2023 Elevation Certificate Update

Overview of Changes to the Elevation Certificate Form

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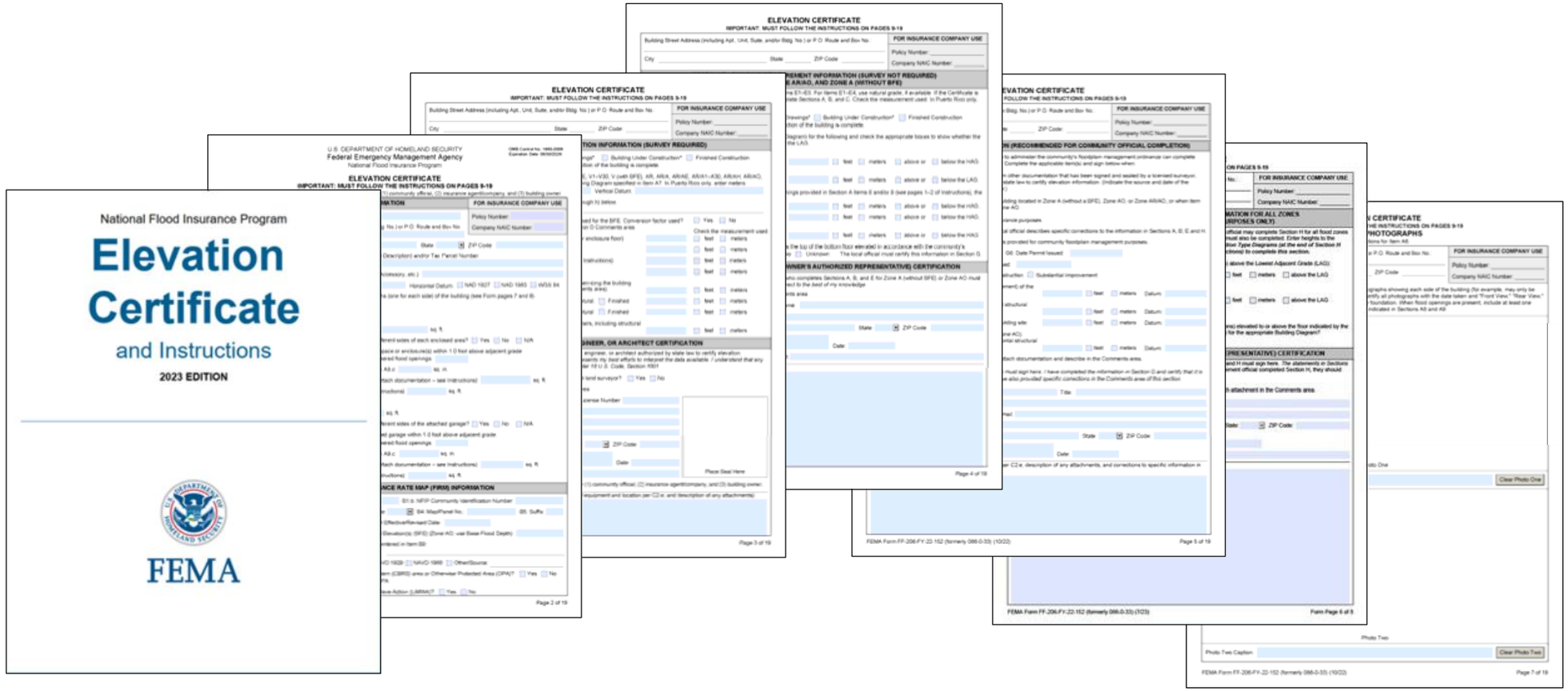
FEMA Elevation Certificate Form



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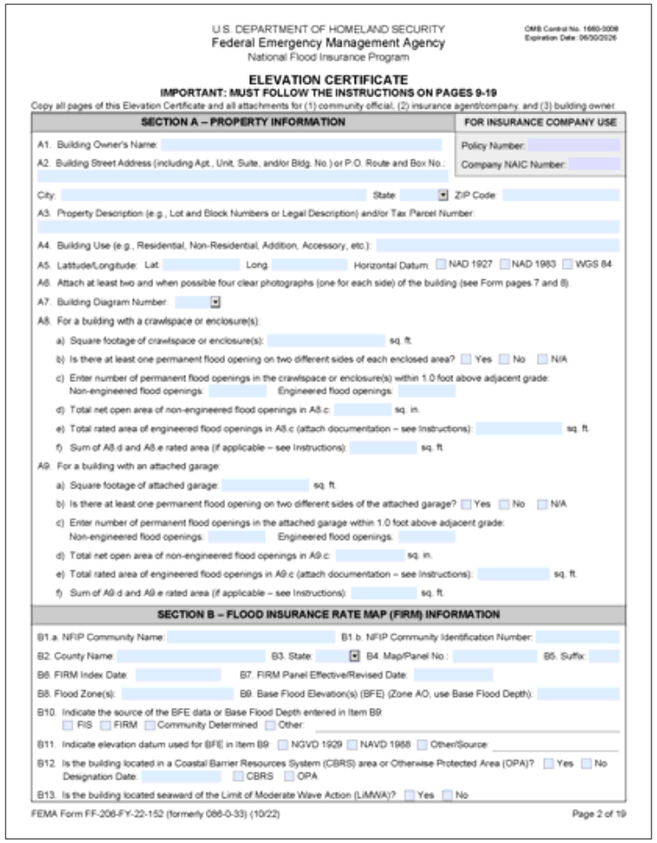
Purpose of the Elevation Certificate



U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

OMB Control No. 1660-0008
Expiration Date: 06/30/2026

ELEVATION CERTIFICATE
IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION | **FOR INSURANCE COMPANY USE**

A1. Building Owner's Name:
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:
City: State: ZIP Code:
Policy Number:
Company NAIC Number:
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number:
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.):
A5. Latitude/Longitude: Lat. Long. Horizontal Datum: NAD 1927 NAD 1983 WGS 84
A6. Attach at least two and when possible four clear photographs (one for each side) of the building (see Form pages 7 and 8).
A7. Building Diagram Number:
A8. For a building with a crawlspace or enclosure(s):
a) Square footage of crawlspace or enclosure(s): sq. ft.
b) Is there at least one permanent flood opening on two different sides of each enclosed area? Yes No N/A
c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: Engineered flood openings:
d) Total net open area of non-engineered flood openings in A8.c: sq. in.
e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): sq. ft.
f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): sq. ft.
A9. For a building with an attached garage:
a) Square footage of attached garage: sq. ft.
b) Is there at least one permanent flood opening on two different sides of the attached garage? Yes No N/A
c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: Engineered flood openings:
d) Total net open area of non-engineered flood openings in A9.c: sq. in.
e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): sq. ft.
f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): sq. ft.

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: B1.b. NFIP Community Identification Number:
B2. County Name: B3. State: B4. Map/Panel No.: B5. Suffix:
B6. FIRM Index Date: B7. FIRM Panel Effective/Revised Date:
B8. Flood Zone(s): B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth):
B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
FIS FIRM Community Determined Other:
B11. Indicate elevation datum used for BFE in Item B9: NGVD 1929 NAVD 1988 Other/Source:
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No
Designation Date: CBRS OPA
B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? Yes No

FEMA Form FF-206-FY-22-152 (formerly 086-0-33) (10/22) Page 2 of 19

- Records information used to determine compliance with building codes/local floodplain ordinances
- Tool for supporting Letters of Map Change (LOMC)
- Prerequisite for Community Rating System (CRS) participation. Required for new construction.
- No longer required to rate flood insurance for Post-FIRM buildings
- May be used for flood insurance rating in any flood zone.

Download the 2023 Edition:
www.fema.gov/flood-insurance/find-form/underwriting

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***Legend: dark green font and boxes indicate new or changed information*

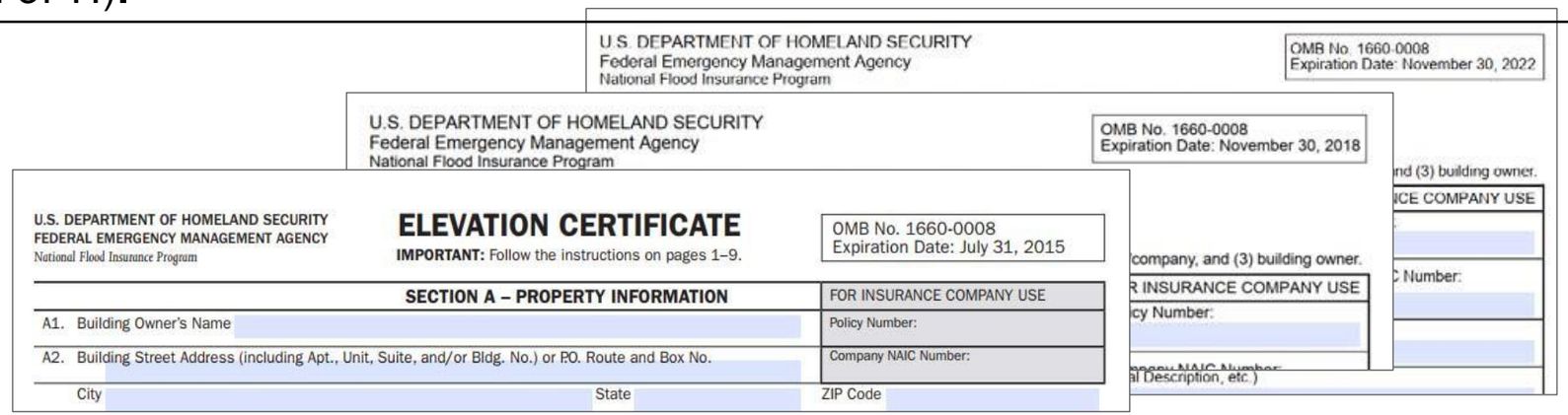
Many uses (and users) of the Elevation Certificate

- Floodplain Management
- Flood Insurance
- Flood Map Change

The EC is an important administrative tool of the NFIP for floodplain management, insurance, and map changes

Updating the Elevation Certificate (EC)

- Updates are part of a routine cycle:
  - New editions of the EC are released every few years.
  - Updates address emerging issues, provide clarification, and add more detail.
  - The amount of change varies version to version (minor or major).
- A completed Elevation Certificate form **does not expire**, unless there is a physical change to the building that invalidates information in the completed EC (Sections A, C, E or H).



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Updating the Elevation Certificate (EC)

- Changes to the EC form in 2023 address several key issues.
  - Improves alignment with the NFIP flood insurance rating methodology
    - Reduces the burden on property owners to obtain elevation information for insurance
  - Provides more clarity and detail to floodplain managers when regulating development
  - Provides more specificity for buildings with a combination of both engineered and non-engineered flood openings
  - Updates outdated phone numbers and web addresses

All new ECs on or after November 1, 2023, are required to use the new form.

Always download and use the latest version of the EC form!

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National Flood Insurance Program (NFIP) Key Terms

FIRM = Flood Insurance Rate Map — **Depicts Community's Flood Zones and Risk**

Flood Insurance Study — **Details history of community's flooding and more detailed info than on FIRM**

BFE = Base Flood Elevation — **Surface Water Elevation of a 1% chance flood occurring in any given year**

SFHA = Special Flood Hazard Area (1% Annual Chance Flood) — **Area expected during 100-yr Event**

LAG = Lowest Adjacent Grade

HAG = Highest Adjacent Grade

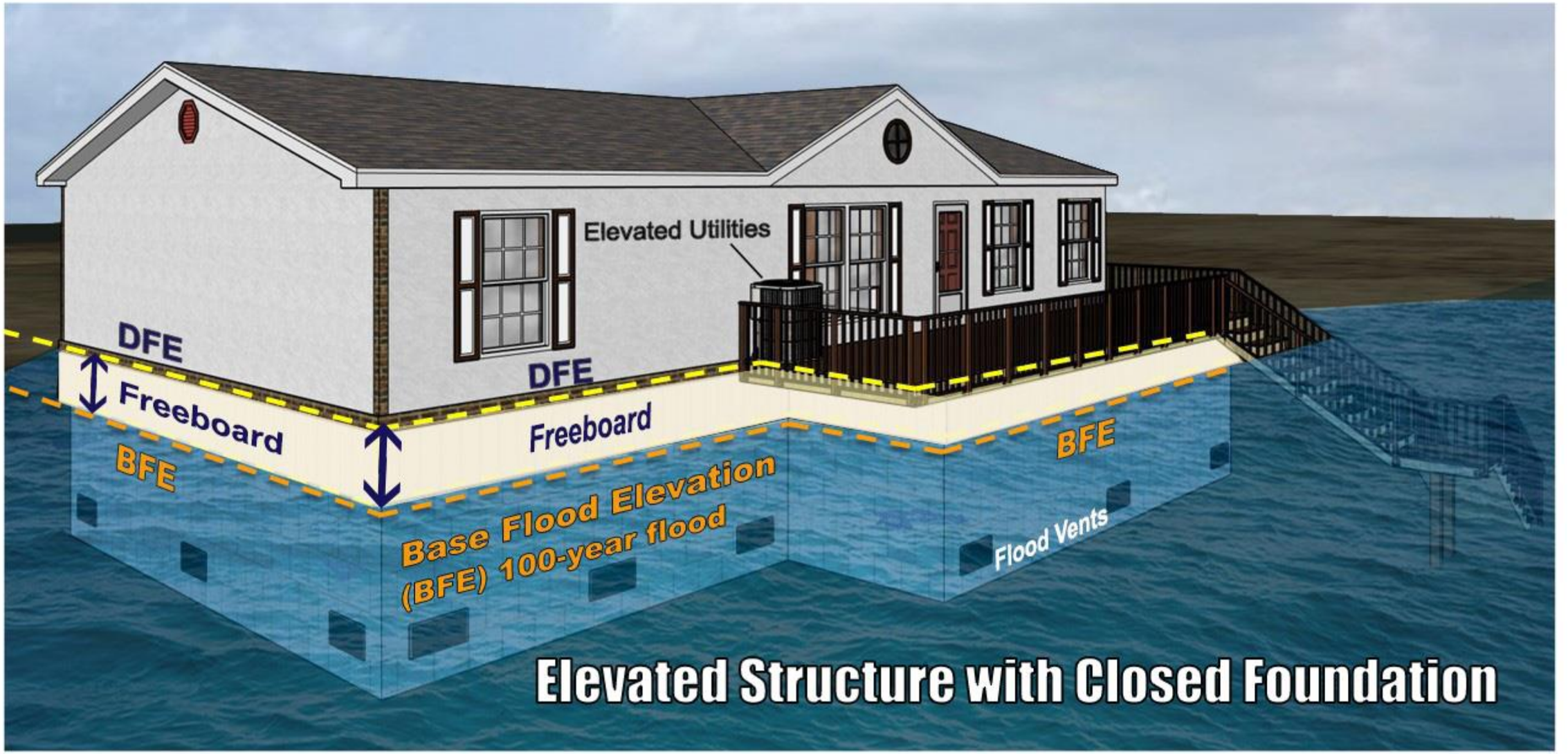
Measured immediately next to the building where the foundation or building support touches the ground

