Welcome to the

City of Milford's Elevation Certificate Workshop

Dec 8 2016

MILFORD
CONNECTICUT

NOTE:

- Although this presentation is based upon FEMA Documents, it is not “FEMA Approved”. You are reminded to visit FEMA.gov to make a final determination related to elements of the Elevation Certificate (“EC”).
- Look for the most recent Elevation Certificate form on www.fema.gov
- Official flood maps can be found at FEMA’s Map Service Center http://msc.fema.gov/portal .
- Certain private websites will be referenced for informational purposes only. They are cited as locations of resources which may be helpful in the completion of Elevation Certificates. Additional resources may be available. The City of Milford does not endorse any non-governmental entity.

FEMA Elevation Certificate

Download a current form & instructions from FEMA.gov

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

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

ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1–9.

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 (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)	

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____

A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number _____

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

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

b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade _____

c) Total net area of flood openings in A8.b _____ sq in

d) Engineered flood openings? ☐ Yes ☐ No

A9. For a building with an attached garage:

a) Square footage of attached garage _____ sq ft

b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____

c) Total net area of flood openings in A9.b _____ sq in

d) Engineered flood openings? ☐ Yes ☐ No

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number	B2. County Name	B3. State

B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other/Source: _____

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

FEMA Form 086-0-33 (7/15) Replaces all previous editions. Form Page 1 of 6

Pending Zoning Requirement

A zoning regulation change is pending that would require elevation certificates ***"….be submitted to the City for acceptance on the standard FEMA Elevation Certificate form …"***

City of Milford, Connecticut

Founded 1639
70 West River Street ◆ Milford, Connecticut ◆ 06460-3317
www.ci.milford.ct.us

Department of Permitting and Land Use

David B. Sulkis, City Planner

TO:

- ☐ South Central Regional Council of Governments
- ☐ Greater Bridgeport Regional Planning Council
- ☐ City Attorney, City of Milford
- ☐ State of CT DEEP
- ☐ City of West Haven, City Clerk
- ☐ Town of Stratford, City Clerk
- ☐ Town of Orange, City Clerk

FROM: David B. Sulkis, City Planner /DBS

DATE: November 1, 2016

RE: Proposed Changes to the City of Milford Zoning Regulations; Sec. 5.8.13.1 Residential Construction

The Planning and Zoning Board has approved the recommendation of its Regulation Subcommittee to present the proposed regulation change to the required agencies for their review. The following recommended change is submitted for your review. Please provide this office with your comments or approval.

EXISTING TEXT:

Section 5.8.13.1 Residential Construction: New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation. Such plans shall be certified by a licensed professional engineer or land surveyor that the provisions of this subsection are satisfied.

PROPOSED TEXT:

Section 5.8.13.1 Residential Construction: New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation. Such plans shall be certified by a licensed professional engineer or land surveyor that the provisions of this subsection are satisfied. ***Documentation of satisfaction of these requirements shall be submitted to the City for acceptance on the standard FEMA Elevation Certificate form (current edition of Form 086-0-330) or otherwise accepted by the City. For construction involving foundations in flood hazard areas, upon placement of the***

Milford Department of Permitting and Land Use
Building: 203-783-3234 Fax (Building): 203-783-3690
Planning and Zoning: 203-783-3245 Fax (Planning and Zoning/Wetlands): 203-783-3303
Wetlands: 203-783-3256 Director: 203-783-3374

-2-

Proposed Regulation change: Sec. 5.8.13.1
November 1, 2016

lowest floor including basement and prior to further vertical construction, such documentation shall be submitted for approval by the City Building Official. Updated documentation in the form prescribed above, and marked finished construction shall be submitted to the City Building Official prior to final inspection. (New)

REASON FOR CHANGE:

1.) Require the submission of building code and zoning regulation elevation documentation currently required to be submitted by a licensed design professional to be on the FEMA Elevation Certificate Form in order for the City to maintain good standing in the Community Rating System (CRS), and

2.) Align the sequence and schedule of the elevation certificate documentation with the newly enacted requirements of the 2016 State Building Code IRC 109.1.3 and 109.3 for construction in the flood hazard area.

A petition for substantially the same change in regulations has previously been filed:

Yes _____ No __X____ if Yes, date of hearing:

This regulation change is proposed by: Petitioner: _____ or ☒ Planning and Zoning Board Subcommittee

C: Anthony D Sutton, Chairman, P & Z
John L. Grant, P & Z
J. Griffith, DPLU

Milford Department of Permitting and Land Use
Building: 203-783-3234 Fax (Building): 203-783-3690
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Wetlands: 203-783-3256 Director: 203-783-3374

Serves Many Functions

- Required for post-FIRM (1978) construction in the flood plain
- Determines flood plain compliance
- Support for Letters of Map Amendment (LOMA) and Letters of Map Revision-Based on Fill (LOMR-F)

Community Rating Service (CRS)

- CRS is a voluntary program that gives discounts on flood insurance policies, based on the actions of the local government
- Milford residents currently receive a 5% discount and the city is looking to increase that discount
- **Elevation Certificates must be correctly filled out for CRS compliance**

There is a CRS Info page on Milford's website:
http://www.ci.milford.ct.us/home/pages/community-rating-system

Helpful Tips

- When an EC is incomplete or incorrect it becomes necessary for City Staff to prepare a "Memo of Review For Correctness and Completion". **This may cause a delay for you & your client.** Carefully review your EC's for correctness and completion prior to submission.
- It is requested that you provide a copy of an applicable FIRMette* with the EC to assist in verifying the information contained in section B.
- Definitions for terms used by the NFIP can be found at https://www.fema.gov/national-flood-insurance-program/definitions

*FIRMettes are created online through FEMA's Map Service Center

Helpful Tips cont'd

- No blank answers, use NA instead
- Learn the jargon, i.e. what constitutes an attached garage?
- When completing the EC, please provide all responses IN CAPITAL LETTERS.
- Never assume an elevation certificate is correct because it has a surveyor's seal on it

What's Required?

In the following pages, **everything highlighted in yellow is required by FEMA**. If these sections are not filled out correctly your elevation certificate may be rejected.

For reference, a highlighted elevation certificate checklist is available on the city's website

SECTION A – PROPERTY INFORMATION		FOR INSURANCE COMPANY USE
A1. Building Owner's Name CRS EC Checklist		Policy Number:
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. Either A2 or A3 must be completed with City, State, and Zip		Company NAIC Number:
City	State	ZIP Code
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) Either A2 or A3 must be completed with City, State, and Zip		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) _____		

Items A1–A4. This section identifies the building, its location, and its owner. Enter the name(s) of the building owner(s), the building's complete street address, and the lot and block numbers. If the building's address is different from the owner's address, enter the address of the building being certified. If the address is a rural route or a Post Office box number, enter the lot and block numbers, the tax parcel number, the legal description, or an abbreviated location description based on distance and direction from a fixed point of reference. For the purposes of this certificate, "building" means both a building and a manufactured (mobile) home.

