ARTICLE VII. FLOOD DAMAGE PREVENTION*

***Editor's note:** Ord. No. 2008-07, Arts. 1--9, adopted February 14, 2008, amended article VII in its entirety to read as herein set out. Formerly, article VII pertained to similar subject matter, and derived from Ord. No. 91-10, Arts. 1, 2, adopted April 11, 1991; Ord. No. 2004-70, Art. 1(1), adopted December 9, 2004; Ord. No. 2006-61, Art. 1, adopted October 12, 2006.

Cross references: Emergency services, Ch. 5; roads and highways, Ch. 12; rural development, Ch. 13; water and sewers, Ch. 17.

Sec. 11-261. Lands to which this Article applies.

This Article shall apply to all special flood hazard areas within the jurisdiction of the County.

(Ord. No. 2008-07, Art. 1, 2-14-08)

Sec. 11-262. Methods of reducing flood losses.

This Article uses the following methods to accomplish the stated purpose:

(1) This Article restricts or prohibits structures or uses in special flood hazard areas that adversely impact health, safety or property during flooding events;

(2) This Article requires protection against flood damage for structures or uses vulnerable to floods at the time of initial construction, or after substantial improvement of the structure, or after substantial damage has occurred;

(3) This Article controls the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation and transport of flood waters;

(4) This Article controls floodplain development (structural development, placement of manufactured structures, clearing, grading, mining, drilling, dredging, placement of fill, excavating, watercourse alteration, drainage improvements, roadway or bridge construction, individual water or sewer installations and other activities) which may increase flood damage by increasing flood elevations, flood water velocities, or flood discharge patterns;

(5) This Article regulates the construction of flood barriers which unnaturally divert floodwaters or which may adversely impact other lands.

(Ord. No. 2008-07, Art. 2, 2-14-08)

Sec. 11-263. Flood damage prevention code adopted by reference.

There is hereby adopted by reference a "Flood Damage Prevention Code for Washington County, Arkansas, Arkansas," dated May 16, 2008. The code shall include:

Article 1. Definitions.

Article 2. Administration.

Article 3. Provisions for flood hazard reduction.

A copy of the referenced Code shall be filed in the office of the County Clerk and County Planning Department and shall be available for inspection and copying by any person during normal office hours.

(Ord. No. 2008-07, Art. 3, 2-14-08)

Sec. 11-264. Flood insurance rate map.

The Federal Emergency Management Agency (FEMA) has identified special flood hazard areas of the County in the current scientific and engineering report entitled "The Flood Insurance Study (FIS) for Washington County, Arkansas, and Incorporated Areas," dated May 16, 2008, with an effective flood insurance rate map (FIRM) dated May 16, 2008; and such is hereby adopted by the County.

(Ord. No. 2008-07, Art. 4, 2-14-08)

Sec. 11-265. Abrogation and greater restrictions.

This Article does not repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. Whenever there is a conflict or overlap between this Article and another ordinance, easement, covenant, or deed restriction, the instrument with the more stringent restrictions applies.

(Ord. No. 2008-07, Art. 5, 2-14-08)

Sec. 11-266. Interpretation.

In the interpretation and application of this Article, all provisions must:

(1) Be considered as minimum requirements;

(2) Be liberally construed in favor of the governing body; and

(3) Be deemed to neither limit nor repeal any other powers granted under State statutes.

(Ord. No. 2008-07, Art. 6, 2-14-08)

Sec. 11-267. Warning and disclaimer of liability.

The degree of flood protection required by this Article is considered reasonable for regulatory purposes. Documented scientific and engineering data form the basis for these requirements. On rare occasions, flooding events greater than those considered for this Article will occur. In addition, flood heights may increase over time due to man-made or natural causes. This Article does not imply that land outside special flood hazard areas will be free from flooding, nor that strict adherence to this Article protects uses permitted within special flood hazard areas from all flood damages. This Article specifically does not create liability on the part of the community, nor any official or employee of the community, for any flood damages that result while strictly following this Article, or from any lawful administrative decision made under the provisions of this Article.

(Ord. No. 2008-07, Art. 7, 2-14-08)

Sec. 11-268. Compliance.

Constructing, locating, substantially altering or changing the use of any structure or land after the effective date of this Article requires full compliance with the provisions of this Article and all other applicable regulations.

(Ord. No. 2008-07, Art. 8, 2-14-08)

Sec. 11-269. Penalty for non-compliance.

Flood hazards are reduced by compliance with the provisions of this Code. Accordingly, enforcement of this Article discourages non-compliance and is a recognized mechanism for flood hazard reduction.

The floodplain administrator shall enforce the provisions of this Article, and is authorized to:

(1) Request that FEMA file a 1316 Action (Denial of Flood Insurance) against non-compliant properties; and

(2) Take any other lawful action necessary to prevent or remedy any instance of non-compliance with the provisions of this Article.

a. It is a misdemeanor to violate or fail to comply with any provision of this Article.

b. Any person found, in a court of competent jurisdiction, guilty of violating this Article is subject to fines of not more than five hundred dollars ($500.00) per day for each violation; in addition the defendant is subject to payment of all associated court costs and costs involved in the case.