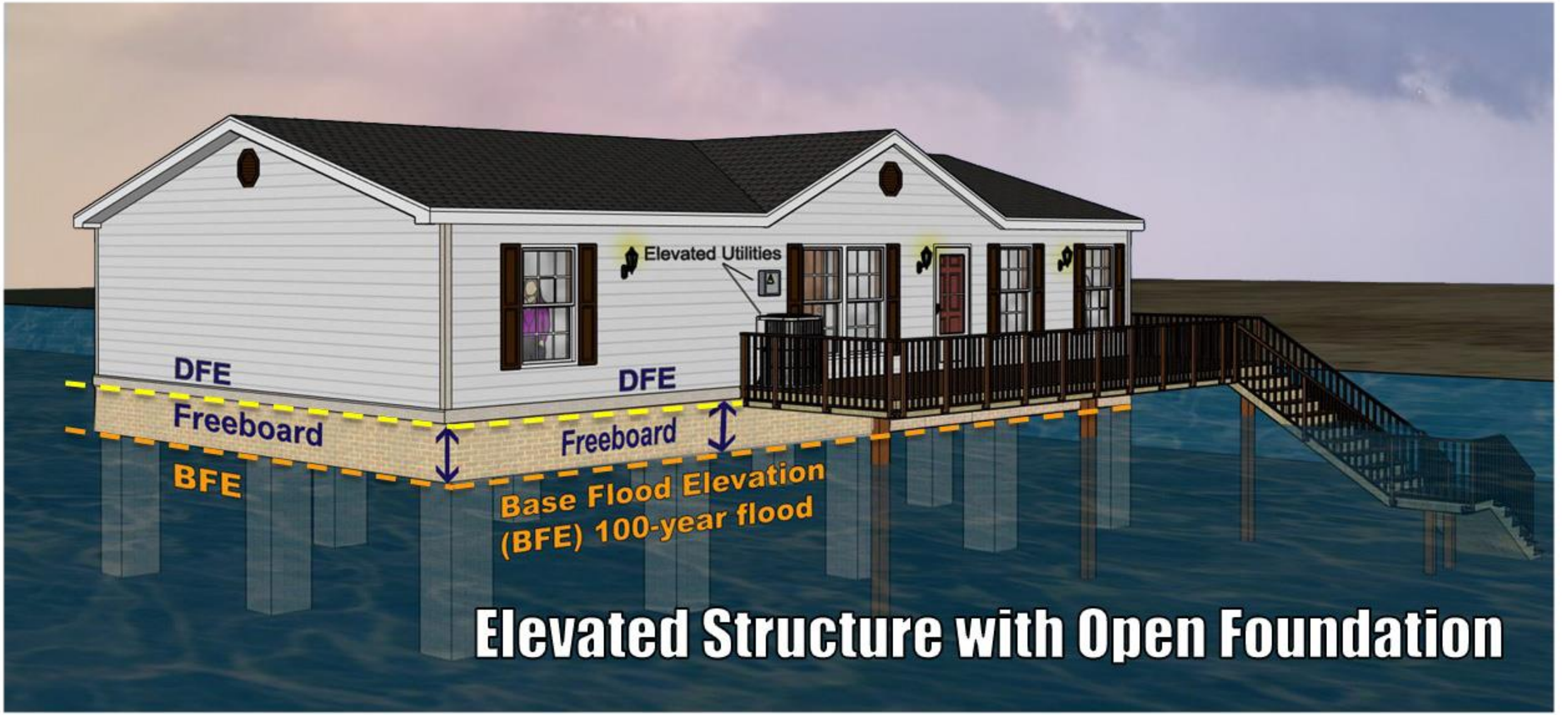
Bottom Floor Elevation — **Lowest enclosed area (basement, crawlspace, slab, garage enclosure).** ***Recorded elevations by Surveyor in Section C of Elevation Certificate.***

Lowest Floor Elevation — **Before Construction: Minimum building flood elevation level (BFE + Freeboard) for permit. As-Built: Elevation of the lowest floor (including basement) of the finished construction in accordance with the permit.** ***Interpreted by Floodplain Administrator in Section G.***

First Floor Height — **First living floor of the building at or above grade.** ***Used for rating flood insurance in Section H.***

***Legend: dark green font indicates new or changed information*


Elevated Utilities
DFE
Freeboard
BFE
DFE
Freeboard
BFE
Base Flood Elevation
(BFE) 100-year flood
Flood Vents
Elevated Structure with Closed Foundation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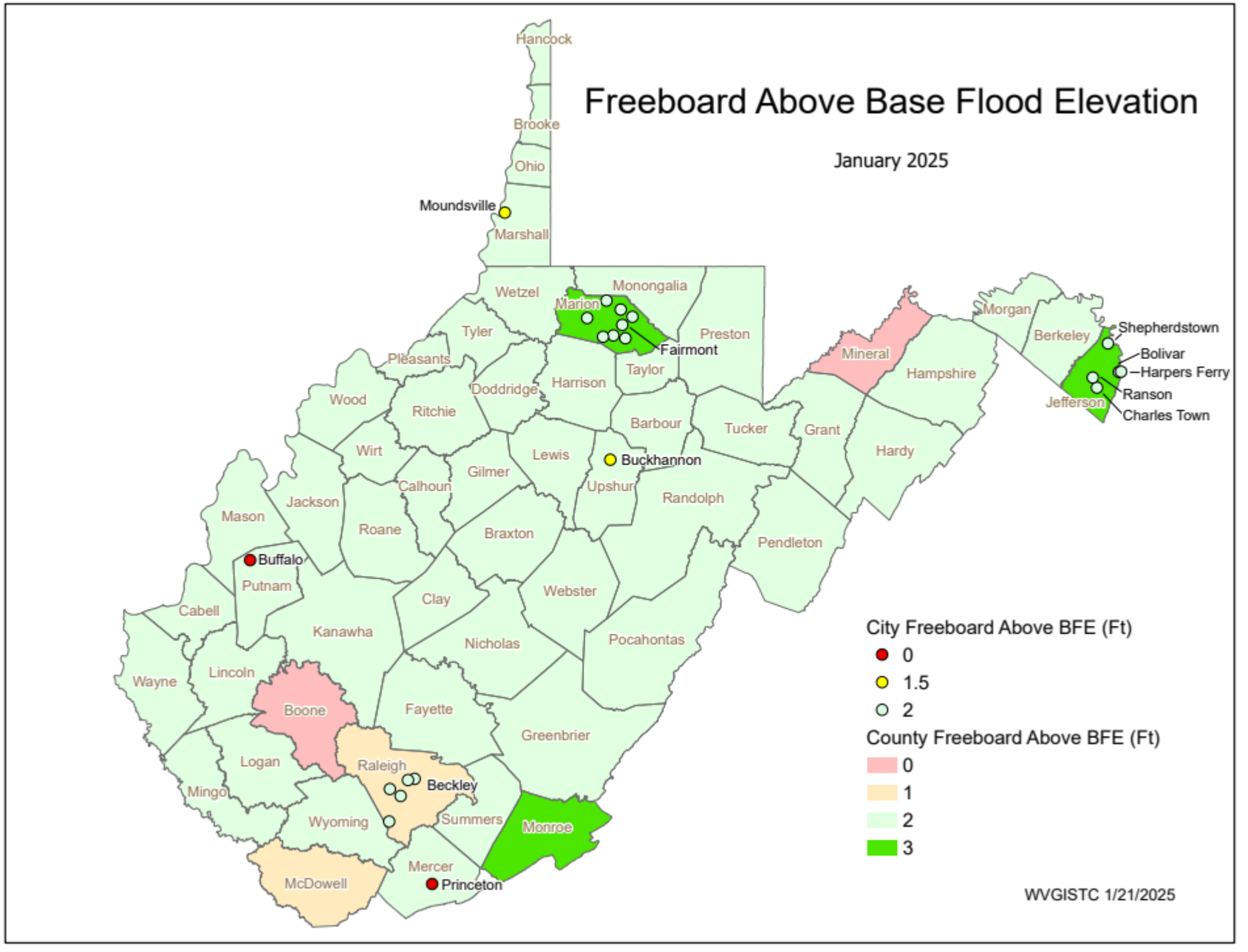

Freeboard Above Base Flood Elevation
January 2025
Hancock
Brooke
Ohio
Moundsville
Marshall
Wetzel
Monongalia
Marion
Fairmont
Preston
Tyler
Pleasants
Taylor
Harrison
Doddridge
Wood
Ritchie
Barbour
Tucker
Wirt
Lewis
Buckhannon
Gilmer
Calhoun
Upshur
Randolph
Jackson
Mason
Roane
Braxton
Buffalo
Putnam
Clay
Webster
Cabell
Kanawha
Nicholas
Pocahontas
Wayne
Lincoln
Boone
Fayette
Greenbrier
Logan
Raleigh
Beckley
Mingo
Wyoming
Summers
Monroe
Mercer
McDowell
Princeton
Mineral
Hampshire
Grant
Hardy
Pendleton
Morgan
Berkeley
Shepherdstown
Bolivar
Harpers Ferry
Ranson
Jefferson
Charles Town
City Freeboard Above BFE (Ft)
0
1.5
2
County Freeboard Above BFE (Ft)
0
1
2
3
WVGISTC 1/21/2025

NFIP Flood Insurance Rating Methodology

NFIP Flood Insurance Rating Methodology

Defining a Property's Unique Flood Risk

- The flood zone and Base Flood Elevation (BFE) are no longer used as direct rating variables.
- Elevations are considered for all properties, regardless of flood zone.

Rating Variables

- Geographic Location
- Structural Variables
- Prior Claims
- Discounts
  - Mitigation
  - Statutory
  - CRS

FEMA now includes more flood risk variables for rating flood insurance: **Geographic Variables** like flood frequency, type of flooding, distance to the flooding source, and **Structure Variables** such as the cost to rebuild the structure. Other rating variables are **Prior Claims** and **Discounts.**

Structural Variables: Building Characteristics

- Building Occupancy
- Construction Type
  - *For single-family homes: framed, masonry, other*
- Foundation Type
- First Floor Height
- Lowest Adjacent Grade
- Building's Replacement Cost Value
  - *Considers square footage (for single-family homes)*
- Number of Floors in building
  - *Above ground floors only; not counting basements/enclosures*
- Date of Construction

The Building Diagrams and Flood Elevations of the Elevation Certificate capture many of the building elements that are needed to determine the insurance rate, including the Foundation Type, First Floor Height, and Lowest Adjacent Grade

6 Foundation Types (Section H)

11 Elevation Certificate Diagrams (Section A)

Slab on Grade (Non-Elevated)

Diagram 1A, 1B, 3

Elevated without Enclosure on Posts, Piles, or Piers

Diagram 5

Elevated with Enclosure Not on Posts, Piles, or Piers (Solid Foundation Walls)

Diagram 7

Basement (Non-Elevated)

Diagram 2A, 2B, 4

Elevated with Enclosure on Posts, Piles, or Piers

Diagram 6

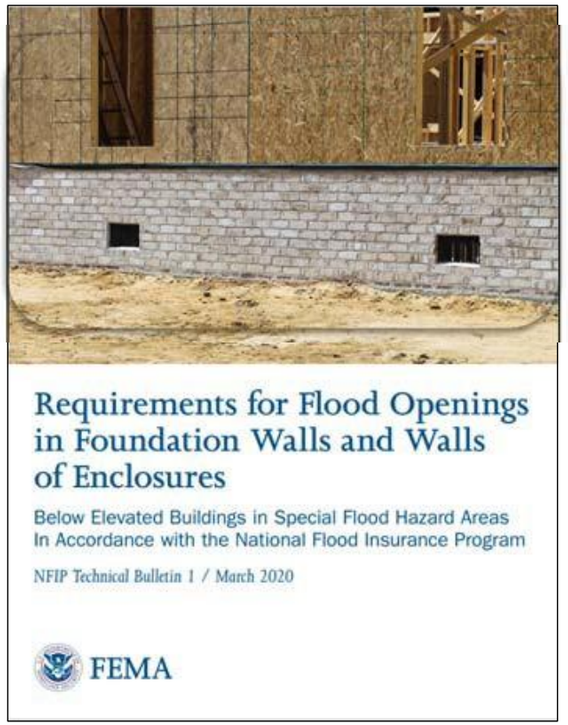
Crawlspace (Elevated, including Non-Elevated Sub-Grade Crawlspace

Diagram 8, 9

6 New Foundation Types for Insurance Ratings (Section H) correlate to 11 Building Diagrams (Section A)

Mitigation Discounts

- Flood Openings (in enclosures/crawlspaces)
  - Rates are discounted for buildings in any flood zone with proper openings in the enclosure.
  - The flood insurance application will need to reflect the proper information in order to receive the discount.
- Elevation of Machinery & Equipment (M&E)
  - Rates are discounted for policies with M&E elevated above the first elevated floor.



https://www.fema.gov/sites/default/files/documents/fema_discount-Explanation-Guide.pdf

(note: case sensitive link!)

