

Chapter 630
FLOOD DAMAGE PREVENTION

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630.01 Purpose

A. Statutory Authorization. The Legislature of the State of Oregon has in ORS 197 delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the County Court of Baker County, Oregon, does ordain as follows:

B. Findings of Fact:

1. The flood hazard areas of Baker County may be subject to periodic inundation which would 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.
2. These flood losses would be worsened 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.
3. Baker County is required to adopt this ordinance to maintain eligibility for its landowners to participate in federal flood insurance.

C. Statement of Purpose. It is the purpose of this ordinance 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:

1. To protect human life and health;
2. To minimize expenditure of public money and costly flood control projects;
3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. To minimize prolonged business interruptions;
5. To 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;
6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
7. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

D. Methods of Reducing Flood Losses. In order to accomplish its purposes, this ordinance includes methods and provisions for:

1. 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 and velocities;
2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
3. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling filling, grading, dredging, and other development which may increase flood damage; and
5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas.

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

Accessory structure: means a structure on the same parcel of property as a principal structure, the use of which is incidental to the use of the principal structure.

Appeal: means a request for a review of the Planning Director's interpretation of any provision of this ordinance or a request for a variance.

Area of shallow flooding: means a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM) with a 1 percent (1%) or greater annual chance of flooding in any given year. The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding and is shown with Base Flood Elevations.

Area of special flood hazard: means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. The Areas of Special Flood Hazard is synonymous with Special Flood Hazard Area (SFHA). The SFHA is shown on Flood Insurance Rate Maps and includes the letters A or V.

Base Flood: means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood.” Designation on maps always includes the letters A or V.

Base flood elevation: means the water surface elevation during the base flood in relation to a specified datum. The Base Flood Elevation (BFE) is depicted on the FIRM to the nearest foot and in the FIS to the nearest 0.1 foot. BFE includes base flood depth as used for Zone AO.

Basement: means any area of a building having its floor subgrade (below ground level) on all sides.

Below-grade crawlspace: means an enclosed area below the Base Flood Elevation in which the interior grade does not exceed 2 feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the bottom of the lowest horizontal structural member of the lowest floor does not exceed 4 feet at any point.

Development: means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard, except that mono-pole structures for utility purposes shall not be considered development for the purposes of this chapter.

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

1. The overflow of inland or tidal waters and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM): means the official map issued by the Federal Insurance Administration, delineating the Special Flood Hazard Areas and/or risk premium zones applicable to the community.

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 one foot.

Highest Adjacent Grade (HAG): means the highest natural elevation of the ground surface prior to construction, adjacent to the proposed walls of a structure. Refer to the Elevation Certificate and instructions, FEMA Form 81-31, Section C, for additional information.

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, is not considered a building's lowest floor, provided that such enclosure is built and maintained in accordance with the applicable design requirements of the Oregon Specialty Codes and this ordinance. The lowest floor of a structure in a V-zone is measured from the bottom of the lowest horizontal structural member supporting the structure.

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" does not include a "Recreational Vehicle".

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

New construction: means structures for which the "start of construction" commenced on or after the effective date of this ordinance, and includes any subsequent substantial improvements to the structure.

Oregon Specialty Codes: means the combined specialty codes adopted under ORS 446.062, 446.185, 447.020 (2), 455.496, 455.610, 455.680, 460.085, 460.360, 479.730 (1) or 480.545, but does not include regulations adopted by the State Fire Marshal pursuant to ORS chapter 476 or ORS 479.015 to 479.200 and 479.210 to 479.220. The combined specialty codes are often referred to as building codes.

Recreational Vehicle (RV): means a vehicle that is

1. built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towed by a light duty truck, and;
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Special flood hazard area: means zones on Flood Insurance Rate Maps that depict the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. "Special Flood Hazard Area" is synonymous with "Area of Special Flood Hazard." Special Flood Hazard Areas on Flood Insurance Rate Maps always include the letters A or V.

Start of construction: includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, 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 the 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 a basement, footings, piers, or foundation 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.

Structure: means a walled and roofed building including a gas or liquid storage tank that is principally above ground.

