



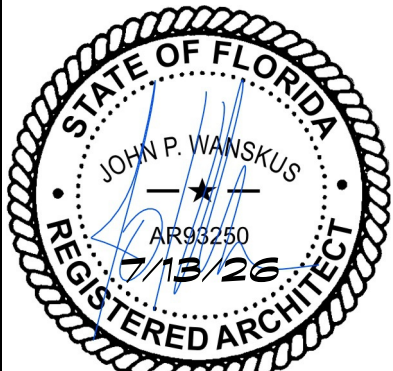
TIKI HUT
FOR
DANIEL FORNES

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- ☐ TX ~ #21153
- ☐ WY ~ #C-3265

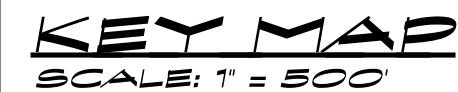


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DRAWING TITLE
**COVER
SHEET**

NO.	REV.	DATE
OWNER / LOCATION DANIEL FORNES 7870 NW 163rd STREET MIAMI LAKES, FL 33016		
DRAWN BY: JPW CHECKED BY: JPW PROJECT # 26-1307.126 DATE: 13 JULY 2026		
SHEET NO. T-1 1 OF 12		

<u>SHEET</u>	<u>DESCRIPTION</u>
T-1	COVER SHEET
C-1	SITE PLAN ~ KEY MAP ~ DRAWING INDEX
A-1	BUILDING & CODE DATA ~ GENERAL NOTES
A-2	FLOOR PLAN
A-3	BUILDING SECTION
S-1	FRAMING DETAILS
S-2	FRAMING DETAILS
S-3	FRAMING DETAILS
S-4	PALM FROND DETAILS
S-5	PALM FROND RATIONAL ANALYSIS CALCULATIONS
S-6	STRUCTURE WIND CALCULATIONS
S-7	STRUCTURE WIND CALCULATIONS



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BUILDING CODE DATA

1. USE GROUP: (U) UTILITY - ACCESSORY STRUCTURE
2. CONSTRUCTION CLASSIFICATION: TYPE VB (UNPROTECTED)
3. ROOF COVERING SHALL BE NATURAL SABLE PALMETTO PALM FROND THATCHING.

THATCHING WILL BE SECURED TO THE ROOF PURLINS WITH 6D NAILS, (2) PER PALM STALK. PALM FRONDS ARE DESIGNED TO BE SACRIFICED DURING A WIND EVENT, THUS LEAVING THE STRUCTURE AS OPEN TO RESIST THE WIND LOADS ON THE MAIN FRAME OF THE STRUCTURE. (SEE CALCULATIONS - DWGS. S-5, S-6 & S-7).

4. PROPOSED DESIGN: ONE STORY TIKI HUT - RECTANGLE (12 FT x 14 FT)
5. STRUCTURE HEIGHT: 14'-0"
6. STRUCTURE AREA: 168 SF ~ 224 SF (CANOPY AREA)
7. DESIGN LOADS: LIVE LOAD = 45.95 PSF (DOWNFORCE) -45.95 PSF (UPLIFT)
DEAD LOAD = 10.00 PSF
8. STRUCTURE DESIGN WIND SPEED:

RISK CATEGORY I: 160 MPH min. FOR "ULTIMATE DESIGN WIND SPEED"
RISK CATEGORY II: 170 MPH min. FOR "ULTIMATE DESIGN WIND SPEED"

2023 FBC - TABLE 1604.5
CATEGORY I IS INTENDED FOR BUILDINGS THAT HAVE A "LOW HAZARD TO HUMAN LIFE IN THE EVENT OF A FAILURE", INCLUDING BUT NOT LIMITED TO AGRICULTURAL FACILITIES, CERTAIN TEMPORARY FACILITIES, MINOR STORAGE FACILITIES AND SCREEN ENCLOSURES.

NOTE: THE DESIGNED ONE STORY TIKI HUT MOST CLOSELY RESEMBLES AN OPEN STRUCTURE SUCH AS AN OPEN SCREEN ENCLOSURE, AND AS SUCH, IS CLASSIFIED AS A RISK CATEGORY I STRUCTURE.

9. WIND IMPORTANCE FACTOR: 1.00
10. WIND EXPOSURE: D
11. THE INTERNAL COEFFICIENT = 0
12. ALL NEW STRUCTURES ON THIS PLAN ARE DESIGNED AS OPEN.
13. MAIN FRAME STRUCTURE IS DESIGNED FOR HURRICANE LOADS AS PER ASCE 7-22.
14. FASTENMASTER TIMBERLOK SCREWS TO PENETRATE A MINIMUM OF 2 INCHES TO RESIST THE DESIGN WIND FORCE.
15. THE VERTICAL ROOF MEMBERS ARE DESIGNED TO RESIST THE DESIGN WIND FORCE.
16. THE DESIGN TO FULLY COMPLY WITH THE 2023 FLORIDA BUILDING CODE (FBC) 8th EDITION, WITH AMENDMENTS.

GENERAL NOTES

1. ALL FASTENERS SHALL BE FASTENMASTER TIMBERLOK HEAVY DUTY WOOD SCREWS. FASTENERS SHALL GO THROUGH SECONDARY MEMBERS AND HAVE A MINIMUM 2" EMBEDMENT INTO MAIN MEMBER.
2. ALL PROPOSED WOOD RAFTERS, PILES, GIRDERS AND PURLINS SHALL BE SOLID PRESSURE TREATED (P.T.), GRADE 2.
3. PALM FRONDS SHALL COVER PURLINS TO PROVIDE A WATER RESISTANT ROOF. PALM FRONDS SHALL BE FASTENED WITH 6D STAINLESS STEEL NAILS INTO PURLINS, 2 PER FROND (1 TOP & 1 BOTTOM).
4. NO PLUMBING AND ELECTRICAL WORK IS PROPOSED.
5. ALL WORK SHALL BE INSTALLED SHALL BE OF THE HIGHEST QUALITY FOR EACH RESPECTIVE TRADE.
6. UNLESS OTHERWISE NOTED (U.O.N.), ALL WORK SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF OCCUPANCY.
7. ANY SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY OWNER AND ARCHITECT.
8. DO NOT SCALE DRAWINGS. DIMENSIONS SHALL BE USED FOR LAYOUT PURPOSES. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.

9. THESE PLANS HAVE BEEN PREPARED WITH THE 2023 FLORIDA BUILDING CODE, 8th EDITION, LIFE SAFETY CODE, FLORIDA FIRE PREVENTION CODE. TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE MINIMUM FIRE SAFETY STANDARDS AS DETERMINED IN ACCORDANCE WITH CHAPTERS 553 AND 633 LAWS OF THE STATE OF FLORIDA (FBC 106.1 & 109.3.6.4.4)

10. THE CONTRACTOR SHALL CONTACT "SUNSHINE STATE" ONE CALL, FP&L, AND ALL OTHER UTILITY COMPANIES PRIOR TO ANY WORK ONSITE OR OFFSITE SO THAT THE EXACT LOCATION OF ALL UTILITIES CAN BE DETERMINED.

11. IF EVIDENCE OF THE EXISTENCE OF HISTORIC RESOURCES IS DISCOVERED OR OBSERVED AT DEVELOPMENT SITE OR DURING DEVELOPMENT ACTIVITIES AFTER FINAL APPROVAL, ALL WORK SHALL CEASE IN THE AREA OF EFFECT AS DETERMINED BY THE DIRECTOR. THE DEVELOPER, OWNER, CONTRACTOR OR AGENT THEREOF SHALL NOTIFY THE DEPARTMENT OF HISTORICAL RESOURCES (HISTORY CENTER) WITHIN TWO WORKING DAYS.

EXAMPLES OF EVIDENCE OF HISTORIC RESOURCES INCLUDE WHOLE OR FRAGMENTARY STONE TOOLS, SHELL TOOLS, ABORIGINAL OR HISTORIC POTTERY, HISTORIC GLASS, HISTORIC BOTTLES, BONE TOOLS, HISTORIC BUILDING FOUNDATIONS, SHELL MOUNDS, SHELL MIDDENS OR SAND MOUNDS. THE DIRECTOR SHALL ASSESS THE SIGNIFICANCE OF THE FINDS AND MITIGATE ANY ADVERSE EFFECTS AS SOON AS POSSIBLE, BUT NOT LATER THAN THREE WORKING DAYS OF NOTIFICATION.

IF ANY HUMAN SKELETAL REMAINS OR ASSOCIATED BURIAL ARTIFACTS ARE DISCOVERED AT DEVELOPMENT SITES OR DURING DEVELOPMENT ACTMITY, ALL WORK IN THE AREA MUST CEASE, AND THE PERMITEE MUST IMMEDIATELY NOTIFY THE NEAREST LAW ENFORCEMENT OFFICE AND NOTIFY THE DEPARTMENT OF HISTORICAL RESOURCES WITHIN TWO WORKING DAYS. ACCORDING TO CHAPTER 872, FLORIDA STATUTES, IT IS UNLAWFUL TO DISTURB, VANDALIZE OR DAMAGE A HUMAN BURIAL.

