

ORDINANCE NO. 08-02-02

AN ORDINANCE DEALING WITH FLOOD PROTECTION BY AMENDING
ARTICLE II OF CHAPTER 15 OF THE ABERDEEN MUNICIPAL CODE

WHEREAS, The City Council of the City of Aberdeen is charged with providing for the health and safety of its citizens: and

WHEREAS, the City Council has determined that the following ordinance will benefit the health and safety of its citizens.

NOW, THEREFORE, BE IT HEREBY ORDAINED BY THE CITY COUNCIL OF THE CITY OF ABERDEEN THAT THE FOLLOWING CHANGES AND ADDITIONS SHALL BE MADE TO THE ABERDEEN CITY CODE:

ARTICLE II. FLOOD DAMAGE PREVENTION

DIVISION 1. GENERALLY

Sec. 15-31. Definitions.

Unless specifically defined below, words or phrases used in this article shall be interpreted so as to give them the meaning they have in common usage and to give this article its most reasonable application:

Alluvial Fan Flooding means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

Apex means a point on the alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

Area of Shallow Flooding means a designated AO, AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a one percent chance or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AE, AH, AO, A1-99, VO, V1-30, VE or V.

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year.

Basement means any area of the building having its floor subgrade (below ground level) on all sides.

Critical Feature means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

Development means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavating or drilling operations or storage of equipment or materials.

Elevated Building means a non-basement building (i) built, in the case of a building in Zones A1-30, AE, A, A99, AO, AH, B, C, X, and D, to have the top of the elevated floor, or in the case of a building in Zones V1-30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water and (ii) adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In the case of Zones A1-30, AE, A, A99, AO, AH, B, C, X, and D, “elevated building” also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-30, VE, or V, “elevated building,” even though the lower area is enclosed by means of breakaway walls if the breakaway walls met the standards of Section 60.3(e)(5) of the National Flood Insurance Program regulations.

Existing Construction means for the purposes of determining rates, structures for which the “start of construction” commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. “Existing construction” may also be referred to as “existing structures.”

Existing manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by the city.

Expansion to existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters; and/or
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM) means the official map on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood insurance study means the official report provided by the Federal Emergency Management Agency (FEMA) that includes flood profiles, the flood boundary/floodway map and the water surface elevation of the base flood.

Floodplain or Flood-prone Area means any land area susceptible to being inundated by water from any source (see definition of flooding).

Floodplain Management means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain Management Regulations means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Flood Protection System means those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a “special flood hazard” and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

Flood Proofing means any combination of structural and non-structural 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.

Floodway (Regulatory 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 a designated height.

Functionally Dependent Use means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Highest Adjacent Grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure means any structure that is: 1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; 2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district; 3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or 4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: a) by an approved state program as determined by the Secretary of the Interior or; b) directly by the Secretary of the Interior in states without approved programs.

Levee means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

Levee System means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Lowest Floor means the lowest floor of the lowest enclosed area (including 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 requirement of Section 60.3 of the National Flood Insurance Program regulations.

Manufactured Home means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a recreational vehicle.

Manufactured Home Park or Subdivision means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level means, for purposes of the National Flood Insurance Program, the North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevations shown on the community's Flood Insurance Rate Map are referenced.

New construction means for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

New manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the floodplain management regulations adopted by the city.

Recreational vehicle means a vehicle which is:

- (1) Built on a single chassis;
- (2) Four hundred square feet or less when measured at the largest horizontal projections;
- (3) Designed to be self-propelled or permanently towable by a light-duty truck; and
- (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

Start of construction (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)) includes substantial improvement and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180

days of the permit date. The actual start means 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 work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation of the property of accessory buildings, such as garages or sheds, not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means a walled and roofed building including a gas or liquid storage tank, and including a manufactured home, that is principally above ground.

Substantial damage means damage of any origin sustained by a structure whereby 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.

Substantial improvement means any rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. This term includes structures which have incurred substantial damage regardless of the actual repair work performed. The term "substantial improvement" does not, however, include either:

- (1) Any project for the improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary conditions; or
- (2) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

Variance means a grant of relief to a person from the requirements of this article when specific enforcement would result in unnecessary hardship. A variance, therefore which permits construction in a manner that would otherwise be prohibited by this article. (For full requirements see Section 60.6 of the National Flood Insurance Program regulations.)

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

Water Surface Elevation means the height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Sec. 15-32. **Statutory authorization; findings of fact; purpose; objectives.**

(a) **Statutory authorization.** The legislature of the state has in SDCL §§ 7-18-14 and 9-36-16 delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the City Council of the City of Aberdeen does ordain as follows.

(b) **Findings of fact.**

(1) The flood hazard areas of the City of Aberdeen are subject to periodic inundation which results in the 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 hazard 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.