A map may be attached to this certificate to show the location of the building on the property. A tax map, FIRM, or detailed community map is appropriate. If no map is available, provide a sketch of the property location, and the location of the building on the property. Include appropriate landmarks such as nearby roads, intersections, and bodies of water. For building use, indicate whether the building is residential, non-residential, an addition to an existing residential or non-residential building, an accessory building (e.g., garage), or other type of structure. Use the Comments area of the appropriate section if needed, or attach additional comments.

Everything here can be found using Milford's Interactive GIS -updated nightly-
http://milford.mapxress.net
Summary Cards and Quick Maps are included on every search result

A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: ☐ NAD 1927 ☐ NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

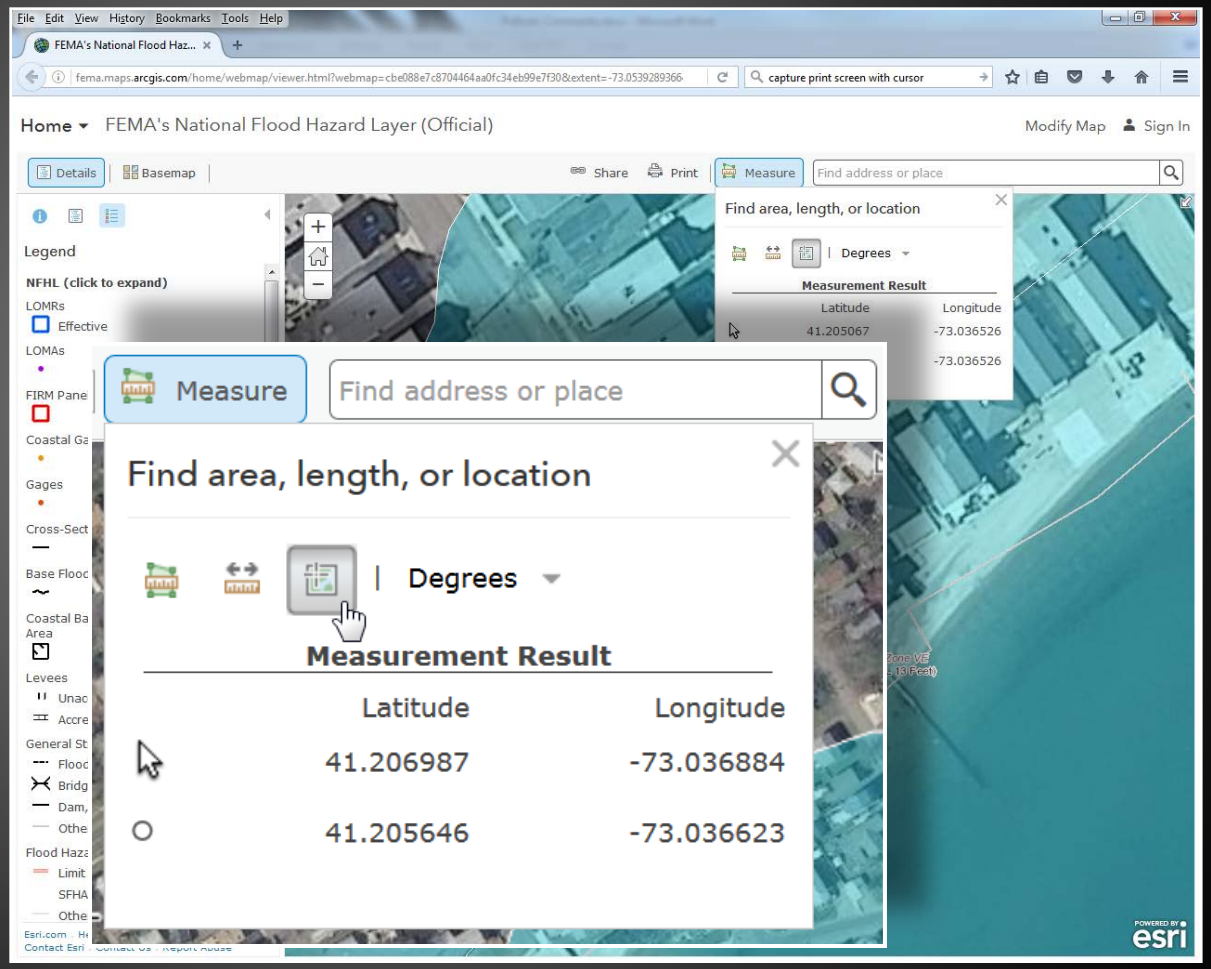
Item A5. Provide latitude and longitude coordinates for the center of the front of the building. Use either decimal degrees (e.g., 39.5043°, −110.7585°) or degrees, minutes, seconds (e.g., 39° 30' 15.5", −110° 45' 30.7") format. If decimal degrees are used, provide coordinates to at least 5 decimal places or better. When using degrees, minutes, seconds, provide seconds to at least 1 decimal place or better. The latitude and longitude coordinates must be accurate within 66 feet. When the latitude and longitude are provided by a surveyor, check the "Yes" box in Section D and indicate the method used to determine the latitude and longitude in the Comments area of Section D. If the Elevation Certificate is being certified by other than a licensed surveyor, engineer, or architect, this information is not required. Provide the type of datum used to obtain the latitude and longitude. FEMA prefers the use of NAD 1983.

Item A6. If the Elevation Certificate is being used to obtain flood insurance through the NFIP, the certifier must provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" × 3". Digital photographs are acceptable.

FEMA Map Center

Getting the latitude and longitude for an elevation certificate is easy to do with the Interactive Map available on FEMA's Map Service Center.

1. Locate the address
2. Click measure
3. Chose location
4. Click on the house



A7. Building Diagram Number

Must be full Diagram Number (e.g., "1A" or "1B", not just "1")

Item A7. Select the diagram on pages 7–9 that best represents the building.

Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C2.a–h.

If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified.

DIAGRAM 1A

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

Distinguishing Feature - The bottom floor is at or above ground level (grade) on at least 1 side.*

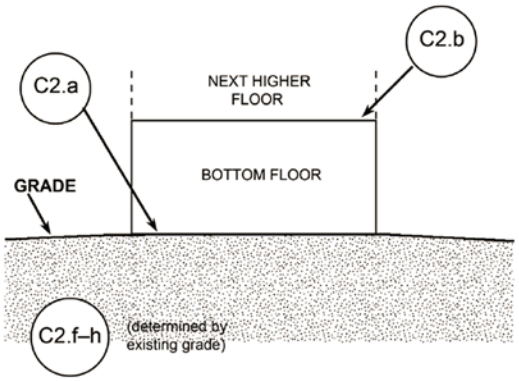


DIAGRAM 1B

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

Distinguishing Feature - The bottom floor is at or above ground level (grade) on at least 1 side.*

