DONALD A. YANSKEY ARCHITECT
FL Registration FL AR 0011010
352.278.7872
2421 NW 49 Ave., Gainesville, FL 32605
dayayan85arch@gmail.com

Windload Calculations Summary

A New Residence for Mariah Drotos

Lot 2 – Hermitage Glen - High Springs, Florida

CRITERIA:

Code Reference:	2020 Florida Building Code 7th Edition
Location:	High Springs, Florida
Ultimate Design Wind Speed:	130 MPH
Mean Roof Height:	Less than 30'-0"
Building Risk Category:	II
Building Exposure Factor:	Exposure B
Building Enclosure:	Building is Enclosed
Internal Pressure Coefficient:	± 0.18
Roof Component & Cladding Design Wind Pressure:	Zone 1: +10.0 psf, -15.0 psf
As per 2020 FBC 7th Edition, Residential, Table R301.2(1)	Zone 2: +10.0 psf, -21.0 psf
	Zone 3: +10.0 psf, -33.0 psf
Wall Component & Cladding Design Wind Pressure:	Zone 4: +15.5 psf, -17.0 psf
As per 2020 FBC 7th Edition, Residential, Table R301.2(1)	Zone 5: +15.5 psf, -19.0 psf

BUILDING DATA:

One Story 2 x 4 Frame Residence:	± 10'-0"
Roof Pitch:	6 / 12
Gable End Roof Overhang:	± 12"

FOOTINGS:

Perimeter C.M.U. Stemwall Footing at Walls & Porches: 20" Wide x 10" Deep with 2 - #5 continuous. Provide 4" thick concrete slab with Heavy Duty Fibermesh reinforcement on 6 mil vapor barrier over 95% density clean compacted fill.

Interior Load Bearing Wall Footings, 10" Deep x 18" wide with 2 - #5 continuous.

Install minimum 16" C.M.U. stem wall with 2 - #5 vertical at 48" O.C. and 1 - #5 horizontal at top of stem wall at slab level and fill with concrete.

All concrete in footings & slabs shall be 3000 psi. All reinforcement shall be 60 ksi.

FRONT PORCH POSTS:

Front Porch Posts: Total 2 - P.T. 4 x 4 Posts with Simpson ABU44 Post Base Anchors at post base. Install 2 Simpson MSTA24 Strap Ties at post cap to beam connection.

STATE OF FLORIDA DONALD A. YANSKEY REGISTERED ARCHITECT

Donald A. Yanskey, Architect
3/7/2022
FL AR 11010

COLUMBIA COUNTY BUILDING DEPARTMENT
Received for FILE COPY
Code Compliance
EXAMINER