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Mitigation Discounts

- Flood Openings (in enclosures/crawlspaces)
  - Rates are discounted for buildings in any flood zone with proper openings in the enclosure.
  - The flood insurance application will need to reflect the proper information in order to receive the discount.

- Elevation of Machinery & Equipment (M&E)
  - Rates are discounted for policies with M&E elevated above the first elevated floor.

https://www.fema.gov/sites/default/files/documents/fema_discount-Explanation-Guide.pdf
(note: case sensitive link!)

Eligibility for both mitigation discounts could be documented on the Elevation Certificate. The building's flood openings are documented in Section A, and the Machinery & Equipment Elevation is either documented in Section C or in the new Section H.

Impact on Elevation Certificate Updates

- More details about flood openings in Section A help determine the **mitigation discount.**
- Floodplain managers still need the flood zone and Base Flood Elevation (BFE) in Section B of the form for local **floodplain management regulations** and building codes , but they are no longer used as direct rating variables.
- First Floor Height (FFH) for **insurance rating**
  - Survey still not required—Section E didn't capture the correct info needed to find FFH.
  - More information about the location of M&E is needed to determine mitigation discount.
- A new EC section was needed = Section H
  - Use for insurance rating without a survey.
  - Section H is recommended over Section E.

Elevation Certificate was updated to support more accurate flood insurance ratings in all flood zones while still needed for floodplain management and lender decisions

2023 Elevation Certificate (EC) Form

Overview of Changes to the Sections of the EC

- Section A – Property Information **Expanded**
- Section B – FIRM Information **Additional information**
- Section C – Building Elevations (Survey needed) **More instructions, clarity**
- Section D – Surveyor Certification (for Section C) **Additional information**
- Section E – Building Measurements (Survey not needed) **More instructions, clarity**
- Section F – Owner or Representative Certification (for Section E) **Additional information**
- Section G – Community Information (Recommended) **Expanded**
- Section H – First Floor Height (insurance only; survey not needed) **NEW SECTION**
- Section I – Owner or Representative Certification (for Section H) **NEW SECTION**

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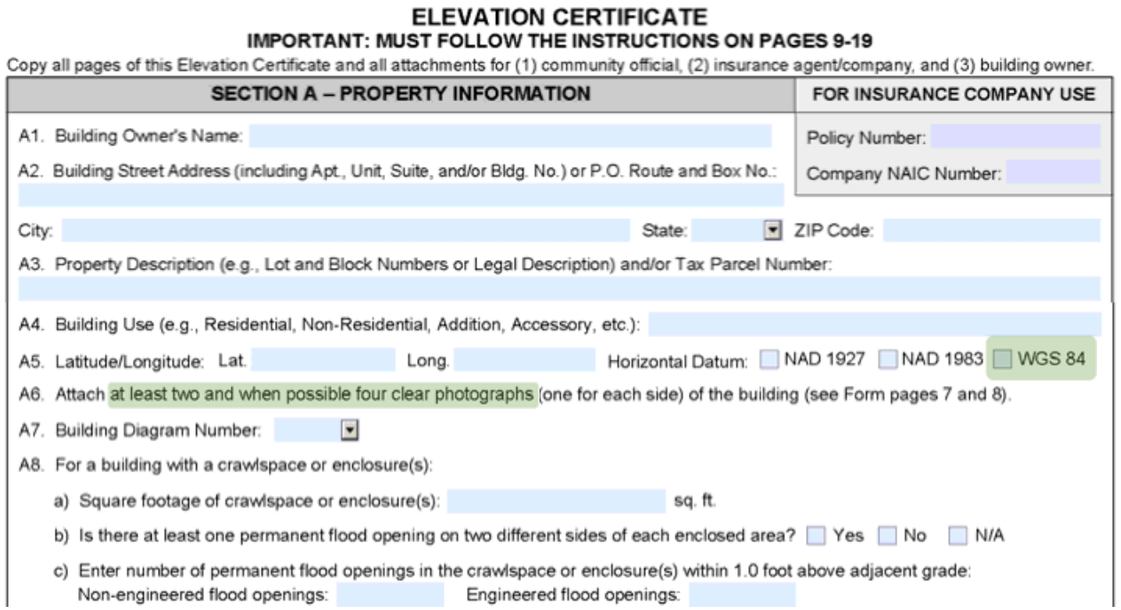
***Legend: dark green font and boxes indicate new or changed information*

Section A

Property Information

Section A – Property Information



ELEVATION CERTIFICATE
IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A – PROPERTY INFORMATION	FOR INSURANCE COMPANY USE
A1. Building Owner's Name:	Policy Number:
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	Company NAIC Number:
City: State: ZIP Code:	
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number:	
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.):	
A5. Latitude/Longitude: Lat. Long. Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983 ☐ WGS 84	
A6. Attach at least two and when possible four clear photographs (one for each side) of the building (see Form pages 7 and 8).	
A7. Building Diagram Number:	
A8. For a building with a crawlspace or enclosure(s):	
a) Square footage of crawlspace or enclosure(s): sq. ft.	
b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐ Yes ☐ No ☐ N/A	
c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: Non-engineered flood openings: Engineered flood openings:	

- Can be completed by the community or homeowner
- Property Description & Building Use
- Latitude/Longitude & Horizontal datum (WGS 84 added)
- Photographs, two required for all uses – four, when possible
- Building diagram number
- Measurements of crawl spaces, enclosures, attached garages, and flood openings

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***Legend: dark green font and boxes indicate new or changed information*

11 Building Diagrams: Clarification on Diagram 7 and 8

BUILDING DIAGRAMS

The following diagrams illustrate various types of buildings. Compare the features of the building being certified with the features shown in the diagrams and select the diagram most applicable. Enter the diagram number in Item A7, the square footage of crawlspace or enclosure(s) and the area of flood openings as indicated in Items A8.a–f, the square footage of attached garage and the area of flood openings as indicated in Items A9.a–f, and the elevations in Items C2.a–h.

In A, B, C, X and D zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, areas seaward of the LiMWA, and in other areas regulated for coastal flooding hazards, the floor elevation is taken at the bottom of the lowest horizontal structural member (see figure at end of instructions for Section C).

DIAGRAM 1A:

All slab-on-grade single- and multiple-floor buildings (other than split-level) and high-rise buildings, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor is at or above ground level (grade) on at least one side.*

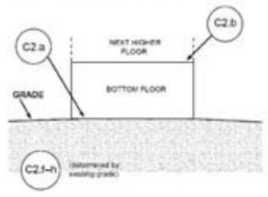


DIAGRAM 1B:

All raised-slab-on-grade or slab-on-stem-wall-with-fill single- and multiple-floor buildings (other than split- level), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor is at or above ground level (grade) on at least one side.*

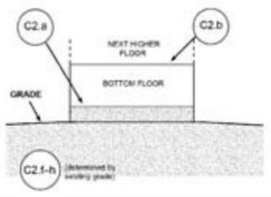


DIAGRAM 2A:

All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

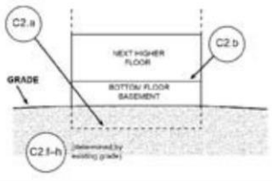
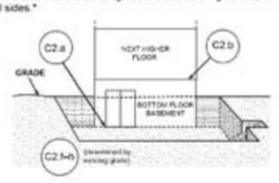


DIAGRAM 2B:

All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides; most of the height of the walls is below ground level on all sides; and the door and area of egress are also below ground level on all sides.*



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

BUILDING DIAGRAMS

DIAGRAM 3

All split-level buildings that are slab-on-grade, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (excluding garage) is at or above ground level (grade) on at least one side.*

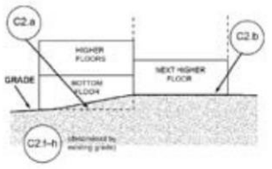


DIAGRAM 4

All split-level buildings (other than slab-on-grade), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

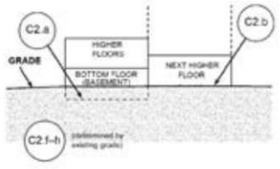


DIAGRAM 5

All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is open, with no obstruction to flow of floodwaters (open lattice work and/or insect screening is permissible).

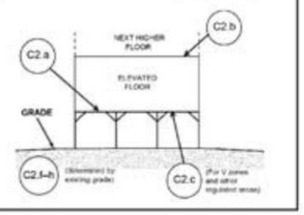
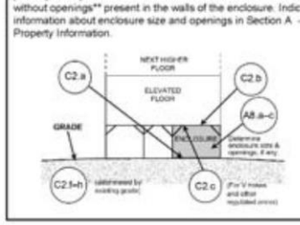


DIAGRAM 6

All buildings elevated on piers, posts, piles, columns, or parallel shear walls with full or partial enclosure below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A - Property Information.



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of two openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than one square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the ICC ES must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least two sides of the enclosed area. If a building has more than one enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

BUILDING DIAGRAMS

DIAGRAM 7

All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least one side is at or above grade. The principal use of this building is located in the elevated floors of the building.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A - Property Information.

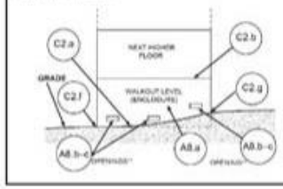


DIAGRAM 8

All buildings elevated on a crawlspace with the floor of the crawlspace at or above grade on at least one side, with or without an attached garage.

Distinguishing Feature – For all zones, the area below the first floor is enclosed by solid or partial perimeter walls. In all A zones, the crawlspace is with or without openings** present in the walls of the crawlspace. Indicate information about crawlspace size and openings in Section A - Property Information. (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, use Diagram 7.)

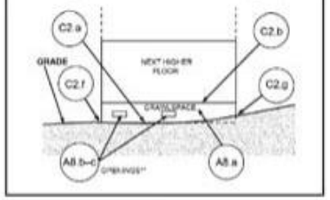
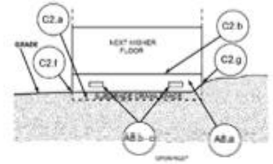


DIAGRAM 9

All buildings (other than split-level) elevated on a sub-grade crawlspace, with or without attached garage.

Distinguishing Feature – The bottom (crawlspace) floor is below ground level (grade) on all sides.* (If the distance from the crawlspace floor to the top of the next higher floor is more than five feet, or the crawlspace floor is more than two feet below the grade [LAG] on all sides, use Diagram 2A or 2B.)



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of two openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than one square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the ICC ES must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least two sides of the enclosed area. If a building has more than one enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

Building Diagrams: Clarification on Diagram 7 and 8

BUILDING DIAGRAMS

The following diagrams illustrate various types of buildings. Compare the features of the building being certified with the features shown the diagrams and select the diagram most applicable. Enter the diagram number in Item A7, the square footage of crawlspace or enclosure(s) and the area of flood openings as indicated in Items A8.a–f, the square footage of attached garage and the area of flood openings as indicated in Items A9.a–f, and the elevations in Items C2.a–h.

In A, B, C, X and D zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, areas seaward of the LiMWA, and in other areas regulated for coastal flooding hazards, the floor elevation is taken at the bottom of the lowest horizontal structural member (see figure at end of instructions for Section C).

DIAGRAM 1A:

All slab-on-grade single- and multiple-floor buildings (other than split-level) and high-rise buildings, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor is at or above ground level (grade) on at least one side.*

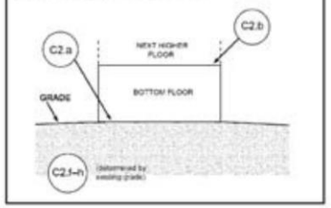


DIAGRAM 1B:

All raised-slab-on-grade or slab-on-stem-wall-with-fill single- and multiple-floor buildings (other than split- level), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor is at or above ground level (grade) on at least one side.*

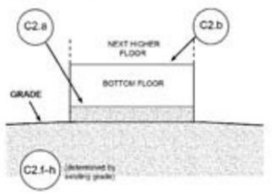


DIAGRAM 2A:

All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

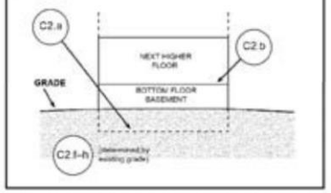
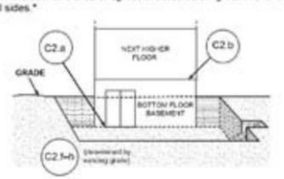


DIAGRAM 2B:

All single- and multiple-floor buildings with basement (oth than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides, most of the height of the walls is below ground level on all sides and the door and area of egress are also below ground level on all sides.*



* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

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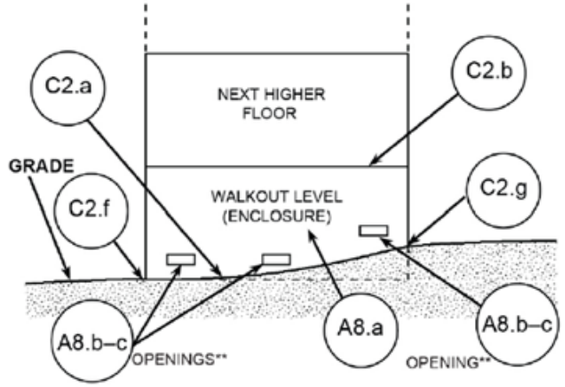
DIAGRAM 7:

All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least one side is at or above grade. The principal use of this building is located in the elevated floors of the building.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about enclosure size and openings in Section A - Property Information.



grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

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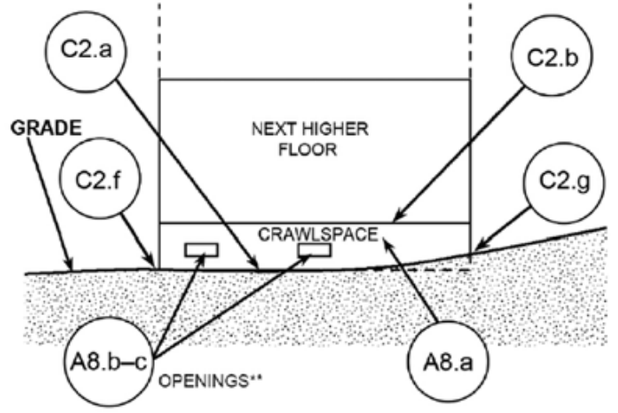
DIAGRAM 8:

All buildings elevated on a crawlspace with the floor of the crawlspace at or above grade on at least one side, with or without an attached garage.