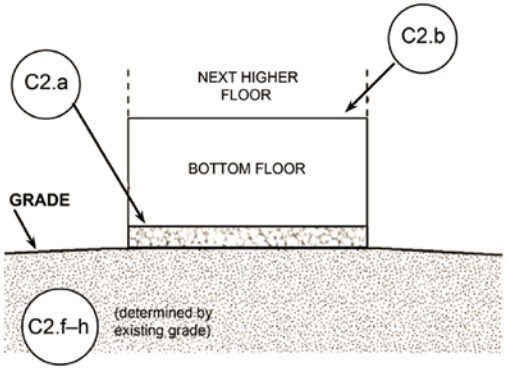


DIAGRAM 2A

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

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

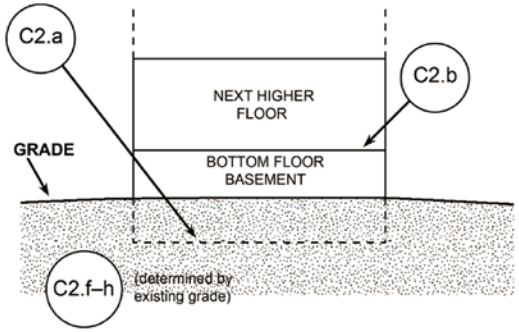
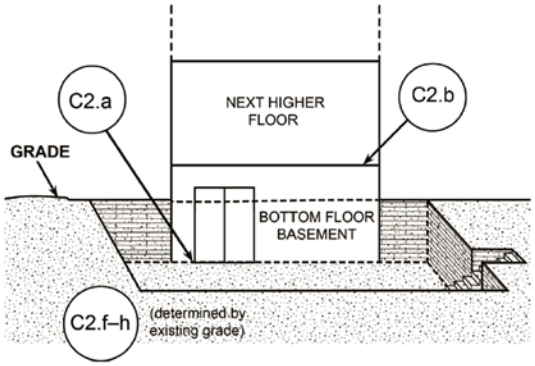


DIAGRAM 2B

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

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



A7. Building Diagram Number

Must be full Diagram Number (e.g., "1A" or "1B", not just "1")

Item A7. Select the diagram on pages 7–9 that best represents the building.

Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C2.a–h.

If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified.

DIAGRAM 3

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

Distinguishing Feature - the bottom floor (excluding garage) is at or above ground level (grade) on at least 1 side. *

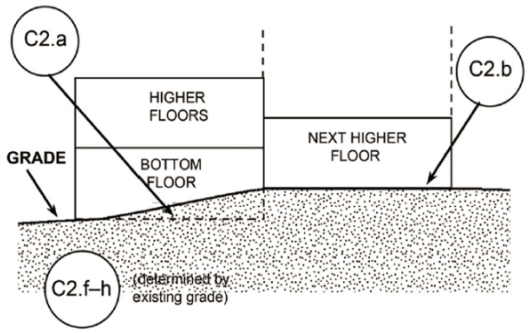


DIAGRAM 4

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

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

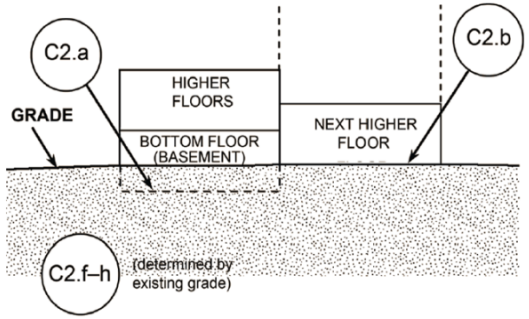


DIAGRAM 5

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

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

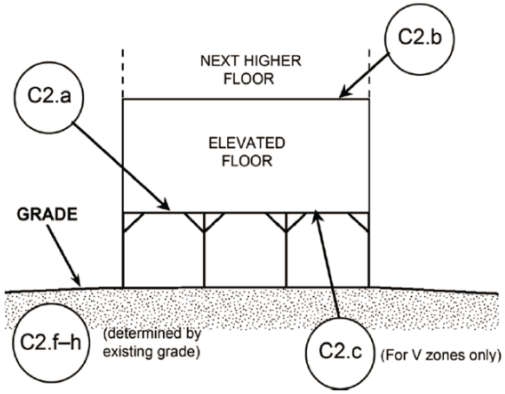
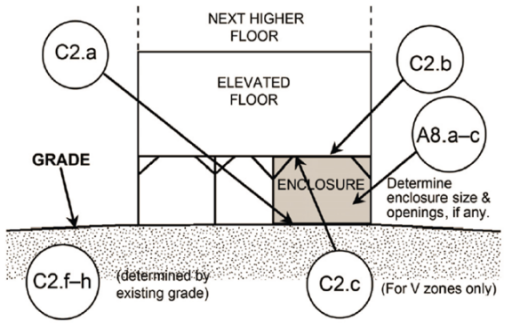


DIAGRAM 6

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

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



A7. Building Diagram Number Must be full Diagram Number (e.g., "1A" or "1B", not just "1")

Item A7. Select the diagram on pages 7–9 that best represents the building.

Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C2.a–h.

If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified.

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 1 side is at or above grade. The principal use of this building is located in the elevated floors of the building.

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

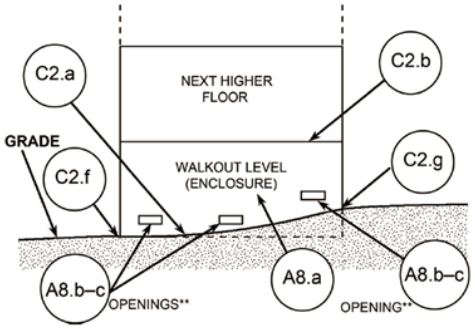


DIAGRAM 8

All buildings elevated on a crawlspace with the floor of the crawlspace at or above grade on at least 1 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.

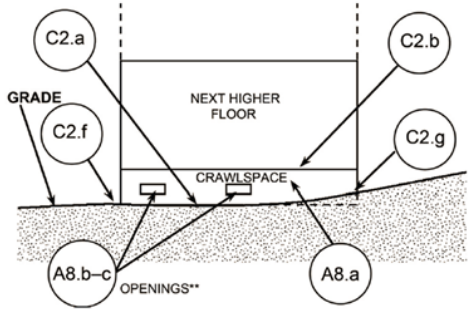
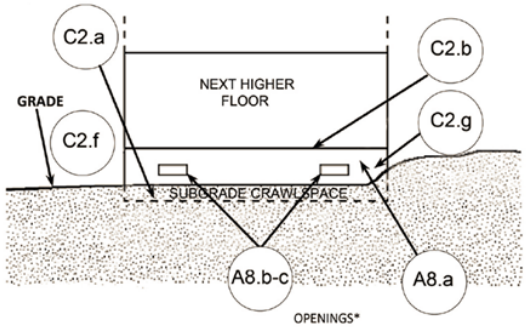


DIAGRAM 9

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

Distinguishing Feature - The bottom (crawlspace) floor is below ground level (grade) on all sides. * (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, or the crawlspace floor is more than 2 feet below the grade (LAG) on all sides, use Diagram 2A or 2B.)

