

ARTICLE 9: FLOODPLAIN OVERLAY

SECTION 2.9.010 STATUTORY AUTHORIZATION

The Legislature of the State of Oregon has in Article IV, Section 2, and Article XI, Section 2, of the Constitution of the State of Oregon, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City Council of the City of Roseburg, Oregon, does ordain as follows:

SECTION 2.9.020 FINDINGS OF FACT

- 1) Flood hazard areas within City of Roseburg are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- 2) These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood-proofed, elevated, or otherwise protected from flood damages also contribute to the flood loss.
- 3) This ordinance seeks to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid the direct or indirect support of floodplain development whenever there is a practicable alternative. The preferred method for satisfying this requirement is to avoid sites in the base floodplain. If a structure must be located in the base floodplain, this ordinance requires that potential harm to people and property and to natural and beneficial floodplain values is minimized.

SECTION 2.9.030 STATEMENT OF PURPOSE

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

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

- 5) minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in areas of special flood hazard;
- 6) help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- 7) ensure that potential buyers are notified that property is in an area of special flood hazard; and
- 8) ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

SECTION 2.9.040 METHODS OF REDUCING FLOOD LOSSES

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

- 1) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- 2) Requiring that uses vulnerable to floods, including facilities which serve uses, be protected against flood damage at the time of initial construction;
- 3) Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- 4) Controlling filling, grading, dredging and other development which may increase flood damage; and
- 5) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.
- 6) Coordinating and supplementing the provisions of the state building code with local land use and development Ordinances. (Ord.3322, 12/09)

SECTION 2.9.050 DEFINITIONS

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

For purposes of this Article the following mean:

- 1) **1-PERCENT-ANNUAL-CHANCE FLOOD** – the flood having a one chance in 100 of being equaled or exceeded in any one-year period (also known as the “100-year” flood or “base flood”).

- 2) **1-PERCENT-ANNUAL-CHANCE FLOOD ELEVATION** – the computed elevation to which floodwater is anticipated to rise during the 1-percent-annual-chance flood (also known as the “100-year flood” elevation or the “base” flood elevation).
- 3) **1-PERCENT-ANNUAL-CHANCE FLOODPLAIN** – the area subject to flooding by the 1-percent-annual-chance flood (also known as the “100-year” floodplain or “base” floodplain).
- 4) **0.2-PERCENT-ANNUAL-CHANCE FLOOD** – that flood which has a 0.2-percent chance of being equaled or exceeded in any given year (also known as the “500-year” flood).
- 5) **0.2-PERCENT-ANNUAL-CHANCE FLOOD ELEVATION** – the computed elevation to which floodwater is anticipated to rise during the 0.2-percent-annual-chance flood (also known as the “500-year” flood elevation).
- 6) **0.2-PERCENT-ANNUAL-CHANCE FLOODPLAIN** – the area subject to flooding by the 0.2-percent-annual-chance flood (also known as the “500-year” floodplain).
- 7) **500-YEAR ELEVATION APPROACH:** area subject to a 0.2%-annual-chance flood.
- 8) **APPEAL:** A request for a review of the Community Development Director’s interpretation of any provision of this Ordinance or a request for a variance.
- 9) **AREA OF SHALLOW FLOODING:** A designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one (1) to three (3) feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding. (Ord.3322, 12/09)
- 10) **AREA OF SPECIAL FLOOD HAZARD:** The land in the flood plain within a community subject to a one percent (1%) or greater chance of flooding in any given year.
- 11) **BASE FLOOD:** The flood having a one percent (1%) chance of being equaled or exceeded in any given year.
- 12) **BASE FLOOD ELEVATION:** The computed elevation to which floodwater is anticipated to rise during the base flood.
- 13) **BF E:** See “Base Flood Elevation”.
- 14) **BASEMENT:** Any area of the building having its floor subgrade (below-ground level) on all sides.
- 15) **BELOW-GRADE CRAWLSPACE:** An enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent grade and the height, measured from the interior grade of the crawlspace to the

top of the crawlspace foundation, does not exceed four (4) feet at any point.
(Ord.3322, 12/09)

