BUILDING DIVISION

WINDOWS AND DOORS CHECKLIST

PHONE: 954.797.1111 • FAX: 954.797.1086 • WWW.DAVIE-FL.GOV

Required Forms:

- ☐ Building Permit Application
- ☐ Signed and Notarized Addendum Form by Contractor and Owner.
- ☐ A Notice of Commencement must be recorded if the job exceeds $2,500.
- ☐ If permit submitted as an Owner Builder provide Owner Builder Disclosure Statement.
- ☐ Copy of contract if job value is greater than $5,000.
- ☐ If the contractor has a Workers' Compensation Exemption, a Workers' Compensation Exemption Letter is required.
- ☐ Copy of Property Search/Ownership from the Broward County Property Appraisers Office WWW.BCPA.NET.

Permit Review Stops:

- Structural

Minimum Plan Submittal:

- ☐ Two (2) sets of Drawings of the footprint of the structure showing numbered locations of openings. Include length, width, and mean roof height of structure.
- ☐ Two (2) sets of NOA'S (product approvals) obtained from point of purchase.
- ☐ Two (2) Window/Door Installation Form
- ☐ Two (2) Broward County Wind Load Chart sealed wind chart for commercial buildings.

Submittal Fees:

Residential/Commercial: 0.75% of construction value or minimum fee of $25.00.

INSTRUCTION FLOWCHART

IS THE MEAN ROOF HEIGHT OF THE BUILDING GREATER THAN 30'ft ABOVE GRADE?

- NO → IS THE BUILDING A ONE & TWO FAMILY / MULTI FAMILY DWELLING (TOWNHOUSE?)
  - YES → USE BROWARD COUNTY FENESTRATION VOLUNTARY WIND LOAD CHART
  - NO → SITE SPECIFIC ENGINEERING REQUIRED
- YES → SITE SPECIFIC ENGINEERING REQUIRED

COMPLETE AND SUBMIT WINDOW, DOOR & MULLION TUBE SCHEDULE PROVIDED IN THIS PACKET

SUBMIT VALID PRODUCT APPROVALS: FLORIDA (FL) OR MIAMI DADE COUNTY (NOA) WITH OPENING SIZES, GLAZING TYPES, AND CORRESPONDING PRESSURES HIGHLIGHTED

SUBMIT THE FOLLOWING FORMS:

1. **Mandatory:** Broward County Uniform Building Permit Application (included in packet)
   https://www.broward.org/CodeAppeals/Documents/FBC5thEdition/UniformPermitApplicationBORA.pdf
2. **If over $2,500 Project Cost:** Notice Of Commencement
   https://www.broward.org/RecordsTaxesTreasury/Records/Pages/NoticeofCommencement.aspx
3. **If owner-builder:** Owner-Builder's Affidavit (contact your local building department to obtain) and if applicable, copy of Recorded Warranty Deed

ARE THERE ALTERATIONS BEING MADE TO THE OPENING SIZES?

- YES → A LICENSED ENGINEER MUST PREPARE SEALED SITE SPECIFIC ALTERATION PLANS
- NO → OK TO SUBMIT!

DESIGN CRITERIA REQUIREMENTS FOR PLANS

1. Unit sketch, generally to scale illustrating the unit and overall building (if multi-family).
2. Broward requires ASCE 7 calculations using Peak wind velocity Vult(min) = 170mph
3. Either Exposure C (inland) or D (coastal - see description next page)
4. Mean (average) Roof height (see page 3)
5. Overall Building Width & Length (lessor dimension is used to determine width of zone 5)
6. Label each opening dimensions, wind zone (4 or 5) on the layout as shown in example on page 3
7. Each opening shall have a corresponding "mark" which ties into the window, door & mullion schedule provided within this packet

OK TO SUBMIT!

Explanation of Terms

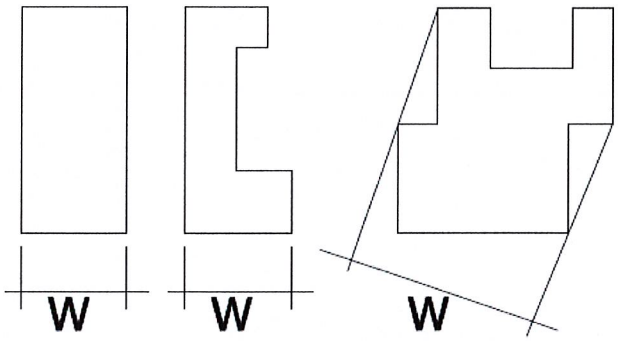
1: **Exposure C:** All of Broward County. The "Broward County Fenestration Voluntary Wind Load Chart" included within this packet can be used for all detached one & two story dwellings and multiple single-family dwellings (townhomes).

