

Chapter 14.34

FLOOD DAMAGE PREVENTION

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14.34.005 Definitions.

Refer to Chapter 14.04 SCC for definitions of terms used in this Chapter. (Ord. O20070002 (part))

14.34.010 Statutory authorization.

The Legislature of the State of Washington has in Chapter 36.70 RCW delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizens. Therefore, the County of Skagit, State of Washington, does ordain the provisions set forth in this Chapter. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000)

14.34.020 Findings of fact.

- (1) The special flood hazard areas of Skagit County 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 floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000)

14.34.030 Statement of purpose.

It is the purpose of this Chapter 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:

- (1) To protect human life and health;
- (2) To minimize expenditure of public money and costly flood control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business interruption;
- (5) To 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) To 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) To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

It is the purpose of this Chapter to protect the public health, safety and welfare in those areas subject to periodic inundation due to flooding, and to minimize losses due to flood conditions in the specific areas subject to this Chapter by utilizing the methods and provisions set forth herein. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.040 Methods of reducing flood losses.

In order to accomplish its purpose, this Chapter and Chapters 14.26 and 14.32 SCC include 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 such uses, be protected against flood damage at the time of initial construction;
- (3) Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- (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 floodwaters or which may increase flood hazards in other areas. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.050 Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and technical engineering report entitled "Flood Insurance Study for the Unincorporated Areas of Skagit County Washington," dated January 3, 1985, with accompanying flood insurance rate and floodway maps and subsequent revisions, is hereby adopted by reference and declared to be a part of this Chapter. The Flood Insurance Study is on file with Skagit County Planning and Development Services. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.060 Compliance.

Any construction, location, extension, conversion, or alteration of a structure or land identified in a special flood hazard area shall fully comply within the requirements of this Chapter, Chapter 86.16 RCW, and Chapter 173-158 WAC. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.070 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 chapter, ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.080 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 State statutes. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.090 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 the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Chapter shall not create liability on the part of Skagit County, 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 thereunder. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.100 Development permits.

A permit, processed per Chapter 14.06 SCC, shall be obtained prior to construction or development on any property within a special flood hazard area as established in SCC 14.34.050. The permit shall be for all structures and development activities as defined in Chapter 14.04 SCC. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.110 Applications.

Applications for permits shall be made on forms provided by the Administrative Official. As a minimum, the following information shall be provided by the applicant at the time of submittal:

- (1) Vicinity map.
- (2) Description of the project.
- (3) Two copies of the site plans drawn to scale that demonstrate the location and dimensions of the property, existing or proposed structures, fill and/or excavations, storage of material, drainage facilities, suspected critical areas per Chapter 14.24 SCC, and private or public utilities including sewage.
- (4) Floodproofing verification when required per SCC 14.34.140.
- (5) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
- (6) Where a permit is required for the repair, reconstruction or addition to any repetitive loss structure, as defined in Chapter 14.04 SCC (Definitions), such structure shall be required to meet the provisions of SCC 14.34.140, 14.34.160(1) and (3), and 14.34.170. Value for the structure shall be demonstrated by the current tax assessed value or by private appraisal at the expense of the applicant. Construction costs shall be demonstrated by a properly prepared construction bid from a currently licensed contractor or the valuation used by the Administrative Official for determining building permit fees.
- (7) The Administrative Official may require additional information when deemed necessary to determine the degree of flood protection required.
- (8) Permit fees shall be paid at the time application is submitted as prescribed in Planning and Development Services Department's adopted fee schedule. The Skagit County Board of County Commissioners may waive, by resolution, all permit fees for the repair of flood damages incurred during a local, State or Federally declared disaster. To be eligible for a fee waiver, the permit applicant shall provide access to the structure for the purposes of damage assessment by County personnel under the direction of the Administrative Official; or provide damage assessment reports prepared by the American Red Cross, FEMA, SBA, or a licensed insurance adjuster. The permit fee waiver applies only to that construction or repair that is necessary for restoration to pre-flood conditions. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000)

14.34.120 Administrative Official—Duties.

- (1) Duties of the Administrative Official or designee shall include but not be limited to:
 - (a) Reviewing all development permits to determine that the permit requirements of this Chapter have been satisfied;
 - (b) Reviewing 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;
 - (c) Reviewing all development permits to determine if the proposed development is located in the floodway and, if located in the floodway, assuring that the encroachment provisions of SCC 14.34.190(1) are met.
- (2) Use of Other Base Flood Data.

