

Update to the NFIP Technical Bulletins

What are the NFIP Technical Bulletins

FEMA is governed by the National Flood Insurance Act of 1968. As part of administering the National Flood Insurance Program (NFIP), Technical Bulletins provide non-statutory guidance for complying with the minimum NFIP floodplain management requirements pertaining to building performance. Since 1993, eleven bulletins covering a range of topics have been released and updated. State and local officials use the bulletins to interpret and enforce building codes and NFIP regulations. They are also helpful to design professionals, builders and homeowners.

How are the NFIP Technical Bulletins changing?

The bulletins are changing to modernize and streamline their content and presentation. The updated bulletins will:

- Incorporate relevant information from the latest International Codes® (I-Codes®) and American Society of Civil Engineers (ASCE) Standards.
- Provide updated guidance and best practices observed from post-disaster assessments.
- Update known issues based on input from a wide range of stakeholders.

These changes are intended to improve the usability, credibility and content of the bulletins while presenting them in a streamlined format.

Updated tables to compare codes and standards to the NFIP regulations, figures, photos and references are included in each bulletin. The 2021 I-Codes and ASCE 24-14 are currently being used as the base codes and standards with the changes from the 2018, 2015, 2012 I-Codes and ASCE 24-05 referenced. Incorporating information and references from the most recent consensus codes and standards keep the bulletins current and aligned with the latest concepts and advances in building science.

The bulletins are revised with input from numerous government and non-government partners. These include NFIP state coordinators, community floodplain management officials, Association of State Floodplain Managers (ASFPM) representatives, subject matter experts and industry partners.

The following bulletins have been updated since 2018:

Technical Bulletin 0, *User's Guide to Technical Bulletins* (2021)

Technical Bulletin 0 describes the purpose and intended use of the Technical Bulletin series, includes common concepts and terms, lists useful resources and contains a subject index.



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New features in Technical Bulletin 0 include:

- A section on how to use the bulletin.
- A crosswalk between the NFIP regulations and bulletins.
- A compilation of key terms, useful resources, and supplemental information from succeeding bulletins.
- Discussion on four key concepts and requirements for structures: Special Flood Hazard Areas, lowest floor/enclosure/basement, Substantial Improvement/Substantial Damage and coastal waves.

Technical Bulletin 1, Requirements for Flood Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings in Special Flood Hazard Areas (2020)

Technical Bulletin 1 provides guidance on the NFIP requirements for flood openings in exterior walls and walls of enclosures below elevated buildings. Flood openings equalize flood forces by allowing the entry and exit of floodwaters. The bulletin describes and illustrates two options for satisfying the requirements referred to as engineered openings and non-engineered openings. The bulletin covers requirements and guidance.

Updates to Technical Bulletin 1 include:

- Clarification on unusual configurations such as sloping sites, multiple enclosed areas, large enclosed areas and sites with shallow flooding.
- Guidance on above-grade enclosed areas and two-level enclosures.
- Expanded discussion on completing the NFIP Elevation Certificate and the documentation required for certification of engineered openings.

Technical Bulletin 3, Requirements for the Design and Certification of Dry Floodproofed Non-Residential and Mixed-Use Buildings Located in Special Flood Hazard Areas (2021)

Technical Bulletin 3 provides guidance on the NFIP requirements for the design and certification of dry floodproofing of non-residential and non-residential portions of mixed-use buildings.

Updates to Technical Bulletin 3 include:

- Discussion of the factors and planning considerations that influence the decision-making process when determining the feasibility of dry floodproofing a building.
- Step by step discussion regarding dry floodproofing design requirements.
- An example seepage calculation illustrating how to determine if the structure can be considered as “substantially impermeable.”
- Instructions for completing the NFIP Floodproofing Certificate.

Technical Bulletin 4, *Elevator Installation for Buildings Located in Special Flood Hazard Areas (2019)*

Technical Bulletin 4 provides guidance on the NFIP requirements for elevator machinery and equipment that serve buildings and provides guidance on the installation of elevators in special flood hazard areas. Elevator types and their associated equipment are described, along with practical methods to protect elevators and elevator shafts from flood damage.

Updates to Technical Bulletin 4 include:

- Expanded discussion on the primary types of elevators and other conveyance mechanisms used in residential and commercial buildings, including hydraulic elevators and traction elevators, pneumatic elevators, chair lifts and platform lifts.
- Clarification of the definition of “basement” as it relates to the construction of elevator pits.
- Tables summarizing elevator system components, their physical locations, and recommended flood protection techniques.

Technical Bulletin 5, *Free-of-Obstruction Requirements for Buildings Located in Coastal High Hazard Areas (2020)*

Technical Bulletin 5 provides guidance on the NFIP free-of-obstruction requirements in Coastal High Hazard Areas (Zone V), as well as general construction methods that minimize flood damage potential in Zone V. Technical Bulletin 5 describes methods for avoiding potential building and site obstructions that could divert or obstruct floodwater and waves below elevated buildings, which could impose additional flood loads on foundation systems or adjacent buildings.

Updates to Technical Bulletin 5 include:

- Clarification of the requirements for design certification in Zone V.
- Revised guidance on below-BFE building elements.
- Guidance on enclosed areas below elevated buildings, including louvers/lattice, above-grade enclosures, and two-level enclosures.
- Revised guidance on site development practices such as accessory storage structures, the use of fill, swimming pools and spas, erosion control structures and others.
- Guidance on detached garages.

Technical Bulletin 6, Requirements for Dry Floodproofed Below-Grade Parking Areas Under Non-Residential and Mixed-Use Buildings Located in Special Flood Hazard Areas (2021)

Technical Bulletin 6 provides guidance on the NFIP requirements for the design and certification of dry floodproofed below-grade parking areas.

Updates to Technical Bulletin 6 include:

- Identification of issues specific to dry floodproofing below-grade parking areas.
- References to Technical Bulletin 3 for extensive guidance on design requirements.
- Updated discussion on design considerations such as protecting points of entry, managing internal flow of seepage, and equalization of flood loads vertically in multi-level below grade parking areas.

Technical Bulletin 7, Wet Floodproofing Requirements and Limitations for Buildings and Structures Located in Special Flood Hazard Areas (2022)

Technical Bulletin 7 provides guidance on the NFIP requirements for the design and construction of wet floodproofed buildings and structures. Technical Bulletin 7 describes limitations on the use of wet floodproofing and how to evaluate the feasibility of using wet floodproofing measures for historic structures, agricultural structures, and functionally dependent uses.

Updates to Technical Bulletin 7 include:

- Updated to be consistent with the requirements of [FEMA Policy #104-008-03](#), *Floodplain Management Requirements for Agricultural Structures and Accessory Structures*, and *FEMA P-2140, Floodplain Management Bulletin, Floodplain Management Requirements for Agricultural Structures and Accessory Structures*.
- Expanded discussion on best practices and measures to reduce flood damage when NFIP compliance is not required.
- Clarification of when wet floodproofing measures that require human intervention can be used.

Technical Bulletin 8, Corrosion Protection for Metal Connectors and Fasteners in Coastal Areas (2019)

Technical Bulletin 8 provides guidance on the NFIP requirement for maintaining load paths in buildings subject to high humidity and airborne salts. The importance of connectors and fasteners with proper corrosion protection in coastal areas is emphasized.

Updates to Technical Bulletin 8 includes:

- How to select appropriate connector and fastener material based on intended location on the building.

- How preservative treated wood can impact corrosion protection and an explanation of wood product identification tags.
- Expanded descriptions of connector and fastener materials, corrosion protection coatings and maintenance, including inspection and scheduled replacement.
- Guidance for the selection of connectors and fasteners with various corrosion resistant materials and treatments and how combining dissimilar metals can cause premature corrosion.

Technical Bulletin 9, *Design and Construction Guidance for Breakaway Walls* (2021)

Technical Bulletin 9 provides guidance on the NFIP requirements concerning the design and construction of breakaway walls beneath elevated buildings in Coastal High Hazard Areas (Zones V, VE, and V1-30).

Updates to Technical Bulletin 9 include:

- Updated prescriptive, simplified and performance-based design methods for breakaway walls.
- Updated terminology (ultimate load versus allowable load) to align with the current state-of-the-practice in wind design based on ASCE 7, Minimum Design Loads for Buildings and Other Structures, while still maintaining consistency with 44 CFR 60.3(e)(5).
- Expanded guidance on partial height breakaway walls.

