

- (14) *Variances.* The historic preservation commission may make recommendations to the board to allow variances for standard parking and lot line requirements for property in the HP-O district, where such variances will aid in the retention of the property's historic character and appearance. The historic preservation commission shall also make recommendations to allow designated properties to be utilized for noncomplying uses if such use would serve to perpetuate the viable contemporary utilization of the historic structure.
  - (15) *Review.* District boundaries and designation status may be reviewed after no less than ten (10) years, at the request of either the historic preservation commission or the petition of the owners of at least sixty (60) of the Boone County tax parcels in the district. After the initial ten-year period, district boundaries and designation status may be reviewed no more often than once every five (5) years.
- (d) *FP-O floodplain overlay.*
- (1) *Authority.* The council enacts these floodplain management regulations under its authority to adopt zoning regulations designed to protect the health, safety and general welfare which authority was granted to the City of Columbia as a home rule charter city by the people of the State of Missouri in Article VI, Section 19(a) of the Missouri Constitution and by the General Assembly of the State of Missouri in RSMo Ch. 89.
  - (2) *Findings of fact.*
    - (i) *Flood losses resulting from periodic inundation.* The flood hazard areas of Columbia, 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.
    - (ii) *General causes of these flood losses.* These flood losses are caused by (1) the cumulative effect of obstructions in floodways causing increases in flood heights and velocities, (2) the occupancy of flood hazard areas by uses vulnerable to floods or hazardous to others, which are inadequately elevated or otherwise unprotected from flood damages.
    - (iii) The flood insurance study (FIS) that is the basis of this ordinance use standard engineering method of analyzing flood hazards which consist of a series of interrelated steps:
      - (A) Selection 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 ordinance is representative of large floods which are characteristic of what can be expected to occur on the particular streams subject to this ordinance. It is in the

general order of a flood which could be expected to have a one percent chance of occurrence in any one year as delineated on the Federal Insurance Administrator's FIS, and illustrative materials for Boone County, Missouri, dated April 19, 2017 as amended, and any future revisions thereto;

- (B) Calculation of water surface profiles based on a hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood;
  - (C) Computation of the floodway required to convey this flood without increasing flood heights more than one foot at any point;
  - (D) Delineation of floodway encroachment lines within which no obstruction is permitted which would cause any increase in flood height; and
  - (E) Delineation of flood fringe, i.e., that area outside the floodway encroachment lines but which still is subject to inundation by the regulatory flood.
- (3) *Purpose.* The purpose of the floodplain overlay district is to promote the public health, safety, and general welfare and to minimize those losses described in subsection (2) above and 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 59.22(a)(3), and to meet the requirements of 44 CFR 60.3(d) by applying the provisions of this section to:
- (i) 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;
  - (ii) Require that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction; and
  - (iii) Protect individuals from buying lands that are unsuited for intended purposes because of flood hazard.
- (4) *General provisions.*
- (i) *Lands to which ordinance applies.* This section shall apply to all lands within the jurisdiction of the City of Columbia identified as numbered and unnumbered A zones and AE zones, on the Flood Insurance Rate Maps (FIRMs) for Boone County on map panels 29019C0165D, 29019C0260D and 29019C0355D dated March 17, 2011 and on map panels 29019C0169E, 29019C0170E, 29019C0188E, 29019C0266E, 29019C0267E, 29019C0270E, 29019C0280E, 29019C0281E, 29019C0282E, 29019C0283E, 29019C0284E, 29019C0286E, 29019C0287E, 29019C0290E, 29019C0291E, 29019C0292E, 29019C0295E, 29019C0305E, 29019C0315E, and 29019C0335E, dated April 19, 2017 as amended, and any future revisions thereto, and that portion of the X zone shaded, other flood areas, which is in the upper square mile of a flood drainage area. In all areas covered by this section,

no development shall be permitted except upon the issuance of a floodplain permit to develop granted by the director under such safeguards and restriction as the director may reasonably impose for the promotion and maintenance of the general welfare and health of the inhabitants of the community and where specifically noted in this section.