- 16) **COMPENSATORY STORAGE:** The volume of the loss of floodwater storage due to filling in the special flood hazard area shall be offset by providing a volume of flood storage by excavation or other compensatory measures at or adjacent to the development site.
- 17) **CRITICAL FACILITY:** A facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste. (Ord.3322, 12/09)
- 18) **DEVELOPMENT:** Any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations located within the area of special flood hazard.
- 19) **ELEVATED BUILDING:** For insurance purposes, a non-basement building which has had its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns. (Ord.3322, 12/09)
- 20) **EXISTING MANUFACTURED HOME PARK OR SUBDIVISION:** 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). (Ord.3322, 12/09)
- 21) **FLOOD OR FLOODING:** A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters and/or unusual and rapid accumulation of surface runoff waters from any source.
- 22) **FLOOD INSURANCE RATE MAP (FIRM):** 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.
- 23) **FLOOD INSURANCE STUDY:** 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.
- 24) **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 one (1) foot.
- 25) **HYDRAULICALLY EQUIVALENT SITE:** A compensation area designed to drain freely and openly to a channel and located opposite or adjacent to a fill area. A site shall be designed by a registered civil engineer using a nationally accepted hydrologic model.

- 26) **LOWEST FLOOR:** The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking vehicles, building access or storage, in an area other than a basement area, is 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 found at Section [2.9.310](#).
- 27) **MANUFACTURED HOME:** A structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.
- 28) **NAVD 88:** North American Vertical Datum of 1988. (Ord.3322, 12/09)
- 29) **MANUFACTURED HOME PARK OR SUBDIVISION:** A parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.
- 30) **NEW CONSTRUCTION:** Structures for which the "start of construction" commenced on or after the effective date of this Ordinance.
- 31) **NEW MANUFACTURED HOME SUBDIVISION:** 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 the final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations. (Ord.3322, 12/09)
- 32) **RECREATIONAL VEHICLE:** A vehicle which is:
- a) built on a single chassis;
 - b) 400 square feet or less when measured at the largest horizontal projection;
 - c) Designed to be self-propelled or permanently towable by a light duty truck; and
 - d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use. (Ord.3322, 12/09)
- 33) **REGULATORY FLOOD:** See "1-Percent-Annual-Chance Floodplain"
- 34) **SPECIAL FLOOD HAZARD AREA:** See "1-Percent-Annual-Chance Floodplain" also abbreviated as "SFHA".

- 35) **START OF CONSTRUCTION:** The first placement of permanent construction including substantial improvement of a structure (other than a mobile home) on a site such as the pouring of slabs or footings or any work beyond the stage of excavation. Permanent construction does not include land preparation, such as clearing, grading, and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for basement, footings, piers, or foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not as part of the main structure. For a structure (other than a mobile home) without a basement or poured footings, the “start of construction” includes the first permanent framing or assembly of the structure or any part thereof on its piling or foundation. For mobile homes not within a mobile home park or mobile home subdivision, “start of construction” means the affixing of the mobile home to its permanent site. For mobile homes within mobile home parks or mobile home subdivisions, “start of construction” is the date on which the construction of facilities for servicing the site on which the mobile home is to be affixed (including, at a minimum, the construction of streets, either final site grading or the pouring of concrete pads, and installation of utilities) is completed.
- 36) **STATE BUILDING CODE:** The combined specialty codes. (Ord.3322, 12/09)
- 37) **STRUCTURE:** A walled and roofed building including a gas or liquid storage that is principally above ground.
- 38) **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 30% of the market value of the structure before the damage occurred. (Ord.3459, 7/16)
- 39) **SUBSTANTIAL IMPROVEMENT:** Means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure taking place during a fifteen year period, the cost of which equals or exceeds 30 percent of the market value of the structure before the work is started. This term includes structures that have incurred ‘substantial damage,’ regardless of the actual repair work performed.
- a) 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:

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

- c) Any alteration of a structure listed on the National Register of Historic Places or the City Inventory of Historic Places.
- 40) **TECHNICAL EVALUATION:** The application of special knowledge of the mathematical, physical, and engineering sciences regarding investigation, evaluation, planning, and design for the purpose of assuring compliance with applicable standards (i.e., photo interpretation, surveys, land forms, data sources, hydrological analysis, etc.).
- 41) **VARIANCE:** A grant of relief from the requirements of this Article which permits construction in a manner that would otherwise be prohibited by this Article.

