

## INSTRUCTION PAGE

COMPLETE THE NECESSARY SECTIONS OF  
THE UNIFORM ROOFING PERMIT  
APPLICATION FORM AND ATTACH THE  
REQUIRED DOCUMENTS AS NOTED BELOW:

Roof System	Required Sections of the Permit Application Form	Attachments Required (See List Below)
Low Slope Application	A,B,C	1,2,3,4,5,6,7
Prescriptive BUR-RAS 150	A,B,C	4,5,6,7
Asphaltic Shingles	A,B,D	1,2,4,5,6,7
Concrete or Clay Tile	A,B,D,E	1,2,3,4,5,6,7
Metal Roofs	A,B,D	1,2,3,4,5,6,7
Wood Shingles and Shakes	A,B,D	1,2,4,5,6,7
Other	As Applicable	1,2,3,4,5,6,7

### ATTACHMENTS REQUIRED:

1.	Fire Directory Listing Page
2.	From Notice of Acceptance: Front Page Specific System Description Specific System Limitations General Limitations Applicable Detail Drawings
3.	Design Calculations per Chapter 16, or if applicable, RAS 127 or RAS 128
4.	Other Component Notice of Acceptance
5.	Municipal Permit Application
6.	Owners Notification for Roofing Considerations (Re-Roofing Only)
7.	Any Required Roof Testing/Calculation Documentation

## Section A (General Information)

Master Permit No. \_\_\_\_\_ Process No. \_\_\_\_\_

Contractor's Name \_\_\_\_\_

Job Address \_\_\_\_\_

### ROOF CATEGORY

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Low Slope          | <input type="checkbox"/> Mechanically Fastened Tile | <input type="checkbox"/> Mortar/Adhesive Set Tile |
| <input type="checkbox"/> Asphaltic Shingles | <input type="checkbox"/> Metal Panel/Shingles       | <input type="checkbox"/> Wood Shingles/Shakes     |
|   | <input type="checkbox"/> Prescriptive BUR-RAS 150   |   |

### ROOF TYPE

- |                                   |                                     |                                     |                                 |                                      |
|-----------------------------------|-------------------------------------|-------------------------------------|---------------------------------|--------------------------------------|
| <input type="checkbox"/> New Roof | <input type="checkbox"/> Re-Roofing | <input type="checkbox"/> Recovering | <input type="checkbox"/> Repair | <input type="checkbox"/> Maintenance |
|-----------------------------------|-------------------------------------|-------------------------------------|---------------------------------|--------------------------------------|

### ROOF SYSTEM INFORMATION

Low Slope Roof Area (SF)	Steep Sloped Roof Area (SF)	Total (SF)
_____	_____	_____

## Section B (Roof Plan)

Sketch Roof Plan: Illustrate all levels and sections, roof drains, scuppers, overflow scuppers and overflow drains. Include dimensions of sections and levels; clearly identify dimensions of elevated pressure zones and location of parapets.

## Section C (Low Sloped Roof System)

**Fill in Specific Roof Assembly Components and Identify Manufacturer**

(If a component is not used, identify as "NA")

System Manufacturer: \_\_\_\_\_

NOA No.: \_\_\_\_\_

Design Wind Pressures, From RAS 128 or Calculations:

