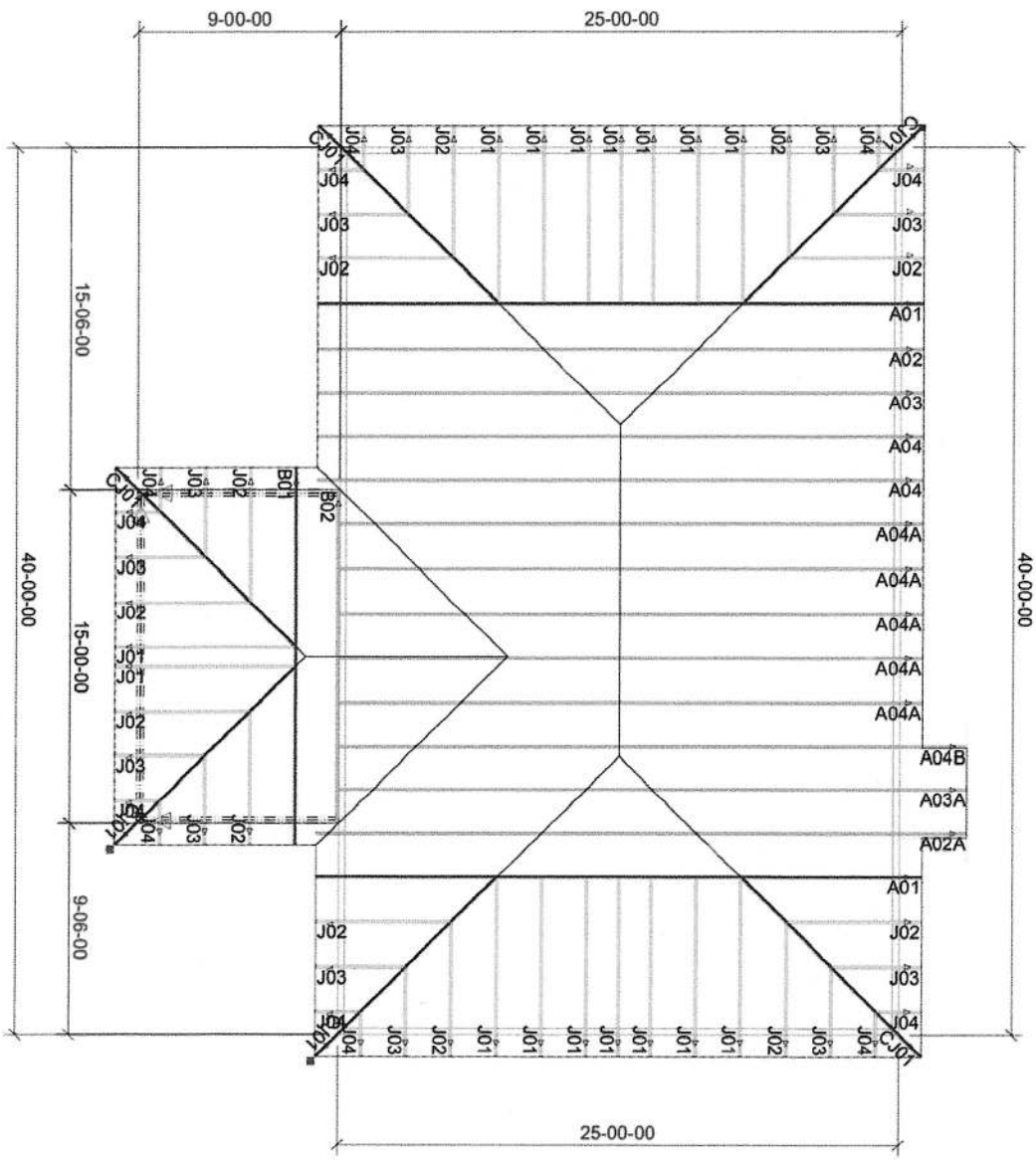
AREA SUMMARY	
HC:	1000
FRONT PORCH:	139
TOTAL:	1139

REVISION DATE: JUNE 29, 2025

SUBDIVISION:

LOT #:

PAGE CONTENT:
FLOOR PLAN
ELECTRICAL PLAN
FOUNDATION PLAN
KITCHEN CABINET LAYOUT



Bay V

Client: FLA HOMES
Date: 6/27/2025
Quote Date: / /
Seal Date: / /
Designer: Jason DeGroff
Job Number: 0625-057

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