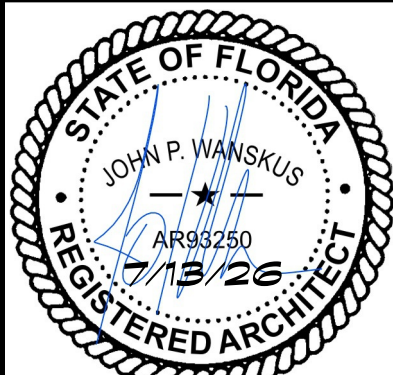


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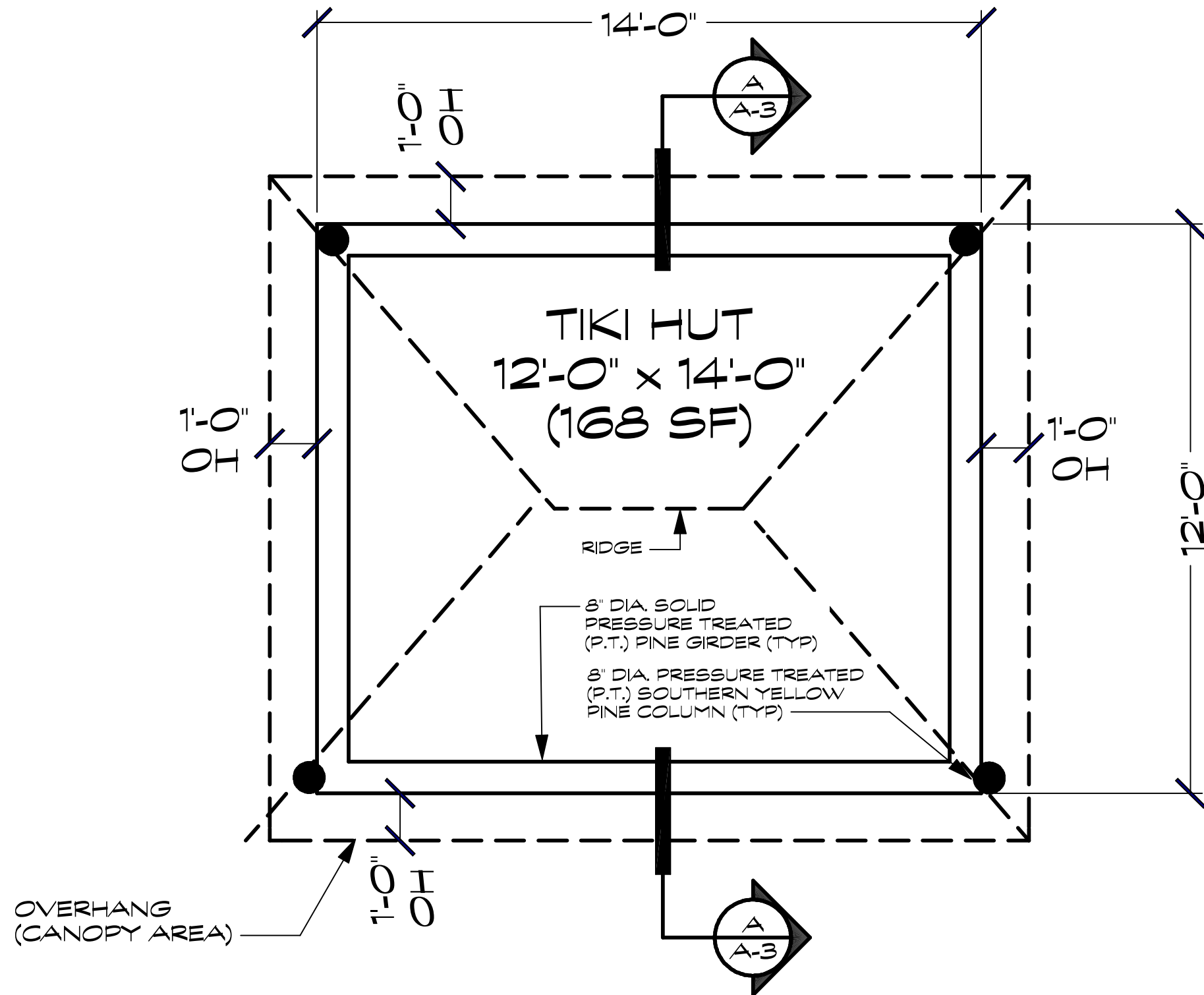
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|---------------|
| <u>CODE</u>   |
| <u>\$</u>     |
| <u>NOTES</u>  |

|                                                                                       |          |         |
|---------------------------------------------------------------------------------------|----------|---------|
|  | OVERHANG | 7/18/20 |
| NO.                                                                                   | REV.     | DATE    |
| OWNER / LOCATION                                                                      |          |         |
| DANIEL FORNES                                                                         |          |         |
| 7870 NW 163 <sup>rd</sup> STREET                                                      |          |         |
| MIAMI LAKES, FL 33016                                                                 |          |         |

**DRAWN BY: JPW**  
**CHECKED BY: JPW**  
**PROJECT # 26-1307.126**  
**DATE: 13 JULY 2026**

SHEET NO. **A-1**  
3 OF 12

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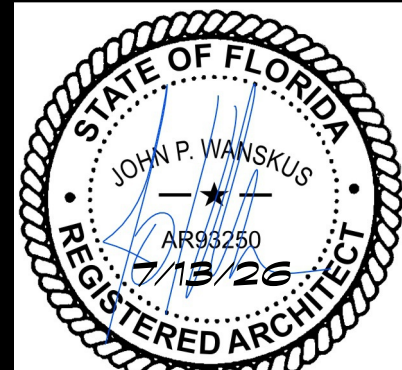
**FLOOR PLAN**  
SCALE: 3/8" = 1'-0"

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DRAWING TITLE  
**FLOOR PLAN**

| NO.                   | REV.     | DATE    |
|-----------------------|----------|---------|
| 1                     | OVERHANG | 7/18/20 |
| OWNER / LOCATION      |          |         |
| DANIEL FORNES         |          |         |
| 7870 NW 163rd STREET  |          |         |
| MIAMI LAKES, FL 33016 |          |         |

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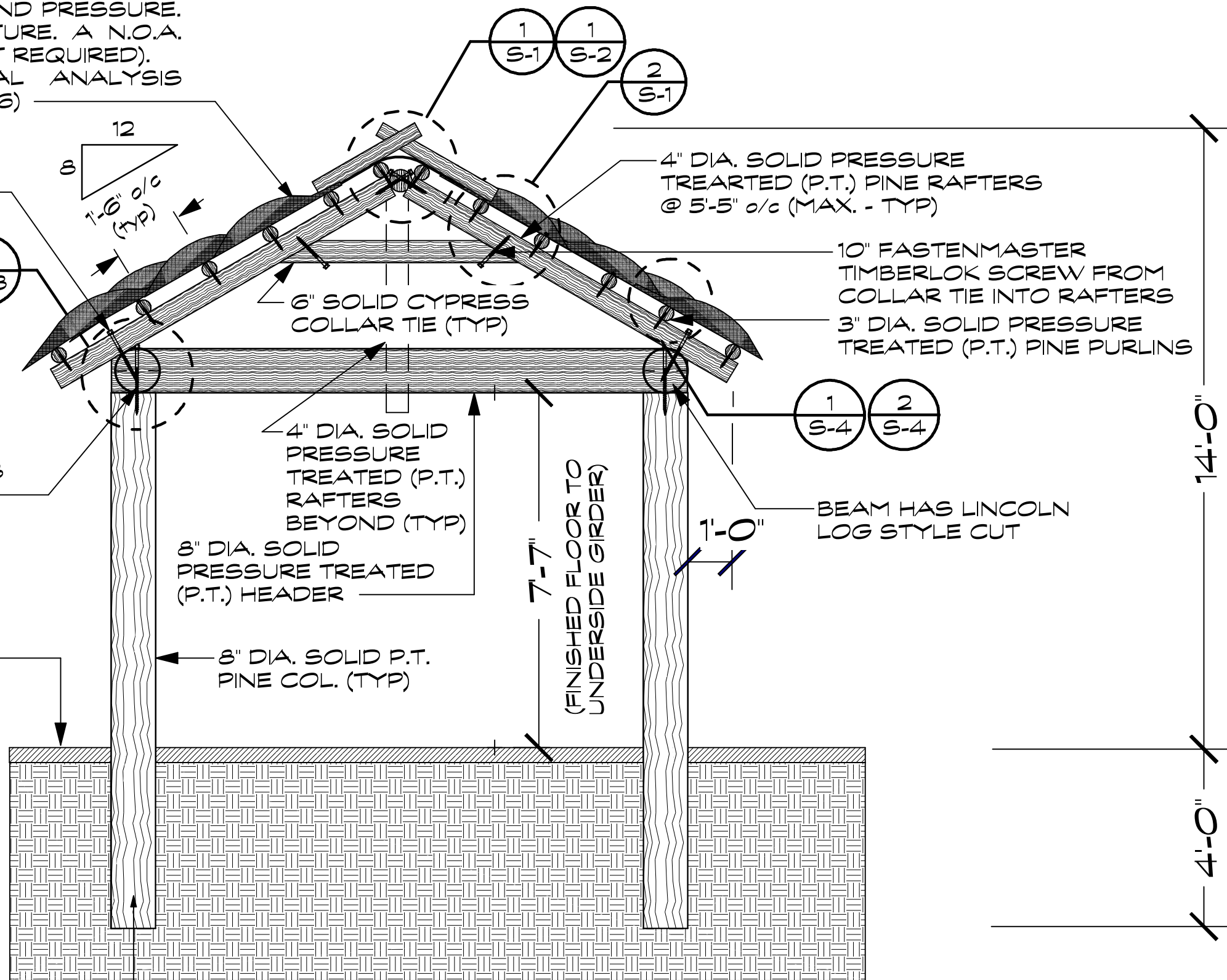
SHEET NO.  
**A-2**  
4 OF 12

PALM FRONDS NAILED INTO PURLINS, 2 PER FROND (1 TOP & 1 BOTTOM - TYP). PALM FRONDS TO BE FLEXIBLE AFTER INSTALLATION TO RELEASE WIND PRESSURE. (DESIGN IS AN OPEN STRUCTURE. A N.O.A. FOR PALM FROND ROOF IS NOT REQUIRED). SEE PALM FROND RATIONAL ANALYSIS CALCULATIONS - (DRAWING S-6)

10" FASTENMASTER TIMBERLOK SCREW FROM RAFTERS INTO BEAM

14" FASTENMASTER TIMBERLOK SCREW FROM BEAM INTO PILES (COUNTERSUNK)

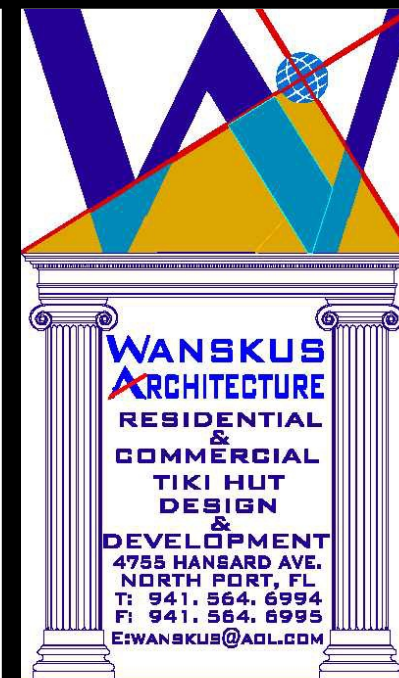
FINISHED GRADE



COL. TO BE EMBEDDED A MINIMUM 4'-0" INTO UNDISTURBED SANDY SOIL (TYP)  
MIN. BEARING CAPACITY: 3,557 LBS. (2,812 LBS - LIVE LOAD (WIND)  
745 LBS - DEAD LOAD

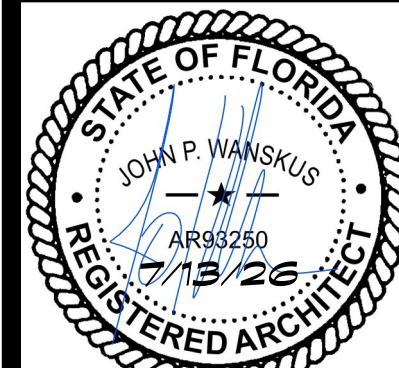
## SECTION A-A

SCALE: 3/8" = 1'-0"