SECTION 2.9.060 LANDS TO WHICH THIS ORDINANCE APPLIES

This Ordinance shall apply to all areas of special flood hazards within the jurisdiction of the City of Roseburg

SECTION 2.9.070 BASIS FOR ESTABLISHING AREAS OF SPECIAL FLOOD HAZARD

Areas of flood hazard for the Roseburg urban area are areas designated as special flood hazard areas (A zones) or areas within a floodway.

Special flood hazard areas and floodways are identified by the Federal Insurance Administration in scientific and engineering reports entitled "The Flood Insurance Study for Douglas County, Oregon and Incorporated Areas," effective date February 17, 2010, with accompanying Digital Flood Insurance Rate Maps (DFIRM) and Flood Hazard Boundary Maps and future revisions as adopted. (Ord.3322, 12/09)

All of the above referenced publications, maps and orthophotos are hereby adopted by reference and declared to be part of this Ordinance as are future revisions as adopted. These publications, maps, and orthophotos shall be kept on file with the City of Roseburg Community Development Department.

These publications shall be used as the basis for determining which flood district applies to property. The best available information for flood hazard identification as outlines in Section [2.9.140](#) shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under Section [2.9.140](#). Where these publications fail to provide data sufficient to determine the applicable flood district, the applicable flood district and base flood elevation shall be determined on the basis of the best available information. (Ord.3322, 12/09)

Areas of flood hazard shall also include any land area susceptible to inundation water from any source where the above referenced maps have not identified any special flood areas.

SECTION 2.9.080 PENALTIES FOR NONCOMPLIANCE

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this Ordinance and other applicable

regulations. Violation 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) shall constitute a misdemeanor. Any person who violates this Ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$5,000 or imprisoned for not more than 30 days, or both, for each violation and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City of Roseburg from taking such other lawful action as is necessary to prevent or remedy any violation.

SECTION 2.9.090 ABROGATION AND GREATER RESTRICTIONS

This Ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Ordinance and another Ordinance, state building code, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restriction shall prevail. (Ord.3322, 12/09)

SECTION 2.9.100 INTERPRETATION

In the interpretation and application of this Article, all provisions shall be:

- 1) Considered as minimum requirements;
- 2) Liberally constructed in favor of the governing body; and,
- 3) Deemed neither to limit nor repeal any other powers granted under state statutes and rules including the state building codes. (Ord.3322, 12/09)

SECTION 2.9.110 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on technical evaluations as defined in Section [2.9.050](#). Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This Ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the City of Roseburg, any Department 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 thereunder. Building in areas where flooding can occur is at the owner's sole risk.

SECTION 2.9.120 SITE PLAN REVIEW

A site plan review shall be obtained before construction or development begins within any area of special flood hazard established in Section [2.9.320](#). The Community Development Director is appointed to administer and implement this Ordinance by granting or denying site plan review applications in accordance with its provisions. The review shall be for all structures including mobile homes, as set forth in the "DEFINITIONS" and for other development including fill and other activities, also as set forth in the "DEFINITIONS." Application for a site plan review shall be made on forms

furnished by the Community Development Director and may include but 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 NAVD 88, of the bottom of the lowest floor (including basement) of all structures; (Ord.3322, 12/09)
- 2) Elevation in relation to mean sea level NAVD 88 to which any structure has been flood-proofed; (Ord.3322, 12/09)
- 3) Certification by a registered professional engineer or architect that the flood-proofing methods for any nonresidential structure meet the flood-proofing criteria specified in Section [2.9.280](#); and,
- 4) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

Where elevation data is not available through the Flood Insurance Study or from another authoritative source (Section 2.9.140), Applications for site plan review shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two (2) feet above grade in these zones may result in higher insurance rates.

SECTION 2.9.130 DUTIES AND RESPONSIBILITIES OF THE DIRECTOR

Duties of the Community Development Director shall include but not be limited to:

- 1) Review all development applications to determine that the requirements and conditions of this Ordinance have been satisfied. (Ord.3322, 12/09)
- 2) Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required.
- 3) Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section [2.9.260](#) are met.