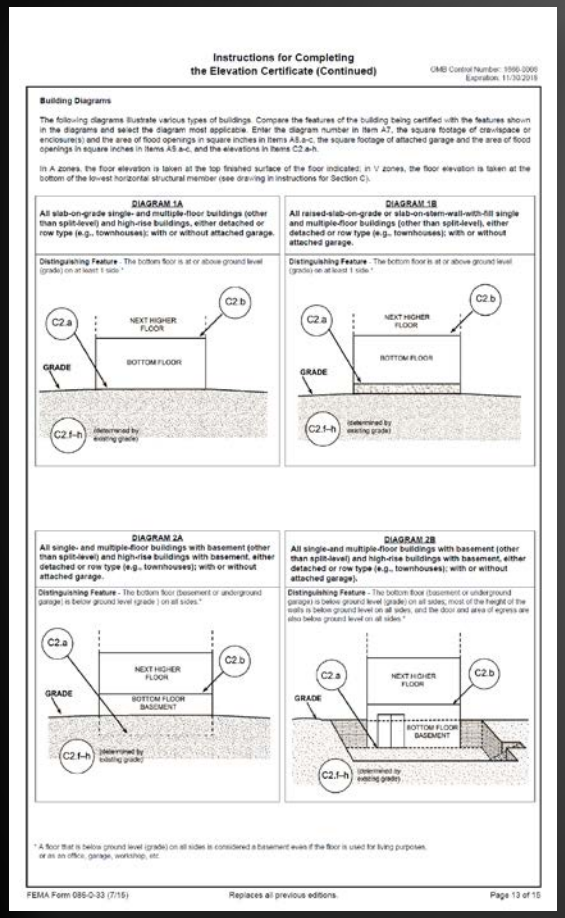


FEMA has a publication to assist in the determination of the correct Building Diagram: http://floodinsurancetraining.com/resources/NFIP_EC_Mobile_Diagrams.pdf

A7. Building Diagram Number _____ Must be full Diagram Number (e.g., "1A" or "1B", not just "1")

Item A7. Select the diagram on pages 7–9 that best represents the building. Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C2.a–h. If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified.

Diagram Number Assignment


Instructions for Completing the Elevation Certificate (Continued)

OMB Control Number: 1660-0008 Expiration: 11/30/2018

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 enclosures; and the area of flood openings in square inches in Items A8.a-c, the square footage of attached garage and the area of flood openings in square inches in Items A8.a-c, and the elevations in Items C2.a-h.

In A zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, the floor elevation is taken at the bottom of the lowest horizontal structural member (see drawing in instructions for Section C).

DIAGRAM 1A
All slab-on-grade single- and multiple-floor buildings (other than split-level) and high-rise buildings, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature - The bottom floor is at or above ground level (grade) on at least 1 side *

DIAGRAM 1B
All raised-slab-on-grade or slab-on-stem-wall-with-fill single and multiple-floor buildings (other than split-level), either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature - The bottom floor is at or above ground level (grade) on at least 1 side *

DIAGRAM 2A
All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.

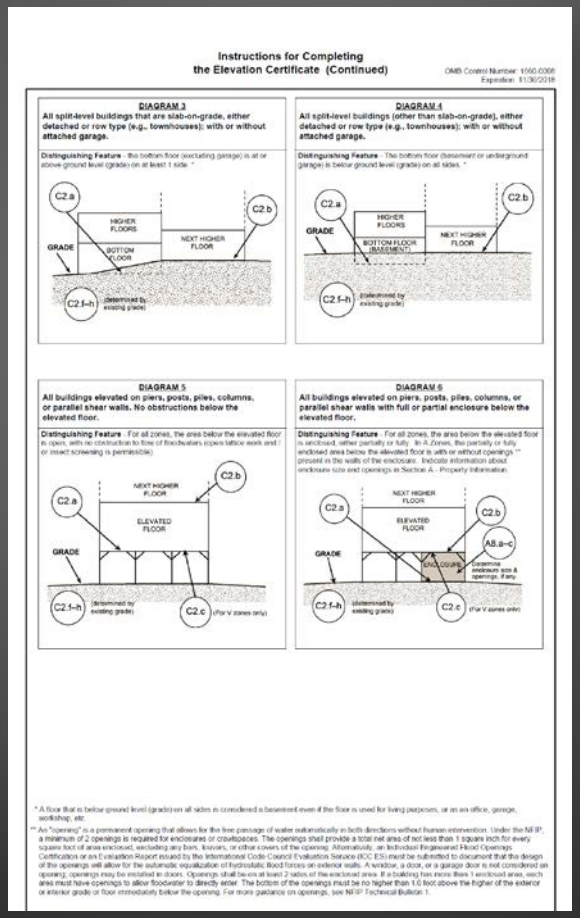
Distinguishing Feature - The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*

DIAGRAM 2B
All single-and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage).

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

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

FEMA Form 086-0-33 (7/15) Replaces all previous editions. Page 13 of 15


Instructions for Completing the Elevation Certificate (Continued)

OMB Control Number: 1660-0008 Expiration: 11/30/2018

DIAGRAM 3
All split-level buildings that are slab-on-grade, either detached or row type (e.g., townhouses); with or without attached garage.

Distinguishing Feature - the bottom floor (excluding garage) is at or above ground level (grade) on at least 1 side. *

DIAGRAM 4
All split-level buildings (other than slab-on-grade), either detached or row type (e.g., townhouses); with or without attached garage.

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

DIAGRAM 5
All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

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

DIAGRAM 6
All buildings elevated on piers, posts, piles, columns, or parallel shear walls with full or partial enclosure below the elevated floor.

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

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

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 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.

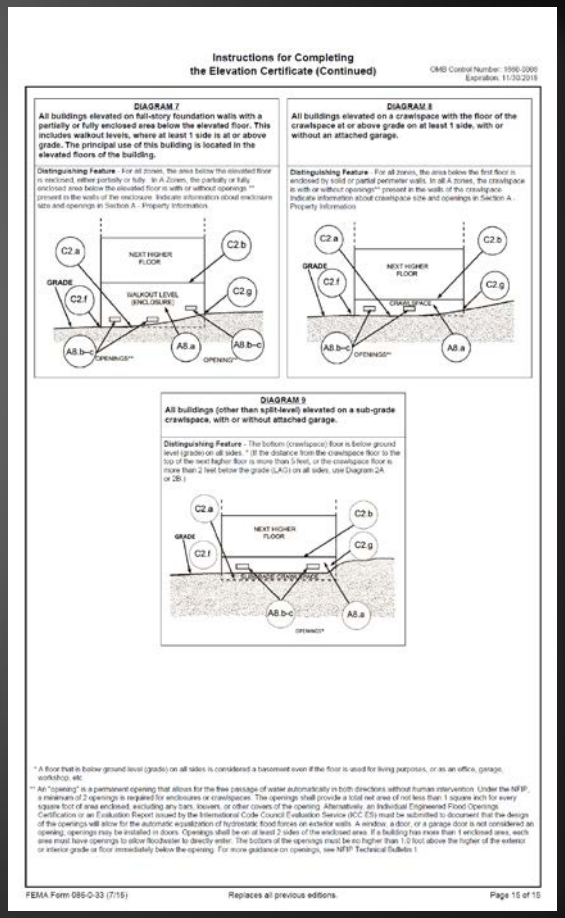

Instructions for Completing the Elevation Certificate (Continued)

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DIAGRAM 7
All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least 1 side is at or above grade. The principal use of this building is located in the elevated floors of the building.

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

DIAGRAM 8
All buildings elevated on a crawlspace with the floor of the crawlspace at or above grade on at least 1 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.

DIAGRAM 9
All buildings (other than split-level) elevated on a sub-grade crawlspace, with or without attached garage.

