

# **City and Borough of Sitka**

## **Sitka Floodplain Regulation**

### **1.0 Administration**

**1.1 Scope.** These regulations shall be known as the Sitka Floodplain Regulation and shall govern construction and development within all areas of identified special flood hazards within the jurisdiction of the City and Borough of Sitka.

### **1.2 Establishment of development permit.**

1.2.1. Development Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard. The permit shall be for all structures, including manufactured homes and mobile homes, and for all development including fill and other activities.

1.2.2. Application for Development Permit. Application for a development permit shall be made on forms furnished by the Building Official and shall require: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; and any existing or proposed structures, fill, storage of materials, drainage facilities and the location of the foregoing. The following information shall also be required:

- a. elevation, in relation to mean sea level, of the lowest floor (including basement) of all structures;
- b. elevation, in relation to mean sea level, to which any non-residential structure has been flood-proofed;
- c. elevation, in relation to mean sea level, of the bottom of the lowest horizontal structural member in V1-30, VE and V Zones; and
- d. description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

### **1.3 Elevation certificate required.**

Prior to issuing a Certificate of Occupancy it shall be the duty of the applicant to submit to the Building Official a certification of the elevation of the lowest floor and/or flood proofed elevation, as built, in relation to mean sea level. The certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer who is licensed by the State of Alaska and authorized to certify such information..

### **1.4 Penalties for noncompliance.**

No structure or land shall be constructed, located, extended, converted, or altered without being in full compliance with the provisions of these regulations and other applicable laws. Violations of the provisions of these regulations by failure to comply with any of its requirements shall subject the violator to the penalties in Sitka General Code (SGC)

1.12.010.

## 2.0 Definitions

Unless specifically defined below, words or phrases used in these regulations shall be interpreted according to their common usage.

- 2.1. "Appeal" means a request for a review of the Building Official's interpretation of any provision of these regulations or a request for a variance from these regulations.
- 2.2. "Area of shallow flooding" means a designated AO or AH zone on the Flood Insurance Rate Map (FIRM). AO is characterized as sheet flow and AH indicates ponding. An area of shallow flooding means that the base flood depths range from one to three feet, a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident.
- 2.3. "Area of special flood hazard" means the land in the flood plain subject to a one percent or greater chance of flooding in any given year. Designation on the FIRM always includes the letters A or V. The term "special flood hazard" for purposes of these regulations is synonymous with the phrase, "area of special flood hazard."
- 2.4. "Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year, and is also referred to as the one-hundred-year flood. Designation on the FIRM of "base flood" always includes the letters A or V.
- 2.5. "Base flood elevation (BFE)" means the elevation of the base flood in relation to a specified datum, such as the National Geodetic Vertical Datum (NGVD). The base flood elevation is the basis of the insurance and floodplain management requirements of the National Flood Insurance Program (NFIP).
- 2.6. "Basement" means any area of a building having a subgraded floor below ground level on all sides.
- 2.7. "Breakaway wall" means a wall that is not a part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.
- 2.8. "Coastal high hazard area" means the area subject to high velocity waters, including storm surge, tsunamis or seismic forces. The area is designated on the FIRM as Zone V1-V30, VE or V.
- 2.9. "Crawlspace" means an enclosed area below the base flood elevation that is required to have openings that equalize hydrostatic pressures to allow the automatic entry and exit of floodwaters.
- 2.10. "Development" means any man-made change to improved or unimproved real estate, including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.
- 2.11. "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:
  - a. The overflow of inland or tidal waters; and/or
  - b. The unusual and rapid accumulation of runoff of surface waters from any source.
- 2.12. "Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to Sitka.

