

## **CHAPTER 17.5 FLOOD CONTROL**

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### **ARTICLE I. IN GENERAL**

#### **Sec. 17.5-1 Definitions**

The following words and phrases, when used in this chapter, shall have the meanings respectively ascribed to them:

Area of special flood hazard is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year.

Development means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

Existing mobile home park or mobile home subdivision means a parcel (or contiguous parcels) of land divided into two (2) or more mobile home lots for rent or sale for which the construction of facilities for servicing the lot on which the mobile home is to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) is completed before March 23, 1978.

Expansion to an existing mobile home park or mobile home subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the mobile homes are to be affixed (including the installation of utilities, either final site grading or pouring of concrete pads, or the construction of streets).

Flood insurance rate map (FIRM) means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood insurance study means the official report provided by the Federal Insurance Administration that includes flood profiles, the flood boundary-floodway map and the water surface elevation of the base flood.

Floodway means 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 .10 foot.

New mobile home park or mobile home subdivision means a parcel (or contiguous parcels) of land divided into two (2) or more mobile home lots for rent or sale for which the construction of facilities for servicing the lot (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of

streets) is completed on or after March 23, 1978.

Substantial improvement means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure either, (1) before the improvement or repair is started, or (2) if the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or (2) any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places. (Ord. of 3-13-78, 5.300)

Cross reference – Definitions and rules of construction generally, 1.2.

## **Secs. 17.5-2 – 17.5-15 Reserved**

### **ARTICLE II. ADMINISTRATION**

#### **Sec. 17.5-16. Generally.**

The enforcement officer shall ensure that all development within a flood hazard overlay district shall comply with the standards of this chapter and the requirements of the Federal Insurance Administration pertaining to the Federal Flood Insurance Program. The enforcement officer shall adhere to the following procedures in this article. (Ord. of 3-13-78, Art, XXVII)

#### **Sec. 17.5-17. Permit review**

The enforcement officer shall:

- (1) Review all development permits to determine that the permit requirements of this chapter have been satisfied;
- (2) Review all development permits to determine that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required. (Ord. of 3-13-78, 5.310)

#### **Sec. 17.5-18. Use of other base flood data**

When base flood elevation data has not been provided in accordance with section 17.5-36 on delineation of flood hazard area overlay districts, the enforcement officer shall obtain, review and reasonably utilize any base flood elevation data available from a federal, state or other source, in order to administer sections 17.5-49 and 17.5-50 on general and specific standards. (Ord. of 3-13-78, 5.311)

#### **Sec. 17.5-19. Information to be obtained and maintained.**

The enforcement officer shall:

- (1) Obtain and record the actual elevation (in relation to mean sea level) of the lowest habitable floor (including basement) of all new or substantially improved structures;
- (2) For all new substantially improved floodproofed structures:
  - a. Verify and record the actual elevation (in relation to mean sea level); and

b. Maintain the floodproofing certifications required in section 17.5-50(2) c. (Ord. of 3-13-78, 5.312)

**Sec. 17.5-20. Alteration of watercourses.**

The enforcement officer shall:

- (1) Notify adjacent communities and the state department of natural resources, water resource commission prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration;
- (2) Require that maintenance is provided within the altered or relocated portion of the watercourse so that the flood carrying capacity is not diminished. (Ord. of 3-13-78, 5.313)

**Sec. 17.5-21. Interpretation of overlay boundaries.**

The enforcement officer shall make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). (Ord. of 3-13-78, 5.315)

**Sec. 17.5-22. Enforcement agency and officer.**

The division of buildings and inspections shall be the designated enforcement agency and the coordinator thereof shall be the enforcement officer under this chapter. (Ord. of 3-13-78, 5.315)

**Secs. 17.5-23 – 17.5-33. Reserved**

**ARTICLES III. FLOOD HAZARD DISTRICTS**

**Sec. 17.5-34. Purpose**

- (a) The flood hazard areas of the city are subject to periodic 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 tax base, all of which adversely affect the public health, safety and general welfare.
- (b) It is the purpose of this chapter to significantly reduce hazards to persons and damage to property as a result of flood conditions in the city, and to comply with the provisions and requirements of the National Flood Insurance Program, as constituted in accord with the National Flood Insurance Act of 1968, and subsequent additions, amendments and deletions, and the rules and regulations promulgated in furtherance of this program by the United States Department of Housing and Urban Development, Federal Insurance Administration, as published in the Federal Register, Vol. 41, No. 207, Tuesday, October 26, 1976 together with subsequent additions, amendments and deletions. Further, the objectives of this chapter include:
  - (1) Control floodplain uses such as fill, dumping, storage of materials, structures, buildings and any other works which, acting alone or in combination with other existing or future uses, will cause damaging flood heights and velocities by obstructing flows and reducing valley storage;
  - (2) Protect human life and health;
  - (3) Minimize public and private property damage;
  - (4) Protect individuals from buying lands and structures which are unsuited for intended purposes because

of flood hazards;

