

Attachment A

Floodplain Regulations Conformance LUCA
Strike-Draft June 9, 2020

20.25H.005 Scope.

This part establishes standards and procedures that apply to development within the “Critical Areas Overlay District,” which includes any site that is in whole or in part designated as a critical area or critical area buffer. All development within the Critical Areas Overlay District must be reviewed and approved pursuant to this part in addition to being subject to all other relevant standards of the Bellevue City Code. Except for Frequently Flooded Areas, ~~the~~ Critical Areas Overlay District does not apply to the Downtown.

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20.25H.055 Uses and development allowed within critical areas – Performance standards.

		Type of Critical Area			
		Streams	Wetlands	Geologic Hazard Areas ⁷	Frequently Flooded Areas
Allowed Use or Development	...				
	Reasonable use exception ⁸	20.25H.080.A	20.25H.100	20.25H.125	20.25H.180.C 20.25H.180.D.7
	Recreational vehicle storage ¹⁰				20.25H.180.C 20.25H.180.D.6
	Moorage and docks associated with a residential use				LUC 20.25E.065 ^{14, 15}

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B. Uses and Development Allowed within Critical Areas.

The following chart lists uses and development that may be allowed in a critical area, critical area buffer, or critical area structure setback. The sections noted in the chart for each use or activity and critical area refer to the applicable performance standards that must be met.

Notes:

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(8) Except in frequently flooded areas, development authorized pursuant to a reasonable use exception, LUC 20.25H.190, shall incorporate the required performance standards to the maximum extent feasible. Development in frequently flooded areas shall incorporate the required performance standards, unless a Variance is granted pursuant to Part 20.30G.

Commented [A1]: Note 8 revised to conform to FEMA's requirement for a Variance when performance standards are not met.

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IX. FREQUENTLY FLOODED AREAS

20.25H.175 Designation of critical area.

A. Designation of Critical Area.

Commented [A2]: Portions of this section revised for conformance with FEMA and DOE requirements.

All development within special flood hazard areas in the City of Bellevue is subject to the terms of this section and other applicable regulations. Frequently flooded areas shall include:

1. Land Subject to One-Hundred-Year Flood. The land in the floodplain subject to the flood having a one percent chance or greater of being equaled or exceeded in any given year as determined by customary methods of statistical analysis defined in the City of Bellevue Storm and Surface Water Engineering Standards, ~~January 2016~~, or as hereafter amended. Also referred to as the 100-year flood.
2. Areas Identified on the Flood Insurance Rate Map(s). Those areas identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for King County, Washington, and Incorporated Areas," dated ~~April 19, 2005~~ August 19, 2020, with an accompanying ~~Flood Insurance Rate Map(s) (FIRM(s), dated August 19, 2020~~, and any revisions thereto. The ~~Flood Insurance Study and accompanying FIRM map(s)~~ Flood Insurance Study and accompanying FIRM map(s) are hereby adopted by reference, declared part of ~~this part 20.25H LUC~~, and are available for public review at the City of Bellevue. The best available information for flood hazard area identification as outlined in LUC 20.25H.175.A.6 shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under LUC 20.25H.175.A.6.

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20.25H.177 Definitions.

Commented [A3]: Various definitions added or revised for clarity and conformance with FEMA and DOE requirements.

For purposes of the regulations for the frequently flooded areas, the following definitions apply are specific to the regulations for the frequently flooded areas in the Land Use Code and shall have the following meanings:

"Alteration of watercourse" means any action that will change the location of the channel occupied by water within the banks of any portion of a riverine waterbody.

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“Area of special flood hazard” means the land in the floodplain within the City 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”.

“Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the 100-year flood.

“Base flood elevation (BFE)” means the elevation to which floodwater is anticipated to rise during the base flood. ~~flood having a one percent chance of being equaled or exceeded in any given year as determined by customary methods of statistical analysis defined in the Storm and Surface Water Utility Code, Chapter 24.06 BCC. Also referred to as the 100-year flood.~~

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“Flood” or “flooding” means:

1. A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - 1-a. The overflow of inland ~~or tidal~~ waters; or
 - 2-b. The unusual and rapid accumulation or runoff of surface waters from any source.
 - c. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in number 2 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.
2. 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 by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (1)(a) of this definition.

