Chapter 21.07: Development and Design Standards
Sec. 21.07.020 Natural Resource Protection

b. All outdoor trash receptacles shall be bear-resistant, and food shall not be stored outside.

c. Roads, driveways, or trails, including bridges, shall be designed to facilitate wildlife passage along streams and to minimize wildlife-human conflicts.

d. Trails shall be sited with direct consultation with the state department of fish and game.

4. Discretionary Approvals

a. For discretionary approvals before the planning and zoning commission, the urban design commission, the platting board, or the zoning board of examiners and appeals that include the area identified in subsection D.2. above, the following shall be considered during deliberations:

i. Location of new buildings, permanent structures, trails, and fences.

ii. Long-term retention of natural vegetation and terrain in a landscape pattern that provides cover for wildlife movement and directs wildlife away from residential structures or other structures occupied on a frequent basis.

b. All applicable discretionary approvals under this section shall be referred to the Alaska department of fish and game, wildlife division, for their review, comments, and recommendations, which shall be considered by the decision-making body.

5. Review Report

All applications affected by this section shall be referred to the Alaska Department of Fish and Game for its review, comments, and recommendations, which shall be considered by the decision-making body. Recommendations for approval shall be supported by evidence in the report submitted by that department.

E. Flood Hazard Area Regulations

1. Purpose and Intent

The purpose of the flood hazard area regulations is to promote the public health, safety, and general welfare, and to minimize loss due to flood. The provisions of this section are intended to be an addition to all other land use regulations and to:

a. Restrict or prohibit uses and structures that are dangerous to health, safety, or property in time of flood, or that cause increased flood heights or velocities;

b. Require that uses vulnerable to floods, including public facilities that serve such uses, be provided with flood protection or flood proofing at the time of initial construction;

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 damages to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of flood hazard;

f. Help maintain a stable tax base by providing for the sound use and development of areas of flood hazard so as to minimize future flood blight areas;
Chapter 21.07: Development and Design Standards
Sec. 21.07.020 Natural Resource Protection

**g.** Ensure that potential buyers are notified that property is in an area of flood hazard; and

**h.** Ensure that those who occupy the areas of flood hazard assume responsibility for their actions.

**2. Notice**

Property owners affected by changes to the boundaries of the flood hazard area or by changes in the base flood elevations shall be noticed by mail.

**3. Interpretation of Section; Disclaimer of Liability**

**a.** In the interpretation and application of this section, all provisions shall be:

i. Considered as minimum requirements;

ii. Liberally construed in favor of the governing body; and

iii. Deemed neither to limit nor repeal any other powers granted under state statutes.

**b.** The degree of flood protection required by this section 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 section does not imply that land outside the areas of flood hazard or uses permitted within such area will be free from flooding or flood damages. This section shall not create liability on the part of the municipality, any officer or employee thereof, or the Federal Insurance Administration for any flood damages that result from reliance on this section or any administrative decision lawfully made thereunder.

**4. Creation of Flood Hazard Area; Official Flood Hazard Reports and Maps**

**a. Creation of Area; Adoption of Reports and Maps**

There is hereby created a flood hazard area. This area shall be defined in its territorial extent by the following reports and maps:

i. Flood insurance study for the municipality of Anchorage, prepared by the Federal Insurance Administration, Federal Emergency Management Agency (FEMA).

ii. Flood insurance rate map (FIRM) prepared by the Federal Insurance Administration, FEMA, including the current digital flood insurance rate map (DFIRM) prepared by the Federal Insurance Administration.

iii. Flood boundary and floodway map, prepared by the Federal Insurance Administration, FEMA, including the current digital flood boundary and floodway map prepared by the Federal Insurance Administration.

iv. Flood hazard boundary map (FHBM), prepared by the Federal Insurance Administration, FEMA, including the current digital flood hazard boundary map (DFHBM) prepared by the Federal Insurance Administration.