- 2.13. "Flood Insurance Study (FIS)" means the official report provided by the Federal Insurance Administration that includes an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.
- 2.14. "Flood proofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.
- 2.15. "Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
- 2.16. "Functionally dependent facility" means a facility which cannot be used for its intended purpose unless it is located in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading or unloading of cargo or passengers, and shipbuilding and ship repair facilities, and does not include long-term storage or related manufacturing facilities.
- 2.17. "Historic structure" means a structure that is:
- a. listed in the National Register of Historic Places or a designated National Landmark, or preliminarily determined by the Secretary of the Interior as meeting the requirements for listing;
  - b. certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historical district;
  - c. listed on a State of Alaska inventory of historic places; or
  - d. listed on a local inventory of historic places.
- 2.18. "Lowest floor" means the lowest floor of the lowest enclosed area, including the basement. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of these regulations.
- 2.19. "Manufactured home" shall have the same meaning as in SGC 6.12.010.
- 2.20. "Manufactured or mobile home park or subdivision" shall have the same meaning as in SGC 6.12.010
- 2.21 "Mobile home" shall have the same meaning as in SGC 6.12.010
- 2.22. "New construction" means structures for which the start of construction commenced on or after the effective date of these regulations and includes any subsequent improvements to such structures.
- 2.23. "Start of construction" includes substantial improvement, and means the start date listed on the building or foundation permit, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty days of the permit date. The actual start date means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation, or the placement of a manufactured home or a mobile home on a foundation. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that

alteration affects the external dimensions of the building. Permanent construction does not include:

- a. land preparation, such as clearing, grading and filling;
- b. installation of streets and/or walkways;
- c. excavation for a basement, footings, piers, or foundation or the erection of temporary forms;
- d. installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

2.24. "Structure" means a walled and roofed building, and includes mobile homes, manufactured homes, and gas or liquid storage tanks or containers that are principally above ground.

2.25. "Substantial damage" means damage of any origin sustained by a structure for which the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

2.26. "Substantial improvement" means any repair, reconstruction, rehabilitation, addition or other improvement of a structure for which the cost equals or exceeds fifty percent of the market value of the structure either:

- a. before the improvement or repair is started; or
- b. if the structure has been damaged and is being restored, before the damage occurred. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed.

For the purposes of these regulations, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not include either:

- a. any project or improvement of a structure to correct existing violations of state or local health, sanitary, or safety code regulations which have been previously identified by the Building Official and which are the minimum necessary to ensure safe conditions; or
- b. any alteration of a "historic structure" provided that the alteration would not preclude the structure's continued designation as a "historic structure".

2.27. "Variance" means a grant of relief from the requirements of these regulations which permit construction in a manner that would otherwise be prohibited by these regulations.

## **3.0 Construction Requirements**

### **3.1 General standards.**

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

#### **3.1.1 Anchoring.**

3.1.1.1 All new construction and substantial improvements shall be adequately anchored to prevent flotation, collapse, or lateral movement of the structure, including the effect of buoyancy.

3.1.1.2 All manufactured homes and mobile homes shall be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices

that minimize flood damage. Anchoring methods may include use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

### **3.1.2 Construction materials and methods.**

3.1.2.1 All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

3.1.2.2 All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3.1.2.3 Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located to prevent water from entering or accumulating within the components during conditions of flooding.

### **3.1.3 Utilities.**

3.1.3.1 New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

3.1.3.2 New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.

3.1.3.3. On-site waste disposal systems shall be located to avoid impairment or contamination during flooding.

### **3.1.4 Subdivision proposals.**

3.1.4.1 All subdivision proposals shall be consistent with the need to minimize flood damage.

3.1.4.2 All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

3.1.4.3 All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

3.1.4.4 All new subdivision proposals and other proposed developments, including proposals for manufactured home parks and subdivisions, if either is greater than 50 lots or 5 acres, shall include base flood elevation data.

### **3.1.5 Review of building permits.**

Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, applications for building permits shall be reviewed by the Building Official to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness will be based on location information, and include use of available historical data, high water marks, photographs of past flooding, etc.. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

## **3.2 Specific standards.**

In all areas of special flood hazards where base flood elevation data has been provided as set forth on the FIRM, the following provisions in Subsections 3.2.1 – 3.2.5 apply.