Technical Bulletin 10, *Reasonably Safe from Flooding Requirement for Building on Filled Land Removed from the Special Flood Hazard Area* (2023)

This Technical Bulletin provides guidance on the NFIP requirements related to determining that buildings constructed on filled land will be reasonably safe from flooding during the occurrence of the base flood. Guidance is provided for the placement of fill and the parameters for the design and construction of buildings on filled land that has been removed from the Special Flood Hazard Area (SFHA) through the flood map revision process managed by FEMA.

Updates to Technical Bulletin 10 include:

- The title has been updated to *Reasonably Safe from Flooding Requirement for Building on Filled Land Removed From the Special Flood Hazard Area in Accordance with the National Flood Insurance Program*. The title on the 2001 version is *Ensuring That Structures Built on Fill In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding in Accordance with the National Flood Insurance Program*.
- The intent of TB 10 and when it is appropriate to use TB 10 has been clarified.
- Increased emphasis on documentation needed for a local official to make the “reasonably safe from flooding” determination.
- Additional best practices are provided.

- Grouped and reorganization of the content discussing the Technical Approaches to Seepage Analysis in Section 9.

Access the current Technical Bulletins and stay updated by visiting our website at www.fema.gov/nfip-technical-bulletins.

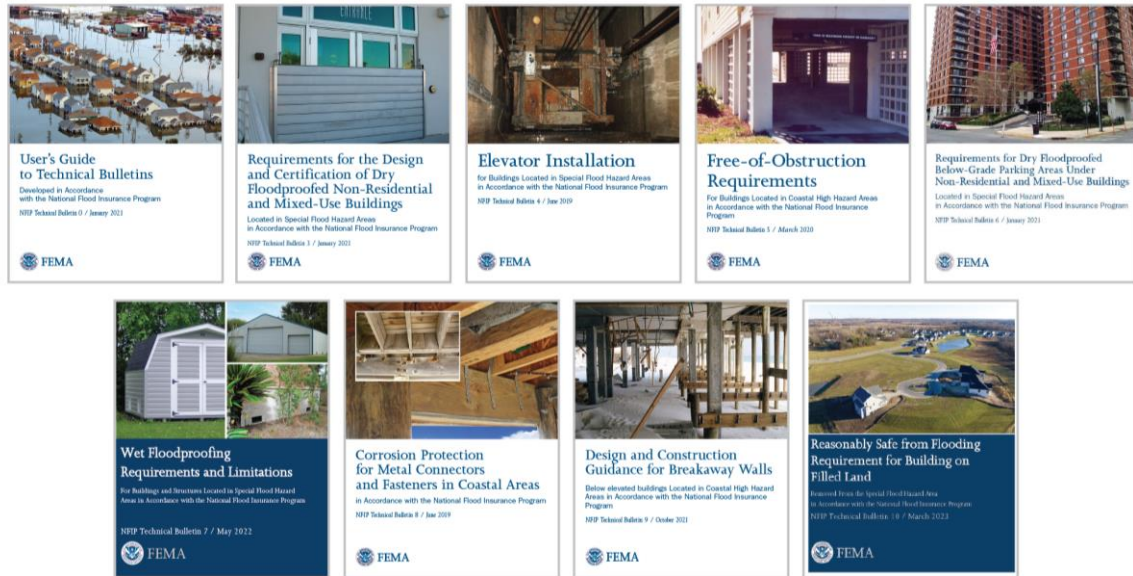


Figure 1. Technical Bulletin Covers

2023 Elevation Certificate Update

Overview of Changes to the Elevation Certificate Form



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Agenda

- Introduction
- Background on the Elevation Certificate (EC) form
- Flood Insurance Rating Methodology
- **Updates** to the EC form
 - Sections A through G
 - **Break**
 - **New Sections H and I**
- Summary
- Q&A



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

FEMA Elevation Certificate Form

The image displays a collection of FEMA Elevation Certificate forms and their corresponding instructions. On the left side, there is a large graphic of the 'National Flood Insurance Program Elevation Certificate and Instructions 2023 EDITION' booklet cover, featuring the FEMA logo. Overlaid on and to the right of this cover are several individual forms, each representing a different page of the certificate process. These include:

- Page 1:** The main 'ELEVATION CERTIFICATE' form, which is divided into sections for 'FOR INSURANCE COMPANY USE' (top right), 'FOR INFORMATION (SURVEY REQUIRED)' (middle), and 'FOR INFORMATION (SURVEY NOT REQUIRED)' (bottom). It includes fields for building address, policy number, and various elevation measurements.
- Page 2:** A continuation of the main form, focusing on 'FOR INFORMATION (SURVEY NOT REQUIRED)' and 'OWNER'S AUTHORIZED REPRESENTATIVE CERTIFICATION'.
- Page 3:** Another continuation of the main form, covering 'GREEN, OR ARCHITECT CERTIFICATION' and 'FLOOD HAZARD (FIRM) INFORMATION'.
- Page 4:** A form titled 'ELEVATION CERTIFICATE' with 'IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19', containing fields for 'FOR INFORMATION COMPANY USE'.
- Page 5:** A form titled 'ELEVATION CERTIFICATE' with 'IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19', containing fields for 'FOR INFORMATION COMPANY USE'.
- Page 6:** A form titled 'ELEVATION CERTIFICATE' with 'IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19', containing fields for 'FOR INFORMATION COMPANY USE'.
- Page 7:** A form titled 'ELEVATION CERTIFICATE' with 'IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19', containing fields for 'FOR INFORMATION COMPANY USE'.
- Page 8:** A form titled 'ELEVATION CERTIFICATE' with 'IMPORTANT: MUST FOLLOW THE INSTRUCTIONS ON PAGES 9-19', containing fields for 'FOR INFORMATION COMPANY USE'.

 The forms are presented in a layered, overlapping manner to show their relationship and how they fit together in the overall process.

Purpose of the Elevation Certificate

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

OMB Control No. 1685-0008
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		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: <input type="checkbox"/> NAD 1927 <input type="checkbox"/> NAD 1983 <input type="checkbox"/> 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: <input type="checkbox"/>			
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?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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 SFE 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 FP-206 (FY-22-23) (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
- Prerequisite for Community Rating System (CRS) participation
- 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



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

Many uses (and users) of the Elevation Certificate



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).**



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

OMB No. 1660-0008
Expiration Date: November 30, 2022

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

OMB No. 1660-0008
Expiration Date: November 30, 2018

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
National Flood Insurance Program

ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1-9.

OMB No. 1660-0008
Expiration Date: July 31, 2015

SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name	FOR INSURANCE COMPANY USE
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or R.O. Route and Box No.	Policy Number:
City	Company NAIC Number:
State	
ZIP Code	

and (3) building owner.
ICE COMPANY USE
Number:
cy Number:
Company NAIC Number:
al Description, etc.)

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 July 7, 2023, must use this version.



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NFIP Key Terms

FIRM = Flood Insurance Rate Map

FIS = Flood Insurance Study

BFE = Base Flood Elevation

SFHA = Special Flood Hazard Area (1% Annual Chance Flood)

