

DRAFT Text Amendment of Chapter 17E.030

Section 17E.030.030 Purpose

It is the purpose of this chapter to promote the public health, safety and general welfare, reduce the annual cost of flood insurance, and to minimize to the extent allowed by these provisions public and private losses due to flood conditions in specific areas, and to protect ecological systems, and their functions and values, by provisions designed to:

- A. protect human life and health;
- B. minimize expenditures of public money and costly flood control projects;
- C. minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. minimize prolonged business interruptions;
- E. minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas subject to flooding;
- F. 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;
- G. adopt procedures to notify potential buyers that property is in a special flood hazard area; and
- H. encourage those who occupy areas of special flood hazard to assume responsibility for their actions.

Section 17E.030.050 General Provisions

In all areas of special flood hazards, the following standards are required:

- A. This chapter shall apply to all areas of special flood hazards within the jurisdiction of the City.
- B. Basis for Establishing the Areas of Special Flood Hazard.

The areas of special flood hazards identified by the Federal Insurance ((Administration)) Administrator in a scientific and engineering report entitled “The Flood Insurance Study for Spokane County, Washington and Incorporated Areas” dated July 6, 2010, and any revisions thereto, with accompanying Flood Insurance Rate Maps (FIRM) dated July 6, 2010, and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The procedure for map corrections is set forth in the federal code of regulations, 44 CFR Part 70. The Flood Insurance Study and Flood Insurance Rate Maps are on file in the City planning department.

The best available information for flood hazard area identification as outlined in Section 17E.030.080(B) shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under Section 17E.030.080(B).

C. Compliance

All development within special flood hazard areas is subject to the terms of this ordinance and other applicable regulations.

D. Abrogation and Greater Restrictions.

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another Spokane Municipal Code section, shoreline master program and any revisions thereto, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

E. Interpretation.

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

1. considered as minimum requirements;
2. liberally construed in favor of the governing body; and
3. deemed neither to limit nor repeal any other powers granted under the laws of the State of Washington.

F. Warning and Disclaimer of Liability.

The degree of flood protection required by this chapter 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 manmade or natural causes. This chapter does not imply that land outside of the areas of special flood hazards, or uses permitted within such areas, will be free from flooding or flood damages. This chapter does not create liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

G. Severability

This ordinance and the various parts thereof are hereby declared to be severable. Should any Section of this ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any portion thereof other than the Section so declared to be unconstitutional or invalid.

Section 17E.030.060 Establishment of Development Permit

A. Development Permit Required.

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in [SMC 17E.030.050\(B\)](#). The

permit shall be for all structures including manufactured homes, as defined in [chapter 17A.020 SMC](#) and for all development, including fill and other activities also as defined in [chapter 17A.020 SMC](#).

- B. A pre-development conference as set forth in [chapter 17G.060 SMC](#) is required for all development proposed in areas identified as potential critical areas within the City of Spokane, including areas of special flood hazard established in [SMC 17E.030.050\(B\)](#).

C. Application for Floodplain Development Permit.

Application for a floodplain development permit shall be made on forms furnished by the City and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question: existing or proposed structures, fill, storage of materials, drainage facilities and the location of foregoing. Specifically, the following information is required:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate with Section B completed by the Floodplain Administrator((-));
2. Elevation in relation to mean sea level to which any structure has been floodproofed((-);
3. ~~((Certification))~~ Where a structure is to be floodproofed, certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in [SMC 17E.030.130](#)(-);
4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development((-);
5. A completed critical areas checklist as established at [chapter 17G.060 SMC](#)(-);
6. A completed environmental checklist, unless the ~~((local administrator))~~ Floodplain Administrator as designated in [SMC 17E.030.070](#) has determined that the project is categorically exempt from [chapter 17E.050 SMC](#); and
7. Where development is proposed in a floodway, an engineering analysis indication no rise of the Base Flood Elevation; and
8. ~~((All))~~ Any other such information that may be reasonably required by the Floodplain Administrator in order to review the application, including all studies, reports and information required by reviewing departments or agencies to fully disclose potential environmental impacts of the proposal. These studies are required to demonstrate acceptance by the applicable department or agencies prior to the application being certified complete.

D. Fee Processing.

Floodplain development permits shall be processed as set forth in [chapter 17G.060 SMC](#).