$P_{max1}$ : \_\_\_\_\_  $P_{max2}$ : \_\_\_\_\_  $P_{max3}$ : \_\_\_\_\_

Max. Design Pressure, from the specific NOA System:  
\_\_\_\_\_

Deck:  
Type: \_\_\_\_\_

Gauge/Thickness: \_\_\_\_\_

Slope: \_\_\_\_\_

Anchor/Base Sheet & No. of Ply(s): \_\_\_\_\_

Anchor/Base Sheet Fastener/Bonding Material:  
\_\_\_\_\_

Insulation Base Layer: \_\_\_\_\_

Base Insulation Size and Thickness: \_\_\_\_\_

Base Insulation Fastener/Bonding Material:  
\_\_\_\_\_

Top Insulation Layer: \_\_\_\_\_

Top Insulation Size and Thickness: \_\_\_\_\_

Top Insulation Fastener/Bonding Material:  
\_\_\_\_\_

Base Sheet(s) & No. of Ply(s): \_\_\_\_\_

Base Sheet Fastener/Bonding Material:  
\_\_\_\_\_

Ply Sheet(s) & No. of Ply(s): \_\_\_\_\_

Ply Sheet Fastener/Bonding Material:  
\_\_\_\_\_

Top Ply: \_\_\_\_\_

Top Ply Fastener/Bonding Material:  
\_\_\_\_\_

Surfacing: \_\_\_\_\_

**Fastener Spacing for Anchor/Base Sheet Attachment**

Field: \_\_\_\_\_ " oc @ Lap, # Rows \_\_\_\_\_ @ \_\_\_\_\_ " oc

Perimeter: \_\_\_\_\_ " oc @ Lap, # Rows \_\_\_\_\_ @ \_\_\_\_\_ " oc

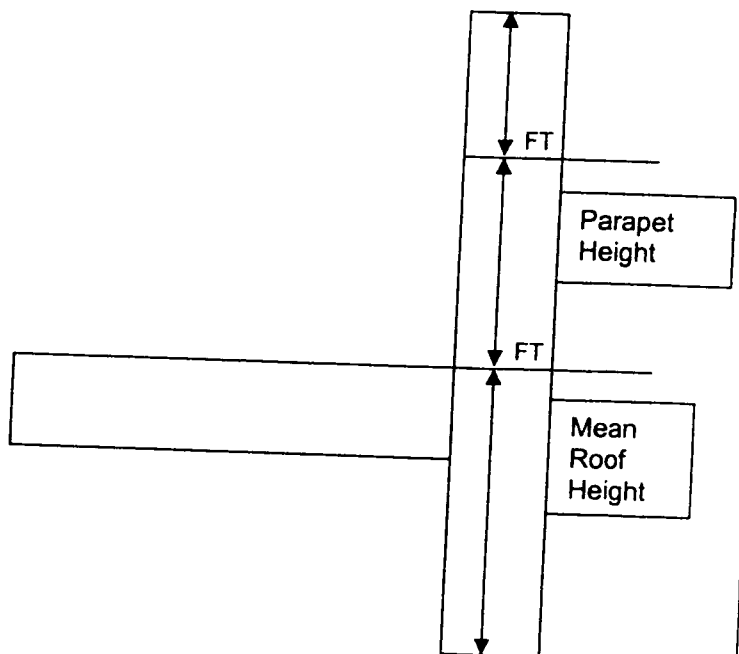
Corner: \_\_\_\_\_ " oc @ Lap, # Rows \_\_\_\_\_ @ \_\_\_\_\_ " oc

**Number of Fasteners Per Insulation Board**

Field \_\_\_\_\_ Perimeter \_\_\_\_\_ Corner \_\_\_\_\_

**Illustrate Components Noted and Details as Applicable:**

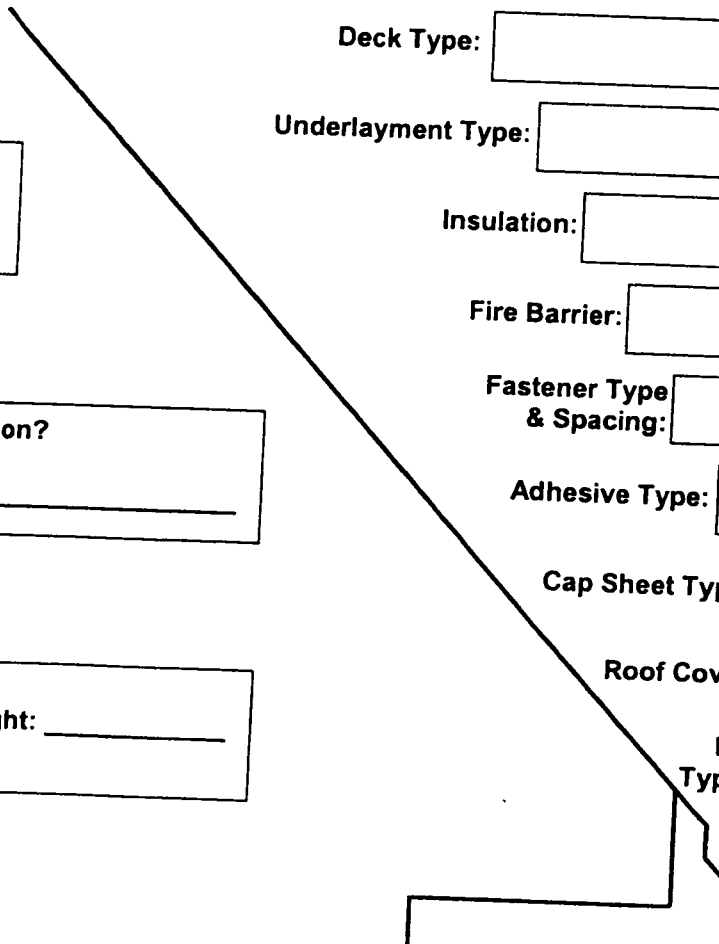
Woodblocking, Gutter, Edge Termination, Stripping, Flashing, Continuous Cleat, Cant Strip, Base Flashing, Counter-Flashing, Coping, Etc.  
**Indicate:** Mean Roof Height, Parapet Height, Height of Base Flashing, Component Material, Material Thickness, Fastener Type, Fastener Spacing or Submit Manufacturers Details that Comply with RAS 111 and Chapter 16.