LAG = Lowest Adjacent Grade

HAG = Highest Adjacent Grade

Bottom Floor Elevation

Lowest Floor Elevation

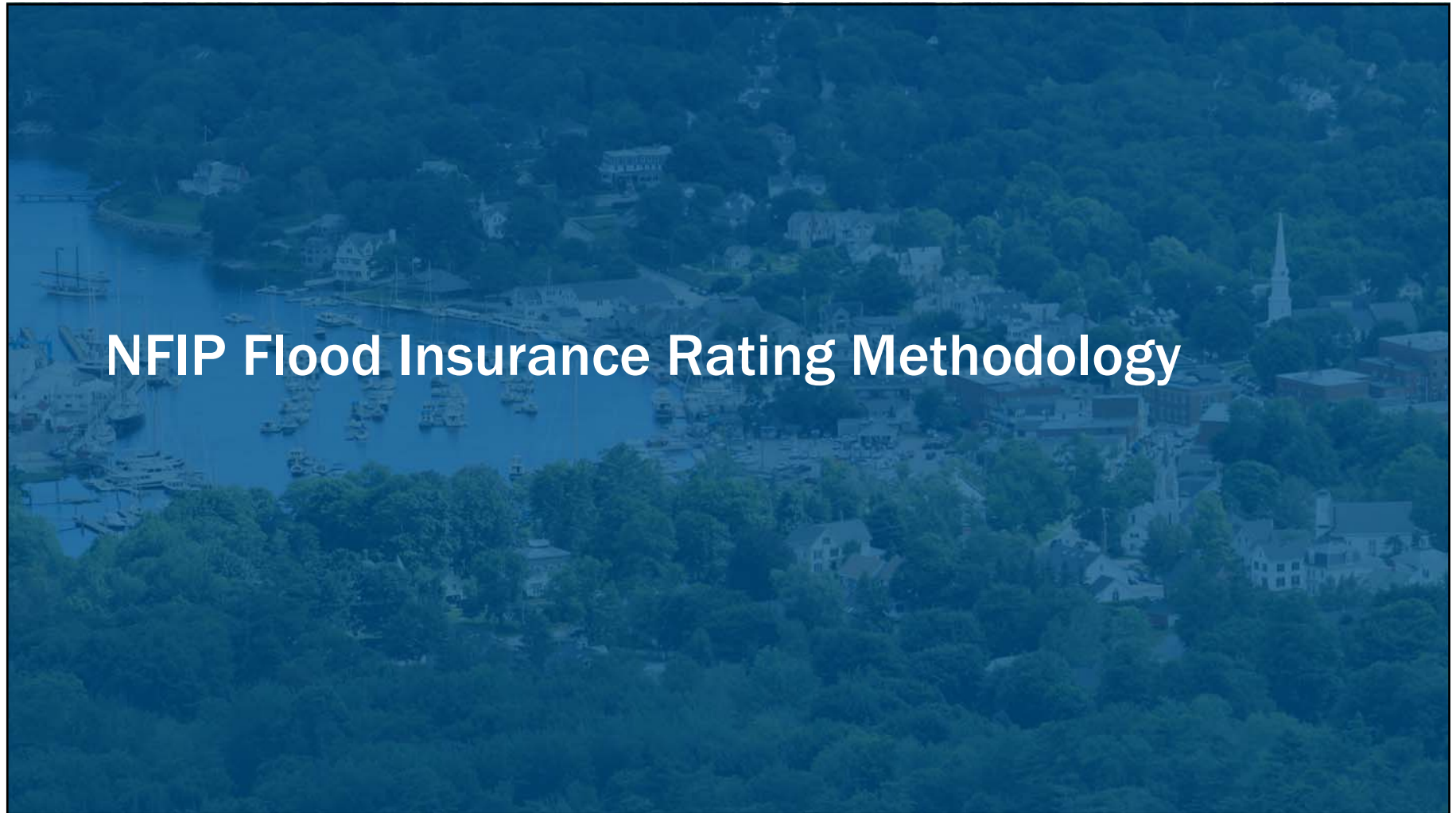
First Floor Height



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



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



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



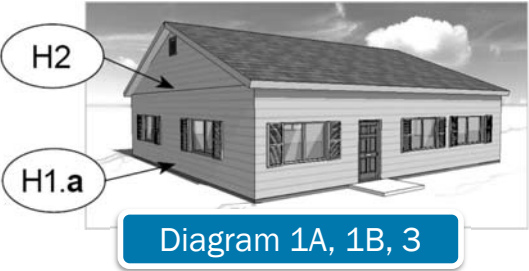
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Foundation Types

Elevation Certificate Diagrams

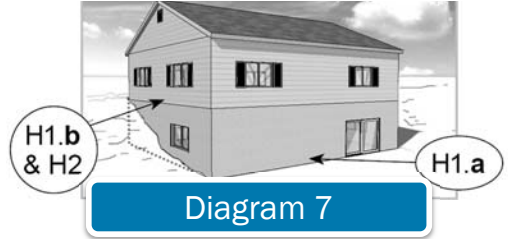
Slab on Grade (Non-Elevated)



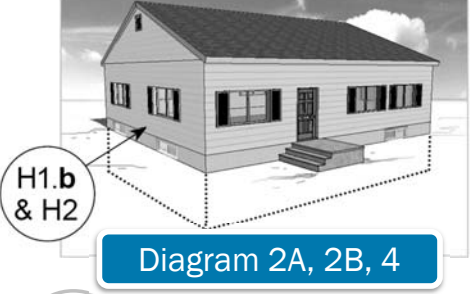
Elevated without Enclosure on Posts, Piles, or Piers



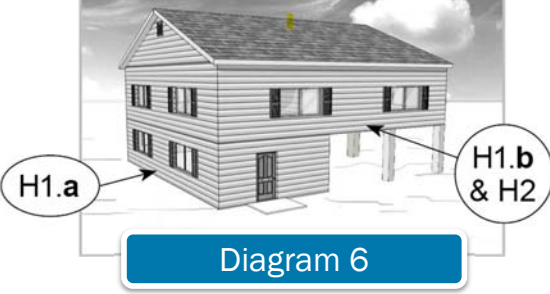
Elevated with Enclosure Not on Posts, Piles, or Piers (Solid Foundation Walls)



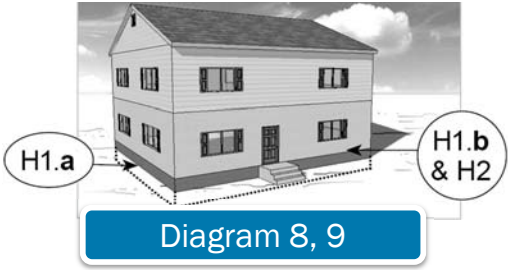
Basement (Non-Elevated)



Elevated with Enclosure on Posts, Piles, or Piers



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

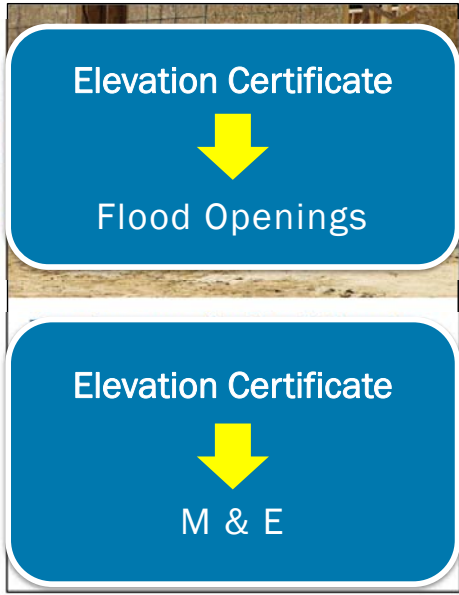


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Mitigation Discounts

- Flood Openings (in enclosures/crawlspace)
 - 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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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, 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.



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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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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: <input style="width: 90%;" type="text"/>	Policy Number: <input style="width: 90%;" type="text"/>
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: <input style="width: 90%;" type="text"/>	Company NAIC Number: <input style="width: 90%;" type="text"/>
City: <input style="width: 60%;" type="text"/> State: <input style="width: 10%;" type="text"/> <input style="width: 10%;" type="text"/> ZIP Code: <input style="width: 20%;" type="text"/>	
A3. Property Description (e.g., Lot and Block Numbers or Legal Description) and/or Tax Parcel Number: <input style="width: 95%;" type="text"/>	
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <input style="width: 95%;" type="text"/>	
A5. Latitude/Longitude: Lat. <input style="width: 15%;" type="text"/> Long. <input style="width: 15%;" type="text"/> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input type="checkbox"/> NAD 1983 <input checked="" type="checkbox"/> 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: <input style="width: 10%;" type="text"/> <input style="width: 10%;" type="text"/>	
A8. For a building with a crawspace or enclosure(s):	
a) Square footage of crawspace or enclosure(s): <input style="width: 40%;" type="text"/> sq. ft.	
b) Is there at least one permanent flood opening on two different sides of each enclosed area? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
c) Enter number of permanent flood openings in the crawspace or enclosure(s) within 1.0 foot above adjacent grade:	
Non-engineered flood openings: <input style="width: 15%;" type="text"/> Engineered flood openings: <input style="width: 15%;" type="text"/>	

- 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



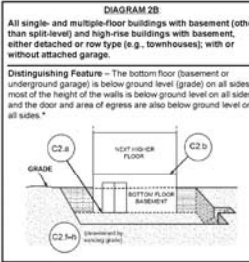
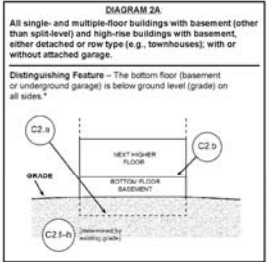
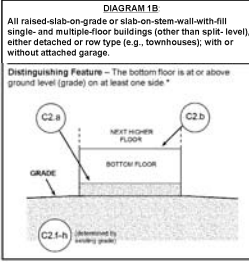
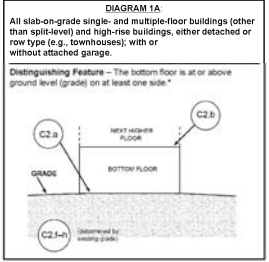
***Legend: dark green font and boxes indicate new or changed information*

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 A8 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 LUMWA, 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).