Distinguishing Feature - The bottom (crawlspace) floor is below ground level (grade) on all sides. * (If the distance from the crawlspace floor to the top of the next higher floor is more than 5 feet, or the crawlspace floor is more than 2 feet below the grade (LAG) on all sides, use Diagram 2A or 2B.)

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

** An "opening" is a permanent opening that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of 2 openings is required for enclosures or crawlspaces. The openings shall provide a total net area of not less than 1 square inch for every square foot of area enclosed, excluding any bars, louvers, or other covers of the opening. Alternatively, an Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES) must be submitted to document that the design of the openings will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening; openings may be installed in doors. Openings shall be on at least 2 sides of the enclosed area. If a building has more than 1 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.

FEMA Form 086-0-33 (7/15) Replaces all previous editions. Page 15 of 15

The following 11 slides are taken from a FEMA PowerPoint titled:

"Elevation Certificate Checklist June 2016"

Which diagram should be referenced on the elevation certificate for each home?

FEMA Elevation Certificate

What diagram? 1A

FEMA Elevation Certificate

What diagram? 5

FEMA Elevation Certificate

What diagram? 8

FEMA Elevation Certificate

What diagram? 6

FEMA Elevation Certificate

What diagram? 1A

FEMA Elevation Certificate

FEMA Elevation Certificate

What diagram? 1B

FEMA Elevation Certificate

What diagram? 5

FEMA Elevation Certificate

What diagram? 2B

FEMA Elevation Certificate

What diagram? 3

FEMA Elevation Certificate

What diagram?

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

If there is no crawlspace, or enclosure, or garage enter "0"

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

b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade _____

c) Total net area of flood openings in A8.b _____ sq in

d) Engineered flood openings? ☐ Yes ☐ No

If there are engineered flood openings, attach the certification from the engineer or the ICC Evaluation Service

Item A8.a. Provide the square footage of the crawlspace or enclosure(s) below the lowest elevated floor of an elevated building with or without permanent flood openings. Take the measurement from the outside of the crawlspace or enclosure(s). Examples of elevated buildings constructed with crawlspace and enclosure(s) are shown in Diagrams 6–9 on pages 8–9. Diagrams 2A, 2B, 4, and 9 should be used for a building constructed with a crawlspace floor that is below the exterior grade on all sides.

Items A8.b–d. Enter in Item A8.b the number of permanent flood openings in the crawlspace or enclosure(s) that are no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. (A permanent flood opening is a flood vent or other opening that allows the free passage of water automatically in both directions without human intervention.) If the interior grade elevation is used, note this in the Comments area of Section D. Estimate the total net area of all such permanent flood openings in square inches, excluding any bars, louvers, or other covers of the permanent flood openings, and enter the total in Item A8.c. If the net area cannot be reasonably estimated, provide the size of the flood openings without consideration of any covers and indicate in the Comments area the type of cover that exists in the flood openings. Indicate in Item A8.d whether the flood openings are engineered. If applicable, attach a copy of the Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES), if you have it. If the crawlspace or enclosure(s) have no permanent flood openings, or if the openings are not within 1.0 foot above adjacent grade, enter "0" (zero) in Items A8.b–c.

A guide to Non-Engineered Openings can be downloaded at www.floodvent.com

A9. For a building with an attached garage:

If there is no crawlspace, or enclosure, or garage enter "0"

a) Square footage of attached garage _____ sq ft

b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____

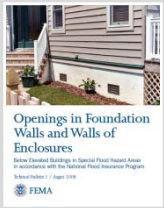
c) Total net area of flood openings in A9.b _____ sq in

d) Engineered flood openings? ☐ Yes ☐ No

If there are engineered flood openings, attact the certification from the engineer or the ICC Evaluation Service

Item A9.a. Provide the square footage of the attached garage with or without permanent flood openings. Take the measurement from the outside of the garage.

Items A9.b–d. Enter in Item A9.b the number of permanent flood openings in the attached garage that are no higher than 1.0 foot above the higher of the exterior or interior grade or floor immediately below the opening. (A permanent flood opening is a flood vent or other opening that allows the free passage of water automatically in both directions without human intervention.) If the interior grade elevation is used, note this in the Comments area of Section D. This includes any openings that are in the garage door that are no higher than 1.0 foot above the adjacent grade. Estimate the total net area of all such permanent flood openings in square inches and enter the total in Item A9.c. If the net area cannot be reasonably estimated, provide the size of the flood openings without consideration of any covers and indicate in the Comments area the type of cover that exists in the flood openings. Indicate in Item A9.d whether the flood openings are engineered. If applicable, attach a copy of the Individual Engineered Flood Openings Certification or an Evaluation Report issued by the International Code Council Evaluation Service (ICC ES), if you have it. If the garage has no permanent flood openings, or if the openings are not within 1.0 foot above adjacent grade, enter "0" (zero) in Items A9.b–c.



FEMA offers additional guidance in their **Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures (2008)** available for download at https://www.fema.gov/media-library/assets/documents/2644

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number			B2. County Name		B3. State
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth)

Item B1. NFIP Community Name & Community Number. Enter the complete name of the community in which the building is located and the associated 6-digit community number. For a newly incorporated community, use the name and 6-digit number of the new community. Under the NFIP, a "community" is any State or area or political subdivision thereof, or any Indian tribe or authorized native organization, that has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction. To determine the current community number, see the NFIP *Community Status Book*, available on FEMA's web site at https://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book, or call 1-800-358-9616.

Items B4–B5. Map/Panel Number and Suffix. Enter the 10-character "Map Number" or "Community Panel Number" shown on the FIRM where the building or manufactured (mobile) home is located. For maps in a county-wide format, the sixth character of the "Map Number" is the letter "C" followed by a 4-digit map number. For maps not in a county-wide format, enter the "Community Panel Number" shown on the FIRM.