- (a) When base flood elevation data has not been provided in accordance with SCC 14.34.050, the Administrative Official or designee 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 SCC 14.34.160, 14.34.170, 14.34.180 and 14.34.190.
- (3) Information to Be Obtained and Maintained. The Administrative Official shall obtain and maintain for public inspection:
 - (a) Elevation certificates per SCC 14.34.140;
 - (b) Floodproofing certificates per SCC 14.34.140;
 - (c) Professional engineer's or architect's certification of compliance to design standards when required by this Chapter;
 - (d) All records pertaining to the provisions of this Chapter.
- (4) Alteration of Watercourses. The Administrative Official or designee shall:
 - (a) Notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse when proposed and submit evidence of such notification to the Federal Insurance Administration;
 - (b) Require that maintenance be provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.
- (5) Interpretation of FIRM Boundaries.
 - (a) The Administrative Official or designee shall make interpretations where needed, as to approximate field 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 SCC 14.34.130. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000)

14.34.130 Variances and appeals.

- (1) Appeals.
 - (a) When it is alleged there is an error in any requirement, decision, or determination made by the Administrative Official in the enforcement or administration of this Chapter, those aggrieved, or any citizen, may appeal such decision as provided in Chapter 14.06 SCC (Permit Procedures).
- (2) Variances.
 - (a) Requests for variances from the provisions of this Chapter shall be considered pursuant to Chapter 14.10 SCC (Variances).
 - (b) Limitations. Variances shall be limited solely to the consideration of:
 - (i) Elevation requirements for first floor construction;
 - (ii) Elevation requirements for floodproofing; and
 - (iii) The type and extent of required floodproofing.
 - (c) A granting of any variance shall not result in:
 - (i) Increased flood heights;
 - (ii) Additional threats to public safety;
 - (iii) Extraordinary public expense;
 - (iv) Creation of nuisances;
 - (v) Fraud on or victimization of the public;
 - (vi) Conflicts with other existing local laws or ordinances.
 - (d) Notification. All decisions to grant a variance pursuant to this Chapter shall contain notification to the applicant that:
 - (i) The issuance of a variance may result in increased premium rates for flood insurance.
 - (ii) Construction below base flood elevation increases risks to life and property. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000)

14.34.140 Elevation and floodproofing certification required.

Where new construction or substantial improvements of any residential, commercial, industrial or other nonresidential use structure is located in an area where base flood elevation data has been provided, the following provisions apply:

- (1) Responsibility. The proponent of a project shall provide required certification data to the Administrative Official. All elevation and floodproofing data specified must be certified by a professional land surveyor where the project is located within A1-A10, A12, A14, A16, A18, A21-A22, and all V zones.
- (2) Form. Elevation or floodproofing certificates shall be on forms as required by FEMA. Forms shall be available from the Administrative Official.
- (3) Minimum Information.
 - (a) Actual elevation of the lowest floor (including basement).
 - (b) Actual elevation to which the building has been floodproofed.
- (4) Alternate Methods. Where an alternate method of floodproofing nonresidential use structures is proposed, it shall be certified and demonstrated that flood damages will not occur.
- (5) Agricultural and Utility Buildings. Agricultural and utility buildings classified as U occupancies under the provisions of the currently adopted Building Code and constructed in accordance with the wet floodproofing standards of SCC 14.34.160(4) shall not require elevation certificates. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000)

