

## **5-11: FPO FLOOD PLAIN OVERLAY ZONE**

### **A. DECLARATION OF LEGISLATIVE INTENT**

The FPO Flood Plain Overlay Zone includes those flood hazard areas of the unincorporated portion of Utah County which have been identified by the most current Federal Insurance Administration report entitled "Flood Insurance Study, Utah County, Utah, Unincorporated Areas" and its accompanying "FIRM Flood Insurance Rate Map, Utah County, Utah" as having a one percent chance of flooding, plus other unincorporated areas identified by the County Commission as having a significant flood hazard.

The flood hazard areas included within the zone are subject to periodic inundation which results in: loss of life and property; hazards to health and safety; disruption of commerce and governmental services; impairment of the tax base; and extraordinary public expenditures for flood protection and damages relief. Losses from flooding in this zone are caused by the cumulative effect of obstructions in the path of flooding which increase the height and velocity of the floods, inadequately anchored structures which move during a flood and damage other property, and structures or uses which are inadequately flood proofed, elevated, or otherwise protected from flood damage.

It is hereby declared that the specific purposes and intent of the County Commission in establishing the FPO Zone are:

1. To take advantage of the powers and more fully implement the basic purposes for planning and zoning set forth in Section 17-27-102 Utah Code Annotated 1953, and to implement the plans provided for in Section 17-27-301 of the said Code.
2. To make the unincorporated portion of Utah County eligible for the federal flood insurance program by enacting these flood protection regulations according to federal guidelines.
3. To protect human life and health.
4. To minimize the expenditure of public money for costly flood control projects.
5. To minimize the need for rescue and relief efforts associated with flooding which occur at public expense.
6. To minimize prolonged business interruptions.
7. To minimize damage to essential public facilities, including water, and gas mains, electric, telephone and sewer lines, roads, and bridges located in areas of special flood hazard.
8. To maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas.
9. To notify buyers of areas of special flood hazard.
10. To ensure that those who occupy the areas of special flood hazard assume responsibility for their

actions regarding land use, construction, and grading.

In order to accomplish the stated purposes and intent, the provisions of the FPO Zone:

- a. Restrict or prohibit those uses that are dangerous to health, safety, and property because they contribute to damaging increases in erosion, flood heights, or flood velocities or generate new hazards of erosion or water.
- b. Require that uses and facilities vulnerable to floods be protected against flood damage at the time of construction; control the alteration of natural flood plains, stream channels, and protective barriers which accommodate or dissipate flood waters.
- c. Control any filling, grading, dredging, or other development which may unnaturally divert flood waters or increase flood hazards in other areas.

The following provisions shall apply.

## B. SCOPE

### 1. Extent

The provisions of zoning section 5-11 shall apply to all areas of special flood hazard within the unincorporated area of Utah County, which are depicted on the Official Zone Map of Utah County, Utah, as lying within the bounds of the FPO Zone. Such provisions shall not abrogate but shall be in addition to the requirements of the underlying zoning districts and the easements, covenants, and deed restrictions pertaining to the property within the FPO Zone; where the provisions of zoning section 5-11 may be in conflict, the more stringent restriction shall apply.

### 2. Interpretation

To determine which properties lie within the FPO Zone, the Zoning Administrator shall determine the boundaries of the zone by scaling the distances from the Official Utah County Zone Map. He may be aided in his interpretation by the Utah County Flood Insurance Study and FIRM map. Any person contesting the location of the zone boundary may appeal to the Board of Adjustment according to zoning section 7-19; the Board shall use the written technical evidence supplied by the Flood Insurance Study for Utah County, and the FIRM map as a guide in making its determination.

### 3. Compliance

No structure or land shall hereafter be constructed, located, extended, converted, altered or otherwise developed without full compliance with the terms of this section. In this regard, "new construction" shall mean structural work commenced after October 29, 1982, and "new subdivision or mobile home park" shall refer to divisions making new lots or mobile home sites after October 29, 1982.

## C. PERMITTED USES

### 1. Uses

All uses and structures which are listed as permitted uses and permitted conditional uses in the

underlying zoning districts shall also be permitted in the territory covered by the FPO Zone if they meet the standards of zoning section 5-11 (as well as the standards of the said underlying zoning district).

## 2. Clearance

Before any building permit to develop or construct within the FPO Zone is issued, the Zoning Administrator must first find that such development or construction complies with the requirements of the FPO Zone and the underlying zone and issue a written clearance attesting to such finding. No development, grading or construction shall be commenced within the territory of the FPO Zone until the clearance and a building permit based on such clearance are issued.

