

Glossary of Terms

Many of the terms defined here are also defined in the margins of pages on which they first appear or explained in the body of the text.

A-Zones See “Special Flood Hazard Area.”

Active retrofitting method

Method that will not function as intended without human intervention. See "Passive retrofitting method."

Adjacent grade See "Lowest Adjacent Grade."

Alluvial fan flooding

Flooding that occurs on the surface of an alluvial fan (or similar landform) that originates at the apex of the fan and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

Armor To protect fill slopes, such as the sides of a levee, by covering them with erosion-resistant materials such as rock or concrete.

Alluvial fan Area of deposition where steep mountain drainages empty into valley floors, usually in arid regions. Flooding in these areas often includes characteristics that differ from those in riverine or coastal areas.

Backfill To fill in a hole with the soil removed from it or with other material, such as soil, gravel, or stone.

Backflow valve See “Check valve.”

Base flood Flood that has a 1-percent probability of being equaled or exceeded in any given year. Also known as the 100-year flood.

**Base Flood Elevation (BFE)**

Elevation of the 100-year flood. The BFE is determined by statistical analysis for each local area and is designated on the FIRMs. This elevation is the basis of the insurance and floodplain management requirements of the NFIP.

Basement

As defined by the NFIP regulations, any area of a building having its floor subgrade (below ground level) on all sides.

Breakaway wall Walls enclosing the area below an elevated structure that are designated to break away before transmitting damaging forces to the structure and its foundation. Breakaway walls are required by the NFIP regulations in coastal high-hazard areas (V-Zones) and are recommended in areas where flood waters could flow at significant velocities (usually greater than four feet per second) or could contain ice or other debris.

Cast-in-place concrete

Concrete poured and formed at the construction site.

Caulking

Material used to fill joints in a structure, such as around windows or doors.

Check valve

Valve that allows water to flow in one direction but automatically closes when the direction of flow is reversed.

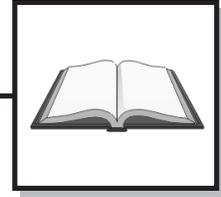
Closure

Shield made of strong material, such as metal or wood, used to temporarily close openings in levees, floodwalls, and dry floodproofed buildings.

Coastal High Hazard Area

Area of special flood hazard (designated Zone V, VE, or V1 - V30 on a FIRM) that extends from offshore to the inland limit of a primary frontal dune along an open coast, and any other area subject to high-velocity wave action from storms or seismic sources.

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Column	Upright support units for a building, set in pre-dug holes and backfilled with compacted material. Columns will often require bracing in order to provide adequate support. They are also known as posts, although posts are usually of concrete masonry construction.
Compaction	In construction, the process by which the density of earth fill is increased so that it will provide a sound base for a building or other structure.
Crawl space	Type of foundation in which the lowest floor of a house is elevated above the ground on continuous foundation walls, creating an uninhabitable enclosed area.
Cribbing	Temporary supports usually consisting of layers of heavy timber.
Datum plane	See "Elevation datum plane."
Debris	Materials carried by floodwaters, including objects of various sizes and suspended soils.
Design capacity	Volume of water that a channel, pipe, or other drainage line is designed to convey.
Design Flood Elevation (DFE)	The elevation of the highest flood (generally the BFE including freeboard) that a retrofitting method is designed to protect against. Also referred to as Flood Protection Elevation.
Dry floodproofing	Protecting a building by sealing its exterior walls to prevent the entry of flood waters.
Elevation	In retrofitting, the process of raising a house or other building so that it is above the height of a given flood.

**Elevation datum plane**

Arbitrary surface that serves as a common reference for the elevations of points above or below it. Elevations are expressed in terms of feet, meters, or other units of measure and are identified as negative or positive depending on whether they are above or below the datum plane.

Erosion

The wearing away of soil by moving water.

Existing construction

The structures already existing or under construction prior to the effective date of the initial Flood Insurance Rate Map.

Federal Emergency Management Agency (FEMA)

Independent agency created in 1978 to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response, and recovery. FEMA administers the NFIP.

Federal Insurance Administration (FIA)

Component of FEMA directly responsible for administering the flood insurance aspects of the NFIP.

Fill

Material such as soil, gravel, or crushed stone which is dumped in an area and to increase the ground elevation. Fill is usually placed in layers and compacted (see "Compaction").

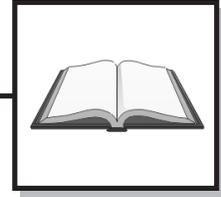
Flap valve

See "Check valve."

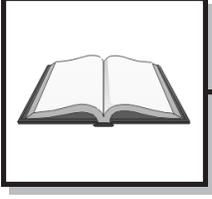
Flash flood

Flood that rises very quickly and usually is characterized by high flow velocities. Flash floods often result from intense rainfall over a small area.

