

## FLOODPLAIN COMBINING DISTRICT (/FP)

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### **10.271 Floodplain Combining District (/FP)**

#### (1) Statutory Authority, Findings of Fact, Purpose, and Methods

- (a) Statutory Authorization. The State of Oregon has in ORS 203.035 delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, Lane County does ordain as follows:
- (b) Findings of Fact
  - (i) The flood hazard areas of Lane County are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
  - (ii) These flood losses may be caused by the cumulative effect of obstructions in special flood hazard areas which increase flood heights and velocities, and when inadequately anchored, cause damage in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss.
- (c) 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. The provisions of this section are designed to:
  - (i) Protect human life and health

- (ii) Minimize expenditure of public money and costly flood control projects.
  - (iii) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
  - (iv) Minimize prolonged business interruptions.
  - (v) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazards.
  - (vi) Help maintain a stable tax base by providing for the sound use and development of areas as special flood hazard so as to minimize blight areas caused by flooding.
  - (vii) Notify potential buyers that the property is in a special flood hazard area.
  - (viii) Notify those who occupy special flood hazard areas that they assume responsibility for their actions.
  - (ix) Participate in and maintain eligibility for flood insurance and disaster relief.
- (d) Methods for Reducing Flood Losses. In order to accomplish its purpose, this section includes methods and provisions for:
- (i) Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.
  - (ii) Requiring that development vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
  - (iii) Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters.
  - (iv) Controlling filling, grading, dredging and other development, which may increase flood damage.
  - (v) Preventing or regulating the construction of flood barriers, which will unnaturally divert flood waters or which may increase flood hazards in other areas.

(2) Definitions. Unless specifically defined below, words or phrases used in this ordinance are interpreted so as to give them the meaning they have in common usage.

- (a) Agricultural structure. A structure used exclusively in connection with the production, harvesting, storage, raising or drying of agricultural commodities and livestock; not used for human habitation.
  - (i) The structure is walled and roofed, meaning it has at least two outside rigid

walls and fully secured roof.

- (ii) Includes aquaculture (farming that is conducted in water) structures that are walled and roofed and used exclusively for the production, harvesting, storage, raising or drying of aquatic animals or plants.
- (b) Appeal. A request for a review of the interpretation of any provision of this ordinance or a request for a variance.
- (c) Area of shallow flooding. A designated Zone AO, AH, AR/AO, AR/AH or VO on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.
- (d) Area of special flood hazard. The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as Zone A, AO, AH, A1-30, AE, A99, AR, V, VO, V1-30, VE. "Special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard".
- (e) Base flood. The flood having a one percent chance of being equaled or exceeded in any given year.
- (f) Base flood elevation (BFE). The elevation to which floodwater is anticipated to rise during the base flood.
- (g) Basement. Any area of the building having its floor subgrade (below ground level) on all sides.
- (h) Below-grade crawlspaces. An enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed 4 feet at any point.
- (i) Breakaway wall. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
- (j) Building. See "Structure."
- (k) Coastal high hazard area. An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.
- (l) Compensatory storage. New flood (water) storage areas, generally made by means of excavation, with volume equivalent to any flood storage that is eliminated by development within the floodplain.

- (m) Critical facility. Any building or location vital to emergency response operations, limited to: Emergency operation centers, 911 centers, police stations, fire stations or hospitals. Any buildings or locations that if damaged, would create secondary disasters, limited to: schools, nursing homes, prison or jail facilities, or installations which produce, use or store hazardous materials.
- (n) Development. Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.
- (o) Elevated building. For insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.
- (p) Flood or Flooding.
  - (i) A general and temporary condition or complete inundation of normally dry land areas from:
    - (aa) The overflow of inland or tidal waters.
    - (bb) The unusual and rapid accumulation or runoff of surface waters from any source.
    - (cc) Mudslides (i.e. mudflows) which are proximately caused by flooding as defined in (i)(cc) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
    - (dd) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in (i)(aa) of this definition.
- (q) Flood elevation study. An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.
- (r) Flood Insurance Rate Map (FIRM). The official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

- (s) Flood Insurance Study (FIS). See "Flood elevation study".
- (t) Floodplain or flood prone area. Any land area susceptible to being inundated by water from any source. See "Flood or flooding."
- (u) Floodplain administrator. The community official designated by title to administer and enforce the floodplain management regulations.
- (v) Floodplain Management. The operation of an overall program of corrective and preventative measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works and floodplain management regulations.
- (w) Floodplain management regulations. Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance and erosion control ordinance) and other application of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.
- (x) Flood proofing. Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.
- (y) Floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Also referred to as "Regulatory Floodway."
- (z) Functionally dependent use. A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.
- (aa) Hazardous material. Material identified as hazardous by the Oregon Structural Specialty Code (OSSC) or Oregon Fire Code (OFC) that exceeds the exempt thresholds of the OSSC or OFC.
- (bb) Highest adjacent grade. The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
- (cc) Historic structure. Any structure that is:
  - (i) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