### Section D (Steep Sloped Roof System)

Roof System Manufacturer:
Notice of Acceptance Number:
Minimum Design Wind Pressures, If Applicable (From RAS 127 or Calculations): P1: _____ P2: _____ P3: _____
Maximum Design Pressure (From the NOA Specific System): _____
Method of Tile Attachment:

### Steep Sloped Roof System Description



Deck Type: \_\_\_\_\_

Underlayment Type: \_\_\_\_\_

Insulation: \_\_\_\_\_

Fire Barrier: \_\_\_\_\_

Fastener Type & Spacing: \_\_\_\_\_

Adhesive Type: \_\_\_\_\_

Cap Sheet Type: \_\_\_\_\_

Roof Covering: \_\_\_\_\_

Drip Edge Type & Size: \_\_\_\_\_

Roof Slope:  
\_\_\_\_\_ : 12

Ridge Ventilation?  
\_\_\_\_\_

Mean Roof Height: \_\_\_\_\_

## Section E (Tile Calculations)

For Moment based tile systems, choose either Method 1 or 2. Compare the values for  $M_r$  with the values from  $M_r$ . If the  $M_r$  values are greater than or equal to the  $M_r$  values for each area of the roof, then the tile attachment method is acceptable.

### Method 1: Moment Based Tile Calculations Per RAS 127

$(P_1: \text{_____} \times \lambda \text{_____} = \text{_____}) - M_g: \text{_____} = M_{r1} \text{_____}$       NOA  $M_r$  \_\_\_\_\_  
 $(P_2: \text{_____} \times \lambda \text{_____} = \text{_____}) - M_g: \text{_____} = M_{r2} \text{_____}$       NOA  $M_r$  \_\_\_\_\_  
 $(P_3: \text{_____} \times \lambda \text{_____} = \text{_____}) - M_g: \text{_____} = M_{r3} \text{_____}$       NOA  $M_r$  \_\_\_\_\_

### Method 2: Simplified Tile Calculation Per Table Below

Required Moment of Resistance ( $M_r$ ) From Table Below \_\_\_\_\_ NOA  $M_r$  \_\_\_\_\_

<b><math>M_r</math> Required Moment Resistance*</b>					
Mean Roof Height → Roof Slope ↓	15'	20'	25'	30'	40'
2:12	34.4	36.5	38.2	39.7	42.2
3:12	32.2	34.4	36.0	37.4	39.8
4:12	30.4	32.2	33.8	35.1	37.3
5:12	28.4	30.1	31.6	32.8	34.9
6:12	26.4	28.0	29.4	30.5	32.4
7:12	24.4	25.9	27.1	28.2	30.0

\*Must be used in conjunction with a list of moment based tile systems endorsed by the Broward County Board of Rules and Appeals.

For Uplift based tile systems use Method 3. Compare the values for  $F'$  with the values for  $F_r$ . If the  $F'$  values are greater than or equal to the  $F_r$  values for each area of the roof, then the tile attachment method is acceptable.

