

**CITY OF EL PASO, TEXAS  
AGENDA ITEM DEPARTMENT HEAD'S SUMMARY FORM**

**DEPARTMENT:** Development Services

**AGENDA DATE:** May 9, 2006

**CONTACT PERSON/PHONE:** Alan Shubert, P.E., Ext. 4557

**DISTRICT(S) AFFECTED:** All

**SUBJECT:**

**AN ORDINANCE AMENDING TITLE 18 (BUILDING AND CONSTRUCTION), CHAPTER 18.60 (FLOOD DAMAGE PREVENTION) OF THE EL PASO CITY CODE TO REVISE THE CHAPTER IN ITS ENTIRETY TO COMPLY WITH CHANGES IN THE FEDERAL REGULATIONS AND TO CLARIFY DEPARTMENT RESPONSIBILITIES. THE PENALTY BEING AS PROVIDED IN SECTIONS 1.08.010-1.08.030 OF THE CITY CODE.**

**BACKGROUND / DISCUSSION:**

**To revise Chapter 18.60 in its entirety to comply with changes in the Federal Regulations and to clarify departmental responsibilities in regards to the city's Floodplain Management duties.**

**PRIOR COUNCIL ACTION:**

**Has the Council previously considered this item or a closely related one?**

**Previous Ordinance 8969, approved 1987**

**AMOUNT AND SOURCE OF FUNDING: N/A**

**BOARD / COMMISSION ACTION: N/A**

\*\*\*\*\*REQUIRED AUTHORIZATION\*\*\*\*\*

**LEGAL:** (if required) \_\_\_\_\_ **FINANCE:** (if required) \_\_\_\_\_

**DEPARTMENT HEAD:** \_\_\_\_\_  
(Example: if RCA is initiated by Purchasing, client department should sign also)  
*Information copy to appropriate Deputy City Manager*

**APPROVED FOR AGENDA:**

**CITY MANAGER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

CITY CLERK  
MAY 10 2006 10:00 AM

ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE AMENDING TITLE 18 (BUILDING AND CONSTRUCTION), CHAPTER 18.60 (FLOOD DAMAGE PREVENTION) OF THE EL PASO CITY CODE TO REVISE THE CHAPTER IN ITS ENTIRETY TO COMPLY WITH CHANGES IN THE FEDERAL REGULATIONS AND TO CLARIFY DEPARTMENT RESPONSIBILITIES. THE PENALTY BEING AS PROVIDED IN SECTIONS 1.08.010-1.08.030 OF THE CITY CODE.**

**WHEREAS**, the Legislature of the State of Texas has, in the Flood Control and Insurance Act (Article 16.311, V.T.C.A., Water Code), delegated the responsibility to local governmental units to adopt regulations designed to minimize flood losses, and

**WHEREAS**, the City desires to update its code requirements to comply with changes in the federal regulations and to clarify City department responsibilities,

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EL PASO:**

**Section I.** That Title 18 (BUILDING AND CONSTRUCTION), Chapter 18.60 (Flood Damage Prevention) shall be amended in its entirety to read as follows:

**Chapter 18.60 FLOOD DAMAGE PREVENTION**

**Article 1 Statutory Authorization--Findings of Fact--Purpose--Methods**

**18.60.010 Statutory authorization.**

The Legislature of the State of Texas has, in the Flood Control and Insurance Act (Article 16.311, V.T.C.A., Water Code), delegated the responsibility to local governmental units to adopt regulations designed to minimize flood losses. Therefore, the City Council of the City does adopt this chapter.

**18.60.020 Findings of fact**

- A.** The flood hazard areas of El Paso are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.
- B.** These flood losses are created by the cumulative effect of obstructions in flood plains which cause an increase in flood heights and velocities, and by the occupancy of flood

hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, flood-proofed or otherwise protected from flood damage.

**18.60.030 Statement of purpose.**

It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Protect human life and health;
- B. Minimize expenditure of public money for costly flood control projects;
- C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood plains;
- E. Help provide information regarding flood-prone areas to the public.