- (ii) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
  - (iii) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior.
  - (iv) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: by an approved state program as determined by the Secretary of the Interior, or directly by the Secretary of the Interior in states without approved programs.
- (dd) Letter of Map Change (LOMC). An official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:
- (i) Conditional Letter of Map Amendment (CLOMA). A CLOMA is FEMA's comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.
  - (ii) Conditional Letter of Map Revision (CLOMR). A CLOMR is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.
  - (iii) Conditional Letter of Map Revision based on Fill (CLOMR-F). A CLOMR-F is FEMA's comment on a proposed project that would, upon construction, result in a modification of the special flood hazard area through the placement of fill outside the existing regulatory floodway.
  - (iv) Letter of Map Amendment (LOMA). An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the special flood hazard area.
  - (v) Letter of Map Revision (LOMR). A LOMR is FEMA's modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LMOR officially revises the FIRM or FBFM, and sometimes the

Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.

- (vi) Letter of Map Revision based on Fill (LOMR-F). A LOMR-F is FEMA's modification of the special flood hazard area shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.
- (vii) A PMR is FEMA's physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.
- (ee) Lowest floor. 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 ordinance.
- (ff) Manufactured dwelling. 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 dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home".
- (gg) Manufactured dwelling park or subdivision. A parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.
- (hh) Mean sea level. For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.
- (ii) New construction. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation (this ordinance) adopted by Lane County and includes any subsequent improvements to such structures.
- (jj) Post-FIRM Structures. A structure built after the adoption of Lane County's first Flood Insurance Rate Map on December 18, 1985.
- (kk) Pre-FIRM Structure. A structure built prior to the adoption of Lane County's first Flood Insurance Rate Map on December 18, 1985.
- (ll) Recreational vehicle. A vehicle which is: (i) Built on a single chassis; (ii) 400 square

feet or less when measured at the largest horizontal projection; (iii) Designed to be self-propelled or permanently towable by a light truck; and (iv) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

- (mm) Regulatory floodway. See "Floodway".
- (nn) Special Flood Hazard Area (SFHA). See "area of special flood hazard".
- (oo) 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 a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the state 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. 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.
- (pp) Structure. For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured dwelling.
- (qq) Substantial damage. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- (rr) Substantial improvement. Any combination of reconstruction, rehabilitation, addition, or other improvement of a structure, permitted within the past 5 years, 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 term does not, however, include either: (i) 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 (ii) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."
- (ss) Variance. A grant of relief by Lane County from the terms of a flood plain management regulation.
- (tt) Violation. The failure of a structure or other development to be fully compliant with

the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

- (uu) Water surface elevation. The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.
- (vv) Wet Floodproofing. Permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding by allowing flood waters to enter and exit the structure.

### (3) General Provisions

- (a) Lands to Which this Ordinance Applies. This Ordinance will apply to all Special Flood Hazard Areas (SFHA) within the jurisdiction of Lane County.
- (b) Basis for Establishing the Special Flood Hazard Areas. The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Lane County, Oregon and Incorporated Areas Volumes 1- 4", dated June 5, 2020, with accompanying Flood Insurance Rate Map (FIRM) panels 0025 through 2975, dated June 2, 1999 and June 5, 2020 are hereby adopted by reference and declared to be a part of this ordinance. The FIS and FIRM panels are on file at the offices of the Lane County Land Management Division.
- (c) Coordination with Specialty Codes Adopted by the State of Oregon Building Codes Division. Pursuant to the requirement established in ORS 455 that Lane County administers and enforces the State of Oregon Specialty Codes, Lane County does 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 (SFHA). Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.
- (d) Compliance and Penalties for Noncompliance.
  - (i) Compliance. All development within special flood hazard areas is subject to the terms of this ordinance and required to comply with its provisions and all other applicable regulations.
  - (ii) Penalties for Noncompliance. No structure or land must hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) will constitute an administrative civil penalty subject to administrative enforcement pursuant to Lane Code Chapter 5. Any responsible person who fails to comply with any provision of Lane Code subject to Chapter 5 enforcement may be subject to daily fines. Nothing herein contained will prevent Lane County

from taking such other lawful action as is necessary to prevent or remedy any violation.

- (e) Abrogation. 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 will prevail.
- (f) Severability. This ordinance and the various parts thereof are hereby declared to be severable. If any section clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding will in no way effect the validity of the remaining portions of this Ordinance.
- (g) Interpretation. In the interpretation and application of this ordinance, all provisions are:
  - (i) Considered as minimum requirements;
  - (ii) Liberally construed in favor of the governing body; and
  - (iii) Deemed neither to limit nor repeal any other powers granted under state statutes.
- (h) Warning and Disclaimer of Liability
  - (i) 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.
  - (ii) This ordinance will not create liability on the part of Lane 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.

