

**CHAPTER 420: FLOOD PROTECTION**  
**ARTICLE I. STATUTORY AUTHORIZATION, FINDINGS OF**  
**FACT AND PURPOSES**  
**SECTION 420.010: STATUTORY AUTHORIZATION**

The legislature of the State of Missouri has in Chapter 89, RSMo., and Sections 77.590 and 78.440, RSMo., delegated the responsibility to local governmental units to adopt floodplain management regulations designed to protect the health, safety and general welfare. Therefore, the City Council of the City of De Soto, Missouri, ordains as follows. (CC 1988 §11.1-1; Ord. No. 3334 §1, 2-18-98)

**SECTION 420.020: FINDINGS OF FACT**

*Flood Losses Resulting From Periodic Inundation.* The special flood hazard areas of the City of De Soto, Missouri, are subject to inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. *General Causes Of The Flood Loss.* These flood losses are caused by:

1. The cumulative effect of development in any delineated floodplain causing increases in flood heights and velocities, and
2. The occupancy of flood hazard areas by uses vulnerable to floods, hazardous to others, which are inadequately elevated, or otherwise unprotected from flood damages.

C. *Methods Used To Analyze Flood Hazards.* The Flood Insurance Study (FIS) that is the basis of this Chapter uses a standard engineering method of analyzing flood hazards which consists of a series of interrelated steps.

1. Section of a base flood that is based upon engineering calculations which permit a consideration of such flood factors as its expected frequency of occurrence, the area inundated and the depth of inundation. The base flood selected for this Chapter is representative of large floods which are characteristic of what can be expected to occur on the particular streams subject to this Chapter. It is the general order of a flood which could be expected to have a one percent (1%) chance of occurrence in any one (1) year, as delineated on the Federal Insurance Administrator's FIS and illustrative materials dated April 5, 2006, as amended, and any future revisions thereto.
2. Calculation of water surface profiles are based on a standard hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.
3. Computation of a floodway required to convey this flood without increasing flood heights more than one (1) foot at any point.
4. Delineation of floodway encroachment lines within which no development is permitted that would cause any increase in flood height.

5. Delineation of flood fringe, i.e., that area outside the floodway encroachment lines but still subject to inundation by the base flood. (CC 1988 §11.1-2; Ord. No. 3334 §1, 2-18-98; Ord. No. 3647 §1, 11-21-05)

## **SECTION 420.030: STATEMENT OF PURPOSE**

It is the purpose of this Chapter to promote the public health, safety and general welfare; to minimize those losses described in Article I, Section 420.020(A); to establish or maintain the community's eligibility for participation in the National Flood Insurance Program (NFIP) as defined in 44 Code of Federal Regulations (CFR) 59.22(a)(3); and to meet the requirements of 44 CFR 60.3(d) by applying the provisions of this Chapter to:

1. Restrict or prohibit uses that are dangerous to health, safety or property in times of flooding or cause undue increases in flood heights or velocities;
2. Require uses vulnerable to floods, including public facilities that serve such uses, be provided with flood protection at the time of initial construction; and
3. Protect individuals from buying lands that are unsuited for the intended development purposes due to the flood hazard. (CC 1988 §11.1-3; Ord. No. 3334 §1, 2-18-98)

## **ARTICLE II. DEFINITIONS**

### **SECTION 420.040: DEFINITIONS**

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted so as to give them the same meaning they have in common usage and to give this Chapter its most reasonable application.

*100-YEAR FLOOD:* See "*BASE FLOOD*".

*ACCESSORY STRUCTURE:* The same as "*APPURTENANT STRUCTURE*".

*ACTUARIAL RATES:* See "*RISK PREMIUM RATES*".

*ADMINISTRATOR:* The Federal Insurance Administrator.

*AGENCY:* The Federal Emergency Management Agency (FEMA).

*AGRICULTURAL COMMODITIES:* Agricultural products and livestock.

*AGRICULTURAL STRUCTURE:* Any structure used exclusively in connection with the production, harvesting, storage, drying or raising of agricultural commodities.

*APPEAL:* A request for review of the Floodplain Administrator's interpretation of any provision of this Chapter or a request for a variance.

*APPURTENANT STRUCTURE:* A structure that is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

*AREA OF SPECIAL FLOOD HAZARD:* The land in the floodplain within a community subject to a one percent (1%) or greater chance of flooding in any given year.

*BASE FLOOD:* The flood having a one percent (1%) chance of being equalled or exceeded in any given year.

*BASEMENT:* Any area of the structure having its floor subgrade (below ground level) on all sides.

*BUILDING:* See "*STRUCTURE*".

*CHIEF EXECUTIVE OFFICER OR CHIEF ELECTED OFFICIAL:* The official of the community who is charged with the authority to implement and administer laws, ordinances and regulations for that community.

*COMMUNITY:* Any State or area or political subdivision thereof which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

*DEVELOPMENT*: Any manmade change to improved or unimproved real estate including, but not limited to, buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

*ELEVATED BUILDING*: For insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings or columns.

*ELIGIBLE COMMUNITY OR PARTICIPATING COMMUNITY*: A community for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program (NFIP).

*EXISTING CONSTRUCTION*: For the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures".

*EXISTING MANUFACTURED HOME PARK OR SUBDIVISION*: 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 SUBDIVISION*: 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).

*FLOOD OR FLOODING*: A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland; and/or
2. The unusual and rapid accumulation or runoff of surface waters from any source.

*FLOOD BOUNDARY AND FLOODWAY MAP (FBFM)*: An Official Map of a community on which the Administrator has delineated both special flood hazard areas and the designated regulatory floodway.