## D. GENERAL DEVELOPMENT STANDARDS

The following standards shall apply within all parts of the FPO Zone:

### 1. Anchoring

- a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- b. All new mobile homes shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground anchors. Specific requirements shall be that:
  - i. Over-the-top ties be provided at each of the four corners of the mobile home, with two additional ties per side at intermediate locations (except mobile homes less than 50 feet long require only one additional tie per side);
  - ii. Frame ties be provided at each corner of the home with five additional ties per side at intermediate points (except mobile homes less than 50 feet long require only four additional ties per side);
  - iii. All components of the anchoring system be capable of carrying a force of 4,800 pounds; and
  - iv. Any additions to the mobile home be similarly anchored.

### 2. Construction Materials and Methods

- a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

### 3. Utilities

- a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration

of flood waters into the systems and discharge from the systems into flood waters.

c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

d. Electrical, heating, ventilation, plumbing, air conditioning and similar service facilities shall be designed and/or located so as to prevent water from entering the facilities during conditions of flooding.

#### 4. Fill

a. Fill shall be placed and accomplished in a manner that will neither be unsightly nor diminish the value of neighboring properties.

b. When any area is proposed to receive fill, the applicant shall submit a plan which shows the horizontal extent of the fill, a typical cross section, and the treatment proposed to overcome unsightliness.

#### 5. Large-Scale Development Proposals

a. All large-scale development proposals shall be consistent with the need to minimize flood damage.

b. All large-scale development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

c. All large-scale development proposals shall have adequate drainage provided to reduce exposure to flood damage.

d. Base flood elevation data shall be provided for any large-scale development proposal which contains at least 50 lots or 5 acres (whichever is less).

#### E. STANDARDS WHERE THE BASE FLOOD ELEVATION IS KNOWN

In all areas of the FPO Zone where the base flood elevation data has been determined in the Flood Insurance Study, the FIRM map, or a federal, state, or other accurate scientific engineering flood plain study maintained under zoning section 5-11-H-3, the following provisions shall be required.

##### 1. Residential Construction

a. Any new construction or substantial improvement to any structure used as a dwelling shall have the lowest floor (including basement) raised above the elevation of the base flood.

b. Within areas designated AO and AH on the FIRM map, all new construction and substantial improvements to structures used as a dwelling shall have the lowest floor (including basement) raised above the highest adjacent grade to a point at least as high as the depth number specified in feet on the FIRM map (at least two feet if no depth number is specified.)

c. Within areas designated AO and AH on the FIRM map, there shall be drainage paths around existing and proposed structures built on slopes which are adequate to guide flood waters around and away from

any proposed dwelling structure.

d. All new construction and substantial improvements that fully enclose areas below the lowest floor that are usable solely for the parking of vehicles, building access, or storage in an area other than a basement, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing the entry and exit of floodwater. Designs for meeting this requirement must

either be certified by a professional engineer or architect licensed to practice in the State of Utah or meet or exceed the following criteria:

i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

ii. The bottom of all openings shall be no higher, than one foot above grade;

iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.

## 2. Nonresidential Construction

a. Any new construction or substantial improvement to any commercial, industrial, or other nonresidential building shall have the lowest floor, including basement, raised above the level of the base flood elevation.

Exception: The building, together with any attendant utility and sanitary facilities, may be placed below such elevation if it:

i. Is flood proofed so that below the base flood level, the building is watertight with walls substantially impermeable to the passage of water;

ii. Has structural components capable of resisting hydrodynamic loads and the effects of buoyancy; and

iii. Is certified by a professional engineer or architect licensed to practice in the State of Utah that the standards of this zoning section are satisfied. (Such certifications shall be provided to the Zoning Administrator as set forth in zoning section 5-11-H-3-b).

b. Within areas designated AO and AH on the FIRM map, any new construction or substantial improvement to a commercial, industrial, or other nonresidential building shall have the lowest floor (including basement) raised above the highest adjacent grade to a point at least as high as the flood depth number specified in feet on the FIRM map (at least two feet if no depth number is specified).

Exception: The building, together with attendant utility and sanitary facilities, may be placed below such flood depth number if it is completely flood proofed up to or above the specified flood level according to the flood proofing standard required in subparts (1) to (3) in zoning section 5-11-E-2-a immediately above.

c. Within areas designated AH and AO on the FIRM map, there shall be drainage paths around existing and proposed structures built on slopes which are adequate to guide flood waters around and away from the proposed buildings.

d. All new construction and substantial improvements that fully enclose areas below the lowest floor that are usable solely for the parking of vehicles, building access, or storage in an area other than a basement, and which are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing the entry and exit of floodwater. Designs for meeting this requirement must

either be certified by a professional engineer or architect licensed to practice in the State of Utah or meet or exceed the following criteria:

i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

ii. The bottom of all openings shall be no higher than one foot above grade;

iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.