- (ii) *The enforcement officer.* The director of community development is hereby designated as the duly designated local floodplain administrator under this section.
- (iii) *Rules for interpretation of district boundaries.* The boundaries of the floodway, flood fringe, and flood drainage area shall be determined by scaling distances on the official zoning map or on the flood insurance rate map or floodway map. Where interpretation is needed to the exact location of the boundaries of the district as shown on the official zoning map, as for example where there appears to be a conflict between a mapped boundary and actual field conditions, the director shall make the necessary interpretation. In such cases where the interpretation is contested, the board will resolve the dispute. The regulatory flood elevation for the point in question shall be the governing factor in locating the district boundary on the land. The person contesting the location of the district boundary shall be given a reasonable opportunity to present a case to the board and to submit technical evidence, if desired.
- (iv) *Compliance.* No development within known flood hazard areas of the city shall be located, extended, converted or structurally altered without full compliance with the terms of this section and other applicable regulations.
- (v) *Abrogation and greater restrictions.* It is not intended by this section 29-2.3(d) to repeal, abrogate or impair any existent easements, covenants, or deed restrictions. However, where this section 29-2.3(d) imposes greater restrictions, the provisions of this section 29-2.3(d) shall prevail.
- (vi) *Interpretation.* In their interpretation and application, the provisions of this section shall be held to be minimum requirements and shall be liberally construed in favor of the council and shall not be deemed a limitation or repeal of any other powers granted by state statutes.
- (vii) *Warning and disclaimer of liability.* The degree of flood protection required by this section 29-2.3(d) is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood height may be increased by manmade or natural causes, such as ice jams and bridge openings restricted by debris. This section 29-2.3(d) does not imply that areas outside of the floodway, flood fringe, and flood drainage area boundaries or land uses permitted within such areas will be free from flooding or flood damage. This section 29-2.3(d) shall not create liability on the part of the

city or any officer or employee thereof for any flood damages that may result from reliance on this section or any administrative decision lawfully made thereunder.

- (viii) *Appeal.* Where a request for a floodplain development permit to develop or for a variance is denied by the director the applicant may apply for such floodplain development permit or variance to these regulations directly to the board.
- (5) *Permit required.* No person, firm or corporation shall initiate any development or substantial improvement or cause the same to be done without first obtaining a separate floodplain development permit for development in this floodplain overlay district.
- (6) *Administration.* The director of community development is hereby appointed to administer and implement the provisions of this section. Duties of the director shall include, but not be limited to:
- (i) Review all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the floodplain development permit requirements of this section have been satisfied;
  - (ii) Review all applications for floodplain development permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required;
  - (iii) Issue floodplain development permits for approved applications;
  - (iv) Notify adjacent communities, the State of Missouri Emergency Management Agency, the Missouri Clean Water Commission, and the Department of Natural Resources prior to any alteration or relocation of a watercourse, and shall submit evidence of such notification to the Federal Emergency Management Agency;
  - (v) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished;
  - (vi) Verify, record, and maintain record of the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures;
  - (vii) Verify, record, and maintain record of the actual elevation (in relation to mean sea level) to which the new or substantially improved non-residential structures have been floodproofed; and
  - (viii) When floodproofing is utilized for a particular non-residential structure, the director of community development shall be presented certification from a registered professional engineer or architect.

- (7) *Application for permit.* To obtain a floodplain development permit, the applicant shall first file an application in writing on a form furnished for that purpose. Every such application shall:
- (i) Identify and describe the work to be covered by the floodplain development permit;
  - (ii) Describe the land on which the proposed work is to be done by lot, block tract and house and street address, or similar description that will readily identify and definitely locate the proposed building or work;
  - (iii) Indicate the use or occupancy for which the proposed work is intended;
  - (iv) Be accompanied by plans and specifications for proposed construction;
  - (v) Be signed by the permittee or his authorized agent who may be required to submit evidence to indicate such authority; and
  - (vi) Give such other information as reasonably may be required by the director.
- (8) *General provisions for flood hazard reduction.*
- (i) No permit for development shall be granted for new construction, substantial improvements and other improvements including the placement of manufactured homes within all numbered and unnumbered A zones (including AE, AO and AH zones) and that portion of the X zone shaded, other flood areas, which is in the upper square mile of a flood drainage area, unless the conditions of this subsection are satisfied.
  - (ii) All areas identified as unnumbered A zones and X zones shaded, other flood areas, on the FIRM are subject to inundation of the 1% annual chance flood; however, the water surface elevation was not provided. The unnumbered A zones shall be subject to all development provisions of this section. If flood insurance study data is not available, the community shall utilize any base flood elevation or floodway data currently available from federal, state or other sources.
  - (iii) New construction, subdivision proposals, substantial improvements, prefabricated buildings, placement of manufactured homes and other developments shall require:
    - (A) Design or anchorage to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
    - (B) New or replacement water supply systems and sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and onsite waste disposal systems be located so as to avoid impairment or contamination.
    - (C) Construction with materials resistant to flood damage, utilizing methods and practices that minimize flood damage, and with electri-