E. Fee Schedule.

The fees for processing a floodplain development permit are set forth in [SMC 8.02.066\(F\)](#).

Section 17E.030.070 Designation of the ((Local)) Floodplain Administrator

The director of planning services and/or his or her designee is hereby appointed as ((local administrator)) Floodplain Administrator to administer ((and)), implement, and enforce this chapter by granting or denying development permit applications in accordance with its provisions.

Section 17E.030.080 Duties and Responsibilities of the ((Local)) Floodplain Administrator

A. The duties and responsibilities of the ((local administrator)) Floodplain Administrator shall include, but not be limited to, review of all development permits to determine:

1. that the permit requirements of this chapter have been satisfied, all necessary information has been provided for a determination that the application is counter complete;
2. that all ((necessary)) other required state and federal permits have been obtained from those federal, state, or local governmental agencies from which prior approval is required; ((and))
3. that the site is reasonably safe from flooding;
4. ((if)) that the proposed development is not located in the floodway. If located in the floodway, assure that the encroachment provisions of [SMC 17E.030.160](#) are met((-));
5. if the proposed development complies with the policies, provisions, and requirements of the shoreline master program, as now or hereafter amended((-)); and
6. notify FEMA when annexations occur in the Special Flood Hazard Area.

B. Use of Other Base Flood Data in “A” Zones.

When base flood elevation data has not been provided (“A” Zones) in accordance with [SMC 17E.030.050](#), the ((local administrator)) Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source in order to administer [SMC 17E.050.140](#) and [SMC 17E.050.160](#).

C. Information to be Obtained and Maintained.

1. Where base flood elevation data is provided through the flood insurance study, FIRM, or required as in subsection (B) of this section, the ((local administrator)) Floodplain Administrator shall record the actual elevation (in

relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.

2. For all new or substantially improved flood-proofed non-residential structures where base flood elevation data is provided through the flood insurance study, FIRM, or as required in the subsection above, the (~~local administrator~~) Floodplain Administrator shall:
 - a. obtain and maintain a record of the elevation (in relation to mean sea level) to which the structure was flood proofed, and
 - b. maintain the flood proofing certifications required in [SMC 17E.030.060](#).
3. The (~~local administrator~~) Floodplain Administrator shall maintain for public inspection all records pertaining to the provisions of this chapter.
4. Certification required in [SMC 17E.030.160\(A\)](#) (No Rise Standard).
5. Records of all variance actions, including justification for their issuance.
6. Improvement and damage calculations.

D. Alteration of Watercourses.

Whenever a watercourse is to be altered or relocated:

1. The (~~local administrator~~) Floodplain Administrator shall notify adjacent communities and the Washington state department of ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration through appropriate notification means (44 CFR 60.3(b)(6)).
2. The (~~local administrator~~) Floodplain Administrator shall require that maintenance is provided within the altered or relocated portion of the watercourse so that the flood carrying capacity is not diminished.

E. Interpretation of FIRM Boundaries.

The (~~local administrator~~) Floodplain Administrator shall make interpretations 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 [SMC 17E.030.090](#). Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the NFIP.

F. Review of Building Permits

1. Where elevation data is not available either through the FIS, FIRM, or from another authoritative source outlined in Section 17E.030.080(B), applications for floodplain development 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.
2. Failure to elevate habitable buildings at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

G. Changes to Special Flood Hazard Area (SFHA)

1. If a project will encroach on the regulatory floodway or alter boundaries of the SFHA, then the project proponent shall provide the community 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, approvals required by FEMA.

2. If a CLOMR or LOMR application is made, then the project proponent shall also supply the full CLOMR or LOMR documentation package, as applicable, to the Floodplain Administrator, including all required property owner notifications. The Floodplain Administrator may condition permits to address Letter of Map Change determinations after issuance of the permit.