14.34.150 General standards for special flood hazard areas.

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

- (1) Anchoring.
 - (a) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
 - (b) All manufactured homes must be placed on a permanent foundation and be anchored to prevent flotation, collapse or lateral movement, and shall be installed to minimize flood damage. Independent footings supporting manufactured homes shall be placed a minimum of 12 inches below pre-development grade before any fill is installed. Fill shall be protected from erosion.
 - (c) All propane (LPG) and home heating oil tanks located above-ground shall be adequately supported and anchored to the ground in such a way that will prevent collapse, overturning, displacement or flotation resulting from floodwaters or waterborne debris.
- (2) Recreational Vehicles.
 - (a) Recreational vehicles shall not be used as permanent dwelling units.
 - (b) When located in special flood hazard areas designated as A, A1-A10, A12, A14, A16, A18, A21-A22, V1, V4, AO and AH, the vehicle shall:
 - (i) Be on site for fewer than 180 consecutive days; or
 - (ii) Be fully licensed and ready for highway use without the requirement for special highway permits, be 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.
- (3) Construction Materials and Methods.
 - (a) Where construction occurs below the BFE, all new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage including, but not limited to, studs and wall plates, wall sheathing, insulation, interior wall finishes, exterior wall finishes or siding, etc.
 - (b) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - (c) Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated to a level of 1 foot above base flood elevation or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Ducts that serve mechanical equipment shall be elevated and located so that the entire duct is above the base flood elevation.
 - (d) Buildings utilizing crawl space construction, where any portion of the crawl space is below the grade on all sides, shall meet the following requirements as excerpted from FEMA Technical Bulletin 11-01, which is hereby adopted by reference.
 - (i) Crawl space construction is not permitted in V zones.
 - (ii) Crawl space construction is not permitted in zones A0 and A1-A30 where velocities exceed 5 feet per second, unless it can be shown through engineering analysis that the structural components will resist flotation, collapse and lateral movement from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

- (iii) The interior grade of a crawl space must not be more than 2 feet below the lowest adjacent exterior grade.
 - (iv) The height of the crawl space, measured from the interior grade of the crawl space to the top of the foundation wall must not exceed 4 feet at any point. The height measured from the crawl space grade to the top of the next higher floor shall not exceed 5 feet at any point.
 - (v) There must be an adequate drainage system that removes floodwaters from the interior area of the crawl space, within a reasonable time, after a flood event.
- (4) Utilities.
- (a) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
 - (b) 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;
 - (c) On-site disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (5) Subdivision Proposals.
- (a) All subdivision proposals shall be consistent with the need to minimize flood damage;
 - (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
 - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and
 - (d) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be provided by the proponent, generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres, whichever is less.
- (6) Review of Building Permits.
- (a) Where flood elevation data is not available, applications for building 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, etc., where available. Failure to elevate at least 2 feet above grade in these zones may result in higher insurance rates. (Ord. O20070002 (part); Ord. O20020010 (part); Ord. O20020003 (part); Ord. 17938 Attch. F (part), 2000. Formerly 14.34.160)

14.34.160 Specific standards for construction in special flood hazard areas.

In all areas of special flood hazard where base flood elevation data has been provided as set forth in SCC 14.34.050 or 14.34.120(2), the following provisions are required in addition to the general regulations per SCC 14.34.150:

- (1) Residential Construction.
- (a) New construction and substantial improvement of any residential structure shall have the finished floor elevation of the lowest floor elevated 1 foot or more above the base flood elevation. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited from occupancy and 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 licensed in the State of Washington or must meet or exceed the following minimum criteria:
 - (i) A minimum of 2 openings having a total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding shall be provided.
 - (ii) The bottom of all openings shall be no higher than 1 foot above finished grade.
 - (iii) Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.
- (2) All new or substantially improved manufactured homes to be placed or substantially improved within flood hazard zones where base flood elevation data is provided shall be elevated on a permanent foundation such that finished floor elevation of the lowest floor of the manufactured home is 1 foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system in accordance with the provisions of SCC 14.34.150(1)(b).
- (3) Nonresidential Construction.
- (a) New construction and substantial improvements of any commercial, industrial or other nonresidential use structure shall either have the finished floor elevation of the lowest floor elevated 1 foot or more above the base flood elevation or, together with attendant utility and sanitary facilities, shall:

- (i) Be floodproofed so that below 1 foot above the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water.
 - (ii) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - (iii) Be certified by a registered professional engineer or architect licensed in the State of Washington that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this Subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in SCC 14.34.140.
 - (iv) Nonresidential use structures that are elevated, not floodproofed, must meet the standards for space below the lowest floor as set forth in Subsection (1) of this Section.
 - (v) Applicants floodproofing nonresidential use buildings shall be notified that flood insurance premiums will be based on rates that are 1 foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as 1 foot below that level).
- (4) Wet Floodproofing Standards for Agricultural and Utility Use Structures.
- (a) New construction or substantial improvements of any agricultural building, as defined in Chapter 14.04 SCC (Definitions), or utility use structure, when not meeting floodproofing or elevation requirements of Subsection (3) of this Section shall:
 - (i) Not be used for human habitation.
 - (ii) Be anchored to prevent flotation, collapse or lateral movement.
 - (iii) Use flood-resistant materials below the BFE.
 - (iv) Be limited to parking and limited storage.
 - (v) Have a low potential for structural damage from inundation, scouring, velocities or debris impact.
 - (vi) Be designed and oriented to automatically allow the free passage of floodwater through the structure in a manner affording minimum damage to the structure or its contents.
 - (vii) All electrical and mechanical equipment permanently affixed to the structure is elevated 1 foot above base flood elevation; or be made waterproof by accepted systems to the appropriate code.
 - (viii) When valuation of the structure exceeds \$50,000, the provisions in Subsections (4)(a)(i), (ii) and (iii) of this Section shall be verified by a currently registered professional engineer or architect licensed in the State of Washington. The valuation used shall be that currently used by the Administrative Official for determining building permit fees.
- (5) Critical facilities should be afforded additional flood protection due to their nature. Construction of new critical facilities should be, to the extent possible, located outside the limits of the 100-year floodplain as identified on the County's FIRM. Construction of new critical facilities may be permissible within the 100-year frequency floodplain if no feasible alternative site is available. When allowed, critical facilities constructed within the 100-year frequency floodplain shall have the lowest floor elevated to 3 or more feet above the level of the 100-year frequency flood. Floodproofing and sealing measures shall be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the 100-year frequency flood shall be provided to all critical facilities to the extent possible. (Ord. O20070002 (part); Ord. 17938 Attch. F (part), 2000. Formerly 14.34.170)

14.34.170 Standards for construction in shallow flooding areas (AO Zones).

Shallow flooding zones (AO Zones) appear on the Flood Insurance Rate Maps with flood depth designations from 1 to 3 feet above ground and in some areas with water velocities indicated. In these areas, the following provisions apply:

- (1) New construction and substantial improvements of residential structures within AO Zones shall have the lowest floor elevated above the highest adjacent grade of the building site, and at least 1 foot or more above the flood depth number specified on the Flood Insurance Rate Map (FIRM).
- (2) Where velocities of 5 feet per second or greater are listed in an AO Zone, new structures within 500 feet of the outside toe of any dike shall be constructed to the following standards in addition to those listed in Subsection (1) of this Section:
 - (a) All buildings or structures shall be elevated so that the lowest horizontal supporting members are located no lower than 1 foot or more above the base flood elevation level. All space below such supporting members shall remain open so as not to impede the flow of water. Exception: breakaway walls provided for in Subsection (2)(e) of this Section may be used.

