

# Chehalis River Basin

*-- New --*

*Foundation Flood Opening Program*

**7:00 p.m., March 19, 2015**

**Bucoda Community Meeting**

# NEW -- Foundation Flood Opening Program

## What are foundation flood openings?

- ❑ Permanent wall openings that allow for free and automatic passage of water in both directions.
- ❑ Windows, doors, garage doors are not flood openings.

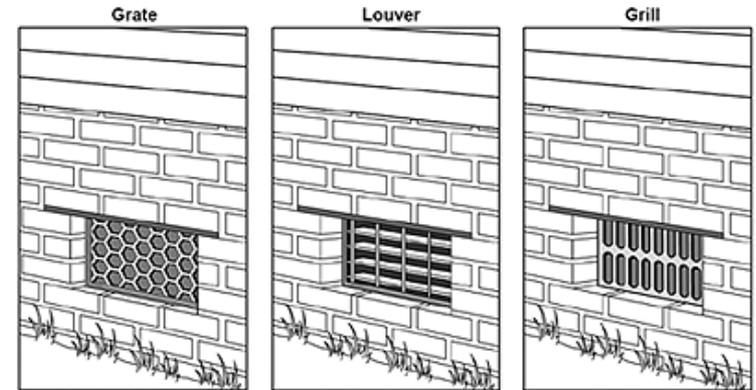


Figure 15. Typical Flood Opening Covers  
(source: FEMA)



# NEW -- Foundation Flood Opening Program

## Why are foundation flood openings important?

- ❑ Openings equalize hydrostatic flood forces (pressure) that can damage homes and foundations.

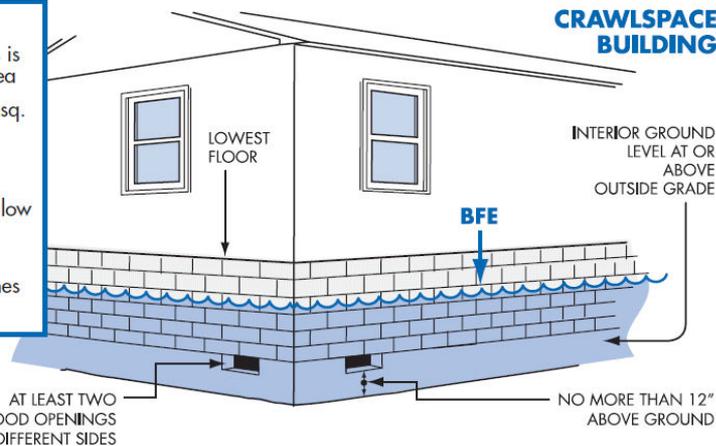


### Enclosures Below the BFE

#### NOTE:

- Total net area of all total openings is 1 sq. in. per sq. ft. of enclosed area
- A 25' x 45' building needs 1125 sq. inches of openings
- Standard ventilation units used in block foundation walls must be disabled in the open position to allow water to flow in and out
- A standard ventilation unit, with screen, provides 42 to 65 sq. inches of opening

**ALTERNATIVE:** Engineered openings are acceptable if certified to allow adequate automatic inflow and outflow of floodwaters.



Solid perimeter wall foundations can enclose flood-prone space. A crawlspace is a good way to elevate just a couple of feet. In all cases, the following are required: openings/vents, elevated utilities, flood resistant materials, and limitations on use.

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How do I know if I need foundation flood openings?