**18.60.040 Methods of reducing flood losses.**

In order to accomplish its purposes, this chapter uses the following methods:

- A. Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural flood plains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging and other development which may increase flood damage;
- E. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

**Article 2 Definitions**

**18.60.050 General.**

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

**18.60.060 Flood Control Definitions.**

**“Alluvial fan flooding”** means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition and unpredictable flow paths.

**“Apex”** means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

**“Appurtenant structure”** means a structure which 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 future conditions flood hazard”** means the land area that would be inundated by the 1-percent-annual chance (100 year) flood based on future conditions hydrology.

**“Appeal”** means a request for a review of the Flood Plain Administrator's interpretation of any provisions of this chapter or a request for a variance in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading paving, excavation or drilling operations.

**“Area of shallow flooding”** means a designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

**“Area of special flood hazard”** is the land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed rate making has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V.

**“Base flood”** means the flood having a one-percent chance of being equaled or exceeded in any given year.

**“Basement”** means any area of the building having its floor subgrade (below ground level) on all sides.

**“Breakaway wall”** means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

**“Critical feature”** means an integral and readily identifiable part of a flood protection system. without which the flood protection provided by the entire system would be compromised.

**“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 or storage of equipment or materials.

**“Elevated building”** means, 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.

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

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

**"Flood" or "flooding"** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- A. The overflow of inland or tidal waters;
- B. The unusual and rapid accumulation or runoff of surface waters from any source.

**"Flood elevation study"** means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards."

**"Flood Insurance Rate Map (FIRM)"** means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

**"Flood Insurance Study (FIS)"** *see Flood elevation study* as the definition.

**"Floodplain or Flood-prone area"** means any land area susceptible to being inundated by water from any source (see definition of flooding).

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

**"Floodplain management regulations"** means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

**“Flood protection system”** means those physical structural works for which funds have been authorized, appropriated, and expended and for which improvements have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a “special flood hazard” and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

**“Floodway (Regulatory 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 a designated height.

**“Flood proofing”** means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

**“Floodway”** see *“Regulatory floodway”*.

**“Functionally dependent use”** means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

**“Habitable floor”** means any floor usable for the following purposes which include working, sleeping, eating, cooking or recreation, or a combination thereof. A floor used for storage purposes only is not a “habitable floor.”

**“Highest adjacent grade”** means the highest, natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**“Historic structure”** means any structure that is:

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

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

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

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

- (a) By an approved state program as determined by the Secretary of the Interior or;
- (b) Directly by the Secretary of the Interior in states without approved programs.

**"Levee"** means a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

**"Levee system"** means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

**"Lowest floor"** means 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 non-elevation design requirement of Section 60.3 of the National Flood Insurance Program regulations.

**"Manufactured home"** means a structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one hundred eighty consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

**"Manufactured home park or subdivision"** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**"Mean sea level"** means for purposes of the National Flood Insurance Program, 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 are referenced.

**"New construction"** means, for the purposes 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 flood plain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of flood plain management regulation adopted by community and includes any subsequent improvements to such structures.

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

**“Recreational vehicle”** means a vehicle which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light duty truck; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**“Regulatory 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 a designated height.

**“Riverine”** means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

**“Special flood hazard area”** see *Area of special flood hazard*.

**"Start of construction,"** (for other than new construction or substantial improvements under the Coastal Barrier Resources Act [Pub. L. 97-348]), includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, additional placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of building.

**"Structure"** means, 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.

**“Substantial damage”** means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**"Substantial improvement"** means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent 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"** means a grant of relief by a community from the terms of a floodplain management regulation. (For full requirements see Section 60.6 of the National Flood Insurance Program regulations.)

**"Violation"** means the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) of the National Flood Insurance Program regulations is presumed to be in violation until such time as that documentation is provided.

**"Water surface elevation"** means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum, where specified), of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

### **Article 3 General Provisions**

#### **18.60.070 Lands to which this chapter applies.**

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the City.