- (b) All buildings or structures shall be securely anchored on pilings or columns.
 - (c) Pilings or columns used as structural support shall be designed and anchored so as to withstand all applied loads of the base flood flow.
 - (d) Structural fill shall be allowed below the level of the existing grade only and shall be designed by and installed under the direction of a registered professional engineer or architect licensed in the State of Washington.
 - (e) Breakaway walls shall be allowed below the base flood elevation.
 - (f) Compliance with the provisions of Subsections (2)(c) and (e) of this Section shall be certified by a registered professional engineer or architect.
- (3) Where velocities of 5 feet per second or greater are listed in an AO Zone, new structures less than 500 feet from the outside toe of any dike shall not be constructed with a crawl space below the BFE unless it can be shown through engineering analysis that the structural components are capable of resisting the effects of buoyancy as well as hydrostatic and hydrodynamic loads.
 - (4) New construction and substantial improvements of nonresidential (commercial and industrial) structures within AO Zones shall:
 - (a) Have the lowest floor elevated above the highest adjacent grade of the building site, and at least 1 foot or more above the depth number specified on the FIRM; or
 - (b) Together with attendant utility and sanitary facilities be completely floodproofed to 1 foot or more above the base flood elevation; any space below that level is watertight with walls substantially impermeable to the passage of water; structural components shall have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect.
 - (5) If located in an AO Zone with water velocities of 5 feet per second or greater, or within 200 feet from the outside toe of a dike, nonresidential buildings shall be constructed to the standards of Subsections (2)(a) through (f) of this Section.
 - (6) Require adequate drainage paths around structures on slopes to guide floodwater around and away from proposed structures. (Ord. O20070002 (part): Ord. 17938 Atch. F (part), 2000. Formerly 14.34.180)

14.34.180 Standards for construction in special flood risk zones.

The following construction standards are required in special flood risk zones as defined in Chapter 14.04 SCC:

- (1) New construction and substantial improvements of residential and nonresidential structures within special flood risk zones shall have the lowest horizontal supporting member elevated 1 foot or more above the base flood elevation and shall be constructed according to the standards provided in SCC 14.34.170(2)(a) through (f).
- (2) Regardless of method of construction, critical facilities are prohibited in the special flood risk zones.
- (3) There shall be no fill or new construction within the channel of Gages Slough. (Ord. O20070002 (part): Ord. 17938 Atch. F (part), 2000. Formerly 14.34.190)

14.34.190 Standards for development activities in floodways.

Located within areas of special flood hazard established in SCC 14.34.050 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwater that carries 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 engineer licensed in the State of Washington is provided demonstrating, through hydrologic and hydraulic analyses performed in accordance with standard engineering practice as well as the "Procedures for No-Rise Certification" as published by FEMA, that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge. Additionally, Skagit County reserves the right to have this analysis reviewed by a qualified third party to be selected by the County. The cost of such review, if any, shall be the responsibility of the applicant.
- (2) Prohibit construction or reconstruction, repair or replacement of residential structures except for:
 - (a) Repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and
 - (b) Repairs, reconstruction, or improvements to a structure the cost of which does not exceed 50% of the market value of the structure either:
 - (i) Before the repair, reconstruction, or improvement is started; or