Section 17E.030. Variance Procedure – Hearing Examiner

- A. The hearing examiner shall hear and decide appeals and requests for variances from the requirements of this chapter.
- B. The hearing examiner shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the director in the enforcement or administration of this chapter.
- C. Those aggrieved by the decision of the hearing examiner, or any taxpayer, may appeal such decisions to the Spokane County superior court, as provided in [chapter 17G.060 SMC](#).
- D. In passing upon such applications, the hearing examiner shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and the:
 - 1. danger that materials may be swept onto other lands to the injury of others
 - 2. danger to life and property due to flooding or erosion damage;
 - 3. susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - 4. importance of the services provided by the proposed facility to the community;
 - 5. necessity to the facility of a waterfront location, where applicable;
 - 6. availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
 - 7. compatibility of the proposed use with existing and anticipated development;
 - 8. relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

9. safety of access to the property in times of flood for ordinary and emergency vehicles;
 10. 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;
 11. costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges;
 12. cumulative impact of additional requests of like actions in the area; and
 13. relationship of the proposed development to the shoreline master program policies and regulations as now or hereafter amended, and floodplain management for that area.
- E. Upon consideration of the factors of subsection (D) of this section and the purposes of this chapter, the hearing examiner may attach such conditions to the granting of the variances as he/she deems necessary to further the purposes of this chapter.
- F. The ~~((local administrator))~~ Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

Section 17E.030.100 Variances

A. Conditions.

A variance shall be granted if conditions set forth in [SMC 17G.060.170\(E\)](#) are met. In addition to [SMC 17G.060.170\(E\)](#), the following additional conditions should be considered:

1. Generally, the only condition under which a variance from the elevation standard is issued is 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, providing the decision criteria in this section have been fully considered. As the lot size increases the technical justification required for issuing the variance increases. Variances from the standards and conditions of this chapter are not allowed for residential uses in the floodway except for historic buildings as allowed by this section.
2. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places, or the Spokane Register of Historic Places, ~~((without regard to the procedures set forth in this section))~~ 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.

3. Variances will not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
 4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 5. Variances will only be issued upon a:
 - a. showing of good and sufficient cause;
 - b. determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - c. 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 or victimization of the public or conflict with existing local laws or ordinances.
 6. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods.
- ~~((7.)) Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except this section, and otherwise complies with [SMC 17E.030.050](#).~~
- ~~((8.)) 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 and that such construction below the BFE increases risks to life and property.~~
- B. Variances will be processed as set forth in [Table 17G.060-3](#).
- C. The fees for processing a variance are set forth in [SMC 8.02.066\(G\)](#).

REPEAL (~~Section 17E.030.120 Resource Material~~)

~~((The following required standards are prescribed in all areas of special flood hazards. Except where this chapter provides otherwise, the most current edition of the following publications may be used as reference documents:~~

- A. ~~“Guideline and Specification for Contractors,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- B. ~~“Floodplain Management Conferences,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- C. ~~“Guide for Ordinance Development,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- D. ~~“Coordination During Flood Insurance Studies,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- E. ~~“The Floodway: A Guide for Community Permit Officials,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- F. ~~“Floodplain Management Handbook for Local Administrators,” Washington State Department of Ecology.~~
- G. ~~“Program for Map Changes by Letter,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- H. ~~“Appeals, Revisions, and Amendments to Flood Insurance Maps,” Federal Emergency Management Agency, Federal Insurance Administration.~~
- I. ~~“Base Flood Elevation Determination,” Federal Emergency Management Agency, Federal Insurance Administration.))~~

Section 17E.030.130 General Standards

In all areas of special flood hazards, the following standards, in addition to those imposed by other existing regulations are required:

- A. Anchoring.
 - 1. 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 buoyancy.
 - 2. All manufactured homes shall likewise 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:
 - a. use of over-the-top or frame ties is provided at each of the four corners of the manufactured home, with two additional ties per site at intermediate locations, with manufactured homes less than fifty feet long requiring one additional tie per side;

- b. frame ties is provided at each corner of the home with five additional ties per side at intermediate points, with manufactured homes less than fifty feet long requiring four additional ties per side;
 - c. all components at the anchoring system are capable of carrying a force of four thousand eight hundred pounds; and
 - d. any additions to the manufactured home are similarly anchored.
3. The guidebook "Manufactured Home Installation in Flood Hazard Areas, FEMA-85 ((, 9/85))" is adopted by reference for further manufactured home anchoring techniques.

~~((B. AO Zone Drainage.~~

~~Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.))~~

~~((C.))~~ B. Construction Materials and Methods.

- 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- 2. All 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 designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

C. Storage of Materials and Equipment

- 1. The storage or processing of materials that could be injurious to human, animal, or plant life if released due to damage from flooding is prohibited in special flood hazard areas.
- 2. Storage of other material or equipment may be allowed if not subject to damage by floods and if firmly anchored to prevent flotation, or if readily removable from the area within the time available after flood warning.