Distinguishing Feature – For all zones, the area below the first floor is enclosed by solid or partial perimeter walls. In all A zones, the crawlspace is with or without openings** present in the walls of the crawlspace. Indicate information about crawlspace size and openings in Section A - Property Information. (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, use Diagram 7.)



for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the ICC ES must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least two sides of the enclosed area. If a building has more than one enclosed area, each area must have openings to allow floodwater to directly enter. The bottom of the openings must be no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

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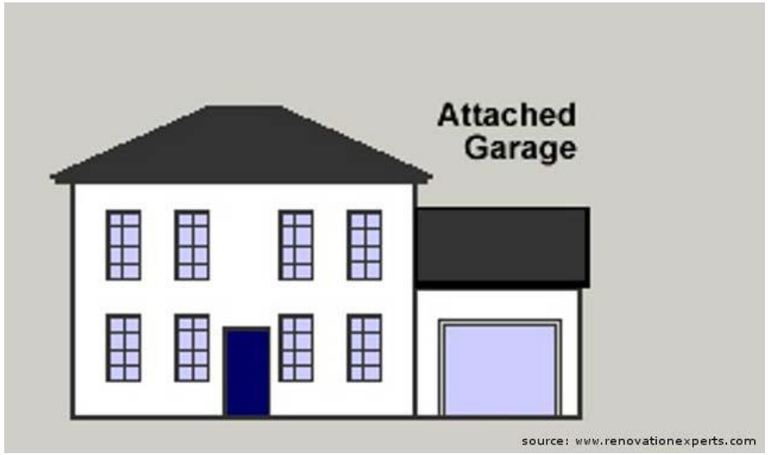
A8 – Crawlspace or Enclosure

- Building Diagrams 6, 7, 8, 9

A9 – Attached Garage

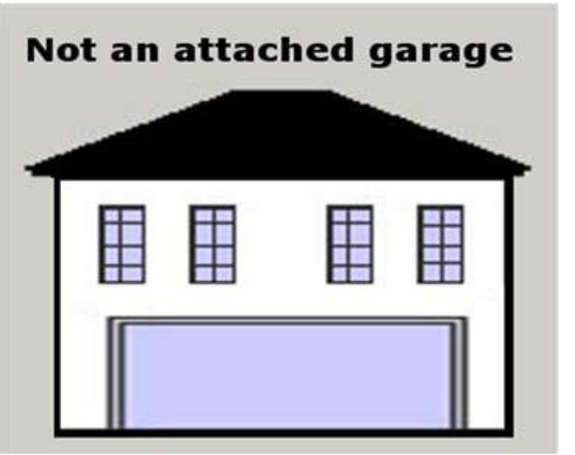
Attached Garage

- Common wall, Single structure
- Nothing above the garage



Not an Attached Garage

- Parking on the bottom floor
- Enclosure underneath an elevated building



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A8 / A9 and Flood Openings

A8: Enclosure (not Attached Garage)

A9: Attached Garage

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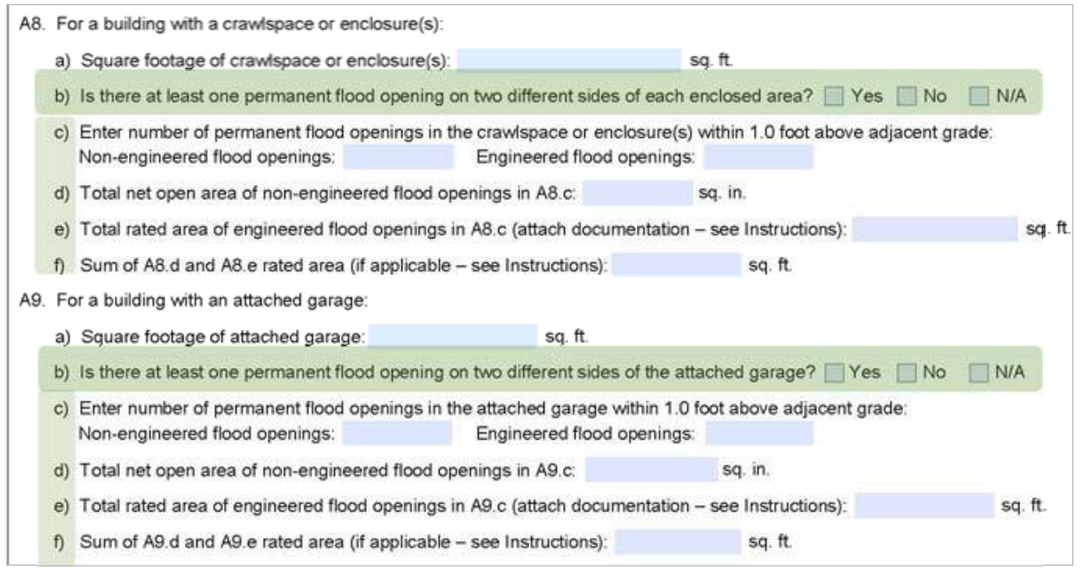
Flood Openings

A permanent flood opening allows for the free passage of water automatically in both directions without human intervention.

Sections A8 and A9 expanded to collect more information about flood openings and the NFIP requirements…

- A minimum of two openings (at least one on two different sides) are required for every enclosed area or crawlspace. (A8b/A9b)
  - ASCE 24 & building code consistency
- Detailing number and type(s) of flood openings



A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): _____ sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐ Yes ☐ No ☐ N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: _____ Engineered flood openings: _____

d) Total net open area of non-engineered flood openings in A8.c: _____ sq. in.

e) Total rated area of engineered flood openings in A8.c (attach documentation – see Instructions): _____ sq. ft.

f) Sum of A8.d and A8.e rated area (if applicable – see Instructions): _____ sq. ft.

A9. For a building with an attached garage:

a) Square footage of attached garage: _____ sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐ Yes ☐ No ☐ N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: _____ Engineered flood openings: _____

d) Total net open area of non-engineered flood openings in A9.c: _____ sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): _____ sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): _____ sq. ft.

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No more than one (1.0) foot above grade

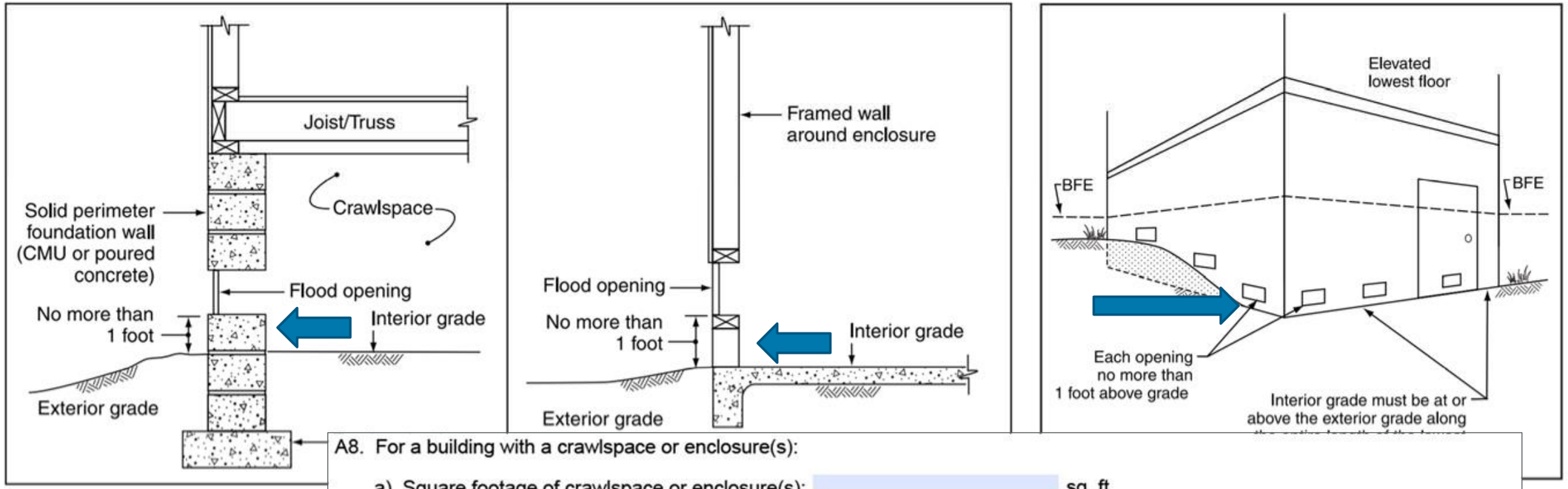

Figure 1. Typical enclosures with

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s): _____ sq. ft.

b) Is there at least one permanent flood opening on two different sides of each enclosed area? ☐ Yes ☐ No ☐ N/A

c) Enter number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade:
Non-engineered flood openings: _____ Engineered flood openings: _____

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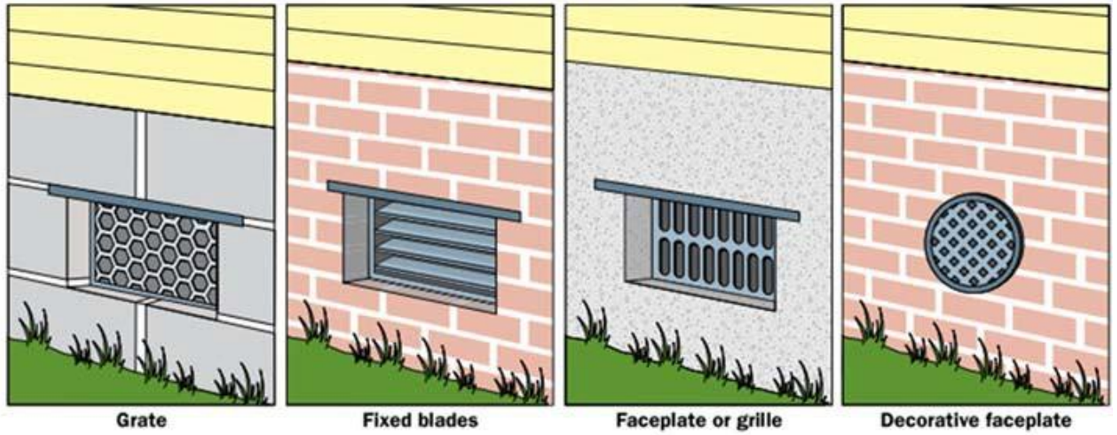
Flood Openings



FEMA

Federal Emergency Management Agency

A8 or A9 (c) – What type of flood openings? How many of each?

- Non-engineered Flood Openings
- A permanent opening without moving parts that allows for the free passage of water automatically in both directions without human intervention.
- Required ratio for compliance:

  1 square inch of flood openings
  1 square foot of enclosure

Engineered Flood Openings

- Flood conditions trigger the movable parts to allow floodwater and debris to freely and automatically enter or exit.
- Design and performance criteria in ASCE 24

A9. For a building with an attached garage:

a) Square footage of attached garage: _____ sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☐ Yes ☐ No ☐ N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:

Non-engineered flood openings: _____ Engineered flood openings: _____

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If Engineered Flood Openings are used…

- …Certification needed.
  - Individual Engineered Flood Openings Certification, or an Evaluation Report issued by the International Code Council Evaluation Service (ICC-ES)
  - ICC-ES Evaluation Report includes design requirements, rated area, and certification specifications.
- Attach to Elevation Certificate

A8 or A9 (d-e-f)

- A8d/A9d = Net open area for non-engineered openings
- A8e/A9e = “Rated area” for engineered openings
- A8f/A9f = If using both kinds, add them up

(305 mm). In order to comply with the engineered opening design principle noted in Sections 2.7.2.2 and 2.7.3 of ASCE/SEI 24-14 (2018 and 2015 IBC and IRC) [Section 2.6.2.2 of ASCE/SEI 24-05 (2012 and 2009 IBC and IRC)], FVs must be installed as follows:

- With a minimum of two openings on different sides of each enclosed area.
- With a minimum of one FV for every 220 square feet (20 m²) of enclosed area.

attributes not specifically addressed, nor are they to be construed warranty by ICC Evaluation Service, LLC, express or implied, as

Page 1 of 5

A9. For a building with an attached garage:

a) Square footage of attached garage: 916.00 sq. ft.

b) Is there at least one permanent flood opening on two different sides of the attached garage? ☒ Yes ☐ No ☐ N/A

c) Enter number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade:
Non-engineered flood openings: 1 Engineered flood openings: 4

d) Total net open area of non-engineered flood openings in A9.c: 140.00 sq. in.

e) Total rated area of engineered flood openings in A9.c (attach documentation – see Instructions): 880.00 sq. ft.

f) Sum of A9.d and A9.e rated area (if applicable – see Instructions): 1,020.00 sq. ft.