#### **18.60.080 Basis for establishing the areas of special flood hazard.**

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report, entitled "The Flood Insurance Study for the City of El Paso," dated October 15, 1982, with accompanying Flood Insurance Rate Maps and Flood Boundary-Floodway Maps (FIRM and FBFM) and any revisions thereto, are adopted by reference and declared to be a part of this chapter.

#### **18.60.090 Establishment of Development Permit.**

Development permits shall be used to ensure conformance with the provisions of this chapter.

#### **18.60.100 Compliance.**

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this chapter and other applicable regulations.

#### **18.60.110 Abrogation and greater restrictions.**

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

**18.60.120 Interpretation.**

In the interpretation and application of this chapter, all provisions shall be (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed neither to limit nor repeal any other powers granted under state statutes.

**18.60.130 Warning and disclaimer of liability.**

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur and flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

**Article 4 Administration**

**18.60.140 Designation of the Flood Plain Administrator.**

The City Manager shall designate a Texas licensed professional engineer as the Flood Plain Administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (National Flood Insurance Program regulations) pertaining to flood plain management.

**18.60.150 Duties and responsibilities of the Flood Plain Administrator.**

Duties and responsibilities of the Flood Plain Administrator shall include, but not be limited to, the following:

- A. Maintain and hold open for public inspection all records pertaining to the provisions of this chapter;
- B. Review permit applications to determine whether proposed building sites will be reasonably safe from flooding;
- C. Review, approve or deny all applications for development permits required by adoption of this chapter;
- D. Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1334) from which prior approval is required;
- E. Where interpretation is 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), the Flood Plain Administrator shall make the necessary interpretation;
- F. Notify, in riverine situations, adjacent communities and the state coordinating agency, which is the Texas Department of Water Resources, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
- G. Assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained;

- H. When base flood elevation data has not been provided in accordance with Section 18.60.080, the Flood Plain Administrator shall obtain, review and reasonably utilize any base flood elevation data and flood way data available from a federal, state or other source, in order to administer the provisions of this chapter
- I. When a regulatory flood way has not been designated, the Flood Plain Administrator must require that no new construction, substantial improvements or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community;
- J. Maintain surveillance over the operational and maintenance condition of the flood control system to ensure its safe and effective functioning; notify the Street Director of any required maintenance and/or repair work;
- K. Conduct an annual inspection of the flood control system and provide a written inspection report, including an assessment of the operational condition, safety, effectiveness and maintenance condition of the system, and a line item list of required special maintenance or repairs, to the Deputy City Manager for Development & Infrastructure Services and the Street Director;
- L. Review the annual schedule of maintenance for flood-control facilities prepared by the Street Director and forward the annual schedule to the Deputy City Manager for Development & Infrastructure Services with appropriate recommendations regarding any changes to frequency or nature of maintenance work proposed and/or requirements for special maintenance or repair.
- M. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in Zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than 1 foot, provided that the community first completes all of the provisions required by Section 65.12.

**18.60.160 Duties and responsibilities of the Deputy City Manager for Development & Infrastructure Services.**

The Deputy City Manger for Development & Infrastructure Services shall:

- A. Exercise overall management control of the construction, operation and maintenance of the flood-control system;
- B. Review, revise and approve the annual schedule of maintenance of the flood control system submitted by the Street Director;
- C. Allocate resources as required to assure the timely execution of the annual maintenance schedule and the safe and effective operation of the flood-control system.

**18.60.170 Duties and responsibilities of the Street Director.**

The Street Director shall:

- A. Be the custodian of the flood-control system, including all dams, detention and retention basins, outlet works, channels, pumping stations and all other public drainage conveyance structures
- B. Maintain and repair the system to ensure its safety and operational capability;

- C. Maintain full-time surveillance of the operational readiness of the system. Immediately notify the Deputy Manager for Development & Infrastructure Services and the Flood Plain Administrator of any system component that is in a state of reduced operational readiness;
- D. Direct the operation of the system during storms and flooding to maximize the effectiveness of the system in reducing damage to public and private property and danger to public safety;
- E. Participate in the annual inspection of the flood-control system conducted by the Flood Plain Administrator;
- F. Prepare and submit to the Flood Plain Administrator an annual schedule of maintenance and repair to the flood-control system;
- G. Carry out the annual schedule of maintenance repair as approved by the Deputy Manager for Development & Infrastructure Services.