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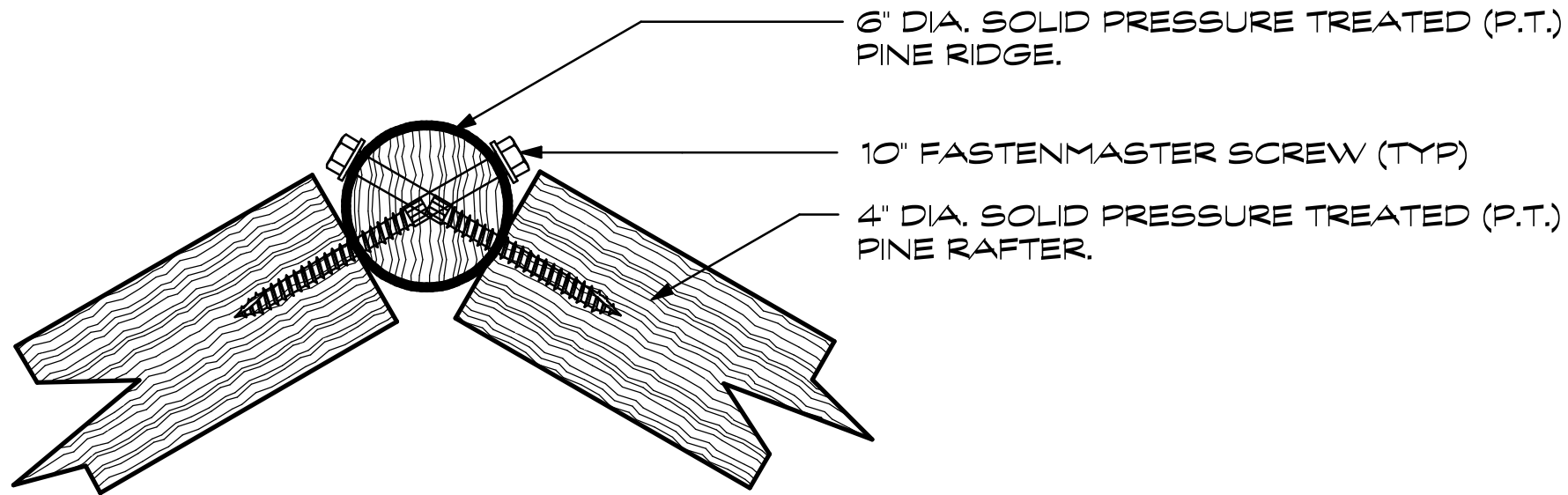
DRAWING TITLE  
**BUILDING  
SECTION**

| NO.                                                                                | REV. | DATE |
|------------------------------------------------------------------------------------|------|------|
| OWNER / LOCATION<br>DANIEL FORNES<br>7870 NW 163rd STREET<br>MIAMI LAKES, FL 33016 |      |      |

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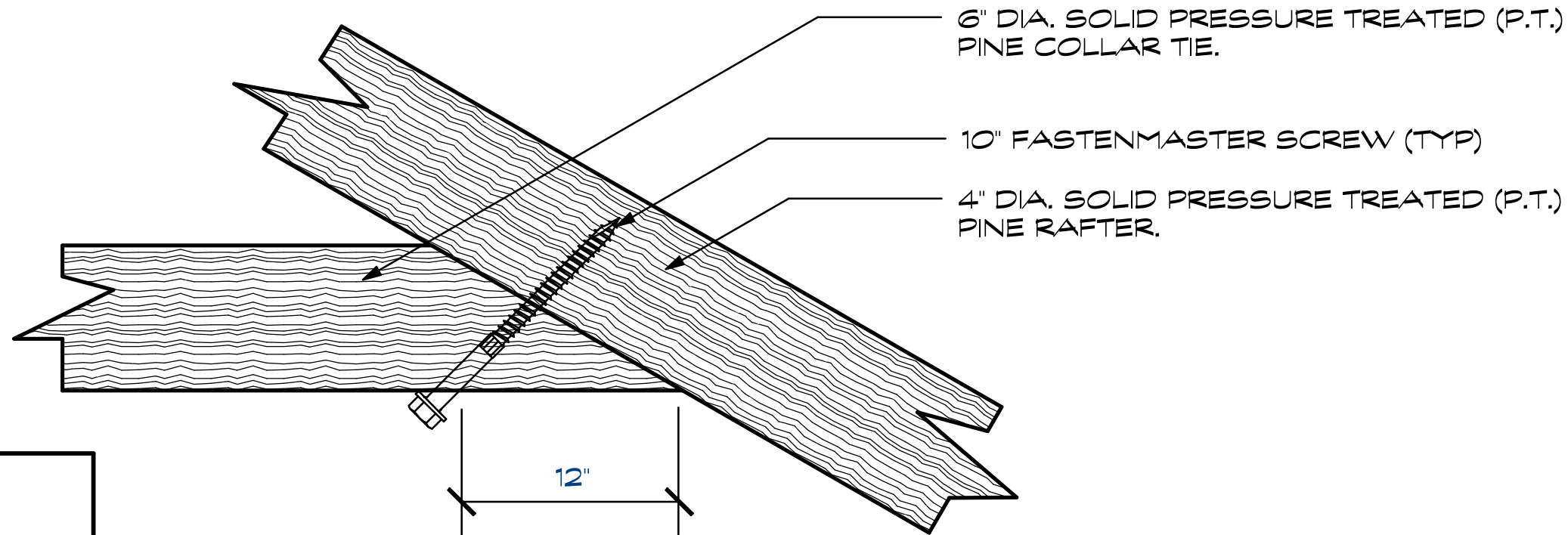
SHEET NO.  
**A-3**  
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**DETAIL 1** (RIDGE CONNECTION)

SCALE: 1/2" = 1'-0"

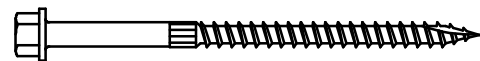


**DETAIL 2** (RAFTER ~ COLLAR-TIE CONNECTION)

SCALE: 1/2" = 1'-0"

## LEGEND

SYMBOL & DESCRIPTION

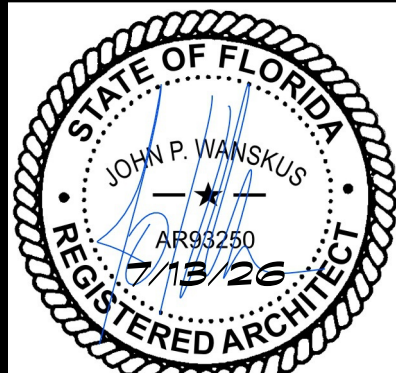


10" FASTENMASTER TIMBERLOK SCREW  
MIN. 4" ATTACHMENT:  
TENSION: 1,215 FT. LBS/SCREW  
SHEAR: 965 FT. LBS/SCREW  
BENDING: 187,300 PSI/SCREW



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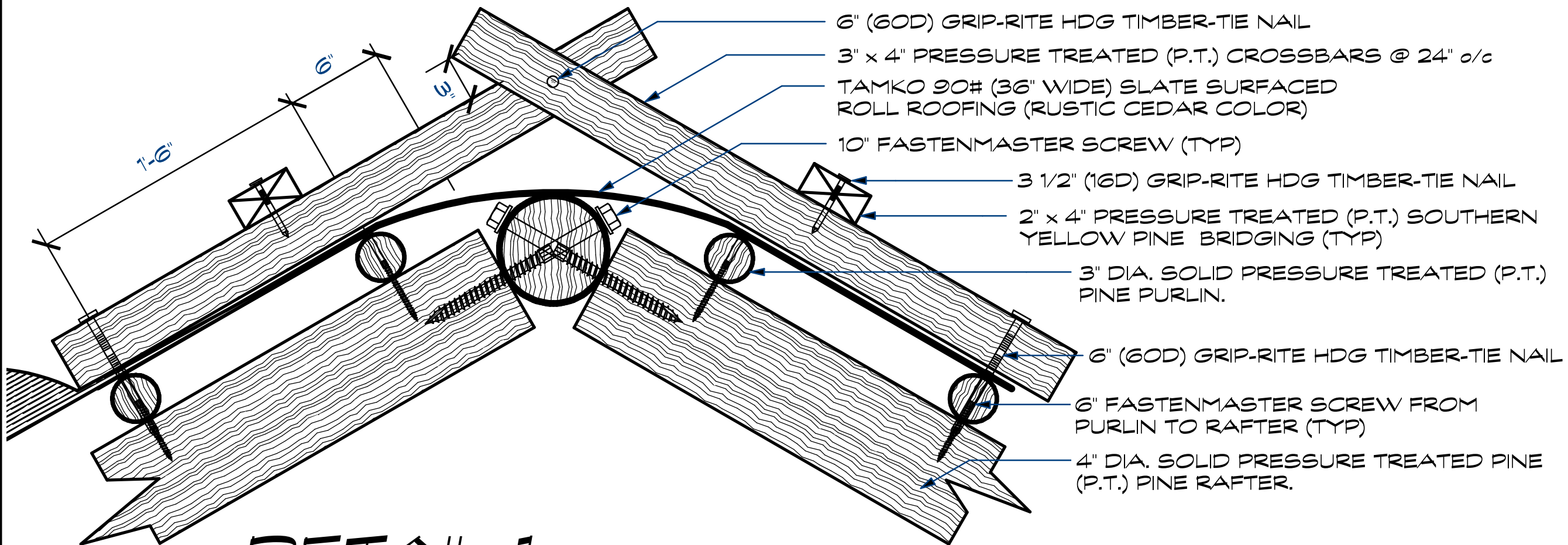
DRAWING TITLE  
**FRAMING  
DETAILS**

| NO.                                                                                | REV. | DATE |
|------------------------------------------------------------------------------------|------|------|
| OWNER / LOCATION<br>DANIEL FORNES<br>7870 NW 163rd STREET<br>MIAMI LAKES, FL 33016 |      |      |

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**S-1**  
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**DETAIL 1** (PURLIN & RIDGE CAP CONNECTION)

SCALE: 1/2" = 1'-0"

## LEGEND

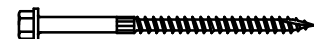
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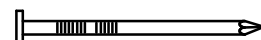
2" (6D) GRIP-RITE HDG COMMON NAIL