The current editions of each of the maps and reports listed in this subsection are made a part of this section. Subsequent maps and reports prepared by the Federal Insurance Administration or the municipality delineating the flood hazard area, floodway and floodplain areas within the municipality shall become part of this chapter upon publication. A copy of the reports and maps cited in this subsection shall be on file in the department. Definitions of terms appearing on the maps and reports appear in 41 CFR 19.09.1.
b. **Flood Hazard Areas**
   Within the flood hazard area, areas at a hazard for flooding include:
   
   i. Areas within the limit of the boundary of the base flood;
   
   ii. Areas within the highest extreme tide;
   
   iii. Areas covered in flood hazard studies prepared for the public works department that supplement the information prepared by FEMA; and
   

c. **Review of Maps**
   As necessitated by FEMA or the municipal engineer, the flood hazard district maps will be reviewed. The review may be conducted by the municipality, the U.S. corps of engineers, or the Federal Insurance Administration, and any new map panels or restudies affecting the boundaries of the flood hazard district, floodway, or floodway fringe area shall then be submitted to the planning and zoning commission for a recommendation and assembly for final adoption as part of this chapter.

d. **Rules for Interpretation of Flood Hazard Area Boundaries**
   The boundaries of the flood hazard areas established by this chapter shall be determined from the cited maps and reports. Where interpretation is needed as to the exact location of the boundaries, the public works department, upon advice from the U.S. corps of engineers or FEMA, shall make the necessary interpretation.

5. Regulations Applicable to Flood Hazard Area
   a. **Applicability**
      The regulations within this section shall apply to all areas of the flood hazard area.
   
   b. **Prohibited Development**
      i. Any encroachments, new construction, fill, obstructions, substantial improvements and other development or action within the regulatory floodway that would result in any increase in flood levels during the occurrence of a base flood are prohibited.
      
      ii. Critical facilities shall not be located in the flood hazard area. For the purposes of this subsection only, critical facilities are defined as fire stations, police stations, hospitals, emergency shelters, schools, and emergency operations centers.
   
   c. **Standards for Issuance of Building or Land Use Permit**
      No building permits, encroachment permits, manufactured home permits, or other land use permits shall be issued for any development activity within the flood hazard area unless the plans show that, in addition to compliance with all other ordinances, regulations and permit requirements, the development shall meet the following requirements:
      
      i. Prior to final approval of a permit it must be demonstrated that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including section 404 of the Federal Water Pollution Control Act amendments of 1972.
      
      ii. It must be demonstrated that structures will be reasonably safe from flooding. If a proposed building site is in a floodplain, all new construction and improvements shall be designed and adequately anchored to prevent
flotation, collapse or lateral movement of the structure, be constructed with materials and utility equipment resistant to flood damage, and be constructed by methods and practices that minimize flood damage.

iii. The approval of a subdivision application or multi-unit development shall require proof that:

(A) The proposed construction is consistent with the need to minimize flood damage within the floodplain;

(B) All public utilities and facilities such as sewer, gas, electrical and water systems are to be located and constructed to minimize or eliminate flood damage;

(C) Adequate drainage, as required by the Design Criteria Manual (current approved edition), is provided to reduce exposure to flood hazards. The actions of one project shall not adversely impact the receiving waters and the rights of other property owners, as measured by increased flood peaks, flood stage, flood erosion, and sedimentation through storm waters or drainage systems; and

(D) Base flood elevation data has been provided for subdivision proposals and other proposed development that contains at least 50 lots or five acres, whichever is fewer.

iv. Construction within floodplains shall require that new and replacement water supply systems be designed to minimize or eliminate infiltration of floodwaters into the systems.

v. Construction within floodplains shall require that:

(A) New and replacement sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters; and

(B) On-site waste disposal systems to be located to avoid impairment to them or contamination from them during flooding.

d. Storage of Materials or Equipment in the Floodplain
The storage or processing of equipment or materials that are buoyant, flammable, explosive or injurious to safety, or which would cause a violation of state water quality standards upon contact with water, are prohibited in the floodplain.