**18.60.180 Development Permit Procedures.**

- A. Application for a Floodplain Development Permit shall be presented to the Flood Plain Administrator on forms furnished by him/her and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard. Additionally, the following information is required:
  - 1. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures;
  - 2. Elevation in relation to mean sea level to which any nonresidential structure shall be flood proofed;
  - 3. A certificate from a Texas licensed professional engineer that the nonresidential flood proofed structure shall meet the flood proofing criteria of Section 18.60.200, B.
  - 4. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
  - 5. Maintain a record of all such information in accordance with subsection A of Section 18.60.150.
  
- B. Approval or denial of a building or grading permit by the Flood Plain Administrator shall be based on all of the provisions of this chapter and the following relevant factors:
  - 1. The danger to life and property due to flooding or erosion damage;
  - 2. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - 3. The danger that materials may be swept onto other lands to the injury of others;
  - 4. The compatibility of the proposed use with existing and anticipated development as determined by the director of planning, research and development;
  - 5. The safety of access to all buildings in the time of flood;
  - 6. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site;

7. The justification of the proximity of the facility of to the abutting floodway, where applicable;
8. The availability of alternate locations, not subject to flooding or erosion damage, for the proposed use;
9. The relationship of the proposed use to the comprehensive plan for that area.

C. Variance procedures.

1. The Construction Board of Appeals shall hear and render judgment on requests for variances from the requirements of this Chapter.
2. The Construction Board of Appeals shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the Flood Plain Administrator in the enforcement or administration of this chapter.
3. Any person or persons aggrieved by the decision of the Construction Board of Appeals may appeal such decision in the courts of competent jurisdiction.
4. The Flood Plain Administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.
5. 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 ordinance.
6. Variances may be issued for new construction and substantial improvements to be erected on a lot of 1/2 acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the relevant factors in Section 18.60.180B have been fully considered. As the lot size increases beyond the 1/2 acre, the technical justification required for issuing the variance increases.
7. Upon consideration of the factors noted above and the intent of this ordinance, the Construction Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this Chapter.
8. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
9. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
10. Prerequisites for granting variances:
  - (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
  - (b) Variances shall only be issued upon: (i) showing a good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) 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 the El Paso City Code.

(c) Any application to which a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

11. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that (i) the criteria outlined in this subsection 1-9 are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

## **Article 5 Provisions for Flood Hazard Reduction**

### **18.60.190 General standards.**

In all areas of special flood hazards, the following provisions are required for all new construction and substantial improvements:

- A. All new construction or substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrostatic pressure and hydrostatic loads, including the effects of buoyancy;
- B. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- C. All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- D. All new construction or substantial improvements shall 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;
- E. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- F. New and replacement sanitary, sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters; and
- G. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

### **18.60.200 Specific standards.**

In all areas of special flood hazards where base flood elevation data has been provided as set forth in (a) Section 18.60.080, (b) subsection H of Section 18.60.150, or (c) subsection 2 of Section 18.60.210.B, the following provisions are required:

#### **A. Residential Construction.**

New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to or above the base flood elevation. A Texas registered

professional engineer, architect, or land surveyor shall submit a Federal Emergency Management Agency National Flood Insurance Program Elevation Certificate to the Flood Plain Administrator that the standard of this subsection as proposed in subsection (A)(1) of Section 18.60.180 is satisfied.