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 its market value 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 the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The market value of the structure is:

1. The real market value of the structure before the improvement or repair is started; or
2. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term does not, however, include either:

1. Any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or
2. Any alteration of a structure listed on the National Register or Historic Places or a State Inventory of Historic Places.

Variance: means a grant of relief from the requirements of this ordinance which permits construction in a manner that would otherwise be prohibited by this ordinance.

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 of this ordinance is presumed to be in violation until such time as that documentation is provided.

630.03 General Provisions

- A. Lands to which this ordinance applies. This ordinance shall apply to all areas of special flood hazards within the jurisdiction of Baker County.
- B. Basis for establishing the areas of special flood hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Baker County," dated June 3, 1988, with accompanying Flood Insurance Maps is hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is on file at the Baker County Planning Office, Baker County Courthouse, 1995 Third Street, Baker, Oregon 97814.

Areas of Special Flood Hazard are depicted on FIRMs as Special Flood Hazard Areas. When Base Flood Elevation has not been identified, the best available information for flood hazard area identification as outlined in Section 630.04 (C) (2) shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under Section 630.04 (C) (2).

- C. Coordination with specialty codes adopted by the State of Oregon Building Codes Division. Pursuant to the requirement established in ORS 455 that the County administers and enforces the State of Oregon Specialty Codes, the Baker County Commissioners hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in Special Flood Hazard Areas. Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.
- D. Penalties for noncompliance. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Failure to comply with any of the provisions of this Ordinance (including violations of conditions and safeguards established in connection with conditions) shall constitute a violation under Chapter 140 of this Ordinance.
- E. Abrogation and greater restrictions. This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- F. Interpretation. In the interpretation and application of this ordinance, provisions shall be:
 - 1. Considered as minimum requirements;
 - 2. Liberally construed in favor of the governing body;
 - 3. Deemed neither to limit nor repeal any other powers granted under State statutes.

- G. Warning and disclaimer of liability. The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Baker County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

630.04 Administration

A. Establishment of Development Permit:

1. Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 630.03 (B). The permit shall be for all structures including manufactured homes, as set forth in the "Definitions," and for all development including fill and other activities, also as set forth in the "Definitions."
2. Application for Development Permit. Application for a development permit shall be made on forms furnished by the County Planning Office 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 of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:
 - a. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;
 - b. Elevation, in relation to mean sea level, to which any structure has been floodproofed;
 - c. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 630.05 (B)(2)(a); and
 - d. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

- B. Designation of the Planning Director. The Planning Director is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions.

C. Duties and responsibilities of the Planning Director. Duties of the Planning Director shall include, but not be limited to:

1. Permit Review:

- a. Review all development permits to determine that the permit requirements of this ordinance have been satisfied.
- b. Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required.
- c. Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 630.05 (B)(5)(a) are met.
- d. When Base Flood Elevations are not available:
 - i. Review proposed development to determine whether development proposals are reasonably safe from flooding.
 - ii. Review all development permits for all new subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions) greater than 5 acres of 50 lots, whichever is the lesser, to ensure a base flood elevation has been established.

2. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 630.03 (B), BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the Planning Director shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, State or other source, in order to administer Sections 630.05 (B), SPECIFIC STANDARDS, and 630.05 (B)(5), FLOODWAYS.

3. Information to be Obtained and Maintained:

- a. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or in relation to highest adjacent grade when no Base Flood Elevation is available, or as required in Section 630.04 (C)(2), obtain and record the actual elevation (in relation to the mean sea level) of the lowest floor (including basement) of all new or substantially improved structures and whether or not the structure contains a basement.
- b. Obtain, verify and record the actual elevation of finished construction, in relation to the vertical datum used on the effective FIRM, or highest adjacent grade where no

Base Flood Elevation is available, to which a new or substantially improved non-residential structure located in a special flood hazard area has been flood-proofed.