(Ord. No. 2008-07, Art. 9, 2-14-08)

Secs. 11-270--11-295. Reserved.

Approved by Quorum Court – Feb. 14, 2008
Ordinance No. 2008-07

FLOOD DAMAGE PREVENTION CODE FOR WASHINGTON COUNTY, ARKANSAS
Effective Date May 16, 2008

ARTICLE 1 DEFINITIONS

Unless specifically defined below, words or phrases used in this Code have their common usage meaning to give the most reasonable application to this Code.

Additional definitions for floodplain management terms can be found at Part §59.1 of 44 CFR.

44 CFR (Emergency Management and Assistance – National Flood Insurance Program Regulations) Parts 59-75 contain Federal regulations upon which local floodplain managements are based

44 CFR § 65.12 – contains the section of the Federal regulations which involves revision of flood insurance rate maps to reflect base flood elevations caused by proposed encroachments.

"100-year flood" is any flood with a 1% chance of occurring in any given year. The term is misleading, because of its statistical derivation. A "100-year flood" may occur many times in any given 100-year period, or it may not occur at all in 100 years.

"500-year flood" is any flood with a 0.2% chance of occurring in any given year. As with the 100-year flood, this term is also misleading, because of its statistical derivation. A "500-year flood" may occur many times in any given 500-year period, or it may not occur at all in 500 years.

"Accessory Structures" are structures which are on the same parcel of property as the principle structure and the use of which is incidental to the use of the principle structure (such as garages and storage sheds).

"Adverse impact" means any negative or harmful effect.

"AE Risk Zones" are special flood hazard areas where detailed studies have determined base flood elevations.

"AH Risk Zones" are special flood hazard areas characterized by shallow flooding with ponding effects (where floodwaters accumulate in depressions and linger until absorbed or evaporated).

"AO Risk Zones" are special flood hazard areas characterized by shallow flooding with sheet flow (where floodwaters flow in a broad, shallow sheet rather than through a narrow channel).

"A Risk Zones" are special flood hazard areas without detailed studies, where base flood elevations have not been determined.

"Appeal Board" means a person or persons specifically designated to render decisions on variance applications and floodplain management complaints.

"Automatic" entry and exit of floodwaters means that the water must be able to enter and exit with no intervening action from a person.

"Base flood" is the flood profile used as the basis for the NFIP regulations. The Federal government has selected the "100-year flood" as the base flood.

"Base flood elevation" refers to the expected height of floodwaters during the peak of the base flood event.

"Basement" is any enclosed area that is below grade on all four walls.

"BFE" is the acronym for Base Flood Elevation.

"Buoyancy" is the upward force exerted by water. Buoyancy can cause underground tanks to float free and can lift structures off foundations.

"Certificates of Compliance" are formal documents issued by floodplain administrators certifying that completed projects comply with the requirements of the local Code.

"CFR" is the acronym for the Code of Federal Regulations. The Code of Federal Regulations is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. The Federal regulations pertaining to the national Flood Insurance Program are found in title 44, Emergency Management and Assistance.

"Clearing" is the act of cutting timber or shrubs from an area

"Commercial business park" is typically an area of offices or light industrial usage, although retail, service, or industrial usage is sometimes included in supporting roles. For example, a commercial business park of office complexes may also include restaurants which service these offices.

"Concrete deadman anchors" are heavy steel rods embedded in buried sections of concrete, used to secure items in place under tension.

"Covenant" is a clause in a contract that requires one party to do, or refrain from doing, certain things. A covenant frequently appears as a restriction that a lender imposes on a borrower.

"Crawlspace" is a type of structural foundation where the space beneath the lowest floor is typically not deep enough to allow a person to stand and not all four walls are below grade.

"Critical Facilities" include: Governmental facilities that are considered essential for the delivery of critical services and crisis management (such as data and communication centers and key governmental complexes); facilities that are essential for the health and welfare of the whole population (such as hospitals, prisons, police and fire stations, emergency operations centers, evacuation shelters and schools); mass transportation facilities (such as airports, bus terminals, train terminals); lifeline utility systems (including potable water, wastewater, oil, natural gas, electric power and communications systems); high potential loss facilities (such as nuclear power plants or military installations); hazardous material facilities (such as industrial facilities housing or manufacturing or disposing of corrosives, explosives, flammable materials, radioactive materials and toxins.

"D Zones" areas in which the flood hazard has not been determined, but may be possible

"Deed restriction" refers to a clause in a deed that limits the future uses of the property in some respect. Deed restrictions may impose a vast variety of limitations and conditions, for example, they may limit the density of buildings, dictate the types of structures that can be erected, prevent buildings from being used for specific purposes or even from being used at all.