#### (4) Administration

- (a) Designation of the Floodplain Administrator. The Planning Director and their designee are hereby appointed to administer, implement, and enforce this ordinance by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.
- (b) Duties and Responsibilities of the Floodplain Administrator. Duties of the local administrator, or their designee, shall include, but not be limited to:
  - (i) Permit Review. Review all development permits to determine that:

- (aa) The permit requirements of this ordinance have been satisfied;
  - (bb) All other required local, state, and federal permits have been obtained and approved.
  - (cc) Review all development permits to determine if the proposed development is located in a floodway. If located in the floodway assure that the floodway provisions of this ordinance in section (5)(b)(iv) are met; and
  - (dd) Review all development permits to determine if the proposed development is located in an area where Base Flood Elevation (BFE) data is available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of section (5)(a)(vii); and
  - (ee) Provide to building officials the Base Flood Elevation (BFE) and freeboard requirement applicable to any building requiring a development permit.
  - (ff) Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in section (2).
  - (gg) Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in section (5)(a)(i).
  - (hh) Review all development permits to determine if the proposed development activity includes the placement of fill or excavation.
- (ii) Information to be obtained and maintained.
- (aa) Obtain, record, and maintain the actual elevation (in relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where Base Flood Elevation (BFE) data is provided through the Flood Insurance Study (FIS), Flood Insurance Rate Map (FIRM), or obtained in accordance with section (5)(a)(vii).
  - (bb) Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure proposed in the floodway or Coastal High Hazard Flood Zone prior to the start of construction and the placement of any fill and ensure that the requirements of (5)(b)(iv), (5)(c)(i)(ff), (4)(b)(i)(bb) are adhered to.
  - (cc) Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain an Elevation Certificate (EC) recording the actual elevation (in relation

to mean sea level) of the lowest floor (including basement), all attendant utilities in place, and the location and height of all flood openings.

- (dd) Where base flood elevation data are utilized, obtain an As-built Elevation Certificate (EC) recording the actual elevation (in relation to mean sea level) of the lowest floor (including basement), all attendant utilities, and the location and height of all flood openings, prior to the final inspection.
  - (ee) Maintain all Elevation Certificates (EC) required under this ordinance and submitted to Lane County;
  - (ff) Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where Base Flood Elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with section (5)(a)(vii).
  - (gg) Maintain all floodproofing certificates required under this ordinance;
  - (hh) Record and maintain all variance actions, including justification for their issuance;
  - (ii) Obtain and maintain all hydrologic and hydraulic analyses performed as required under section (5)(b)(iv).
  - (jj) Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under section (4)(b)(iv).
  - (kk) Maintain for public inspection all records pertaining to the provisions of this ordinance.
- (iii) Requirement to notify other entities and submit new technical data
- (aa) Community Boundary Alterations. The Floodplain Administrator must notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area, to ensure that all Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) accurately represent the community's boundaries. Include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.
  - (bb) Watercourse Alterations. Notify adjacent communities, the

Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification must be provided by the applicant to the Federal Insurance Administration as a Letter of Map Revision (LOMR) along with either:

- (A) A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
  - (B) Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance; and
  - (C) The applicant is required to submit a Conditional Letter of Map Revision (CLOMR) when required under section (4)(b)(iii)(cc). Ensure compliance with all applicable requirements in sections (4)(b)(iii)(cc) and (5)(a)(i).
- (cc) Requirement to Submit New Technical Data. A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community must notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Section 44 of the Code of Federal Regulations (CFR), Sub-Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.
- (A) The Floodplain Administrator must require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:
    - (i-i) Proposed floodway encroachments that increase the base flood elevation; and
    - (ii-ii) Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.
  - (B) An applicant must notify FEMA within six (6) months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA. This notification to FEMA must be provided as a Letter of Map Revision (LOMR).

- (C) The applicant is responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.
  - (D) The Floodplain Administrator is under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this code and all applicable state and federal laws.
- (iv) Conduct Substantial Improvement (SI) (as defined in section (2)) reviews for all structural development proposal applications and maintain record of SI calculations within permit files in accordance with section (4)(b)(ii). Conduct Substantial Damage (SD) (as defined in section (2)) assessments and make SD determinations whenever structures laterally within the Special Flood Hazard Area (as established in section (3)(b)) are damaged to the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
  - (v) Make interpretations where needed, as to exact location of the boundaries of the special flood hazard areas (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. Such appeals shall be granted consistent with the standards of section 60.6 of the Rules and Regulations of the National Flood Insurance Program (44 CFR 59-76).
  - (vi) Emergency Permits. The Floodplain Administrator may issue an emergency permit orally or in writing:
    - (aa) If issued orally, a written permit will follow within five days confirming the issuance and setting forth the conditions of operation.
    - (bb) Emergency permits may be issued to protect existing shorelines or structures under immediate threat by flood or storm waters or for the prevention of channel changes that threaten immediate and significant loss of property.
    - (cc) A representative of Lane County may inspect the project site to verify that an emergency condition exists and that the emergency action will not significantly impact water resources.
    - (dd) Emergency permits will be in effect for the time required to complete the authorized emergency action and must not exceed 60 days.
    - (ee) The emergency permit will be circulated for public information within 10 days of issuance.