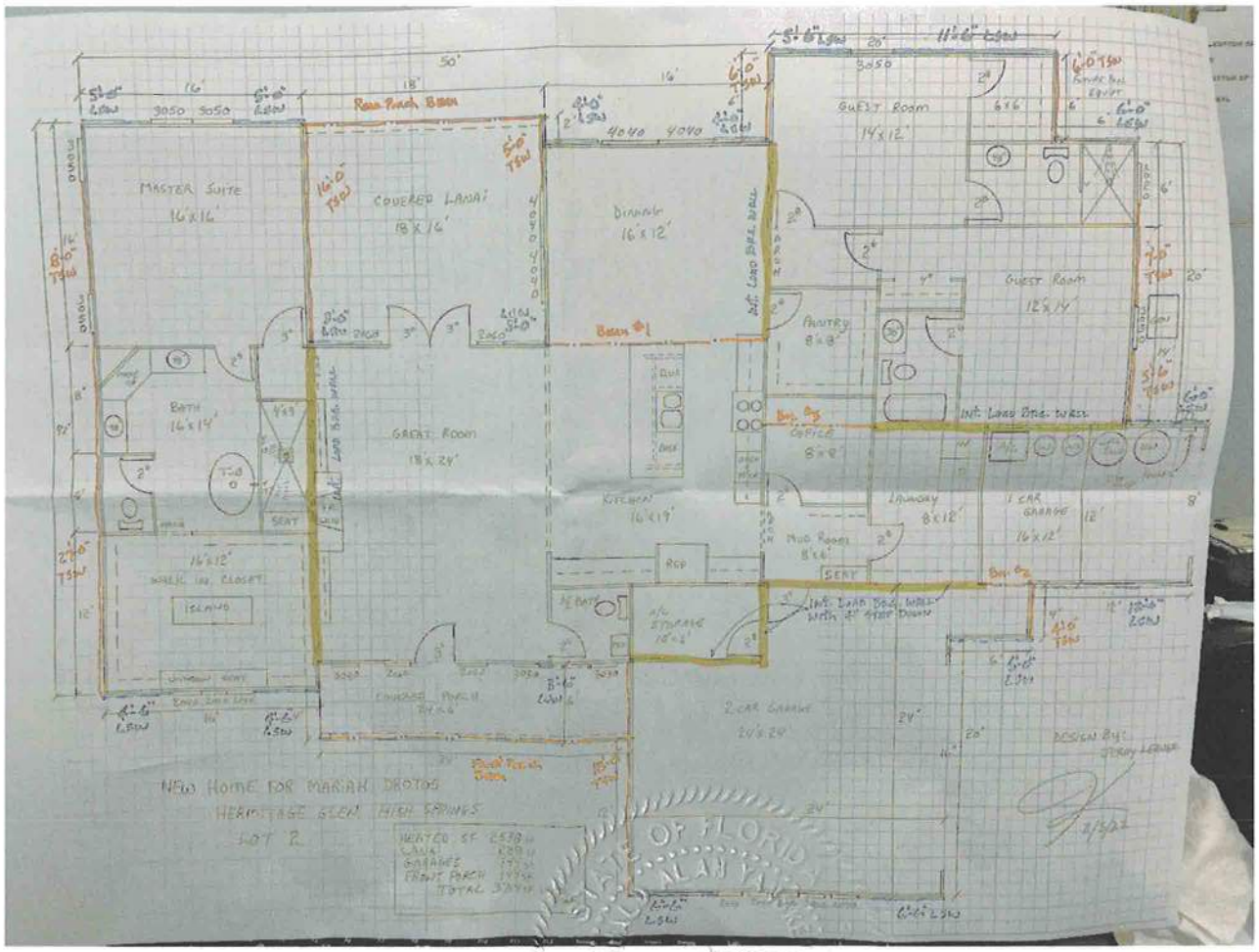
ANCHOR BOLTS:

Provide ½" A307 anchor bolts with 2" round or square plate washers at 48" O.C. maximum. Place Anchor Bolts at the end of all shearwall segments. Net uplift at corner holdown and shearwall ends is 3,012#, 1 anchor bolt is OK, 3268#. Bottom wood plate shall be P.T. 2 x 4 Southern Pine.
10'-0" High Walls– use 2 x 4 Spruce-Pine-Fir No. 2 at 1'-4" O.C. at exterior walls exposed to wind.

SHEAR WALLS:

For Transverse Shear Walls, provide 102'-6" Lineal Feet with 7/16" OSB wall sheathing (NordBord Windstorm Wall Sheathing Or Equal – extend wall sheathing Vertical Or Horizontal from the bottom of the bottom plate with continuous path up to the top of the double top plate (install 2 x 4 blocking nailers along horizontal joint, minimum 24" from hinge line) with 8d Ring Shank (0.113" Shank diameter) nails at 3" along sheet edges and 6" O.C. in sheet field. Maximum force applied at top of Transverse Shear Walls is 39,520# per 102'-6" = 385.6# per lineal foot. Provide 8d Ring Shank Nails at 3" O.C. along sheet edges and 6" O.C. in sheet field. **OK**

For Longitudinal Shear Walls, provide 88'-6" Lineal Feet with 7/16" OSB wall sheathing (NordBord Windstorm Wall Sheathing Or Equal – extend wall sheathing Vertical Or Horizontal from the bottom of the bottom plate with continuous path up to the top of the double top plate (install 2 x 4 blocking nailers along horizontal joint, minimum 24" from hinge line) with 8d Ring Shank (0.113" Shank diameter) nails at 3" along sheet edges and 6" O.C. in sheet field. Maximum force applied at top of Longitudinal Shear Walls is 32,240# per 88'-6" = 364.3# per lineal foot. Provide 8d Ring Shank Nails at 3" O.C. along sheet edges and 6" O.C. in sheet field. **OK**



Donald A. Yanskey, Architect
3/7/2022
FL AR 11010

FRONT PORCH ROOF BEAMS:

Front Porch Roof Beam: Provide 2 – 2 x 8 No. 2 Southern Pine wood beams with 1 – ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows.