"Development" broadly means any manmade change in improved or unimproved real estate. It includes, but is not limited to, construction, reconstruction, or placement of a building, or any addition or substantial improvement to a building. "Development" also includes the installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 consecutive days. The installation of utilities, construction of roads, bridges, culverts or similar projects are also "developments." Construction or erection of levees, dams, walls, or fences; drilling, mining, filling, dredging, grading, excavating, paving, or other alterations of the ground surface are "developments." Storage of materials including the placement of gas and liquid storage tanks are "developments," as are channel modifications or any other activity that might change the direction, height, or velocity of flood or surface waters. "Development" does not include maintenance of existing buildings and facilities, maintenance of existing drainage ditches, resurfacing of roads, gardening, plowing, or similar practices that do not involve filling, grading, or construction of levees; nor does it include ranching, farming, and any other agricultural activities.

"Development Permit" refers to the permit required for placing a "development" in the floodplain.

"Easements" are rights or permissions held by one person to make specific, limited use of land owned by another person.

"Elevation Certificate" refers to FEMA form 81-31, which for the purposes of this Code must be properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas.

"Erosion" is the process of soil removal by moving water.

"Existing Structure" means, for floodplain management purposes, a structure which is in place before any reconstruction, rehabilitation, addition, or other improvement takes place.

"Existing Manufactured Home Park or Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

"Expansion to an Existing Manufactured Home Park or Subdivsion" - means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Federal Emergency Management Agency", or FEMA, is the Federal agency responsible for administering the National Flood Insurance Program.

"FEMA" is the acronym for the Federal Emergency Management Agency.

"Fill" refers to the placement of natural sand, dirt, soil, rock, concrete, cement, brick or similar material at a specified location to bring the ground surface up to a desired elevation.

"FIRM" is the acronym for Flood Insurance Rate Map.

"Flood Fringe" refers to the portion of the 100-year floodplain which is outside the floodway (See definition of floodway below.)

"Flood Insurance Rate Map" **(or "FIRM")** refers to the official flood map of a community on which FEMA has categorized Special Flood Hazard Areas into risk premium zones.

"Flood Insurance Study" **(or "FIS")** is the official report provided by FEMA. It contains flood profiles, floodway tables, engineering methods, and other descriptive and technical data.

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

"Flooding events" are general or temporary conditions of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters, or from the unusual and rapid accumulation or runoff of surface waters from any source.

"Floodplain" refers to any land area susceptible to inundation by floodwaters from any source. For the purposes of this Code, floodplain refers to the land area susceptible to being inundated by the base flood.

"Floodplain Administrator" refers to the community official designated in the local Flood Damage Prevention Code as responsible for the Code's administration.

"Floodplain Development Permit" is a permit issued by the local Floodplain Administrator and is required before beginning any development in an area designated as a Special Flood Hazard Area on the community's FIRM.

"Floodproofing" is a combination of structural and nonstructural additions, changes, or adjustments to structures that reduce or eliminate the risk of flood damage.

"Floodproofing Certificate" refers to FEMA form 81-65, which for the purposes of this Code must be properly completed by a Professional Engineer or Architect licensed to practice in the State of Arkansas.

"Floodway" **or** ***"Regulatory Floodway"*** refers to a stream channel and the land to either side of the stream channel that must remain undeveloped and open in order to allow floodwaters to pass without increasing the base flood elevation more than a designated height. For the purposes of this Code, the height is one foot (1 ft.). Severe restrictions or prohibitions are imposed on development within the floodway.

"Flow-through openings" are openings specifically designed to allow floodwaters to flow into and out of enclosed spaces, minimizing the danger of foundation or wall collapse from lateral hydrostatic pressure.

"Functionally dependent use" is a use that requires a location or construction contrary to the requirements of the Code. Shipyards and docks are the most common examples of "functionally dependant uses," but in Arkansas, water and wastewater treatment facilities are often constructed on normally prohibited sites. Another example of a functionally dependant use

might be an addition to a manufacturing facility with precision equipment which must align with existing equipment in a pre-existing, pre-FIRM building. Variances may be granted for functionally dependant uses.

"Grade" means the surface of the ground.

"Grading" means to smooth the surface of the ground, typically with heavy construction equipment.

"Highest Adjacent Grade" (HAG) means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historical Structure" means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

4. Individually listed on a local inventory or historic places in communities with historic preservation programs that have been certified either:

    a. By an approved state program as determined by the Secretary of the Interior or;

    b. Directly by the Secretary of the Interior in states without approved programs.

"Hydrodynamic forces" are the forces and stresses associated with moving water, including impacts from objects carried in the water.

"Hydrostatic flood forces" are the forces and stresses associated with standing floodwaters.

"Lacustrine Flooding" is flooding associated with a lake.

"Lateral forces" are the horizontal hydrostatic forces associated with standing water. Water exerts an equal force in all directions, and as little as three feet of standing water can generate sufficient lateral force to collapse a foundation or wall.