D. Utilities.

- 1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- 2. Any proposed water well shall be located on high ground that is not in the floodway (WAC 173-160-171).
- 3. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.
- 4. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

~~((Subdivision Proposals))~~ E. Development and Subdivision Proposals.

~~((All subdivisions proposals shall:~~

- ~~1. be consistent with this chapter;~~
- ~~2. be consistent with the need to minimize flood damage;~~
- ~~3. have public utilities and facilities, such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage;~~
- ~~4. have adequate drainage provided to reduce exposure to flood damage; and~~
- ~~5. be generated by an engineer hired by the applicant for subdivision proposals and other proposed developments which contain at least fifty lots or five acres, whichever is less; where base flood elevation data has not been provided or is not available from another source.))~~

All development, including subdivisions, shall:

1. Be consistent with the need to minimize flood damage;
2. Have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;
3. Have adequate drainage provided to reduce exposure to flood damage; and
4. Where subdivision proposals and other proposed developments contain greater than 50 lots or 5 acres (whichever is the lesser) base flood elevation data shall be included as part of the application, and prepared by an engineer licensed in the State of Washington.

~~((F. Review of Building Permits.~~

~~Where elevation data is not available either through the flood insurance study or from another authoritative source, applications for building and land use permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, et cetera, where available. Failure to elevate at least two feet above highest adjacent grade in these zones may result in higher insurance rates. The applicant will provide studies and information as necessary for review.))~~

F. Minimum Requirements.

All development or which specific provisions are not specified in the Spokane Municipal Code or the state building codes, and adopted amendments, shall:

1. Be located and constructed to minimize flood damage;
2. Meet the encroachment limitations of this ordinance if located in a regulatory floodway;
3. Be anchored to prevent flotation, collapse, or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood;
4. Be constructed of flood damage-resistant materials;
5. Meet the flood opening requirements of [SMC 17E.030.140\(A\)\(3\)](#), and
6. Have mechanical, plumbing, and electrical systems above the design flood elevation or meet the requirements of ASCE 24, except that minimum electric service required to address life safety and electric code

requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.

Section 17E.030.140 Specific Standards

In all areas of special flood hazards where base flood elevation data has been provided as set forth in ~~((this chapter,))~~ Section 17E.030.050(B), Basis for Establishing the Areas of Special Flood Hazard, or Section 17E.030.080(B), Use of Other Base Flood Data in “A” Zones, the following provisions are required:

A. Residential Construction.

1. New construction and substantial improvement of any residential structure in AE and other A Zones where BFE has been determined or can be reasonably obtained shall have the lowest floor, including basement, elevated two feet above the base flood elevation. Mechanical equipment and utilities shall be waterproof or elevated least two foot above the BFE.
2. New construction and substantial improvement of any residential structure in an Unnumbered A zone for which a BFE is not available and cannot be reasonably obtained shall be reasonably safe from flooding, but in all cases the lowest floor shall be at least two feet above the Highest Adjacent Grade.
- ~~((2-))~~ 3. 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 shall either be certified by a registered professional engineer or architect or shall meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding must be provided.
 - b. The bottom of all openings must be no higher ~~((that))~~ than one 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.
 - d. 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.
 - e. Alternatively, a registered engineer or architect may design and certify engineered openings.

B. Nonresidential Construction.

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall ~~((either have the lowest floor, including basement, elevated two feet above the base flood elevation; or, together with attendant utility and sanitary facilities, shall))~~ meet the requirements of subsection 1 or 2, below:

- ~~1. be floodproofed so that below two feet or more 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 certifications shall be provided to the local administrator as set forth in [SMC 17E.030.080](#);~~
- ~~4. nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (A) of this section;))~~

1. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall meet all of the following requirements:

- a. In AE, A1-30 zones, or other A zoned areas where the BFE has been determined or can be reasonably obtained, new construction and substantial improvement shall have the lowest floor, including basement, elevated two foot or more above the BFE, or elevated as required by ASCE 24, whichever is greater.
- b. Mechanical equipment and utilities shall be waterproofed or elevated least one foot above the BFE, or as required by ASCE 24, whichever is greater.
- c. 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 at least two feet above the Highest Adjacent Grade.
- d. 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 a registered architect and must meet or exceed the following minimum criteria:

- i. Have a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - ii. The bottom of all openings shall be no higher than one foot above grade; and
 - iii. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwater.
 - e. 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.
 - i. Alternatively, a registered engineer or architect may design and certify engineered openings.
- 2. If the requirements of subsection 1 are not met, then new construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall meet all of the following requirements:
 - a. Be dry floodproofed so that below two foot or more above the base flood level 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;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications, and plans. Such certifications shall be provided to the Floodplain Administrator as set forth in [SMC 17E.030.080](#);
 - d. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in [SMC 17E.030.140\(A\)\(3\)](#).