“Flood elevation study” means 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. Also known as a Flood Insurance Study (FIS).

“Flood Insurance Rate Map (FIRM)” means the official map delineating both special flood hazard areas ~~effective December 1978 and the risk premium zones applicable to the City~~ that was prepared by the Federal Insurance Administration for the City or as subsequently revised

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by the Federal Emergency Management Agency. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

"Floodplain or flood-prone area" means any land area susceptible to being inundated by water from any source. Floodplains are usually defined geographically on the basis of that area flooded by the most intense storm occurring during a certain period of years. Although floodwaters usually drain rapidly after precipitation has ceased, when floodwaters flow into wetland areas, they may be impounded for some time, due to the poor drainage characteristics of wetlands. See "Flood or flooding."

"Floodplain administrator" means the Director of the Development Services Department, or the designee thereof, responsible for administering and enforcing the floodplain management regulations, and granting or denying development permits on the basis thereof.

"Floodproofing" means 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. Floodproofed structures are those that have the structural integrity and design to be impervious to floodwater below the Base Flood Elevation.

"Floodway" means the channel of a river or stream and overbank areas adjacent to the channel. The floodway carries the bulk of flood water downstream and is usually the area where water velocities and forces are the greatest and most destructive. The floodway and the adjacent land areas must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot, 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."

"Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historic structure" means any structure that is:

1. 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;
2. 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;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

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4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
- a. By an approved state program as determined by the Secretary of the Interior, or
 - b. Directly by the Secretary of the Interior in states without approved programs.

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“Mean Sea Level” means, for purposes of the National Flood Insurance Program, the vertical datum to which Base Flood Elevations shown on the City's Flood Insurance Rate Map are referenced.

“New construction” means, for the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after December 1, 1978 and includes any subsequent improvements to such structures. For floodplain management purposes, “new construction” means structures for which the “start of construction” commenced on or after the December 1, 1978 and includes any subsequent improvements to such structures.

“One-Hundred-Year Flood”- See “Base flood elevation (BFE).”

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“Start of construction” includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

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“Substantial improvement” includes the following: Any ~~repair~~, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual

~~repair work performed. either (1) before the improvement or repair is started, or (2) if the structure has been damaged, and is being restored, before the damage occurred. For the purpose of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project for improvement of a structure to correct previously identified existing violations of comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or (2) any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure." structure listed on the National Register of Historic Places.~~

"Variance" means a grant of relief by the City from the terms of a floodplain management regulation.

20.25H.178 Administration.

A. Designation of the Floodplain Administrator. The Director is appointed to administer, implement, and enforce the provisions of this chapter by granting or denying development permits in accordance with its provisions.

B. Enforcement and penalty. The enforcement of the Frequently Flooded Areas provisions shall be in conformance with LUC 20.40.450 and the penalty provisions of LUC 20.40.460.

20.25H.179 Development in the area of special flood hazard – Additional submittal requirements.

The Director may waive specific submittal requirements determined to be unnecessary for review of an application. In addition to the provisions of LUC 20.25H.020, any application for development in Frequently Flooded Areas may be required to include, but not be limited to, the following:

- A. Elevation prepared by a surveyor licensed in the state of Washington in relation to mean sea level of the lowest floor, including basement, of all structures;
- B. Elevation prepared by a surveyor licensed in the state of Washington in relation to mean sea level to which any structure has been or will be floodproofed;
- C. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in LUC 20.25H.180.C and D;
- D. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development; and

Commented [A4]: New administration section added for conformance with FEMA requirements.

Commented [A5]: New submittal procedures section added for conformance with FEMA requirements.

E. Where development is proposed in a floodway, an engineering analysis indicating no rise of the BFE.

F. Any other such information that may be reasonably required by the Director to review the application.

20.25H.180 Development in the area of special flood hazard.

Floodplain development approval required. No use, development or activity may occur in frequently flooded areas except as specifically allowed by this part. All use, development or activity which is allowed is subject to the performance standards of this section and shall not result in a rise in the BFE. The requirements of this section may only not be modified through a critical areas reportVariance.