- (ff) The Floodplain Administrator will condition emergency permits to protect and conserve the waters of this County.
- (c) Establishment of Development Permit
- (i) Floodplain Development Permit Required. A development permit must be obtained before construction or development begins within any area laterally (horizontally) within the special flood hazard area established in section (3)(b). The development permit will be required for all structures, including manufactured dwellings, and for all other development, as defined in section (2), including fill and other development activities.
  - (ii) Application for Development Permit. Application for a development permit must be submitted on a form provided by the Floodplain Administrator, address all applicable standards and criteria, include the materials and information required by Land Code 14.040(1), and the following information is required:
    - (aa) In riverine flood zones, the proposed elevation (in relation to mean sea level), of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures; in accordance with the requirements of section (4)(b)(ii).
    - (bb) In coastal flood zones (V zones and coastal A zones), the proposed elevation in relation to mean sea level of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all structures, and whether such structures contain a basement;
    - (cc) Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed.
    - (dd) Certification by a registered professional engineer or architect that the floodproofing methods proposed for any nonresidential structure meet the floodproofing criteria for nonresidential structures in section (5)(b)(iii)(bb).
    - (ee) Description of the extent to which any watercourse will be altered or relocated.
    - (ff) Base Flood Elevation data for subdivision proposals or other development when required per sections (4)(b)(i) and (5)(a)(vi).
    - (gg) Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
    - (hh) The amount and location of any fill or excavation activities proposed.
- (d) Variance Procedure. The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by statute

according to actuarial risk and will not be modified by the granting of a variance.

(i) Conditions for Variance

- (aa) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of sections (4)(d)(i)(cc) and (ee), and (4)(d)(ii). As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
- (bb) Variances will only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (cc) Variances will not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
- (dd) Variances must only be issued upon:
  - (A) A showing of good and sufficient cause;
  - (B) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - (C) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances;
  - (D) Compliance with LC 10.330.
- (ee) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of section (4)(d)(i) (bb) – (dd) are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.
- (ff) Variances to wet floodproof must only be issued for agricultural structures as defined by (2)(a) that meet the following criteria, or for structures that meet (5)(b)(iii)(ff).
  - (A) The agricultural structure has a low damage potential and is located in an A zone (A, AE, A1-A30, AR, A99).
  - (B) The applicant would incur an exceptional hardship if a variance were not granted.

- (C) Construction of the agricultural structure must comply with (5)(a)(ii) through (iv), (5)(b)(i), and (5)(b)(iv).
- (ii) Variance Notification. Any applicant to whom a variance is granted will be given written notice that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance shall be maintained in accordance with section (4)(b)(ii).

(5) Provisions for Flood Hazard Reduction.

- (a) General Standards. In all Special Flood Hazard Areas (SFHA), the following standards must be adhered to:
  - (i) Alteration of Watercourses. Require that the flood carry capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with sections (4)(b)(iii)(bb) and (4)(b)(iii)(cc).
  - (ii) Anchoring.
    - (aa) All new construction and substantial improvements must be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
    - (bb) All manufactured dwellings must be anchored per section (5)(b)(iii)(cc).
  - (iii) Construction Materials and Methods.
    - (aa) All new construction and substantial improvements must be constructed with materials and utility equipment resistant to flood damage.
    - (bb) All new construction and substantial improvements must be constructed using methods and practices that minimize flood damage.
  - (iv) Utilities and Equipment.
    - (aa) Water Supply, Sanitary Sewer, and On-Site Waste Disposal Systems
      - (A) All new and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system.

- (B) New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
  - (C) On-site waste disposal systems must be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.
- (bb) Electrical, Mechanical, Plumbing, and Other Equipment. Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities must be elevated at or above two (2) feet above base flood level, or three (3) feet above highest adjacent grade where BFE is not available, or must be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities must:
  - (A) If replaced as part of a substantial improvement must meet all the requirements of this section.
  - (B) Not be mounted on or penetrate through breakaway walls.
- (v) Tanks.
  - (aa) Underground tanks must be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.
  - (bb) Above-ground tanks must be installed two (2) feet above the base flood level (three (3) feet above highest adjacent grade where BFE is not available) or must be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.
  - (cc) In coastal flood zones (V Zones or coastal A Zones) when elevated on platforms, the platforms must be cantilevered from or knee braced to the building or must be supported on foundations that conform to the requirements of the State of Oregon Specialty Code.
- (vi) Subdivision and Partition Proposals
  - (aa) All new subdivision proposals and other proposed new developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, must include within such proposals, Base Flood Elevation data.
  - (bb) All new subdivision proposals and other proposed new

developments (including proposals for manufactured home parks and subdivisions) must:

- (A) Be consistent with the need to minimize flood damage.
  - (B) Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.
  - (C) Have adequate drainage provided to reduce exposure to flood hazards.
- (cc) Subdivision and partitioning of land that creates potential for additional residential dwellings in the floodplain or floodway is prohibited.
- (vii) Use of Other Base Flood Data
- (aa) When Base Flood Elevation data has not been provided in accordance with section (3)(b) the local floodplain administrator must obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer section (5). All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) must meet the requirements of section (5)(a)(vi).
  - (bb) Base Flood Elevations must be determined for development proposals that are 5 acres or more in size or are 50 lots or more, whichever is lesser in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone must be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding where available. When no base flood elevation data is available, development proposals in located within a riverine unnumbered A zone must be elevated three (3) feet above the highest adjacent grade to be reasonable safe from flooding. Failure to elevate at least two (2) feet above grade in these zones may result in higher insurance rates.
- (viii) Structures Located in Multiple or Partial Flood Zones. In compliance with the State of Oregon Specialty Codes:
- (aa) When a structure is located in multiple flood zones on the community's Flood Insurance Rate Maps (FIRM) the provisions for the more restrictive flood zone will apply.
  - (bb) When a structure is partially located in a Special Flood Hazard Area (SFHA), the entire structure must meet the requirements for new construction and substantial improvements.

- (ix) Critical Facilities. Construction of new critical facilities must be, to the extent possible, located outside the limits of the special flood hazard area. Construction of new critical facilities must be permissible within the SFHA only if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three (3) feet above the Base Flood Elevation (BFE) or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility shall 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.
  
- (x) Compensatory Storage for Fill.
  - (aa) The volume of space occupied by fill below the base flood elevation must be compensated for and balanced by an equivalent volume of excavation taken from below the base flood elevation. In addition, the following standards apply:
    - (A) The excavation must occur on the same property as the fill site, within the flood fringe of the special flood hazard area, and as close as possible to the fill site, unless there are geomorphic or spatial constraints. In such cases, the Floodplain Administrator may approve equivalent compensatory storage off the site of the proposed fill and within the same drainage basin with authorization from the property owner of the off-site location, and if legal arrangements, acceptable to the department, are made to ensure that the effective compensatory storage volume will be preserved over time;
    - (B) The amount of fill material placed must be balanced with the amount of material excavated. A professional engineer, a registered geologist, or a licensed professional with equivalent expertise in hydrology must certify the amounts are equivalent for any proposal involving 200 cubic yards of fill or more;
    - (C) The excavation area must be hydraulically connected to the source of flooding and constructed to drain freely to the watercourse. A professional engineer, a registered geologist, or a licensed professional with equivalent expertise in hydrology must certify that the excavation area meets this standard for any proposal involving 200 cubic yards of fill or more;
    - (D) The excavation area must not exceed twice the area of the fill area and excavation must not go below the level of the seasonal groundwater table. A professional engineer, registered geologist, or a licensed professional with equivalent expertise in hydrology must certify this when the proposal involves 200 cubic yards of fill or more;

- (E) The excavation must be established at the same time the fill is placed on the development site and must be maintained in perpetuity or for as long as the fill remains in the SFHA. A recorded easement or similar legally binding mechanism must be provided to the Floodplain Administrator indicating that the compensation area will be maintained in perpetuity as long as the fill remains in the SFHA, future development of the excavation area is prohibited, and the area cannot be used in the future as balancing for any other fill; and
  - (F) Temporary fills permitted during construction must be removed from the property or placed in upland areas, outside of the special flood hazard area.
- (bb) In lieu of the above compensatory storage for fill standards, the proposed fill may be designed to not result in any increase in flood levels within the community during the occurrence of the base flood discharge, as certified by a registered professional civil engineer through hydrologic and hydraulic analyses performed in accordance with standard engineering practices. The analysis must be evaluated through a Type II land use review process.
- (cc) The following uses or activities are not subject to the provisions of section (5)(a)(x):
- (A) Residential or non-residential structures constructed with flow-through design built on pilings or stem walls compliant with section (5)(b)(i).
  - (B) Habitat restoration projects certified by the Soil and Water Conservation District or Oregon Department of Fish and Wildlife or other equally qualified agency.
  - (C) Restoration and stabilization of the bank of a river or other watercourse or body of water for erosion control.
  - (D) Fill placed within the foundation of an existing residential structure to bring the interior foundation grade to the same level as the lowest adjacent exterior grade.
  - (E) Fill for minimal property development, such as but not limited to, a sandbox, raised gardening bed, or other landscaping feature, that does not exceed 50 cubic yards.
  - (F) Mineral and aggregate mining operations.
- (xi) Post-FIRM structures built before the effective date of this ordinance that were constructed in compliance with the floodplain regulations at the time will not be required to be elevated to the freeboard standards of this ordinance when a substantial improvement is proposed, except where the

BFE on the adopted FIRM has been revised. Any new construction must comply with this ordinance and must not be allowed to make a building non-compliant with any aspect of the floodplain design standards that was required for compliance when the structure was built.

