

Chapter 16.140

FLOODPLAIN AND DRAINAGE HAZARD AREAS*

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16.140.010 Purpose.

The regulations of this chapter are intended to implement the comprehensive plan and the Federal Emergency Management Agency’s (FEMA) flood insurance program and to minimize flood damage to property.

16.140.020 Applicability of provisions.

Floodplain and drainage hazard area review shall be applicable to all new development and modifications of existing development as provided in this chapter.

A. Unless specifically prohibited by this title, or the Clean Water Services (CWS) “Design and Construction Standards for Sanitary Sewer and Surface Water Management” or its successor, the following are not required to obtain a development permit for a floodplain or drainage hazard area alteration:

- 1. Uses and Activities Allowed in All Floodplain and Drainageway Locations.
 - a. Farming or raising of livestock not utilizing a structure;
 - b. Propagation or harvesting of timber for personal consumption, provided that the use of a caterpillar tractor, yarder, backhoe, grader or similar heavy mechanized equipment is prohibited, except that such equipment may be used where local laws are superseded by the Forest Practice Act and Oregon Administrative Rules;
 - c. A wire boundary fence designed to impede as little as practicable the movement of water or water borne materials;
 - d. Accessory residential or institutional uses such as lawns, gardens and play areas, provided that no structure is permitted;
 - e. Recreational and accessory recreational uses such as parks or game fields, provided that no grading or structures are permitted;
 - f. Maintenance, preservation or repair of public or private streets and other public transportation facilities, including culverts and piping, accessory drainage structures and necessary accessory structures that do not constitute “development” as defined by the Federal Emergency Management Agency.

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* Prior ordinance history: Ords. 96-4 and O-02-4.

Work shall comply with local, state and federal regulatory requirements;

g. An emergency measure necessary for immediate safety of persons or protection of property, such as riprap for erosion control, provided however, that an application for a development permit shall be promptly filed if the measure otherwise would require such a permit but for the emergency;

h. Line borings for installation of utilities when certified by a registered civil engineer: that the line is located at least thirty-six inches below ground surface in floodways, floodplains and drainage hazard areas; that the land disturbance will not alter flood storage capacity or water velocities; that all surface construction will take place outside the delineated floodplain or drainage hazard area; and that all spoils will be removed from the flood area and placed in an appropriate disposal site.

2. Uses and Activities Allowed Only Within the Urban Growth Boundary.

a. A recreational vehicle, which is allowed by the provisions of this title;

b. A nonconforming recreational vehicle may be replaced, provided there is compliance with the standards of this title.

B. Uses and Activities Permitted Through a City Manager Review.

Unless specifically prohibited in this title or the Clean Water Services "Design and Construction Standards for Sanitary Sewer and Surface Water Management" or its successor, a development permit may be approved in a flood or drainage hazard area according to a city manager review procedure for the following:

1. Uses and Activities Allowed in All Floodplain and Drainageway Locations.

a. Recreation or nature trails and removal of vegetation down to duff or bare soil provided the applicant obtains a permit for erosion control;

b. Lot line adjustments;

c. Wildlife viewing areas, including interpretive signs and off-street parking, which require no grading, and viewing platforms or structures, provided that all viewing platforms or structures:

i. Are elevated by pilings,

ii. Have the lowest floor at least one foot above the base flood elevation, and

iii. A building permit is obtained for the proposed platform or structure;

d. Maintenance, preservation and repair of local public streets and private streets except as provided for by subsection (A)(1)(f) of this section, including paving and grading of existing road surfaces, and grading and shaping of roadside ditches;

e. Above ground electrical, communication, and signal transmission and distribution lines on a single-pole system. For the purposes of this section, a single-pole system is defined as above ground electrical, communication or signal lines and their supporting concrete, and wood or metal poles, excluding self-supporting steel lattice-type structures;

f. Restoration and stabilization of the bank of a river or other watercourse or body of water for erosion control provided:

i. The application includes a registered civil engineer's certification that:

(A) The project is in response to a demonstrated bank failure that resulted from a specific flood event or which has occurred within the last two years,