*FLOOD ELEVATION DETERMINATION*: A determination by the Administrator of the water surface elevations of the base flood, that is, the flood level that has a one percent (1%) or greater chance of occurrence in any given year.

*FLOOD ELEVATION STUDY*: An examination, evaluation and determination of flood hazards.

*FLOOD FRINGE*: The area outside the floodway encroachment lines but still subject to inundation by the regulatory flood.

*FLOOD INSURANCE RATE MAP (FIRM)*: An Official Map of a community on which the Administrator has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

*FLOOD INSURANCE STUDY (FIS)*: An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

*FLOODPLAIN OR FLOOD-PRONE AREA*: Any land area susceptible to being inundated by water from any source (see "FLOODING").

*FLOODPLAIN MANAGEMENT*: 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.

*FLOODPLAIN MANAGEMENT REGULATIONS*: Zoning ordinances, subdivision

regulations, Building Codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of Police power. The term describes such State or local regulations, in any combination thereof, that provide standards for the purpose of flood damage prevention and reduction.

**FLOODPROOFING:** Any combination of structural and non-structural additions, changes or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, or structures and their contents.

**FLOODWAY OR REGULATORY FLOODWAY:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

**FLOODWAY ENCROACHMENT LINES:** The lines marking the limits of floodways on Federal, State or local floodplain maps.

**FREEBOARD:** A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as bridge openings and the hydrological effect of urbanization of the watershed.

**FUNCTIONALLY DEPENDENT USE:** A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities and facilities that are necessary for the loading and unloading of cargo or passengers, but does not include long-term storage or related manufacturing facilities.

**HIGHEST ADJACENT GRADE:** The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**HISTORIC STRUCTURE:** 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 of 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.

**LOWEST FLOOR:** The lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable floodproofing design requirements of this Chapter.

**MANUFACTURED HOME:** A structure, transportable in one (1) or more sections, that is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "*manufactured home*" does not include a "*recreational vehicle*".

**MANUFACTURED HOME PARK OR SUBDIVISION:** A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

**MAP:** The Flood Hazard Boundary Map (FHBM), Flood Insurance Rate Map (FIRM), or the Flood Boundary and Floodway Map (FBFM) for a community issued by the Federal Emergency Management Agency (FEMA).

**MARKET VALUE OR FAIR MARKET VALUE:** An estimate of what is fair, economic, just and equitable value under normal local market conditions.

**MEAN SEA LEVEL:** For purposes of National Flood Insurance Program (NFIP), the National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

**NEW CONSTRUCTION:** For the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "*new construction*" means structures for which the "start of construction" commenced on or after the effective date of the floodplain management regulations adopted by a community and includes any subsequent improvements to such structures.

**NEW MANUFACTURED HOME PARK OR SUBDIVISION:** A manufactured home park or subdivision for which the construction of facilities for servicing the lot 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 the community.

**NFIP:** The National Flood Insurance Program (NFIP).

**PARTICIPATING COMMUNITY:** Also known as an "*eligible community*", means a community in which the Administrator has authorized the sale of flood insurance.

**PERSON:** Includes any individual or group of individuals, corporation, partnership, association, or any other entity, including Federal, State and local governments and agencies.

**PRINCIPALLY ABOVE GROUND:** At least fifty-one percent (51%) of the actual cash value of the structure, less land value, is above ground.

**RECREATIONAL VEHICLE:** A vehicle which is:

1. Built on a single chassis;
2. Four hundred (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.

**REMEDY A VIOLATION:** To bring the structure or other development into compliance with Federal, State, or local floodplain management regulations; or, if this is not possible, to reduce the impacts of its non-compliance.

**RISK PREMIUM RATES:** Rates established by the Administrator pursuant to individual

community studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. *"Risk premium rates"* include provisions for operating costs and allowances.

*SPECIAL FLOOD HAZARD AREA*: See *"AREA OF SPECIAL FLOOD HAZARD"*.

*SPECIAL HAZARD AREA*: An area having special flood hazards and shown on an FHBM, FIRM or FBFM as Zones (unnumbered or numbered) A and AE.

*START OF CONSTRUCTION*: Includes substantial improvements and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvements were within one hundred eighty (180) days of the permit date. The *"actual start"* means either the first (1st) placement of permanent construction of a structure on a site, such as the pouring of slabs or footings, the installation of piles, the construction of columns, 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, the installation of streets and/or walkways, excavation for a basement, footings, piers, foundations, the erection of temporary forms, nor installation on the property of accessory structures, 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 (1st) 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*: That agency of the State Government or other office designated by the Governor of the State or by State Statute at the request of the Administrator to assist in the implementation of the National Flood Insurance Program (NFIP) in that State.

*STRUCTURE*: For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. *"Structure"*, for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

*SUBSTANTIAL DAMAGE*: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

*SUBSTANTIAL IMPROVEMENT*: Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure before *"start of construction"* of the improvement. This term includes structures which have incurred *"substantial damage"*, regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local Code Enforcement Official and which are the minimum necessary to assure safe living conditions, or

2. Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

*VARIANCE:* A grant of relief by the community from the terms of a floodplain management regulation. Flood insurance requirements remain in place for any varied use or structure and cannot be varied by the community.

*VIOLATION:* 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 by this Chapter is presumed to be in violation until such time as that documentation is provided.

*WATER SURFACE ELEVATION:* 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 floodplain. (CC 1988 §11.1-29; Ord. No. 3334 §1, 2-18-98)