- (xii) No new construction of a dwelling (including manufactured homes), accessory structure or farm use structure will be located in the SFHA unless it can be demonstrated by the applicant that no alternative exists on the subject property that would allow the structure to be placed outside of the regulatory floodplain.
- (xiii) All freeboard requirements set forth in section (5) of this Ordinance will not become effective until September 7, 2023. Until that time, new development must be elevated at or above one (1) foot above the Base Flood Elevation (BFE), or two (2) feet above highest adjacent grade where BFE is not available.
- (b) Specific Standards for Riverine (including all non-coastal) Flood Zones. These specific standards will apply in addition to the General Standards contained in section (5)(a) of this ordinance.
  - (i) Flood Openings. All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements. Enclosed areas below the Base Flood Elevation, including crawl spaces must:
    - (aa) Be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exist of floodwaters;
    - (bb) Be used solely for parking, storage, or building access;
    - (cc) Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:
      - (A) A minimum of two openings;
      - (B) The total net area of non-engineered openings must be not less than one (1) square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosed walls;
      - (C) The bottom of all openings must be no higher than one foot above grade;
      - (D) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they must allow the automatic flow of floodwater into and out of the enclosed areas and must be accounted for in the determination of the net open area.
      - (E) All additional higher standards for flood openings in the

State of Oregon Residential Specialty Codes Section R322.2.2 must be complied with when applicable.

- (dd) For structures that require building permits under the State of Oregon Specialty Code, flood openings must be installed such that they comply with section (5)(b)(i)(aa) through (cc) and the following provisions:
  - (A) There must be not less than two openings on different sides of each enclosed area; if a building has more than one enclosed area below the Base Flood Elevation, each area shall have openings,
  - (B) Openings must be permitted to be installed in doors and windows on the condition that they fully comply with the requirements for flood openings stated in this Section.
- (ii) Garages
  - (aa) Attached garages may be constructed with the garage floor slab below the Base Flood Elevation (BFE) in riverine flood zones, if the following requirements are met:
    - (A) If located within a floodway the proposed garage must comply with the requirements of section (5)(b)(iv).
    - (B) The floors are at or above grade on not less than one side;
    - (C) The garage is used solely for parking, building access, and/or storage;
    - (D) The garage is constructed with flood openings in compliance with section (5)(b)(i) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
    - (E) The portions of the garage constructed below the BFE are constructed with materials resistant to flood damage;
    - (F) The garage is constructed in compliance with the standards in section (5)(a); and
    - (G) The garage is constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.
  - (bb) Detached garages must be constructed in compliance with the standards for accessory structures in section (5)(b)(iii)(ee) or nonresidential structures in section (5)(b)(iii)(bb) depending on the square footage of the garage.

- (iii) For Riverine (Non-Coastal) Special Flood Hazard Areas with Base Flood Elevations. In addition to the general standards listed in section (5)(a) the following specific standards will apply in Riverine (non-coastal) Special Flood Hazard Areas (SFHA) with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.
  - (aa) Before Regulatory Floodway. In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (FIRM), unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
  - (bb) Residential Construction.
    - (A) New construction and substantial improvement of any residential structure must have the lowest floor, including basement, elevated at or above two (2) feet above the Base Flood Elevation (BFE), or three (3) feet above highest adjacent grade where BFE is not available.
    - (B) Enclosed areas below the lowest floor must comply with the flood opening requirements in section (5)(b)(i).
  - (cc) Non-residential Construction.
    - (A) New construction and substantial improvement of any commercial, industrial, or other nonresidential structure must:
      - (i-i) Have the lowest floor, including basement elevated at or above two (2) feet above the Base Flood Elevation (BFE), or three (3) feet above highest adjacent grade where BFE is not available; or
      - (ii-ii) Together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
      - (iii-iii) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
      - (iv-iv) 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

section based on their development and/or review of the structural design, specifications and plans. Such certifications must be provided to the Floodplain Administrator as set forth section (4)(b)(ii).

