

CHAPTER XXI

FLOOD DAMAGE PREVENTION

21-1 Findings of Fact.

a. The flood hazard areas of the City of Ridgecrest are subject to periodic inundation which may 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.

b. These flood losses may be caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

(Ord. No. 81-5, § 1.1)

21-2 Purpose and Scope.

This chapter is enacted 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;
- d. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- e. Help maintain a stable tax base by providing for the second use and development of areas of special flood hazards so as to minimize future flood slide areas;

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f. Insure that potential buyers are notified that property is in the area of special flood hazard; and

g. Insure that those who occupy areas of special flood hazard assume responsibility for their actions.

(Ord. No. 87-25, § 2)

21-3 Methods of Reducing Flood Losses.

In order to accomplish its purposes, this chapter includes methods and provisions for:

a. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

b. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

c. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

d. Controlling filling, grading, and other development which may increase flood damage; and

e. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

(Ord. No. 81-5, § 1.2)

21-4 Definitions.

For purposes of this chapter, unless otherwise apparent from context, certain words and phrases are defined as follows:

a. "*Appeal*" shall mean a request for a review of the Flood Planning Administrator's interpretation of any provision of this chapter or a request for a variance.

b. "*Area of shallow flooding*" shall mean a designated AO, AH or VO Zone on the Flood Insurance Rate Map (FIRM). The flood plains depth range from one (1) to three (3) feet; a

clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and the velocity flow may be evident.

c. "*Area of special flood-related erosion hazard*" shall mean an area subject to severe flood-related erosion losses. This area is designated Zone E on the FIRM.

d. "*Area of special flood hazard*" or "*Special flood hazard area (SFHA)*" shall mean an area having special flood or flood related erosion hazards and shown on an FHBM or FIRM as Zone A, AO, A1-30, AE, A99, AH, VO, V1-V30, VE or V.

e. "*Area of special mud slide hazard*" is the area subject to severe mud slides. The area is designated as Zone M on the FIRM.

f. "*Base flood*" shall mean the flood having a one (1) percent chance of being equaled or exceeded in any given year.

g. "*Basement*" shall mean any area of a building having its floor subgrade below ground level on all sides.

h. "*Breakaway walls*" are any type of walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic or any other suitable building material which is not part of a structure of this structural support of the building and which is designed to break away under abnormally high tides or wave action without causing any damage to the structural integrity of the building on which they are used or any buildings to which they might be carried by flood waters. A breakaway wall shall have a safe design loading resistance of not less than ten (10) and no more than twenty (20) lbs. per square foot. The use of breakaway walls must be certified by a registered engineer or architect and shall meet the following conditions:

1. Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

2. The elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of a base flood.

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i. *"Development"* shall mean 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.

j. *"Existing manufactured home or subdivision"* shall mean a manufactured home park for which the construction of facilities for servicing the lot on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) are completed before the effective date of flood plain management regulations adopted by the City.

k. *"Expansion to an existing manufactured home park or subdivision"* shall mean 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, either final site grading or pouring of concrete pads, or the construction of streets).

l. *"Flood"* or *"Flooding"* shall mean a general or temporary condition of partial or complete inundation of normally dry land areas from the overflow of flood waters, the unusual and rapid accumulation of runoff surface waters from any source, and or the collapse or subsidence of land along the shore of the lake or other body of water as a result of erosion or undermining caused by wave or currents of water exceeding anticipated cyclical levels or suddenly caused by unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated tidal force of nature, such as flash floods or abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in this definition.

m. *"Flood boundary and floodway map"* shall mean the areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the Flood Insurance Study (FIS) dated June 1976 and accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), dated January 6, 1982 and all subsequent amendments and/or revisions are hereby adopted by reference and declared to be a part of this ordinance. This FIS and attendant mapping is the minimum area of appli-

capability of this ordinance and may be supplemented by studies for other areas which allow implementation of this ordinance and which are recommended to the City Council of City of Ridgecrest by the Floodplain Administrator. The study, FIRMs and FBFMs are on file at 100 West California, Ridgecrest, California, City Building Department.

