

Also, lawns, gardens, play areas, picnic grounds, and hiking and horseback riding trails are acceptable uses, provided that they do not employ structures or fill. Substantial development of a permissible use may require a no-impact certification. The uses listed in this subsection are permissible only if and to the extent that they do not cause any increase in base flood elevations or changes to the floodway configuration.

#### 6. **Recreational Vehicles**

- a) A recreational vehicle is ready for highway use if it is:
  - (1) on wheels or jacking system;
  - (2) attached to the site only by quick-disconnect type utilities and security devices; and,
  - (3) has no permanently attached additions.
- b) Recreational vehicles placed on sites shall either be:
  - (1) on site for fewer than 180 consecutive days; and,
  - (2) be fully licensed and ready for highway use, or **meet** the development permit and certification requirements of Article III.D, general standards outlined in Article IV.A, and manufacture homes standards in Article IV.B.3.

7. **Map Maintenance Activities** – The National Flood Insurance Program requires flood data to be reviewed and approved by FEMA. This ensures that flood maps, studies and other data identified in Article I.D accurately represent flooding conditions so appropriate floodplain management criteria are based on current data, the following map maintenance activities are identified:

#### a) **Requirement to Submit New Technical Data**

- (1) For all development proposals that impact floodway delineations or base flood elevations, the community shall ensure that technical data reflecting such changes be submitted to FEMA within six months of the date such information becomes available. These development proposals include:
  - (a) Floodway encroachments that increase or decrease base flood elevations or alter floodway boundaries;
  - (b) Fill sites to be used for the placement of proposed structures where the applicant desires to remove the site from the special flood hazard area;
  - (c) Alteration of watercourses that result in a relocation or elimination of the special flood hazard area, including the placement of culverts; and

(d) Subdivision or large scale development proposals requiring the establishment of base flood elevations in accordance with Article IV.B.12.d.

(2) It is the responsibility of the applicant to have technical data, required in accordance with Article IV.B.7, prepared in a format required for a Conditional Letter of Map Revision or Letter of Map Revision, and submitted to FEMA. Submittal and processing fees for these map revisions shall also be the responsibility of the applicant.

(3) The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

(4) Proposed floodway encroachments that increase the base flood elevation; and

(5) Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

(6) Floodplain development permits issued by the Floodplain Administrator shall be conditioned upon the applicant obtaining a Letter of Map Revision from FEMA for any development proposal subject to Article IV B.7.

(7) Conditional Letter of Map revisions (CLOMR) and/or Letters of Map Revision (LOMR) must go through the variance process outlined in Article V.

b) **Right to Submit New Technical Data** - The Floodplain Administrator may request changes to any of the information shown on an effective map that does not impact floodplain or floodway delineations or base flood elevations, such as labeling or planimetric details. Such a submission shall include appropriate supporting documentation made in writing by the local jurisdiction and may be submitted at any time.

#### 8. **Accessory Structures.**

a) A detached accessory structure or garage, the cost of which is greater than \$3,000, must comply with the requirements as outlined in FEMA's Technical Bulletin 7-93 *Wet Floodproofing Requirements or be elevated in accordance with Article IV Section B(1) and B (4) or dry floodproofed in accordance with Article IV B (2).*

b) When accessory structures of \$3,000 or less are to be placed in the floodplain, the following additional criteria shall be met:

(1) Accessory structures shall not be used for human habitation

(including work, sleeping, living, cooking or restroom areas),

(2) Accessory structures shall be designed to have low flood damage potential,

(3) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters,

(4) Accessory structures shall be firmly anchored to prevent flotation, collapse or lateral movement of the structure,

(5) Service facilities such as electrical and heating equipment shall be installed in accordance with Article IV.A.5; and

(6) Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with Article IV.B.4a

#### **9. Swimming Pool Utility Equipment Rooms**

If the building can not be built at or above the BFE, because of functionality of the equipment then a structure to house the utilities for the pool may be built below the BFE with the following provisions:

- a) Meet the requirements for accessory structures in Article IV.B.8
- b) The utilities must be anchored to prevent flotation and shall be designed to prevent water from entering or accumulating within the components during conditions of the base flood.
- c) A variance may be granted to allow wet floodproofing of the structure.

#### **10. Elevators**

a) Install a float switch system or another system that provides the same level of safety is necessary for all elevators where there is a potential for the elevator cab to descend below the BFE during a flood per FEMA's Technical Bulletin 4-93 Elevator Installation for Buildings Located in Special Flood Hazard Areas.

b) All equipment that may have to be installed below the BFE such as counter weight roller guides, compensation cable and pulleys, and oil buffers for traction elevators and the jack assembly for a hydraulic elevator must be constructed using flood-resistant materials where possible per FEMA's Technical Bulletin 4-93 Elevator Installation for Buildings Located in Special Flood Hazard Areas..