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Section A – Updated Instructions

- A5. Indicate latitude/longitude method or source in Comments.
- A6. Provide four photographs of building (when possible)
- A8/A9.b. Is there at least 2 flood openings (within 1.0 ft of adjacent grade) and are they on at least 2 exterior walls?
- A8/A9.c. What is the total number of flood openings (non-engineered and/or engineered)?
- A8/A9.d. What is the *total measured net open area* of the non-engineered flood openings?
- A8/A9.e. What is the *total rated area* of the engineered flood openings?
- A8/A9.f. Are *both* engineered *and* non-engineered flood openings present?

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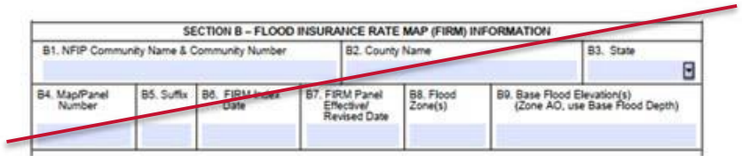
Section B

Flood Insurance Rate Map (FIRM) Information

Section B – FIRM Information

- No major changes in form data collected…
  …but specificity and clarity added to instructions.
  - Different layout for B1-B9 (lines, not a table-grid)
  - B1b. Community Identification Number
  - *In multiple zones?* B8 – List all flood zones, B9 – list all appropriate BFEs
  - B13. Seaward of LIMWA?



SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1.a. NFIP Community Name: B1.b. NFIP Community Identification Number:

B2. County Name: B3. State: B4. Map/Panel No.: B5. Suffix:

B6. FIRM Index Date: B7. FIRM Panel Effective/Revised Date:

B8. Flood Zone(s): B9. Base Flood Elevation(s) (BFE) (Zone AO, use Base Flood Depth):

B10. Indicate the source of the BFE data or Base Flood Depth entered in Item B9:
☐ FIS ☐ FIRM ☐ Community Determined ☐ Other:

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☐ No
Designation Date: ☐ CBRS ☐ OPA

B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? ☐ Yes ☐ No

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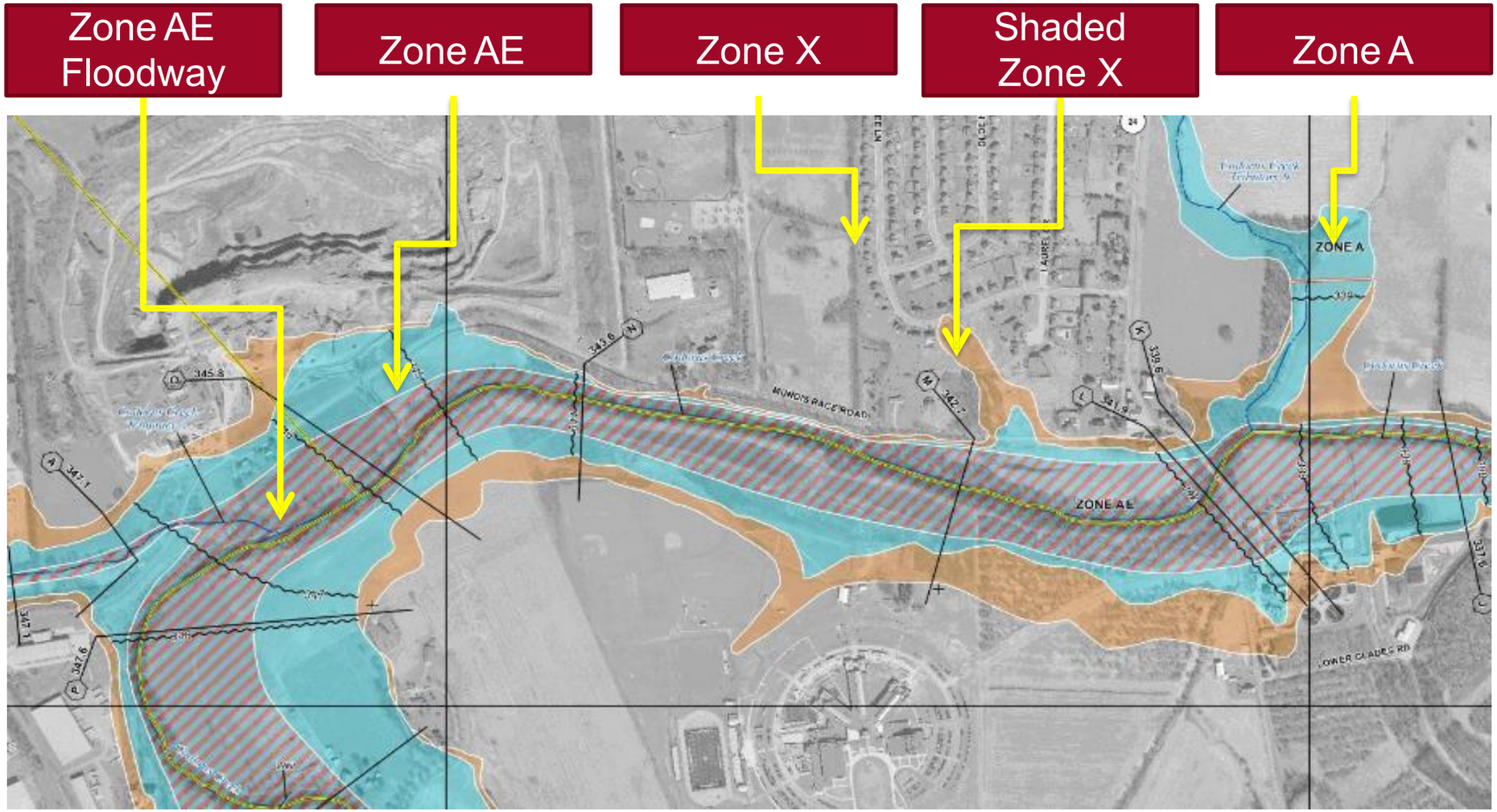
Section B – Updated Instructions

- Instructions:
  - If using information based on best available data, such as base-level engineering or advisory flood hazard data, indicate in the Comments area of Section D.
- B7. FIRM panel effective date sources:
  - msc.fema.gov or local floodplain official
  - If the area where the building is located was revised by a LOMR, enter the LOMR effective date & case number in the Comments area of Section D.
- B8. WV Flood Tool, FIRM, or NFHL Viewer
- B9. BFE:
  - Enter the base flood depth to the nearest 0.1 foot (in Puerto Rico, nearest 0.1 meter).
  - **The BFE entered in Item B9 must be based on hydrologic and hydrologic analyses.**
  - In an A Zone where BFEs are not obtained from another source, enter "N/A" in Item B9 and complete Section E.
- B10. Indicate the source entered in Item B9:
  - If BFE from other source (*other than FIS/FIRM/community*): include the study name, source (agency or company that produced it), and date completed.

FIRM Info: Typical FIRM Panel and Flood Zones

B8 – Flood Zone



Floodplain Map Overview

B8 – Flood Zone

HIGH RISK
(Special Flood Hazard Area)

MODERATE RISK

Regulatory Floodway

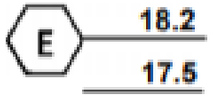
ZONE AE

1%-Annual-Chance Flood Hazard Area **with BFEs**

ZONE A

1%-Annual-Chance Flood Hazard Area **without published BFEs. Refer to Advisory Flood Heights on WV Flood Tool**

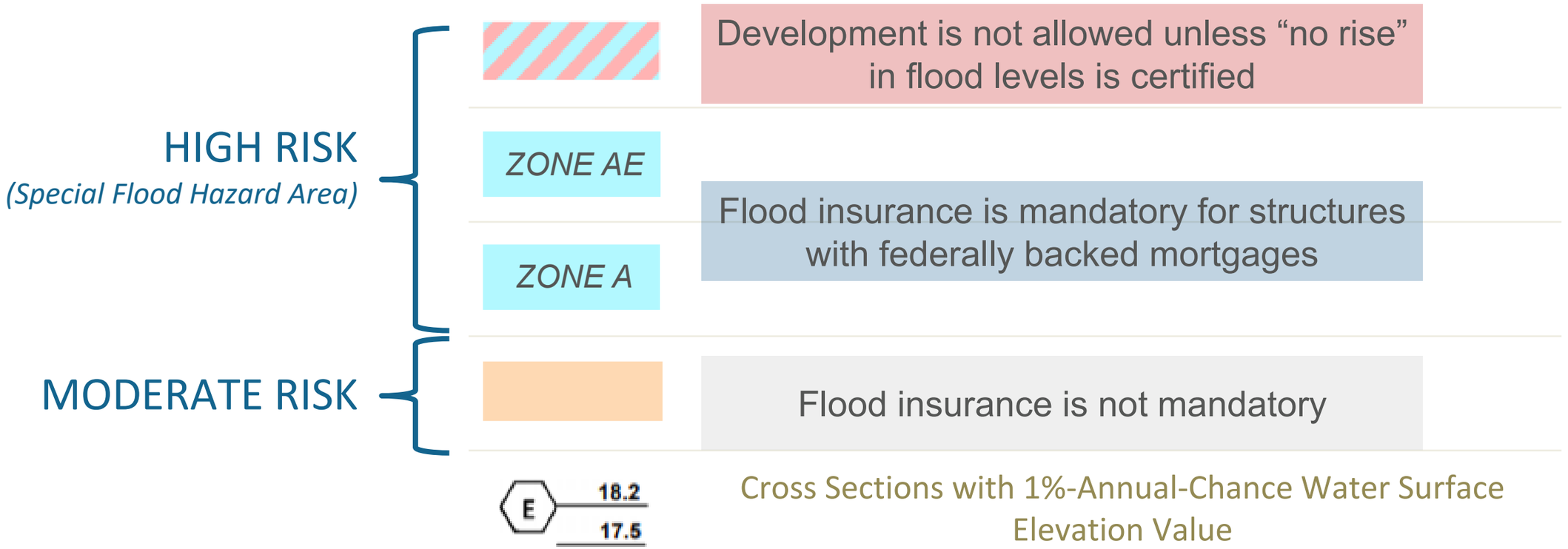
0.2%-Annual-Chance Flood Hazard Area



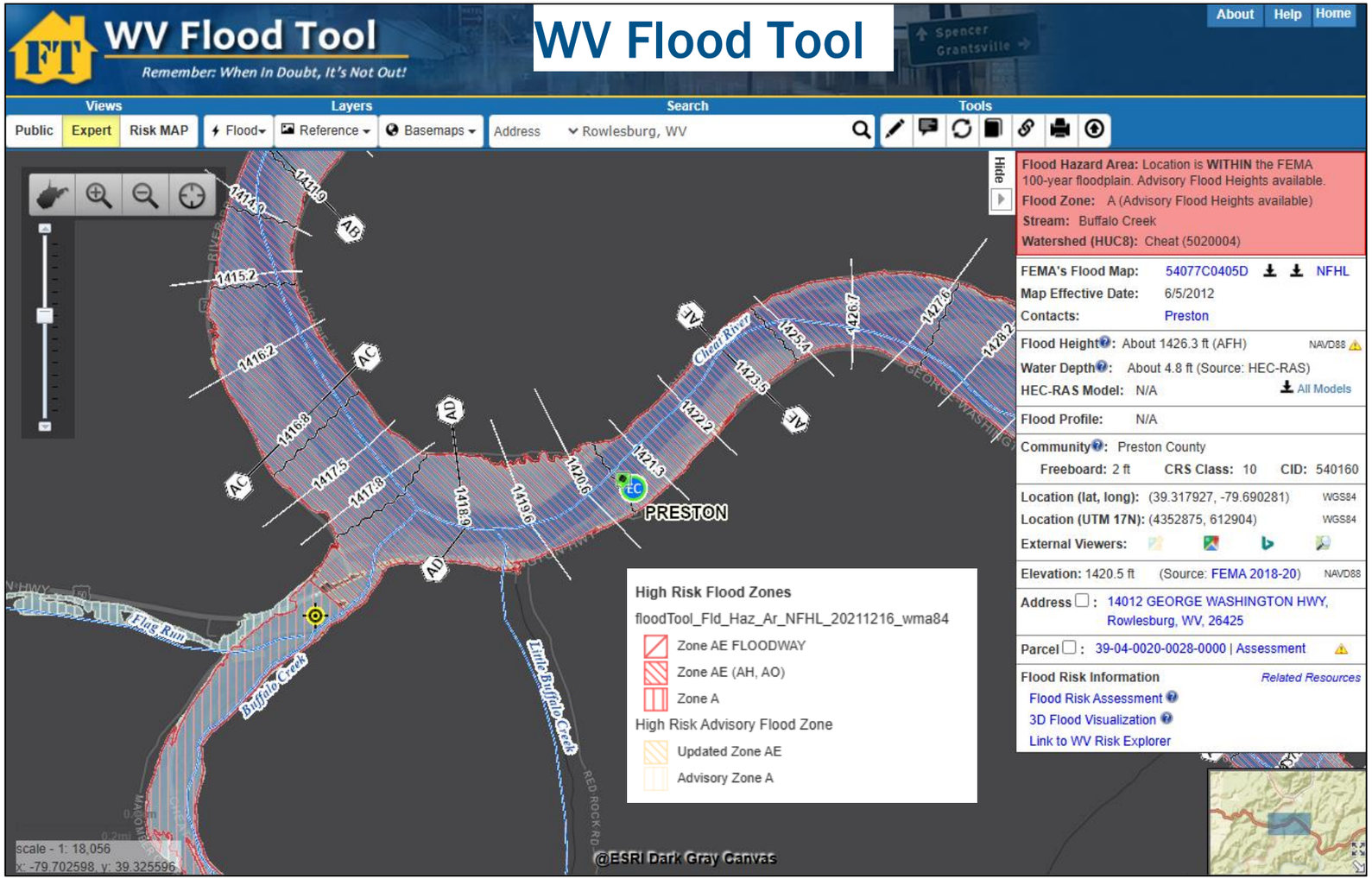
Cross Sections with 1%-Annual-Chance Water Surface Elevation Value