- (ii) If the structure has been damaged and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary, or safety codes when determined by the Administrative Official, or to structures identified as historic places, may be excluded in the 50% determination.
- (c) Repairs, reconstruction, replacement, or improvements to existing farmhouse structures located in designated floodways and which are located on lands designated as agricultural lands of long-term commercial significance under RCW 36.70A.170 shall be permitted subject to the following. For the purposes of this Section, "farmhouse" means a single-family dwelling located on a farm site where resulting agricultural products are not produced for the primary consumption or use by the occupants and the farm owner.
 - (i) The new farmhouse is a replacement for an existing farmhouse on the same farm site;
 - (ii) There is no potential building site for a replacement farmhouse on the same farm outside the designated floodway;
 - (iii) Repairs, reconstruction, or improvements for a farmhouse shall not increase the total square footage of encroachment of the existing farmhouse;
 - (iv) A replacement farmhouse shall not exceed the total square footage of the encroachment of the structure it is replacing;
 - (v) A farmhouse being replaced shall be removed, in its entirety, including foundation, from the floodway within 90 days after occupancy of a new farmhouse;
 - (vi) For substantial improvements, and replacement farmhouses, the elevation of the lowest floor of the improvement and farmhouse respectively, including basement, is 1 foot higher than the base flood elevation;
 - (vii) New and replacement water supply systems are designed to eliminate or minimize infiltration of floodwaters into the system;
 - (viii) New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of floodwater into the system and discharge from the system into the floodwaters; and
 - (ix) All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.
- (3) For all other residential structures located in a designated floodway and damaged by flooding or flood-related erosion, the Department of Ecology is authorized to assess the risk of harm to life and property posed by the specific conditions of the floodway and, based upon scientific analysis of depth, velocity, and flood-related erosion, may exercise best professional judgment in recommending to the Skagit County Building Official, repair, replacement, or relocation of such damaged structures. The effect of the Department's recommendation to allow repair or replacement of a flood-damaged residence within the designated floodway is a waiver of the floodway prohibition.
- (4) All new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of SCC 14.34.150 through 14.34.200. (Ord. O20070002 (part); Ord. O20020010 (part); Ord. O20020003 (part); Ord. 17938 Attch. F (part), 2000. Formerly 14.34.200)

14.34.200 Encroachment standards for development activities in areas where no floodway is established.

In areas where a regulatory floodway has not been designated, the cumulative effect of any proposed development, where combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than 1 foot at any point. (Ord. O20070002 (part); Ord. O20020010 (part); Ord. O20020003 (part); Ord. 17938 Attch. F (part), 2000. Formerly 14.34.210)

14.34.210 Standards for construction in coastal high hazard areas.

Coastal high hazard areas (V Zones) are located within the areas of special flood hazard established in SCC 14.34.050. Coastal high hazard areas (V Zones) have special flood hazards associated with high velocity waters and tidal surges, and, therefore, the following provisions shall apply in these areas:

- (1) All new construction and substantial improvements in Zones V1-V4 shall be elevated on pilings and columns so that:
 - (a) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated 1 foot or more above the base flood level; and
 - (b) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a 1% chance of being equaled or exceeded in any given year (100-

year mean recurrence interval); a registered professional engineer or architect shall develop or review the structural design in accordance with the most recent edition of the Coastal Construction Manual as published by FEMA, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of Subsection (1)(a) of this Section. Skagit County reserves the right to have this analysis reviewed by a qualified third party to be selected by the County. The cost of such review, if any, shall be the responsibility of the applicant.

- (2) Obtain the elevation in relation to NGVD '29 of the bottom of the lowest horizontal structural member of the lowest floor of all new and substantially improved structures in Zones V1-V4 and whether or not such structures contain a basement. The local administrator shall maintain a record of all such information.
- (3) All new construction shall be located landward of the reach of extreme high tide.
- (4) Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with nonsupporting breakaway walls, open wood lattice work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this Section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot, either by design or when so required by local or State codes, may be permitted only if a registered professional engineer or architect licensed in the State of Washington certifies that the designs proposed meet the following conditions:
 - (a) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and
 - (b) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a 1% chance of being equaled or exceeded in any given year (100-year mean recurrence interval).
- (5) If breakaway walls are utilized, such enclosed space shall be usable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.
- (6) Prohibit the use of fill for structural support of the building.
- (7) Prohibit manmade alterations to the natural landscape, which would increase potential flood damage. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000. Formerly 14.34.220)

14.34.220 Critter pads.

For the purposes of providing livestock flood sanctuary areas, critter pads shall be permitted in any special flood hazard area except when located within the regulatory floodway. Construction of such pads shall be as specified in Appendix A of this Chapter. (Ord. O20070002 (part): Ord. 17938 Attch. F (part), 2000. Formerly 14.34.150)