- (B) Non-residential structures that are elevated, not floodproofed, must comply with the standards for enclosed areas below the lowest floor in section (5)(b)(i).
  - (C) Applicants floodproofing non-residential buildings must be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one (1) foot below).
  - (D) Applicants must supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.
  - (E) Applicants must supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.
- (dd) Manufactured Dwellings.
- (A) New or substantially improved manufactured dwellings supported on solid foundation walls must be constructed with flood openings that comply with section (5)(b)(i);
  - (B) The bottom of the longitudinal chassis frame beam must be at or above two (2) feet above Base Flood Elevation (BFE), or three (3) feet above highest adjacent grade where BFE is not available;
  - (C) New or substantially improved manufactured dwellings must be 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 or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques), and;
  - (D) Electrical crossover connections must be a minimum of twenty four (24) inches above Base Flood Elevation (BFE).

- (ee) Recreational Vehicles. Recreational Vehicles placed on sites are required to:
  - (A) Be on site for fewer than 180 consecutive days; and
  - (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 section (5)(b)(iii)(cc), including the anchoring and elevation requirements for manufactured dwellings.
  
- (ff) Appurtenant (Accessory) Structures. Relief from elevation or floodproofing requirements for Residential and Non-Residential structures in Riverine (Non-Coastal) flood zones may be granted for accessory structures that meet the following requirements:
  - (A) Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in section (5)(b)(iv).
  - (B) Appurtenant structures must only be used for parking, access, and/or storage and shall not be used for human habitation;
  - (C) In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed accessory structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet.
  - (D) The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
  - (E) The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.
  - (F) The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in section (5)(b)(i);

- (G) Appurtenant structures must be located and constructed to have low damage potential;
  - (H) Appurtenant structures must not be used to store toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality unless confined in a tank installed in compliance with section (5)(a)(v).
  - (I) Appurtenant structures must be constructed with electrical, mechanical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.
- (gg) Below-grade Crawlspace.
- (A) The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required flood openings stated in (5)(b)(i). Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.
  - (B) The crawlspace is an enclosed area below the Base Flood Elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one (1) foot above the lowest adjacent exterior grade.
  - (C) Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.
  - (D) Any building utility systems within the crawlspace must be elevated above BFE 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 BFE or sealed from floodwaters.
  - (E) The interior grade of a crawlspace below the BFE 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 shall 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.
- (iv) Floodways. Located within the special flood hazard areas established in section (3)(b) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, encroachments, including fill, new construction, substantial improvements and other development is prohibited.
- (aa) The following encroachments may be permitted if:
- (A) The encroachment is the replacement of a structure that:
    - (i-i) Does not expand the footprint of the structure being replaced;
    - (ii-ii) Is pre-FIRM or was approved by a Lane County Floodway Development permit; and
    - (iii-iii) Is lawfully existing or was in lawful existence prior to being substantially damaged by the Holiday Farm Fire on September 7, 2020.
    - (iv-iv) The applicant demonstrates that no alternative exists on the subject property that would allow the structure to be placed outside of the floodway.

- (B) The encroachment is quarry and mine extraction as defined in Lane Code 16.216 or development ancillary to quarry and mine extraction that is not a structure as defined in (2)(pp);
  - (C) The encroachment is a locationally dependent public utility, and there is no feasible or practicable location outside of the regulatory floodway for establishing the utility facility; or
  - (D) The encroachment is the construction, maintenance, preservation, repair and replacement of a public road and ancillary facilities, including bridges, recreational paths or trails culverts, drainage improvements, embankments, retaining walls, revetments, rip-rap and other slope stabilization structures, conducted under the jurisdiction of a public agency, when such activity is a public improvement project within a public right-of-way, or within an area being used for the public improvement project including access easements; and
  - (E) Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment must not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
  - (F) The proposed encroachment and the analysis required by (E) above is evaluated through a Type II land use review process.
- (bb) A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that:
- (A) A Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under Title 44 of the Code of Federal Regulations, Section 65.12 are fulfilled;
  - (B) The purpose of the project is habitat enhancement or restoration;
  - (C) The project does not involve the placement of any structures as defined in (2)(pp) within the floodway;
  - (D) A feasibility analysis has been completed documenting that habitat enhancement or restoration will be achieved through the proposed project;

- (E) No existing structures will be negatively impacted by the proposed activity; and
  - (F) The project has received approval by the National Marine Fisheries Service, the State of Oregon Department of Fish and Wildlife, or the equivalent federal or state agency.
- (cc) If the requirements of section (5)(b)(iv)(aa) are satisfied, all new construction, substantial improvements, and other development must comply with all other applicable flood hazard reduction provisions of section (5).
- (v) Standards for Shallow Flooding Areas. Shallow flooding areas appear on FIRMs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths range from one (1) to three (3) feet above ground 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. For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.
- (aa) Standards for AH Zones. Development within AH Zones must comply with the standards in sections (5)(a), (5)(b) and (5)(b)(v)
  - (bb) Standards for AO Zones. In AO zones, the following provisions apply in addition to the requirement in section (5)(b)(v):
    - (A) New construction and substantial improvement of residential structures and manufactured dwellings within AO zones must have the lowest floor, including basement, elevated above the highest grade adjacent to the building, at or above two (2) feet above the depth number specified on the Flood Insurance Rate Maps (FIRM) (at least three (3) feet if no depth number is specified). For manufactured dwellings the lowest floor is considered to be the bottom of the longitudinal chassis frame beam.
    - (B) New construction and substantial improvements of non-residential structures within AO zones must either:
      - (i-i) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, at minimum to or above two (2) feet above the depth number specified on the Flood Insurance Rate Maps (FIRMS) (at least three (3) feet if no depth number is specified); or
      - (ii-ii) Together with attendant utility and sanitary facilities, be completely floodproofed to or above two (2) feet above the depth number specified on the FIRM or a