6. Regulations Applicable to Subdistricts
a. Floodway Area
Since the floodway is an extremely hazardous area due to the velocity of floodwaters, which carry debris and potential projectiles and have erosion potential, the following provisions apply:

i. Permitted uses and structures are parks, parkways, greenbelts, land reserves, golf courses, playgrounds, playfields, and related facilities.

ii. Permitted accessory uses and structures are picnic tables, playground equipment, outdoor cooking facilities and like structures.

iii. The following structures and activities are permitted only by flood hazard permit including certification by a registered professional engineer demonstrating that such encroachments shall not result in any increase in
flood levels during the occurrence of the base flood discharge or result in violation of the state water quality standards: excavation of sand, gravel and other natural resources, railroad and tramway tracks, streets, bridges, utility installations and pipelines, storage yards for equipment and materials, commercial farming, and land reclamation.

iv. The following uses are prohibited: landfills, storage yards containing hazardous materials (as defined by the EPA), encroachments not otherwise excepted in this section, including fill, new construction, substantial improvements and other development.

b. Floodway Fringe Area

The regulations listed in this subsection are applicable to the floodway fringe area:

i. Permitted uses and structures are parks, parkways, greenbelts, land reserves, golf courses, playgrounds, playfields and related facilities.

ii. Permitted accessory uses and structures are picnic tables, playground equipment, outdoor cooking facilities and like structures.

iii. The following uses, structures and activities are permitted only by flood hazard permit: any use permitted by flood hazard permit as set forth in subsection a. of this section, and all other uses, structures and activities which are in accordance with all other land use regulations provided they are adequately floodproofed as set forth in subsection E.8. below, Flood Hazard Permit.

iv. The following uses are prohibited: uses, structures and activities which are not permitted under subsections 6.b.i. through iii. of this section or which would cause violations of state water quality standards.

7. Construction Requirements

a. Generally

All new construction and substantial improvements in areas designated on the flood insurance rate map as zones A, A1-30, AE, and AH shall meet the following conditions:

i. The lowest floor, including basement or crawlspace, of residential structures shall be elevated to at least one foot above the base flood level. Within the structure, attendant utility and sanitary facilities shall be elevated to at least one foot above the base flood or completely floodproofed.

ii. The lowest floor, including basement, of nonresidential structures shall be elevated to at least one foot above the base flood level, unless the structure, with all utility and sanitary facilities, is designed so that below base flood level the structure is watertight with walls substantially impermeable to the passage of water and so that it is capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

iii. All fully enclosed areas below the lowest floor that are usable solely for parking, building access, or storage in an area other than a basement or crawlspace shall have a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area according to FEMA specifications. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
iv. Where floodproofing is utilized a registered professional engineer or architect shall certify that the floodproofing methods are adequate.

v. For new manufactured home parks and manufactured home subdivisions; for expansions to existing manufactured home parks and manufactured home subdivisions; for existing manufactured home parks and manufactured home subdivisions where the repair, reconstruction or improvement of the streets, utilities and pads equals or exceeds 50 percent of value of the streets, utilities and pads before the repair, reconstruction or improvement has commenced; and for manufactured homes not placed in a manufactured home park or manufactured home subdivision, require that the repair, and on all property not within a manufactured home park or subdivision stands or lots are elevated on compacted fill or on pilings so that:

(A) The lowest floor of each manufactured home must be at least one foot above the base flood level.

(B) Adequate surface drainage and access for a hauler must be provided.

(C) For manufactured homes placed on pilings, pilings must be stable and no more than ten feet apart and reinforced if more than six feet above the ground level.