SECTION 2.9.140 USE OF OTHER BASE FLOOD DATA

When base flood elevation data has not been provided in accordance with Section [2.9.070](#): Basis for Establishing the Areas of Special Flood Hazard, the Community Development Director shall obtain, review, and reasonably utilize any base flood elevation data available from a Federal, State, or other source, in order to administer Sections [2.9.260](#): Residential Construction, and [2.9.270](#): Nonresidential Construction.

SECTION 2.9.150 INFORMATION TO BE OBTAINED AND MAINTAINED

- 1) Where base flood elevations data is provided through the Flood Insurance Study or required as Section 2.9.140 obtain and record the actual elevation (in relation to NAVD 88) of the bottom of the lowest floor (including basements and below-grade crawlspace) of all new or substantially improved structures, and whether or not the structure contains a basement. (Ord.3322, 12/09)
- 2) For all new or substantially improved flood-proofed structures:
 - a) Verify and record the actual elevation (in relation to NAVD 88), and, (Ord.3322, 12/09)
 - b) Maintain the flood-proofing certifications required in Section [2.9.120\(3\)](#).
- 3) Maintain for public inspection all records pertaining to the provisions of this Ordinance.

SECTION 2.9.160 ALTERATION OF WATERCOURSES

Notify adjacent communities and the State coordinating agency prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity of the watercourse is not diminished.

SECTION 2.9.170 INTERPRETATION OF FIRM BOUNDARIES

Make interpretation where needed as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 2.9.180.

SECTION 2.9.180 VARIANCE PROCEDURE

- 1) The Planning Commission as established by the City of Roseburg shall hear and decide variances from the requirements of this Article as provided for in Section [5.1.200](#) of this Ordinance.
- 2) The Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Community Development Director in the enforcement or administration of this Article as provided for in Section 5.1.170 of this Ordinance.
- 3) Those aggrieved by the decision of the Planning Commission, or any taxpayer, may appeal such decision to the City Council, as provided in Section [5.1.250](#) of this Ordinance.

- 4) In passing upon such applications, the Planning Commission shall consider all technical evaluations, all relevant factors, standards specified in other Sections of this Ordinance, and:
 - a) danger that materials may be swept onto other lands to the injury of others;
 - b) danger to life and property due to flooding or erosion damage;
 - c) susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - d) importance of the services provided by the proposed facility to the community;
 - e) necessity to the facility of a waterfront location, where applicable;
 - f) availability of alternative locations, for the proposed use which are not subject to flooding or erosion damage;
 - g) compatibility of the proposed use with existing anticipated development;
 - h) relationship of the proposed use to the Comprehensive Plan and Flood Plain Management Program for that area;
 - i) safety of access to the property in times of flood for ordinary and emergency vehicles;
 - j) expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and,
 - k) costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and street and bridges,
 - l) effects of flood damage on individual property owners.
- 5) Generally, the only condition under which a variance may be issued is for new construction and substantial improvements to be erected on a lot of one-half (1/2) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (a-k) in Section 2.9.180(4) have been fully considered. As the lot size increases beyond the one-half (1/2) acre, the technical justification required for issuing the variance increases.
- 6) The Planning Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Ordinance.

- a) The Community Development Director shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

SECTION 2.9.190 CONDITIONS FOR VARIANCES

- 1) Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the State Inventory of historic Places, without regard to the procedures set forth in the remainder of this Section.
- 2) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- 3) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- 4) Variances shall only be issued upon:
 - a) showing of good and sufficient cause;
 - b) determination that the granting of a variance will not result in increased flood heights or additional threats to public safety, extraordinary public expense, create nuisances, cause fraud, or victimization of the public as identified in Section [2.9.120](#) – 2.9.180, or conflict with existing local laws or Ordinances.
- 5) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece or property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. As such, variances from the flood elevations should be quite rare. (Ord.3322, 12/09)
- 6) Variances may be issued for nonresidential buildings and structures in very limited circumstances to allow a lesser degree of flood-proofing than watertight or dry-flood-proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except Section 2.9.180(5) and otherwise complies with Sections [2.9.210\(1\)](#) and [2.9.210\(2\)\(a-d\)](#). (Ord.3322, 12/09)
- 7) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

SECTION 2.9.200 GENERAL STANDARDS

In areas of flood hazards, the provisions of 2.9.210 through 2.9.280 shall apply.