### 3. Mobile Homes

a. For any new mobile home park or mobile home subdivision; for any expansions to an existing mobile home park or mobile home subdivision; for any existing mobile home park or mobile home subdivision where the repair, reconstruction, or improvement of the streets, utilities, and pads equals or exceeds 50 percent of the assessed value of the streets, utilities, and pads before the work commenced; or for any mobile home placed elsewhere than in a mobile home park or mobile home subdivision, it is required that:

i. Stands or lots be elevated on compacted fill or mobile homes placed on pilings so that the lowest floor of the mobile home is above the base flood level;

ii. Adequate surface drainage and access for a mobile home transporter are provided; and

iii. In the instance of elevation on pilings, lots are large enough to permit steps; piling foundations are placed in stable soil not more than ten feet apart, and reinforcement is provided for pilings more than six feet above the ground level.

b. No mobile home shall be placed in a floodway, except in an existing mobile home park or existing mobile home subdivision.

c. All mobile homes (manufactured homes) that are placed or substantially improved within zones A1-30, AH, or AE on the FIRM for Utah County on sites,

i. Outside of a mobile home park or subdivision,

ii. Within a new mobile home park or subdivision,

iii. In an expansion to an existing mobile home or subdivision, or

iv. In an existing mobile home park or subdivision on which a mobile home has incurred substantial damage as the result of a flood, shall be elevated on a permanent foundation such that the lowest floor

of the mobile home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

d. All mobile homes (manufactured homes) to be placed or substantially improved on sites in an existing mobile home park or subdivision within flood zones AI-30, AH, or AE on the FIRM for Utah County that are not subject to the provisions of zoning section 5-11-E-3-c, above, shall be elevated so that either:

i. The lowest floor level of the mobile home is at or above the base flood elevation,

or

ii. The mobile home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and that are securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

e. Any basement on which a mobile home (manufactured home) is placed shall meet the standards of zoning section 5-11-E-1 above, for "residential construction".

#### 4. Recreational Vehicles

All recreational vehicles placed on sites within flood zones AI-30, AH, or AE on the FIRM for Utah County shall either:

a. Be on the site for fewer than 180 consecutive days, or

b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect-type utilities and security (hold-down) devices, and has no permanently attached additions.

#### F. STANDARDS WITHIN FLOODWAYS

Floodways shall be identified within the FPO Zone by the most current Flood Insurance Study, the "Flood Boundary and Floodway Map, Utah County, Utah" (or Floodway Map), and engineering studies maintained according to zoning section 5-11-H-3. Because a floodway is an especially hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following requirements shall apply in a floodway in addition to the other FPO Zone requirements.

##### 1. Encroachments

Encroachments, including fill, new construction, substantial improvements, and other development are prohibited unless a written report is provided of a study conducted by a professional engineer licensed to practice in the State of Utah which certifies that the encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

2. If subpart 1 immediately above is satisfied, all new construction and substantial improvements must comply with all applicable flood hazard reduction provisions of zoning sections 5-11-D and 5-11-E.

3. No mobile home shall be placed in a floodway except in an existing mobile home park or existing mobile home subdivision.

## G. VARIANCES

The Board of Adjustment may grant a variance in the size, distance or elevation requirements of the FPO Zone, according to the standards of zoning section 7-20 and the standards stated below.

### 1. Items to Consider

In deciding whether to grant a variance and what conditions to attach to its approval, the Board shall consider:

- a. The danger that materials may be swept onto other lands causing injury to others.
  - b. The danger to life and property caused by flooding and erosion.
  - c. The degree of susceptibility to flood damage of the proposed use or building (including its contents), and the effect of such damage to the owners.
  - d. The importance of services provided by the facility to the community.
  - e. The necessity of the facility to be on a waterfront, if applicable.
  - f. The availability of alternate locations for the proposed use or building, which are not subject to flooding or erosion damage.
  - g. The compatibility of the proposed use with the existing and anticipated development.
  - h. The relationship of the proposed use to the comprehensive plan and flood plain management program for the area.
  - i. The safety of access to the property during flooding for ordinary and emergency vehicles.
  - j. The expected flood water height, velocity, duration, rate of rise, sediment transport, and wave action effects at the site.
  - k. The cost of providing governmental and public utility services during and after flood conditions, including the maintenance and repair of roads, bridges, electric lines, gas lines, and water and sewer services.
1. Whether the lot to be built on has any buildable area outside of the FPO Zone boundary.

### 2. Presumptions Relative to Approval

- a. Generally a variance may be granted for the new construction or substantial improvement of a one-family dwelling on a lot of one-half (.5) acre or less in area which is contiguous to and surrounded by lots containing structures constructed below flood base level, after fully considering the "items to consider" of subpart 1 immediately above.