3 1/2" (16D) GRIP-RITE HDG TIMBER-TIE NAIL



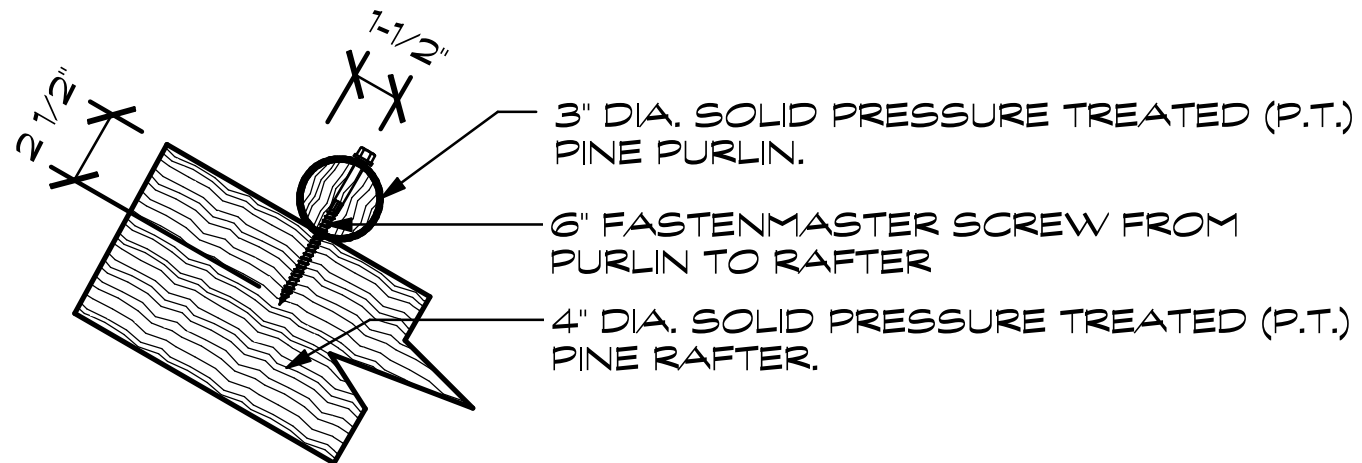
6" FASTENMASTER TIMBERLOK SCREW  
MIN. 2" ATTACHMENT:  
TENSION: 1,215 FT. LBS/SCREW  
SHEAR: 965 FT. LBS/SCREW  
BENDING: 187,300 PSI/SCREW



6" (60D) GRIP-RITE HDG TIMBER-TIE NAIL



10" FASTENMASTER TIMBERLOK SCREW  
MIN. 4" ATTACHMENT:  
TENSION: 1,215 FT. LBS/SCREW  
SHEAR: 965 FT. LBS/SCREW  
BENDING: 187,300 PSI/SCREW



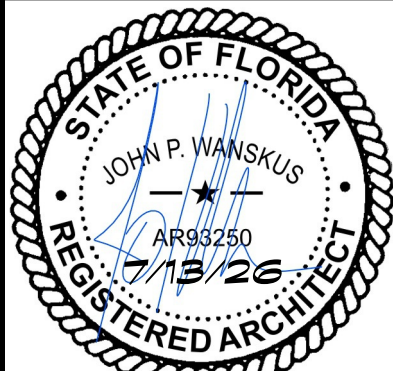
**DETAIL 2** (PURLIN CONNECTION)

SCALE: 1/2" = 1'-0"



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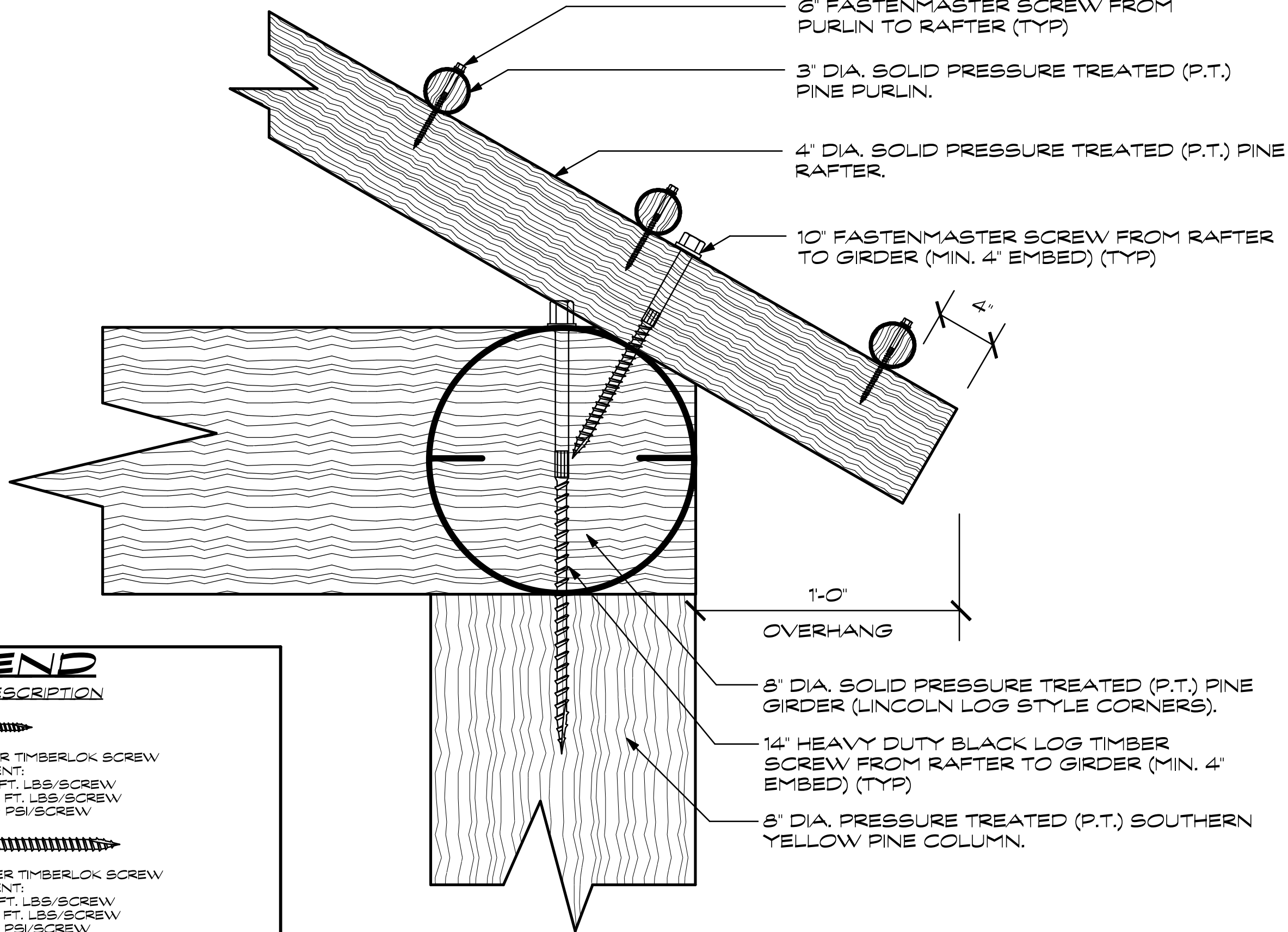
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**FRAMING  
DETAILS**

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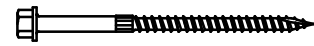
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## LEGEND

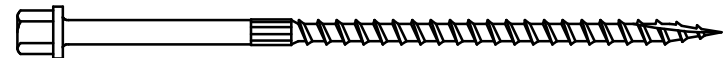
### SYMBOL & DESCRIPTION



6" FASTENMASTER TIMBERLOK SCREW  
MIN. 2" ATTACHMENT:  
TENSION: 1,215 FT. LBS/SCREW  
SHEAR: 965 FT. LBS/SCREW  
BENDING: 187,300 PSI/SCREW



10" FASTENMASTER TIMBERLOK SCREW  
MIN. 4" ATTACHMENT:  
TENSION: 1,215 FT. LBS/SCREW  
SHEAR: 965 FT. LBS/SCREW  
BENDING: 187,300 PSI/SCREW

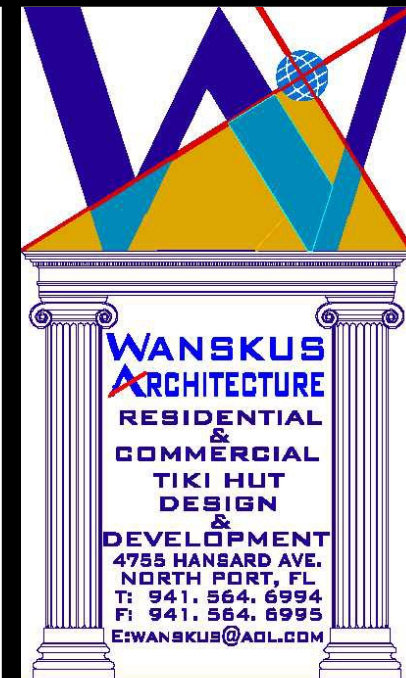


14" HEAVY DUTY BLACK LOG TIMBER SCREW  
MIN. 3" ATTACHMENT:  
TENSION: 1,335 FT. LBS/SCREW  
SHEAR: 890 FT. LBS/SCREW  
BENDING: 183,200 PSI/SCREW

## DETAIL 1

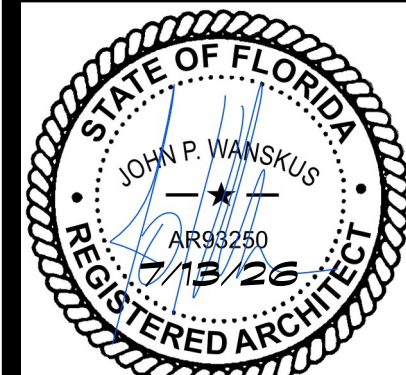
SCALE: 1/2" = 1'-0"

(RAFTER TO GIRDER CONNECTION)  
(GIRDER TO COLUMN CONNECTION)



### JOHN P. WANSKUS RA, AIA, NCARB

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- FL ~ #AR93250
- IL ~ #001-014842
- MA ~ #32317
- NCARB ~ #67566
- NJ ~ #21A101169200
- NY ~ #03-034472
- NC ~ #014537
- PA ~ #RA410263
- SC ~ #AR9931
- TX ~ #21153
- WY ~ #C-3265