~~A. Existing Development Declared Legally Nonconforming.~~

~~All development within frequently flooded areas for which a vested Building Permit application exists prior to May 21, 2018, and which fails to comply with the requirements of this part, is legal nonconforming development. Lateral additions, new development or substantial improvements to a legally nonconforming development shall be allowed in compliance with subsection D of this section, and shall comply with the applicable performance standards of this section. Any other modification to a legally nonconforming development shall not result in a rise in the BFE.~~

~~BA. Review of Proposed Development – Applicable Process.~~

~~1. Critical Areas Land Use Permit. Proposals for development in frequently flooded areas shall require a Critical Areas Land Use Permit, Part 20.30P LUC. The Director shall determine that the requirements of this chapter have been satisfied; all necessary permits have been obtained from federal, state, or local agencies prior to approval; the site is reasonably safe from flooding, and the proposed development is not located in the floodway, or if located in the floodway, the development complies with the provisions of this chapter. The Director shall notify FEMA when annexations occur in frequently flooded areas.~~

~~2. Variance to the Frequently Flooded Areas provisions.~~

~~a. Applications to modify the requirements of LUC 20.25H.180 shall require a Variance Permit, Part 20.30G. The Director may approve or approve with modifications an application for a Variance from the requirements of LUC 20.25H.180 as set forth in LUC 20.30G.140.~~

Commented [A6]: Various sections revised for clarity and conformance with FEMA requirements.

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b. All Variance records, including justification for approvals, shall be maintained in accordance with the City of Bellevue record retention policy. Upon approval of a Variance, the Director shall notify the applicant in writing the following:

i. That the issuance of a Variance to construct below the base flood elevation (BFE) will result in increased premium rates for flood insurance up to amounts as high as \$25 per \$100 of insurance coverage; and

ii. That such construction below the BFE increases risks to life and property.

3. Review of Development. Where elevation data is not available, either through the FIS, FIRM, or as provided in LUC 20.25H.175, applications for development in frequently flooded areas shall be reviewed to assure that development will be reasonably safe from flooding. The test of reasonableness is a local judgement, which includes, but is not limited to, the use of historical data, high water marks, and photographs of past flooding where available.

EB. General Performance Standards.

Where use or development is allowed pursuant to LUC 20.25H.055, the following general performance standards apply:

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3. Construction Materials and Methods.

a. Site Design. All structures, utilities, and other improvements shall be located on the buildable portion of the site out of the frequently flooded area unless there is no buildable site out of the frequently flooded area. For sites with no buildable area out of the frequently flooded area, structures, utilities, and other improvements shall be placed on the highest land on the site, outside of the floodway, oriented parallel to flow rather than perpendicular, and sited as far from the stream and other critical areas as possible. If the Director detects any evidence of active hyporheic exchange on a site, the development shall be located to minimize disruption of such exchange.

b. Methods That Minimize Flood Damage. All new construction and substantial improvements shall be constructed using flood-resistant materials and using methods and practices that minimize or eliminate flood damage.

c. Utility Protection.

i. Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities shall be designed and/or otherwise elevated or located so as to

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prevent water from entering or accumulating within the components during conditions of flooding.

ii. Water wells shall be located on high ground that is not in the floodway; new and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters; and onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

d. Anchoring.

i. All new construction and substantial improvements, including those related to manufactured homes, shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads including the effects of buoyancy.

ii. All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors.

e. Enclosed Area Below the Lowest Floor. When buildings, including manufactured homes, are constructed or substantially improved with fully enclosed areas below the lowest floor, the areas shall be used solely for parking of vehicles, building access, or storage.

4. No Rise in the Base Flood Elevation (BFE). Any allowed use or development shall not result in a rise in the BFE except as provided for subsection c of this section.

a. Post and Pile. Post and piling techniques are preferred and are presumed to produce no increase in the BFE so long as only posts of piles are located below the BFE. Demonstration of no net rise in the BFE through calculation is not required.

b. Compensatory Storage. Proposals using compensatory storage techniques to assure no rise in the BFE shall demonstrate no net rise in the BFE through the calculation by accepted engineering practice or methods established in the Utilities Storm and Surface Water Engineering Standards, ~~January 2016~~, Section D4-04.5, Floodplain/Floodway Analysis, whichever is more restrictive, now or as hereafter amended.

c. The requirement for no rise in the BFE shall not apply to development in AE Zones without Floodways. Proposals for new construction, substantial improvements, or other development, including fill, shall be permitted 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 City.

