

# 38678

# Smith Carport

## Columbia County, Florida

### Wind Load Analysis Requirements

(In Compliance with the 2017 Florida Building Code)

Prepared By: Marty J. Humphries, P.E. # 51976

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#### Description of New Carport:

Footprint: 40' deep x 36' wide overall dimensions with 36' wide x 14' deep enclosed work/storage area and 36' wide x 26' deep carport area

(See Plans by Mike Todd)

Walls: 2x4 stud wall with studs-16" O.C. with 7/16" OSB sheathing min. with felt, galvanized metal lathe and stucco with elastomeric coating.

Roof Structure: Pre-engineered roof trusses at 2' on center and 15/32" OSB sheathing with felt or synthetic roof underlayment and architectural shingles

Roof Type: Hip roof (analyzed for 2' eave overhangs and carport)

Foundation: monolithic slab (see attached foundation details)

#### Windload Data and Exposure:

Basic Wind Speed = 120 mph(Vult)

Importance Factor = 1.0

Exposure category = B

Height and Exposure Adjustment Coefficient = 1.0

Residential Occupancy = Group R3

Mean roof height = 16'

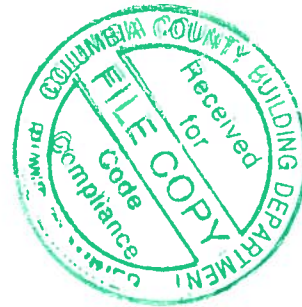
Roof Cross Slope = 6:12

Eave Overhang= (Analyzed for 2" eave overhangs and carport area)

Wall Height = 10'

Shear Wall locations = exterior walls (all walls 3' in length or greater)

Component and Cladding Pressures = Roof(Zone 1=10.0,-14.0, Zone 2=10.0,-24.0, Zone 3=10.0,-36.0), Wall(Zone 4=15.5,-16.0, Zone 5=15.5,-20.0)(units are psf)



The following requirements supercede the plan requirements by "Mike Todd" where applicable.

#### Nailing Pattern Requirements:

Wall sheathing: Shall be 7/16" Oriented Strand Board(OSB) nailed with 8d common nails 3" on center around edges(including around doors and windows) and 6" on center interior. Full-depth blocking shall be installed at horizontal joints in sheathing.

Roof sheathing: Shall be 15/32" OSB min. nailed with 8d ring-shank nails 6" on center including overhang areas

Top wall plate: Nail with 1-16d common nail 12" O.C.(average)

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**Strapping and Anchor Requirements:**

truss to exterior wall plate, and porch header locations: Install one Simpson model H10A hurricane anchor each location for common/tier trusses and one Simpson model H2.5A hurricane clip at jack trusses. Install Simpson model H10A-2 anchor for double trusses with 1-H2.5A clip in addition. At hip trusses install Simpson model HCP and one Simpson H3 clip.

wall strap tie requirements: Install one Simpson model SP4 at each side of window and door top and bottom of the wall. All other wall locations install 1-SP4 top and bottom of wall 4' on center.

Carport columns: Install PT 8x8 #2 SYP columns for carport columns. Install Simpson ABU88Z at each column ABU88Z may be connected to slab with 2-5/8"x10" anchor bolts cast in slab or 2-5/8" all-thread embedded 6" into slab and epoxied with Simpson SET-XP epoxy. Connect top of column to LVL header with Simpson PSQ418 strap tie and connect with 8-SDWH27400G (0.27"x 4" long Strong Drive hex head screws)

**Footer Requirements:**

Exterior Wall Monolithic footer: 18" deep min. x 14" wide with 2-#5 rebar continuous (See attached detail) (3000 psi concrete min.) (See Attached Footer Detail)

Carport Monolithic footer: 18" deep min. x 14" wide with 2-#5 rebar continuous (See attached detail) (3000 psi concrete min.) (See Attached Footer Detail)

**Header Requirements:**

Windows & Doors: Header shall be 2 - #2 SYP 2x12's with 1/2" plywood/OSB between nailed with 4-12d nails 10" on-center.