SECTION 2.9.210 ANCHORING

- 1) New construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- 2) Manufactured homes shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground anchors. Specific requirements shall be that:
 - a) All manufactured homes must likewise be anchored to resist flotation, collapse, and lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to the use of over-the-top or frame ties to ground anchors (Reference FEMA's guidebook FEMA-85 "Manufactured Home Installation in Flood Hazard Areas" for additional techniques).
 - b) Additions to the mobile home shall be similarly anchored.
- 3) Alternative methods of anchoring may involve a system designed to withstand a wind force of 90 miles per hour or greater. Certification must be provided to the Community Development Director that this standard has been met.

SECTION 2.9.220 CONSTRUCTION MATERIALS AND METHODS

- 1) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- 2) New construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- 3) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be elevated to a minimum of one (1) foot above base flood elevation or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

SECTION 2.9.230 UTILITIES

- 1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- 2) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and,
- 3) On-site waste disposal systems shall be located to avoid impairment to them to contamination from them during flooding consistent with Oregon Department of Environmental Quality Regulations. (Ord.3322, 12/09)
 - a) Roseburg Urban Sanitary Authority shall be notified when development requiring an onsite waste disposal system is proposed in an area of flood hazard.
 - b) Roseburg Urban Sanitary Authority shall be responsible for carrying out the purposes of enforcing this provision.

SECTION 2.9.240 SUBDIVISION AND PARTITIONING PROPOSALS

- 1) Subdivision and partitioning proposals shall be consistent with the need to minimize flood damage;
- 2) Subdivision and partitioning proposals shall have public utilities and facilities such as sanitary and storm sewer, gas, electrical, and water systems located and constructed and maintained to minimize flood damage;
- 3) Subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage, including returning water;
- 4) Partitions and subdivisions for nonresidential uses shall have the explanation "Not for residential use" printed on the face of the final survey map or plat. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision and partition proposals and other proposed development which contain at least 50 lots or five (5) acres (whichever is less);
- 5) No portion of any street or road surface in any subdivision shall be at an elevation less than one (1) foot below the regional flood height. The road surface is that portion of a street or way available for vehicular traffic or where curbs are laid; the portion between curbs;
- 6) 100-year flood elevation data shall be provided and shown on final partition and subdivision plats. Applicant must show the boundaries of the 100-year flood and floodway on the final subdivision plat;

- 7) A permanent monument shall be established and maintained on land partitioned or subdivided, showing the elevation in feet above mean sea level, NAVD 88. The location of such monument shall be shown on the final partition map or subdivision plat.

SECTION 2.9.250 SPECIFIC STANDARDS

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 2.9.070: Basis for Establishing Areas of Special Flood Hazard, or Section [2.9.140](#): Use of Other Base Flood Data, the following provisions for residential and nonresidential construction (Section 2.9.260 and 2.9.270) and manufactured home placement (Section 2.9.280) are required.

SECTION 2.9.260 RESIDENTIAL CONSTRUCTION

- 1) New construction and substantial improvement of any residential structure shall have the bottom of the lowest floor, including basement, elevated to a minimum of one (1) foot above base flood elevation. (Ord.3322, 12/09)
- 2) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - a) A minimum of two (2) openings having a total net area of not less than one (1) 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 (1) foot above grade.
 - c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

SECTION 2.9.270 NON-RESIDENTIAL CONSTRUCTION

New Construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement, elevated to a minimum of one foot above base flood elevation; or, together with attendant utility and sanitary facilities, shall:

- 1) Be flood-proofed so that below one foot above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
- 2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
- 3) 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 certification shall be provided to the official as set forth in Section [2.9.150\(2\)](#);

- 4) Non-residential structures that are elevated, not flood-proofed, must meet the same standards for space below the lowest floor as described in Section 2.9.260(2);
- 5) Applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the flood proof level (e.g., a building constructed to the base flood level will be rated as one (1) foot below that level).

SECTION 2.9.280 MANUFACTURED HOMES

All manufactured homes to be placed or substantially improved within Zone AE shall be elevated on a permanent foundation conforming to Section 2.9.060(2) such that the lowest longitudinal chassis beam of the manufactured home is a minimum of 18 inches above the base flood elevation and be securely anchored with a foundation system in accordance with the provisions of Section [2.9.210\(2\)](#). Electrical and HVAC cross-over ducts shall be elevated to a minimum of one foot above base flood elevation. (Ord.3322, 12/09)

SECTION 2.9.290 RECREATIONAL VEHICLES

(Ord.3322, 12/09)

Recreational vehicles placed on sites are required to either:

- 1) Be on the site for fewer than 180 consecutive days,
- 2) 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
- 3) Meet the requirements of Section 2.9.280 above and the elevation and anchoring requirements for manufactured homes.