2: **Exposure D:** A structure that's within 600' or 20X building height of a flat area/body of water that's a mile long. Generally all areas east of the Intercoastal Waterway. Wind load pressures must be completed by a licensed design professional for all structures.

3: **Mean Roof Height ("h")**: Average between the lowest and the highest roof point of a sloped roof, also the highest point of a flat roof (also see page 3).

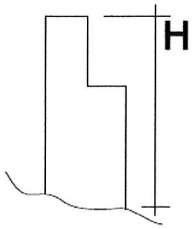
4: **Minimum Building Width**: 10% of least horizontal dimension (W) or 0.4h, whichever is smaller, but not less than either 4% of least horizontal dimension or 3'ft minimum.

MIN. BUILDING WIDTH EXAMPLES (PLAN VIEW):

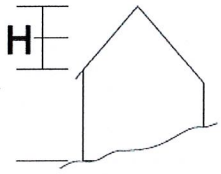


Mean Roof Height

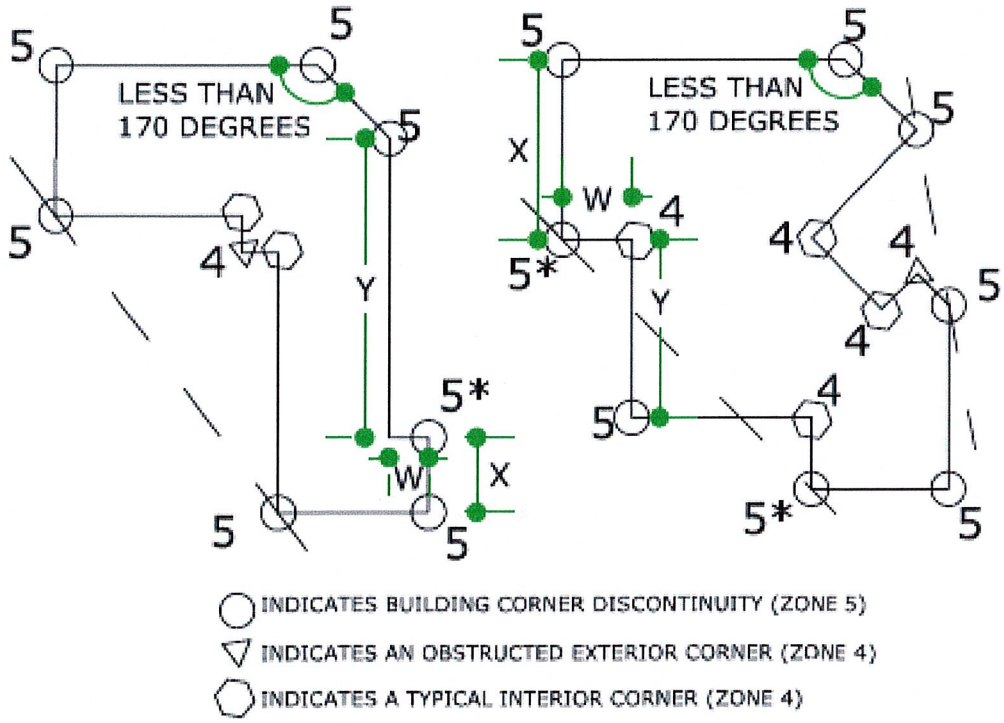
2: FLAT ROOF



2: SLOPED ROOF



ZONE EXAMPLES (PLAN VIEW)