- c. Obtain, verify and record the actual elevation in relation to the vertical datum used on the effective FIRM, or in relation to the highest adjacent grade where no Base Flood Elevation is available, of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new construction or substantially improved structures.
- d. For all new or substantially improved floodproofed structures:
 - i. Verify and record the actual elevation (in relation to mean sea level); and
 - ii. Maintain the floodproofing certifications required in Section 630.04 (C)(1)(c).
- e. Maintain for public inspection all records pertaining to the provisions of this ordinance.

4. Alteration of Watercourses:

- a. Applicant will be responsible for obtaining all necessary permits from governmental agencies from which approval is required by Federal, State, or local law, including but not limited to section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334; the Endangered Species Act of 1973, 16 U.S.C. 1531-1544; and the State of Oregon Division of State Lands regulations. A FEMA approved CLOMR is required if the project will cause a watercourse alteration, modify Base Flood Elevation, or change the boundaries of the floodway or special flood hazard area.
- b. Notify adjacent communities and the State Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. The applicant shall provide to the Floodplain Administrator the technical information necessary to prepare the notification.
- c. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
- d. Applicant shall submit to the Floodplain Administrator technical data as set forth in Chapter IV Section E prior to any watercourse alteration that will result in the expansion, relocation or elimination of the special flood hazard area.

5. Interpretation of FIRM Boundaries. Make interpretation where needed, as to 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 person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 630.04 (D).

D. Variance Procedure:

1. Appeal Board:

- a. The Baker County Planning Commission shall hear and decide appeals and requests for variances from the requirements of this ordinance.
- b. The Baker County Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Planning Director in the enforcement or administration of this ordinance.
- c. Those aggrieved by the decision of the Planning Commission or, subsequently, the Baker County Board of Commissioners, may appeal such decision to the Land Use Board of Appeals (LUBA) as provided in ORS 197.
- d. In passing upon such applications, the appellant bodies shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:
 - i. the danger that materials may be swept onto other lands to the injury of others;
 - ii. the danger to life and property due to flooding or erosion damage;
 - iii. the susceptibility of the proposed facility and such damage on the individual owner;
 - iv. the importance of the services provided by the proposed facility to the community;
 - v. the necessity to the facility of a waterfront location, where applicable;
 - vi. the availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
 - vii. the compatibility of the proposed use with existing and anticipated development;
 - viii. the relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
 - ix. the safety of access to the property in times of flood for ordinary and emergency vehicles;

- x. the expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
 - xi. the costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- e. Upon consideration of the factors of Section 630.04 (D)(1) and the purposes of this ordinance, the appellant bodies may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
 - f. The Planning Director shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

2. Conditions for Variances:

- a. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous and surrounded by lots with existing structures constructed below the base flood level, providing items (i-xi) in Section 630.04 (D)(1)(d) have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.
- b. 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 this section.
- c. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
- d. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- e. Variances shall only be issued upon:
 - i. a showing of good and sufficient cause;
 - ii. a determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - 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 as identified in Section 630.04 (D)(1)(d) or conflict with existing local laws or ordinances.

- f. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
- g. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except 630.04 (D)(2)(a), and otherwise complies with Sections 630.05 (A)(1) and 630.05 (A)(2) of the General Standards.
- h. 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 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.

630.05 Flood Hazard Reduction

A. General Standards. In all areas of special flood hazards, the following standards are required:

- 1. Anchoring. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- 2. Construction Materials and Methods:
 - a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
 - b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - c. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- 3. Utilities:

- a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and,
- c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

4. Subdivision Proposals:

- a. All subdivision proposals shall be consistent with the need to minimize flood damage;
- b. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- c. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and,
- d. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

The elevation data provided by the applicant for subdivision plat approval shall be consistent with the scope and scale of the proposal. For example, if an applicant proposes to subdivide 20 acres of rural land into 4 equal parcels, then only the most elementary elevation data is necessary. Utilizing the USGS Quad sheets to estimate the elevation of the perimeter of the Flood Hazard Boundary Map may suffice. However, if a developer's proposal is for 20 acres of land to be divided into 80 lots, the developer must obtain or develop data which approximates the accuracy of the Flood Insurance Study. Data available from the Soil Conservation Service or the US Army Corps of Engineers, Portland Division, may be used to satisfy this section.