5. Development in the Regulatory Floodway.

a. Encroachment into Regulatory Floodway Prohibited. A residential structure located partially within the regulatory floodway will be considered as totally within the regulatory floodway and must comply with this subsection ~~CB.5.~~ Encroachments, including, but not limited to, fill, new construction, substantial improvements, and other development, are prohibited, unless a registered professional engineer certifies that the proposed encroachment into the regulatory floodway shall not result in any rise in the BFE using hydrological and hydraulic analysis performed in accordance with accepted engineering practice or City of Bellevue Storm and Surface Water Engineering Standards, ~~January 2016, or as hereafter amended, whichever is more restrictive.~~ All new construction and substantial improvements shall comply with this section.

b. Residential Structures. ~~A residential structure located partially within the regulatory floodway will be considered as totally within the regulatory floodway and must comply with this subsection C.5.~~ This subsection does not apply to structures identified as historical places. Construction or reconstruction of residential structures is prohibited within the regulatory floodway, except when:

- i. Repairs, reconstruction, or improvements to a structure do not increase the footprint; and
- ii. Repairs, reconstruction, or improvements to a structure, the cost of which do not exceed 50 percent of the market value of the structure either (1) before the repair, reconstruction, or improvement is begun, or (2) if the structure has been damaged, and is being restored, before the damage occurred. Work done to comply with state or local health, sanitary, or safety codes identified by the Building Official and which are the minimum necessary to assure safe living conditions or any alteration of a ~~structure listed on the National Register of Historic Places~~ Historic Structure shall not be included in the 50 percent market value determination.

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~~DC.~~ Specific Performance Standards.

In all areas of special flood hazards where BFE data has been provided as set forth in LUC 20.25H.175.A and ~~W~~ where use or development is allowed pursuant to LUC 20.25H.055, the following specific performance standards apply:

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1. New residential Construction, Modification of Existing Development, and Existing Nonconforming Development. New Construction, Lateral additions, and substantial improvements to existing development and existing nonconforming development is allowed only through a reasonable use exception, LUC 20.25H.190.
 - a. Residential Construction (Single-Family and Multifamily Dwellings), including Substantial Improvements. New Construction and Substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more above the base flood elevation (BFE). Mechanical equipment and utilities shall be waterproof or elevated one foot or more above the BFE. In an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained, the structure shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade. Fully enclosed areas below the BFE 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 flood waters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - i. A minimum of two openings having a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding shall be provided.
 - ii. The bottom of all openings shall be no higher than one foot above grade.
 - iii. Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of flood waters.
 - ~~iv. Enclosed areas (including breakaway walls) below the BFE shall be no larger than 300 square feet.~~
 - iv. A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of floodwaters.
 - ~~b. Lateral Additions. Lateral additions to structures that qualify as a substantial improvement must meet the elevation standards of new construction. If the common wall between the lateral addition and the existing structure is demolished as part of the project, then the entire structure must meet the elevation standards of new construction. If only a doorway or similar opening is knocked through, only the addition has to meet the elevation standards.~~
 - eb. Pre-FIRM Buildings. Pre-FIRM buildings that qualify as a substantial improvement (including lateral additions) must meet the elevation standards of new construction.

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2. Repair and Maintenance of Existing Parks and Park Facilities – New or Expanded City and Public Parks. Substantial improvement of any structure in frequently flooded areas must comply with the nonresidential performance standards found in this section.
3. New or Expanded Essential Public Facilities.
 - a. The facility must be constructed in conformance with the residential and nonresidential construction standards of this subsection and be elevated to at least one foot above the BFE or in compliance with ASCE 24, whichever is more restrictive. ~~is elevated or protected to the 100-year flood elevation.~~
 - b. Dry floodproofing and sealing measures must be taken to ensure that hazardous or toxic substances will not be displaced by or released into flood waters.
4. New or Expanded Public Rights-of-Way, Private Roads, Access Easements and Driveways.
 - a. The low chord on the bridge structure will be no less than the elevation of the BFE.
 - b. Access to essential public facilities must be elevated to or above the BFE to the nearest maintained public street or roadway.
5. ~~Public Flood Protection Measures~~Changes to the Frequently Flooded Areas. Such projects may be allowed in the area of special flood hazard and may increase the BFE; provided, that the project produces measurable benefits, such as decreased erosion, peak flow reduction, improved water quality, improved aquatic habitat and doesn't threaten structures. Prior to approval, the applicant shall obtain conditional approval from the Region X FEMA office to increase the BFE, where applicable. If a project will alter the BFE or boundaries of the Special Flood Hazard Area (SFHA), then the project proponent shall provide the City with engineering documentation and analysis regarding the proposed change. If the change to the BFE or boundaries of the SFHA would normally require a Letter of Map Change, then the project proponent shall initiate, and receive approval of, a Conditional Letter of Map Revision (CLOMR) prior to approval of the development permit. The project shall be constructed in a manner consistent with the approved CLOMR.