(B) The project only restores and stabilizes the bank to its original location before the demonstrated bank failure,

(C) The length of the bank involved does not exceed two hundred fifty feet, and

(D) If riprap is used, it will be keyed in to the bed and bank of the body of water as specified in OAR 141-089-0005.

ii. Whether or not riprap is used, the length of bank within the project boundary, from the ordinary high water level to the top of the bank, shall be planted with vegetation that grows roots to stabilize the bank. Plant species used shall be those in the 1987 or most current list entitled "Shrubs, Trees and Aquatic Plants for Wildlife Plantings" prepared by the Oregon Department of Fish and Wildlife. The plantings shall meet the following requirements, unless different requirements are established for the project by the Oregon Division of State Lands through its permitting process:

(A) At least five plants shall be placed per one hundred square feet of bank area, and

(B) At least twenty percent of the plants placed shall be trees.

iii. Upon completion of the project, a registered civil engineer or landscape architect shall submit a statement certifying that the project was completed in compliance with the provisions of this section;

g. Maintenance, preservation or repair of drainage facilities located outside of public rights-of-way;

h. Maintenance of an existing vehicular access to a single-family residence or for farm or forest uses; including culverts for driveway crossings provided the application includes a registered civil engineer's certification that the project complies with Sections 16.140.060(A) through (I) of this chapter.

2. Uses and Activities Allowed Only Within the Urban Growth Boundary.

a. Construction or major improvement of local public streets and private streets except as provided for by subsection (A)(1)(f) of this section, including paving and grading, shaping of roadside ditches, and catch basins;

b. Construction of a vehicular access to a single-family residence or for farm or forest uses; including culverts for driveway crossings provided the application includes a registered civil engineer's certification that the project complies with Sections 16.140.060(A) through (I) of this chapter.

C. Uses and Activities Allowed Through a Planning Commission Review.

Unless specifically prohibited by this title, or the Clean Water Services "Design and Construction Standards for Sanitary Sewer and Surface Water Management" or its successor, a development permit may be approved in a flood or drainage hazard area through a planning commission review procedure for the following:

1. Uses and Activities Allowed in All Floodplain and Drainageway Locations.

a. Water quality or quantity improvement facilities, or a wetland mitigation project when:

i. Mandated or approved by a local, state or federal regulatory agency, or

ii. Designed to be consistent with CWS standards;

b. Dams, weirs, ponds and similar water impoundment devices, and mitigation and enhancement improvements for wetland and habitat areas;

c. Construction or major improvement or alteration of underground pipes and conduits, including sewer, water and gas lines, transmission and distribution lines for gas and oil, underground electrical, telephone and television transmission and distribution lines, including necessary accessory structures and drainage systems;

d. Above ground electrical, communication and signal transmission lines, except for those activities described in subsection (B)(1)(e) of this section;

e. Parks, golf courses and other recreational uses that do not include habitable structures;

f. Recreation or nature trails and associated grading, piping, culverts or bridges that meet the provisions of this title and applicable local, state and federal agency requirements;

g. Creation or restoration of wetlands;

h. Culverts and piping to implement an approved development, other than public transportation facilities, when the pipe or culvert connects to an existing pipe, culvert or drainageway. Culverts and piping in a flood or drainage hazard area shall continue to be subject to applicable local, state and federal agency requirements;

i. Bank maintenance, restoration or stabilization, including riprap for erosion control, of a river or other watercourse or body of water inside an urban growth boundary or not otherwise permitted by subsection (B)(1)(f) of this section;

j. Subdivisions and land partitions, provided that none of the proposed parcels located outside of the UGB shall accommodate residential structures;

k. Driveways and off-street parking that comply with the provisions of this title and applicable local, state and federal agency requirements.