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- Flood** Under the NFIP, a partial or complete inundation of normally dry land areas from 1) the overland flow of a lake, river, stream, ditch, etc., 2) the unusual and rapid accumulation or runoff of surface waters; and 3) mudflows or the sudden collapse of shoreline land.
- Flood depth** Height of flood waters above the surface of the ground at a given point.
- Flood duration** Amount of time between the initial rise of flood, including freeboard, waters and their recession.
- Flood elevation** Height of flood waters above an elevation datum plane.
- Flood frequency** Probability, expressed as a percentage, that a flood of a given size will be equaled or exceeded in any given year. The flood that has a 1-percent probability (1 in 100) of being equaled or exceeded in any given year is often referred to as the 100-year flood. Similarly, the floods that have a 2-percent probability (1 in 50) and a 0.2-percent (1 in 500) of being equaled or exceeded in any year are referred to as the 50-year flood and the 500-year flood, respectively.
- Flood fringe** That portion of the floodplain that lies beyond the floodway and serves as a temporary storage area for flood waters during a flood. This section receives waters that are shallower and of lower velocities than those of the floodway.
- Flood Hazard Boundary Map (FHBM)**
The official map of a community that shows the boundaries of the floodplain and special flood hazard areas that have been designated. It is prepared by FEMA using the best flood data available at the time a community enters the emergency phase of the NFIP. It is superseded by the FIRM after a more detailed study has been completed.

**Flood Insurance Rate Map (FIRM)**

The official map of a community prepared by FEMA that shows the BFE, along with the special flood hazard areas and the risk premium zones for flood insurance purposes. Once it has been accepted, the community is part of the regular phase of the NFIP.

Flood Insurance Study (FIS)

A study performed by any of a variety of agencies and consultants to delineate the special flood hazard areas, base flood elevations, and risk premium zones. The study is funded by FEMA and is based on detailed site surveys and analysis of the site-specific hydrologic characteristics.

Floodplain

Any area susceptible to inundation by water from any source. See "Regulatory floodplain."

Floodplain management

Program of corrective and preventive measures for reducing flood damage, including flood control projects, floodplain land use regulations, floodproofing or retrofitting of buildings, and emergency preparedness plans.

Floodproofing

Structural or nonstructural changes or adjustments included in the design, construction, or alteration of a building that reduce damage to the building and its contents from flooding and erosion. See "Dry floodproofing" and "Wet floodproofing."

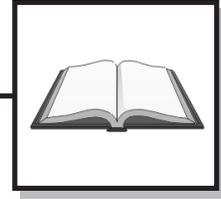
Floodwall

Flood barrier constructed of manmade materials, such as concrete or masonry.

Floodway

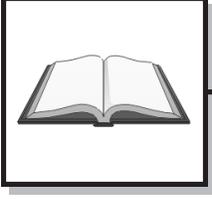
Portion of the regulatory floodplain that must be kept free of development so that flood elevations will not increase beyond a set limit--a maximum of 1 foot according to

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NFIP guidelines. The floodway usually consists of the stream channel and land along its sides. Also known as a Regulatory floodway.

- Flow velocity** Speed at which water moves during a flood. Velocities usually vary across the floodplain. They are usually greatest near the channel and lowest near the edges of the floodplain.
- Footing** Enlarged base of a foundation wall or independent vertical member (such as a pier, post, or column) for a house or other structure, including a floodwall. A footing provides support by spreading the load of a structure so that the bearing capacity of the soil is not exceeded.
- Foundation** The underlying structure of a building, usually constructed of concrete, that supports the foundation walls, piers, or columns.
- Foundation walls** A support structure that connects the foundation to the main portion of the building, or superstructure.
- Freeboard** Additional amount of height incorporated into the DFE to account for uncertainties in the determination of flood elevations.
- Frequency** See "Flood frequency."
- Gate valve** Valve that permits flow in either direction when open, and prevents flow in either direction when closed. A gate valve must be operated either manually or electrically.

**Hazard mitigation**

Action taken to reduce or eliminate long-term risk to people and property from hazards such as floods, earthquakes, and fires.

Human intervention

Any action that a person must take to enable a flood protection measure to function as intended. This action must be taken every time flooding threatens.

Hydrodynamic force

Force exerted by moving water; including positive frontal pressure against the structure, drag effect along the sides, and negative pressures on the downstream side.

Hydrostatic force

Force exerted by water at rest, including lateral pressure on walls and uplift (buoyancy) on floors.

Impervious soils Soils that resist penetration by water.

Levee Flood barrier constructed of compacted soil.

Local officials Community employees who are responsible for floodplain management, zoning, permitting, building code enforcement, and building inspection.

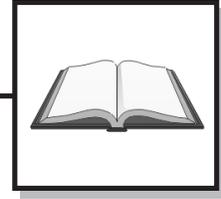
Lowest Adjacent Grade (LAG)

Elevation of the lowest ground surface that touches any of the exterior walls of a building.

Lowest floor Floor of the lowest enclosed area within the building, including the basement.

Masonry veneer Nonstructural, decorative, exterior layer of brick, stone, or concrete block added to the walls of a building.