**11. Temporary Development** Certain types of structures (e.g. fruit stands, construction site offices, portable toilets, etc.) may be situated temporarily on flood-prone property without having to comply with the elevation or floodproofing criteria of Article IV.B.1 and Article IV B.2, respectively, provided that the following criteria are met:

a) All applicants must submit to the local administrator, prior to the issuance of the development permit, a written plan for the removal of any temporary structures or development in the event of a hurricane or flash flood warning notification. The plan shall be reviewed and approved in writing, and must include the following information:

- (1) a specified time period for which the temporary use will be permitted,
- (2) the name, address and phone number of the individual responsible for the removal of temporary structures or development;
- (3) the time frame prior to the event at which any structures will be removed (i.e. minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
- (4) a copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed,
- (5) designation, accompanied by documentation, of a location outside the floodplain to which any temporary structure will be moved;
- (6) a determination of permanent structures which would be adversely affected by increased flooding upstream or downstream, and a method for covering this liability, such as a performance bond; and,
- (7) a plan to restore the area to its natural condition once the temporary permit expires or the temporary use is terminated, whichever is first.

b) The structure is mobile, or can be made so, and is capable of being removed from the site with a maximum of four (4) hours warning.

c) The structure will not remain on the property for more than 180 days.

**12. Fill.** An applicant shall demonstrate that fill is the only alternative to raising the building to meet the residential and non-residential construction requirements of Article IV B(1) or B (2), and that the amount of fill used will not affect the flood storage capacity or adversely affect adjacent properties. The following provisions shall apply to all fill placed in the special flood hazard area:

- a) Fill may not be placed in the floodway unless it is in accordance with the requirements in Article IV.B.5a,
- b) Fill may not be placed in tidal or non-tidal wetlands without the required State and federal permits,

- c) Fill must consist of soil and rock materials only. A registered professional geotechnical engineer may use dredged material as fill only upon certification of suitability. Landfills, rubble fills, dumps, and sanitary fills are not permitted in the floodplain,
- d) Fill used to support structures must comply with ASTM Standard D-698, and its suitability to support structures certified by a registered, professional engineer,
- e) Fill slopes shall be no greater than two horizontal to one vertical. Flatter slopes may be required where velocities may result in erosion; and,
- f) The use of fill shall not increase flooding or cause drainage problems on neighboring properties.
- g) Fill may not be used for structural support in the coastal high hazard areas
- h) Will meet the requirements of FEMA Technical Bulletin 10-01, *Ensuring That Structures Built On Fill In Or Near Special Flood Hazard Areas Are Reasonable Safe From Flooding.*

**13. Standards for Subdivision Proposals.**

- a) All subdivision proposals shall be consistent with the need to minimize flood damage and are subject to all applicable standards in these regulations;
- b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and
- d) In all areas of special flood hazard where base flood elevation data are not available, the applicant shall provide a hydrologic and hydraulic engineering analysis that generates base flood elevations for all subdivision proposals and other proposed developments containing at least 50 lots or 5 acres, whichever is less.
- e) If the areas of special flood hazard is identified as an area of open space and is deeded as such then a hydrologic and hydraulic engineering analysis that generates base flood elevations for the subdivision proposal would not be required.
- f) The applicant shall meet the requirement to submit technical data to FEMA in Article IV B.7. when a hydrologic and hydraulic analysis is completed that generates base flood elevations.

**C. Standards for Streams without Established Base Flood Elevations and/or**

**Floodways:** Located within the areas of special flood hazard (Zones A and V) established in Article I.D, are small streams where no base flood data has been provided or where no floodways have been identified. The following provisions apply within such areas:

1. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within 100 feet of the stream bank unless certification with supporting technical data by a registered, professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
2. If Article IV.C.1 is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of Article IV and shall be elevated or floodproofed in accordance with elevations established in accordance with Article III.E.11.
3. Data from preliminary, draft, and final Flood Insurance Studies constitutes best available data. Refer to FEMA Floodplain Management Technical Bulletin 1-98 *Use of Flood Insurance Study (FIS) Data as Available Data*. If an appeal is pending on the study in accordance with 44 CFR Ch. 1, Part 67.5 and 67.6, the data does not have to be used.
4. When base flood elevation data is not available from a federal, State, or other source one of the following methods may be used to determine a BFE. For further information regarding the methods for determining BFEs listed below refer to FEMA's manual *Managing Floodplain Development in Approximate Zone A Areas*.
  - a) Contour Interpolation
    - (1) Superimpose approximate Zone A boundaries onto a topographic map and estimate a BFE.
    - (2) Add one-half of the contour interval of the topographic map that is used to the BFE.
  - b) Data Extrapolation - A BFE can be determined if a site within 500 feet upstream of a reach of a stream reach for which a 100-year profile has been computed by detailed methods, and the floodplain and channel bottom slope characteristics are relatively similar to the downstream reaches.
  - c) Hydrologic and Hydraulic Calculations- Perform hydrologic and hydraulic calculations to determine BFEs using FEMA approved methods and software. These methods include, but are not limited to the following:
    - (1) HEC-RAS 3.1.1 and up
    - (2) HEC-1 4.0.1 and up
    - (3) HEC-2 4.6.2
    - (4) HEC-HMS 1.1 and up
    - (5) FLO-2D
    - (6) QUICK-2
    - (7) SFD