n. "*Flood Insurance Rate Map (FIRM)*" shall mean 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.

o. "*Flood insurance study*" shall mean the official report provided by the flood insurance administration and includes flood profiles, the FIRM, the flood boundary and floodway map, and the water service elevation of the base flood.

p. "*Flood plain*" or "*Flood-prone area*" shall mean any land susceptible to being inundated by water from any source.

q. "*Flood plain management*" shall mean 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 flood plain management regulations.

r. "*Flood plain management regulations*" shall mean zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances and other applications of police power. The term describes such State or local regulations in combination thereof which provide standards for the purpose of flood damage, prevention and reduction.

s. "*Flood proofing*" shall mean any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damaged real estate or improved real property, water and sanitary facilities, structures and their contents.

t. "*Floodway*" shall mean the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot. The floodway is delineated on the flood boundary floodway map.

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u. "*Functionally dependent use*" shall mean a use which cannot be performed in its intended purpose unless it is located or carried out in close proximity to water. Then 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.

v. "*Highest adjacent grade*" shall mean the natural elevation of the ground surface prior to construction next to the proposed walls of the structure.

w. "*Lowest floor*" shall mean the lowest floor of the lowest enclosed area (including basement). Any unfinished or floor resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a buildings lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter.

x. "*Manufactured home*" shall have the meaning as set forth in Chapter XX of this Municipal Code provided, "Manufactured" includes park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days.

y. "*Manufactured home park or subdivision*" shall have the meaning set forth in Chapter XX of this Municipal Code.

z. "*Mean sea level*" shall mean the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which flood base elevations shown on the City's FIRM are referenced.

aa. "*New construction*" shall mean structures for which the start of construction commenced on or after the effective date of a flood plain management plan adopted by the City.

bb. "*100-year flood*" shall mean a flood which has one percent probability of being equaled or exceeded. This term is identical to the term base flood.

cc. "*Remedy of violation*" shall mean to bring a structure or other development into compliance with State or local flood plain management regulations or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected devel-

opment from flood damages, implementing the enforcement provisions of this chapter or otherwise deterring similar future violations or reducing federal financial exposure with regard to the structure or other development.

dd. "*Riverline*" shall mean relating to, formed by, or resembling a river, including tributaries, streams, brooks and so forth.

ee. "*Sand dune*" shall mean naturally occurring accumulation of sand in ridges or mounds landward of a beach.

ff. "*Start of construction*" shall mean the date a building permit is issued, provided the actual construction, repair, reconstruction, placement or other improvement is within 180 days of the permit date. The actual start means either the first placement of permanent construction of a slab on a site, such as the pouring of a slab or footings, the installation of pilings, 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 walkways; nor does it include excavation for a basement, footings, pilings, 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 structures.

gg. "*Structure*" shall mean a walled and roofed building including the gas or liquid storage tank, that is principally above ground as well as a manufactured home.

hh. "*Substantial improvement*" shall mean 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:

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 com-

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mences, whether or not that alteration affects the external dimensions of the structure. The term does not include either:

(a) Any project for the improvement of the structure to comply with the existing State or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions; or

(b) Any alteration of a structure listed on the National Register of Historic Places or a California Inventory of Historic Places.

ii. "*Variance*" shall mean a grant of relief from the requirements of this chapter which permits construction in a manner which would otherwise be prohibited by this chapter.

jj. "*Violation*" shall mean the failure of a structure or other development to fully comply with this chapter. A structure or other development without the elevation certificate or other certifications or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

(Ord. No. 81-5, § 2; Ord. No. 87-3, § 1; Ord. No. 87-25, § 3; Ord. No. 88-20, § 2; Ord. No. 04-02, § 2)

21-5 Permit Required.

21-5.1 *Compliance.* No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the provisions of this chapter and other applicable regulations. Violations of the provisions of this chapter by failure to comply with any of its requirements shall constitute a misdemeanor. Nothing herein shall prevent the Council from taking such lawful action as is necessary to prevent or remedy any violation.

