

FLOODPLAIN MANAGEMENT 101



FEMA ELEVATION CERTIFICATES



THE ELEVATION CERTIFICATE



- Administrative tool of the NFIP
- Used for policy rating
- Support for map revisions and amendments
- Certifies building elevations
- Increases community compliance

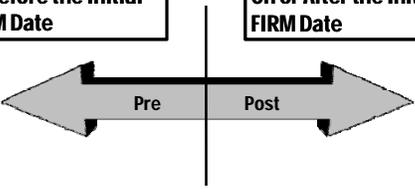
<http://www.fema.gov/business/nfip/elvinst.shtm>



INSURANCE RATING PRE-FIRM AND POST-FIRM

**On or Before 12/31/74
or Before the Initial
FIRM Date**

**After 12/31/74 and
On or After the Initial
FIRM Date**





WHEN TO ASK FOR AN ELEVATION CERTIFICATE

- Non-SFHA Zones (B, C & X zones)
 - No elevation certificate needed
- Pre-FIRM Construction (SFHA Zones)
 - Elevation certificate is optional
- Post-FIRM Construction (SFHA Zones)
 - Elevation certificate is required
 - A, AO, & AH w/o basements have optional "no elevation certificate" rates



CALCULATING THE ELEVATION DIFFERENCE

- Simple Subtraction
- LFE - Lowest Floor Elevation
- BFE - Base Flood Elevation

LFE - BFE = Elevation Difference



WHAT'S NEW?

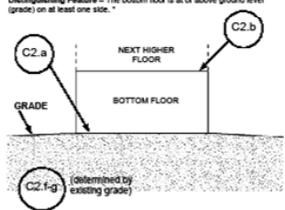
- Section A
- Section C
- Section D
- Section E
- Instructions
- Expiration - February 28, 2009

Download @
<http://www.fema.gov/business/nfip/elvinst.shtm>

 **SLAB ON GRADE**

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

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



 **SLAB-ON-GRADE WITHOUT ATTACHED GARAGE**



 **SLAB-ON-GRADE, ONE-STORY WITH ATTACHED GARAGE**





SLAB-ON-GRADE, ONE STORY
WITH ATTACHED GARAGE





SLAB-ON-GRADE, MULTI-
FLOOR ROW WITHOUT
ATTACHED GARAGE





SLAB-ON-GRADE, MULTI-
FLOOR ROW WITHOUT
ATTACHED GARAGE



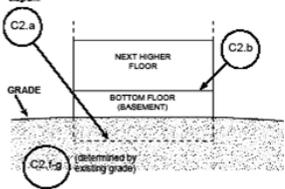


BUILDINGS WITH BASEMENTS

DIAGRAM 2

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 Features – The bottom floor (basement or underground garage) is below ground level (grade) on all sides. Buildings constructed above crawl spaces that are below grade on all sides should also use this diagram.





BASEMENT

- Lowest Floor below grade on all sides
 - Any room or portion of a room
 - Ex: Sunken living room





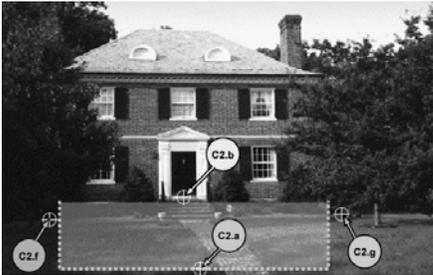

MULTI-FLOOR WITH BASEMENT, WITHOUT ATTACHED GARAGE



  **TWO-STORY WITH BASEMENT,
WITHOUT ATTACHED GARAGE**



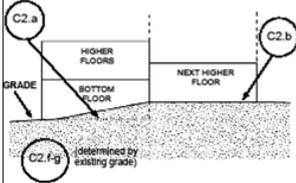
  **MULTI-FLOOR WITH
BASEMENT, WITHOUT
ATTACHED GARAGE**



  **MULTI-FLOOR ON SLAB**

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

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



SLAB-ON-GRADE, SPLIT-LEVEL WITHOUT ATTACHED GARAGE

A black and white photograph of a two-story split-level house. Callout C2.f points to the front porch area, C2.a points to the main living area, C2.b points to the upper level, and C2.g points to the lower level.

SLAB-ON-GRADE, SPLIT-LEVEL WITHOUT ATTACHED GARAGE

A black and white photograph of a split-level house with a large tree in the foreground. Callouts C2.f, C2.a, C2.b, and C2.g are positioned around the house to indicate different levels.