(D) Lots must be large enough to permit steps.

vi. All manufactured homes to be placed or substantially improved shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least one foot above the base flood elevation, and be securely anchored to an adequately anchored foundation system.

vii. All manufactured homes must 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 use of over-the-top or frame ties to ground anchors.

b. Standards for Shallow Flood Areas (AO Zones)
Shallow flooding areas appear on the flood insurance rate maps as AO zones with depth designations. The base flood depths in these zones range from one to three feet 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:

i. New construction and substantial improvements of residential structures within AO zones shall have the lowest floor, including basement or crawl space, elevated above the highest adjacent grade of the building site, to at least one foot above the depth number specified on the flood insurance rate map (at least two feet if no depth number is specified).

ii. 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, to at least one foot above the depth number specified on the flood insurance rate map (at least two feet if no depth number is specified); or
Together with attendant utility and sanitary facilities, be completely floodproofed 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.

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

8. Flood Hazard Permit
a. Required
No person shall engage in development within the flood hazard area unless a flood hazard permit is first issued, pursuant to section 21.03.090, Flood Hazard Permits.

b. Conditions
Special conditions may be attached as a condition to the issuance of a flood hazard permit. Conditions shall include any floodproofing measures deemed necessary by the issuing official to further the purposes of this chapter. Floodproofing measures may include requirements that:

i. The finished surface of the first or main floor shall be at least one foot above the level of the regulatory flood protection elevation.

ii. Structures or uses below the level of the regulatory flood shall be restricted to those not involving habitual human habitation, such as working space, living space, sleeping space, etc.

iii. The anchorage shall be suitable to resist flotation and lateral movement.

iv. For all construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exits 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 minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided to FEMA specifications. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers or other coverings or devices provided that they permit the automatic entry and exits of floodwaters.

v. All areas below the level of the regulatory flood protection levels shall be coated with paint, membranes, or mortars substantially impermeable to the passage of water.

vi. Water supply and waste treatment systems must prevent infiltration of water.

vii. All interior drains must be connected to the sanitary sewer system.

9. Nonconforming Uses
A structure or the use of a structure or premises located within the flood hazard area that was lawful before the original passage of applicable regulations, but that is not in conformity of the provisions of such regulations, may be continued subject to the following conditions:
Section 21.07.020 Natural Resource Protection

a. No such use shall be expanded, changed, enlarged, or altered in any way which increases its nonconformity with respect to the provisions of this chapter.

b. If such use is discontinued for 12 consecutive months, any future use of the structure or premises shall conform to this chapter.

c. Uses or adjuncts thereof which are or have become nuisances shall not be entitled to continuance as nonconforming uses.

d. Any permitted alteration, addition, or repair to any nonconforming structure the cost of which equals or exceeds 50 percent of the fair market value of the structure which would result in substantially increasing the flood damage potential shall be adequately floodproofed in accordance with subsection 8.b.

10. Duties of the Director of the Public Works Department

a. The director of the public works department shall grant or deny development permit applications in accordance with the provisions of this chapter, except that the platting board is directed and authorized to consider this chapter in relation to any matter brought before that board.

b. The director of the public works department shall maintain all records required by the Federal Insurance Administration and shall file an annual report with the federal insurance administrator.

c. Additional duties and responsibilities of the director of the public works department are as follows:

i. Permit Review
   The director of the public works department shall:
   
   (A) Review all flood hazard permits to determine that the permit requirements of this chapter have been satisfied.

   (B) Review all flood hazard 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) Review all flood hazard permits to determine if the proposed development is located in the floodway, and, if located in the floodway, ensure that the encroachment provisions of subsection 6.a. above are met.

ii. Use of Other Base Flood Data
When base flood elevation data have not been provided in accordance with subsection E.4. above, the director of the public works department shall obtain, review and reasonably utilize any base flood elevation data available from a federal, state or other source in order to administer subsections E.6. through E.9. above.

iii. Information to be Obtained and Maintained
   The director of the public works department shall:

   (A) Obtain and record the actual elevation, in relation to mean sea level, of the lowest habitable floor, including basement, of all new or substantially improved structures, and whether or not the structure contains a basement.