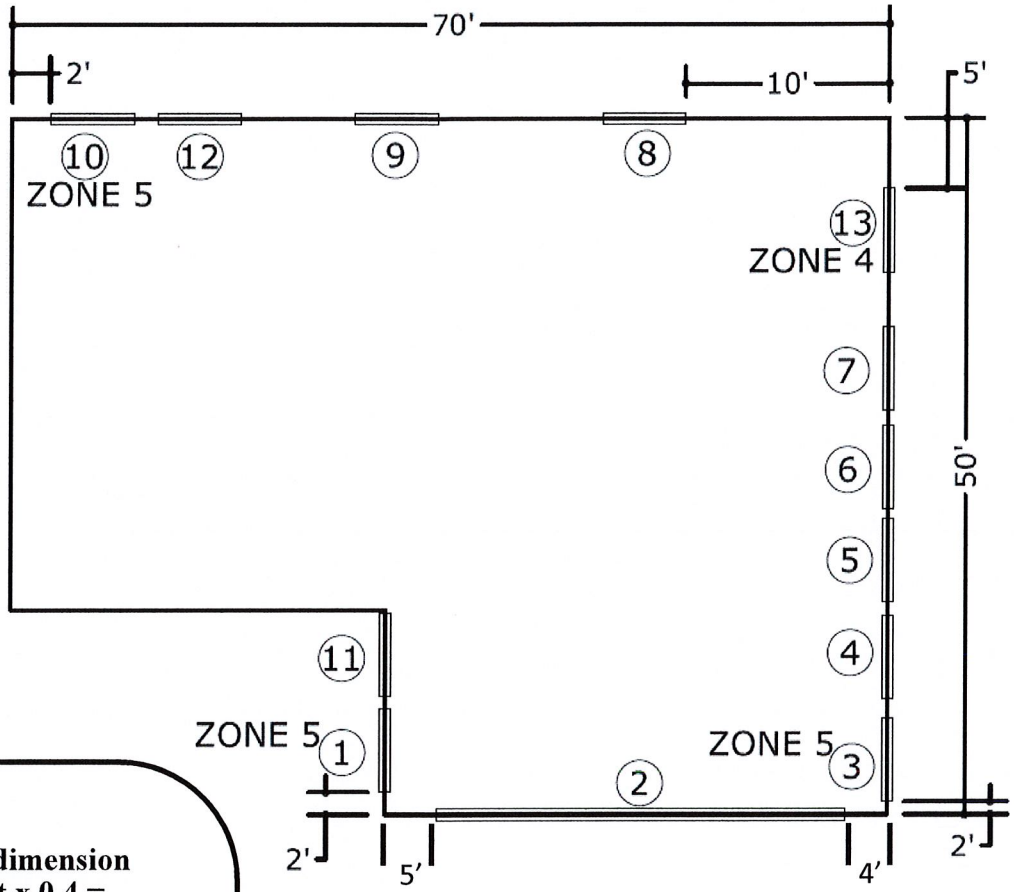


NOTE: The corner designated by an * would not be considered a corner if dimension **W** is less than half the width of the corner zone and dimension **X** and **Y** are greater than the width of a corner zone

170 degree: An unobstructed exterior corner with an interior angle of less than 170 degree would be considered a corner zone

See page 3 for example on how to calculate the zone dimensions of a building

Minimum Sketch Requirement



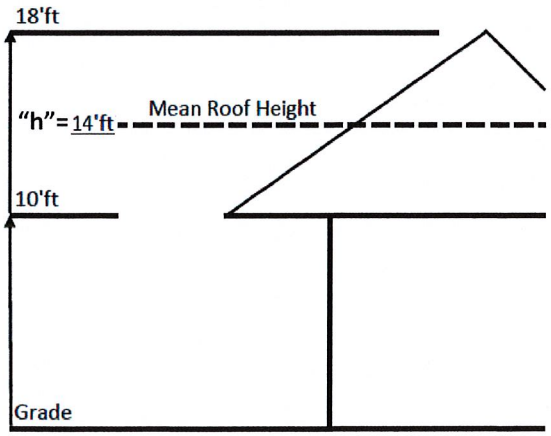
Zone determinations:

1. Zone 5 (corner zone) in this example is calculated as 5'ft in width, any opening within 5'ft of an outside unobstructed corner would be considered in zone 5.
2. In this example, openings 1, 2, 3 & 10 are located in a zone 5 (corner zone).
3. All other opening would be considered zone 4 (interior zone).

ZONE CALCULATIONS:
Zone 5 = .10 x least horizontal dimension (50ft x .10 = 5ft) or .4 x"h" (14ft x 0.4 = 5.6ft) whichever is smaller, but not less than either 4% of the least horizontal dimension (50ft x 4% = 2ft), or 3ft.

Zone 5 (corner zone) would be 5'ft wide.

All others would be zone 4.



Next Steps:

- Complete Window & Door Schedule included within this packet
- Submit all forms to your local building department according to their instructions.
- The local building department may require additional documentation

BORA Policy 20-01 **BROWARD COUNTY UNIFORM RETROFIT WINDOW & DOOR SCHEDULE** PAGE____OF____

NAME:_____ SITE ADDRESS:_____ CONTACT #:_____

1	2	3		4		5		6		7		8		9		10	
OPENING LOCATION ID	PRODUCT ACCEPTANCE NUMBER	PRODUCT APPROVAL PRESSURE RATING		REQUIRED DESIGN PRESSURE		OPENING SIZES		ZONE LOCATION		Impact Glazing		OPENING HAS EXISTING SHUTTERS		NEW SHUTTERS REQUIRED		MULLION TUBES REQUIRED	
		(+) PSF	(-) PSF	(+) PSF	(-) PSF	WIDTH X HEIGHT IN INCHES	AREA IN SQ FEET	4 INTER	5 END	YES	NO	YES	NO	YES	NO	YES	NO
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											

IDENTIFY OPENINGS ALPHABETICALLY OR NUMERICALLY ON ELEVATION SHEETS.