(Ord. No. 81-5, § 3; Ord. No. 87-03, § 2; Ord. No. 88-20, § 4)

21-5.2 *Development Permits.*

a. A development permit shall be obtained before construction or development begins within any area of special flood hazards, areas of flood related erosion hazards or areas of mud slides as established in conformance with the chapter.

b. The Director of Public Works is hereby appointed to administer and implement this chapter by granting or denying development permits in accordance with its provisions.

c. Application for a development shall be made on forms furnished by the Director of Public Works and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage and materials, drainage facilities; and the location of the foregoing. Specifically, the following information is required:

1. Proposed elevation in relation to mean sea level of the lowest habitable floor (including basement) of all structures; in Zone AO, the elevation of existing grade and proposed elevation of lowest floor of all structures;

2. Proposed elevation in relation to mean sea level to which any structure will be flood proofed;

3. Certification by a registered professional engineer or architect that the floodproofing methods for any non-residential structure meet the floodproofing criteria of the Federal Emergency Management Agency; and

4. Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.

(Ord. No. 81-5, § 3; Ord. No. 87-03, § 2; Ord. No. 87-25, § 5)

21-6 Administration.

a. The Director of Public Works shall review all applications for development permits under this chapter to determine whether:

1. Whether the requirements of this chapter have been satisfied;
2. All other required State and Federal permits have been obtained;
3. The site is reasonably safe from flooding; and
4. The proposed development does not adversely affect the carrying capacity of the floodway. For the purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water service elevation of the base flood by more than one foot at any point.

b. If base flood elevation data has not been provided in accordance with this chapter, the Director of Public Works shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to insure that adequate provision is made for flood hazard reduction. Any such information shall be submitted to the Council for adoption.

c. If the watercourse is to be altered or relocated, the Director of Public Works shall notify adjacent communities and the California Department of Water Resources prior to such alteration or relocation of a watercourse and submit evidence of such notification to the Federal Insurance Administrator and the Director of Public Works shall require that the flood carrying capacity of the altered or relocated portion of the watercourse is maintained.

d. The Director of Public Works shall obtain and maintain for public inspection and make available as needed:

1. Certification;
2. Certification of elevations in areas of shallow flooding;
3. Certification of elevation or floodproofing of non-residential structures;
4. Certification of wet floodproofing standard;
5. Certified elevation to comply with subdivision standards;

6. Certification required for floodway encroachments;
7. The information required for coastal construction; and
8. The reports required for mud flow standards.

e. The Director of Public Works shall make interpretations where needed as to the exact location of the boundaries of special flood hazards, areas of flood related erosion hazards or areas of mud slide. Persons contesting the location of the boundary shall be given reasonable opportunity to appeal the interpretation.

f. The Director of Public Works shall take action to remedy violations of this chapter.

(Ord. No. 81-5, § 4; Ord. No. 86-24, § 1; Ord. No. 87-03, § 3; Ord. No. 87-25, § 6)

21-7 Standards.

In all areas of flood hazard, the following standards are required.

a. Anchoring.

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

2. All manufactured homes placed within Zone A shall be installed using methods and practices which minimize flooding 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.

3. All new construction and substantial improvements in Zones V1-30 and VE, and Zone V, if base flood elevation data are available, shall be elevated on pilings and columns so that:

(a) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level;

(b) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the affects of wind and

water loads acting simultaneously on all building components. Wind and water loading values shall each have one percent chance of being equaled or exceeded in any given year (100 year mean year mean reoccurrence interval). A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with the accepted standards of practice for meeting the provisions of this paragraph.

b. *Construction Materials and Methods.*

1. All new construction with materials and utility equipment resistant to flood damage.

2. All new construction and substantial improvements shall use methods and practices that minimize flood damage.

3. All elements that function as a part of the structure, such as furnace, hot water heater, air conditioner, and so forth, shall be elevated to or above the base flood elevation or depth number specified on the FIRM.