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Mean Sea Level (MSL)

Datum plane; the average height of the sea for all stages of the tide, usually determined from hourly height observations over a 19-year period on an open coast or in adjacent waters having free access to the sea.

National Flood Insurance Program (NFIP)

The Federal program, created by an act of Congress in 1968, that makes flood insurance available in communities that enact satisfactory floodplain management regulations.

National Geodetic Vertical Datum of 1929 (NGVD)

Elevation datum plane previously used by FEMA for the determination of flood elevations.

North American Vertical Datum of 1988 Plane (NAVD)

Elevation datum currently used by FEMA for the determination of flood elevations.

100-Year Flood The flood that has a one-percent chance of being equaled or exceeded in any given year. It is also known as the Base Flood.

Openings A system designed to allow flood waters to enter an enclosure, usually the interior of foundation walls, so that the rising water does not create a dangerous differential in hydrostatic pressure. This is usually achieved through small openings in the wall, such as a missing or rotated brick or concrete block, or a small pipe.

Passive retrofitting method

Method that operates automatically, without human intervention. See "Active retrofitting method."



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Permeable soils Soils that water can easily penetrate and spread through.

Pier Vertical support member of masonry or cast-in-place concrete that is designed and constructed to function as an independent structural element in supporting and transmitting both building loads and environmental loads to the ground.

Piling Vertical support member of wood, steel, or precast concrete that is driven or jetted into the ground and supported primarily by friction between the pilings and the surrounding earth. Piling often cannot act as independent support units and therefore are often braced with connections to other pilings.

Post Long vertical support member of wood or steel set in holes that are backfilled with compacted material. Posts often cannot act as independent support units and therefore are often braced with connections to other posts.

Precast concrete Concrete structures and structural members brought to the construction site in completed form.

Rates of rise and fall

How rapidly the elevation of the water rises and falls during a flood.

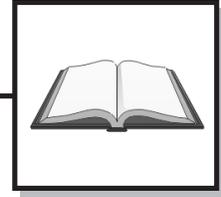
Regulatory floodplain

Flood hazard area within which a community regulates development, including new construction, the repair of substantially damaged buildings, and substantial improvements to existing buildings. In communities participating in the NFIP, the regulatory floodplain must include at least the area inundated by the base flood, also referred to as the SFHA. See "Floodplain."

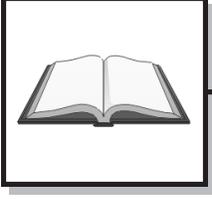
Regulatory floodway

See "Floodway."

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- Reinforcement** Inclusion of steel bars in concrete members and structures to increase their strength.
- Relocation** In retrofitting, the process of moving a house or other building to a new location outside the flood hazard area.
- Retrofitting** Making changes to an existing house or other building to protect it from flooding or other hazards.
- Riprap** Pieces of rock, broken stone, or rubble added to the surface of a fill slope, such as the side of a levee, to prevent erosion.
- Saturated soils** Soils that have absorbed, to the maximum extent possible, water from rainfall or snowmelt.
- Scour** Process by which flood waters remove soil around objects that obstruct flow, such as the foundation walls of a house.
- Sealant** In retrofitting, a waterproofing material or substance used to prevent the infiltration of flood water.
- Service equipment** In retrofitting, the utility systems, heating and cooling systems, and large appliances in a house.
- Slab-on-grade** Type of foundation in which the lowest floor of the house is formed by a concrete slab that sits directly on the ground. The slab may be supported by independent footings or integral grade beams.
- Special Flood Hazard Area (SFHA)** Portion of the floodplain subject to inundation by the base flood, designated Zone A, AE, A1 - A30, AH, AO, AR, V, VE, or V1 - V30 on a FIRM.



Storm surge Rise in the level of the ocean that results from the decrease in atmospheric pressure associated with hurricanes and other storms.

Subgrade Below the level of the ground surface.

Substantial damage

Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

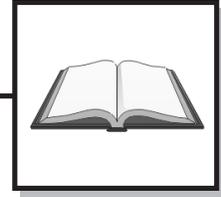
Substantial improvement

Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures that have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include either:

- 1.) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to ensure safe living conditions, or
- 2.) Any alteration of a “historic structure” provided that the alteration will not preclude the structure’s continued designation as a “historic structure.”

Sump pump Device used to remove water from seepage or rainfall that collects in areas protected by a levee, floodwall, or dry floodproofing. In addition, a sump pump is often part of a standard house drainage system that removes water that collects below a basement slab floor.

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Tsunami Great sea wave produced by an undersea earth movement or volcanic eruption.

Veneer See "Masonry veneer."

V-Zone See Coastal High Hazard Area.

Walkout-on-grade basement

Basement whose floor is at ground level on at least one side of a house. The term "walkout" is used because most basements of this type have an outside door at ground level. A walkout-on-grade basement is not considered a basement under the NFIP. See "Basement".

Wet floodproofing

Protecting a building by allowing flood waters to enter so that internal and external hydrostatic pressures are equalized. Usually, only enclosed areas used for parking, storage, or building access are wet floodproofed.