minimum of three (3) feet above the highest adjacent grade if no depth number is specified, so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. If this method is used, compliance must be certified by a registered professional engineer or architect as stated in section (5)(b)(iii)(bb)(A)(iv-iv).

- (C) Recreational vehicles placed on sites within AO Zones on the community's Flood Insurance Rate Maps (FIRM) must either:
    - (i-i) Be on the site for fewer than 180 consecutive days, and
    - (ii-ii) 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
    - (iii-iii) Meet the requirements of (5)(b)(v)(bb)(A) above, including the elevation and anchoring requirements for manufactured dwellings.
  - (D) In AO zones, new and substantially improved appurtenant structures must comply with the standards in section (5)(b)(iii)(ee).
  - (E) In AO zones, enclosed areas beneath elevated structures must comply with the requirements in section (5)(b)(i).
- (c) Specific Standards for Coastal High Hazard Flood Zones. Located within special flood hazard areas established in section (3)(b) are Coastal High Hazard Areas, designated as Zones V1-V30, VE, V, or coastal A zones as identified on the FIRMs as the areas between the Limit of Moderate Wave Action (LiMWA) and the Zone V boundary. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions of this ordinance and the State of Oregon Specialty Codes, the following provisions shall apply in addition to the general standards provisions in section (5)(a).
- (i) Development Standards.
    - (aa) All new construction and substantial improvements in Zones V1-V30 and VE, V, and coastal A zones (where base flood elevation data is available) must be elevated on pilings and columns such that:

- (A) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated a minimum of two (2) feet above the base flood level (BFE) (three (3) feet above highest adjacent grade where BFE is not available); and
  - (B) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values used must be those associated with the base flood. Wind loading values used must be those specified by the State of Oregon Specialty Codes;
- (bb) A registered professional engineer or architect must develop or review the structural design, specifications and plans for the construction, and must certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this section.
  - (cc) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures and whether or not such structures contain a basement. The local floodplain administrator will maintain a record of all such information in accordance with section (4)(b)(ii).
  - (dd) Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system.
- (A) For the purpose of this section, a breakaway wall must have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:
    - (i-i) Breakaway wall collapse shall result from water load less than that which would occur during the base flood; and
    - (ii-ii) If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be

used for human habitation.

- (iii-iii) Walls intended to break away under flood loads shall have flood openings that meet or exceed the criteria for flood openings in section (5)(b)(i).
- (ee) The elevated portion of the building and supporting foundation system must not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum water loading values to be used in this determination must be those associated with the base flood. Maximum wind loading values used must be those specified by the State of Oregon Specialty Codes.
- (ff) Prohibit the use of fill for structural support of buildings.
- (gg) All new construction must be located landward of the reach of mean high tide.
- (hh) Prohibit man-made alteration of sand dunes which would increase potential flood damage.
- (ii) All structures, including but not limited to residential structures, non-residential structures, appurtenant structures, and attached garages must comply with all the requirements of section (5)(c)(i) Floodproofing of non-residential structures is prohibited.
- (jj) Manufactured Dwelling Standards for Coastal High Hazard Zones. All manufactured dwellings to be placed or substantially improved within Coastal High Hazard Areas (Zones V, V1-30, VE, or Coastal A) must meet the following requirements:
  - (A) Comply with all of the standards within section (5)(c);
  - (B) The bottom of the longitudinal chassis frame beam must be elevated to a minimum of two (2) feet above the Base Flood Elevation (BFE), or three (3) feet above highest adjacent grade where BFE is not available); and
  - (C) Electrical crossover connections must be a minimum of twenty four (24) inches above the BFE.
- (kk) Recreational Vehicle Standards for Coastal High Hazard Zones. Recreational Vehicles within Coastal High Hazard Areas (Zones V, V1-30, VE, or Coastal A) must either:
  - (A) Be on the site for fewer than 180 consecutive days, and
  - (B) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick

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disconnect type utilities and security devices, and has no permanently attached additions; or

- (C) Meet the permit requirements of section (4) and the requirements for manufactured homes in section (5)(c)(i)(aa).
- (II) Tank Standards for Coastal High Hazard Zones. Tanks must meet the requirements of section (5)(a)(v).

*(revised by Ordinance 20-08, effective 1.14.2021)*