

CHAPTER 160

FLOOD PLAIN MANAGEMENT

160.01 Statutory Authority, Findings of Fact and Purpose	160.04 Flood Plain Management Standards
160.02 Definitions	160.05 Administration
160.03 General Provisions	

160.01 STATUTORY AUTHORITY, FINDINGS OF FACT AND PURPOSE.

1. Statutory Authority. The Legislature of the State of Iowa has in Chapter 364, *Code of Iowa*, as amended, delegated the power to cities to exercise any power and perform any function it deems appropriate to protect and preserve the rights, privileges, and property of the City or of its residents, and to preserve and improve the peace, safety, health, welfare, comfort and convenience of its residents.
2. Findings of Fact.
 - A. The flood hazard areas of the City of Northwood are subject to periodic inundation which can result 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 of the community.
 - B. These flood losses, hazards, and related adverse effects are caused by: (i) the occupancy of flood hazard areas by uses vulnerable to flood damages which create hazardous conditions as a result of being inadequately elevated or otherwise protected from flooding; and (ii) the cumulative effect of obstructions on the floodplain causing increases in flood heights and velocities.
3. Statement of Purpose. It is the purpose of this chapter to protect and preserve the rights, privileges, and property of the City and its residents and to preserve and improve the peace, safety, health, welfare, and comfort and convenience of its residents by minimizing those flood losses described in subsection 2(A) of this section with provisions designed to:
 - A. Restrict or prohibit uses which are dangerous to health, safety or property in times of flood or which cause excessive increases in flood heights or velocities.
 - B. Require that uses vulnerable to floods, including public facilities which serve such uses, be protected against flood damage at the time of initial construction or substantial improvement.
 - C. Protect individuals from buying lands which may not be suited for intended purposes because of flood hazard.
 - D. Assure that eligibility is maintained for property owners in the community to purchase flood insurance through the National Flood Insurance Program.

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

1. "Basement" means any enclosed area of a building which has its floor or lowest level below ground level (subgrade) on all sides. (Also see "lowest floor.")
2. "Development" means any manmade 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.
3. "Factory-built home" means any structure, designed for residential use which is wholly (or in substantial part) made, fabricated, formed, or assembled in manufacturing facilities for installation or assembly and installation, on a building site. For the purpose of this chapter, factory-built homes include mobile homes, manufactured homes, and modular homes and also include recreational vehicles that are placed on a site for greater than 180 consecutive days.
4. "Factory-built home park or subdivision" means a parcel or contiguous parcels of land divided into two or more factory-built home lots for sale or rent.
5. "Flood" means a temporary rise in stream's flow or stage that results in water overflowing its banks and inundating areas adjacent to the channel or an unusual and rapid accumulation of runoff of surface waters from any source.
6. "Flood proofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures, including utility and sanitary facilities, which will preclude the entry of water. Structural components shall have the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.
7. "Floodway" means the channel of a river or stream and those portions of the flood plains adjoining the channel, which are reasonably required to carry and discharge floodwaters or flood flows so that confinement of flood flows to the floodway area will not result in substantially higher flood levels and flow velocities.
8. "Lowest floor" means the floor of the lowest enclosed area in a building including a basement except when all the following criteria are met:
 - A. The enclosed area is designed to flood to equalize hydrostatic pressure during floods with walls or openings that satisfy the provisions of Section 160.04(4)(A) of this chapter; and
 - B. The enclosed area is unfinished (not carpeted, dry-walled, etc.) and used solely for low damage potential uses such as building access, parking or storage; and
 - C. Machinery and service facilities (e.g., hot water heater, furnace, electrical service) contained in the enclosed area are located at least one foot above the 100-year flood level; and
 - D. The enclosed area is not a basement, as defined in this section.

In cases where the lowest enclosed area satisfies criteria A, B, C and D above, the lowest floor is the floor of the next highest enclosed area that does not satisfy the criteria above.

9. "100-year flood" means a flood, the magnitude of which has a one percent chance of being equaled or exceeded in any given year or which, on the average, will be equaled or exceeded at least once every 100 years.

10. "Special flood hazard area" means the land within a community subject to the 100-year flood. This land is identified as Zone A on the community's Flood Insurance Rate Map.