As the lot area and human usage increases over one-half acre and one family, the burden of proof becomes more difficult to show that approval can be granted safely.

b. With alternate programs to protect life and provide reasonable safety, a variance may be granted to permit the restoration or rehabilitation of structures on the National Register of Historic Places without regard to the standards contained in zoning sections 5-11-D and 5-11-E.

c. No variance shall be granted within a floodway if such will increase the flood level during the base flood discharge.

d. A variance shall be granted only upon the determination that the variance is the minimum amount necessary, in view of the flood hazard, to afford relief.

e. A variance shall be granted only if such will not result in a threat to public safety, extraordinary public expense, create a nuisance, or cause fraud or victimization of the public.

### 3. Disclosure

The Zoning Administrator shall give to any applicant receiving a variance a written disclosure statement stating that because the structure will be built below the base flood elevation the cost of flood insurance will be commensurate with the increased risk. All variances shall be reported to the Federal Emergency Management Agency.

## H. SPECIAL REQUIREMENTS

### 1. Plans

In addition to the plans required by zoning section 7-6, any application for a permit and certification shall include:

a. The elevation in relation to mean sea level of the lowest floor, including basement floor elevation, of all structures to be permitted.

b. The elevation in relation to mean sea level to which any structure has been flood proofed.

c. A statement of the nature of any flood proofing methods used and a certification by a professional engineer or architect who is licensed to practice in the State of Utah that the flood proofing methods used meet the flood proofing criteria of zoning section 5-11.

d. A description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

e. A descriptive scale drawing showing the nature, location, dimensions, and elevations of the area to be developed or built on, and the nature and locations of existing and proposed structures on the site, fill, storage of materials, and drainage facilities.

f. The location, in relation to the proposed development, of the floodway expanse needed to discharge a base flood, and a statement of the vertical increase in elevation during a base flood caused by the

proposed development.

g. A copy of the 404 permit, when such permit is required under the Federal Water Pollution Control Act Amendments of 1972, and copies of other permits that may be required under Federal or Utah State law, or a statement certifying that no 404 permit is required.

## 2. Certification by Engineer

A plan received according to subpart 1 immediately above shall bear on it the certification of an engineer licensed to practice in the State of Utah that the requirements and standards of the flood plain zone have been met.

Notwithstanding such certification, the plans and certification (along with the records for base flood elevation and floodways collected under zoning section 5-11-H-3, below) shall be reviewed by the Zoning Administrator to determine whether the requirements of this ordinance actually have been met before any clearance to commence construction is issued.

**Exception:** The Zoning Administrator may waive such for a residential accessory structure or a structure to house livestock or agricultural products or machinery if he finds the plans are sufficient to determine the structure meets the standards of zoning section 5-11.

## 3. Records

The Zoning Administrator shall maintain any base flood elevation data for the unincorporated area of Utah County he obtains from a federal, state or other reliable source, in addition to the Flood Insurance Study, the FIRM map, and the Floodway Map, and shall consider such information when processing applications for any portion of the unincorporated area of Utah County for which base flood information has not been provided by the Federal Emergency Management Agency in its flood insurance program.

Further, the Zoning Administrator shall:

- a. Obtain and record the actual elevation in relation to mean sea level of the lowest floor including basements of all new or substantially improved structures and identify which stories are in basements.
- b. Maintain the engineer's flood proofing certifications required in zoning section 5-11-H-1-c and verify and record the actual elevation (in relation to mean sea level) to which the structure has been flood proofed.
- c. Maintain all records collected in the issuing of permits and administering zoning section 5-11.

## 4. Maps and studies adopted by reference

The following three publications of the Federal Emergency Management Agency are hereby adopted by reference in book form: the "Flood Insurance Study, Utah County, Utah, Unincorporated Areas", the "FIRM Flood Insurance Rate Map, Utah County, Utah", and the "Floodway Flood Boundary and Floodway Map, Utah County, Utah". Three copies of each publication are hereby ordered to be placed in the office of the Utah County Clerk, as required by law. These publications shall be used in the administration of the FPO Zone as required therein and shall be the most current publications that have been accepted by

Utah County.

## 5. Altered watercourses

The Zoning Administrator shall give notification to adjacent municipalities and the Utah State Division of Water Resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency. Further, such altered or relocated watercourse shall be required to be maintained by the applicant so the flood carrying capacity is not diminished.

### I. WARNING AND DISCLAIMER

The degree of protection from flooding provided by this section (zoning section 5-11) is considered reasonable for regulatory purposes and is based on a scientific and regulatory study made by the Federal Emergency Management Agency and offered to Utah County. By adopting this section, it is anticipated that the danger, cost and impact from floods will be minimized. However, because of natural processes that change flood channels and watersheds, unforeseen or unknown conditions not identified in the Federal study, extreme flood conditions beyond the limits considered in the study, the activities of man occurring after the study was completed, or other causes, damage due to flooding may occur even to persons or properties which are in full compliance with this ordinance, both those within and without the boundaries of the FPO zone. Therefore, no reliance on this section shall create a liability on the part of, or be a cause of action against, the county or any officer or employee thereof for any flood-related damage.