- (5) Minimize surface and groundwater pollution which may affect human, animal or plant life;
- (6) Control development which will, when acting alone or in combination with similar developments, create an unjustified demand for public investment in floodcontrol works by requiring that uses vulnerable to floods, including public facilities which serve such uses shall be protected against flood damage at the time of initial construction;
- (7) Control development which will, when acting alone or in combination with similar development, cause flood losses if public streets, sewer, water, and other utilities must be extended below the flood level to serve the development;
- (8) Control development which will, when acting alone or in combination with similar development, create an additional burden to the public to pay the costs of rescue, relief, emergency preparedness measures, sandbagging, pumping, and temporary dikes or levees;
- (9) Control development which will, when acting alone or in combination with similar development, create an additional burden to the public for business interruptions, factory closings, disruption of transportation routes, interference with utility services, and other factors that result in loss of wages, sales, production and tax write-offs;
- (10) Provide for public awareness of the flooding potential;
- (11) Help maintain a stable tax base by the preservation or enhancement of property values for future floodplain development. In addition, development of future flood-blight areas on floodplains will be minimized and property values and the tax base adjacent to the floodplain will be preserved. (Ord. of 3-13-78, 5.301)

#### **Sec. 17.5-35. Warning and disclaimer of liability**

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This chapter does not imply that areas outside the floodplain districts or land uses permitted within such districts will be free from flooding or flood damages. This chapter shall not create liability on the part of the city or any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder. (Ord. of 3-13-78, 5.302)

#### **Sec. 17.5-36. Delineation of flood hazard area overlay district.**

- (a) The preliminary report entitled, "The Flood Insurance Study for Benton Harbor," dated January, 1977, with accompanying flood insurance rate map and flood boundary and floodway map serves as the basis for delineation of the flood hazard areas, and together with any amendments are adopted by reference and declared to be part of this chapter.
- (b) The area indicated on the flood boundary and floodway map as lying within a floodway is hereby declared to be within the floodway overlay district. The area indicated on the flood boundary and floodway map as lying within the floodway fringe of the one hundred-year flood boundary is hereby

declared to be within the flood-fringe overlay district.

- (c) In addition to other requirements of this chapter, applicable to development in the underlying zoning district, compliance with this section shall be necessary for all development occurring within a flood hazard area overlay district. Conflicts between the requirements of this section and other requirements of this chapter shall be resolved in favor of this section. (Ord. of 3-13-78, 5.303)

**Sec. 17.5-37. Special permits.**

- (a) Required. A special permit shall be obtained before construction or development begins within any area in the flood hazard area overlay district.
- (b) Standards for review. The applicant may be required to furnish such of the following information as is deemed necessary by the board of appeals for determining the suitability of the particular site for the proposed use within the flood hazard area:
- (1) The relationship of the proposed use to the location of the channel, floodway and the flood-protection elevation;
  - (2) A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high water information;
  - (3) A profile showing the slope of the bottom of the channel or flow line of the stream;
  - (4) Specifications for building construction and materials, flood-proofing, filling, dredging, grading, channel improvement, storage of materials, water supply and sanitary facilities.

This information may be required to be certified by a registered professional engineer who shall also evaluate the project in relation to flood heights and velocities; the seriousness of flood damage to the use; the adequacy of the plans for protection; and other technical matters, based on flood hazard data contained within the adopted flood insurance study. Based upon the technical evaluation of the designated engineer or expert, the board of appeals shall determine the specific flood hazard at the site and shall evaluate the suitability of the proposed use in relation to the flood hazard.

- (c) Standards for approval. In passing upon such applications, the board shall consider all relevant factors specified in other sections of this chapter and:
- (1) The danger to life and property due to increased flood heights or velocities caused by encroachments;
  - (2) The danger that materials may be swept onto other lands or downstream to the injury of others;
  - (3) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination and unsanitary conditions;
  - (4) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners;
  - (5) The importance of the services provided by the proposed facility to the community;
  - (6) The requirements of the facility for a waterfront location;
  - (7) The availability of alternative locations not subject to flooding for the proposed use;
  - (8) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;
  - (9) The relationship of the proposed use to the comprehensive plan and floodplain-management program for the area;
  - (10) The safety of access to the property in times of flood of ordinary and emergency vehicles;

- (11) The expected heights, velocity, duration, rate of rising, and sediment transport of the flood waters expected at the site;
- (12) Such other factors which are relevant to the purposes of this chapter. (Ord. of 3-13-78, 5.304)