11. "Structure" means anything constructed or erected on the ground or attached to the ground, including, but not limited to, buildings, factories, sheds, cabins, factory-built homes, storage tanks, and other similar uses.

12. "Substantial improvement" means any improvement to a structure which satisfies either of the following criteria:

A. Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure, either (i) before the improvement or repair is started; or (ii) 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 any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specification which are solely necessary to assure safe conditions for the existing use.

B. Any addition that increases the original floor area of a building by 25 percent or more. All additions constructed after May 1, 1987, shall be added to any proposed addition in determining whether the total increase in original floor space would exceed 25 percent.

160.03 GENERAL PROVISIONS.

1. **Lands to Which Chapter Applies.** The provisions of this chapter apply to all areas having special flood hazards within the jurisdiction of the City. For the purpose of this chapter, the special flood hazard areas are those areas designated as Zone A on the Flood Insurance Rate Map for the City, which is hereby adopted and made a part of this chapter.

2. **Rules for Interpretation of Flood Hazard Boundaries.** The boundaries of the special flood hazard areas shall be determined by scaling distances on the official Flood Insurance Rate Map. When an interpretation is needed as to the exact location of a boundary, the Zoning Administrator shall make the necessary interpretation.

3. **Compliance.** No structure or land shall hereafter be used and no structure shall be located, extended, converted, or structurally altered without full compliance with the terms of this chapter and other applicable regulations that apply to uses within the jurisdiction of this chapter.

4. **Abrogation and Greater Restrictions.** It is not intended by this chapter to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter imposes greater restrictions, the provision of this chapter shall prevail. All other ordinances inconsistent with this chapter are hereby repealed to the extent of the inconsistency only.

5. **Interpretation.** In their interpretation and application, the provisions of this chapter shall be held to be minimum requirements and shall be liberally construed in favor of the governing body and shall not be deemed a limitation or repeal of any other powers granted by State statutes.

6. **Warning and Disclaimer of Liability.** The standards required by this chapter are considered reasonable for regulatory purposes. This chapter does not imply that areas outside the designated special flood hazard areas 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 hereunder.

7. **Severability.** If any section, clause, provision or portion of this chapter is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this chapter shall not be affected thereby.

160.04 FLOOD PLAIN MANAGEMENT STANDARDS. All uses must be consistent with the need to minimize flood damage and meet the following applicable performance standards. Where needed, the Iowa Department of Natural Resources shall be contacted to compute 100-year flood elevation and floodway data.

1. **All Development.** All development within the special flood hazard areas shall:
 - A. Be consistent with the need to minimize flood damage.
 - B. Use construction methods and practices that will minimize flood damage.
 - C. Use construction materials and utility equipment that are resistant to flood damage.
 - D. Obtain all other necessary permits from federal, state and local governmental agencies including approval when required from the Iowa Department of Natural Resources.
2. **Residential Buildings.** All new or substantially improved residential structures shall have the first floor, including basement, elevated a minimum of one foot above the 100-year flood level.
3. **Nonresidential Buildings.** All new or substantially improved nonresidential buildings shall have the lowest floor (including basement) elevated a minimum of one foot above the 100-year flood level, or together with attendant utility and sanitary systems, be flood proofed to such a level. When flood proofing is utilized, a professional engineer registered in the State of Iowa shall certify that the flood proofing methods used are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the 100-year flood; and that the structure, below the 100-year flood level, is watertight with walls substantially impermeable to the passage of water. A record of the certification indicating the specific elevation (in relation to the National Geodetic Vertical Datum) to which any structures are flood proofed shall be maintained by the Administrator.
4. **All New and Substantially Improved Structures:**
 - A. Fully enclosed areas below the lowest floor (not including basements) that are subject to flooding 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 meet or exceed the following minimum criteria:

- (1) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - (2) The bottom of all openings shall be no higher than one foot above grade.
 - (3) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic entry and exit of floodwaters.
 - B. New and substantially improved structures must be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
 - C. New and substantially improved structures must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
5. Factory-Built Homes:
- A. All factory-built homes, including those placed in existing factory-built home parks or subdivisions, shall be anchored to resist flotation, collapse, or lateral movement.
 - B. All factory-built homes, including those placed in existing factory-built home parks or subdivisions shall be elevated on a permanent foundation such that the lowest floor of the structure is a minimum of one foot above the 100-year flood level.
6. Utility and Sanitary Systems:
- A. All new and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system as well as the discharge of effluent into floodwaters.
 - B. On-site waste disposal supply systems shall be located or designed to avoid impairment to the system or contamination from the system during flooding.
 - C. New or replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
 - D. Utilities such as gas or electrical systems shall be located and constructed to minimize or eliminate flood damage to the system and the risk associated with such flood damaged or impaired systems.
7. Watercourse Alterations or Relocations. Watercourse alterations or relocations must be designed to maintain the flood carrying capacity within the altered or relocated portion.
8. Storage of Materials and Equipment. Storage of equipment and materials that are flammable, explosive or injurious to human, animal or plant life is prohibited unless elevated a minimum of one foot above the 100-year flood level. Other material and equipment must either be similarly elevated or: (i) not subject to major flood damage

and anchored to prevent movement due to floodwaters; or (ii) readily removable from the area within the time available after flood warning.

160.05 ADMINISTRATION.

1. Appointment, Duties and Responsibilities of Flood Plain Administrator.
 - A. The City Public Works Director is hereby appointed to implement and administer the provisions of this chapter and will herein be referred to as the Administrator.
 - B. Duties of the Administrator shall include, but not necessarily be limited to the following:
 - (1) Review all flood plain development permit applications to assure that the provisions of this chapter will be satisfied.
 - (2) Review flood plain development applications to assure that all necessary permits have been obtained from federal, state and local governmental agencies including approval when required from the Department of Natural Resources for flood plain construction.
 - (3) Record and maintain a record of the elevation (in relation to National Geodetic Vertical Datum) of the lowest floor (including basement) of all new or substantially improved structures.
 - (4) Record and maintain a record of the elevation (in relation to National Geodetic Vertical Datum) to which all new or substantially improved structures have been flood proofed.
 - (5) Notify adjacent communities/counties and the Department of Natural Resources prior to any proposed alteration or relocation of a watercourse and submit evidence of such notifications to the Federal Emergency Management Agency.
 - (6) Keep a record of all permits, appeals and such other transactions and correspondence pertaining to the administration of this chapter.
2. Flood Plain Development Permit.
 - A. Permit Required. A Flood Plain Development Permit issued by the Administrator shall be secured prior to any flood plain development (any manmade change to improved and unimproved real estate, including but not limited to buildings or other structures, mining, filling, grading, paving, excavation or drilling operations), including the placement of factory-built homes.
 - B. Application for Permit. Application shall be made on forms furnished by the Administrator and shall include the following:
 - (1) Description of the work to be covered by the permit for which application is to be made.
 - (2) Description of the land on which the proposed work is to be done (i.e., lot, block, track, street address or similar description), which will readily identify and locate the work to be done.

- (3) Indication of the use or occupancy for which the proposed work is intended.
- (4) Elevation (in relation to National Geodetic Vertical Datum) of the lowest floor (including basement) of buildings.
- (5) For buildings being improved or rebuilt, the estimated cost of improvements and market value of the building prior to the improvements.
- (6) For developments involving more than five acres, the elevation of the 100-year flood.
- (6) Such other information as the Administrator deems necessary for the purpose of this chapter.

C. Action on Permit Application. The Administrator shall make a determination as to whether the proposed flood plain development meets the applicable standards of this chapter and shall approve or disapprove the application. In reviewing proposed development, the Administrator shall obtain, review and reasonably utilize any available flood plain information or data from federal, State or other sources.

D. Subdivision Review. The Administrator shall review all subdivision proposals within the special flood hazard areas to assure that such proposals are consistent with the purpose and spirit of this chapter and shall advise the Council of potential conflicts. Flood plain development in connection with a subdivision (including installation of public utilities) shall require a flood plain development permit as provided in Section 160.05(2) of this chapter. For proposals greater than 50 lots, the subdivider shall be responsible for providing flood elevation data.

[The next page is 771]