"Lowest floor" refers to the lowest floor of the lowest enclosed area (including basement). For a typical **slab-on-grade construction**, the elevation of the lowest floor is the top of the first floor of the house. For a typical **basement foundation construction**, the elevation of the lowest floor is the top of the basement floor. For a typical **crawlspace foundation construction**, the elevation of the lowest floor is the top of the first floor of the house. For typical **split-level constructions**, the elevation of the lowest floor is the top of the first living area floor – the **garage floor** is not the lowest floor as long as there are no living areas in the garage and it is used solely for storage, parking vehicles and entry to the house. The elevation of the lowest floor of a **manufactured home**, however, is the bottom surface of the lowest floor joist.

"Manufactured Homes" or Structures are modular in nature and are constructed elsewhere and transported to another site for placement, assembly, or reassembly.

"Manufactured Home Park or Subdivision" means a parcel (or contiguous parcels) of land subdivided into two or more manufactured home lots for rent or sale.

"Mean Sea Level" (MSL) means, for the purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's FIRM are referenced.

"Mixed Use Structures" are structures with both a business and a residential component, but where the area used for business is less than 50% of the total floor area of the structure.

"New Construction" means, for floodplain management purposes, structures for which the "start of construction" commenced on or after the date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

"New Manufactured Home Park or Subdivision" - means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

"No Adverse Impact principle" is a principle of restricting or prohibiting land development that does harm or "adversely affects" someone else's property or land.

"Nonresidential Structures" are structures used only for commercial or public purposes, such as businesses, schools, churches, etc...

"No-Rise Certificates" are formal certifications signed and stamped by a Professional Engineer licensed to practice in the State of Arkansas, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed development will not result in any increase in flood levels within the community during the occurrence of a base flood event.

"Piers" are columns of masonry or other structural material (commonly cement blocks stacked up to support a manufactured home), usually rectangular, used to support other structural members.

"Pilings" are steel tubes driven to rock or a suitable soil bearing layer and connected to the foundation of a structure.

"Ponding" is a flooding effect where floodwaters accumulate in shallow depressions and linger until absorbed or evaporated.

"Recreational vehicles" means a vehicle which is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projections;
3. Designed to be self-propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Risk Zones" categorize special flood hazard areas into groupings by the specific risk of flooding. Zones A, AE, AO, and AH are Special Flood Hazard Areas. See "X Risk Zones" in this section.

"Riverine flooding" is flooding associated with a river or stream channel.

"RV" is the acronym for recreational vehicle.

"Screw augers" are any type of anchor that twists into the soil, typically to a depth of 4 feet or more. They are not suitable for securing manufactured homes against floodwaters because saturated grounds often soften and fail to hold the anchor in place.

"Section 404 Wetlands Permit" is a permit required under Section 404 of the Clean Water Act for the discharge of dredged and fill material into any surface water of the United States. The US Army Corps of Engineers issues Section 404 permits.

"SFHA" is the acronym for Special Flood Hazard Area.

"Shallow flooding" means a depth of less than 3 feet.

"Slab anchors" are anchors where the hook of the anchor is wrapped around a horizontal rebar in the slab before the concrete is poured.

"Special flood hazard areas" are geographical areas identified on FEMA flood maps as being at-risk for flooding. The maps further categorize these areas into various flood risk zones A, AE, AH, and AO.

"Start of Construction" includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"State Coordinating Agency" is the agency that acts as a liaison between FEMA and a community for the purposes of floodplain management. The Arkansas Natural Resources Commission is the State Coordinating Agency for Arkansas.

"Stream channels" are depressed natural pathways through which water of any quantity routinely flows.

"Structural development" is a development that includes the placement or construction of a structure.

"Structure," for the purposes of floodplain management, refers to any building with two or more rigid walls and a fully secured roof on a permanent site or to any gas or liquid storage tank that is principally above ground.

"Substantial damage" is damage of any origin where the cost to restore a structure to its original undamaged state would equal or exceed 50% of the market value of the structure before any damage occurred. In determining whether substantial damage has occurred, estimators must use standard contractor and materials costs. There are no exceptions for homeowners who make their own repairs or for discounted or free raw materials.

"Substantial improvement" is any reconstruction, remodeling, addition or improvement to a structure with a cost equaling or exceeding 50% of the market value of the structure before any improvement. Improvements to correct identified violations of local health, sanitary or safety Codes are not substantial improvements, regardless of the cost, as long as they are the minimum improvement necessary to bring the structure up to Code. Alterations to historical structures are also exempted, as long as the improvement does not affect the structure's official status of "historical structure."

"Uses vulnerable to floods" are simply any land or structural uses that may be negatively affected by a flood.

"Variance" is a formal, written permission from the Appeals Board to construct or develop in a way that is inconsistent with the requirements of this Code. The variance only deals with this Code – the Appeals Board has no authority to waive any other governmental requirement, and has no say in the cost of flood insurance.