SECTION 2.9.300 BELOW-GRADE CRAWLSPACES

(Ord.3322, 12/09)

Below-grade crawlspaces are allowed subject to the following standards as found in FEMA Technical Bulletin 11-01, Crawlspace Construction for Buildings Located in Special Flood Hazard Areas, and depicted in Figure 2-6, Figure 2-7 and Figure 2-8, below.

- 1) 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 by the required openings stated in Subsection "2" below. 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.

- 2) 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.
- 3) 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 is to elevate the bottom of joists and all insulation one (1) foot above BFE.
- 4) Any building utility systems within the crawlspace must be elevated a minimum of one (1) foot 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 a minimum of one (1) foot above the BFE or sealed from floodwaters.
- 5) The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.
- 6) 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.
- 7) 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.
- 8) 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.

THERE IS A CHARGE ADDED TO THE BASIC POLICY PREMIUM FOR A BELOW-GRADE CRAWLSPACE.

FIGURE 2-6: PREFERRED CRAWLSPACE CONSTRUCTION

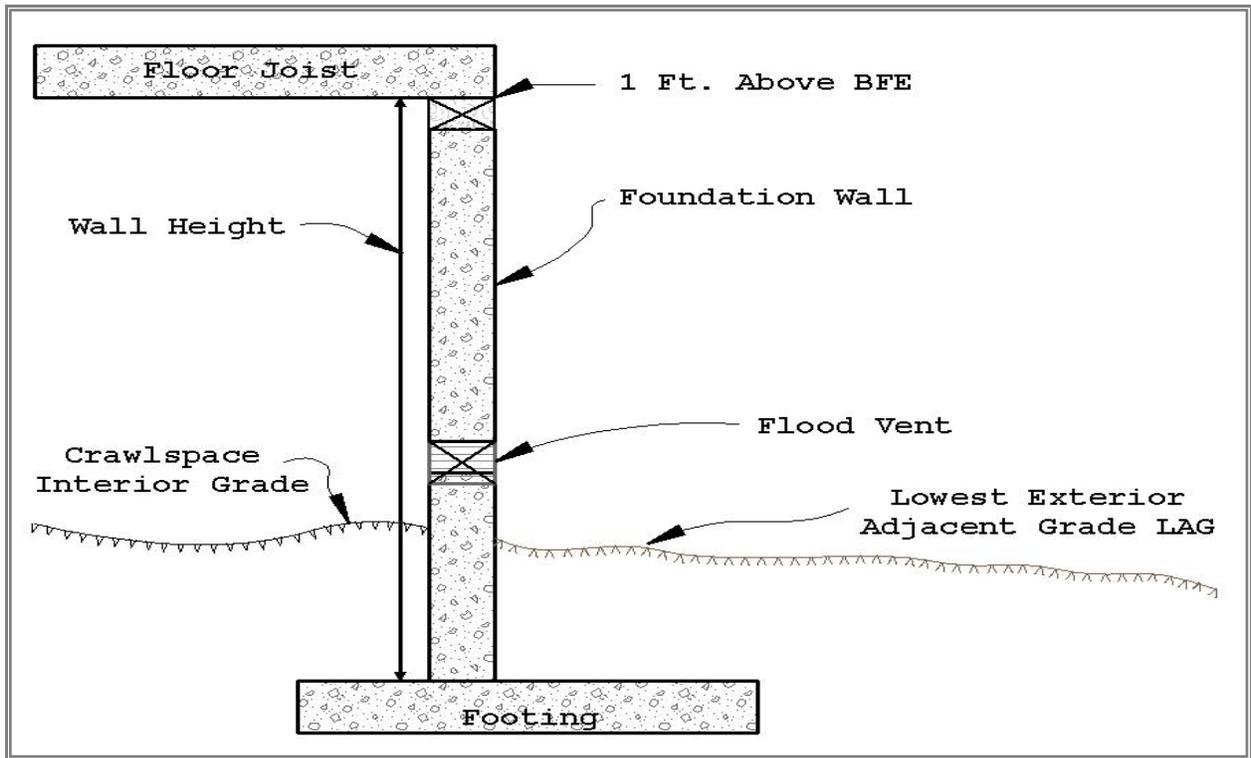


FIGURE 2-7: BELOW-GRADE CRAWLSPACE CONSTRUCTION

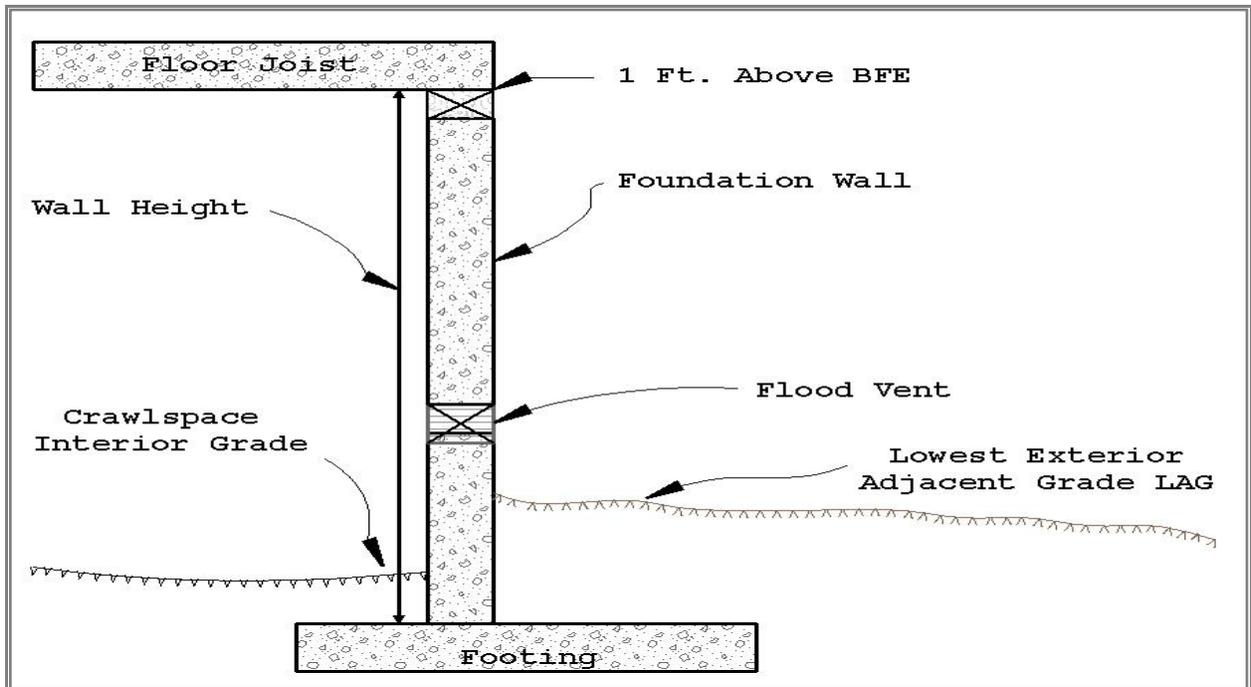
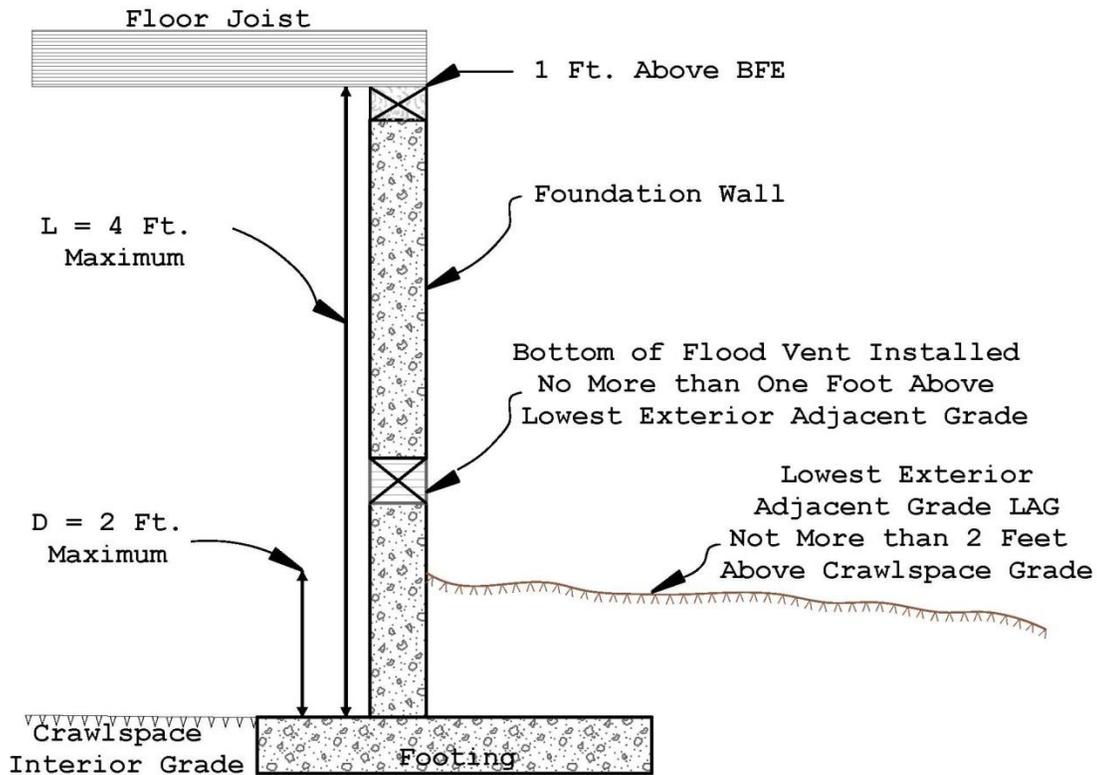