Sec. 15-33. Statement of purpose.

It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions within the city limits of the city and specific areas within the city limits of the city by provisions designed:

- (1) To protect human life and health;
- (2) To minimize the expenditures of public money for 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 interruptions;
- (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 second 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.

Sec. 15-34. Methods of reducing flood losses.

In order to accomplish its purposes, this article includes 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.

Sec. 15-35. Interpretation.

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

- (1) Considered as minimum requirements;

- (2) Liberally construed in favor of the City; and
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes.

Sec. 15-36. Warning and disclaimer of liability.

The degree of flood protection required by this article 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 article does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the city, any officer or employee thereof or the Federal Emergency Management Agency (FEMA) Insurance Administration for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

Sec. 15-37. Abrogation and greater restrictions.

This article is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction, conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Sec. 15-38. Lands to which this article applies.

This article shall apply to all areas of special flood hazard within the jurisdiction of the city limits, specifically all property located within the city limits.

Sec. 15-39. Compliance.

No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this article and other applicable regulations.

Sec. 15-40. Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA) Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Aberdeen, South Dakota," dated March 18, 2008 with an accompanying flood insurance rate map, is hereby adopted by reference and declared to be a part of this article. The flood insurance study and the FIRM are on file at the city finance office in the city municipal building.

Secs. 15-41--15-60. Reserved.

DIVISION 2. ADMINISTRATION AND ENFORCEMENT*

Sec. 15-61. Development permit required.

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in section 15-40. Application for a development permit shall be made on forms furnished by the City Engineer and may include but not be limited to plans in duplicate drawn to scale, showing the nature,

location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage of materials and drainage facilities and the location of the foregoing.

Sec. 15-62. Designation of the City Engineer.

The City Engineer is hereby appointed to administer and implement this article by granting or denying development permit applications within the city limits of the city in accordance with its provisions.

Sec. 15-63. Duties and responsibilities of the City Engineer.

Duties of the City Engineer shall include but not be limited to:

15-63.1 Permit Review

- (1) Review all development permits to determine that the permit requirements of this ordinance have been satisfied;
- (2) Review all development permits to determine that all necessary permits have been obtained from Federal, State, or local governmental agencies from which prior approval is required.
- (3) Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 15-83 are met.

15-63.2 Use of Other Base Flood Data

When base flood elevation data has not been provided in accordance with Section 15-40, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the City Engineer shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from any Federal, State, or other source. Where base flood elevation data are utilized, all new construction, substantial improvements, or other development in Zone A are administered in accordance with Sections 15-63.3, Information to be Obtained and Maintained and 15-82, Specific Standards.

15-63.3 Information to be Obtained and Maintained

- (1) Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
- (2) For all new or substantially improved floodproofed structures:
 - (i) Verify and record the actual elevation (in relation to mean sea level) to which the structure has been floodproofed.
 - (ii) Maintain the floodproofing certifications require in Section 15-61.
- (3) Maintain for public inspection all records pertaining to the provisions of this ordinance.

15-63.4 Alteration of Watercourses

- (1) Notify adjacent communities and the US Army Corps of Engineers prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (2) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

15-63.5 Interpretation of FIRM Boundaries

Make interpretations, where needed, as to the exact location of the boundaries of the areas of special 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 Section 15-64.

Sec. 15-64. Variance procedure.

(a) Appeal board.

- (1) The board of zoning adjustment as established by the City shall hear and decide appeals and requests for variances from the requirements of this article.
- (2) The board of zoning adjustment shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the City Engineer in the enforcement or administration of this article.
- (3) Those aggrieved by the decision of the board of zoning adjustment, any taxpayer may appeal such decision within 30 days after the filing of any decision in the office of the board but not thereafter, present to the/a court of record a petition duly verified, setting forth that such decision is illegal in whole or in part and specifying the grounds of the illegality, whereupon such decision of such board shall be subject to review by certiorari as provided in SDCL § 11-4-25 and SDCL § 11-4-26.
- (4) In passing upon such applications, the board of zoning adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance, and:
 - a. The danger that materials may be swept onto other lands to the injury of others;
 - b. The danger of life and property due to flooding or erosion damage;
 - c. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - d. The importance of the services provided by the proposed facility to the community;
 - e. The necessity to the facility of a waterfront location where applicable;
 - f. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

- g. The compatibility of the proposed use with existing and anticipated development;
 - h. The relationship of the proposed use of the comprehensive plan and floodplain management program for that area;
 - i. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - j. 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
 - k. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities, such as sewer, gas, electrical and water systems, and streets and bridges.
- (5) Upon consideration of the factors of subsection (a)(4) of this section and the purposes of this article, the board of zoning adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.
- (6) The City Engineer shall maintain the records of all appeal actions and report any variances to FEMA and the South Dakota Office of Emergency Management.
- (b) Conditions for Variances.
- (1) 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 items (a-k) Section 15-64 (4) have been fully considered. As the lot size increases beyond the one-half acre, the technical justifications required for issuing the variance increases.
- (2) Variances may be issued for the reconstruction, rehabilitation and 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.
- (3) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (5) Variances 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, creating nuisances, causing fraud on or victimization of the public as identified in subsection (a)(4) of this section or conflicting with existing local laws or ordinances.
- (6) 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.