"Violation" - means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this Code is presumed to be in violation until such time as that documentation is provided.

"Watercourse alteration" refers to any change that occurs within the banks of a watercourse.

"Water Surface Elevation" - means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"X Risk Zones" are a special group of insurance risk zones. One type, shown as non-shaded areas on FEMA issued flood maps, indicates a zone where flooding is not expected to occur. The second type, shown as shaded areas of FEMA flood maps, indicates a flood hazard area that is expected to be affected by the 500-year flood, but not by the 100-year base flood.

ARTICLE 2. ADMINISTRATION

SECTION A. DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR.

The **County Judge** of **Washington County** or his/her designee, is hereby appointed the Floodplain Administrator.

SECTION B. DUTIES & RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR.

It is the duty and responsibility of the Floodplain Administrator or his designee to:

1. **Obtain accreditation each year** as required by A.C.A. §14-268-106 through the State Coordinating Agency, which is the **Arkansas Natural Resources Commission.**

2. **Administer and implement the provisions of this Code** and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program Regulations) as they pertain to floodplain management

3. **Review applications for Floodplain Development Permits** to:

    a. Evaluate proposed projects for reasonable safety from flooding;

    b. Evaluate proposed projects for conformance with No Adverse Impact principles;

    c. Ensure that all other permits necessary (including Section 404 Wetlands Permits as required by the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) for proposed projects are obtained from the appropriate government agency prior to issuing a Floodplain Development Permit; and

    d. Ensure that proposed projects conform to the applicable provisions of this Code.

4. **Approve or deny applications for Floodplain Development Permits** on the basis of:

    a. The proposed development's compliance or non-compliance with the provisions of this Code;

    b. The expected flood elevation, flood water velocity, flood duration, rate of rise and sediment transport of the floodwaters expected at the proposed development site;

c. The proposed development's potential to adversely impact life and property by changing flooding patterns, changing erosion rates, or being swept onto other lands by flood waters;

d. The proposed development's susceptibility to flood damage;

e. The proposed development's compatibility with existing and planned community development;

f. The proposed development's accessibility by ordinary and emergency vehicles during flooding events;

g. The anticipated costs of providing governmental services to the proposed development during and after flooding events, including maintenance and repair of streets, bridges, facilities and public utilities such as sewer, gas, electrical and water systems;

h. The proposed development's functionally dependent use;

i. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed development; and

j. The relationship of the proposed use to the comprehensive plan for that area.

5. **Interpret the exact location of the boundaries of Special Flood Hazard Areas** whenever a mapped boundary appears to be different from actual field conditions. (The sole purpose of this interpretation is to determinate the applicability of the provisions of this Code to the proposed project.)

6. **Notify adjacent communities** and the State Coordinating Agency, which is the Arkansas Natural Resources Commission, a minimum of 60 days **prior to any alteration or relocation of a watercourse,** and submit evidence of all such notifications to FEMA.

7. **Ensure that the flood carrying capacity** within an altered or relocated portion of a watercourse is not diminished, and that the alteration or relocation does not adversely impact any other lands.

8. **Obtain, review and reasonably utilize**, whenever the current Flood Insurance Study or current Flood Insurance Rate Map does not provide **base flood elevation data, any base flood elevation data and floodway data** available from any Federal, State or other source. The Floodplain Administrator may obtain such data by requiring the applicant to submit it in conjunction with a Floodplain Development Permit application. (The sole use of this data is the administration of the provisions of this Code.)

9. **Inspect floodplain developments as necessary** to ensure construction is in accordance with the application data that formed the basis for the decision to issue the Floodplain Development Permit

10. **Issue Certificates of Compliance.**

11. **Maintain all records and documents pertaining to this Code for public inspection.**

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT.

Floodplain Development Permit is required for all structural development, placement of manufactured structures, clearing, grading, mining, drilling, dredging, placement of fill, excavating, watercourse alteration, drainage improvements, roadway or bridge construction, individual water or sewer installations or any other development **in a Special Flood Hazard Area to ensure conformance with the provisions of this Code.**

SECTION D. PERMIT PROCEDURES.

1. **Application** for a Floodplain Development Permit shall be presented to the Floodplain Administrator on forms furnished by him/her and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard.

2. The **documentation** required with each Application for a Floodplain Development Permit, and the specific provisions of this Code applicable to the proposed development, are dependant upon the type of development proposed and the Risk Zone of the proposed development site. Article 3, Section A contains standards for all developments in all Risk Zones. Article 3, Section B contains standards for specific development types in specific Risk Zones.

3. The decision of the Floodplain Administrator to **approve or deny** issuance of a Floodplain Development Permit is **subject to appeal** to the designated Appeal Board. Within **Washington County,** Arkansas the designated Appeal Board is the **Washington County Planning Board.**

SECTION E. PROCEDURES FOR VARIANCE FROM THE REQUIRMENTS OF THIS CODE.