REAR PORCH ROOF BEAMS:

Rear Porch Roof Beam: Provide 2 Ply – 1¾" x 11 7/8" 2.0E Microllam LVL wood beam glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows.

ROOF BEAM #1:

Roof Beam #1: Provide 2 Ply – 1¾" x 11 7/8" 2.0E Microllam LVL wood beam glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows with 2 – Simpson MTS12 Twist Straps.

ROOF BEAM #2:

Roof Beam #2: Provide 2 – 2 x 6 No. 2 Southern Pine wood beams with 1 – ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows with 2 – Simpson MTS12 Twist Straps.

ROOF BEAM #3:

Roof Beam #3: Provide 2 – 2 x 12 No. 2 Southern Pine wood beams with 1 – ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows with 2 – Simpson MTS12 Twist Straps.

ROOF FRAMING:

Install conventional framed roof rafters at 24" O.C.

Framing Section "A": For Master Bedroom and Dining Room Ridge Beam, 16'-0" Span, Install 2 Ply 1¾" x 11¼" 2.0E Microllam LVL glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows with 2 – Simpson MTS12 Twist Straps.

For Master Bath and Walk-In-Closet, the Ridge Pole, install 1 – 2 x 8 No. 2 Southern Pine Ridge Pole and 2 x 8 No. 2 Southern Pine Flat Ceiling Joist at 24" O.C. Install 2 x 6 No. 2 Southern Pine Roof Rafters at 24" O.C. with Simpson LRU26Z Rafter Hangers at Ridge and Simpson H2.5A Hurricane Anchors at Walls. Also, Install 2 – 2 x 4 No. 2 Southern Pine Diagonal Webs from Center of Flat Ceiling Joist up to each Roof Rafter with 3 – 10d x 0.128" x 3" nails each end.

Framing Section "B": For Great Room Ridge Beam, 18'-0" Span, Install 2 Ply 1¾" x 11¼" 2.0E Microllam LVL glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows with 2 – Simpson MTS12 Twist Straps at Wall at Master Bath and Beam between Kitchen and Great Room.

For Roof Rafters above Great Room, install 2 x 8 No. 2 Southern Pine Roof Rafters with Simpson LRU26Z Rafter Hangers at Ridge and Simpson H2.5A Hurricane Anchors at Walls birdsmouth cut at Walls.

Ceiling Rafters, parallel to Ridge Beam, 18'-0" Span, Install 2 x 8 No. 2 Southern Pine Flat Ceiling Joist at 24" O.C. Install 2 x 4 No. 2 Southern Pine Diagonal and Vertical Web Members at 48" O.C. from Center of Flat Ceiling Joist up to each Roof Rafter with 5 – 10d x 0.128" x 3" nails each end.

For Lanai Roof

Framing Section "C": For Kitchen Ridge Pole:

Install 2 x 10 No.2 Southern Pine Ridge Pole

Install 2 x 8 No. 2 Southern Pine Rafters at 24" O.C. with 2 x 6 No. 2 Southern Pine Collar Ties at 24" O.C. 36" down from top of Ridge Pole with 6 10d x 0.128" x 3" Nails each end.

Install Simpson H2.5A Hurricane Anchors at bearing walls. Install 2 x 10 No. 2 Southern Pine Ridge Pole with Simpson LRU28Z Face Mount Rafter Hanger Each Rafter to Ridge Pole Connection.

Donald A. Yanskey, Architect
3/7/2022
FL AR 11010

Framing Section "D": For 1 Car Garage:
Install 2 x 8 No.2 Southern Pine Ridge Pole
Install 2 x 6 No. 2 Southern Pine Rafters at 24" O.C. with 2 x 8 No. 2 Southern Pine Bottom at 24" O.C.
Install Simpson H2.5A Hurricane Anchors at bearing walls.
Simpson LRU28Z Face Mount Rafter Hanger Each Rafter to Ridge Pole Connection.
For Guest Room:
Install 2 x 10 No.2 Southern Pine Ridge Pole
Install 2 x 8 No. 2 Southern Pine Rafters at 24" O.C. with 2 x 8 No. 2 Southern Pine Ceiling Rafters at 24" O.C.
Install Simpson H2.5A Hurricane Anchors at bearing walls
Simpson LRU28Z Face Mount Rafter Hanger Each Rafter to Ridge Pole Connection.