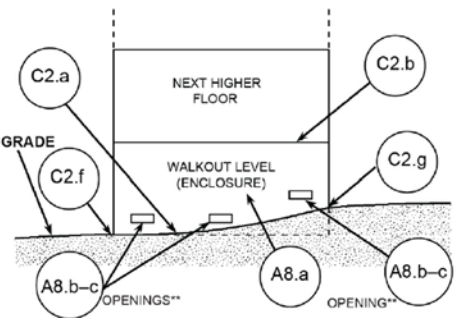


* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

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.

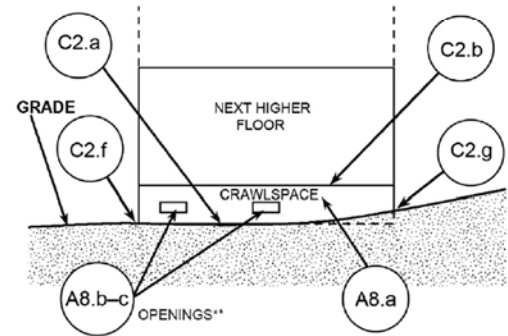


** Openings for areas accessible to any entry into the enclosed area. Openings may be for light, heat, or air, but not for water. Openings must be on the exterior or interior grade or floor immediately below the opening. For more guidance on openings, see NFIP Technical Bulletin 1.

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 bays, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the ICC ESI 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.

A8 – Crawlspace or Enclosure

- Building Diagrams 6, 7, 8, 9

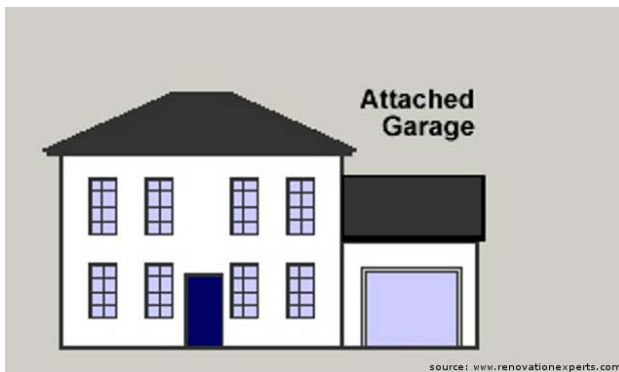


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A9 – Attached Garage

Attached Garage

- Common wall, Single structure
- Nothing above the garage



Not an Attached Garage

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



A8 / A9 and Flood Openings

A8: Enclosure (not Attached Garage)



A9: Attached Garage



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.



No more than one (1.0) foot above grade

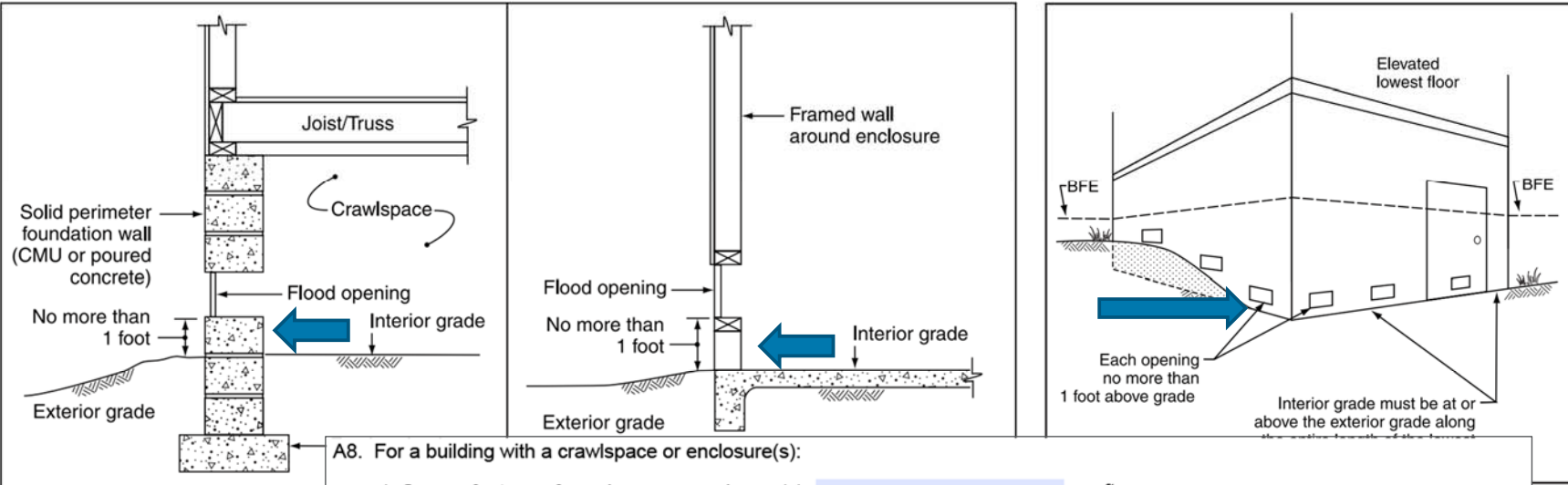


Figure 1. Typical enclosures with

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

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

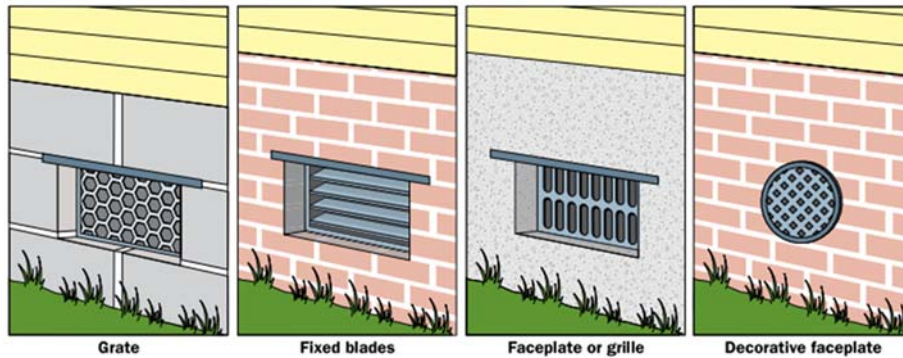
b) Is there at least one permanent flood opening on two different sides of each enclosed area? Yes No N/A

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: _____



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



(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

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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



(300 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 RC Evaluation Service, LLC, express or implied.



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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 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?

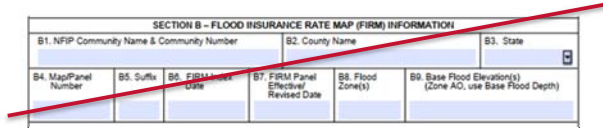


Section B

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: <input type="text"/>
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: <input checked="" type="checkbox"/> FIS <input type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other: <input type="text"/>	
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: <input type="text"/>	
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input type="checkbox"/> No Designation Date: <input type="text"/> <input type="checkbox"/> CBRS <input type="checkbox"/> OPA	
B13. Is the building located seaward of the Limit of Moderate Wave Action (LiMWA)? <input type="checkbox"/> Yes <input type="checkbox"/> 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.**
- 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.



Section B – Updated Instructions

- 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.



Section C

Building Elevation Information (Survey Required)

Section C – Building Elevation Information (Survey Required)

- For Zones with BFE (or depth)
- C2 clarifies that this section may be used for elevations in AO and A99 zones, too.
- **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 in any zone (including B, C, X, and D)

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):	<input type="checkbox"/> feet <input type="checkbox"/> meters
b) Top of the next higher floor (see Instructions):	<input type="checkbox"/> feet <input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (see Instructions):	<input type="checkbox"/> feet <input type="checkbox"/> meters
d) Attached garage (top of slab):	<input type="checkbox"/> feet <input type="checkbox"/> 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):	<input type="checkbox"/> feet <input type="checkbox"/> meters
f) Lowest Adjacent Grade (LAG) next to building: <input type="checkbox"/> Natural <input type="checkbox"/> Finished	<input type="checkbox"/> feet <input type="checkbox"/> meters
g) Highest Adjacent Grade (HAG) next to building: <input type="checkbox"/> Natural <input type="checkbox"/> Finished	<input type="checkbox"/> feet <input type="checkbox"/> meters
h) Finished LAG at lowest elevation of attached deck or stairs, including structural support:	<input type="checkbox"/> feet <input type="checkbox"/> meters



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.



C2a - Bottom Floor



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.



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



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



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

N/A; not an attached garage.