### **3.2.1 Residential Construction.**

3.2.1.1 New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above the base flood elevation.

3.2.1.2 Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

- a. a minimum of two openings shall be provided having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
- b. the bottom of all openings shall be no higher than one foot above grade; and
- 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. below grade crawlspaces are prohibited at sites where the velocity of floodwaters exceeds five feet per second.
- e. all building utility systems within the crawlspace shall be elevated above base flood elevation or be designed so that floodwaters cannot enter or accumulate within the system component during flood conditions.
- f. the interior grade of a crawlspace below the base flood elevation must not be more than two feet below the lowest adjacent exterior grade and the height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, must not exceed four feet at any point.
- g. below grade crawlspaces constructed in accordance with the requirements listed in this subsection shall not be considered basements. However, applicants who construct buildings that have below-grade crawlspaces are hereby advised that such buildings will have higher flood insurance premiums than buildings that have crawlspaces with interior elevations at or above the lowest adjacent grade.

### **3.2.2 Nonresidential construction.**

New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation, or together with attendant utility and sanitary facilities, shall:

- a. be flood-proofed requiring the structure be watertight with walls substantially impermeable to the passage of water below the base flood level;
- 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 the development and/or review of the structural design, specification and plans. Such certifications shall be provided to the Building Official;
- d. nonresidential structures that are elevated, but not flood-proofed, must meet the same standards for space below the lowest floor as described in Subsection 3.2.1.2; and

e. applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood-proofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

### **3.2.3 Manufactured homes and mobile homes.**

All manufactured homes and mobile homes to be placed or substantially improved within all A Zones shall be elevated on a permanent foundation with the lowest floor of the manufactured home at or above the base flood elevation, and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Subsection 3.1.1.2.

### **3.2.4 Encroachments.**

The cumulative effect of any proposed development, when combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than one foot at any point.

### **3.2.5 Shallow flood zone areas**

In AO Zones, new and substantially improved residential structures shall have their lowest floor, including basement, elevated above the adjacent grade at least as high as the FIRM's depth number. In AO Zones, new and substantially improved nonresidential structures shall have their lowest floor, including basement, elevated or completely flood proofed above the adjacent grade at least as high as the FIRM's depth number.

3.2.5.1 In Zones AO and AH, approved drainage paths shall be required on structures on slopes to guide water away from structures.

### **3.2.6 Coastal high hazard areas.**

Located within areas of special flood hazard established on the FIRM are coastal high hazard areas, designed as Zones V1-V30, VE and V. These areas have special flood hazards associated with high velocity waters from tidal surges and therefore, in addition to meeting all provisions in these regulations, the following provisions in Subsections 3.2.6.1 – 3.2.6.7 shall also apply. Subsections 3.2.6.1-3.2.6.7 shall also apply to manufactured homes or mobile homes to be placed or substantially improved in any of the following locations:

- a. outside a manufactured or mobile home park or subdivision
- b. in a new manufactured home park or subdivision
- c. in an expansion of an existing manufactured home or mobile home park or subdivision
- d. on a site in an existing manufactured home or mobile home park where a manufactured or mobile home has incurred substantial damage as a result of a flood.

3.2.6.1 All new construction and substantial improvements in Zones V1-V30 and VE (V, if base flood elevation data is available) 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 to or above the base flood elevation; and

b. The pile or column foundation and the structure attached is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values shall be those associated with the base flood. Wind loading values shall be those specified by the *International Building Code*. A registered professional engineer or architect shall develop or review the structural design, specifications, and plans for the construction to be used and certify that they are in accordance with accepted standards of practice for meeting the provisions of Subsections a and b above.

3.2.6.2 The applicant shall obtain and submit to the Building Official the elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1-30 and VE and V, and whether such structures contain a basement. The Building Official shall maintain a record of all such information.

3.2.6.3 All new construction shall be located landward of the reach of mean high tide.

3.2.6.4 All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this Subsection, a breakaway wall shall have a design safe loading resistance of not less than ten and not more than twenty pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of twenty pounds per square foot (either by design or when so required by local or State codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

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 one percent chance of being equaled or exceeded in any given year (one-hundred-year mean recurrence interval).

3.2.6.5 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.