2. Uses and Activities Allowed Only Within the Urban Growth Boundary.

a. One detached dwelling (including a manufactured dwelling) together with no more than two accessory structures and off-street parking on a law-

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fully created lot, when the lot or parcel contains insufficient area outside of the flood area upon which to locate the dwelling and/or accessory structures;

b. Substantial improvements to structures where “substantial improvement” is defined as follows: Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure either:

i. Before the improvement or repair is started, or

ii. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this section, “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 except as follows:

(A) 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,

(B) Any alteration of a structure listed on the national register of historic places or a state or local inventory of historic places, or

(C) Applications for substantial improvements to structures shall comply with the requirements of this chapter;

c. Improvements to a lawfully established structure when the cost of the improvement is less than fifty percent of the market value of the structure and there is compliance with Section 16.140.060 of this chapter. For the purpose of this subsection, improvement means any repair, reconstruction, addition or improvement of a structure except as follows:

i. Any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications, which is solely necessary to assure safe living conditions, or

ii. Any alteration of a structure listed on the national register of historic places or a state or local inventory of historic places;

d. Accessory structure customarily provided in conjunction with the use set forth in the applicable zoning district;

e. Subdivisions and partitions that comply with the provisions of this title;

f. Vehicular access to permitted uses, including driveway crossings, except as permitted by subsection (B)(1)(h) of this section;

g. Parks, golf courses and other recreational uses that include habitable structures;

h. Construction or major improvement or alteration of public local streets and private streets within the UGB, or approved as part of a land division, including culverts and piping, accessory drainage systems such as catch basins, and necessary accessory structures;

i. Parking area for an adjacent multi-family, institutional or commercial development.

16.140.030 Administration.

A. A floodplain and drainage hazard review shall be conducted concurrently with any other related land use application required by the city for the proposed development.

B. Floodplain and drainage hazard review applications described in Section 16.140.020(B) shall be administered and reviewed as a city manager decision in accordance with Article II of this title and applicable approval criteria in Sections 16.140.060 through 16.140.120 of this chapter.

C. All other floodplain and drainage hazard review applications described in Section 16.140.020 shall be administered and reviewed as a planning commission decision in accordance with Article II of this title and applicable approval criteria in Sections 16.140.060 through 16.140.120 of this chapter.

D. The approval authority shall review all floodplain and drainage hazard applications to determine that all necessary permits shall be obtained from those federal, state or local governmental agencies from which approval is also required.

E. In addition to the notice requirements in Article II of this title, the city manager shall notify communities adjacent to the affected area and the Oregon Department of Land Conservation and De-

velopment prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. The city manager shall require that maintenance is provided within the altered and relocated portion of such watercourse so that the flood carrying capacity is not diminished.

F. Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 16.140.040(B) of this chapter. The permit shall be for all structures including manufactured homes, as set forth in the definitions (Section 16.140.180 of this chapter) and for all development including fill and other activities, also as set forth in the definitions.

G. Application for Development Permit. Application for a development permit shall be made on forms furnished by the city manager 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:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;
2. Elevation in relation to mean sea level to which any structure has been floodproofed;
3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 16.140.090 of this chapter; and
4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

16.140.040 Basis for identifying lands subject to floodplain and drainage hazard area standards.

A. Lands to Which This Ordinance Applies.

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

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 the City of King City, Oregon," dated ~~November 4, 2016~~, with accompanying Flood Insurance Rate Maps (FIRM), are adopted by reference and declared to be a part of this chapter. The Flood Insurance Study is on file at 15300 SW 116th Ave., King City, OR 97224. The best available information for flood hazard area identification as outlined in subsection (B)(1) of this section, shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under subsection (B)(1) of this section.

1. When base flood elevation data has not been provided in accordance with subsection B of this section, the city manager 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 new construction, substantial improvements, or other development in Zone A on the FIRM.

2. Recognizing that the scale may be such that the true and accurate floodplain or drainage hazard area cannot be determined from the maps referenced in subsection B of this section alone, all persons seeking a development permit for lands within such areas and within two hundred fifty feet of the map boundary of a floodplain or drainage hazard area identified in subsection B of this section shall submit with the development permit application:

a. A delineation of the floodplain and the floodway boundaries, established by a registered engineer or surveyor from the surface elevations available from the city for the floodplain based upon maps referenced in subsection B of this section, and upon any other available authoritative flood data approved by the city manager, including but not limited to high water marks, photographs of past flooding, or historical flood data; and

b. A delineation of the drainage hazard area and drainageway by a registered surveyor or engineer from surface elevations prepared by a registered en-

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gineer. Such delineation shall be based on mean sea level datum and be field located using recognized landmarks.