cal, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

- (D) All utility and sanitary facilities be elevated or floodproofed up to the regulatory flood protection elevation.
  - (E) That until a floodway has been designated, no development, including landfill, may be permitted within zone AE and the flood drainage area (zone X shaded, other flood areas - upper square mile) on the city's FIRM unless the applicant for the land use has demonstrated that the proposed use, when combined with all other existing and reasonably anticipated uses, will not increase the water surface elevation of the 1% annual chance flood more than one foot on the average cross section of the reach in which the development or landfill is located as shown on the flood insurance rate study incorporated by reference per section 29-2.3(d)(4)(i).
  - (F) The storage or processing of materials that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal or plant life is prohibited.
  - (G) Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.
- (iv) Subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, be required to assure that (1) all such proposals are consistent with the need to minimize flood damage, (2) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located, elevated and constructed to minimize or eliminate flood damage, (3) adequate drainage is provided so as to reduce exposure to flood hazards, and (4) proposals for development (including proposals for manufactured home parks) of five (5) acres or fifty (50) lots, whichever is lesser, include within such proposals the regulatory flood elevation.
- (9) *Specific standards for flood hazard reduction.* In all areas of special flood hazard where base flood elevation data have been provided as set forth in section 29-2.3(d)(4)(i), the following provisions are required:
- (i) *Residential construction.* New construction or substantial improvements of any residential building or manufactured home shall have the lowest floor, including basement, elevated to at least two (2) feet above base flood elevation. Should solid foundation perimeter walls be used to elevate a



structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of subsection (iii), below;

- (ii) *Nonresidential construction.* New construction or substantial improvements of any commercial, industrial, or nonresidential building or manufactured home shall have the lowest floor, including basement, elevated to at least two (2) feet above base flood elevation. Buildings located in all A-zones may be floodproofed in lieu of being elevated provided that all areas of the building below the required elevation are watertight with walls substantially impermeable to the passage of water and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in section 29-2.3(d)(6)(vii);
  - (iii) *Elevated buildings.* New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
    - (A) Provide a minimum of two (2) openings having a total net area of not less than one square inch for every square foot enclosed area subject to flooding;
    - (B) The bottom of all openings shall be no higher than one foot above grade; and
    - (C) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions;
  - (iv) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used on connection with the premises (standard exterior door) or entry to the living area (stairways or elevator); and
  - (v) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.
- (10) *Manufactured homes.*
- (i) All manufactured homes shall be anchored to resist flotation, collapse, or lateral movement. Manufactured homes must be anchored in accordance

with local building codes or FEMA guidelines. In the event that over-the-top frame ties to ground anchors are used, the following specific requirements (or their equivalent) shall be met:

- (A) Over-the-top ties be provided at each of the four (4) corners of the manufactured home, with two (2) additional ties per side at intermediate locations and manufactured homes less than fifty (50) feet long requiring one additional tie per side;
  - (B) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points and manufactured homes less than fifty (50) feet long requiring four (4) additional ties per side;
  - (C) All components of the anchoring system be capable of carrying a force of four thousand eight hundred (4,800) pounds; and
  - (D) Any additions to the manufactured home be similarly anchored.
- (ii) All manufactured homes to be placed within zones AH, AE and X shaded, other flood areas, on Columbia's FIRM 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, shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least two (2) feet above the base flood elevation; and shall be securely anchored to an adequately anchored foundation system in accordance with the provisions of item (i), above.
- (iii) Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within zones AH, AE and X shaded, other flood areas, on Columbia's FIRM that are not subject to the provisions of item (i), above, shall be elevated so that either:
- (A) The lowest floor of the manufactured home is at least two (2) feet 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 thirty-six (36) inches in height above grade and are securely anchored to an adequately anchored foundation system in accordance with the provisions of item (i), above.
- (11) *Recreational vehicles.* All recreational vehicles placed on sites within the identified floodplain on Columbia's FIRM shall either be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready



for highway use or meet the permit requirements and the elevation and anchoring requirements for manufactured homes of this section. A recreational vehicle is ready for highway use if it is on its wheels or its jacking system, is attached to the site only by quick disconnect type utilities and security devices and it has no permanently attached additions.

- (12) *AH zones.* Within AH zones adequate drainage paths around structures on slopes shall be required in order to guide floodwaters around and away from proposed structures.
- (13) *AO zones.* Located within the areas of special flood hazard established in section (b)(1) are areas designed as AO zones. These areas have special flood hazards associated with base flood depths of one to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply within AO Zones:
  - (i) All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as two (2) feet above the depth number specified in feet on Columbia's FIRM (at least three (3) feet if no depth number is specified).
  - (ii) All new construction and substantial improvements of nonresidential structures shall:
    - (A) Have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as two (2) feet above the depth number specified in feet on Columbia's FIRM (at least three (3) feet if no depth number is specified); or
    - (B) Together with attendant utility and sanitary facilities be completely floodproofed to or above that level so that any space below that level 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. Such certification shall be provided to the official as set forth in section 29-2.3(d)(6)(vii).
  - (iii) Adequate drainage paths around structures on slopes shall be required in order to guide floodwaters around and away from proposed structures.
- (14) *Floodway area.*
  - (i) Only uses having a low flood-damage potential and not obstructing flood flows shall be permitted within the floodway district to the extent that they are not prohibited by any other ordinance. All encroachments, including fill, new construction, substantial improvements and other developments must be prohibited unless a "no-rise" certification statement by a professional registered engineer or architect is provided. A "no-rise" certification statement shall be accompanied by supporting documentation

which shall adequately demonstrate that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge. No use shall increase the flood levels of the regulatory flood elevation. These uses are subject to the standards of subsection (d). The following are recommended uses for the floodway district.