Floodplain Map Overview

B8 – Flood Zone

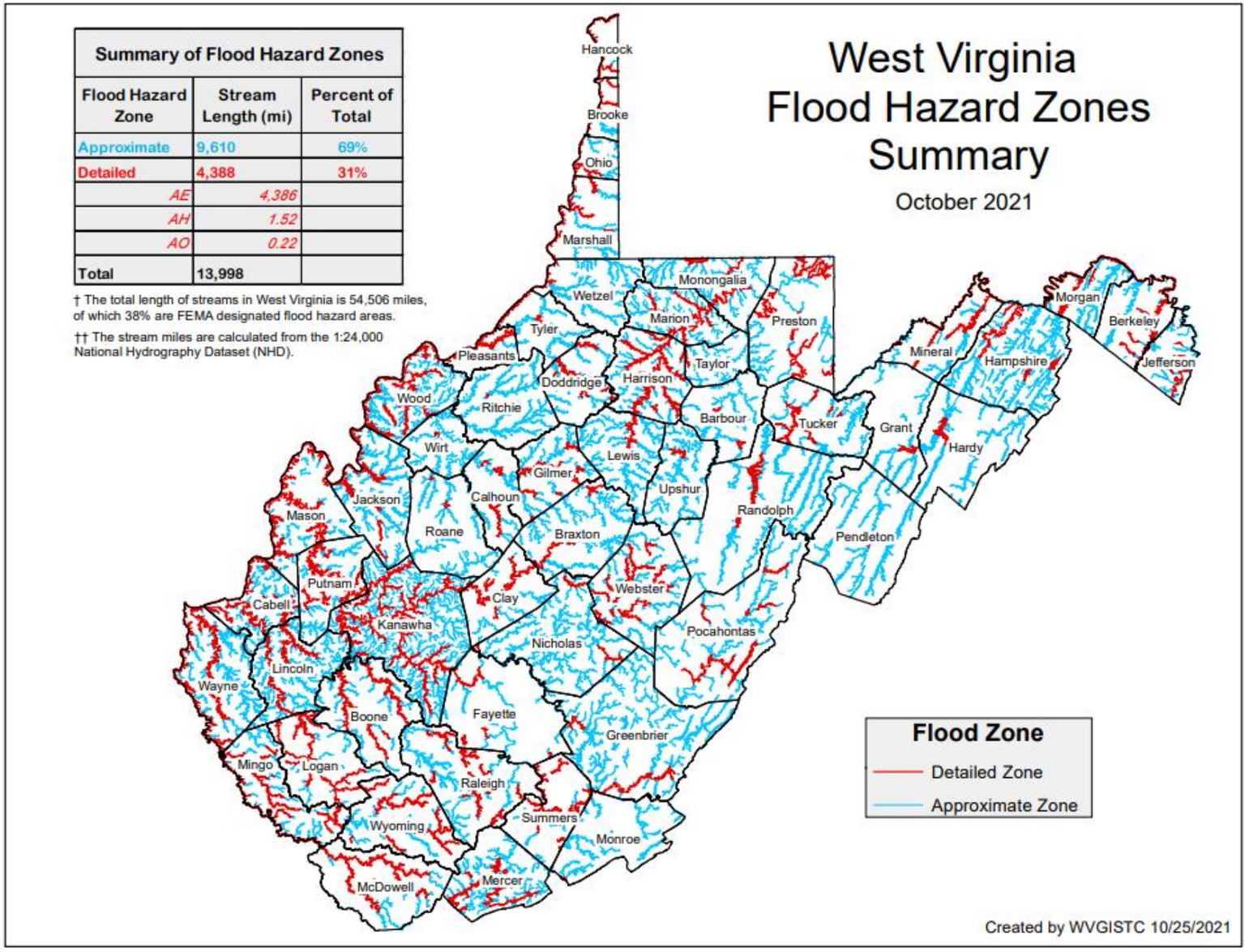


FIRM Information on WV Flood Tool

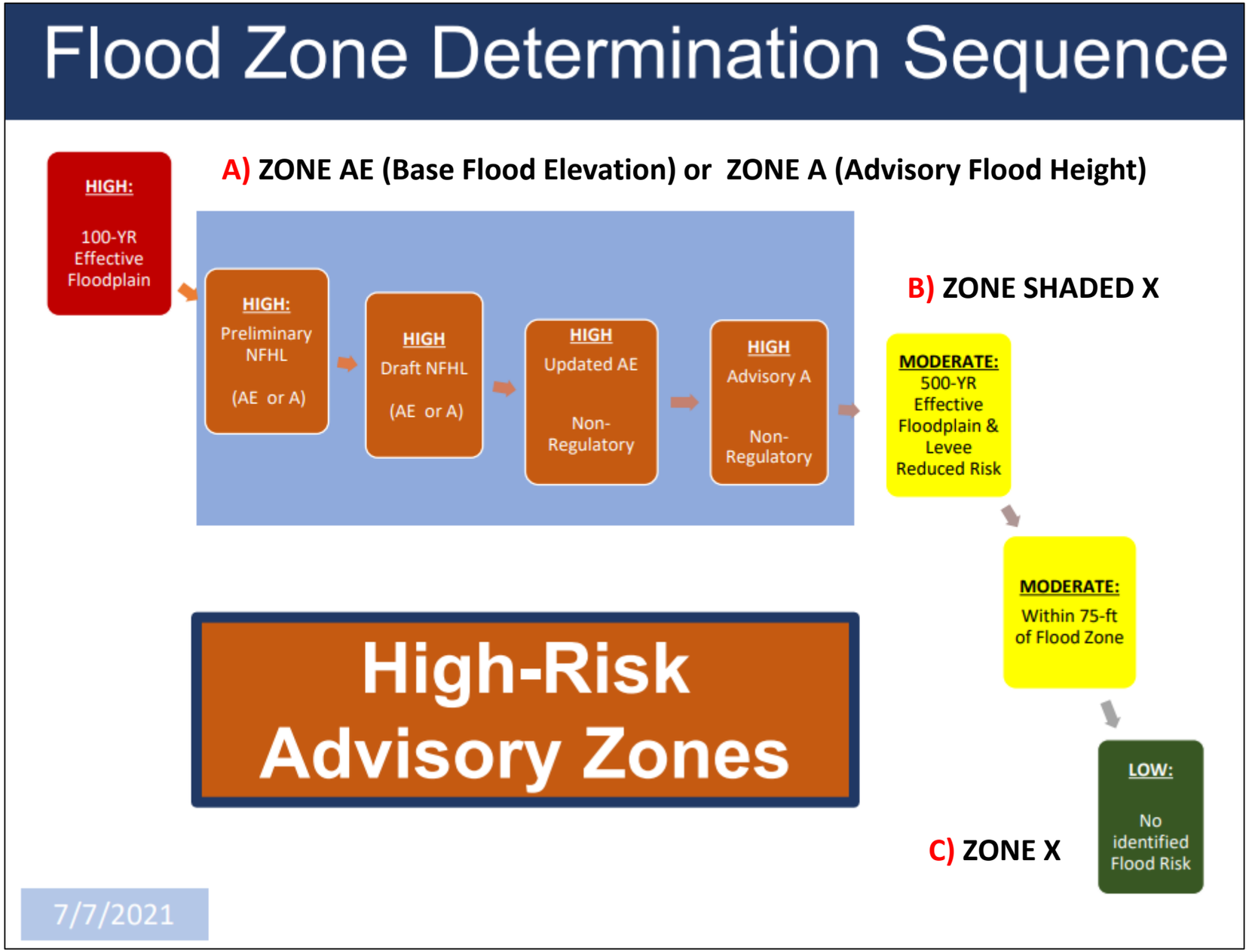


B8 – Flood Zone

High Risk Flood Zone Types: Zone AE & Zone A

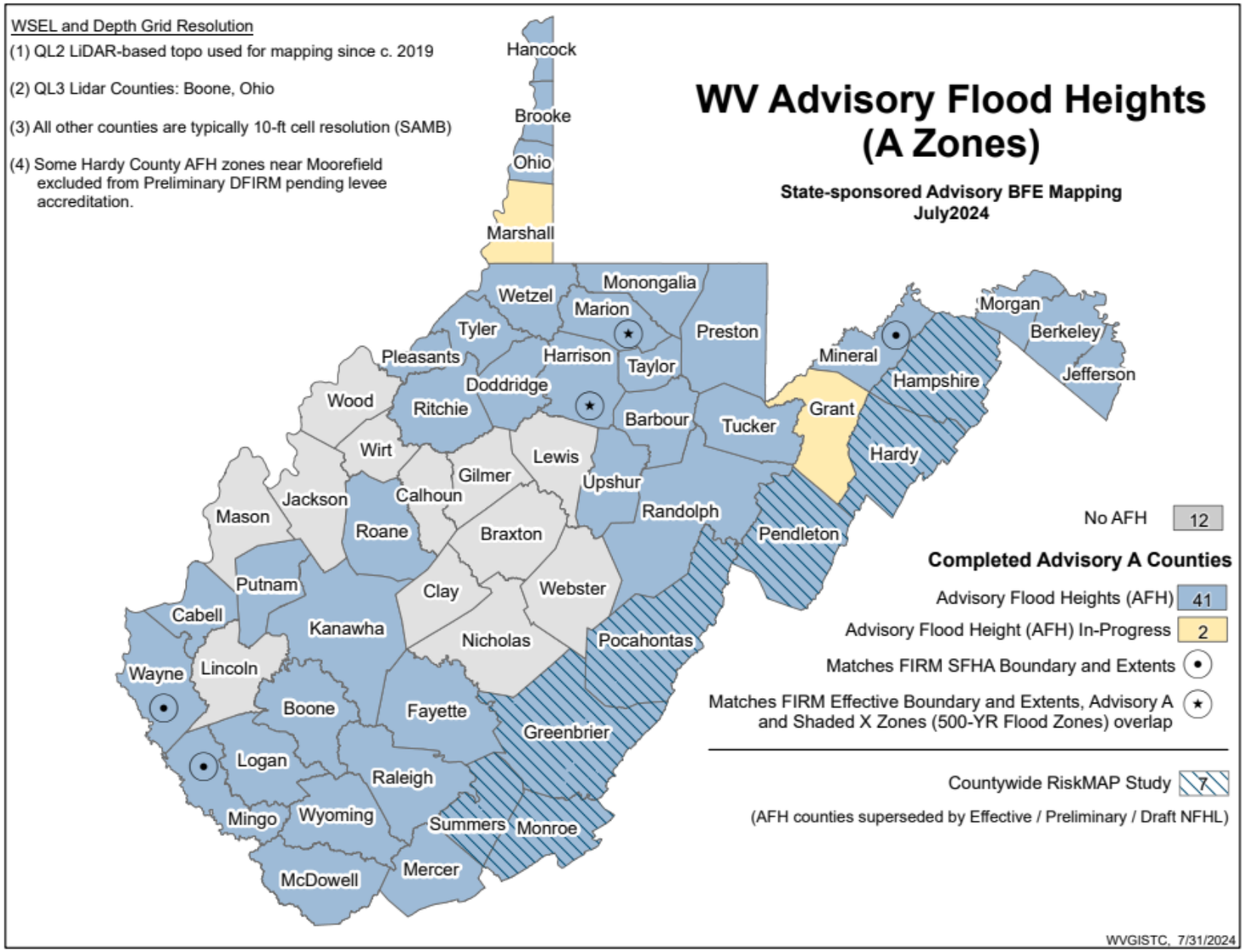


Floodplain Map Overview



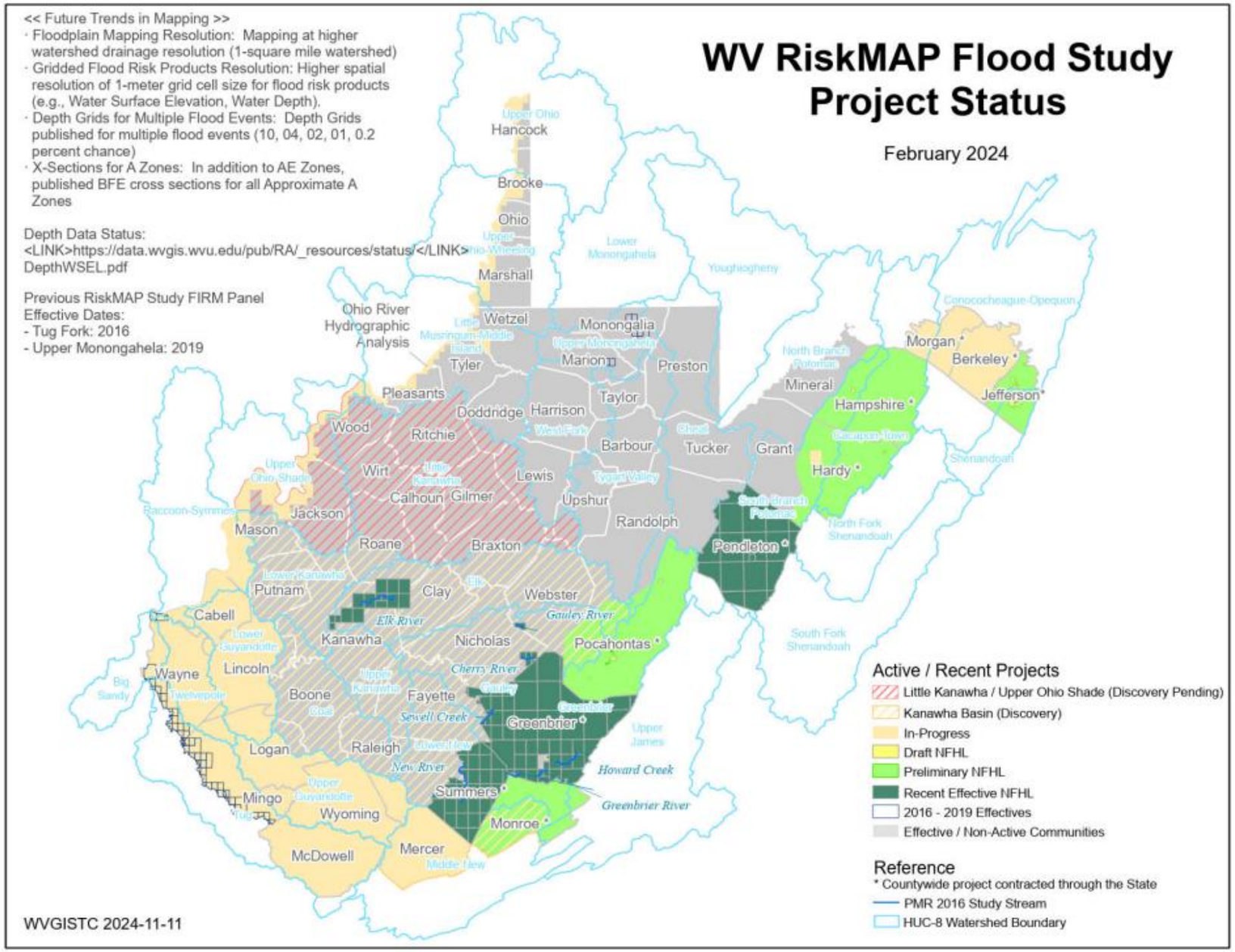
Floodplain Map Overview

B9 – Advisory Flood Heights



Floodplain Map Overview

Future Maps



Section B – Updated Instructions

- B11. Make sure to select the correct elevation datum of the BFE or Advisory Flood Heights. There are still model-backed flood studies in WV that reference the NGVD 1929 datum.

- B12. Is the building in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)?
  - CBRS areas and OPAs are no longer shown on the FIRMs, though they may be visible on the National Flood Hazard Layer Viewer (msc.fema.gov/nfhl)
  - Use the official maps of these areas, available at www.fws.gov/cbra/ to complete item B12.

- B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)?
  - If LiMWA is not shown on FIRM, check “No”
  - Visit www.fema.gov/flood-maps/coastal/insurance-rate-maps for information about the LiMWA and other coastal zones.

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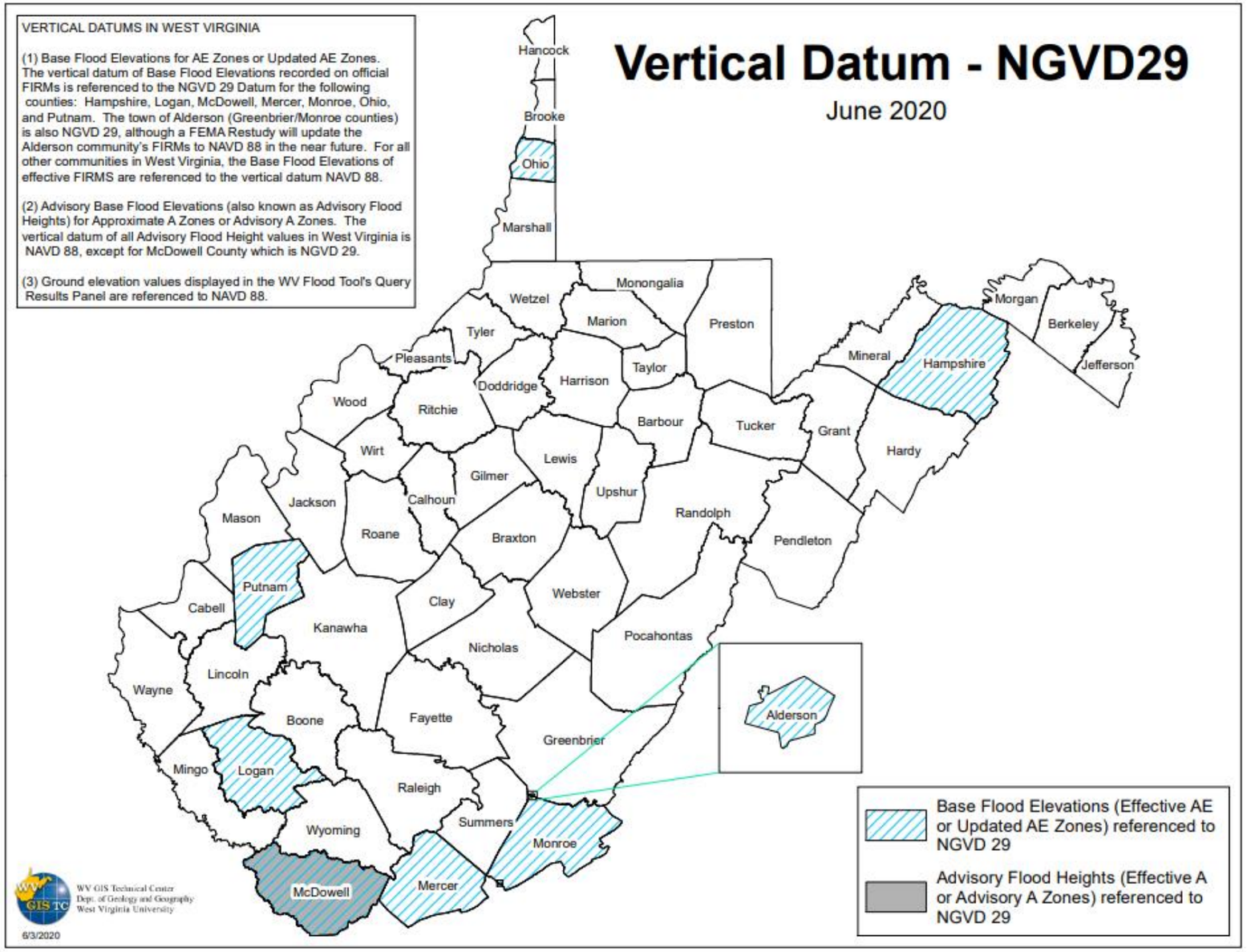
Floodplain Map Overview

B11 - Datum

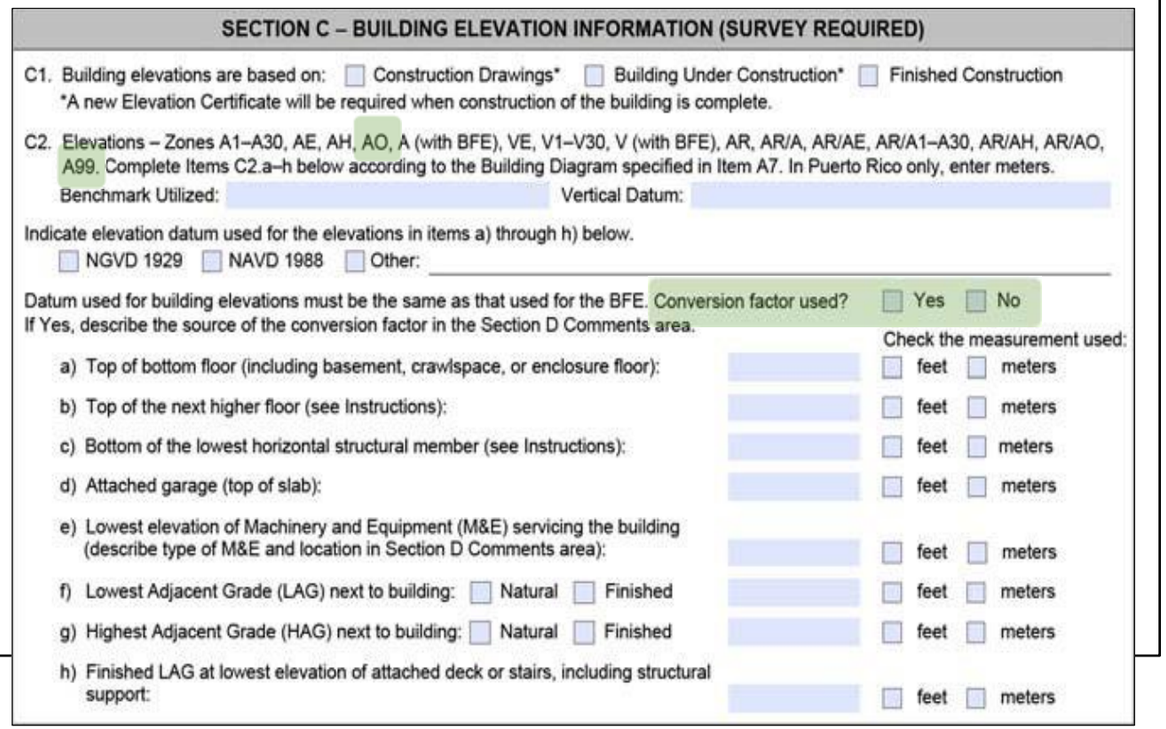


Section C

Building Elevation Information (Survey Required)

Section C – Building Elevation Information (Survey Required)

- For Zones with BFE
- **Survey required by licensed professional**
- New: Datum Conversion factor checkbox
  - If yes, prompt to describe in Section D.
- Section C may be completed for insurance purposes to determine First Floor Height for insurance purposes for any zone, including B (Zone X Shaded; 500-YR; Behind Levee), and C (Zone X Unshaded; Minimal Flood Hazard), and D (Undetermined)



SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized: Vertical Datum:

Indicate elevation datum used for the elevations in items a) through h) below.
☐ NGVD 1929 ☐ NAVD 1988 ☐ Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐ Yes ☐ No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):		☐ feet	☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet	☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet	☐ meters
