

Floodplain Management Update – Effective 7/1/2020

Effective for all building permits with application dates on or after July 1, 2020, hydrostatic flood vents will be required for fully enclosed areas located in Special Flood Hazard Areas (any structure located in a flood zone beginning with an A or V) used for parking, storage, or building access if the lowest floor of this enclosure (e.g. the elevation of the top of the concrete garage floor) is at the Base Flood Elevation (BFE) on the Flood Insurance Rate Map (FIRM) but not at the higher Design Flood Elevation (BFE + 1 foot freeboard).

The National Flood Insurance Program (NFIP) regulations for enclosures are codified in Title 44 of the Code of Federal Regulations, in Section 60.3(c)(5), which states that a community shall: “Require, for all new construction and substantial improvements, that fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access, or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.”

If enclosure walls are not designed with openings to relieve the pressure of standing or slow-moving water against them (called hydrostatic loads), the walls can be damaged or fail during a flood. If the walls are “load-bearing” walls that support the elevated building, failure of the walls may result in damage to, or collapse of, the building. To address this concern, NFIP regulations require that enclosure walls contain openings that will allow for the automatic entry and exit of floodwaters. These openings allow floodwaters to reach equal levels on both sides of the walls, thereby lessening the potential for damage caused by a difference in hydrostatic loads on opposite sides of the walls.

The Florida Building Code requires an additional 1-foot of elevation (freeboard) above the BFE, which is the minimum lowest floor elevation requirement for structures. If the lowest floor of a structure or enclosure is below the freeboard elevation, it must have flood openings.

In addition to the 44 CFR 60.3 requirement for flood openings, flood openings also result in a beneficial credit for the City of Cape Coral’s FEMA community assistance visit rating. This rating affects how much of a discount the property owners of Cape Coral receive on their flood insurance rates.

For more information, please refer to [FEMA's Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures](#)

Links to a couple of flood vent manufacturer and information websites are below. There are many options for flood openings, including Engineered Openings (such as Smart Vents) or Non-Engineered Openings:

Engineered Openings:

https://www.crawlspacedoors.com/store/flood-vents/icc-es-certified/icc-breakaway-flood-vent-3/?gclid=EAlaIQobChMIsJWf-Ljb5wIVg5-zCh3HawZ7EAAYAyAAEgLS-PD_BwE

or

https://smartvent.com/products?gclid=EAlaIQobChMIsJWf-Ljb5wIVg5-zCh3HawZ7EAAYASAAEgK1APD_BwE

Non-Engineered Openings:

<http://bradley.build/images/Products/SmartVent/PDF/Non-Engineered-OpeningGuide-Nov2015.pdf>