Photo: M. Gilbert

Attached Garage – C2(d)



Photo: M. Paine



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

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



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



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



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: _____

Signature: _____ Date: _____

Telephone: _____ Ext.: _____ Email: _____

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,



Section E

Building Measurement Information (Survey Not Required)
for Zone AO, Zone AR/AO, and Zone A (without BFE)

Section E – Building Measurements (Survey Not Required)

- Used in areas where there is no established BFE
 - AO, AR/AO, and A Zones
- No survey needed, can be certified by homeowner or community official
- Measurements relative to highest or lowest **NATURAL GRADE** whenever available
- Added checkbox for Construction Drawings/ Under Construction/ Finished Construction
 - For consistency with Section C

**SECTION E – BUILDING MEASUREMENT INFORMATION (SURVEY NOT REQUIRED)
FOR ZONE AO, ZONE AR/AO, AND ZONE A (WITHOUT BFE)**

For Zones AO, AR/AO, and A (without BFE), complete Items E1–E5. For Items E1–E4, use natural grade, if available. If the Certificate is intended to support a Letter of Map Change request, complete Sections A, B, and C. Check the measurement used. In Puerto Rico only, enter meters.

Building measurements are based on: Construction Drawings* Building Under Construction* Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

E1. Provide measurements (C.2.a in applicable Building Diagram) for the following and check the appropriate boxes to show whether the measurement is above or below the natural HAG and the LAG.

a) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ feet meters above or below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is: _____ feet meters above or below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (C2.b in applicable Building Diagram) of the building is: _____ feet meters above or below the HAG.

E3. Attached garage (top of slab) is: _____ feet meters above or below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is: _____ feet meters above or below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown The local official must certify this information in Section G.



Section E – Updated Instructions

- Complete Section E if the building is located in Zone AO, Zone AR/AO, or Zone A (without BFE) for the purpose of documenting compliance with local floodplain management requirements.
 - Supporting a LOMC Request? **Use Section C instead of Section E.**
- Measurements based on Natural grade, which means the undisturbed natural surface of the ground prior to any excavation or fill.
- E3: Enter the height, in relation to the Highest Adjacent Grade (HAG), for the top of the attached garage slab.
- E4: What machinery & equipment (M&E) services the building? See item C2.e for additional details on M&E.



Section F

Property Owner (or Owner's Authorized Representative) Certification

Section F

- Homeowner (or their authorized representative) or community official who fills out Section E signs Section F.
 - Community official should sign Section G.
- Email address field added
- Comments box for any descriptions needed.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Check here if attachments and describe in the Comments area.

Property Owner or Owner's Authorized Representative Name: _____

Address: _____

City: _____ State: ▼ ZIP Code: _____

Signature: _____ Date: _____

Telephone: _____ Ext.: _____ Email: _____

Comments: _____

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Section F – Updated Instructions

- Has Section E been completed by a property owner or their authorized representative in a Zone AO, AR/AO, or A (without BFE)?
 - If so, the community should confirm the heights to ensure compliance.
- Has Section E been completed by a local floodplain management official?
 - If so, Item G2.a and Section G should be completed, instead of Section F.

SECTION F – PROPERTY OWNER (OR OWNER'S AUTHORIZED REPRESENTATIVE) CERTIFICATION

Complete as indicated. This section is provided for certification of measurements when completing Sections A, B, and E. If Section E is completed by a property owner or property owner's authorized representative in Zone AO, AR/AO, or A (without BFE), then the community should confirm the heights in Section E to ensure compliance with community floodplain management ordinances. If Section E is completed by a local floodplain management official, then complete Item G2.a and Section G instead of Section F. The address entered in this section must be the actual mailing address of the individual who provided the information on the certificate. Check the box as indicated if including attachments and describe in the Comments area.



Section G

Community Information
(Recommended for Community Official Completion)

Section G – Community Information (Recommended)

- Additional specificity in this section
- More instructions for clarity
- Expanded section provides additional support for floodplain managers, connects the form to local permit and variance decisions, and documents compliance with higher standards.

SECTION G – COMMUNITY INFORMATION (RECOMMENDED FOR COMMUNITY OFFICIAL COMPLETION)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. A local official completed Section H for insurance purposes.

G3. In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: _____ G6. Date Permit Issued: _____

G7. Date Certificate of Compliance/Occupancy Issued: _____

G8. This permit has been issued for: New Construction Substantial Improvement

G9.a. Elevation of as-built lowest floor (including basement) of the building: _____ feet meters Datum: _____

G9.b. Elevation of bottom of as-built lowest horizontal structural member: _____ feet meters Datum: _____

G10.a. BFE (or depth in Zone AO) of flooding at the building site: _____ feet meters Datum: _____

G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member: _____ feet meters Datum: _____

G11. Variance issued? Yes No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. *I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.*

Local Official's Name: _____ Title: _____

NFIP Community Name: _____

Telephone: _____ Ext.: _____ Email: _____

Address: _____

City: _____ State: ZIP Code: _____

Signature: _____ Date: _____

Comments (including type of equipment and location, per C2.e; description of any attachments; and corrections to specific information in Sections A, B, D, E, or H): _____



Section G

- G2 – split by reasons a local official completed sections of the EC form...
 - Section E in Zone A (or E5 in Zone AO)
 - Section H for insurance purposes only
- G3 (new) – description if using for specific corrections to Sections A, B, E and/or H.

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Section A, B, C, E, G, or H of this Elevation Certificate. Complete the applicable item(s) and sign below when:

G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by state law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.a. A local official completed Section E for a building located in Zone A (without a BFE), Zone AO, or Zone AR/AO, or when item E5 is completed for a building located in Zone AO.

G2.b. A local official completed Section H for insurance purposes.

G3. In the Comments area of Section G, the local official describes specific corrections to the information in Sections A, B, E and H.

G4. The following information (Items G5–G11) is provided for community floodplain management purposes.

G5. Permit Number: G6. Date Permit Issued:



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Section G

- G9 – split to specify as-built elevations of lowest floor
 - G9.a – Lowest floor of the building
 - G9.b (new) – bottom of lowest horizontal structural member

- G10 – Linking BFE and Freeboard
 - G10.a – BFE (or depth in AO zone) of flooding at the building site
 - G10.b – Freeboard – Community’s minimum elevation (or depth) requirement

G9.a. Elevation of as-built lowest floor (including basement) of the building:	<input type="text"/>	<input type="checkbox"/> feet	<input type="checkbox"/> meters	Datum: <input type="text"/>
G9.b. Elevation of bottom of as-built lowest horizontal structural member:	<input type="text"/>	<input type="checkbox"/> feet	<input type="checkbox"/> meters	Datum: <input type="text"/>
G10.a. BFE (or depth in Zone AO) of flooding at the building site:	<input type="text"/>	<input type="checkbox"/> feet	<input type="checkbox"/> meters	Datum: <input type="text"/>
G10.b. Community's minimum elevation (or depth in Zone AO) requirement for the lowest floor or lowest horizontal structural member:	<input type="text"/>	<input type="checkbox"/> feet	<input type="checkbox"/> meters	Datum: <input type="text"/>
G11. Variance issued? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, attach documentation and describe in the Comments area.				



Section G

- G11 (new) – Variance issued? Y/N
 - If Yes, prompts to attach documentation and description.
- Signature & Comments section remain.
 - The local official who provides Section G information must sign & certify

G11. Variance issued? Yes No If yes, attach documentation and describe in the Comments area.

The local official who provides information in Section G must sign here. I have completed the information in Section G and certify that it is correct to the best of my knowledge. If applicable, I have also provided specific corrections in the Comments area of this section.