**B. Nonresidential Construction.**

New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall have either the lowest floor (including basement) elevated to or above the base flood level or, together with appurtenant utility and sanitary, facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability, of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A Texas registered professional engineer or architect shall develop and/or review structural design, specifications and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification, which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed, shall be maintained by the Flood Plain Administrator.

**C. Enclosures.**

New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are 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 Texas registered professional engineer or architect 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 that they permit the automatic entry and exit of floodwaters.

**D. Manufactured Homes.**

1. Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.
2. Require that manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be

securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

3. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with Zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of paragraph (4) of this section be elevated so that either:
  - (i) the lowest floor of the manufactured home is at or above the base flood elevation, or
  - (ii) the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

#### **E. Recreational Vehicles**

Require that recreational vehicles placed on sites within Zones A1-30, AH, and AE on the community's FIRM either (i) be on the site for fewer than 180 consecutive days, or (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of Section 18.60.180A, and the elevation and anchoring requirements for "manufactured homes" in paragraph "A" of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

#### **18.60.210 Standards for proposed subdivision.**

- A. All subdivision proposals, including manufactured home parks and subdivisions, shall be consistent with Sections 18.60.020, 18.60.030 and 18.60.040 of this chapter.
- B. All proposals for the development of subdivisions, including manufactured home parks and subdivisions, shall meet building and grading permit requirements of Section 18.60.370 and 18.60.460 and the provisions of this chapter.
- C. Base flood elevation data shall be generated for subdivision proposals and other proposed developments, including manufactured home parks and subdivisions which are greater than 50 lots or 5 acres, whichever is lesser, if not otherwise provided pursuant to Section 18.60.360 or subsection H of Section 18.60.430 of this chapter
- D. All subdivision proposals, including manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.
- E. All subdivision proposals, including manufactured home parks and subdivisions, shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

#### **18.60.220 Standards for areas of shallow flooding (AO/AH zones)**

Located within the areas of special flood hazard established in Section 18.60.080 are areas designated as shallow flooding. These areas have special flood hazard associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable, and where velocity flow may be evident such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

- A. All new construction and substantial improvements of residential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least 2 feet if no depth number is specified).
- B. All new construction and substantial improvements of nonresidential structures shall:
  - 1. Have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least 2 feet if no depth number is specified); or
  - 2. Together with attendant utility and sanitary facilities be designed so that below the base specified flood depth in an AO Zone, or below the Base Flood Elevation in an AH Zone, level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.
- C. A Texas registered professional engineer or architect shall submit a certification to the Flood Plain Administrator that the standards of this section, as proposed in subsection (A)(3) of Section 18.60.180, are satisfied.
- D. Within zones AH or AO, adequate drainage paths shall be required around structures on slopes, to guide floodwaters around and away from proposed structures.

#### **18.60.230 Floodways.**

Located within areas of special flood hazard established in Sec. 18.60.080, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

- 1. Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
- 2. If subsection (1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Chapter.
- 3. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program Regulations, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first completes all of the provisions required by Section 65.12.

#### **18.60.240 Violation.**

- A. It shall be unlawful for any person to violate any provision of this chapter.
- B. Any person violating any provision of this chapter shall be deemed guilty of a misdemeanor and shall be punished as provided in sections 1.08.010 through 1.08.030 of this code.

**Section 2.** This ordinance shall take effect upon City Council's approval of the Ordinance. All applications on file with the City prior to the effective date of this ordinance shall be processed in accordance with the provisions contained in the prior code and the prior code is continued in effect for that purpose.

**Section 3.** Except as herein amended **Title 18 (BUILDING AND CONSTRUCTION)** shall remain in full force and effect.

**PASSED AND APPROVED** this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

CITY OF EL PASO

\_\_\_\_\_  
John F. Cook, Mayor

ATTEST:

\_\_\_\_\_  
Richarda Duffy Momsen, City Clerk

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Theresa A. Cullen-Garney  
Deputy City Attorney

APPROVED AS TO CONTENT:

\_\_\_\_\_  
Patricia D. Aauto  
Deputy City Manager  
Development and Infrastructure Services