

## CITY OF AUSTELL

### Residential Structures in the Floodplain

New residential construction in the regulated floodplain must be elevated, anchored, and otherwise protected against flood damage from a 100-year flood event. In addition to new buildings, “new construction” also includes all improvements to existing post-FIRM houses (built after the community began regulating floodplain development). If a home is “substantially improved” or has been “substantially damaged” the entire structure must be brought into compliance with the current standards for new residential construction.

#### How Is the Flood Protection Level Determined?

If a “Base Flood Elevation” is indicated on the floodplain map issued by FEMA or is available from another source, then residential buildings must be protected from flood damage to a level of four feet above this height. If no BFE is available, the flood protection level should be at least four feet above the highest adjacent grade.

#### How Should the House Be Elevated?

*The top of the lowest floor must be elevated to or above the flood protection level.* A basement that is below grade on all sides is prohibited. Elevation can be accomplished by:

- Elevation on properly compacted fill;
- Elevation on piles, posts, piers, or columns; or
- Elevation on walls or a crawl space.



The Base Flood Elevation (BFE) is the calculated water height for the flood that has a 1% probability of being equaled or exceeded in any given year (the 100-year flood).

#### Elevation Certificate

To ensure that a building is properly elevated, the lowest floor is surveyed and an Elevation Certificate<sup>1</sup> is obtained and kept by Austell Public Works. This certificate is also used to rate flood insurance policies.

#### Enclosed Areas Below the Lowest Floor

An unfinished flood-resistant enclosed area below the lowest floor (or an attached garage below the flood protection level) can be permitted if it is usable solely for vehicle parking, building access, or limited storage. This area must be properly vented to allow for equalization of hydrostatic forces and meet design and use criteria (see *Floodplain Facts #8: Enclosed Areas Below the Flood Protection Level*).

<sup>1</sup> Elevation Certificate and Instructions are available at <http://www.fema.gov/business/nfip/elvinst.shtm>.

## Anchoring

The building, any gas or liquid storage tanks, and any equipment servicing the building must be designed and anchored to prevent flotation, collapse, or lateral movement during the 100-year flood event. In addition to anchoring the building to its foundation, it is necessary to ensure that the foundation will not move (due to hydrostatic forces, hydrodynamic forces, or undercutting by erosion or scour). In areas where flood velocities exceed five feet per second, additional anchoring measures may be required, such as reinforcing crawlspace walls, using deeper footings, using extra bolts to connect the sill to the foundation, or installing rods to connect the cap to the sill.

## Flood Resistant Design, Materials, and Utilities

All parts of the building that are located below the flood protection level must be resistant to flood damage. This is generally accomplished by locating machinery, equipment, and other vulnerable components above the first floor. Those parts of the building located below the flood protection level (such as foundation elements, floor beams and joists, and utility equipment) must be made of flood-resistant materials and constructed using methods and practices that are resistant to flood damage. (Additional information and references are provided in *Floodplain Facts #9: Flood Resistant Design*.)

**Additional information about floodplain development requirements is provided in other fact sheets (available at [www.apwsm.org](http://www.apwsm.org)):**

- ☛ Floodplain Facts #1: Floodplain Development
- ☛ Floodplain Facts #2: Non-Building Floodplain Development
- ☛ Floodplain Facts #3: Modifications to Existing Floodplain Structures
- ☛ Floodplain Facts #4: Residential Structures in the Floodplain
- ☛ Floodplain Facts #5: Non-Residential Structures in the Floodplain
- ☛ Floodplain Facts #6: Manufactured Homes, Recreational Vehicles, and Trailers in the Floodplain
- ☛ Floodplain Facts #7: Accessory Structures and Garages in the Floodplain
- ☛ Floodplain Facts #8: Enclosed Areas Below the Flood Protection Level
- ☛ Floodplain Facts #9: Flood Resistant Design
- ☛ Floodplain Facts #10: Floodplain Development in Approximate A Zones
- ☛ Floodplain Facts #11: Development in Areas of Shallow Flooding
- ☛ Floodplain Facts #12: Floodway Encroachments
- ☛ Floodplain Facts #13: Floodplain Variances