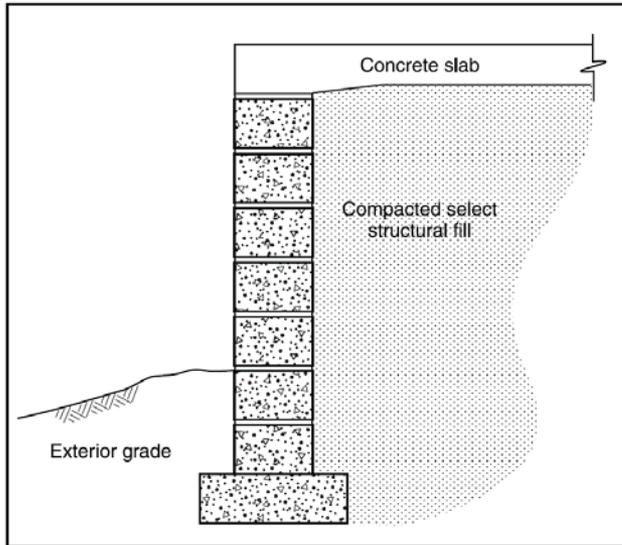


Figure 8. Back-filled stem wall foundation (openings not required)

← No (insurable flood damage unlikely)



Yes (insurable flood damage likely) →

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**What do foundation flood openings look like after they are properly installed?**



Example of Completed Retrofit (foundation has both air and flood vents)

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## What are properly installed foundation flood openings?

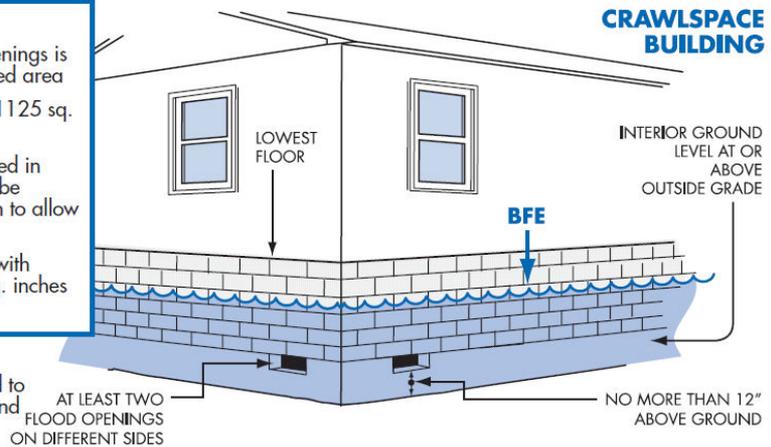
1. At least two openings totaling at least one square inch for every square foot of enclosed flood area.
2. Bottom of openings must be no higher than one foot above grade.
3. Openings with screens, louvers, valves, or other coverings must allow for automatic entry and exit of floodwaters.
4. Openings must be on at least two sides of enclosed flood area.

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## Openings in Foundation Walls and Walls of Enclosures

Below Elevated Buildings in Special Flood Hazard Areas in accordance with the National Flood Insurance Program