IDENTIFY VERTICALLY STACKED GLASS IN THE SAME OPENINGS FROM BOTTOM TO TOP WITH SUB NUMBERS (Example: A, A1, A2, ETC.).

Broward County Fenestration Voluntary Wind Load Chart*

Per ASCE 7-10 Method 1, Part 1 and FBC (2017) for Retrofiting in Accordance with Formal Interpretation #p

For Detached One-and Two family dwellings and Multiple Single-Family Dwellings (Townhouses) with Mean Roof Height ≤ 30 feet

Wind 170 mph (3-second gust) / Exposure C** / Kd = 0.85 / Kzt = 1.0 / Pressures are in PSF / Not for use in Coastal (Exposure 'D' areas)

* Using Allowable Stress Design methodology (P = 0.6w) / ** Exposure shall be determined according to ASCE 7-10 Section 26.7.3 (Exposure Categories)

Effective Wind Area (ft^2)	Location: Gable or Hip Roof	Mean Roof Height of 15 feet						Mean Roof Height of 20 feet						Mean Roof Height of 25 feet						Mean Roof Height of 30 feet					
		Zone						Zone						Zone						Zone					
		1		2		3		1		2		3		1		2		3		1		2		3	
		+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–
10	Gable/Hip Roof θ ≤ 7° (0 to 1.5:12)	16.0	-37.8	16.0	-63.4	16.0	-95.4	16.3	-40.2	16.3	-67.4	16.3	-101.4	17.1	-42.1	17.1	-70.6	17.1	-106.3	17.8	-43.7	17.8	-73.4	17.8	-110.4
20		16.0	-36.8	16.0	-56.7	16.0	-79.1	16.0	-39.1	16.0	-60.2	16.0	-84.0	16.0	-41.0	16.0	-63.1	16.0	-88.0	16.7	-42.6	16.7	-65.6	16.7	-91.5
50		16.0	-35.6	16.0	-47.7	16.0	-57.4	16.0	-37.8	16.0	-50.7	16.0	-61.0	16.0	-39.6	16.0	-53.2	16.0	-63.9	16.0	-41.1	16.0	-55.2	16.0	-66.4
100		16.0	-34.6	16.0	-41.0	16.0	-41.0	16.0	-36.8	16.0	-43.6	16.0	-43.6	16.0	-38.5	16.0	-45.7	16.0	-45.7	16.0	-40.0	16.0	-47.4	16.0	-47.4
10	Gable/Hip Roof*** 7° < θ ≤ 27° (1.5 to 6:12)	21.8	-34.6	21.8	-60.2	21.8	-89.0	23.1	-36.8	23.1	-64.0	23.1	-94.6	24.3	-38.5	24.3	-67.1	24.3	-99.2	25.2	-40.0	25.2	-69.7	25.2	-103.0
20		19.9	-33.6	19.9	-55.4	19.9	-83.3	21.1	-35.7	21.1	-58.9	21.1	-88.5	22.1	-37.4	22.1	-61.7	22.1	-92.7	23.0	-38.9	23.0	-64.1	23.0	-96.3
50		17.3	-32.4	17.3	-49.0	17.3	-75.6	18.4	-34.4	18.4	-52.1	18.4	-80.3	19.3	-36.0	19.3	-54.6	19.3	-84.2	20.0	-37.4	20.0	-56.7	20.0	-87.5
100		16.0	-31.4	16.0	-44.2	16.0	-69.8	16.3	-33.3	16.3	-47.0	16.3	-74.2	17.1	-35.0	17.1	-49.2	17.1	-77.8	17.8	-36.3	17.8	-51.1	17.8	-80.8
10	Gable Roof 27° < θ ≤ 45° (6 to 12:12)	34.6	-37.8	34.6	-44.2	34.6	-44.2	36.8	-40.2	36.8	-47.0	36.8	-47.0	38.5	-42.1	38.5	-49.2	38.5	-49.2	40.0	-43.7	40.0	-51.1	40.0	-51.1
20		33.6	-35.9	33.6	-42.3	33.6	-42.3	35.7	-38.1	35.7	-44.9	35.7	-44.9	37.4	-39.9	37.4	-47.1	37.4	-47.1	38.9	-41.5	38.9	-48.9	38.9	-48.9
50		32.4	-33.3	32.4	-39.7	32.4	-39.7	34.4	-35.4	34.4	-42.2	34.4	-42.2	36.0	-37.1	36.0	-44.2	36.0	-44.2	37.4	-38.6	37.4	-46.0	37.4	-46.0
100		31.4	-31.4	31.4	-37.8	31.4	-37.8	33.3	-33.3	33.3	-40.2	33.3	-40.2	35.0	-35.0	35.0	-42.1	35.0	-42.1	36.3	-36.3	36.3	-43.7	36.3	-43.7