~~((5-))~~ 3. ((applicants)) Applicants who are floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building floodproofed to the base flood level is rated as one foot below).

C. Manufactured Homes.

- 1. All manufactured homes to be placed or substantially improved ((within zones A1-A30, AH, AO and AE on the City's flood insurance rate map on sites)) on sites within the City's Special Flood Hazard Areas (SFHAs) shall be elevated on a permanent foundation such that:
 - ~~((a. outside of a manufactured home park or subdivision;~~
 - ~~b. in a new manufactured home park or subdivision;~~

- ~~c. in an expansion to an existing manufactured home park or subdivision, or~~
- ~~d. in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood;~~

~~shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated two feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.~~

~~2. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within zones A1-30, AH, AO and AE on the City's flood insurance rate map that are not subject to the above manufactured home provisions shall be elevated so that either:~~

- ~~a. the lowest floor of the manufactured home is elevated two feet or more above the base flood elevation; or~~
- ~~b. the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six inches in height above grade and is securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.)~~

- a. the lowest floor of the manufactured home is elevated two feet above the Base Flood Elevation (BFE); and
- b. it be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement; and
- c. comply with [SMC 17E.030.060\(C\)](#) in completing an Elevation Certificate with the other necessary permits.

D. Recreational Vehicles.

Recreational vehicles placed on sites (~~within zones A1-30, AH, AO and AE on the City's flood insurance rate map~~) are required to either:

1. be on the site for fewer than one hundred and eighty 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 subsection (C) of this section and the elevation and anchoring requirements for manufactured homes.

E. Livestock Sanctuary Areas

Elevated areas for the purpose of creating a flood sanctuary for livestock are allowed on farm units where livestock is allowed. Livestock flood sanctuaries shall be sized appropriately for the expected number of livestock and be elevated two feet above the Base Flood Elevation (BFE). Proposals for livestock flood

sanctuaries shall meet all procedural and substantive requirements of Chapter 17E.030.

F. Enclosed Area Below the Lowest Floor.

If buildings or 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.

Section 17E.030.150 ((Before Regulatory Floodway)) AE Zones with Base Flood Elevations but No Floodways

In areas with base flood elevations (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted (~~((within zones A1-30 and AE on the City'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 City.

Section 17E.030.160 Floodways

Located within areas of special flood hazard established in [SMC 17E.030.050](#) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris, potential projectiles, and increase erosion potential, the following provisions apply:

A. No Rise Standard

Prohibit encroachments, including fill, new construction, substantial improvements and other development unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any (~~((increasing))~~) increase in flood levels during the occurrence of the base flood discharge.

B. Residential Construction in Floodways.

Construction or reconstruction of residential structures is prohibited within designated floodways, except for:

1. repairs, reconstruction or improvements to a structure which do not increase the ground floor area; and
2. repairs, reconstruction or improvements to a structure, the cost of which does not exceed fifty percent of the (~~((assessed))~~) market value of the structure either:
 - a. before the repair or reconstruction is started; or

- b. if the structure has been damaged, and is being restored, before the damage occurred.

3. Any ((project of)) improvement ((of a structure)) to structures identified as historic places or to correct existing violations of state or local health, sanitary or safety code specification ((which)) that have been identified by the local code enforcement official and ((which)) are the minimum necessary to assure safe living conditions ((or to structures identified as historic places)) shall not be included in the fifty percent.