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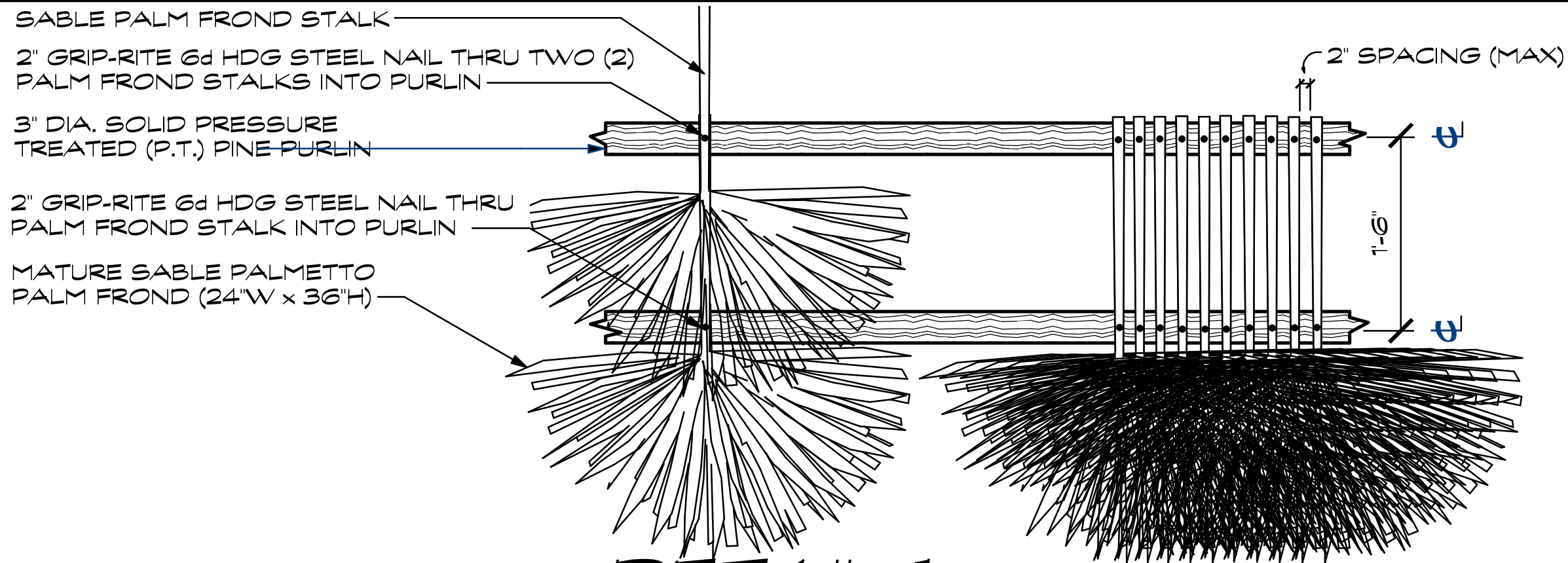
### DRAWING TITLE **FRAMING DETAILS**

| NO.                   | REV.     | DATE    |
|-----------------------|----------|---------|
| 1                     | OVERHANG | 7/18/20 |
| OWNER / LOCATION      |          |         |
| DANIEL FORNES         |          |         |
| 7870 NW 163rd STREET  |          |         |
| MIAMI LAKES, FL 33016 |          |         |

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**DETAIL 1**  
SCALE: 1/2" = 1'-0"

(PALM FROND ATTACHMENT)

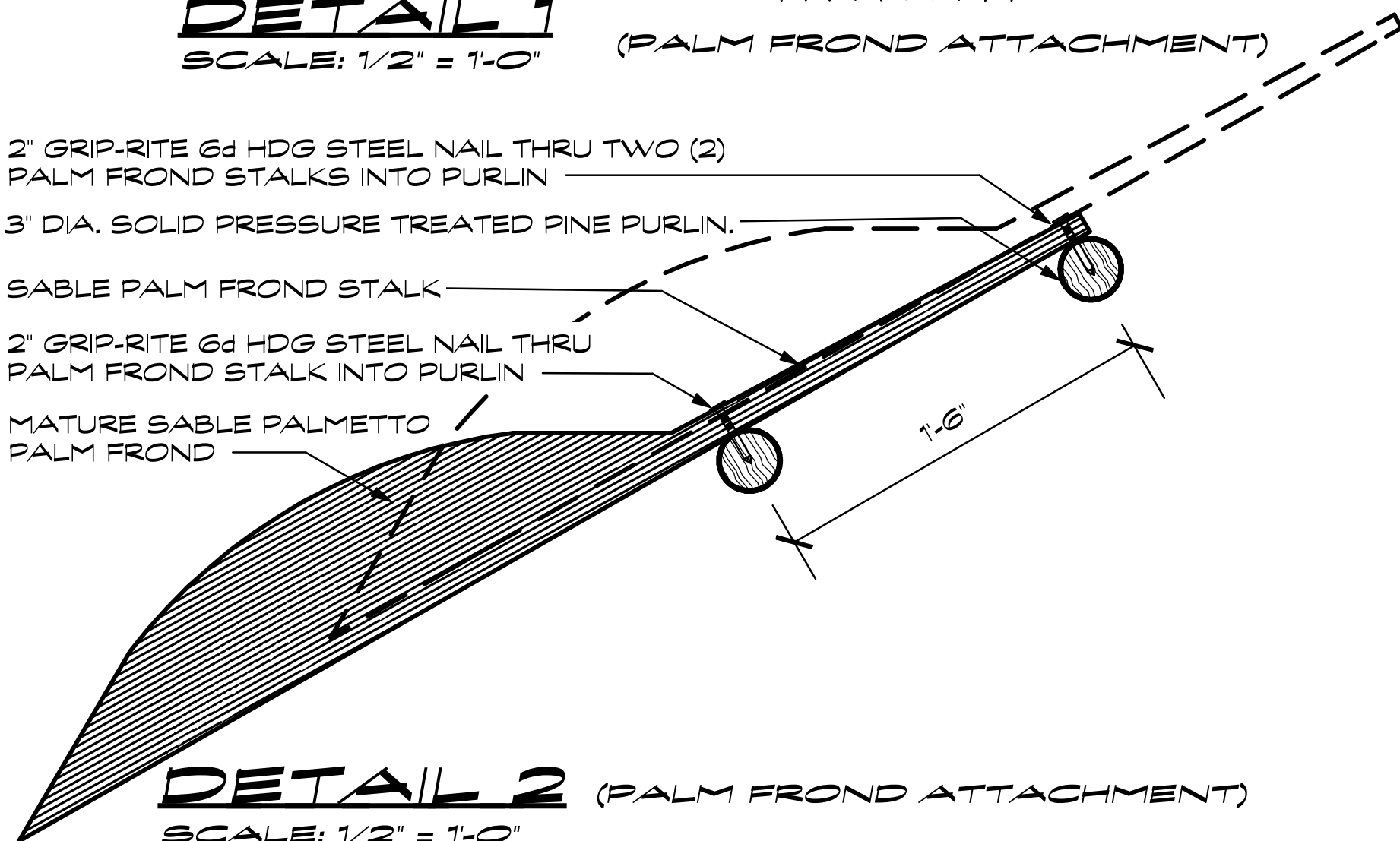
2" GRIP-RITE 6d HDG STEEL NAIL THRU TWO (2)  
PALM FROND STALKS INTO PURLIN

3" DIA. SOLID PRESSURE TREATED PINE PURLIN.

SABLE PALM FROND STALK

2" GRIP-RITE 6d HDG STEEL NAIL THRU  
PALM FROND STALK INTO PURLIN

MATURE SABLE PALMETTO  
PALM FROND



**DETAIL 2**  
SCALE: 1/2" = 1'-0"

(PALM FROND ATTACHMENT)

## LEGEND

SYMBOL & DESCRIPTION

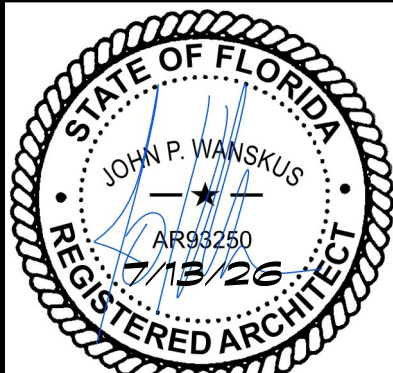


2" (6D) GRIP-RITE HDG COMMON NAIL



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FROND  
DETAILS**

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# PALM FROND RATIONAL ANALYSIS CALCULATIONS

## ROOF DESIGN

The Tiki Hut roofing shall be constructed with Sable Palmetto Palm Fronds, approximately 18 inches width by 36 inches length. The 18 inch stalk of the Palm Frond will be attached to the 4 inch diameter pressure-treated pine purlins with two (2) – 6d – 2 inch length smooth stainless steel common nails, one (1) at the top and bottom of the stalk. The nail will be embedded 1½ inches into the roof purlin.

## COMPONENTS/CLADDING ROOF WIND PRESSURES (See Wind Calculations ~ Drawing S-6)

### WIND LOAD – 170 MPH – EXPOSURE D

#### Zone 1:

The maximum uplift (withdrawal) force is 28.10 PSF.

#### Zone 2:

The maximum uplift (withdrawal) force is 43.27 PSF.

#### Zone 3:

The maximum uplift (withdrawal) force is 56.20 PSF.

## CALCULATIONS

Typical Sable Palm Frond Size: 2 ft. width x 3 ft length (6 SF)

6d Nail withdrawal load in lbs/in penetration = 34.70lbs/in (See Table 2 – Appendix)

6d Nail penetration into roof purlin = 1 ½ inches

34.70lbs/in x 1.5 in = 52.05 lbs. (withdrawal)

52.05 lbs. x (2) Nails per Palm Frond = 104.05 lbs (withdrawal force per attached frond)

## WIND FORCES ACTING ON A PALM FROND

### Zone 1

28.10 PSF (withdrawal) x 6 SF (Palm Frond) = 168.60 lbs (withdrawal force) ~ **104.05 lbs < 168.60 lbs**

Therefore, the **Zone 1** Palm Frond Nailing Attachment has: **FAILED**

### Zone 2

43.27 PSF (withdrawal) x 6 SF (Palm Frond) = 259.62 lbs (withdrawal force) ~ **104.05 lbs < 259.62 lbs**

Therefore, the **Zone 2** Palm Frond Nailing Attachment has: **FAILED**

### Zone 3

56.20 PSF (withdrawal) x 6 SF (Palm Frond) = 279.90 lbs (withdrawal force) ~ **104.05 lbs < 337.20 lbs**

Therefore, the **Zone 3** Palm Frond Nailing Attachment has: **FAILED**

## CONCLUSION

Based upon the wind load speed of 170 mph (Exposure **D**) as promulgated by the 2023 Florida Building Code and ASCE 7 – 22, the Palm Fronds attached to the roof purlins with two (2) 6d common nails will **FAIL** the resistance needed to withstand the design wind pressures.

Therefore, the Palm Fronds will become unattached (sacrificed) from the structure during a high wind event, leaving the Tiki Hut as an open structure.