APPENDIX A

Chapter 14.34 SCC Construction Specifications for Critter Pads (Livestock Flood Sanctuary Areas)

SITE SELECTION

- (1) Property shall be located in the 100-year floodplain and conveniently located within an established farmland that contains domestic livestock.
- (2) Portions of the property used as livestock pasture must be located in the 100-year floodplain as identified on the official Flood Insurance Rate Map (FIRM) for Skagit County. Construction is not permitted in the regulatory floodway.
- (3) The cumulative impacts of all proposed critter pads in a flood basin are exempt from compliance with the encroachment standards of SCC 14.34.200.
- (4) No portion of the pad shall be allowed within 100 feet of the top of a riverbank or within a wetland area as defined by Chapter 14.24 SCC. Less than a 100-foot setback may be allowed if mitigation is performed which provides an equivalent or greater vegetative buffer along the river or stream corridor.
- (5) The pad shall be located on the property away from areas of high velocity flows so as to minimize impacts to the site, upstream and downstream properties, and natural resources.
- (6) No pad shall be located nearer than half the height of the pad ($H/2$) to any property line. No portion of the pad shall abut any property line. Setback distances from all property lines shall be measured at right angles from the property line to the toe of the pad.

SITE PREPARATION

- (1) Erosion control shall be established around the perimeter of the work site per Chapter 14.32 SCC.
- (2) The foundation area of the pad shall be stripped of existing surface vegetation to a minimum depth of 4 inches and stockpiled on site. If this material is to be stockpiled for more than 24 hours, it shall be covered or stabilized using erosion control methods. This material shall be replaced on the surface of the pad when revegetated and reseeded.

SOIL MATERIAL FOR PAD

- (1) Soil may be extracted from nonsensitive areas on site; it shall not be taken from wetlands or other sensitive areas other than frequently flooded areas.
- (2) Detrimental amounts of organic material shall not be permitted in fills. Imported fill material shall be obtained from an approved or permitted site.

PLACEMENT OF FILL

- (1) The maximum soil layer thickness (lift) prior to compaction shall not exceed 2 feet.
- (2) Compaction may be performed by the routing back and forth of construction equipment.

PAD SURFACING

- (1) Disturbed areas of soil on the upper surface of the pad shall be reseeded with a mixture of perennial ryegrass and creeping fescue or other plant material.
- (2) Side slopes shall be no steeper than 2 horizontal to 1 vertical (2:1).
- (3) Side slopes shall be protected by placing erosion control fabric, reseeded, and planting native woody vegetation in accordance with biotechnical bank stabilization techniques described in the construction specifications.
- (4) Newly planted vegetation used for side slope stabilization may require temporary fencing along the length of the toe of the slope until such time as the vegetation has established itself.
- (5) The surface of the pad shall be compacted soil and low grasses. A straw covering shall be spread over the surface prior to intended use. The straw and manure collected on the surface during the emergency use shall be removed and treated as animal waste following the flood event.
- (6) Ramp slopes shall be no steeper than 8 horizontal to 1 vertical (8:1).

- (7) The ramp may be constructed of concrete, wood or earth material. The upper surface of the pad area shall be enclosed by a fence.

SIZE LIMITATIONS

- (1) The maximum size of the pad shall not exceed 50 square feet per animal unit (1,000 lb.) plus the area created by adding 14 feet of width along 2 sides to be used for farm vehicle access.
- (2) The width of the pad as measured perpendicular to the flooding source (river, stream or lake) shall not exceed 15% of the total floodplain width of the property.