C. Acceptance of Risk. Persons seeking to develop within a floodplain or drainage hazard area must do so with the understanding that they and their successors assume the risks and that the risks cannot be eliminated, even with strict compliance with the standards adopted herein. This chapter does not imply that lands outside of floodplain or drainage hazard areas, or development permitted within, will be free from flooding or flood damage.

16.140.050 Submittal requirements.

A. In addition to the form and information required in Section 16.44.030 of this title, an applicant shall submit the following:

1. Copies of the site plan, number to be determined at the preapplication conference, and necessary data or narrative, which explains how the development conforms to the applicable criteria, and:

a. The site plans and required drawings, prepared by a registered civil engineer, shall be drawn on sheets preferably not exceeding twenty-four inches by thirty-six inches,

b. The scale for the site plan shall be an engineering scale of not less than one inch equals fifty feet,

c. All drawings of structures elevations, prepared by a registered civil engineer or architect, shall be a standard architectural scale, being one-fourth inch or one-eighth inch equals one foot, and

d. Existing and proposed topography within the boundaries of the flood area using the following contour intervals:

i. For slopes of five percent or less, contour intervals not more than one foot,

ii. For slopes greater than five percent and up to and including ten percent, contour intervals not more than two feet, and

iii. For slopes greater than ten percent, contour intervals not more than five feet;

2. This information may be submitted with or be made part of a site plan or grading plan for the proposed development;

3. A list of names and addresses of all persons who are property owners of record within two hundred fifty feet of the subject property;

4. The required fee; and

5. The site plan, data and narrative shall be submitted for any related development applications as provided in this title.

B. Upon demonstration that no other alternative exists as determined by the City Engineer:

1. 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. The CLOMR shall be submitted prior to the application being deemed complete.

2. Within six (6) months of project completion, an applicant who obtains a CLOMR from FEMA, or whose development alters a watercourse, modifies floodplain boundaries, or modifies Base Flood Elevations within the regulatory floodway, shall submit obtain evidence to the city that a Letter of Map Revision (LOMR) from FEMA has been requested that reflects the as-built changes to the Flood Insurance Study (FIS) and/or Flood Insurance Rate Map (FIRM).

16.140.060 Development standards for floodplain and drainage hazard area applications.

The applicant for a proposed floodplain or drainage hazard area development shall demonstrate compliance with the following applicable standards of this chapter.

A. Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage;

2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;

3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and

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4. 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 fifty lots or five acres (whichever is less).

B. Development proposed to encroach into a regulatory floodway adopted and designated pursuant to FEMA regulations shall demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a registered civil engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the relevant comprehensive plans for the city and Washington County, will not result in any increase in flood levels during the occurrence of the base (regional) flood discharge. Notwithstanding this provision, development that would result in such an increase may be approved if the city, at the sole expense of the applicant, first obtains FEMA approval in accordance with 44 CFR Ch. 1, Part 65 (October 1, 1990 edition, or its successor). No increase to the floodplain elevation shall be permitted unless the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the floodplain elevation. These properties are not required to be part of the application for the proposed development.

C. Development proposed on a floodplain site where the development does not encroach into an adopted FEMA regulatory floodway shall demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a registered civil engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the relevant comprehensive plans for the city and Washington County, will not increase the floodplain elevation more than one foot at any point in the vicinity. Notwithstanding this provision, an increase in excess of one foot may be approved if the city, at the sole expense of the applicant, first obtains FEMA approval in accordance with 44 CFR Ch. 1,

Part 65 (October 1, 1990 edition, or its successor). No increase to the floodplain elevation shall be permitted unless the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the floodplain elevation.

D. Development proposed on a drainage hazard area site shall demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a registered civil engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the relevant comprehensive plans for the city and Washington County, will not result in any increase to the drainage hazard area elevation at any point in the vicinity. Notwithstanding this provision, an increase may be approved if the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the drainage hazard area elevation.