### Method 3: Uplift Based Tile Calculations Per RAS 127

$(P_1: \text{_____} \times l: \text{_____} = \text{_____} \times w: \text{_____}) - W: \text{_____} \times \cos\theta: \text{_____} = F_{r1}: \text{_____}$       NOA  $F'$  \_\_\_\_\_  
 $(P_2: \text{_____} \times l: \text{_____} = \text{_____} \times w: \text{_____}) - W: \text{_____} \times \cos\theta: \text{_____} = F_{r2}: \text{_____}$       NOA  $F'$  \_\_\_\_\_  
 $(P_3: \text{_____} \times l: \text{_____} = \text{_____} \times w: \text{_____}) - W: \text{_____} \times \cos\theta: \text{_____} = F_{r3}: \text{_____}$       NOA  $F'$  \_\_\_\_\_

### Where to Obtain Information

Description	Symbol	Where to Find
Design Pressure	P1 or P2 or P3	RAS 127 Table 1 or by an engineering analysis prepared by PE based on ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	$\theta$	Job Site
Aerodynamic Multiplier	$\lambda$	NOA
Restoring Moment due to Gravity	$M_g$	NOA
Attachment Resistance	$M_f$	NOA
Required Moment Resistance	$M_r$	Calculated
Minimum Attachment Resistance	$F'$	NOA
Required Uplift Resistance	$F_r$	Calculated
Average Tile Weight	W	NOA
Tile Dimensions	l = length w = width	NOA

All calculations must be submitted to the Building Official at the time of permit application.

# ROOFING APPLICATION STANDARD (RAS) No. 127

## 1. Scope

This standard covers the procedure for determining the Moment of Resistance ( $M_r$ ) and Minimum Characteristic Force ( $F'$ ) to install a tile system on buildings of a specified roof slope and height. Compliance with the requirements and procedures herein specified where the pressures ( $P$ ) have been determined based on Table 1 of this standard, do not require additional signed and sealed engineering design calculation. All other calculations must be prepared signed and sealed by a professional engineer or registered architect.

## 2. How to determine the Moment Resistance ( $M_r$ ) (Moment Based Systems)

- 2.1 Determine the minimum design wind pressures for the field, perimeter and corner areas (P1, P2 and P3, respectively) using the values given in Table 1 or those obtained based by engineering analysis prepared, signed and sealed by a professional engineer or registered architect based on ASCE 7-98.
- 2.2 Locate the aerodynamic multiplier ( $\lambda$ ) in tile PCA.
- 2.3 Determine the restoring moment due to gravity ( $M_g$ ) per PCA.
- 2.4 Determine the attachment resistance ( $M_f$ ) per PCA.
- 2.5 Determine the Moment of Resistance ( $M_r$ ) per following formula:  
$$M_r = (P \times \lambda) - M_g$$
- 2.6 Compare the values for  $M_r$ , with the values for  $M_f$ , noted in the PCA. If the  $M_r$  values are greater than or equal to the  $M_f$  values, for each area of the roof (i.e., field (P1), perimeter (P2) and corner (P3) areas), then the tile attachment method is acceptable.

## 3. How to determine the Minimum Characteristic Force ( $F'$ ) (Uplift Based System)

- 3.1 Determine the minimum design pressures for the field, perimeter and corner areas (P1, P2 and P3 respectively) using the values given in Table 1 or those obtained based by engineering analysis prepared, signed and sealed by a professional engineer or registered architect based on the criteria set forth on ASCE 7-98.

- 3.2 Determine the angle ( $\theta$ ) of roof slope, from Table 1.
- 3.3 Determine the length ( $l$ ), width ( $w$ ) and average tile weight ( $W$ ) of tile, per PCA.
- 3.4 Determine the required uplift resistance ( $F_r$ ) per following formula:  
$$F_r = [(P \times l \times w) - W] \times \cos \theta$$
- 3.5 Compare the values for  $F_r$  with the values for  $F'$ , noted in the PCA. If the  $F'$  values are greater than or equal to the  $F_r$  values, for each area of roof (i.e., field (P1) perimeter (P2) and corner (P3) areas), then the tile attachment method is acceptable.