1. Applicants must submit petitions for variances directly to the Appeal Board (Section E).

2. Variances may only be issued:

    a. If showing a good and sufficient cause;

    b. Granting of the variance will not result in any adverse impact upon other lands;

    c. If granting of the variance will not result in any additional threats to public safety;

    d. If granting of the variance will not result in extraordinary public expense;

    e. If granting of the variance does not create a nuisance, cause fraud on or victimization of the public, or conflict with existing laws or ordinances;

    f. If granting of the variance will not result in increased flood heights or an increase in expected flood velocities;

    g. If the requested variance is the minimum necessary, considering the flood hazards, to afford the necessary relief; and

    h. Upon determination that the requested variance is necessary to avoid an extraordinary hardship to the applicant.

3. Variances may not be issued for developments inside a regulatory floodway unless:

    a. All requirements of 44 CFR §65.12 are first met; or

    b. The following requirements are met:

        1. A No-Rise Certificate signed and sealed by a Professional Engineer licensed to practice in the State of Arkansas is submitted to document that no increase in the base flood elevation would result from granting a variance for the proposed development;

        2. Protective measures are employed to minimize damages during flooding events; and

        3. The variance does not result in any adverse impact to other lands.

4. Examples of developments for which variance petitions may be appropriate include but are not limited to:

a. The new construction of, or substantial improvement to, a structure on a lot of 1/2 acre or less in size that is surrounded by contiguous lots with existing structures constructed below the base flood elevation;

b. For the reconstruction, rehabilitation or restoration of an historical structure, provided that:

   1. The proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure; and

   2. The variance is the minimum necessary to preserve the historic character and design of the structure.

c. The new construction of, substantial improvement to, or other development necessary to conduct a functionally dependent use, provided that:

   1. The criteria outlined in Article 2, Section E, (3) and (4) and Article 2, Section F are met, and

   2. The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

SECTION F. <u>APPEAL BOARD.</u>

1. Within **Washington County,** Arkansas, the **Washington County Planning Board** is the designated Appeal Board.

2. The Appeal Board will consider an appeal only with allegations of an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this Code.

3. Upon consideration of the factors noted in Article 1, Sections E and F, and the intent of this ordinance, the Appeal Board may attach such conditions to the granting of variances, as it deems necessary to further the purpose and objectives of this ordinance.

4. Appeal Board decisions are binding only upon the requirements of this Code, and have no bearing on the decision of any lending institution to require the purchase of flood insurance or on the rate determination of such insurance.

5. Any time the Appeal Board issues a variance, it must provide the applicant with a formal written warning of an increased risk of flood damage due to removal of restrictions designed to lessen such risks. The notice must also warn of a corresponding increase in the cost of flood insurance, since the cost of such insurance will be commensurate with the increased risk.

6. Aggrieved parties may appeal any decision of the Appeal Board to a court of competent jurisdiction.

ARTICLE 3. PROVISIONS FOR FLOOD HAZARD REDUCTION

SECTION A. GENERAL STANDARDS.

The following standards apply to all developments in Special Flood Hazard Areas, regardless of the type of proposed development or the Risk Zone of the proposed site.

1. **All new and substantial construction or substantial improvements** shall be **designed (or modified) and adequately anchored** to prevent flotation, collapse or lateral movement of the structure resulting form hydrodynamic and hydrostatic loads, including the effects of buoyancy.

2. **All new construction or substantial improvements** shall be constructed by methods and practices that **minimize flood damage.**

3. **All new construction or substantial improvements** shall be constructed **with materials resistant to flood damage.**

4. All **critical facilities** that are not functionally dependent uses, that are constructed or substantially improved in Special Flood Hazard Areas (SFHA) must be constructed or modified to **exceed 500-year flood protection** standards **or located outside the SFHA.**

5. **The placement or construction of all new structures must be in full compliance with the provisions of this Code.**

6. For the purposes of this Code, all **mixed-use structures** are **subject to the more stringent requirements of residential structures.**

7. **A substantial improvement or substantial damage** to an existing structure **triggers a requirement to bring the entire structure into full compliance** with the provisions of this Code. The existing structure, as well as any reconstruction, rehabilitation, addition, or other improvement, must meet the standards of new construction in this Code.

8. **Any improvement to an existing structure that is less than a substantial improvement requires the improvement, but not the existing structure, to be in full compliance with the provisions of this Code.**

9. **All manufactured homes** to be placed within a Special Flood Hazard Area on a community's FIRM shall be **installed using methods and practices which minimize flood damage**. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces. Screw augers or expanding anchors will not satisfy the requirement of this provision.

10. The design or location of **electrical, heating, ventilation, plumbing, and air conditioning equipment for new structures**, or for any improvements to an existing structure, must prevent water from entering or accumulating within the components during base flood events.

11. The design of **all new and replacement water supply systems** must minimize or eliminate infiltration of floodwaters into the system during base flood events.