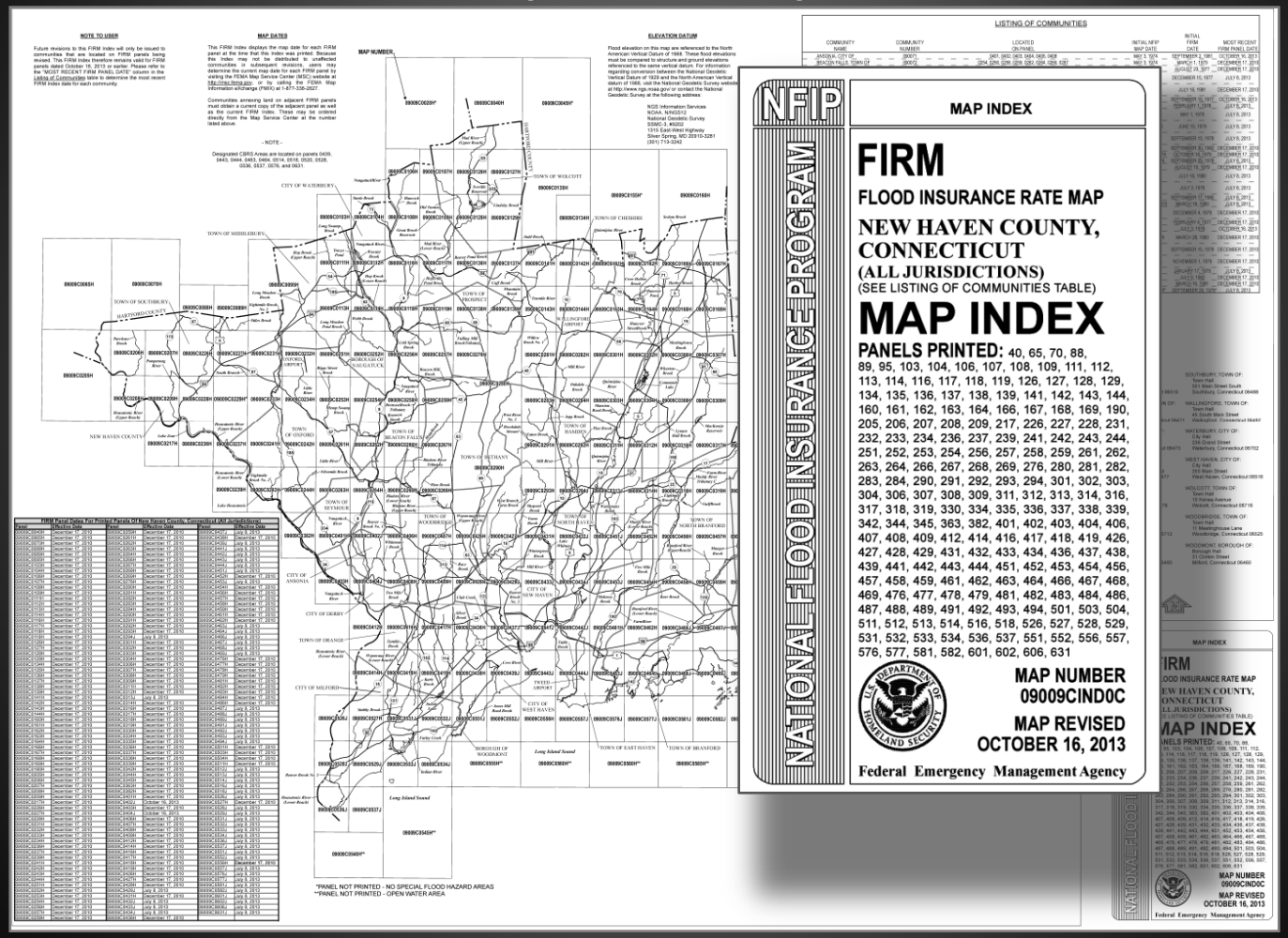
Item B7. FIRM Panel Effective/Revised Date. Enter the map effective date or the map revised date shown on the FIRM panel. This will be the latest of all dates shown on the map. The current FIRM panel effective date can be determined by calling 1-800-358-9616.

Item B8. Flood Zone(s). Enter the flood zone, or flood zones, in which the building is located. All flood zones containing the letter "A" or "V" are considered Special Flood Hazard Areas. The flood zones are A, AE, A1–A30, V, VE, V1–V30, AH, AO, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO. Each flood zone is defined in the legend of the FIRM panel on which it appears.

Item B9. Base Flood Elevation(s). Using the appropriate Flood Insurance Study (FIS) Profile, Floodway Data Table, or FIRM panel, locate the property and enter the BFE (or base flood depth) of the building site. If the building is located in more than 1 flood zone in Item B8, list all appropriate BFEs in Item B9. BFEs are shown on a FIRM or FIS Profile for Zones A1–A30, AE, AH, V1–V30, VE, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO; flood depth numbers are shown for Zone AO. Use the AR BFE if the building is located in any of Zones AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO. In A or V zones where BFEs are not provided on the FIRM, BFEs may be available from another source. For example, the community may have established BFEs or obtained BFE data from other sources for the building site. For subdivisions and other developments of more than 50 lots or 5 acres, establishment of BFEs is required by the community's floodplain management ordinance. If a BFE is obtained from another source, enter the BFE in Item B9. In an A Zone where BFEs are not available, complete Section E and enter N/A for Section B, Item B9. Enter the BFE to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico).

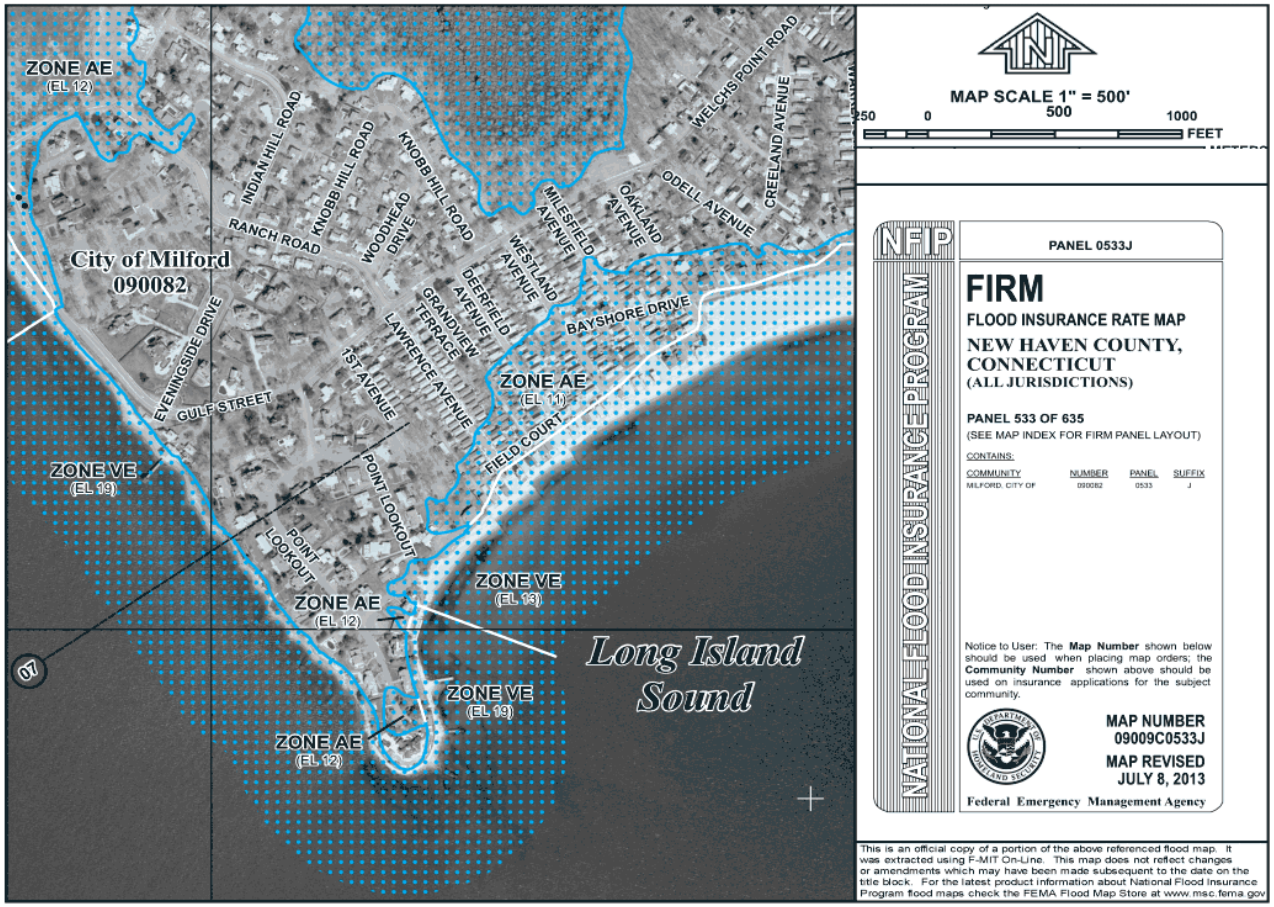
Section B - Flood Insurance Rate Map (FIRM) Information