**TABLE 1**  
**MINIMUM DESIGN WIND UPLIFT PRESSURES, IN PSF FOR FIELD (P<sub>1</sub>), PERIMETER (P<sub>2</sub>) AND CORNER (P<sub>3</sub>) AREAS OF ROOFS FOR EXPOSURE "C" BUILDINGS WITH A ROOF MEAN HEIGHT AS SPECIFIED<sup>1</sup>.**

ROOF SLOPE →	≤ 2:12			≥ 2:12 ≤ 7: 12		> 7: 12	
	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>1</sub>	P <sub>2</sub> & P <sub>3</sub>	P <sub>1</sub>	P <sub>2</sub> & P <sub>3</sub>
ROOF MEAN HEIGHT ↓							
20	-52	-87.3	-131.4	-47.6	-100.6	-52	-60.9
25	-54.3	-91.1	-137	-49.7	-104.9	-54.3	-63.5
30	-56.6	-95	-143	-51.8	-109.4	-56.6	-66.2
35	-58.4	-98	-147.5	-53.5	-112.9	-58.4	-68.3
40	-59.7	-100.8	-151.2	-54.9	-116.1	-60.1	-70.2

<sup>1</sup> Calculated in accordance with ASCE 7.

**TABLE 2**  
**WHERE TO OBTAIN INFORMATION**

Description	Symbol	Where to Find
Design Pressure	P1 or P2 or P3	RAS 127 Table 1 or by an engineering analysis prepared by PE based on ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	$\theta$	Job Site
Aerodynamic Multiplier	$\lambda$	PCA
Restoring Moment due to Gravity	$M_g$	PCA
Attachment Resistance	$M_r$	PCA
Required Moment Resistance	$M_r$	Calculated
Minimum Characteristic Resistance	$F'$	PCA
Minimum Characteristic Force	$F_r$	Calculated
Average Tile Weight	W	PCA
Tile Dimensions	l = length w = width	PCA

All calculations must be submitted to the Building Official at the time of permit application.



# City of Pembroke Pines

## SECTION 1525 [Florida Building Code] HIGH VELOCITY HURRICANE ZONES - REQUIRED OWNERS NOTIFICATION FOR ROOFING CONSIDERATIONS

**§1525.1 - Scope.** As it pertains to this section, it is the responsibility of the roofing contractor to provide the owner with the required roofing permit, and to explain to the owner the content of this section. The provisions of Chapter 15 of the Florida Building Code, Building govern the minimum requirements and standards of the industry for roofing system installations. Additionally, the following items should be addressed as part of the agreement between the owner and the contractor. The owner's initial in the designated space indicates that the item has been explained.

- \_\_\_\_\_ 1. **Aesthetics-Workmanship:** The workmanship provisions of Chapter 15 (High Velocity Hurricane Zone) are for the purpose of providing that the roofing system meets the wind resistance and water intrusion performance standards. Aesthetics (appearance) are not a consideration with respect to workmanship provisions. Aesthetic issues such as color or architectural appearance, that are not part of a zoning code, should be addressed as part of the agreement between the owner and the contractor.
- \_\_\_\_\_ 2. **Renailing Wood Decks:** When replacing roofing, the existing wood roof deck may have to be renailed in accordance with the current provisions of Chapter 16 (High Velocity Hurricane Zones) of the [Code]. (The roof deck is usually concealed prior to removing the existing roof system).
- \_\_\_\_\_ 3. **Common Roofs:** Common roofs are those which have no visible delineation between neighboring units (i.e., townhouses, condominiums, etc.). In buildings with common roofs, the roofing contractor and/or owner should notify the occupants of adjacent units of roofing work to be performed.
- \_\_\_\_\_ 4. **Exposed ceilings:** Exposed, open beam ceilings are where the underside of the roof decking can be viewed from below. The owner may wish to maintain the architectural appearance; therefore, roofing nail penetrations of the underside of the decking may not be acceptable. [The Code] provides [an alternate for] maintaining this appearance.
- \_\_\_\_\_ 5. **Ponding Water:** The current roof system and/or deck of the building may not drain well and may cause water to pond (accumulate) in low-lying areas of the roof. Ponding can be an indication of structural distress and may require the review of a professional structural engineer. Ponding may shorten the life expectancy and performance of the new roofing system. Ponding conditions may not be evident until the original roofing system is removed. Ponding conditions should be corrected.
- \_\_\_\_\_ 6. **Overflow Scuppers (wall outlets):** It is required that rainwater flow off so that the roof is not overloaded from a buildup of water. Perimeter/edge walls or other roof extensions may block this discharge if overflow scuppers (wall outlets) are not provided. It may be necessary to install overflow scuppers in accordance with the requirements of: [Chapter 16].
- \_\_\_\_\_ 7. **Ventilation:** Most roof structures should have some ability to vent natural airflow through the interior of the structural assembly (the building itself). The existing amount of attic ventilation shall not be reduced. It may be beneficial to consider additional venting which can result in extending the service life of the roof.