AGREEMENTS

- (1) Any application for the construction of a critter pad shall include written legal agreements between Skagit County and the applicant that provides for the following:
 - (a) Construction and maintenance of the pad shall be performed according to best management practices.
 - (b) Applicants accept the flood impacts and new delineation of floodway/floodplain that may occur as a result of construction of such pad.
 - (c) The construction of buildings or structures on the pad for use other than livestock shelter is prohibited. Livestock shelters shall be permitted only through the Planning and Development Services permit process.
- (2) When agricultural land containing critter pads is to be converted to any non-AG use, the County shall require that all critter pads be removed. As a condition of a land use conversion from agriculture use, all critter pad material shall be removed and the pad area restored to its previous ground level. An inspection and sign-off by a County Building Official shall be required before any building permits are issued for the portion of the property that formerly contained the critter pad.

PERMIT APPLICATION

In addition to the Planning and Development Services special flood hazard area development permit application, any applicant proposing the construction of a critter pad shall also provide the following information:

- (1) Site plan indicating the location of property lines, total square foot area of existing buildings, total square foot area of land within property lines, proposed square foot area of the pad, proposed location of the pad in reference to property lines, identified sensitive areas (critical areas) and any ground elevation reference marks.
- (2) Description or type of farming activity. Number and type of livestock.
- (3) Identify amount, type and source of fill material to be used and whether it is obtained on or off site.
- (4) Construction schedule and methods including erosion control methods to be used during construction.
- (5) Completed design specifications per this Chapter.
- (6) Any signed legal agreements required per this Chapter.

APPROVAL TO START CONSTRUCTION

- (1) The construction of any critter pad shall not commence until such time as the Administrative Official finds that the work described in an application for a permit and the plans, specifications and other data filed therewith conform to the requirements of this Chapter and other pertinent laws and ordinances and that the fees required for the permit have been paid.
- (2) The Administrative Official shall inspect construction for which a permit is issued. The person causing the work to be done shall notify the Administrative Official in writing or by telephone when such permitted work is ready for inspection. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection.

INSPECTIONS REQUIRED

- (1) After removal of the topsoil and prior to fill material being placed.
- (2) During or after the placement of erosion control devices.
- (3) After final completion and prior to using.

DESIGN SPECIFICATIONS

The following information is intended to assist the designer with meeting the dimensional requirements for the construction of a critter pad:

- (1) Height (h): Base flood elevation is considered minimum height. Recommended height is 1 foot above base flood elevation.
 - (2) Net Area (An): The net area (An) is a product of the width perpendicular to flood flow (Wp) and the length parallel to the flood flow (Lp). The net area should be no greater than 50 square feet per animal unit (1,000 lb.). An additional area no greater than 25% of the calculated area will be allowed in order to accommodate herd growth.
 - (3) Gross Area (Ag): The gross area is the product of (Wp + 14') and (Lp + 14'). A strip no greater than 14 feet wide will be permitted along 1 length and 1 width in order to provide vehicle access.
 - (4) Side Slopes (Z): Side slopes for fill should be 2:1 or greater.
 - (5) Base Area (Ab): The base area is the product of the base width (Wb) and base length (Lb) or the total footprint of the pad at grade. This area should equal the sum of the gross area (Ag) plus the horizontal area of the side slopes and should not exceed 2% of the total area (At).
 - (6) Floodplain width covered by pad (FWp): The width of floodplain covered by the pad should be less than 15% of the total floodplain width (FWt) of the property.
 - (7) Ramp Length (Rl): The ramp length should not exceed 500 feet and should have a minimum slope of 8:1. If the ramp is constructed on fill, it should run parallel to flood flow. If the ramp is built using piling construction, it may be built either parallel or perpendicular to flow.
 - (8) Ramp Width (RW): The width of the ramp should be no greater than 18 feet.
 - (9) Total Area (At): The total area is the area that is occupied by all structures or improvements (including pad) on the entire property. The total area shall not exceed 5% of the area of the property.
 - (10) Distance (D): The shortest distance from the base of the pad to an adjacent river, stream, lake or property line.
- (Ord. O20070009 (part); Ord. O20070002 (part))