Local Official's Name: _____ Title: _____

NFIP Community Name: _____

Telephone: _____ Ext.: _____ Email: _____

Address: _____

City: _____ State: ZIP Code: _____

Signature: _____ Date: _____



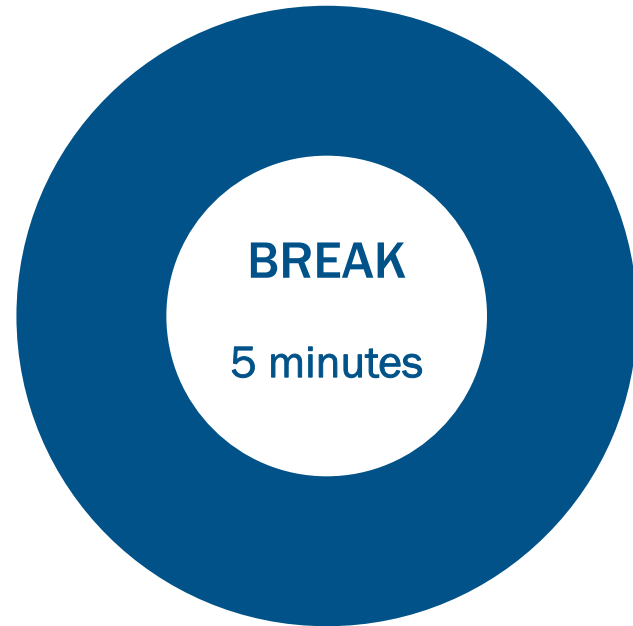
FEMA

Federal Emergency Management Agency

Section G – Updated Instructions

- Clarification for community officials on completing G2 - G4 for various purposes:
 - Completing Section E?
 - Completing Section H?
 - Correcting information provided in Sections A, B, E, and H? Describe in Comments.
 - Using G5 - G11 for floodplain management purposes?
- G8: Check the Substantial Improvement box if equals or exceeds 50% (or meets the community's more restrictive standards, if applicable).
- G9.b: Is the structure a Building Diagram 5 or 6 in a V Zone? If so, enter the elevation measured at the bottom of the lowest horizontal structural member.
- G10.b: Enter the community's minimum elevation or depth requirement.
- G11: Indicate Yes if a floodplain variance was issued; attach documentation and describe in Comments area.





New sections of the EC form: Section H and Section I

- Section H: Building’s First Floor Height Information
 - Surveyed elevations not required
- Section I: Owner or Representative certifies the measurements in section H.
- Used for flood insurance rating purposes to determine the building's First Floor Height and to determine if all machinery and equipment (M&E) servicing the building is elevated.
-

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

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
City: _____ State: _____ ZIP Code: _____	Policy Number: _____
	Company NAIC Number: _____
SECTION H – BUILDING’S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)	
<small>The property owner, owner’s authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building’s first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.</small>	
H1: Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):	
a) For Building Diagrams 1A, 1B, 3, and 5-8. Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is: _____ feet <input type="checkbox"/> meters <input type="checkbox"/> above the LAG	
b) For Building Diagrams 2A, 2B, 4, and 6-9. Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ feet <input type="checkbox"/> meters <input type="checkbox"/> above the LAG	
H2: Is all Machinery and Equipment servicing the building (as listed in Item I 2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H Instructions) for the appropriate Building Diagram? <input type="checkbox"/> Yes <input type="checkbox"/> No	
SECTION I – PROPERTY OWNER (OR OWNER’S AUTHORIZED REPRESENTATIVE) CERTIFICATION	
<small>The property owner or owner’s authorized representative who completes Sections A, B, and H must sign here. The statements in Sections A, B, and H are correct to the best of my knowledge. Note: If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.</small>	
<input type="checkbox"/> Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.	
Property Owner or Owner’s Authorized Representative Name: _____	
Address: _____	
City: _____ State: _____ ZIP Code: _____	
Signature: _____ Date: _____	
Telephone: _____ Ext.: _____ Email: _____	
Comments: _____	



Section H

Building's First Floor Height Information for All Zones
(Survey Not Required)
(For Insurance Purposes Only)

Section H – First Floor Height Information for All Zones

- **Section H: Building’s First Floor Height Info**
 - For insurance purposes only
 - Can be completed by anyone
 - Professional survey not required
 - Can be used for all flood zones
 - First Floor Height above LAG (existing)
 - By Foundation Type / Building Diagram
- Also complete Sections A and B, and Section I
 - Local FPA who completes Section H certifies in **Section G** instead.
- If Section C and/or E are also completed, C prevails over H, for insurance & compliance purposes.

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

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.:	FOR INSURANCE COMPANY USE
City: _____ State: _____ ZIP Code: _____	Policy Number: _____
	Company NAIC Number: _____
SECTION H – BUILDING’S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)	
<p>The property owner, owner’s authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building’s first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). <i>Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.</i></p> <p>H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):</p> <p>a) For Building Diagrams 1A, 1B, 3, and 5–8. Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspace or enclosure floors) is: _____ <input type="checkbox"/> feet <input type="checkbox"/> meters <input type="checkbox"/> above the LAG</p> <p>b) For Building Diagrams 2A, 2B, 4, and 6–9. Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: _____ <input type="checkbox"/> feet <input type="checkbox"/> meters <input type="checkbox"/> above the LAG</p> <p>H2. Is all Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	



Section H – First Floor Height Information for All Zones

- H1.a – Top of Bottom Floor above the LAG
- H1.b – Top of Next Higher Floor
- H2 – M&E elevated?

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). **Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.**

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) For Building Diagrams 1A, 1B, 3, and 5–8. Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is: feet meters above the LAG

b) For Building Diagrams 2A, 2B, 4, and 6–9. Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: feet meters above the LAG

H2. Is all Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?
 Yes No



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 specified on the EC
- Interpreted by the community floodplain administrator
- 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



Section H: Three Simple Rules

1. Never measure a floor below ground level for section H.
2. H1a is always at or above grade
3. For buildings with basements and below-grade crawlspaces, next higher floor is H1b (leave H1a blank).



***Legend: Underlined text and blue colors underscore key points or helpful reminders*

Measuring the First Floor Height

- Measurement relative to the lowest adjacent grade touching the structure
- Not a surveyed elevation
- Only requires a tape measure or yardstick, not specialized survey equipment
- *“How high off the ground is the first floor?”*



Photo: M. Gilbert



H1 – Height of Floors above the Lowest Adjacent Grade

- H1.a – Top of Bottom Floor above the LAG
 - ❑ Non-elevated buildings (1A, 1B, 3)
 - ❑ ~~Basement foundations (2A, 2B, 4)~~
 - ❑ Elevated on Posts/Piles/Piers, with or without enclosure (5, 6)
 - ❑ Elevated on solid foundation walls (7)
 - ❑ Elevated on crawlspace (8)
 - ❑ ~~Subgrade crawlspace (9)~~
- Include above-grade floors only

**SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES
(SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)**

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). *Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.*

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) For Building Diagrams 1A, 1B, 3, and 5–8. Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is: feet meters above the LAG

b) For Building Diagrams 2A, 2B, 4, and 6–9. Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: feet meters above the LAG

H2. Is all Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?
 Yes No



H1 – Height of Floors above the Lowest Adjacent Grade

- **H1.b** – Top of Next Higher Floor
 - ❑ ~~Non-elevated buildings (1A, 1B, 3)~~
 - ❑ Basement foundations (2A, 2B, 4)
 - ❑ Elevated on Posts/Piles/Piers, with or without enclosures (5, 6)
 - ❑ Elevated on solid foundation walls (7)
 - ❑ Crawlspace foundations (8)
 - ❑ Subgrade crawlspace (9)
- Next Higher Floor = the floor above the basement, crawlspaces or enclosure floors.
 - ❑ N/A for any slab-on-grade foundation types

**SECTION H – BUILDING'S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES
(SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)**

The property owner, owner's authorized representative, or local floodplain management official may complete Section H for all flood zones to determine the building's first floor height for insurance purposes. Sections A, B, and I must also be completed. Enter heights to the nearest tenth of a foot (nearest tenth of a meter in Puerto Rico). *Reference the Foundation Type Diagrams (at the end of Section H Instructions) and the appropriate Building Diagrams (at the end of Section I Instructions) to complete this section.*

H1. Provide the height of the top of the floor (as indicated in Foundation Type Diagrams) above the Lowest Adjacent Grade (LAG):

a) For Building Diagrams 1A, 1B, 3, and 5-8. Top of bottom floor (include above-grade floors only for buildings with subgrade crawlspaces or enclosure floors) is: feet meters above the LAG

b) For Building Diagrams 2A, 2B, 4, and 6-9. Top of next higher floor (i.e., the floor above basement, crawlspace, or enclosure floor) is: feet meters above the LAG

H2. Is all Machinery and Equipment servicing the building (as listed in Item H2 instructions) elevated to or above the floor indicated by the H2 arrow (shown in the Foundation Type Diagrams at end of Section H instructions) for the appropriate Building Diagram?
 Yes No



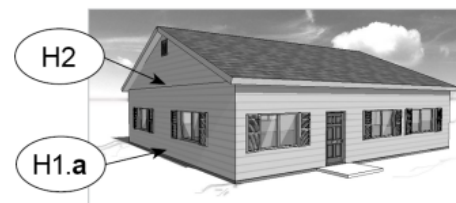
H2 – Elevation of Machinery & Equipment (M&E)

- Impacts eligibility for Mitigation Discount on Flood Insurance
- Indicate “Yes” in H2 if all of the M&E listed in the EC Instructions (inside or outside) is elevated to at least the height of the location shown by the H2 arrow in the Foundation Type Diagram
 - Floor for H2 varies by Foundation Type

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



Slab on Grade (Non-Elevated)



Corresponds to EC Diagrams 1A, 1B and 3

Note: If the building has more than one floor, the Machinery and Equipment should be on the second floor or higher.