d) Attached garage (top of slab):		☐ feet	☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):		☐ feet	☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐ Natural ☐ Finished		☐ feet	☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐ Natural ☐ Finished		☐ feet	☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:		☐ feet	☐ meters

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C2(a) – Top of Bottom Floor

Additional detail now in EC instructions…

- Enter the elevation measured at the top of the bottom floor (excluding the attached garage) indicated by the selected Building Diagram.
- For buildings elevated on a crawlspace, enter the lowest elevation on the top of the crawlspace floor in Item C2.a.
  - Regardless of whether the crawlspace has permanent flood openings.

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C2(b) – Next Higher Floor

Additional detail now in EC instructions…

- For Building Diagrams 2A through 9 in any flood zone, including Zones B, C, X, and D, enter the elevation measured at the top of the next higher floor (excluding the attached garage)
- For buildings requiring more than two floors or levels to be surveyed, such as those with multiple floors or multi-level enclosures, enter the additional surveyed elevations and floor descriptions in the Section D Comments; clarify which floors are entered as Item C2.a and C2.b.

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C2(c) – Bottom of Lowest Horizontal Structural Member

- Required in V zones
  - EC form says "See Instructions" ("~~Only V Zones~~" was removed}
  - Why? Coastal A Zones
- For Building Diagrams 5 and 6 and in regulated areas subject to coastal flooding

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A floor by any other name…

Bottom Floor Elevation

- Measured by the surveyor
- The floor with the lowest elevation
  - May be at, above, or below grade
- C2.a or E1 on the EC

Lowest Floor Elevation

- Not determined by the surveyor
- Interpreted by the community floodplain administrator in G9a
- Based on multiple factors
- Not used for rating insurance
- Determines whether structure is compliant with local floodplain ordinance:
  "Is Lowest Floor above BFE (plus freeboard)?"

First Floor Height

- Used for rating insurance
- At or above-grade only
- Varies by foundation type and building diagram
- Recorded in Section H, or interpreted from Section C or E

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C2(d) – Attached Garage, measure top of slab

N/A; not an attached garage.