Index for Flood Insurance Rate Maps (FIRMs)



Section B - Flood Insurance Rate Map (FIRM) Information

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
B1. NFIP Community Name & Community Number			B2. County Name		B3. State
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth)



Community Name: MILFORD, CITY OF
Community Number: 090082
County: New Haven
State: CT

Map/Panel Number: 09009C0533J
Suffix: J
FIRM P Panel Effective/Revised Date: July 8, 2013

Section B - Flood Insurance Rate Map (FIRM) Information

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:

☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other/Source: _____

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

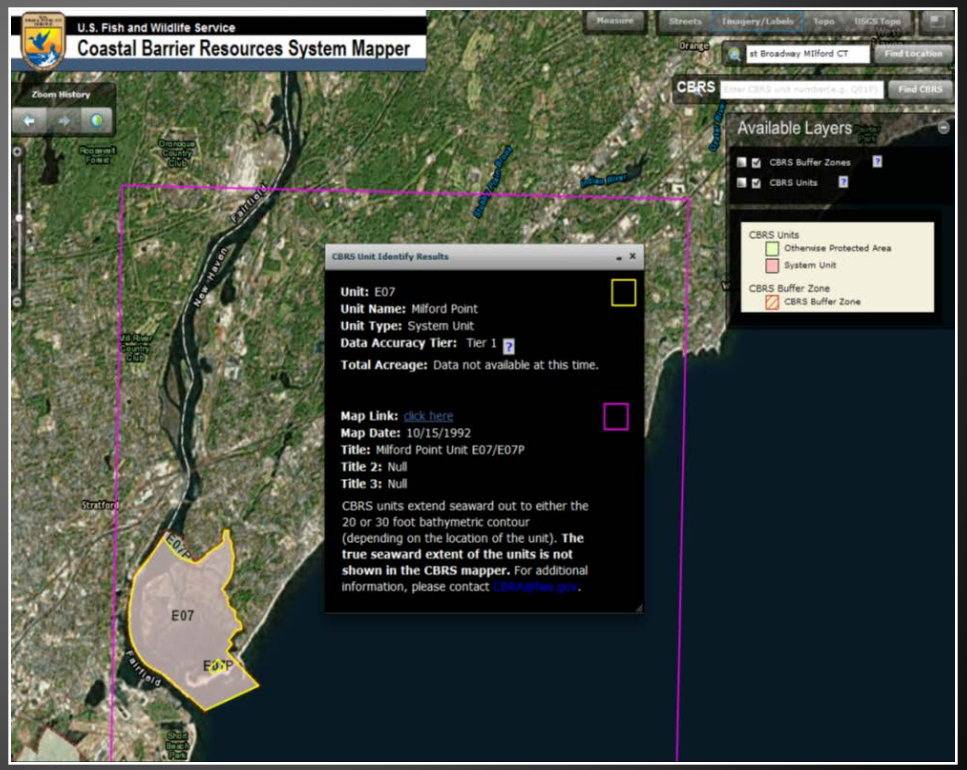
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☐ No

Designation Date: _____ ☐ CBRS ☐ OPA

Item B10. Indicate the source of the BFE that you entered in Item B9. If the BFE is from a source other than FIS Profile, FIRM, or community, describe the source of the BFE.

Item B11. Indicate the elevation datum to which the elevations on the applicable FIRM are referenced as shown on the map legend. The vertical datum is shown in the Map Legend and/or the Notes to Users on the FIRM.

Item B12. Indicate whether the building is located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA). (OPAs are portions of coastal barriers that are owned by Federal, State, or local governments or by certain non-profit organizations and used primarily for natural resources protection.) Federal flood insurance is prohibited in designated CBRS areas or OPAs for buildings or manufactured (mobile) homes built or substantially improved after the date of the CBRS or OPA designation. For the first CBRS designations, that date is October 1, 1983. Information about CBRS areas and OPAs may be obtained on the FEMA web site at https://www.fema.gov/national-flood-insurance-program/coastal-barrier-resources-system.



SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

Complete Section C if the building is located in any of Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, or AR/AO, or if this certificate is being used to support a request for a LOMA or LOMR-F. If the building is located in Zone AO or Zone A (without BFE), complete Section E instead. To ensure that all required elevations are obtained, it may be necessary to enter the building (for instance, if the building has a basement or sunken living room, split-level construction, or machinery and equipment).

Surveyors may not be able to gain access to some crawlspaces to shoot the elevation of the crawlspace floor. If access to the crawlspace is limited or cannot be gained, follow one of these procedures.

- Use a yardstick or tape measure to measure the height from the floor of the crawlspace to the "next higher floor," and then subtract the crawlspace height from the elevation of the "next higher floor." If there is no access to the crawlspace, use the exterior grade next to the structure to measure the height of the crawlspace to the "next higher floor."
- Contact the local floodplain administrator of the community in which the building is located. The community may have documentation of the elevation of the crawlspace floor as part of the permit issued for the building.
- If the property owner has documentation or knows the height of the crawlspace floor to the next higher floor, try to verify this by looking inside the crawlspace through any openings or vents.

In all 3 cases, use the Comments area of Section D to provide the elevation and a brief description of how the elevation was obtained.

Milford only requires elevation certificates for Finished Construction

Refer to instructions below for definition of Finished Construction

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.

Item C1. Indicate whether the elevations to be entered in this section are based on construction drawings, a building under construction, or finished construction. For either of the first 2 choices, a post-construction Elevation Certificate will be required when construction is complete. If the building is under construction, include only those elevations that can be surveyed in Items C2.a–h. Use the Comments area of Section D to provide elevations obtained from the construction plans or drawings. Select "Finished Construction" only when all machinery and/or equipment such as furnaces, hot water heaters, heat pumps, air conditioners, and elevators and their associated equipment have been installed and the grading around the building is completed.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. 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/Source: _____

Item C2. A field survey is required for Items C2.a–h. Most control networks will assign a unique identifier for each benchmark. For example, the National Geodetic Survey uses the Permanent Identifier (PID). For the benchmark utilized, provide the PID or other unique identifier assigned by the maintainer of the benchmark. For GPS survey, indicate the benchmark used for the base station, the Continuously Operating Reference Stations (CORS) sites used for an On-line Positioning User Service (OPUS) solution (also attach the OPUS report), or the name of the Real Time Network used.