E. Encroachments into a floodway shall be designed so as to minimize the risk that the encroachment will catch substantial debris or otherwise significantly impede floodwater flows. Designs may include, but are not limited to, adequate sizing of openings, secured breakaway bridges, diverters or spacing of supports.

F. The proposal will not increase the existing velocity of flood flows so as to exceed the erosive velocity limits of soils in the flood area. Energy dissipation devices or other measures to control the mean velocity so as not to cause erosion of the flood area may be used to meet this standard. "Open Channel Hydraulics" by V.T. Chow, McGraw-Hill Book Company, Inc., 1988, is presumed to be the best available reference for maximum permissible velocity. "Hydraulic Engineering Circular No. 14," Hydraulic Design of Energy Dissipaters for Culverts and Channels, published by the Federal Highway Administration, September 1983, is presumed to be the best available reference for the design of energy dissipaters.

G. All cut and fill shall be structurally sound and designed to minimize erosion. All fill below the flood surface elevation shall be accompanied by an equal amount of cut or storage within the boundary of the development site unless:

1. The proposed cut and fill is found to be in compliance with the King City storm drainage master plan and/or Clean Water Services requirements; or

2. Off-site excavation will be utilized to balance a fill, provided:

a. The off-site excavation area will be part of the application for the development proposing to place the fill,

b. The off-site excavation area will be located in the same drainage basin as the proposed fill area,

c. The off-site excavation area will be located within points of constriction on the drainage system, if any, and as close to the fill site as practicable. The applicant's registered civil engineer shall conduct a storage routing analysis to determine the location of the fill,

d. The off-site excavation area will be constructed as part of the development placing the fill,

e. Any use or future development of the excavated area shall comply with the standards of this chapter and Clean Water Services requirements,

f. Ownership of the excavated area shall be by one of the following mechanisms:

i. Dedication of the area to an appropriate public agency when a public agency is willing to accept the dedication,

ii. Ownership of the area by the applicant of the proposed development,

iii. Dedication of the development rights of the area to an appropriate public agency with ownership remaining with the property owner. Maintenance of the area shall be the responsibility of the applicant or property owner, and

iv. Deed or easement-restricted private ownership which prevents any use or future development of the area as specified by subsection (F)(2)(e) of this section. Maintenance of the area as conditioned by the city shall be the responsibility of the applicant or property owner.

H. There is adequate storm drainage behind a dike such as a lift pump or flap gate to drain the floodplain or drainage hazard area behind the dike.

I. That the environmental impact of the disturbance or alteration of riparian wildlife and vegetation has been minimized to the extent practicable as required by Clean Water Services. Enhancement of riparian habitats through planting or other such improvements may be required to mitigate adverse effects. Significant features such as natural ponds, large trees, and endangered vegetation within the flood or drainage hazard area shall be protected when practicable.

J. Drainage systems shall be designed and constructed according to the standards of Clean Water Services (CWS).

K. Proposed partitions and subdivisions shall minimize flooding by complying with the applicable standards of the Clean Water Services construction standards.

L. Public utilities and facilities in proposed partitions and subdivisions shall be located and constructed in a manner that will minimize flood damage.

16.140.070 Supplemental criteria for dwellings.

A. No new dwelling shall be constructed in a flood area if:

1. The lot or parcel contains sufficient, suitable, existing buildable land area that is located outside the flood area so as to permit construction at least one foot above the flood area;

2. The buildable land area shall be deemed suitable if it includes a minimum ten-foot perimeter setback around the proposed dwelling that is outside the flood area; and

3. The property is outside of the urban growth boundary (UGB).

B. Construction standards for new dwellings and substantial improvements to existing dwellings in flood areas:

1. All new dwellings and substantial improvements to existing dwellings shall have the lowest habitable floor, including any basement, elevated to

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at least one foot above the flood surface elevation and shall be anchored so as to prevent flotation, collapse or lateral movement;

2. New dwellings and substantial improvements to existing dwellings may be placed on pressure treated pilings when:

a. Certified by a registered engineer as sufficient to prevent collapse or movement during a one hundred-year flood,

b. Pilings are placed on stable compacted fill on no greater than ten-foot centers, and

c. Pilings greater than six feet high are reinforced;