Photo: M. Gilbert

Attached Garage – C2(d)

Photo: M. Paine

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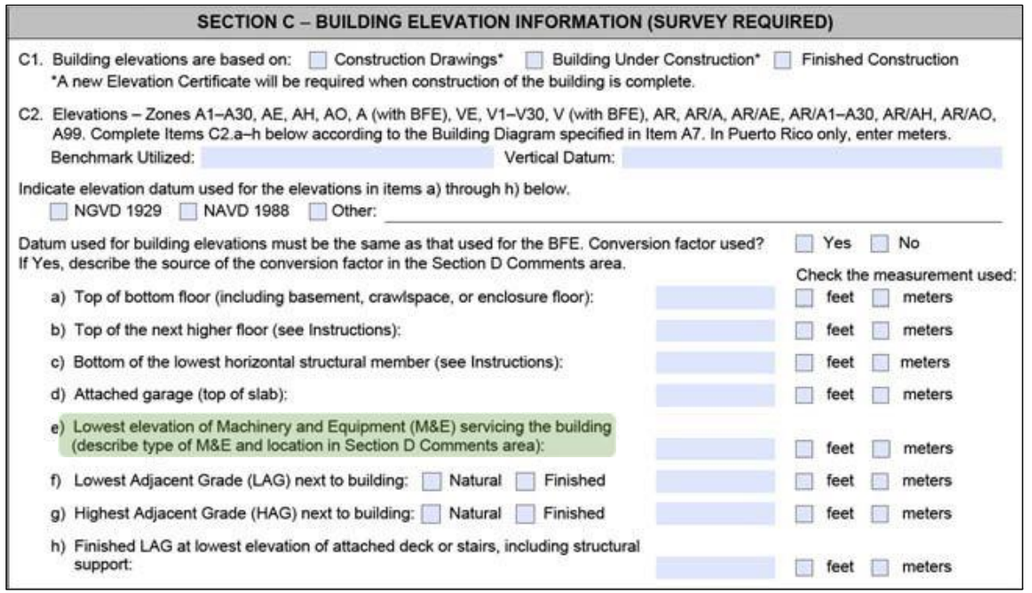
C2(e) – Machinery and Equipment (M&E)

- Prompt to describe in Section D Comments
- Additional notes in Instructions:
  - Requirements for M&E and elevation for floodplain management compliance are different than the NFIP insurance M&E discount eligibility considerations.
  - Refer to FEMA P-348, Protecting Building Utility Systems from Flood Damage



SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized: Vertical Datum:

Indicate elevation datum used for the elevations in items a) through h) below.
☐ NGVD 1929 ☐ NAVD 1988 ☐ Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐ Yes ☐ No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):		☐ feet ☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet ☐ meters
d) Attached garage (top of slab):		☐ feet ☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):		☐ feet ☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐ Natural ☐ Finished		☐ feet ☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐ Natural ☐ Finished		☐ feet ☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:		☐ feet ☐ meters

https://www.fema.gov/sites/default/files/documents/fema_discount-Explanation-Guide.pdf

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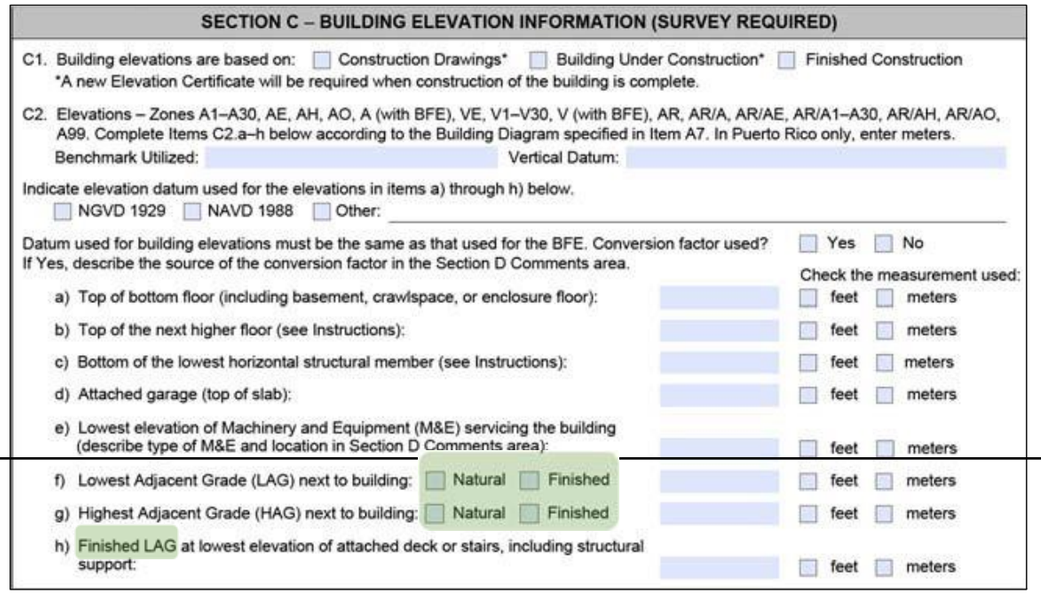
Adjacent Grades C2(f) – C2(g); Attached Decks/Stairs C2(h)

- C2(f) – Lowest Adjacent Grade
- C2(g) – Highest Adjacent Grade
- C2(f) and C2(g) have new checkboxes:
  - Is the adjacent grade Natural or Finished?
- C2(h) clarifies Finished LAG at attached deck or stairs



SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, AO, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, A99. Complete Items C2.a–h below according to the Building Diagram specified in Item A7. In Puerto Rico only, enter meters.
Benchmark Utilized: Vertical Datum:

Indicate elevation datum used for the elevations in items a) through h) below.
☐ NGVD 1929 ☐ NAVD 1988 ☐ Other:

Datum used for building elevations must be the same as that used for the BFE. Conversion factor used? ☐ Yes ☐ No
If Yes, describe the source of the conversion factor in the Section D Comments area.

		Check the measurement used:
a) Top of bottom floor (including basement, crawlspace, or enclosure floor):		☐ feet ☐ meters
b) Top of the next higher floor (see Instructions):		☐ feet ☐ meters
c) Bottom of the lowest horizontal structural member (see Instructions):		☐ feet ☐ meters
d) Attached garage (top of slab):		☐ feet ☐ meters
e) Lowest elevation of Machinery and Equipment (M&E) servicing the building (describe type of M&E and location in Section D Comments area):		☐ feet ☐ meters
f) Lowest Adjacent Grade (LAG) next to building: ☐ Natural ☐ Finished		☐ feet ☐ meters
g) Highest Adjacent Grade (HAG) next to building: ☐ Natural ☐ Finished		☐ feet ☐ meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:		☐ feet ☐ meters

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Section C – Updated Instructions

- Supporting a request for a LOMA, CLOMA, LOMR-F, or CLOMR-F? Complete Section C!
- Note: Section C may also be completed for insurance purposes, to determine the building's First Floor Height in any flood zone (including Zones B, C, X and D).
- Additional instructions on procedures to follow if access to the crawlspace is limited or cannot be gained.
- Note: If any item does not apply to the building, enter “N/A” for not applicable.
- Use the Comments area of Section D

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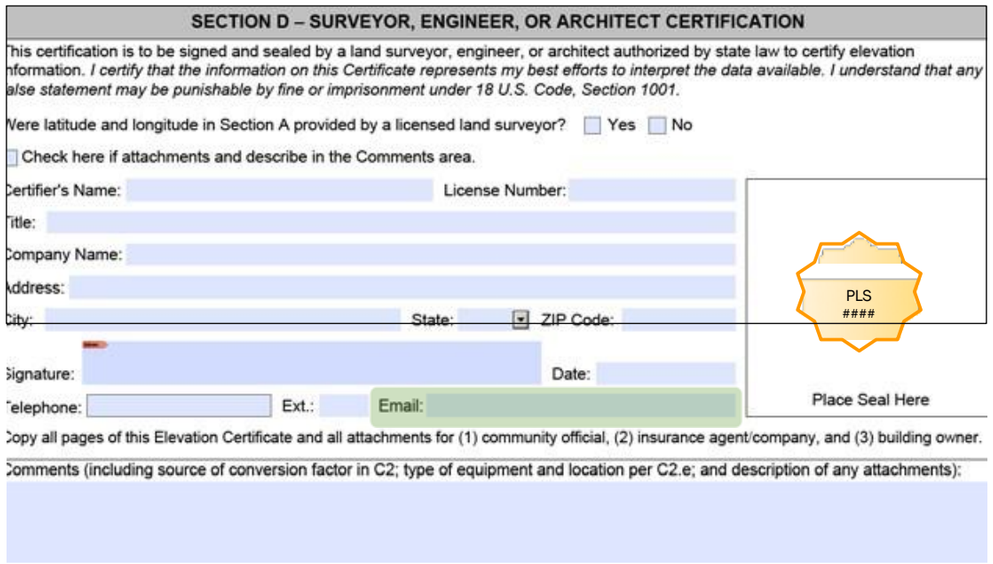
Section D

Surveyor, Engineer, or Architect Certification

Section D



SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by state law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor? ☐ Yes ☐ No

☐ Check here if attachments and describe in the Comments area.

Certifier's Name: License Number:

Title:

Company Name:

Address:

City: State: ZIP Code:

PLS
####

Signature: Date:

Telephone: Ext.: Email:

Place Seal Here

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including source of conversion factor in C2; type of equipment and location per C2.e; and description of any attachments):

- Certifies the surveyed information in Section C.
- Must be signed by a Registered Professional Land Surveyor, Engineer, or Architect (state dependent)
- Email address field added
- The certification box must include the certifier's seal if Section C was completed by a surveyor or engineer
- Additional instructions now provide clarity/examples for using Comments area of Section D to provide relevant and clarifying information not specified elsewhere on the EC,

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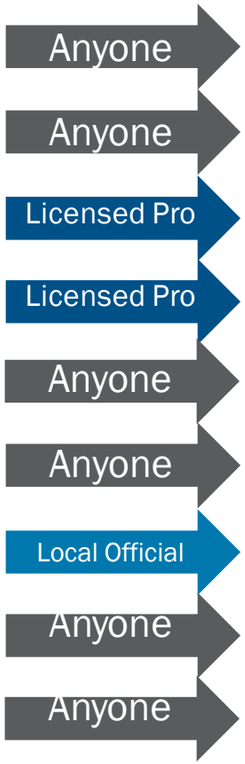
Which section(s) to complete?

Sections of the Elevation Certificate – Who can complete?



- Section A – Property Information
- Section B – FIRM Information
- Section C – Building Elevations (Survey needed)
- Section D – Surveyor Certification (for Section C)
- Section E – Building Measurements (Survey not needed)
- Section F – Owner or Representative Certification (for Section E)
- Section G – Community Information (Recommended)
- Section H – First Floor Height (insurance; survey not required)
- Section I – Owner or Representative Certification (for Section H)

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For Compliance with Floodplain Management Regulations…

Anyone	Section A – Property Information	
Anyone	Section B – FIRM Information	
Licensed Pro	Section C – Building Elevations (Survey needed)	In All Flood Zones
Licensed Pro	Section D – Surveyor Certification (for Section C)	In All Flood Zones
Anyone	Section E – Building Measurements (Survey not needed)	Only AO, A Zones
Anyone	Section F – Owner or Representative Certification (for Section E)	Only AO, A Zones
Local Official	Section G – Community Information (Recommended)	
	Section H – First Floor Height (insurance; survey not required)	
	Section I – Owner or Representative Certification (for Section H)	

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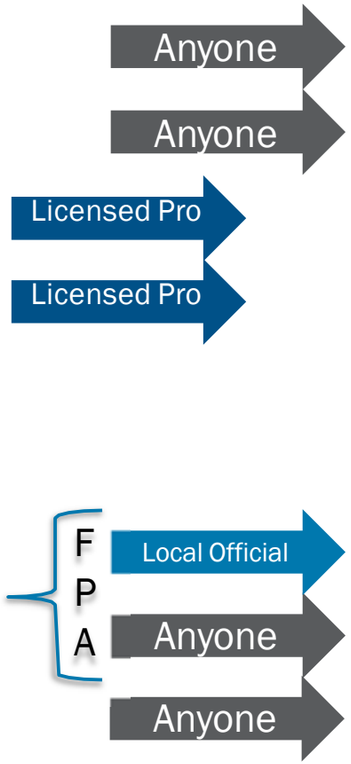
For Flood Insurance Reasons Only…



- Section A – Property Information
- Section B – FIRM Information
- Section C – Building Elevations (Survey ne
- Section D – Surveyor Certification (for Sec
- Section E – Building Measurements (Survey not needed)
- Section F – Owner or Representative Certification (for Section E)
- Section G – Community Information (Recommended)
- Section H – First Floor Height (insurance; survey not required)
- Section I – Owner or Representative Certification (for Section H)

Section C supersedes Section H for insurance if both are filled out

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For Letter of Map Change…

Anyone	Section A – Property Information
Anyone	Section B – FIRM Information
Licensed Pro	Section C – Building Elevations (Survey needed)
Licensed Pro	Section D – Surveyor Certification (for Section C)
	Section E – Building Measurements (Survey not needed)
	Section F – Owner or Representative Certification (for Section E)
Local Official	Section G – Community Information (Recommended)
	Section H – First Floor Height (insurance; survey not required)
	Section I – Owner or Representative Certification (for Section H)

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Summary

- Two new form sections (H and I) can be used for NFIP insurance policy rating.
- Expanded sections capture additional detail and clarity.
- Section G (for community officials) connects the form to local permit and variance decisions, and documents compliance with higher standards.
- More photographs capture additional building details and are now required regardless of the intended use of the EC form.
- More detailed instructions pages provide better clarity on how to properly complete the EC form.

Email your questions about the new form to nfipunderwritingmailbox@fema.dhs.gov.

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Which form sections can I use for...?

✓ Minimum Requirement | O Optional Use | R Recommended Use | R* Required for CRS | ✗ Do Not Use

Purpose	Flood Zone	EC Form Section								
		A	B	C	D	E	F	G	H	I
Insurance	*A with BFE*	✓	✓	O	O	Use H or C instead ↔		R	✓	✓
	A without BFE	✓	✓	O	O	Use H or C instead ↔		R	✓	✓
	Outside SFHA	✓	✓	O	O	Use H or C instead ↔		R	✓	✓
Letter of Map Change (LOMC)	*A with BFE*	✓	✓	✓	✓	✗	✗	R	✗	✗
	A without BFE	✓	✓	✓	✓	✗	✗	R	✗	✗
	Outside SFHA	-	-	-	-	-	-	-	-	-
Floodplain Management	*A with BFE*	✓	✓	✓	✓	✗	✗	R*	✗	✗
	A without BFE	✓	✓	O	O	✓	✓	R*	✗	✗
	Outside SFHA (if regulated)	✓	✓	O	O	✓	✓	R	✗	✗