Also provide the vertical datum for the benchmark elevation. All elevations for the certificate, including the elevations for Items C2.a–h, must use the same datum on which the BFE is based. Show the conversion from the field survey datum used if it differs from the datum used for the BFE entered in Item B9 and indicate the conversion software used. Show the datum conversion, if applicable, in the Comments area of Section D.

For property experiencing ground subsidence, the most recent reference mark elevations must be used for determining building elevations. However, when subsidence is involved, the BFE should not be adjusted. Enter elevations in Items C2.a–h to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico).

Note FEMA recognizes the NGS/NOAA (www.ngs.noaa.gov) website's CORS (Continuously Operating Reference Station) Network as an accepted Benchmark.
The City of Milford Engineering Staff has mapped a number of state and local benchmarks which may be reviewed here

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. 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: _____

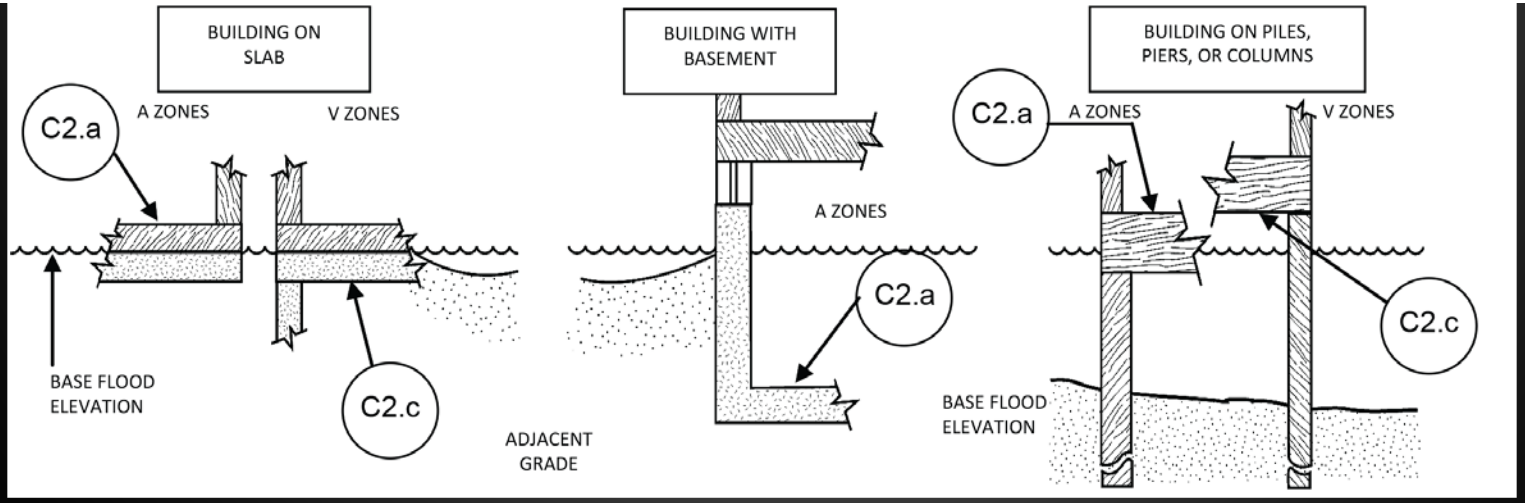
Indicate elevation datum used for the elevations in items a) through h) below.

☐ NGVD 1929 ☐ NAVD 1988 ☐ Other/Source: _____

Datum used for building elevations must be the same as that used for the BFE.

Items a), f), and g) must always have a number. If items b)-e) are not relevant, enter "N/A" Check the measurement used.

a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	_____.____	☐ feet	☐ meters
b) Top of the next higher floor	_____.____	☐ feet	☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only)	_____.____	☐ feet	☐ meters
d) Attached garage (top of slab)	_____.____	☐ feet	☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	_____.____	☐ feet	☐ meters
f) Lowest adjacent (finished) grade next to building (LAG)	_____.____	☐ feet	☐ meters
g) Highest adjacent (finished) grade next to building (HAG)	_____.____	☐ feet	☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	_____.____	☐ feet	☐ meters



Items C2.a–d. Enter the building elevations (excluding the attached garage) indicated by the selected building diagram (Item A7) in Items C2.a–c. If there is an attached garage, enter the elevation for top of attached garage slab in Item C2.d. (Because elevation for top of attached garage slab is self-explanatory, attached garages are not illustrated in the diagrams.) If the building is located in a V zone on the FIRM, complete Item C2.c. If the flood zone cannot be determined, enter elevations for all of Items C2.a–h. For buildings in A zones, elevations a, b, d, and e should be measured at the top of the floor. For buildings in V zones, elevation c must be measured at the bottom of the lowest horizontal structural member of the floor (see drawing below). For buildings elevated on a crawlspace, Diagrams 8 and 9, enter the elevation of the top of the crawlspace floor in Item C2.a, whether or not the crawlspace has permanent flood openings (flood vents). *If any item does not apply to the building, enter "N/A" for not applicable.*

Item C2.e. Enter the lowest platform elevation of at least 1 of the following machinery and equipment items: elevators and their associated equipment, furnaces, hot water heaters, heat pumps, and air conditioners in an attached garage or enclosure or on an open utility platform that provides utility services for the building. Note that elevations for these specific machinery and equipment items are required in order to rate the building for flood insurance. Local floodplain management officials are required to ensure that all machinery and equipment servicing the building are protected from flooding. Thus, local officials may require that elevation information for all machinery and equipment, including ductwork, be documented on the Elevation Certificate. If the machinery and/or equipment is mounted to a wall, pile, etc., enter the platform elevation of the machinery and/or equipment. Indicate machinery/equipment type and its general location, e.g., on floor inside garage or on platform affixed to exterior wall, in the Comments area of Section D or Section G, as appropriate. *If this item does not apply to the building, enter "N/A" for not applicable.*

Items C2.f–g. Enter the elevation of the ground, sidewalk, or patio slab immediately next to the building. For Zone AO, use the natural grade elevation, if available. This measurement must be to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico) if this certificate is being used to support a request for a LOMA or LOMR-F.

Item C2.h. Enter the lowest grade elevation at the deck support or stairs. For Zone AO, use the natural grade elevation, if available. This measurement must be to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico) if this certificate is being used to support a request for a LOMA or LOMR-F.

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by 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.

Certifier's Name	License Number	
Title		
Company Name		
Address		
City	State	ZIP Code
Signature	Date	Telephone

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

Comments (including type of equipment and location, per C2(e), if applicable)

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

Complete as indicated. This section of the Elevation Certificate may be signed by only a land surveyor, engineer, or architect who is authorized by law to certify elevation information. Place your license number, your seal (as allowed by the State licensing board), your signature, and the date in the box in Section D. You are certifying that the information on this certificate represents your best efforts to interpret the data available and that you understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001. Use the Comments area of Section D to provide datum, elevation, openings, or other relevant information not specified elsewhere on the certificate.

For More Information

- Today's presentation, hand out and links are all available on the city website.
- For further questions contact:
  - Joseph Griffith

    Director, Dept of Permitting and Land Use

    203-783-3225
  - Greg Pidluski P.E.L.S., C.F.M

    City Engineer 203-783-3261