3. New dwellings and substantial improvements to existing dwellings may be placed on approved fill providing the building site, which includes the ground under the structure plus a ten-foot setback around all sides of the structure, is above the flood surface elevation;

4. All new construction and improvements to existing structures shall be done with approved materials and utility equipment resistant to flood damage, using approved construction methods and practices that minimize such damage. All new construction and improvements to existing structures shall be anchored to prevent flotation, collapse or lateral movement;

5. Fully enclosed non-habitable areas below the lowest floor that are subject to flooding are permitted only if designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or must meet or exceed the following minimum criteria:

a. 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,

b. The bottom of all openings shall be no higher than one foot above grade, and

c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

16.140.080 Supplemental criteria for manufactured dwellings, manufactured dwelling parks and subdivisions.

In addition to the requirements of Chapter 16.120 of this title, manufactured dwellings, manufactured dwelling parks and subdivisions located in a flood area shall comply with the following standards:

A. Manufactured dwellings shall not be located within the floodway except in a lawfully established manufactured dwelling park or subdivision.

B. ~~New~~ manufactured dwellings shall not be located outside of the UGB.

C. Manufactured dwellings shall:
1. ~~Be anchored to prevent flotation, collapse or lateral movement of the structure;~~

2. ~~Be anchored to prevent flotation, collapse, or lateral movement during the base flood, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas: guidebook for additional techniques);~~

3. ~~Have solid flood openings that comply with C 2 of this section for solid foundation walls supporting the manufactured dwelling;~~

4. ~~Have the bottom of the longitudinal chassis frame beam in A zones at or above the base flood elevation;~~

5. ~~Have electrical crossover connections that are a minimum of one (1) foot above the base flood elevation.~~

D. In new manufactured dwelling parks and subdivisions, or in expansions to existing manufactured dwelling parks and subdivisions, or where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds fifty percent of value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced; and for manufactured dwelling park or subdivision, the following shall be required:

1. Stands or lots shall be elevated on compacted fill or on pilings so that the lowest floor of the manu-

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Deleted: . 1. . Require that over-the-top ties be provided at each of the four corners of the manufactured dwelling, with two additional ties per side at intermediate locations. Manufactured dwellings less than fifty feet long require only one additional tie per side.¶

Deleted: Require that frame ties be provided at each corner of the dwelling with five additional ties per side at intermediate points. Manufactured dwellings less than fifty feet long require only four additional ties per side

Deleted: Notwithstanding subsection (C)(2) of this section, allow a manufactured dwelling to utilize only frame ties if:¶

a. . The dwelling was constructed in compliance with the Oregon Mobile Code in effect between 1972 and 1976 and bears a label to that effect.¶

b. . The dwelling was constructed in compliance with the "National Manufactured Housing Construction and Safety Standards Act,"¶

c. . The dwelling is multisectional (double-wide or greater), or¶

d. . The ground upon which the dwelling is located is at an elevation above the regional flood level

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factured dwelling will be at least one foot above the flood surface elevation;

2. Adequate surface drainage and access for a hauler are provided; and

3. In the instance of elevation on pilings, that:

- a. Lots are large enough to permit steps,
- b. Piling foundations are placed in stable soil not more than ten feet apart, and
- c. Reinforcement is provided for pilings more than six feet above the ground level.

E. Placement of, or substantial improvements to, manufactured dwellings on-sites outside of a manufactured dwelling park or subdivision, or in a new or existing manufactured dwelling park or subdivision, or in an expansion to an existing manufactured dwelling park or subdivision, shall be elevated on compacted fill or on pilings so that the lowest floor of the manufactured dwelling will be at least one foot above the flood surface elevation; elevation on pilings shall meet the requirements of subsection (D)(3) of this section.

16.140.085 Supplemental criteria for recreational vehicles.

A. Recreational vehicles placed on sites within a floodplain or drainage hazard area shall either:

1. Be on the site for fewer than one hundred eighty consecutive days;
2. Be fully licensed and ready for highway use; or
3. Meet all permitting requirements applicable to manufactured homes including all anchoring and elevation requirements in Section 16.140.080 of this chapter.