5. Review of Building Permits:

- a. A Development Permit shall be obtained prior to start of all proposed construction and other development including the placement of manufactured homes within any Special Flood Hazard Area.
- b. Application for a Development Permit shall be made to the Floodplain Administrator or designee prior to starting development activities. Application shall include:

- i. A completed pre-construction Elevation Certificate signed and sealed by a registered professional surveyor;
 - ii. Certification from a registered professional engineer or architect that any proposed non-residential flood-proofed structure will meet the flood-proofing criteria of the NFIP and Oregon Specialty Codes.
- c. During construction, for any new construction and substantial improvements, the permit holder provide an as-built certification of the floor elevation or flood-proofing level immediately after the lowest floor or flood-proofing is placed and prior to further vertical construction.
- d. In addition to the requirements of the Oregon Specialty Codes pertaining to certificate of occupancy, and prior to final inspection, the owner or authorized agent shall submit the following documentation for finished construction that has been signed and sealed by a registered surveyor or engineer:
- i. For elevated buildings and structures in Special Flood Hazard Areas (all A zones), the elevation of the lowest floor, including basement, or where no Base Flood Elevation is available, the height above highest adjacent grade of the lowest floor;
 - ii. For non-residential buildings and structures that have been floodproofed, the elevation to which the building or structure was floodproofed.

Failure to submit certification or failure to correct violations shall be cause for the Floodplain Administrator to withhold a certificate of occupancy until such deficiencies are corrected.

Where elevation data is not available either through the Flood Insurance Study or from another authoritative source (Section 630.04 (C)(2)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

- B. Specific standards. In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 630.03 (B), Basis for establishing the areas of special flood hazard or Section 630.04 (C)(2), Use of Other Base Flood Data, the following provisions are required:

1. Residential Construction

- a. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of one (1) foot or more above the base flood elevation or three feet above highest adjacent grade where no BFE is defined.
 - b. New construction and substantial improvement that have fully enclosed areas below the lowest floor that are usable solely for parking vehicles, building access or storage in an area other than a basement and are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls 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 minimum criteria:
 - i. 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.
 - ii. The bottom of all openings shall be no higher than one foot above grade.
 - iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
2. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:
- a. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the Floodplain Administrator.
 - d. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in 630.05 (B) (1) (b).
 - e. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

3. Manufactured Homes. In addition to Sections 630.05 (A)(1), 630.05 (B)(2), and 630.05 (B)(1)(b) of this Ordinance, new, replacement, and substantially improved manufactured dwellings are subject to the following standards:
 - a. If the manufactured dwelling is supported on solid foundation walls, the ground area reserved for the placement of a manufactured dwelling shall be a minimum of one foot above BFE unless the foundation walls are designed to automatically equalize hydrostatic forces by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
 - i. 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.
 - ii. The bottom of all openings shall be no higher than one foot above grade.
 - iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
 - b. The bottom of the longitudinal chassis frame beam in A zones shall be at or above BFE.
 - c. The manufactured dwelling shall be securely anchored to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).
 - d. Electrical crossover connections shall be a minimum of 12 inches above the base flood elevation.
 - e. Crossover ducts may be installed below base flood elevation, but must be constructed to prevent floodwaters from entering or accumulating within system components.
4. Recreational Vehicles. Recreational vehicles placed on sites within Zones A1-30, AH, AO and AE are required to either:
 - a. Be on the site for fewer than 180 consecutive days;
 - b. Be fully licensed and ready for highway use, 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; or