**Secs. 17.5-38 – 17.5-48. Reserved**

**ARTICLE IV. ALL USES IN FLOOD  
HAZARD AREA OVERLAY DISTRICTS**

**Sec. 17.5-49. General standards.**

In all areas of the flood hazard area overlay district the following standards are required:

- (1) Anchoring:
  - (a) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
  - (b) All mobile homes shall be anchored to resist flotation, collapse or lateral movement by providing over-the-top and frame ties to ground anchors. Specific requirements shall be that:
    - (1) Over-the-top ties be provided at each of the four (4) corners of the mobile home, with two (2) additional ties per side at intermediate locations, with mobile homes less than fifty (50) feet long requiring one additional tie per side;
    - (2) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points, with mobile homes less than fifty (50) feet long requiring four (4) additional ties per side;
    - (3) All components of the anchoring system be capable of carrying a force of four thousand eight hundred (4,800) pounds; and,
    - (4) Any additions to the mobile home be similarly anchored.
- (2) Construction materials and methods:
  - (a) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
  - (b) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- (3) Utilities:
  - (a) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.
  - (b) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
  - (c) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (4) Subdivision proposals:
  - (a) All subdivision proposals shall be consistent with the need to minimize flood damage.
  - (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
  - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.
  - (d) Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least fifty (50) lots or five (5) acres (whichever is less). (Ord. of 3-13-78, 5.305).

## **Sec. 17.5-50. Specific standards**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in section 17.5-36 on delineation of flood hazard area overlay districts, the following standards are required:

- (1) Residential construction. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation.
- (2) Nonresidential construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:
  - (a) Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
  - (b) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
  - (c) Be certified by a registered professional engineer or architect that the standards of this subsection are satisfied. Such certifications shall be provided to the official as set forth in section 17.5-19(2)b.
- (3) Mobile homes:
  - (a) For new mobile home parks and mobile home subdivisions; for expansions to existing mobile home parks and mobile home subdivisions; for existing mobile home parks and mobile home subdivisions where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds fifty (50) percent of value of the streets, utilities and pads before the repair; reconstruction or improvement has commenced; and for mobile homes not placed in a mobile home park or mobile home subdivision, require that:
    - (1) Stands or lots are elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be at or above the base flood level;
    - (2) Adequate surface drainage and access for a hauler are provided; and,
    - (3) In the instance of elevation on pilings, that:
      - i. Lots are large enough to permit steps;
      - ii. Piling foundations are placed in stable soil no more than ten (10) feet apart; and
      - iii. Reinforcement is provided for pilings more than six (6) feet above the ground level.
  - (b) The placement of mobile homes in the floodway shall be prohibited unless placed in an existing mobile home park or mobile home subdivision. (Ord. of 3-13-78, 5.306)

**Secs. 17.5-51 – 17.5-61 Reserved.**

## **ARTICLE V. FLOODWAY OVERLAY DISTRICT (FW)**

### **Sec. 17.5-62. Generally**

- (a) All uses, including fill, new construction, substantial improvements, and other development shall not be permitted in a floodway overlay district unless it is demonstrated that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (b) If permitted, such uses are subject to the provisions of article IV and the following standards in this article. (Ord. of 3-13-78, Art. V XV)

### **Sec. 17.5-63. Fill**

- (a) A valid permit shall be obtained from the state water resources commission provided such fill will cause less than a 0.10 foot increase in flood heights.

- (b) Any fill proposed to be deposited in the floodway must be shown to have some beneficial purpose and the amount thereof not greater than is necessary to achieve that purpose, as demonstrated by a plan submitted by the owner showing the uses to which the filled land will be put and the final dimensions of the proposed fill or other materials.
- (c) Such fill or other materials shall be protected against erosion by riprap, vegetation cover or bulkheading. (Ord. of 3-13-78, 5.307)

**Sec. 17.5-64. Structures (temporary or permanent).**

- (a) Structures shall not be designed for human habitation.
- (b) Structures shall have a flood damage potential.
- (c) The structure or structures, if permitted, shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of flood waters.
  - (1) Whenever possible, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow; and
  - (2) So far as practicable, structures shall be placed approximately on the same flood-flow lines as those of adjoining structures. (Ord. of 3-13-78, 5.308)

**Sec. 17.5-65. Storage of material and equipment**

- (a) 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.
- (b) 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. (Ord. of 3-13-78, 5.309)

**Secs. 17.5-66 – 17.5-76. Reserved.**

**ARTICLE VI. FLOOD-FRIDGE OVERLAY  
DISTRICT (FF)**

**Sec. 17.5-77 Generally**

The flood-fringe overlay district provides special regulations designed to reduce flood losses. All uses must meet the requirements of article IV in addition to those contained in the basic underlying zoning district. (Ord. of 3-13-78, Art. XXVI)