12. The design of **all new and replacement sanitary sewage** systems must minimize or eliminate infiltration of floodwaters into the system during flooding events, and must prevent sewage discharge from the systems into floodwaters.

13. The placement of **on-site waste disposal systems** must avoid impairment to, or contamination from, the disposal system during base flood events.

14. **Construction of basement foundations in any Special Flood Hazard Area is prohibited**.

15. New construction and substantial improvements, with **fully enclosed areas (such as garages and crawlspaces)** below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are below the base flood elevation shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

    a. A minimum of two openings on separate walls having a total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding shall be provided.

    b. The bottom of all openings shall be no higher than 1 foot above grade.

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

16. The placement of **recreational vehicles (RV)** in Special Flood Hazard Areas must either:

    a. Be temporary, as demonstrated by the RV being fully licensed, being on wheels or a jacking system, attached to the site only by quick disconnect type utilities and security devices, having no permanently attached additions, and being immobile for no more than 180 consecutive days; or else.

    b. Meet all provisions of this Code applicable to manufactured home structures.

17. All proposals for the development of a **residential subdivision, commercial business park or manufactured home park/subdivision** must have **public utilities and facilities such as sewer, gas, electrical and water systems** located and constructed to minimize or eliminate flood damage.

18. All proposals for the development of a **residential subdivision, commercial business park or a manufactured home park/subdivision** must include an adequate **drainage plan** to reduce exposure to flood hazards.

19. All proposals for the development of a **commercial business park or a manufactured home park/subdivision** must include an adequate **evacuation plan** for the escape of citizens from affected nonresidential structures during flooding events.

SECTION B. RISK ZONE SPECIFIC STANDARDS.

In addition to the General Standards, the following standards apply to specific development types in specific Risk Zones, except as revised in Section E of this Article. Risk Zones listed in this Code that do not appear on the current FIRM are not applicable.

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(1) In AE Risk Zones:
Special Flood Hazard Areas with base floods determined

A. For Residential Structures in Zone AE:

1. For all new residential structures, the top surface of the lowest floor must have an elevation of **two (2) feet or more** above the published BFE. This elevation must be documented on an Elevation Certificate properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas.

2. For all substantial improvements or substantial damage to existing residential structures, the entire structure becomes subject to the requirements of a new residential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing residential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new residential structure.

B. For Nonresidential Structures in Zone AE:

1. All new commercial, industrial or other nonresidential structures must either:

   a. Have the lowest floor (including basement) elevated **two (2) feet or more** above the base flood level or;

   b. Be floodproofed such that, together with attendant utility and sanitary facilities, be designed so that below **an elevation of 3 feet above** the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

   c. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify on a Floodproofing Certificate that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the Floodplain Administrator.

2. For all substantial improvements or substantial damage to existing commercial, industrial or other nonresidential structures the entire structure becomes subject to the requirements of a new nonresidential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing nonresidential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new nonresidential structure.

C. For Manufactured Homes in Zone AE:

1. All manufactured homes that are placed or substantially improved on sites:

   a. Outside of a manufactured home park or subdivision,

   b. In a new manufactured home park or subdivision,

   c. In an expansion to an existing manufactured home park or subdivision, or

   d. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated **two (2) feet or more** above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

2. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision on the community's FIRM that are not subject to the provisions of paragraph (1.) of this section be elevated so that either:

   a. The lowest floor of the manufactured home is **two (2) feet or more** above the base flood elevation, or

   b. The manufactured 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 be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

3. For all substantial improvements or substantial damage to existing manufactured home, the entire structure becomes subject to the requirements of a new manufactured home.

4. For any reconstruction, rehabilitation, addition, or other improvement to an existing manufactured home that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new manufactured home.

D. Where FEMA has not established a regulatory floodway in Zone AE: No Floodplain Development Permit may be issued unless a detailed engineering analysis is submitted along with the application that demonstrates the increase in base floodwater elevation due to the proposed development and all cumulative developments since the publication of the current FIRM will be less than 1 foot.

(2) Floodways:
High risk areas of stream channel and adjacent floodplain

A. **Developments** in regulatory floodways are **prohibited, unless**

1. **A No-Rise Certificate**, signed and stamped by a Professional Engineer licensed to practice in the State of Arkansas, **is submitted** to demonstrate through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development would not result in any increase in flood levels within the community during the occurrence of a base flood event; **or**

2. **All requirements of 44 CFR §65.12 are first met.**

B. **No Manufactured Home may be placed in a regulatory floodway**, regardless of elevation height, anchoring methods, or No-Rise Certification.

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(3) In AH or AO Risk Zones:
Special Flood Hazard Areas of shallow flooding

A. **For Residential Structures in Zones AH or AO:**

1. All new residential structures must be constructed with the top surface of the lowest floor elevated **two (2) feet or more** above the published BFE, or **two (2) feet or more** above the highest adjacent grade in addition to the depth number specified (at least 2 feet if no depth number is specified) on the community's FIRM. This elevation must be documented on an Elevation Certificate properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas.