- (A) Agricultural uses such as general farming, pasture, nurseries, forestry;
- (B) Residential uses such as lawns, gardens, parking and play areas;
- (C) Nonresidential areas such as loading areas, parking and airport landing strips; or
- (D) Public and private recreational uses such as golf courses, archery ranges, picnic grounds, parks, wildlife and nature preserves.

- (ii) In zone A unnumbered, obtain, review and reasonably utilize any floodway data available through federal, state or other sources or section 29-2.3(d)(8)(iv), in meeting the standards of this subsection.

(15) *Variance procedures.*

- (i) The board shall hear and decide requests for variances from the requirements of this section.
- (ii) In passing upon such applications, the board shall consider all technical evaluation, all relevant factors, standards specified in other subsections of this section, and:
  - (A) The danger that materials may be swept onto other lands to the injury of others;
  - (B) The danger to life and property due to flooding or erosion damage;
  - (C) The susceptibility of proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - (D) The importance of the services provided by the proposed facility to the community;
  - (E) The necessity to the facility of a waterfront location, where applicable;
  - (F) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
  - (G) The compatibility of the proposed use with existing and anticipated development;
  - (H) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
  - (I) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (J) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and

- (K) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
  - (iii) Any person aggrieved by the decision of the board on a floodplain variance application may appeal such decision to the circuit court of Boone County.
- (16) *Conditions for floodplain variances.*
- (i) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (ii) through (vi) below have been fully considered. As the lot size increases beyond the one-half (½) acre, the technical justification required for issuing the variance increases.
  - (ii) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this subsection.
  - (iii) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
  - (iv) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
  - (v) Variances shall only be issued upon (1) a showing of good and sufficient cause, (2) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (3) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
  - (vi) Any applicant to whom a variance is granted shall be given a written notice that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (17) *Penalties for Violation.* Violation of the provisions of this section 29-2.3(d) or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or special exceptions) shall constitute a misdemeanor. Any person who violates section 29-2.3(d) or fails to comply with any of its requirements shall upon conviction thereof be fined not more than one thousand dollars (\$1,000.00) and, in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the city or other appropriate authority from taking such other lawful action as is necessary to prevent or remedy any violation.

- (18) *Amendments.* The regulations, restrictions, and boundaries set forth in this section may from time to time be amended, supplemented, changed or repealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973, provided, however, that no such action may be taken until after a public hearing in relation thereto, at which parties in interest and citizens shall have an opportunity to be heard. Notice of the time and place of such hearing shall be published in a newspaper of general circulation in the city. At least fifteen (15) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Region VII of the Federal Emergency Management Agency. The regulations of this section 29-2.3(d) are in compliance with the National Flood Insurance Program regulations.

### ARTICLE 3. PERMITTED USES

#### Sec. 29-3.1. General.

(a) The permitted uses and conditional uses in each zone district, with the exception of the C-2 district located outside the M-DT regulating plan boundary, are allowed as indicated in Table 3.1 below. Additional uses of property or restrictions on the use of property may be contained in section 29-3.3 (use specific standards) or in an overlay zone district applicable to the property in section 29-2.3. If the property is located in a PD (planned development) zone district, the permitted uses and any conditions on those permitted uses are allowed as set forth in the rezoning ordinance and related documents for that property on file with the department.

- (1) A "P" in a cell of the permitted use table in section 29-3.2 indicates that the use is permitted by-right in that zone district, subject to compliance with the use-specific standards in the right-hand column of that line of the table and all other applicable standards of this chapter.
- (2) A "C" in a cell of the permitted use table in section 29-3.2 indicates that the use is permitted only after the applicant obtains conditional use approval pursuant to section (conditional use permit), and subject to the use-specific standards in the right-hand column of that line of the table and all other applicable standards of this chapter.
- (3) An "A" in a cell of the permitted use table in section 29-3.2 indicates that the use is only permitted as an accessory to a permitted use and subject to the use-specific standards in the right-hand column of that line of the table and all other applicable standards of this chapter.
- (4) A "CA" in a cell in the permitted use table in section 29-3.2 indicates that the use is only permitted as an accessory to a use that is first approved as a conditional use on the same property and subject to the use-specific standards in the right-hand column of that line of the table and all other applicable standards of this chapter.