## APPENDIX

### Nail Load Values

$$\text{Lateral Load (P}_n\text{)} = \text{KD}^{3/2}$$

P<sub>n</sub> = safe load in pounds per nail (assuming that the point penetrates ½ of it's length into the second member for hardwoods and 2/3 of it's length into the second member for softwoods)

K = a constant depending on the type of wood

D = diameter of the nail in inches

Table 1. Lateral Load in lbs/nail (P<sub>n</sub>) for Common Nails in Southern Pine

| Number<br>Common Nail | Diameter (in)<br>Common Nail | D <sup>3/2</sup> (in)<br>for Nails | (K) <sup>1</sup> for<br>Southern Pine | Calculated (P <sub>n</sub> )<br><sup>1</sup> | Table Value<br>(P <sub>n</sub> ) <sup>2</sup> |
|-----------------------|------------------------------|------------------------------------|---------------------------------------|----------------------------------------------|-----------------------------------------------|
| 6d                    | 0.113                        | 0.0380                             | 1,375                                 | 52.25                                        | 63                                            |
| 8d                    | 0.131                        | 0.0474                             | 1,375                                 | 65.18                                        | 78                                            |
| 10d                   | 0.148                        | 0.0570                             | 1,375                                 | 78.38                                        | 94                                            |
| 12d                   | 0.148                        | 0.0570                             | 1,375                                 | 78.38                                        | 94                                            |
| 16d                   | 0.162                        | 0.0652                             | 1,375                                 | 89.65                                        | 107                                           |
| 20d                   | 0.192                        | 0.0841                             | 1,375                                 | 115.64                                       | 139                                           |
| 30d                   | 0.207                        | 0.0942                             | 1,375                                 | 129.53                                       | 154                                           |
| 40d                   | 0.225                        | 0.1068                             | 1,375                                 | 146.85                                       | 176                                           |
| 60d                   | 0.263                        | 0.1349                             | 1,375                                 | 185.49                                       | 223                                           |

(1) Source of K value USDA Wood Handbook

(2) Source of P<sub>n</sub> value Dairy Housing and Equipment Handbook (Midwest Plan Service, Ames Iowa)

$$\text{Withdrawal Load (P)} = 1150 \text{ G}^{5/2} \text{ D}$$

P = load-pounds per inch of penetration (into the second member!)

G = specific gravity of the wood

D = diameter of the nail

Table 2. Withdrawal Load in lbs/in penetration (P) for Common Nails in Southern Pine

| Number | Diameter (in) | Length (in) | Specific Gravity<br>(G) | G <sup>5/2</sup> | P lbs/in of<br>penetration |
|--------|---------------|-------------|-------------------------|------------------|----------------------------|
| 6d     | 0.113         | 2           | 0.59                    | 0.267            | 34.70                      |
| 8d     | 0.131         | 2-1/2       | 0.59                    | 0.267            | 40.22                      |
| 10d    | 0.148         | 3           | 0.59                    | 0.267            | 45.44                      |
| 12d    | 0.148         | 3-1/4       | 0.59                    | 0.267            | 45.44                      |
| 16d    | 0.162         | 3-1/2       | 0.59                    | 0.267            | 49.72                      |
| 20d    | 0.192         | 4           | 0.59                    | 0.267            | 58.95                      |
| 30d    | 0.207         | 4-1/2       | 0.59                    | 0.267            | 63.56                      |
| 40d    | 0.225         | 5           | 0.59                    | 0.267            | 69.09                      |
| 50d    | 0.244         | 5-1/2       | 0.59                    | 0.267            | 74.92                      |
| 60d    | 0.263         | 6           | 0.59                    | 0.267            | 80.75                      |

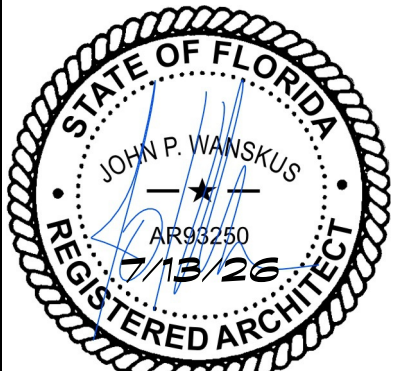
Source USDA Wood Handbook

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DRAWING TITLE  
**PALM  
FROND  
CALCS**

| NO.                                                                                | REV. | DATE |
|------------------------------------------------------------------------------------|------|------|
| OWNER / LOCATION<br>DANIEL FORNES<br>7870 NW 163rd STREET<br>MIAMI LAKES, FL 33016 |      |      |

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DATE: 13 JULY 2026

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**S-5**  
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# WIND CALCULATIONS

## MecaWind v2548

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### Calculations Prepared by:

Wanskus Architecture, P.C.  
4755 Hansard Avenue  
North Port, Florida, 34286  
Date: Jul 13, 2026  
Designer: JOHN P. WANSKUS, RA, AIA, NCARB

File Location: C:\Users\Wanskus Architecture\WANSKUS ARCHITECTURE Dropbox\  
John Wanskus\PC (2)\Documents\MecaWind\BIG CYPRESS TIKI HUTS\FORNES.wnd

### Calculations Prepared For:

Client: DANIEL FORNES  
Project #: 26-1307.126  
Location: 7870 NW 163rd STREET, MIAMI LAKES, FL  
Description: TIKI HUT

### General:

Reference Abbreviations: T: Table, F: Figure, E: Equation, S: Section, ¶: Paragraph

|                                |   |           |                             |   |            |
|--------------------------------|---|-----------|-----------------------------|---|------------|
| Wind Load Standard             | = | ASCE 7-22 | Basic Wind Speed            | = | 170.0 mph  |
| Exposure Classification        | = | D         | Risk Category               | = | I          |
| Structure Type                 | = | Building  | Basis for Wind Pressures    | = | ASD        |
| MWFRS Analysis Method          | = | Ch 27     | C&C Analysis Method         | = | Ch 30 Pt 3 |
| Dynamic Type of Structure      | = | Rigid     | Advanced Options            | = | 1          |
| Simple Diaphragm Building      | = | 0         | Base Reactions Output Type  | = | Detailed   |
| Altitude above Sea Level       | = | 0.0000 ft | Base Elevation Of Structure | = | 0.0000 ft  |
| MWFRS Pressure Elevations      | = | Mean Ht   | Topographic Effects         | = | None       |
| Override Directionality Factor | = | 0         | Override Gust Factor        | = | 0          |
| Override Minimum Pressure      | = | 0         |                             |   |            |

### Building:

|                                           |   |            |                                               |   |                               |
|-------------------------------------------|---|------------|-----------------------------------------------|---|-------------------------------|
| Roof Type                                 | = | Pitched    | Enclosure Classification                      | = | Open                          |
| Help = Help on Roof Type                  | = | Help       | Pitch = Pitch of Roof                         | = | 8.0 :12                       |
| θ = The calculated slope of roof          | = | 33.69 °    | HtEnt = Height Entry Type                     | = | Lowest                        |
| EHT = Lowest height of Roof               | = | 7.580 ft   | H = Mean Roof Height                          | = | 9.580 ft                      |
| RHt = Roof Highest Height                 | = | 11.580 ft  | L = Width Normal to Ridge                     | = | 12.0000 ft                    |
| D = Length Along Ridge                    | = | 14.0000 ft | Flow = Wind Flow Method                       | = | Clear                         |
| Frames = Include Transverse Frames        | = | False      | IsCol = Include Supporting Columns            | = | True                          |
| N <sub>x</sub> = # of Columns Along Ridge | = | 2          | N <sub>y</sub> = # of Columns Normal to Ridge | = | 2                             |
| O <sub>x</sub> = End Column Offset        | = | 0.0000 in  | O <sub>y</sub> = Side Column Offset           | = | 0.0000 in                     |
| W <sub>c</sub> = Column Width             | = | 8.0000 in  | Shape = Shape of Column                       | = | Round<br>Moderately<br>Smooth |

|                                                 |   |        |                                                      |   |               |
|-------------------------------------------------|---|--------|------------------------------------------------------|---|---------------|
| IsFascia = Include Fascia                       | = | False  |                                                      |   |               |
| <b>Exposure Constants T:26.11-1:</b>            |   |        |                                                      |   |               |
| α = 3-s Gust-speed exponent T:26.11-1           | = | 11.500 | z <sub>g</sub> = Nominal Boundary Layer Ht T:26.11-1 | = | 1,935.0000 ft |
| â = Reciprocal of α T:26.11-1                   | = | 0.087  | b = 3 sec gust speed factor T:26.11-1                | = | 1.090         |
| α <sub>m</sub> = Mean Hourly Exponent T:26.11-1 | = | 0.125  | b <sub>m</sub> = Mean Hourly Factor T:26.11-1        | = | 0.780         |
| c = Turbulence Intensity T:26.11-1              | = | 0.150  | ε = Integral Length Exponent T:26.11-1               | = | 0.1250        |

### Gust Factor Calculation for Wind: [Wind Dir 0 Deg]

*\*Gust Factor Category I Rigid Structures - Simplified Method\**

G<sub>1</sub> = Simplified for Rigid Struc = 0.85

*\*Gust Factor Category II Rigid Structures - Complete Analysis\**

|                                       |   |                                                                               |   |             |
|---------------------------------------|---|-------------------------------------------------------------------------------|---|-------------|
| Z <sub>m</sub>                        | = | Equiv Ht: Max(0.6•h, Z <sub>min</sub> )                                       | = | 7.0000 ft   |
| I <sub>zm</sub>                       | = | c•(33/Z <sub>m</sub> ) <sup>1/6</sup> E:26.11-7                               | = | 0.1942      |
| L <sub>zm</sub>                       | = | ℓ•(Z <sub>m</sub> /33) <sup>ε</sup> E:26.11-9                                 | = | 535.4715 ft |
| B                                     | = | Building Width Width Normal to Wind Direction                                 | = | 14.0000 ft  |
| Q <sub>a</sub>                        | = | (B+h)/L <sub>zm</sub>                                                         | = | 0.044       |
| Q                                     | = | [1/(1+0.63•Q <sub>a</sub> <sup>0.63</sup> )] <sup>0.5</sup> E:26.11-8         | = | 0.959       |
| G <sub>2a</sub>                       | = | 1+1.7•g <sub>v</sub> •I <sub>zm</sub>                                         | = | 2.123       |
| G <sub>2</sub>                        | = | 0.925•[(1+1.7•g <sub>a</sub> •I <sub>zm</sub> •Q)/G <sub>2a</sub> ] E:26.11-6 | = | 0.905       |
| <i>*Gust Factor Used in Analysis*</i> |   |                                                                               |   |             |
| G                                     | = | Gust Factor: Min(G <sub>1</sub> , G <sub>2</sub> )                            | = | 0.850       |