Elevated without Enclosure on Posts, Piles, or Piers



Corresponds to EC Diagram 5

H2 – Elevation of Machinery & Equipment (M&E)

- Inside or outside the building...
 - For Building Coverage: central air conditioner (including exterior compressor), furnace, heat pump (including exterior compressor), water heater, and elevator M&E
 - For Contents Coverage: clothes washers and dryers and food freezers.




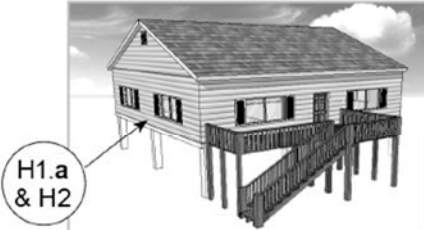




Images source: FEMA P-348 (2017)



Image: FEMA OFIA video
<https://youtu.be/4uUI4TiFmms>



Foundation Type Diagrams (for use in Section H):

<p>Slab on Grade (Non-Elevated)</p>  <p>Corresponds to EC Diagrams 1A, 1B and 3</p> <p>Note: If the building has more than one floor, the Machinery and Equipment should be on the second floor or higher.</p>	<p>Elevated without Enclosure on Posts, Piles, or Piers</p>  <p>Corresponds to EC Diagram 5</p>
<p>Basement (Non-Elevated)</p>  <p>Corresponds to EC Diagrams 2A, 2B and 4</p>	<p>Elevated with Enclosure on Posts, Piles, or Piers</p>  <p>Corresponds to EC Diagram 6</p>
<p>Crawlspace (Elevated, including Non-Elevated Sub-Grade Crawlspace)</p>  <p>Corresponds to EC Diagrams 8 and 9</p>	<p>Elevated with Enclosure Not on Posts, Piles, or Piers (Solid Foundation Walls)</p>  <p>Corresponds to EC Diagram 7</p>

H2 – Yes or No?

Building Diagram 5



Building Diagram 8



Section H and Foundation Types

Foundation: Slab on Grade (non-elevated floors)

- Corresponds to: Diagrams 1A, 1B, and 3

- H1a = First floor at or above grade
- H1b = N/A (*even if multi-story*)
- Note for H2: A “yes” indicates that all Machinery & Equipment (M&E) are on the second floor or higher.

Slab on Grade (Non-Elevated)



Corresponds to EC Diagrams 1A, 1B and 3

Note: If the building has more than one floor, the Machinery and Equipment should be on the second floor or higher.

Ex: A two-story at-grade building needs all machinery on the upper floor for the M & E discount (or the attic for a one-story building).



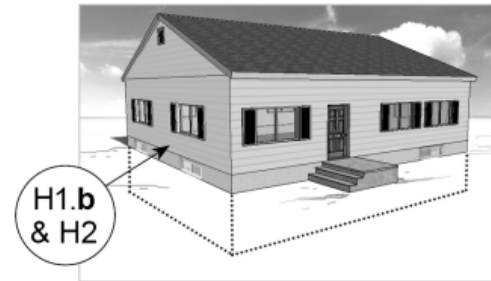
Section H and Foundation Types

Foundation: Basement

- Corresponds to: Diagrams 2A, 2B, and 4

- H1a = N/A
- H1b = next higher floor (first above-grade floor)
- Note for H2: A “yes” indicates that all Machinery & Equipment (M&E) are at least as high as the above-grade floor.

Basement (Non-Elevated)



Corresponds to EC Diagrams 2A, 2B and 4



Section H and Foundation Types

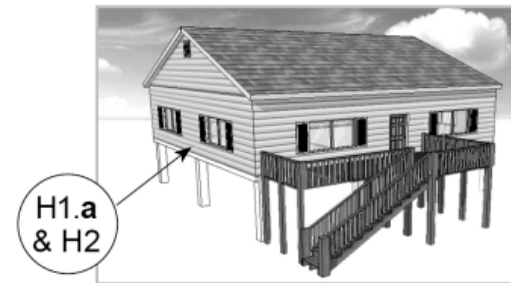
Foundation: Piers/posts/piles

Elevated without enclosure

- Corresponds to: Diagram 5

- H1a = Lowest elevated floor
- H1b = N/A (*even if multi-story*)
- Note for H2: A “yes” indicates that all M&E are at least as high as the elevated floor.

Elevated without Enclosure on Posts, Piles, or Piers



Corresponds to EC
Diagram 5



Section H and Foundation Types

Foundation: Piers/posts/piles

Elevated with enclosure (at or above LAG)

- Corresponds to: Diagram 6

- H1a = enclosure floor
- H1b = next higher floor
- Note for H2: A “yes” indicates that all M&E are at least as high as the elevated floor.

Elevated with Enclosure on Posts, Piles, or Piers

Corresponds to EC
Diagram 6



Section H and Foundation Types

Foundation: Enclosed by full-story solid foundation walls

- Corresponds to: Diagram 7
- H1a = enclosure floor
- H1b = next higher floor
- Note for H2: A “yes” indicates that all Machinery & Equipment (M&E) are on the second floor or higher.

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



Section H and Foundation Types

Foundation: Crawlspace

- Corresponds to: Diagram 8 and Diagram 9
- Include above-grade floors only.
- Building Diagram 8
 - H1a is the **crawlspace floor**
 - H1b is the **next higher floor** (above the crawlspace)
- Building Diagram 9
 - H1a is N/A
 - H1b is the **next higher floor** (above the crawlspace)
- Note for H2: A “yes” indicates that all M&E are at least as high as the next higher floor.

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



Corresponds to EC Diagrams 8 and 9



Section H and Foundation Types – Diagrams 8 and 9

- **Diagram 8** – crawlspace is at/above LAG, so...
 - ◻ H1.a = enclosure floor (crawlspace)
 - ◻ H1.b = next higher floor (**above the crawlspace**)

- **Diagram 9** – crawlspace is below LAG
 - ◻ H1.a = N/A
 - ◻ H1.b = next higher floor (**above the crawlspace**)

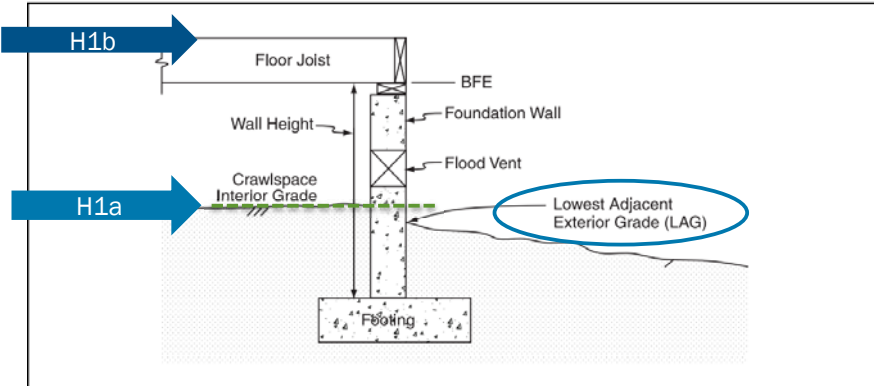


Figure 1 Preferred crawlspace construction. FEMA TB-11

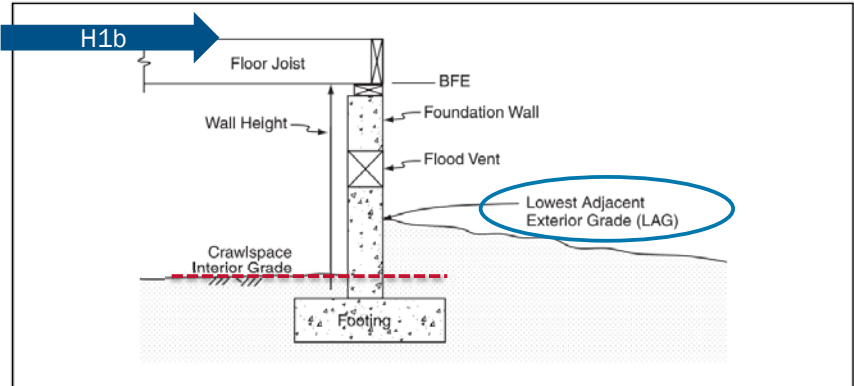


Figure 2 Below-grade crawlspace construction. FEMA TB-11



Section I

Property Owner (or Owner's Authorized Representative) Certification

Section I – Owner or Representative Certification

- New Section in the new EC Form
- Owner or Authorized Representative certifies the measurements in section H.
 - If local floodplain management official completes Section H, they should certify in **Section G** instead of Section I.
- Signature and Date
- Check if attachments are provided
- Comments Box

SECTION I – PROPERTY OWNER (OR OWNER’S AUTHORIZED REPRESENTATIVE) CERTIFICATION

The property owner or owner’s authorized representative who completes Sections A, B, and H must sign here. *The statements in Sections A, B, and H are correct to the best of my knowledge.* **Note:** If the local floodplain management official completed Section H, they should indicate in Item G2.b and sign Section G.