B. For purposes 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.

C. This section shall not be construed to permit location of a recreational vehicle which is otherwise prohibited by any other section of this code.

16.140.090 Supplemental criteria for non-dwelling structures.

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated at or above 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 official as set forth in Section 16.140.030(G) of this chapter. (Application for Development Permit);

D. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in Section 16.140.070(B)(5) of this chapter;

E. Ensure that all fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. At a minimum, designs for meeting this requirement shall:

1. Contain a minimum of two (2) openings with a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;

2. Contain openings where the bottom of each opening is no higher than one (1) foot above grade;

3. Contain openings equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters without manual intervention;

4. Show how the structure is anchored to prevent flotation, collapse or lateral movement;

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5. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

6. Have a registered engineer certify that the proposed design and methods of construction comply with the criteria described in this Section E.

F. In accordance with FEMA regulations, 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 floodproofed to the base flood level will be rated as one foot below) or as otherwise amended by FEMA.

16.140.100 Supplemental criteria for utilities and tanks.

A. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system. The applicant shall obtain all applicable local, state or federal permits.

B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into, or discharge from, the system. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. The applicant shall obtain all applicable local, state or federal permits.

C. Above ground electrical, communication and signal transmission or distribution lines and related accessory structures other than poles or towers, shall be constructed at or above the flood surface elevation. Poles and towers shall be constructed and placed to minimize risk of damage.

D. 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 flood conditions.

E. Construction of utilities shall be done in a way, which minimizes the impact on the flood area. The site shall be restored, as far as practicable, to its original state according to CWS standards.

F. New and replacement tanks in flood hazard areas shall either be elevated above the base flood

elevation on a supporting structure designed to prevent flotation, collapse or lateral movement during conditions of the base flood, or be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy assuming the tank is empty, during conditions of the base flood.

G. New and replacement tank inlets, fill openings, outlets and vents shall be placed a minimum of two (2) feet above base flood elevation or fitted with covers designed to prevent the inflow of flood water or outflow of the contents of the tank during conditions of the base flood.

16.140.110 Supplemental criteria for piping, culverts and man-made creek beds.

Piping or the use of culverts or man-made creek beds to drain or alter the water flow of a flood area shall be approved by Clean Water Services.

16.140.120 Criteria for multi-family, institutional and commercial development parking.

Land within the flood area and the UGB may be used for parking by multi-family, institutional or commercial developments, regardless of whether located on the same lot or parcel, if an approval for parking is obtained through the planning commission review procedure. The parking shall be approved only upon findings that:

A. The parcel or lot could not develop at the planned density, including any density transfers or bonuses, due to lack of land area to provide ground level parking areas on the same lot or parcel outside the floodplain or drainage hazard area;

B. Adequate drainage can be provided to minimize the off-site impact of changes in water flow, direction or velocity caused by creation of the parking area;

C. The applicant will minimize any adverse impacts on the natural integrity of the flood area, including wildlife and riparian vegetation to the extent practicable. Significant features such as natural

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tom of joists and all insulation above the base flood elevation.

D. Any building utility systems within the crawlspace must be elevated above base flood elevation or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the base flood elevation or sealed from floodwaters.

E. The interior grade of a crawlspace below the base flood elevation must not be more than two (2) feet below the lowest adjacent exterior grade.

F. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four (4) feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.

G. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.

H. The velocity of floodwaters at the site should not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.

16.140.150 Critical facilities

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Area of Special Flood Hazard Area (100-year floodplain). Construction of new critical facilities shall be permissible within the 100-year floodplain if no feasible alternative site is available. Critical facilities constructed within the 100-year floodplain shall have the lowest floor elevated three feet above the base flood or to the height of the 500-year flood, whichever is

higher. Access to and from the critical facility should also be protected to the height utilized above.

Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.

16.140.160 General requirements and prohibitions.

A. Property owners shall maintain the flood area in such a manner as to prevent reduction of the natural carrying capacity. Maintenance outside of the public right-of-way shall be done by means of hand implements unless a development permit for an alteration is first obtained (lawn mowers are considered hand implements).