### Main Wind Force Resisting System (MWFRS) Wind Calculations per ch 27:

|                                                    |   |          |                                                                                                       |   |           |
|----------------------------------------------------|---|----------|-------------------------------------------------------------------------------------------------------|---|-----------|
| h = Mean structure height                          | = | 9.580 ft | K <sub>h</sub> = 2.41•(15/z <sub>g</sub> ) <sup>2/α</sup> T:26.10-1                                   | = | 1.035     |
| K <sub>zt</sub> = No Topographic Feature           | = | 1.000    | K <sub>d</sub> = Directionality Factor T:26.6-1                                                       | = | 0.85      |
| GC <sub>p1</sub> = ± Internal Press Coef T:26.13-1 | = | ±0.00    | LF = ASD Load Factor                                                                                  | = | 0.60      |
| K <sub>e</sub> = Ground Elev Factor T:26.10-1      | = | 1.000    | q <sub>h</sub> = .00256•K <sub>h</sub> •K <sub>zt</sub> •K <sub>e</sub> •V <sup>2</sup> •LF E:26.10-1 | = | 45.95 psf |

Wind Loads on Columns (All Wind Directions)  
No shielding of columns is considered

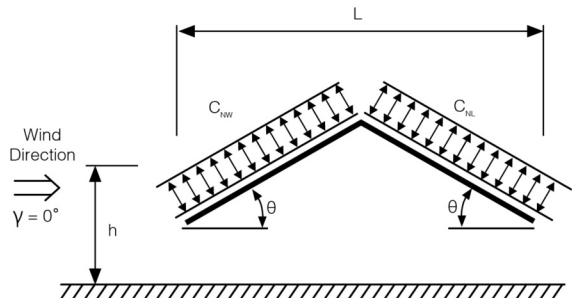
|                |   |                                                                                      |   |                               |
|----------------|---|--------------------------------------------------------------------------------------|---|-------------------------------|
| Shape          | = | Shape of Column                                                                      | = | Round<br>Moderately<br>Smooth |
| q <sub>h</sub> | = | .00256•K <sub>h</sub> •K <sub>zt</sub> •K <sub>e</sub> •V <sup>2</sup> •LF E:26.10-1 | = | 45.95 psf                     |

| X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | h <sub>c</sub><br>ft | h <sub>c</sub> /W <sub>c</sub> | C <sub>ε</sub> | A <sub>c</sub><br>ft² | F <sub>c</sub><br>lb |
|----------------------|----------------------|----------------------|--------------------------------|----------------|-----------------------|----------------------|
| -6.667               | -5.667               | 7.580                | 0.948                          | 0.641          | 5.05                  | 108                  |
| -6.667               | 5.667                | 7.580                | 0.948                          | 0.641          | 5.05                  | 108                  |
| 6.667                | -5.667               | 7.580                | 0.948                          | 0.641          | 5.05                  | 108                  |
| 6.667                | 5.667                | 7.580                | 0.948                          | 0.641          | 5.05                  | 108                  |
| 20.21                |                      |                      |                                |                |                       | 430                  |

|                                                                                                                         |                                                                               |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| X <sub>c</sub> = X Coordinate for center of Column                                                                      | Y <sub>c</sub> = Y Coordinate for center of Column                            |
| h <sub>c</sub> = Height of Column                                                                                       | h <sub>c</sub> /W <sub>c</sub> = Aspect Ratio: h <sub>c</sub> /W <sub>c</sub> |
| C <sub>ε</sub> = Shape Factor of Column F:29.4-1                                                                        | A <sub>c</sub> = Wind Area of a Column: h <sub>c</sub> •W <sub>c</sub>        |
| F <sub>c</sub> = Force on Column: Wind Force: q <sub>ε</sub> •K <sub>d</sub> •G•C <sub>ε</sub> •A <sub>c</sub> E:29.4-1 |                                                                               |

### Wind on Roof

Wind Pressures on Open Building Pitched Free Roof per F:27.3-5 - Wind Dir 0 Deg:



|                |   |                                                                                      |   |           |
|----------------|---|--------------------------------------------------------------------------------------|---|-----------|
| q <sub>h</sub> | = | .00256•K <sub>h</sub> •K <sub>zt</sub> •K <sub>e</sub> •V <sup>2</sup> •LF E:26.10-1 | = | 45.95 psf |
|----------------|---|--------------------------------------------------------------------------------------|---|-----------|

MWFRS Wind Pressures per F:27.3-5 on Pitched Free Roof - Wind Dir 0 Deg  
All wind pressures include a Load Factor (LF) of 0.6

| Load Case   | Cnw    | Cnl    | Pnw<br>psf | Pnl<br>psf |
|-------------|--------|--------|------------|------------|
| Load Case A | 1.300  | 0.448  | 43.15      | 14.86      |
| Load Case B | -0.149 | -0.752 | -4.95      | -24.98     |

### Notes:

Pnw = Pressure on windward portion of roof: q<sub>h</sub>•K<sub>d</sub>•(G•C<sub>pn</sub>) E:27.3-2

Pnl = Pressure On Leeward portion Of roof: q<sub>h</sub>•K<sub>d</sub>•(G•C<sub>nl</sub>) E:27.3-2

All wind pressures include a Load Factor (LF) of 0.6

• Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

### Reactions Wind Roof +GCPi: [Wind Dir 0 Deg]

| Description     | Pressure<br>psf | Area<br>ft² | X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | Z <sub>c</sub><br>ft | F <sub>x</sub><br>Kip | F <sub>y</sub><br>Kip | F <sub>z</sub><br>Kip | M <sub>x</sub><br>k•ft | M <sub>y</sub><br>k•ft | M <sub>z</sub><br>k•ft |
|-----------------|-----------------|-------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| Leeward Roof    | 14.86           | 100.96      | 0.00                 | -3.00                | -9.58                | 0.00                  | 0.83                  | 1.25                  | -4.23                  | 0.00                   | 0.00                   |
| Windward Column | 21.28           | 5.05        | 6.67                 | 5.67                 | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | 0.72                   |
| Windward Column | 21.28           | 5.05        | 6.67                 | -5.67                | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | 0.72                   |
| Windward Column | 21.28           | 5.05        | -6.67                | 5.67                 | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | -0.72                  |
| Windward Column | 21.28           | 5.05        | -6.67                | -5.67                | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | -0.72                  |
| Windward Roof   | 43.15           | 100.96      | 0.00                 | 3.00                 | -9.58                | 0.00                  | -2.42                 | 3.62                  | 12.28                  | 0.00                   | 0.00                   |
| Total           | 222.12          |             |                      |                      |                      | -2.01                 | 4.87                  | 9.68                  |                        |                        |                        |

### Reactions Wind Roof -GCPi: [Wind Dir 0 Deg]

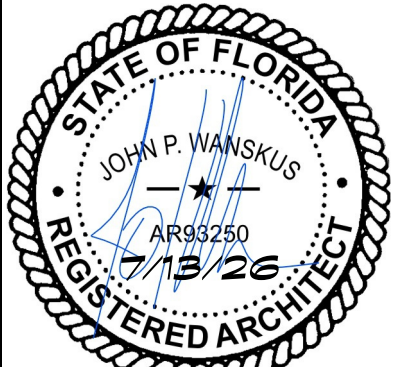
| Description     | Pressure<br>psf | Area<br>ft² | X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | Z <sub>c</sub><br>ft | F <sub>x</sub><br>Kip | F <sub>y</sub><br>Kip | F <sub>z</sub><br>Kip | M <sub>x</sub><br>k•ft | M <sub>y</sub><br>k•ft | M <sub>z</sub><br>k•ft |
|-----------------|-----------------|-------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| Leeward Roof    | -24.98          | 100.96      | 0.00                 | -3.00                | -9.58                | 0.00                  | -1.40                 | -2.10                 | 7.11                   | 0.00                   | 0.00                   |
| Windward Column | 21.28           | 5.05        | 6.67                 | 5.67                 | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | 0.72                   |
| Windward Column | 21.28           | 5.05        | 6.67                 | -5.67                | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | 0.72                   |
| Windward Column | 21.28           | 5.05        | -6.67                | 5.67                 | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | -0.72                  |
| Windward Column | 21.28           | 5.05        | -6.67                | -5.67                | -3.79                | 0.00                  | -0.11                 | 0.00                  | 0.41                   | 0.00                   | -0.72                  |
| Windward Roof   | -4.95           | 100.96      | 0.00                 | 3.00                 | -9.58                | 0.00                  | 0.28                  | -0.42                 | -1.41                  | 0.00                   | 0.00                   |
| Total           | 222.12          |             |                      |                      |                      | -1.55                 | -2.51                 | 7.33                  |                        |                        |                        |

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### JOHN P. WANSKUS RA, AIA, NCARB

|                                             |
|---------------------------------------------|
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| <input type="checkbox"/> FL ~ #AR93250      |
| <input type="checkbox"/> IL ~ #001-014842   |
| <input type="checkbox"/> MA ~ #32317        |
| <input type="checkbox"/> NCARB ~ #67566     |
| <input type="checkbox"/> NJ ~ #21A101169200 |
| <input type="checkbox"/> NY ~ #03-034472    |
| <input type="checkbox"/> NC ~ #014537       |
| <input type="checkbox"/> PA ~ #RA410263     |
| <input type="checkbox"/> SC ~ #AR9931       |
| <input type="checkbox"/> TX ~ #21153        |
| <input type="checkbox"/> WY ~ #C-3265       |



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### DRAWING TITLE

WIND  
CALCS

| NO.                   | REV. | DATE |
|-----------------------|------|------|
| OWNER / LOCATION      |      |      |
| DANIEL FORNES         |      |      |
| 7870 NW 163rd STREET  |      |      |
| MIAMI LAKES, FL 33016 |      |      |