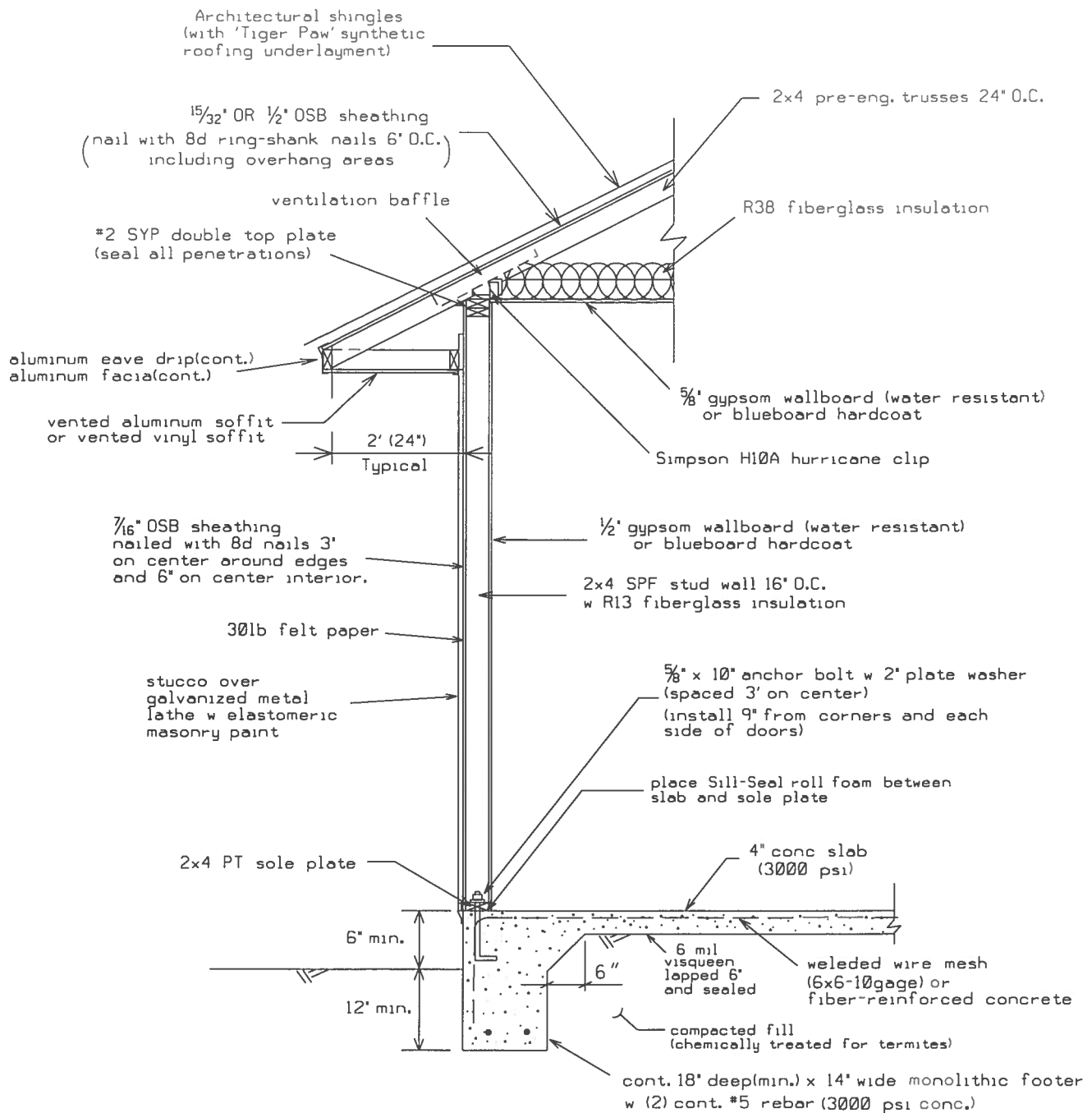
Carport: Header shall be 3 - 1.75" x 14" LVL's (Fb=2250 min., 1.5E min.) nailed together with 4-12d nails 10" on center. Connect header to wall with Simpson HUCQ610-SDS Concealed hanger (12-1/4"x 2 1/2" SDS screws to wall and 6-1/4"x 2 1/2" SDS screws to header)

**Carport Ceilings:**

Install 1x4 SPF lathes 16" on center connected to trusses with 2-8d nails each location or install 7/16" OSB to underside of trusses in carport area and nail 8d nails 6" on center and covered with solid aluminum soffit material, vinyl soffit material or hardi-panel.

Note: Equivalent capacity anchors may be substituted, installed in accordance with the manufacturers requirements.

*mtg 57L*  
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## TYPICAL WALL DETAIL (N.T.S.)

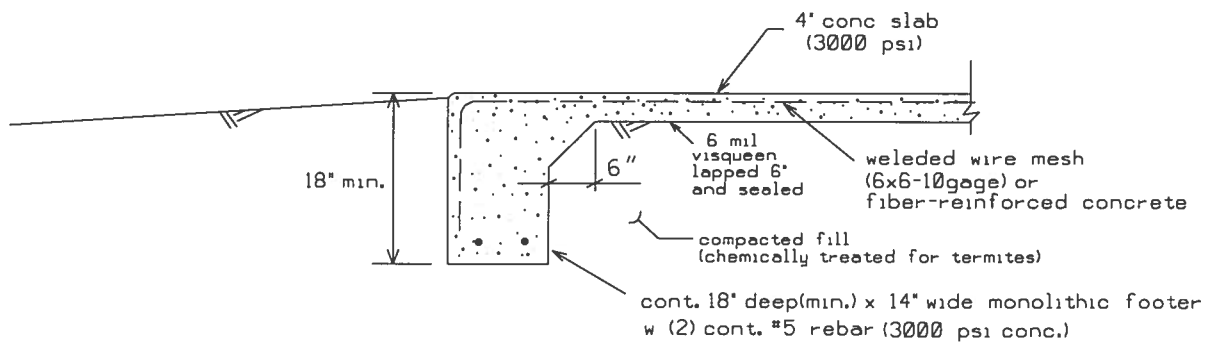
Note: See sheets 1 and 2 for additional nailing/strapping requirements.

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## TYPICAL CARPORT FOOTER DETAIL (N.T.S.)

Note: See sheets 1 and 2 for additional requirements at columns  
carport header and carport ceiling.

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