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

c. *Elevation and Floodproofing.*

1. New construction and substantial improvement of any structure shall have the lowest floor, including basement, elevated to or above the base flood elevation. Nonresidential structures may meet the standards set forth in the next subsection. Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor or verified by the Chief Building Inspector that elevation requirements have been met.

2. Nonresidential construction shall either be elevated in conformity with the preceding subsection or together with attendant utility and sanitary facilities:

(a) Be floodproofed so that below the base flood level the structure is water tight 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.

3. Where a nonresidential structure is intended to be made watertight below the base flood level:

(a) A registered professional engineer or architect shall develop and review structural design, specifications, and plans for construction, and shall certify that the design and methods of the construction are in accordance with the acceptance standards of practice for meeting the applicable provisions of this section.

(b) A record of such certificates which shall include the specific elevation (in relation to the mean sea level) to which structures are floodproofed shall be maintained with the Chief Building Inspector.

4. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior wall by allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of the enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

d. Replacement water supply and sanitary sewerage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters. On site disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

e. Various subdivision proposals shall identify the flood hazard area and the elevation of the base flood. All final sub-

division plans shall provide the elevation of proposed structures and pads. If the site is filled above the base line, the final pad elevation shall be certified by a registered professional engineer or surveyor and such certification shall be provided to the Director of Public Works. All subdivision proposals shall be consistent with the need to minimize flood damage. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage and certification of compliance shall be provided by the developer.

f. All manufactured homes to be placed or substantially improved within Zones A1-30, AH, AE shall be elevated on a permanent foundation such that the lower floor of the manufactured home is at or above the base flood elevation and is securely anchored to an adequately anchored foundation system in accordance with the provisions of this Municipal Code.

This paragraph applies to manufactured homes to be placed or substantially improved in an expansion to an existing manufactured home park or subdivision. This paragraph does not apply to manufactured homes to be placed or substantially improved in an existing manufactured home park or subdivision except where the repair, reconstruction, or improvement of the streets, utilities or pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced.

g. No encroachments, including fill, new construction, substantial improvements and other developments shall occur within a floodway unless certification by a registered professional engineer or architect is provided demonstrating that the encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(Ord. No. 81-5, § 5; Ord. No. 86-24, § 2; Ord. No. 87-03, § 4; Ord. No. 87-25, §§ 7-9; Ord. No. 88-20, § 3)

21-8 Variance Procedure.

21-8.1 Appeals.

a. The Planning Commission shall hear and decide appeals and requests for variances from the requirements of this chapter.

b. The Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Public Works Director in the enforcement or administration of this chapter.

c. In reviewing an appeal, the Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter; and

1. The danger that materials may be swept unto other lands to the injury of others;

2. The danger to life and property due to flooding or erosion damage;

3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. The importance of services provided by the proposed facility to the community;

5. The necessity to the facility of a waterfront location, where applicable;

6. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

7. The compatibility of the proposed use with existing and anticipated developments;

8. The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;

9. The safety of access to property in time of flood for ordinary and emergency vehicles;

10. The expected heights, velocity, duration, rate of rise and sediment transportation of the flood waters expected at the site; and

11. The cost 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.

d. 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 it surrounded by lots with existing structures constructed below the base flood level, provided the ongoing items have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

e. Upon consideration of the factors listed above and the purposes of this chapter, the Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.

f. The Director of Public Works shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administrator upon request.
(Ord. No. 87-25, § 10)

21-8.2 *Conditions for Variances.*

a. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the California Inventory of Historic Places, without regard to the procedures set forth in the remainder of this section.

b. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

c. Variance shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

d. 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 City laws or ordinances.

e. Variances may be issued for new construction and substantial improvements and for other development neces-

sary for the conduct of a functionally dependent use provided that the factors listed above in this section are satisfied and that 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.

f. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest flood elevation below the regulatory flood elevation and at the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation. A copy of the notice shall be recorded by the Commission in the office of the Kern County Recorder and shall be recorded in a manner so that it appears in the chain title of the affected parcel of land.

(Ord. No. 81-5, § 6.2; Ord. No. 87-25, § 11)