C. Replacement of Farmhouses in Floodway.

Repairs, reconstruction, replacement, or improvements to existing farmhouse structures located in designated floodways and that are located on lands designated as agricultural lands of long-term commercial significance under RCW 36.70A.170 may be permitted subject to the following:

1. The new farmhouse is a replacement for an existing farmhouse on the same farm site;
2. There is no potential building site for a replacement farmhouse on the same farm outside the designated floodway;
3. Repairs, reconstruction, or improvements to a farmhouse shall not increase the total square footage of encroachment of the existing farmhouse;
4. A replacement farmhouse shall not exceed the total square footage of encroachment of the farmhouse it is replacing;
5. A farmhouse being replaced shall be removed, in its entirety, including foundation, from the floodway within ninety days after occupancy of a new farmhouse;
6. For substantial improvements and replacement farmhouses, the elevation of the lowest floor of the improvement and farmhouse respectively, including basement, is a minimum of one foot higher than the BFE;
7. New and replacement water supply systems are designed to eliminate or minimize infiltration of flood waters into the system;
8. New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters; and
9. All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

D. Substantially Damaged Residences in Floodway.

1. For all substantially damaged residential structures, other than farmhouses, located in a designated floodway, the Floodplain Administrator may make a written request that the Department of Ecology assess the risk of harm to life and property posed by the specific conditions of the floodway. Based on analysis of depth, velocity, flood-related erosion, channel migration, debris load potential, and flood warning capability, the Department of Ecology may

exercise best professional judgment in recommending to the local permitting authority repair, replacement, or relocation of a substantially damaged structure consistent with WAC 173-158-076. The property owner shall be responsible for submitting to the local government and the Department of Ecology any information necessary to complete the assessment. Without a favorable recommendation from the department for the repair or replacement of a substantially damaged residential structure located in the regulatory floodway, no repair or replacement is allowed per WAC 173-158-070(1).

2. Before the repair, replacement, or reconstruction is started, all requirements of the NFIP, the state requirements adopted pursuant to 86.16 RCW, and all applicable local regulations must be satisfied. In addition, the following conditions must be met:
 - a. There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway.
 - b. A replacement residential structure is a residential structure built as a substitute for a legally existing residential structure of equivalent use and size.
 - c. Repairs, reconstruction, or replacement of a residential structure shall not increase the total square footage of floodway encroachment.
 - d. The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of one foot higher than the BFE.
 - e. New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.
 - f. New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.
 - g. All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

~~((D-))~~ E. If subsection (A) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of [SMC 17E.030.130](#) ~~((and))~~ , [17E.030.140](#) , and [17E.030.130\(F\)](#).

Section 17E.030.170 ((Standards for Shallow Flooding Areas (AO Zones))) Essential Public and Critical Facilities within Special Flood Hazard Areas

~~((A. Shallow flooding areas appear on FIRMS as AO zones with depth designations. The base flood depths in these zones range from one to three 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. In these areas, the following provisions apply:~~

- ~~1. New construction and substantial improvements of residential structures and manufactures homes within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade to the structure, two feet or more above the depth number specified in feet on the community's FIRM (at least two feet above the highest adjacent grade to the structure if no depth number is specified).~~
- ~~2. New construction and substantial improvements of nonresidential structures within AO zones shall either:
 - ~~a. have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, two feet or more above the depth number specified on the FIRM (at least two feet if no depth number is specified); or~~
 - ~~b. together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in [SMC 17E.030.140\(B\)\(3\)](#).~~~~
- ~~3. Adequate drainage paths shall be required around structures on slopes to guide floodwaters around and away from proposed structures.~~
- ~~4. Recreational vehicles placed on sites within AO zones on the community's FIRM are required to either:
 - ~~a. be on the site for fewer than one hundred eighty consecutive days, or~~
 - ~~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 subsections (A)(1) and (A)(3) of this section and the anchoring requirements for manufactured homes ([SMC 17E.030.130\(A\)\(2\)](#)).~~~~

~~B. Essential Public Facilities:))~~

- ~~1. Construction of ((new)) essential public facilities, as defined in [SMC 17C.190.530](#), or another critical facility shall be, to the extent possible, located outside the limits of the special flood hazard area.~~
- ~~2. Construction of new essential public facilities shall be permissible within the special flood hazard area if no feasible alternative site is available.~~

3. (~~Essential public facilities~~) Facilities constructed within the special flood hazard area shall have the lowest floor elevated three feet or more above the level of the base flood elevation at the site or to the height of the 500-year flood, whichever is higher.
4. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. All (~~essential public~~) facilities shall have access routes elevated to or above the level of the base flood elevation.
5. Access to and from the facility should also be protected to the height utilized above.