If a CLOMR application is made, then the project proponent shall also supply the full CLOMR documentation package to the Director to be attached to the floodplain development permit, including all required property owner notifications.
6. Recreational Vehicles. Recreational vehicles are required to either:
 - a. Be on the site for fewer than 180 consecutive days; and

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- b. Be fully licensed and ready for highway use on its wheels or jacking system, be attached to the site only by quick-disconnect-type utilities and security devices, and have no permanently attached additions; or
- c. Obtain a development permit and meet the requirements, including elevation and anchoring, for manufactured homes.

~~7. Reasonable Use Exception. Where a reasonable use exception is granted under LUC 20.25H.190, the following performance standards apply:~~

~~a. Residential Construction (Single-Family and Multifamily Dwellings).~~

- ~~i. Must be above base flood elevation. New construction of any residential structure shall have the lowest floor, including basement and attendant utilities, elevated one foot or more above the base flood elevation.~~
- ~~ii. Enclosed areas (including breakaway walls) below the BFE shall be no larger than 300 square feet.~~
- ~~iii. Must comply with the requirements for openings set forth in subsection D.1.a of this section.~~

~~b.7. Manufactured Homes. All manufactured homes to be placed or substantially improved on sites must meet the elevation standards for new construction shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one foot or more above the BFE. All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors.~~

~~e.8. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall meet the requirements of either subsection a or b of this section.~~

- ~~ia. In AE and A1-30 zones or other A zoned areas where the BFE has been determined or can be reasonably obtained, new construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall: either~~
 - ~~i. Have the lowest floor, including basement, elevated one foot or more above the base flood elevation BFE, or elevated as required by ASCE 24, whichever is greater. Mechanical equipment and utilities shall be waterproofed or elevated one foot or more above the BFE, or as required by ASCE 24, whichever is greater; and~~

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- ii. If located in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained, the structure shall be reasonably safe from flooding, but in all cases the lowest floor shall be two feet above the Highest Adjacent Grade.

- ii.b. If the requirements of subsection a. of this section are not met, new construction and substantial improvement of any commercial, industrial, or other nonresidential structure Together with attendant utility and sanitary facilities, shall:
 - (1)i. Be dry floodproofed so that below one foot or more above the base flood elevation BFE the structure is watertight with walls substantially impermeable to the passage of water or dry floodproofed to the elevation required by ASCE 24, whichever is greater;
 - (2)ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - (3)iii. 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 Development Services Department. Following construction of the structure, elevation certificates shall be submitted to the City that record the actual (as-built) elevation to which the structure was floodproofed. The City shall notify the applicant that insurance premiums will be based on rates that are one foot below the floodproofed level, and floodproofing the building an additional foot will reduce insurance premiums.

- iii.c. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or fully enclosed areas below the BFE that are not floodproofed shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria:
 - (1)i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
 - (2)ii. The bottom of all openings shall be no higher than one foot above grade;
and

~~(3)iii.~~ -Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of flood waters; and-

iv. A garage attached to a residential structure, constructed with the garage floor slab below the BFE, must be designed to allow for the automatic entry and exit of flood waters.

~~ivd.~~ Lateral Additions. Lateral additions to structures that qualify as a substantial improvement must meet the elevation standards of new nonresidential construction. If the common wall between the lateral addition and the existing structure is demolished as part of the project, then the entire structure must meet the standards of new, nonresidential construction. ~~If only a doorway or similar opening is knocked through, only the addition has to meet the construction standards.~~

~~ve.~~ Pre-FIRM Buildings. Pre-FIRM buildings that qualify as a substantial improvement (including lateral additions) must meet the elevation standards of new construction.