3.2.6.6 The use of fill for structural support of buildings shall be prohibited, as is the man-made alteration of sand dunes which would increase potential flood damage.

3.2.6.7 In V1-30, VE or V Zones, all manufactured or mobile homes to be placed or substantially improved in an existing manufactured or mobile home park shall be elevated so that:

a. the lowest floor is at or above the base flood elevation; or

b. the chassis is supported by reinforced piers no less than 36" in height above grade and securely anchored.

3.2.6.8 In V1-30, VE and V Zones, all recreational vehicles to be placed on a site shall be:

- a. elevated or anchored; or
- b. on the site for less than 180 days; or
- c. fully licensed and highway-ready

## **4.0 Variances.**

### **4.1 Appeals Board.**

4.1.1 The Planning Commission shall hear and decide appeals and requests for variances from the requirements of these regulations.

4.1.2 The Planning Commission shall hear and decide appeals from the applicant when it is alleged there is an error in any requirement, decision or determination made by the Building Official in the enforcement or administration of these regulations.

4.1.3 The Planning Commission policies and procedures for hearing and deciding appeals and requests for variances are codified in the Sitka General Code. Such policies and procedures include public notice of hearings and direct notification of adjacent and/or affected property owners.

4.1.4 An applicant may appeal the Planning Commission decision regarding the applicant's appeal or request for a variance to the Assembly. The procedure for appealing and the Assembly's review procedure regarding the Planning Commission decision shall be in accordance with applicable SGC provisions concerning Planning Commission appeals to the Assembly.

4.1.5 If the Applicant does not appeal the Planning Commission decision to the Assembly, anyone other than an applicant may appeal the Planning Commission decision, which shall be considered the final administrative decision, to Alaska Superior Court in Sitka within thirty days of the date of the Planning Commission decision in accordance with applicable Court Rules.

4.1.6 In passing upon such applications, the Planning Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of these regulations and:

- a. danger that materials may be swept onto other lands to the injury to others;
- b. danger to life and property due to flooding and erosion damage;
- c. susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- d. importance of the services provided by the proposed facility to the community;
- e. necessity to the facility of a water front location, where applicable;
- f. availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
- g. compatibility of the proposed use with existing and anticipated development;
- h. relationship of the proposed use to the Comprehensive Plan for that area;
- i. safety of access to the property in times of flood for ordinary and emergency vehicles;
- j. expected heights, velocity, duration, rate of rise, and sediment transport of flood waters and the effects of wave action, if applicable, expected at the site; and

k. costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer systems, electrical, and water systems, and streets and bridges.

4.1.7 Upon consideration of the factors in Subsection 4.1.5, the purposes of these regulations, and all applicable provisions of SGC and these regulations, the Planning Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of these regulations.

4.1.8 The Building Official shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

## **4.2 Conditions for variances.**

4.2.1 Generally, the only condition under which a variance from the elevation standard may be 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 items a. through k. in Section 4.1.5 have been fully considered. As the lot size increases, the technical justification required for issuing the variance increases.

4.2.2 Variances may be issued for the reconstruction, rehabilitation, or restoration of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure.

4.2.3 Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

4.2.4 Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

4.2.5 Variances shall only be issued upon:

- a. a showing of good and sufficient cause;
- b. a determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- c. a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing municipal code provisions or laws .

4.2.6 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, or economic or financial circumstances. As such, variances from the flood elevations should be quite rare and should only be granted for parcels with physical characteristics so unusual that complying with these regulations would create an exceptional hardship to the applicant or surrounding property owners.

4.2.7 Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of flood proofing than watertight or dry-flood proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except Subsection 4.2.1, and otherwise complies with Subsections 3.1.1 and 3.1.2.

4.2.7 Variances may be issued for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:

- a. the criteria of Subsection 4.2.5, above, are met; and
- b. the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

4.2.8 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. A copy of the notice shall be recorded in the recorder's office by the applicant in a manner so that it appears in the chain of title of the affected parcel of land. A copy of the record shall be provided to the Building Official prior to the issuance of a certificate of occupancy.