Check here if attachments are provided (including required photos) and describe each attachment in the Comments area.

Property Owner or Owner’s Authorized Representative Name:

Address:

City: State: ZIP Code:

Signature: Date:

Telephone: Ext.: Email:

Comments:



Instructions for these two new EC sections:

SECTION H – BUILDING’S FIRST FLOOR HEIGHT INFORMATION FOR ALL ZONES (SURVEY NOT REQUIRED) (FOR INSURANCE PURPOSES ONLY)

In any flood zone the property owner, owner’s authorized representative, or local floodplain management official may complete this certificate for rating purposes to determine the building’s first floor height and identify the elevation of Machinery and Equipment (M&E) servicing the building. Sections A, B, and I must also be completed.

Note: If Sections C and/or E and H are all completed, then information in Section C will prevail for insurance purposes and for compliance.

Item H1.a. For Building Diagrams 1A, 1B, 3, and 5–8 shown on pages 17–19, enter in Item H1.a the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico) of the top of the bottom floor (as indicated in the selected Building Diagram, Item A7) above the LAG. Refer to the arrows on the Foundation Type Diagrams on page 16 that indicate which floor to use to determine the height for Item H1.a.

Item H1.b. For Building Diagrams 2A, 2B, 4, and 6–9 shown on pages 17–19, enter in Item H1.b the height to the nearest tenth of a foot (tenth of a meter in Puerto Rico) of the top of the next higher floor or elevated floor (as indicated in the selected Building Diagram, Item A7) above the LAG. Refer to the arrows on the Foundation Type Diagrams on page 16 that indicate which floor to use to determine the height for Item H1.b.

Note: The LAG is the lowest point of the ground level immediately next to a building.

Item H2. Indicate “Yes” if **all** of the following M&E servicing the building, inside or outside the building, are elevated to at least the height of the location shown by the H2 arrow in the Foundation Type Diagrams on page 16: central air conditioner (including exterior compressor), furnace, heat pump (including exterior compressor), water heater, and elevator M&E. For contents-only insurance coverage, **all** of the following appliances will need to be elevated to at least the height of the location shown by the H2 arrow in the Foundation Type Diagrams below: clothes washers and dryers and food freezers.

Note: For both building and contents coverage, **all** of the M&E and appliances listed above must be elevated per the Foundation Type Diagrams on page 16 to be considered for the M&E mitigation discount.

Indicate “No” if any of the M&E listed above is not elevated to at least the height of the location shown by the H2 arrow in the Foundation Type Diagrams on page 16.

The diagrams on the following page illustrate the six NFIP Foundation Type Diagrams. Each foundation type corresponds with one or more of the eleven Building Diagrams shown at the end of this Elevation Certificate. The arrows on the diagrams indicate which floor to use to determine H1.a and H1.b The arrows marked as H2 show the minimum elevation required to be eligible for the M&E mitigation discount.

SECTION I – PROPERTY OWNER (OR OWNER’S AUTHORIZED REPRESENTATIVE) CERTIFICATION

Complete as indicated. This section is provided for certification of measurements when completing Sections A, B, and H. If Section H is completed by a local floodplain management official, then complete Item G2.b and Section G instead of Section I. The address entered in this section must be the actual mailing address of the individual who provided the information on the certificate.

Check the box as indicated if including attachments (e.g., required photos) and describe in the Comments area.



Which section(s) to complete?

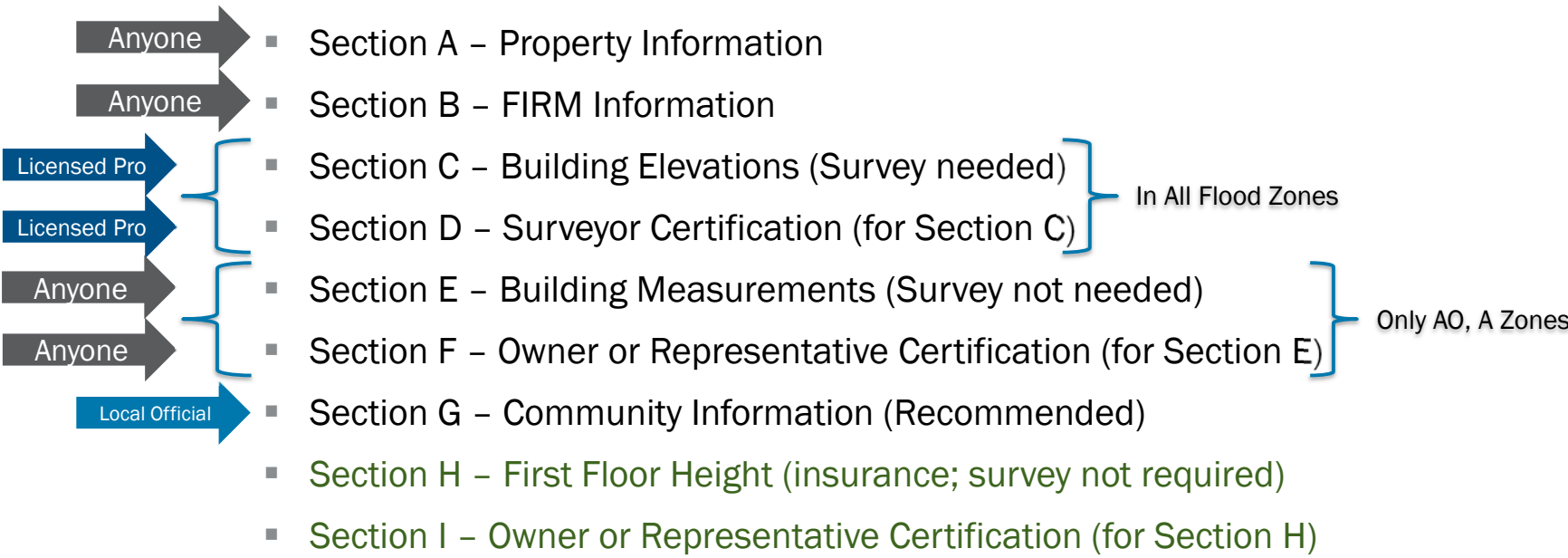
Sections of the Elevation Certificate – Who can complete?

- 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)
- Anyone → ▪ Section E – Building Measurements (Survey not needed)
- Anyone → ▪ Section F – Owner or Representative Certification (for Section E)
- Local Official → ▪ Section G – Community Information (Recommended)
- Anyone → ▪ Section H – First Floor Height (insurance; survey not required)
- Anyone → ▪ Section I – Owner or Representative Certification (for Section H)



Federal Emergency Management Agency

For Compliance with Floodplain Management Regulations...



Federal Emergency Management Agency

For Flood Insurance Reasons Only...

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 C supersedes Section H for insurance if both are filled out

▪ Section E – Building Measurements (Survey not needed)

▪ Section F – Owner or Representative Certification (for Section E)

F Local Official →

▪ Section G – Community Information (Recommended)

P Anyone →

▪ Section H – First Floor Height (insurance; survey not required)

A Anyone →



▪ Section I – Owner or Representative Certification (for Section H)



FEMA

Federal Emergency Management Agency

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.



FEMA

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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	AE/VE, A1-30/V1-30, A with BFE	✓	✓	O	O	Use H or C instead ↔		R	✓	✓
	AO & 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)	AE/VE, A1-30/V1-30, A with BFE	✓	✓	✓	✓	✗	✗	R	✗	✗
	AO & A without BFE	✓	✓	✓	✓	✗	✗	R	✗	✗
	Outside SFHA	-	-	-	-	-	-	-	-	-
Floodplain Management	AE/VE, A1-30/V1-30, A with BFE	✓	✓	✓	✓	✗	✗	R*	✗	✗
	AO & A without BFE	✓	✓	O	O	✓	✓	R*	✗	✗
	Outside SFHA (if regulated)	✓	✓	O	O	✓	✓	R	✗	✗



QUESTIONS?

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