SPLIT LEVEL BUILDING, NOT ON SLAB

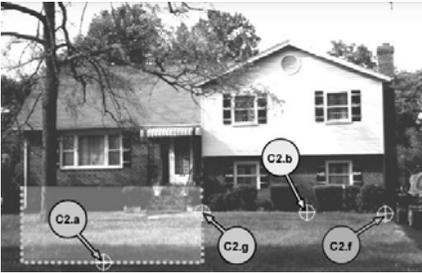
DIAGRAM 4

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

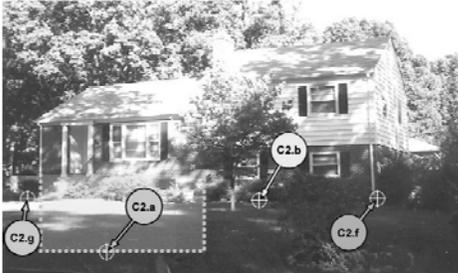
Distinguishing Feature – The bottom floor (basement or underground garage) is below ground level (grade) on all sides. Buildings constructed above crawl spaces that are below grade on all sides should also use this diagram.

The diagram shows a cross-section of a building. The ground level is labeled 'GRADE'. Below it is the 'BOTTOM FLOOR (BASEMENT)'. Above the basement are 'HIGHER FLOORS' and a 'NEXT HIGHER FLOOR'. Callout C2.a points to the top of the higher floors, C2.b points to the top of the next higher floor, and C2.fg (determined by existing grade) points to the top of the basement.

 **SPLIT-LEVEL
WITHOUT ATTACHED GARAGE**



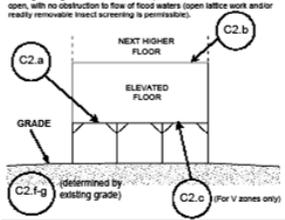
 **SPLIT-LEVEL
WITHOUT ATTACHED GARAGE**



 **ELEVATED BUILDINGS, NO
OBSTRUCTIONS BELOW
ELEVATED FLOOR**

DIAGRAM 3
All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

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






ELEVATED BUILDINGS

- Pilings
- Posts
- Piers
- Parallel Sheer Walls










MULTI-LEVEL ELEVATED ON PILES, NO OBSTRUCTIONS BELOW THE ELEVATED FLOOR






MANUFACTURED HOME ELEVATED ON PIER FOUNDATION



ELEVATED BUILDINGS WITH ENCLOSURE BELOW ELEVATED FLOOR

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 opening in Section A – Property information.

ENCLOSURE

- The portion of an elevated building below the Lowest Elevated Floor that is either partially or fully shut in by rigid walls.

VENTING

- Permanent opening in a wall that allows the free passage of water in both directions, automatically, without human intervention.
- A window, a door, or a garage door is not considered an opening.

 	<h2 style="text-align: center;">ENCLOSURE GUIDELINE FOR ZONES A, AE, AO, AH</h2>
	<ul style="list-style-type: none"> ● Floor of enclosed area below the lowest elevated floor is lowest floor if <u>one or more</u> of the following conditions are met: <ul style="list-style-type: none"> ○ Enclosed space is finished; or ○ Used for other than building access (stairs, elevators), parking or storage, or ○ Has walls that prevent the entry and exit of floodwaters

 	<h2 style="text-align: center;">BREAKAWAY WALL</h2>
	<ul style="list-style-type: none"> ● Not part of the structural support of the building. ● Designed to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or foundation system.

 	<h2 style="text-align: center;">ENCLOSURE GUIDELINE FOR ZONES V AND VE</h2>
	<ul style="list-style-type: none"> ● Has walls that prevent the entry and exit of floodwaters <ul style="list-style-type: none"> ○ Enclosed space is 300 square feet or more with breakaway walls ○ Has load-bearing (supporting) walls.



MULTI-LEVEL ELEVATED WITH PARTIAL ENCLOSURE





TWO-STORY ELEVATED WITH PARTIAL ENCLOSURE





MULTI-LEVEL ELEVATED WITH PARTIAL ENCLOSURE



  ESTABLISHING THE LOWEST FLOOR

→ Ask yourself:

What floor elevation is significant to the risk of this structure?

  WHERE'S THE LOWEST FLOOR?



  WHERE'S THE LOWEST FLOOR?





WHERE'S THE LOWEST FLOOR?





WHERE'S THE LOWEST FLOOR?





WHERE'S THE LOWEST FLOOR?





WHERE'S THE LOWEST FLOOR?