DRAWN BY: JPW  
CHECKED BY: JPW  
PROJECT # 26-1307.126  
DATE: 13 JULY 2026

### SHEET NO.

S-6

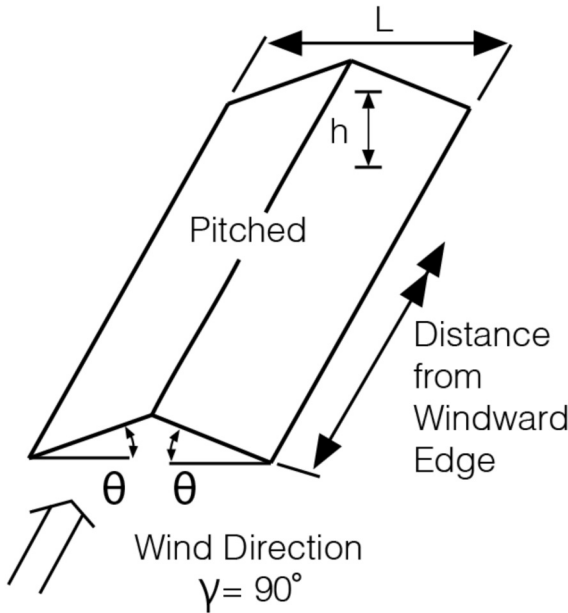
11 OF 12

# WIND CALCULATIONS

Reactions Wind Roof Min Pressure: [Wind Dir 0 Deg]

| Description     | Pressure<br>psf | Area*<br>ft² | X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | Z <sub>c</sub><br>ft | F <sub>x</sub><br>Kip | F <sub>y</sub><br>Kip | F <sub>z</sub><br>Kip | M <sub>x</sub><br>k•ft | M <sub>y</sub><br>k•ft | M <sub>z</sub><br>k•ft |
|-----------------|-----------------|--------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| Windward Column | 9.60            | 5.05         | 6.67                 | 5.67                 | -3.79                | 0.00                  | -0.05                 | 0.00                  | 0.18                   | 0.00                   | 0.32                   |
| Windward Column | 9.60            | 5.05         | 6.67                 | -5.67                | -3.79                | 0.00                  | -0.05                 | 0.00                  | 0.18                   | 0.00                   | 0.32                   |
| Windward Column | 9.60            | 5.05         | -6.67                | 5.67                 | -3.79                | 0.00                  | -0.05                 | 0.00                  | 0.18                   | 0.00                   | -0.32                  |
| Windward Column | 9.60            | 5.05         | -6.67                | -5.67                | -3.79                | 0.00                  | -0.05                 | 0.00                  | 0.18                   | 0.00                   | -0.32                  |
| Windward Roof   | 9.60            | 56.00        | 0.00                 | 3.00                 | -9.58                | 0.00                  | -0.54                 | 0.00                  | 5.15                   | 0.00                   | 0.00                   |
| Total           |                 | 76.21        |                      |                      |                      |                       | -0.73                 |                       | 5.89                   |                        |                        |

Wind Pressures on Open Building Pitched Free Roof per F:27.3-7 - Wind Dir 90 Deg:



$q_h = .00256 \cdot K_h \cdot K_{zt} \cdot K_d \cdot V^2 \cdot L F_{E:26.10-1} = 45.95 \text{ psf}$

MWFRS Wind Pressures per F:27.3-7 - Wind 90 Deg  
All wind pressures include a Load Factor (LF) of 0.6

| Location | Start<br>Dist<br>ft | End<br>Dist<br>ft | CnA    | CnB   | Pressure<br>PnA<br>psf | Pressure<br>PnB<br>psf |
|----------|---------------------|-------------------|--------|-------|------------------------|------------------------|
|          | 0.000               | 9.580             | -0.800 | 0.800 | -26.56                 | 26.56                  |
| >h, <2h  | 9.580               | 19.160            | -0.600 | 0.500 | -19.92                 | 16.60                  |

Notes Roof Pressures:

Start = Start Dist from Windward Edge      End = End Dist from Windward Edge

CnA = Cn for Load Case A      CnB = Cn for Load Case B

PnA =  $q_h \cdot K_d \cdot (G \cdot CnA)$  E:27.3-2      PnB =  $q_h \cdot K_d \cdot (G \cdot CnB)$  E:27.3-2

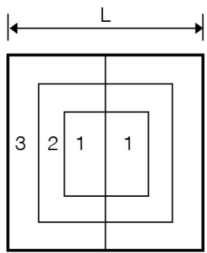
• Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Reactions Wind Roof +GCPi: [Wind Dir 90 Deg]

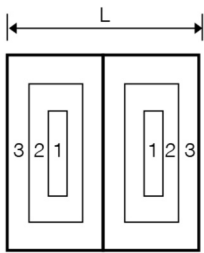
| Description     | Pressure<br>psf | Area<br>ft² | X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | Z <sub>c</sub><br>ft | F <sub>x</sub><br>Kip | F <sub>y</sub><br>Kip | F <sub>z</sub><br>Kip | M <sub>x</sub><br>k•ft | M <sub>y</sub><br>k•ft | M <sub>z</sub><br>k•ft |
|-----------------|-----------------|-------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
|                 | -26.56          | 69.08       | 2.21                 | -3.00                | -9.58                | 0.00                  | -1.02                 | -1.53                 | 5.17                   | -3.37                  | 2.25                   |
|                 | -26.56          | 69.08       | 2.21                 | 3.00                 | -9.58                | 0.00                  | 1.02                  | -1.53                 | -5.17                  | -3.37                  | -2.25                  |
| >h, <2h (Roof)  | -19.92          | 31.87       | -4.79                | -3.00                | -9.58                | 0.00                  | -0.35                 | -0.53                 | 1.79                   | 2.53                   | -1.69                  |
| >h, <2h (Roof)  | -19.92          | 31.87       | -4.79                | 3.00                 | -9.58                | 0.00                  | 0.35                  | -0.53                 | -1.79                  | 2.53                   | 1.69                   |
| Windward Column | 21.28           | 5.05        | 6.67                 | 5.67                 | -3.79                | -0.11                 | 0.00                  | 0.00                  | 0.00                   | -0.41                  | -0.61                  |
| Windward Column | 21.28           | 5.05        | 6.67                 | -5.67                | -3.79                | -0.11                 | 0.00                  | 0.00                  | 0.00                   | -0.41                  | 0.61                   |
| Windward Column | 21.28           | 5.05        | -6.67                | 5.67                 | -3.79                | -0.11                 | 0.00                  | 0.00                  | 0.00                   | -0.41                  | -0.61                  |
| Windward Column | 21.28           | 5.05        | -6.67                | -5.67                | -3.79                | -0.11                 | 0.00                  | 0.00                  | 0.00                   | -0.41                  | 0.61                   |
| Total           |                 | 222.12      |                      |                      |                      | -0.43                 |                       | -4.11                 |                        | -3.32                  |                        |

Reactions Wind Roof -GCPi: [Wind Dir 90 Deg]

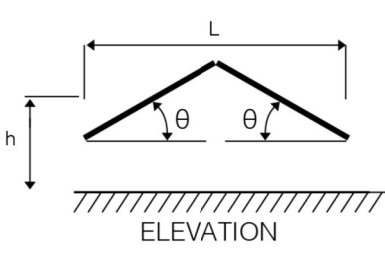
| Description    | Pressure<br>psf | Area<br>ft² | X <sub>c</sub><br>ft | Y <sub>c</sub><br>ft | Z <sub>c</sub><br>ft | F <sub>x</sub><br>Kip | F <sub>y</sub><br>Kip | F <sub>z</sub><br>Kip | M <sub>x</sub><br>k•ft | M <sub>y</sub><br>k•ft | M <sub>z</sub><br>k•ft |
|----------------|-----------------|-------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
|                | 26.56           | 69.08       | 2.21                 | -3.00                | -9.58                | 0.00                  | 1.02                  | 1.53                  | -5.17                  | 3.37                   | -2.25                  |
|                | 26.56           | 69.08       | 2.21                 | 3.00                 | -9.58                | 0.00                  | -1.02                 | 1.53                  | 5.17                   | 3.37                   | 2.25                   |
| >h, <2h (Roof) | 16.60           | 31.87       | -4.79                | -3.00                | -9.58                | 0.00                  | 0.29                  | 0.44                  | -1.49                  | -2.11                  | 1.41                   |



θ < 10 degrees



θ ≥ 10 degrees



ELEVATION

$h$  = Mean structure height = 9.580 ft  
 $K_{zt}$  = No Topographic Feature = 1.000  
 $G C_{pi}$  = ± Internal Press Coef T:26.13-1 = ±0.00  
 $K_g$  = Ground Elev Factor T:26.10-1 = 1.000  
 $a_1$  = Min(0.1•B, 0.4•h) = 1.200 ft  
 $K_h$  =  $2.41 \cdot (15/z_g)^{2/a}$  = 1.035  
 $K_d$  = Directionality Factor T:26.6-1 = 0.85  
LF = ASD Load Factor = 0.60  
 $q_h$  =  $.00256 \cdot K_h \cdot K_{zt} \cdot K_g \cdot V^2 \cdot L F_{E:26.10-1}$  = 45.95 psf  
 $a$  = Max( $a_1$ , 0.04•B, 3 ft [0.9 m]) = 3.000 ft

C&C Wind Roof & Wall Detailed per Ch 30 Pt 3  
All wind pressures include a Load Factor (LF) of 0.6

| Description | Zone | Width<br>ft | Span<br>ft | Area<br>ft² | 1/3 Rule | Reference | a<br>ft | Zone | C <sub>nd</sub> | C <sub>nu</sub> | P<br>psf | P<br>psf |
|-------------|------|-------------|------------|-------------|----------|-----------|---------|------|-----------------|-----------------|----------|----------|
| Zone 3      | 3    | 1.0000      | 1.0000     | 1.00        | No       | F:30.5-2  | 3       | 3    | 2.502           | -1.751          | 83.04    | -58.12   |

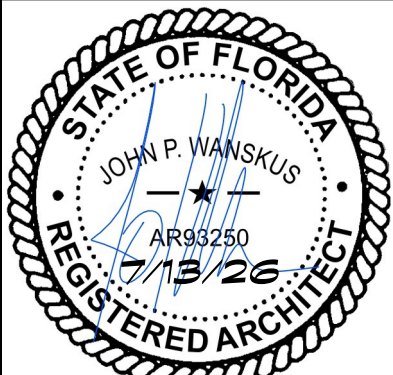
$C_{nd}$  = Net Down Pressure Coefficient F:30.5-2  
 $C_{nu}$  = Net Uplift Pressure Coefficient F:30.5-2  
+Press = Pressure Acting Toward Surface  
§30.2.2 = C&C Min Pressure = 9.60 psf  
Width = Width of Component  
Area = Span • Width  
 $a$  = Max[Min(.1•B, .4•h), .04•B, 3] F:30.7-2

$P$  = Pressure:  $q_h \cdot G \cdot K_d \cdot C_{ndE:30.5-1}$   
 $P$  = Pressure:  $q_h \cdot G \cdot K_d \cdot C_{nuE:30.5-1}$   
-Press = Pressure Acting Away from Surface  
Zone = Applicable Zone per Figure  
Span = Span of Component  
1/3 Rule = Width limited to Span/3  
Reference = Applicable Reference from Standard



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- ☐ NY ~ #03-034472
- ☐ NC ~ #014537
- ☐ PA ~ #RA410263
- ☐ SC ~ #AR9931
- ☐ TX ~ #21153
- ☐ WY ~ #C-3265



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DRAWING TITLE

WIND  
CALCS

NO. REV. DATE

OWNER / LOCATION  
DANIEL FORNES  
7870 NW 163rd STREET  
MIAMI LAKES, FL 33016

DRAWN BY: JPW  
CHECKED BY: JPW  
PROJECT # 26-1307.126  
DATE:13 JULY 2026

SHEET NO.

S-7  
12 OF 12

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