   (B) For all new or substantially improved floodproofed structures:
(1) Verify and record the actual elevation, in relation to mean sea level; and

(2) Maintain the floodproofing certifications required in subsection 7.a.iv. above.

(C) Maintain for public inspection all records pertaining to the provisions of this section.

iv. Duties Regarding Alteration of Watercourses
The director of the public works department shall:

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

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

v. Interpretation of FIRM Boundaries
The director of the public works department shall make interpretations, where needed, as to exact location of the boundaries of the areas of flood hazard, 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 subsection E.11. below.

11. Appeal Procedure
Appeals alleging error by the director of the public works department charged with the enforcement or interpretation of this chapter may be taken to the zoning board of examiners and appeals in accordance with the provisions of section 21.03.050, Appeals.

12. Standards and Conditions for Variances and Appeals
a. In passing upon variances or appeals, the zoning board of examiners and appeals shall consider all technical evaluations, all relevant factors, standards specified in other sections of this section and:

i. The danger that materials may be swept onto other lands to the injury of others;

ii. The danger to life and property due to flooding or erosion damage;

iii. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

iv. The importance of the services provided by the proposed facility to the community;

v. The necessity of the facility of a waterfront location, where applicable;

vi. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

vii. The compatibility of the proposed use with existing and anticipated development;
viii. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

ix. The safety of access to the property in time of flood for ordinary and emergency vehicles;

x. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

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

b. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the items in subsections 12.a.i. through xi. of this section have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

c. The zoning board of examiners and appeals may attach such conditions to the granting of variances or appeals as it deems necessary to further the purposes of this chapter.

d. The director of the public works department shall maintain the records of all variance and appeal actions and report any variances to the Federal Insurance Administration upon request.

e. Conditions for variances are as follows:

i. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the national register of historic places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this section.

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

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

iv. 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, or extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

v. 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.

(AO 2012-124(S), 2-26-13; AO 2013-117, 12-3-13; AO 2016-34(S), 4-12-16; AO 2017-11, 2-14-17; AO 2018-67(S-1), 10-9-18)

21.07.030 PRIVATE OPEN SPACE

A. Purpose

1. In residential development, private open space is intended to provide residents with opportunities for active and passive outdoor recreation, relaxation, and enjoyment. Specific residential objectives of this section include:

   a. Integrate usable open space into the project design and site plan.
   b. Enhance the livability and value of new developments in existing neighborhoods.
   c. Create attractive spaces that invite outdoor stays, physical activity, and social interaction, such as gardening, children’s play, barbeques, etc.
   d. Retain vegetated spaces on site and connect to natural surroundings or scenic views where they may exist off site.
   e. Provide residents with space for their private or common use that is immediately accessible from their residences, and under their surveillance and sense of proprietorship.

2. In nonresidential development, private open space is intended for the general quality of the public domain, and to provide employees and customers with space for active or passive recreation and relaxation.

B. Applicability and Open Space Requirement

Development shall be required to set aside private open space according to the following minimum requirements.

1. General: For townhouse-style structures, the required open space may be provided as either individual or common private open space, except where common open space is required in subsection 21.07.110F.2. For multifamily-style construction, at least half the required open space shall be provided as common private open space, and no individual private open space is required. Required open space for residential uses shall not be combined with required open space for nonresidential uses.

2. R-2M districts: 400 square feet of private open space per dwelling unit, or an area equal to five percent of the gross floor area of group living uses or nonresidential development.

3. R-3 and R-3A districts: 250 square feet of private open space per dwelling unit. Group living uses and nonresidential development shall provide an area equal to five percent of the gross floor area for open space.

4. R-4 and R-4A districts: 100 square feet of private open space per dwelling unit. Group living uses and nonresidential development shall provide an area equal to five percent of the gross floor area for open space.

5. B-1A, B-1B, B-3, RO, and nonresidential development in residential districts:

   a. Private open space equal to five percent of the gross floor area of the nonresidential portion of the development shall be provided, up to a maximum requirement of 2,000 square feet.