Technical Bulletin 1 / August 2008

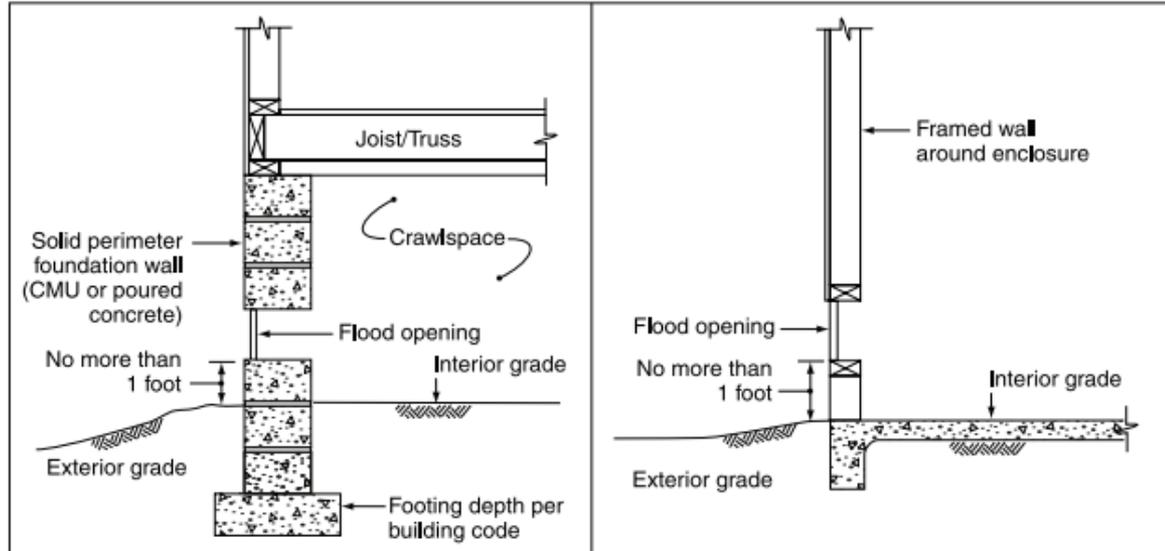


Figure 1. Typical enclosures with flood openings

<https://www.fema.gov/media-library/assets/documents/2644>

# NEW -- Foundation Flood Opening Program

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## What is the new Foundation Flood Opening Program that is being offered?

1. Optional program, NOT REQUIRED.
2. 100% costs covered, NO COST TO HOMEOWNERS.
3. Two qualified and experienced contractors:
  - Clean Space Northwest (Gale Culbert, Owner).
  - McCann Properties Plus (McCann's Properties Plus, Owner).
4. Two goals:
  - FEMA compliant foundations (safety, personal and property protection).
  - Lower flood insurance premiums (\$\$\$).
5. Funded by 2013-15 State Capital Budget.
6. Start in Bucoda.

# NEW -- Foundation Flood Opening Program

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## How do I get started? Am I eligible? How long will it take? Etc.

### 1. Four forms:

- Form 1-2015 – Property Owner Access Permission Form
- Form 2-2015 – Contractor Bid Form
- Form 3-2015 – Property Owner Installation Permission Form
- Form 4-2015 – Property Owner Final Acceptance Form

### 2. Form 1-2015 starts the process. (Available tonight.)

### 3. Form 2-2015 determines eligibility.

### 4. Goal = 3-4 weeks from Form 3-2015 to Form 4-2015.

# For Further Information . . .

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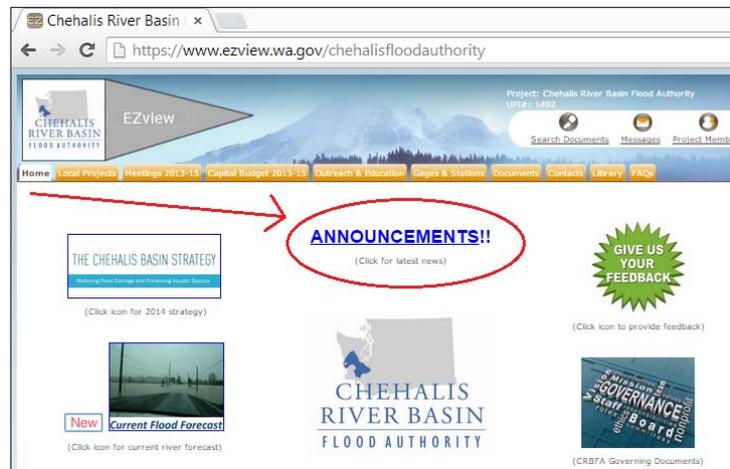
[riebau@comcast.net](mailto:riebau@comcast.net)

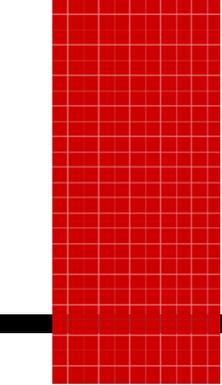
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Thank You . . .

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# Thank You!

**Note:**

**This Presentation is Available at  
“Chehalis River Basin Flood Authority” Website  
at [www.ezview.wa.gov/chehalisfloodauthority](http://www.ezview.wa.gov/chehalisfloodauthority).**