DIVISION 3. FLOOD HAZARD REDUCTION

Sec. 15-81. General standards.

In all areas of special flood hazard, 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 and capable of resisting the hydrostatic and hydrodynamic loads.
- b. All manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement and capable of resisting the hydrostatic and hydrodynamic loads. Methods of anchoring may include but are not limited to the use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces. Specific requirements may be:
 1. Over-the-top ties provided at each of the four corners of the manufactured home with two additional ties per side at intermediate locations with manufactured homes less than 50 feet long requiring one additional tie per side;
 2. Frame ties provided at each corner of the home with five additional ties per side at intermediate points with manufactured homes less than 50 feet long requiring four additional ties per side;
 3. All components of the anchoring system capable of carrying a force of 4,800 pounds; and
 4. Any additions to the manufactured home similarly anchored.

(2) Construction materials and methods. All new construction and substantial improvements shall be constructed:

- a. With materials and utility equipment resistant to flood damage.
- b. Using methods and practices that minimize flood damage.
- c. With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(3) Utilities.

- a. All new and replacement water supply systems shall be designed to minimize or eliminate the infiltration of floodwaters into the system;
- b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate the infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and
- c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(4) Subdivision proposals.

- a. All subdivision proposals shall be consistent with the need to minimize flood damage;
- b. All subdivision proposals shall have public utilities 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. Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least 50 lots or five acres whichever is less.

Sec. 15-82. Specific standards.

In all areas of special flood hazard where base flood elevation data have been provided as set forth in section 15-40, basis for establishing the areas of special flood hazard, or in subsection 15-63(4), use of other base flood data, the following provisions are required:

(1) Residential construction. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to one foot above base flood elevation.

(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 one foot above the base flood elevation or, together with attendant utility and sanitary facilities, shall:

- a. Be floodproofed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water;
- b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
- 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 the provisions of this paragraph.

(3) Openings in Enclosures Below the Lowest Floor

For all new 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 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 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;
- b. The bottom of all openings shall be no higher than one foot above grade;
- c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(4) Below-Grade Residential Crawlspace Construction

New construction and substantial improvement of any below-grade crawlspace shall:

- a. Have the interior grade elevation, that is below base flood elevation, no lower than two feet below the lowest adjacent grade;
- b. Have the height of the below grade crawlspace measured from the interior grade of the crawlspace to the top of the foundation wall, not exceed four feet at any point;
- c. Have an adequate drainage system that allows floodwaters to drain from the interior area of the crawlspace following a flood;
- d. Meet the provisions of Section 15-81.1 Anchoring; 15-81.2, Construction materials and Methods; and 15-82.3 Openings in Enclosures Below the Lowest Floor.

(5) Manufactured homes.

- a. Anchoring. Manufactured homes shall be anchored in accordance with subsection 15-81(1).

b. All manufactured homes or those to be substantially improved shall conform to the following requirements:

1. Require that manufactured homes that are placed or substantially improved on a site:

- i. Outside of a manufactured home park or subdivision;
- ii. In a new manufactured home park or subdivision; iii. In an expansion to an existing manufactured home park or subdivision; or
- iv. In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood; be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to one foot above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

2. Require that manufactured homes to be placed or substantially improved on sites in existing manufactured home parks or subdivisions that are not subject to the provisions in subsection (3)b.1 of this section be elevated so that either:

- i. The lowest floor of the manufactured home is at or above the base flood elevation; or
- ii. The manufactured home chassis is supported by reinforced piers or other foundation elements that are no less than 36 inches in height above grade; and securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

(6) Recreational Vehicles

- a. Require that recreational vehicles either (i) be on the site for fewer than 180 consecutive days, (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements and elevation and anchoring requirements for manufactured homes.

Sec. 15-83. Floodways.

Located within areas of special flood hazard established in section 15-82 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry 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 or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (2) If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all the applicable flood hazard reduction provisions of this division, provisions for flood hazard reduction.

CITY OF ABERDEEN

Mike Levensen, Mayor

ATTEST:

Karl Alberts, Finance Officer

First Reading: _____

Second Reading: _____

Published: _____

Effective: _____