*** For Hip Roofs with angle > 7 degrees (1.5:12) and ≤ 25 degrees (5.5:12), Zone 3 shall be treated as Zone 2 (Figure 30.4-2B, Note 7, p. 337)

Effective Wind Area (ft^2)	Location	Mean Roof Height of 15 feet				Mean Roof Height of 20 feet				Mean Roof Height of 25 feet				Mean Roof Height of 30 feet			
		Zone				Zone				Zone				Zone			
		4		5		4		5		4		5		4		5	
		+	–	+	–	+	–	+	–	+	–	+	–	+	–	+	–
10	Wall	37.8	-41.0	37.8	-50.6	40.2	-43.6	40.2	-53.8	42.1	-45.7	42.1	-56.4	43.7	-47.4	43.7	-58.6
20		36.1	-39.3	36.1	-47.2	38.3	-41.7	38.3	-50.1	40.2	-43.8	40.2	-52.6	41.8	-45.5	41.8	-54.6
50		33.8	-37.0	33.8	-42.7	36.0	-39.4	36.0	-45.4	37.7	-41.3	37.7	-47.5	39.2	-42.9	39.2	-49.4
100		32.1	-35.3	32.1	-39.3	34.1	-37.5	34.1	-41.7	35.8	-39.4	35.8	-43.8	37.2	-40.9	37.2	-45.5
500		28.2	-31.4	28.2	-31.4	29.9	-33.3	29.9	-33.3	31.4	-35.0	31.4	-35.0	32.6	-36.3	32.6	-36.3

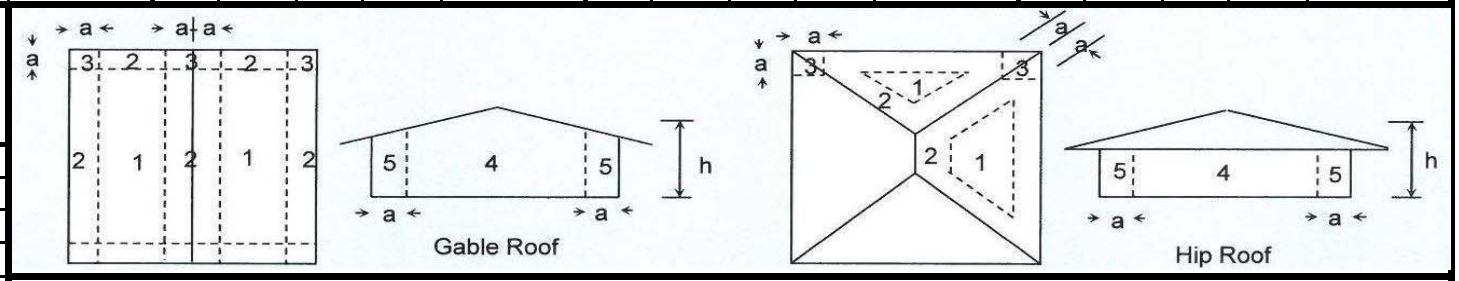
Garage Door Wind Loads

for a Building with 30-foot Mean Roof Height

Exposure C

Tables 1609.7(1) & (2), and Section 1609.3.1

Effective Wind Area		Roof Angle	Wind Load	
Width	Height		+	–
8	8	0 - 10 degrees	35.2	-39.8
10	10		34.1	-38.2
14	14		32.3	-36.1
9	7	> 10 degrees	38.4	-43.4
16	7		36.8	-41.0



For Effective Wind Areas between those given, values may be interpolated. Otherwise use the value associated with the lower Effective Wind Area.

End Zone (a) shall be the smaller of 10% of Least Hor. Dist. or 40% of Mean Roof Height ('h'), but not less than 4% of Least Hor. Dist. or 3 ft.

Identify the zone per the figure or information by others. Any questionable zone is to be considered the more critical zone.

Design is based on the 3-second gust (wind velocity) for Risk Category II (general residential & commercial construction) per FBC 1620.2 Broward. These tables not for use with essential facilities or assembly occupancies.