Framing Section "E": For 2 Car .Garage:
Install 2 x 10 No.2 Southern Pine Ridge Pole
Install 2 x 8 No. 2 Southern Pine Rafters at 24" O.C. with 2 x 6 No. 2 Southern Pine Collar Ties at 24" O.C. 24" down from top of Ridge Pole with 6 10d x 0.128" x 3" Nails each end.
Install Simpson H2.5A Hurricane Anchors at bearing walls. Install 2 x 10 No. 2 Southern Pine Ridge Pole with Simpson LRU28Z Face Mount Rafter Hanger Each Rafter to Ridge Pole Connection.

3' OPENINGS & LESS:

Provide minimum 2 – 2 x 6 No. 2 Southern Pine wood Header with ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows top and bottom and center row at 12" O.C. Install 1 – 2 x 4 Header Studs each end of Header and 2 – 2 x 4 Full Height Studs each end. Install 1 – Simpson MSTA18 Strap Tie each end Header to Stud connections. Install 1 – Simpson SPH4 Stud Plate Tie (Center) each side of opening to Header Studs.

6' OPENINGS:

Provide minimum 2 – 2 x 12 No. 2 Southern Pine wood Header with ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows top and bottom and center row at 12" O.C. Install 2 – 2 x 4 Header Studs each end of Header and 2 – 2 x 4 Full Height Studs each end. Install 1 – Simpson MSTA24 Strap Tie each end Header to Stud connections. Install 2 – Simpson SPH4 Stud Plate Tie (Center) each side of opening to Header Studs.

8' GARAGE DOOR OPENING:

Provide minimum 2 – 2 x 12 No. 2 Southern Pine wood Header with ½" layer of solid continuous plywood or OSB spacers glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows top and bottom and center row at 12" O.C. Install 2 – 2 x 4 Header Studs each end of Header and 2 – 2 x 4 Full Height Studs each end. Install 1 – Simpson MSTA24 Strap Tie each end Header to Stud connections. Install 2 – Simpson SPH4 Stud Plate Tie (Center) each side of opening to Header Studs.

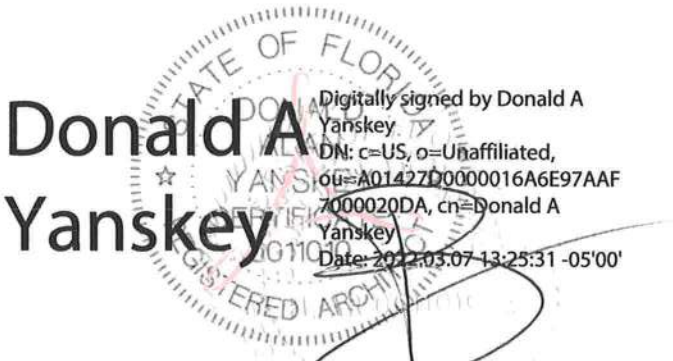
16' GARAGE DOOR OPENING:

Provide minimum 2 Ply – 1¾" x 11¼" 2.0E Microllam LVL Header glued and nailed with 10d x 0.128" x 3" nails at 12" O.C. in 2 rows top and bottom and center row at 12" O.C. Install 3 – 2 x 4 Header Studs each end of Header and 3 – 2 x 4 Full Height Studs each end. Install 3 – Simpson MSTA24 Strap Tie each end Header to Stud connections. Install 4 – Simpson SPH4 Stud Plate Tie (Center) each side of opening to Header Studs.

Donald A. Yanskey, Architect
3/7/2022
FL AR 11010

ROOF SHEATHING:

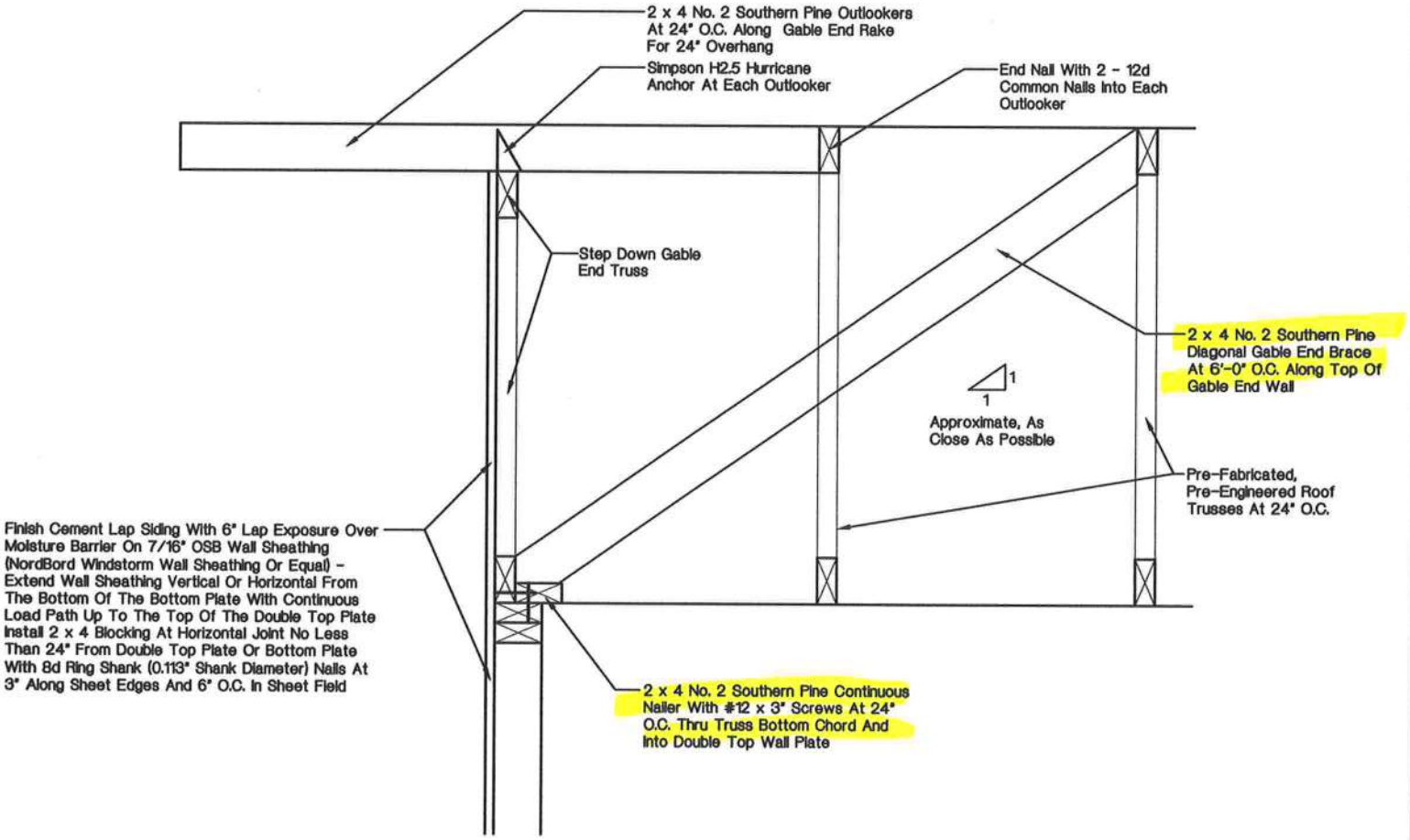
Use 7/16" thick OSB sheathing minimum with 8d Ring Shank Nails (0.113" Shank diameter) at 3" O.C. along sheet edges and 6" O.C. in sheet field. No intermediate blocking is required between trusses. Maximum force applied at top of Transverse Shear Walls is 39,520# per 102'-6" = 385.6# per lineal foot. Provide 8d Ring Shank Nails at 3" O.C. along sheet edges and 6" O.C. in sheet field. **OK**



Donald A Yanskey

Digitally signed by Donald A Yanskey
DN: c=US, o=Unaffiliated, ou=A01427D0000016A6E97AAF7000020DA, cn=Donald A Yanskey
Date: 2022.03.07 13:25:31 -05'00'

Donald A. Yanskey, Architect
3/7/2022
FL AR 11010



Gable End Bracing Detail

1½" = 1'-0"

3/7-2022
FL AR-0011010

DROTOS RESIDENCE
Lot 2 HERMITAGE GLEN

Donald Alan Yanskey
ARCHITECT
2421 Northwest 49th Avenue • Gainesville, Florida 32605
Phone (352) 371-4064 • Cell (352) 278-7872

DATE 3/7/2022 DRAWN BY D. A. Y.

SHEET A-1 OF 1