2. For all substantial improvements or substantial damage to existing residential structures the entire structure becomes subject to the requirements of a new residential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing residential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new residential structure.

B. For Nonresidential Structures in Zones AH or AO:

1. All new commercial, industrial or other nonresidential structure must either:

   a. Have the top surface of the lowest floor elevated **two (2) feet or more** above the published BFE, or **two (2) feet or more** above the highest adjacent grade in addition to the depth number specified (at least 2 feet if no depth number is specified) on the community's FIRM, with documentation on an Elevation Certificate properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas; or

   b. Be floodproofed such that the structure, together with attendant utility and sanitary facilities be designed so that below **three (3) feet or more** above the published BFE in Zone AH, or **three 3 feet or more** above the base specified flood depth in an AO Zone, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

2. For all substantial improvements or substantial damage to existing commercial, industrial or other nonresidential structures the entire structure becomes subject to the requirements of a new nonresidential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing nonresidential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new nonresidential structure.

C. For Manufactured Homes in Zones AH or AO:

1. All manufactured homes that are placed or substantially improved on sites:

   a. Outside of a manufactured home park or subdivision,

   b. In a new manufactured home park or subdivision,

   c. In an expansion to an existing manufactured home park or subdivision, or

   d. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated **two (2) feet or more** above the published BFE, or **two (2) feet or more** above the highest adjacent grade in addition to the depth number specified (at least 2 feet if no depth number is specified) on the community's FIRM, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

2. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision on the community's FIRM that are not subject to the provisions of paragraph 1. of this section be elevated so that either:

   a. The lowest floor of the manufactured home meets the elevation standard of paragraph 1., or

   b. The manufactured 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 be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

3. For all substantial improvements or substantial damage to existing manufactured home, the entire structure becomes subject to the requirements of a new manufactured home.

4. For any reconstruction, rehabilitation, addition, or other improvement to an existing manufactured home that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new manufactured home.

D. **Where FEMA has not established a regulatory floodway in Zone in Zones AH or AO**, no Floodplain Development Permit may be issued unless a detailed engineering analysis is submitted along with the application that demonstrates the increase in base floodwater elevation due to the proposed development and all cumulative developments since the publication of the current FIRM will be less than 1 foot.

E. **Require adequate drainage paths** around structures on slopes, to guide flood waters around and away from proposed structures.

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(4) In "A" Risk Zones:
Special Flood Hazard Areas with no base flood elevations determined

A. **In Zone A, The applicant or the applicant's agent must determine a base flood elevation prior to construction. The BFE will be based on a source or method approved by the local Floodplain Administrator.**

B. **For Residential Structures in Zone A:**

1. For all new residential structures, the top surface of the lowest floor must have an elevation **two (2) feet or more** above the BFE. This elevation must be documented on an Elevation Certificate properly completed by a Professional Engineer, Surveyor or Architect licensed to practice in the State of Arkansas.

2. For all substantial improvements or substantial damage to existing residential structures, the entire structure becomes subject to the requirements of a new residential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing residential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new residential structure.

C. **For Nonresidential Structures in Zone A:**

1. All new commercial, industrial or other nonresidential structures must either:

   a. Have the lowest floor (including basement) elevated **two (2) feet or more** above the base flood level or;

b. Be floodproofed such that, together with attendant utility and sanitary facilities, be designed so that below **an elevation of 3 feet above** the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

c. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify on a Floodproofing Certificate that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the Floodplain Administrator.

2. For all substantial improvements or substantial damage to existing commercial, industrial or other nonresidential structures the entire structure becomes subject to the requirements of a new nonresidential structure.

3. For any reconstruction, rehabilitation, addition, or other improvement to an existing nonresidential structure that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new nonresidential structure.

D. For Manufactured Homes in Zone A:

1. All manufactured homes that are placed or substantially improved on sites:

   a. Outside of a manufactured home park or subdivision,

   b. In a new manufactured home park or subdivision,

   c. In an expansion to an existing manufactured home park or subdivision, or

   d. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated **two (2) feet or more** above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

2. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision on the community's FIRM that are not subject to the provisions of paragraph (1.) of this section be elevated so that either:

   a. The lowest floor of the manufactured home is **two (2) feet or more** above the base flood elevation, or

   b. The manufactured 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 be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

3. For all substantial improvements or substantial damage to existing manufactured home, the entire structure becomes subject to the requirements of a new manufactured home.

4. For any reconstruction, rehabilitation, addition, or other improvement to an existing manufactured home that is less than a substantial improvement, only the improved area, but not the entire structure, becomes subject to the requirements of a new manufactured home.

E. **Base flood elevation data and a regulatory floodway**, utilizing accepted engineering practices, shall be generated for subdivision proposals and other proposed development including the placement of **manufactured home parks and subdivisions which is greater than 50 lots or 5 acres, whichever is lesser**, if not otherwise provided.