\_\_\_\_\_  
Owner's/Agent's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor's Signature



# City of Pembroke Pines

Building Division

10100 Pines Boulevard, Pembroke Pines, Florida 33026

Telephone: (954) 435-6502 Fax: (954) 435-6749

All roofing applications require this Rooftop Equipment Affidavit along with the High Velocity Hurricane Zone Uniform Permit Application Form.

## ROOFTOP EQUIPMENT AFFIDAVIT

Job #: \_\_\_\_\_

Application #: \_\_\_\_\_

Subdivision: \_\_\_\_\_

Lot: \_\_\_\_\_ Block: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Name of Qualifier: \_\_\_\_\_ License #: \_\_\_\_\_

Is there any equipment on the rooftop?

No  Yes

If Yes: Is there an existing code-approved curb or stand?  Yes  No

If curb or stand is proposed, two (2) copies of plans sealed by an engineer showing the attachment of stand/curb to roof and to the equipment are required. These plans must be according to Florida Building Code Section 1525 in its entirety. Upon submittal of an alteration or addition of a curb or stand, the Planning Division may determine that alteration of an existing screening device or addition of a screening device may be required.

Is there any electrical work to be completed?

No  Yes If Yes: An electrical permit application is needed.

Qualifier/Contractor Signature \_\_\_\_\_

Date \_\_\_\_\_

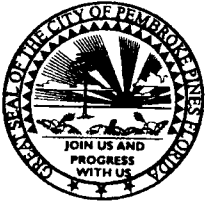
Print Name of person signing document \_\_\_\_\_

Sworn to (or affirmed) and subscribed before me this \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Who is personally known \_\_\_\_\_ OR Produced ID \_\_\_\_\_

Notary Public Signature \_\_\_\_\_

Notary Seal: \_\_\_\_\_



# City of Pembroke Pines

## RE-NAILING AND SECONDARY WATER BARRIER AFFIDAVIT (For Detached Single Family Homes)

Permit Number: \_\_\_\_\_ Job Number: \_\_\_\_\_

(Above numbers can be found on permit card) Lot \_\_\_\_\_ Block \_\_\_\_\_ & Subdivision \_\_\_\_\_

Name of Company: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Contact Number: \_\_\_\_\_

Name of Qualifier (Print) \_\_\_\_\_

License Number: \_\_\_\_\_

I, \_\_\_\_\_, do hereby affirm:

That I have personally inspected the re-nailing of roof sheathing and the secondary water barrier for the area covered by the roofing permit referenced above. And further state that the re-nailing of the sheathing and the secondary water barrier meets the requirements of the Florida Existing Building Code Sections 201.1 and 201.2

101.1 Mandatory in-process inspection for the re-nailing of roof sheathing and secondary water barrier shall be required. However, if the Building Department cannot make said inspection a letter submitted by one of the following; Florida Professional Engineer, Registered Architect, Licensed General Contractor, Building Contractor, Residential Contractor, Roofing Contractor, or persons certified under FS 468, in the form of a notarized affidavit including license number, shall be submitted to the Building Official, attesting to the fact that the nailing of the sheathing and the secondary water barrier has been brought up to the standards of this Code.

When existing roofs are re-roofed to the point that the existing roofing is removed down to the sheathing, the existing roof sheathing shall be re-nailed and a secondary water barrier installed in compliance with Code Sections 201.1 and 201.2. See supplemental document for nailing requirements and secondary water barrier options.

\_\_\_\_\_  
Qualifier/Contractor - Signature

\_\_\_\_\_  
Date:

State ) of Florida  
County ) of Broward

SWORN to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by \_\_\_\_\_

\_\_\_\_\_, who is known to me or who presented as ID \_\_\_\_\_

\_\_\_\_\_  
Notary Public, State of Florida