Part 20.30G Variance from the Land Use Code

20.30G.140 Decision criteria.

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C. Additional Decision Criteria – Variances from Standards Applicable to Areas of Special Flood Hazard.

In addition to the decision criteria in subsections A and B of this section, a proposal to vary the requirements for areas of special flood hazard shall meet the following criteria:

1. A variance shall only be issued upon a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nuisances, fraud on or victimization of the public, or conflict with existing laws or ordinances; and
2. For the repair, rehabilitation, or restoration of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure; and
3. Upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and

Commented [A7]: Revised to add additional criteria for conformance with FEMA requirements.

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4. Upon a showing of good and sufficient cause; and
5. Upon a determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- ~~2-6.~~ Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result; and-
7. The granting of the variance will not foreseeably result in material being swept onto other lands that could cause injury to life or property; and
8. No other alternative development locations for the proposed structure or facility are available on the site that are not subject to flooding or erosion damage or reduced flooding and erosion; and
9. 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 BFE, provided the requirements of LUC 20.25H.175-180 have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases; and
10. In considering variance applications, the Director shall consider all technical evaluations, all relevant factors, all standards specified in LUC 20.25H.180, and:
 - a. The danger that materials may be swept onto other lands to the injury of others;
 - b. The danger to life and property due to flooding or erosion damage;
 - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - d. The importance of the services provided by the proposed facility to the community;
 - e. The necessity to the facility of a waterfront location, where applicable;
 - f. The availability of alternative locations for the proposed use, which are not subject to flooding or erosion damage;
 - g. The compatibility of the proposed use with existing and anticipated development;
 - h. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - i. The safety of access to the property in time of flood for ordinary and emergency vehicles;

- j. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site; and,
- k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical, water system, and streets and bridges.

Chapter 20.45A PLATTING AND SUBDIVISIONS

20.45A.060 Special requirements for plats with critical areas or critical area buffers.

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D. Additional Requirements for Plats with Areas of Special Flood Hazard.

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2. Subdivisions shall be designed to minimize or eliminate flood damage and impacts to floodplain functions and values. Public utilities and facilities that are installed as part of such subdivisions, such as sewer, gas, electrical, and water systems, shall be located and constructed to also minimize or eliminate flood damage and impacts to floodplain functions and values. Subdivisions should be designed using natural features of the landscape and should not incorporate flood protection changes.

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Chapter 20.45B SHORT PLATS AND SHORT SUBDIVISIONS

20.45B.055 Special requirements for short plats with critical areas or critical area buffers.

D. Additional Requirements for Short Plats with Areas of Special Flood Hazard.

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2. Short subdivisions shall be designed to minimize or eliminate flood damage and impacts to floodplain functions and values. Public utilities and facilities that are installed as part of such subdivisions, such as sewer, gas, electrical, and water systems, shall be located and constructed to also minimize or eliminate flood damage and impacts to floodplain functions and values. Short subdivisions should be designed using natural features of the landscape and should not incorporate flood protection changes.

Chapter 20.50 DEFINITIONS

20.50.020 F Definitions.

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Floodplains. ~~Low lying lands adjacent to stream banks onto which excess water flows during periods of prolonged and intense precipitation. Floodplains are usually defined geographically on the basis of that area flooded by the most intense storm occurring during a certain period of years. Although floodwaters usually drain rapidly after precipitation has ceased, when floodwaters flow into wetland areas, they may be impounded for some time, due to the poor drainage characteristics of wetlands.~~

Floodway. ~~“Floodway” means those portions of the area of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually, said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of vegetative ground cover condition. The floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state.~~

Frequently Flooded Areas. ~~The land in the floodplain subject to a one percent or greater chance of flooding in any given year as calculated in the Storm and Surface Water Utility Code, Chapter 24.06 BCC. This area is identified in an engineering report entitled “The Flood Insurance Study for King County” dated April 19, 2005, with an accompanying flood insurance map(s) and any effective revisions thereto.~~

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Commented [A8]: Duplicate definitions already provided in 20.25H.177 removed for clarity.