

Accessory Structures and Garages in the Floodplain

“Accessory structure” means a structure the use of which is incidental to that of the main building and which is located on the same lot. This does not include gas and liquid storage tanks, which are considered structures for floodplain management purposes.

Structures That Do Not Have At Least Two Rigid Walls

Some accessory structures, such as carports, gazebos, and picnic pavilions, do not qualify as “buildings” because they do not have at least two rigid walls. This type of non-building development does not need to be elevated or floodproofed, but should be anchored and constructed using flood damage-resistant materials so that it is “reasonably safe” from flood damage.

Attached Garages

A garage attached to a residential structure with the floor slab located below the flood protection level can be regulated as a non-elevated “enclosed area” if it is used only for parking of vehicles, building access, and storage and meets the requirements for flood openings and flood damage-resistant materials (see *Floodplain Facts #8: Enclosed Areas Below the Flood Protection Level*).

Agricultural Structures

Some agricultural structures, such as farm storage structures, grain bins, corn cribs, and some general purpose barns can be protected from flood damage using wet floodproofing techniques. However, this is only permitted if a variance is obtained from the municipality (see *Floodplain Facts #13: Floodplain Variances*). Use must be limited to agricultural purposes and construction must be consistent with the anchoring, flood resistance, and flood vent requirements (see Wet Floodproofing Standards below).

“Wet floodproofing” includes permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding by allowing flood waters to enter the structure.

Other Accessory Structures

In some cases, low-cost accessory buildings may be wet-floodproofed instead of meeting the requirements for elevation or dry floodproofing of buildings. These structures could include detached garages, storage sheds, small boathouses, and pole barns. Some municipalities include provisions in their floodplain management laws allowing non-elevated/non-dry floodproofed accessory structures; in other municipalities a variance is required (see *Floodplain Facts #13: Floodplain Variances*). Criteria for determining whether an accessory structure can be sufficiently protected using wet-floodproofing techniques include:

- The building must be used only for parking of vehicles or storage of tools, materials, and equipment;
- The structure shall not be designed or used for human habitation;
- The accessory structure represents a minimal investment of less than 10% of the value of the property;
- The structure will have low flood damage potential with respect to both the structure and its contents; and
- Permanently affixed sanitary facilities, utility equipment, and appliances (such as furnaces, heaters, washers, dryers, etc.) are prohibited.



*The **flood protection level** is the height to which development should be elevated or otherwise protected from flood damage. If a 'base flood elevation' (100-year flood height) is indicated in the Flood Insurance Study (or available from another reliable source), flood protection should be provided to a level **at least two feet above the base flood elevation**. If no base flood elevation is available, flood protection should be to a level at least three feet above the highest adjacent grade.*

Wet Floodproofing Standards

All floodplain development must be *consistent with the need to minimize damage*. For wet floodproofed accessory structures, the standards for achieving this are:

- The building must be adequately anchored to resist flotation, collapse, and lateral movement;
- The portion of the building that is located below the flood protection level must be constructed of flood-resistant materials;
- The building must have the required openings to allow for the automatic entry and exit of flood waters; and
- Any electrical or mechanical equipment (such as electric boxes, switches, and outlets) must be elevated or floodproofed to or above the flood protection level.

(Additional information and references are available in *Floodplain Facts #8: Enclosed Areas Below the Flood Protection Level* and *Floodplain Facts #9: Flood Resistant Design*.)



Flood Insurance Considerations: A detached garage can be included under a residential flood insurance policy if: (1) it is used only for parking of vehicles and limited storage and (2) the value does not exceed 10% of the value of the primary structure. However, a garage that does not meet these conditions or another type of accessory building would require a separate policy for flood insurance coverage. The insurance rating (i.e. cost) for such a policy can be quite high for wet floodproofed structures because it would be based on the elevation of the lowest floor (or the dry floodproofing level) relative to the Base Flood Elevation (100-year flood elevation).

Non-Conversion Agreement

Accessory structures with the floor located below the flood protection level are designed to be flooded and should not be converted to uses that are incompatible with the flood hazard. Conversion to finished living space, blockage of flood vents, or installation of unprotected equipment (appliances, heating/cooling equipment, plumbing fixtures, etc.) may violate the conditions of the floodplain development permit or the floodplain variance. The municipality may require the owner to sign a non-conversion agreement to document their understanding of the limitations on construction and use of the enclosed area.

Additional Resources

- *Wet Floodproofing Requirements for Structures Located in Special Flood Hazard Areas*, Technical Bulletin 7-93, FEMA FIA-TB-7 (1993), available at <http://www.fema.gov/library/viewRecord.do?id=1720>, includes planning, safety, and engineering considerations for wet floodproofing.