FIGURE 2-8: REQUIREMENTS OF BELOW-GRADE CRAWLSPACE CONSTRUCTION



SECTION 2.9.310 FLOODWAYS
(Ord.3322, 12/09)

Located within areas of special flood hazard established in Section [2.9.070](#) are areas designed as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- 1) Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed using current nationally accepted hydrologic models meeting the minimum requirement of National Flood Insurance Program that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- 2) If Section 2.9.310(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section [2.9.200](#) through 2.9.310.

- 3) Compensatory Storage Required. Each cubic foot of fill placed within Special Flood Hazard Area (SFHA) requires developer to remove 1 ½ cubic feet of fill from a hydraulically equivalent site.

SECTION 2.9.320 BEFORE REGULATORY FLOODWAY DESIGNATION

(Ord.3322, 12/09)

In areas where a regulatory floodway has not been designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-A30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community. Compensatory Storage Required. Each cubic foot of fill placed within SFHA requires developer to remove 1 ½ cubic feet of fill from a hydraulically equivalent site.

SECTION 2.9.330 CRITICAL FACILITY

(Ord.3322, 12/09)

Construction of new critical facilities shall be located outside the limits of the Special Flood Hazard Area (SFHA), Zone AE (100-year floodplain) and Zone X (500-year floodplain). Construction of new critical facilities shall be permissible within these zones only through the variance process. Access to and from the critical facility shall be protected to the height of the base flood. Flood-proofing 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 base flood elevation shall be provided to all critical facilities to the extent possible.

SECTION 2.9.340 FEDERALLY FUNDED PROJECTS

(Ord.3459, 7/16)

When Federal funds are used to build, or significantly retrofit or repair, structures and facilities in and around floodplains design or construction shall apply "*500-year Elevation Approach*" to ensure that those structures are resilient, safer, and long-lasting.

The following standards shall apply:

- 1) Impacts of floodplains on Federally financed improvements shall be evaluated in terms (1) potential (or residuals) for monetary loss; (2) human safety, health, and welfare; (3) shifting of costs or damage to others; and (4) potential for affecting the natural and beneficial floodplain values;
- 2) Build at or above the 500-year (0.2%-annual-chance) flood elevation;

Agency responsible for property used by the general public which has suffered flood damage or is located in an identified flood hazard area shall provide attached to structures, and other places where appropriate, conspicuous delineation of past and probable flood height in order to enhance public awareness and knowledge of flood hazards.