- c. Meet the requirements of 630.05 (B)(3) above and the elevation and anchoring requirements for manufactured homes.
5. Floodways. Located within areas of special flood hazard established in Section 630.03 (B) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:
- a. Encroachments, including fill, new construction, substantial improvements, and other development are prohibited unless certification by a registered professional engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
 - b. If 630.05 (B)(5)(a) is met, any fill permitted to be placed in the regulatory Floodway shall be designed to be stable under conditions of flooding, including rapid rise and rapid drawdown of floodwaters, prolonged inundation, and flood-related erosion and scour.
 - c. Upon demonstration of no other alternative, applicants shall obtain a Conditional Letter of Map Revision (CLOMR) from FEMA before an encroachment, including fill, new construction, substantial improvement, fences, or other development, in the regulatory Floodway is permitted that will cause any increase in the Base Flood Elevation unless the development causes a temporary encroachment and the conditions of the paragraph below are satisfied. Upon completion of the project, but not later than six months after the project completion, a Letter of Map Revision shall be submitted to FEMA to reflect the changes on the FIRM and/or FIS.
 - d. Temporary encroachments in the regulatory Floodway for the purposes of capital improvement projects (including bridge construction/repair) must have a development permit issued. This includes ensuring that all other required permits and permissions are obtained from federal, state and local agencies. If the temporary encroachment results in an increase in flood levels during the occurrence of the base flood discharge, a CLOMR is not required to be obtained when:
 - i. The project is limited as to duration with the days and dates that the structure or other development will be on site specified in the development permit. If a longer period is required, a new permit should be issued.
 - ii. All other accessory equipment and temporary structures (i.e. construction trailers) are restricted from the regulatory Floodway;
 - iii. The project limits placement of equipment and material in the regulatory Floodway to that which is absolutely necessary for the purposes of the project;
 - iv. Structures shall be placed on site so the flood damages are minimized;

- v. The project includes a flood warning system sufficient to allow equipment to be evacuated from the regulatory Floodway and placed outside the area of special flood hazard in the event of imminent flood;
 - vi. The project applicant identifies insurable structures affected by any increase in Base Flood Elevations. The community should disclose to all owners of insurable structure and all applicants for permits in the affected area that there is an increased risk of flooding for the duration of the temporary encroachment;
 - vii. The project applicant is provided with written notification that they may be liable for any flood damages resulting from the temporary encroachment.
- e. If Section 630.05 (B)(5)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 630.05, Provisions for flood hazard reduction.
- f. New installations of manufactured dwellings are prohibited within a regulatory Floodway. Manufactured dwellings may only be located in floodways according to one of the following conditions:
- i. If the manufactured dwelling already exists in the floodway, the placement was permitted at the time of the original installation, and the continued use is not a threat to life, health, property, or the general welfare of the public; or
 - ii. A new manufactured dwelling is replacing an existing manufactured dwelling whose original placement was permitted at the time of installation and the replacement home will not be a threat to life, health, property, or the general welfare of the public and it meets the following criteria:
 - 1) As required by 44 CFR Chapter 1, Subpart 60.3(d)(3), it must be demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the manufactured dwelling and any accessory buildings, accessory structures, or any property improvements (encroachments) will not result in any increase in flood levels during the occurrence of the base flood discharge;
 - 2) The replacement manufactured dwelling and any accessory buildings or accessory structures (encroachments) shall have the finished floor elevated a minimum of 18 inches (46 cm) above the BFE as identified on the Flood Insurance Rate Map;

- 3) The replacement manufactured dwelling is placed and secured to a foundation support system designed by an Oregon professional engineer or architect and approved by the authority having jurisdiction;
- 4) The replacement manufactured dwelling, its foundation supports, and any accessory buildings, accessory structures, or property improvements (encroachments) do not displace water to the degree that it causes a rise in the water level or diverts water in a manner that causes erosion or damage to other properties;
- 5) The location of a replacement manufactured dwelling is allowed by the planning department's ordinances; and
- 6) Any other requirements deemed necessary by the County.

C. Standards for shallow flooding areas (AO Zones). Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

1. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the structure at least one (1) foot above the depth number specified on the FIRM (at least two feet in depth if no number is specified).
2. New construction or substantial improvements of nonresidential structures within AO zones shall either:
 - a. Have the lowest floor (including basement) elevated above the highest grade adjacent of the building site at least as high as the depth number specified on the FIRM (at least two feet if no depth number is specified); or
 - b. Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in section 630.05 (B)(2)(a)
 - c. Require adequate drainage paths around structures on slopes to guide floodwaters around structures on slopes to guide floodwaters around and away from proposed structures.