B. Storage of petroleum products, explosives, herbicides, pesticides, insecticides, poisons, defoliants, fungicides, desiccants, nematocides and rodenticide is prohibited.

C. Dumping of solid waste in the flood area is prohibited.

D. The provisions of the chapter are in addition to any and all federal, state or special district laws and regulations in force at the time of approval of the development permit. Any permits required from a local, state or federal agency shall be obtained prior to any development within the flood area.

E. The standards and criteria of this chapter are cumulative and in addition to any other requirements of this title.

F. The approval authority may condition any development permit to the extent necessary to avoid any specifically identified deleterious impacts on the natural integrity of the flood area or to wildlife and vegetation within the flood area.

G. In the case of the partitioning or subdivision of land for the location of structures for human occupancy, such site shall provide a building site, which includes the ground under the structure plus a ten-foot setback around all sides of the structure, with a ground elevation at least one foot above the flood sur-

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utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

“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:

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 on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

“Flood Insurance Study” means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

“Letter of map change (LOMC)” means an official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and/or Flood Insurance Studies. LOMCs are issued in the following categories:

1. Letter of Map Amendment (LOMA). An amendment to the Flood Insurance Rate Maps based on technical data showing that an existing structure or parcel of land that has not been elevated by fill (natural grade) was inadvertently included in the special flood hazard area because of an area of naturally high ground above the base flood.

2. Letter of Map Revision (LOMR). LOMR-F (Letter of Map Revision based on Fill) is a letter from FEMA stating that an existing structure or parcel of land that has been elevated by fill would not be inundated by the base flood.

A LOMR revises the current Flood Insurance Rate Map and/or Flood Insurance Study to show changes to the floodplains, Floodways or flood elevations. LOMRs are generally based on manmade alterations that affected the hydrologic or hydraulic characteristics of a flooding source and thus result in modification to the existing regulatory Floodway, the effective Base Flood Elevation, or the Special Flood Hazard Area. It is recommended a Conditional Letter of Map Revision be approved by FEMA prior to issuing a permit to start a project if the project has a potential to affect the special flood hazard area. (See Conditional Letter of Map Revision)

“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 requirements of this chapter found at Section 16.140.070(B)(5) of this chapter.

“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 attached to the required utilities. 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 two 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 the ordinance codified in this chapter.

- “Recreational vehicle” means a vehicle which is:
1. Built on a single chassis;
 2. Four hundred square feet or less when measured at the largest horizontal projection;

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Deleted: - “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 adopted floodplain management regulations.¶

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3. Designed to be self-propelled or permanently towable 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.

“Start of construction” means and 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 one hundred eighty 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 a 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 the building.

“Structure” means a walled and roofed building, ~~a modular or temporary building, or~~ 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 fifty percent of the market value of the structure before the damage occurred.

“Substantial improvement” means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure either:

1. Before the improvement or repair is started; or

2. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either:

a. 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

b. Any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

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

“Water dependent” means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

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Chapter 16.24

DEFINITIONS

Sections:

- 16.24.010 Meaning of words generally.
- 16.24.020 Definitions of specific terms.
- 16.24.030 Definitions of land use types.
- 16.24.040 Solar access figures.

16.24.020 Definitions of specific terms.

As used in this title the following words and phrases shall mean:

“Flood plain,” or “flood plain, one hundred-year” means the flood-hazard area adjoining a stream or drainageway feature that has a one percent chance of occurrence in any single year (one hundred-year flood) and areas subject to flooding that have been identified based on historical information.

“Flood surface elevation” means the elevation of the surface water of a floodplain or drainage hazard area.

“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.

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Deleted: “Floodway” means the normal stream or drainage channel and that adjoining area of the natural flood plain needed to convey flood water, and including the zero-foot rise floodway area defined by the U.S. Army Corps of Engineers Flood Insurance Study, February 1984. Floodways must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation.¶
“Floodway fringe” means the area within the flood plain lying outside of the floodway.¶