

**TITLE 34**  
**FLOOD DAMAGE PREVENTION ORDINANCE**

(Title 34 established effective 4/6/09, Ordinance 2009-10)

**Chapters:**

- 34.01: General Provisions
- 34.02: Administration
- 34.03: General Standards

**CHAPTER 34.01**  
**GENERAL PROVISIONS**

**SECTIONS:**

- 34.01.01: Scope and Purpose
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**34.01.01: SCOPE AND PURPOSE**

The purpose of this Title is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- F. To help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas;

- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and,
- H. To ensure that those who occupy the areas of special flood hazards assume responsibility for their actions.

The regulations are designed to minimize flood losses pursuant to and consistent with the authority granted to the City by SDCL 9-12-13 and SDCL Chapter 11-4.

### **34.01.02: DEFINITIONS**

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

**APPEAL:** a request for a review by the Floodplain Administrator of the application of any provision of this Title.

**AREA OF SPECIAL FLOOD HAZARD:** 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:** the flood having a one percent chance of being equaled or exceeded in any given year.

**BASEMENT:** any area of the building having its floor sub-grade (below ground level) on all sides.

**DEVELOPMENT:** any man-made change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

**EXISTING MANUFACTURED HOME PARK OR SUBDIVISION:** 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, or the construction of streets) is completed before the effective date of this Title.

### **EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION:**

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, or the construction of streets).

**FLOOD OR FLOODING:** a general and temporary condition of partial or complete inundation of normally dry land areas from:

- A. the overflow of inland or tidal waters; or
- B. the unusual and rapid accumulation or runoff of surface waters from any source.

**FLOOD INSURANCE RATE MAP (FIRM):** an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

**FLOOD INSURANCE STUDY:** the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, as well as the Flood Boundary-Floodway Map.

**FLOODPLAIN OR FLOOD-PRONE AREA:** any land area susceptible to being inundated by water from any source (see definition of flooding).

**FLOODPLAIN MANAGEMENT:** 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.

**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.

**HIGHEST ADJACENT GRADE:** the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**LOWEST FLOOR:** the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or 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 OR MOBILE HOME:** 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 connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

**NEW CONSTRUCTION:** for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after June 1, 1977.

**NEW MANUFACTURED HOME PARK OR SUBDIVISION:** 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 floodplain management regulations adopted by a community.

**RECREATIONAL VEHICLE:** a vehicle which is:

- A. built on a single chassis;
- B. 400 square feet or less when measured at the largest horizontal projections;
- C. designed to be self-propelled or permanently towable by a light duty truck; and
- D. 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, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start 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 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 basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on 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:** a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

**SUBSTANTIAL DAMAGE:** 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:** any reconstruction, 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 "start of construction" of the improvement. This includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- A. Any project for 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
- B. Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure."

**VARIANCE:** a grant of relief to a person from the requirement of this Title which permits construction in a manner that would otherwise be prohibited by this Title.

(34.01.02 updated with Ordinance 2013-11, effective 9-4-2013)

#### **34.01.03: FINDINGS OF FACT**

The flood hazard areas of the City are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazards areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, flood proofed or otherwise protected from flood damage.

#### **34.01.04: METHODS OF REDUCING FLOOD LOSSES**

In order to accomplish the purposes set forth herein, this ordinance uses the following methods:

- A. Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;
- D. Control filling, grading, dredging and other development which may increase flood damage; and

- E. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

#### **34.01.05: LANDS TO WHICH THIS TITLE APPLIES**

This Title shall apply to all areas of special flood hazard within the jurisdiction of the City of Sturgis, Meade County, South Dakota.

#### **34.01.06: BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD**

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for City of Sturgis, Meade County, South Dakota," dated September 16, 2011, with accompanying Flood Insurance Rate Maps is hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is on file at the Office of the City of Sturgis, 1040 2nd Street, Sturgis, South Dakota.

(34.01.06 replaced effective 8-24-2011, Ordinance 2011-06.)

#### **34.01.07: COMPLIANCE**

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this ordinance and other applicable regulations.

#### **34.01.08: ABROGATION AND GREATER RESTRICTIONS**

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

#### **34.01.09: INTERPRETATION**

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

- A. Considered as minimum requirements;
- B. Liberally construed in favor of the governing body; and
- C. Deemed neither to limit nor repeal any other powers granted under State statutes.

#### **34.01.10: WARNING AND DISCLAIMER OF LIABILITY**

The degree of flood protection required by this Title is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by man-made or natural causes.

This Title does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Title shall not create liability on the part of the City of Sturgis, Meade County, South Dakota or any official or employee thereof for any flood damages that result from reliance on this Title or any administrative decision lawfully made hereunder.

## **CHAPTER 34.02 ADMINISTRATION**

### **SECTIONS:**

- 34.02.01: Designation of the Floodplain Administrator
- 34.02.02: Duties & Responsibilities of the Floodplain Administrator
- 34.02.03: Permit Procedures
- 34.02.04: Appeal Process
- 34.02.05: Variances

### **34.02.01: DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR**

The City Manager or his or her designee is hereby directed to perform the duties of Floodplain Administrator to administer and implement the provisions of this Title and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management.

(34.02.01 updated with Ordinance 2013-11, effective 9-4-2013)

### **34.02.02: DUTIES & RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR**

Duties and responsibilities of the Floodplain Administrator shall include, but not be limited to the following:

- A. Maintain and hold open for public inspection all records pertaining to the provisions of this Title;
- B. Review permit application to determine whether proposed building site, including the placement of manufactured homes, will be reasonably safe from flooding;
- C. Review, approve or deny all applications for development permits required by adoption of this Title;
- D. Review permits for proposed development to assure that all necessary permits have been obtained from those Federal, State or local governmental agencies (including Section 404

of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which prior approval is required;

- E. Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Floodplain Administrator shall make the necessary interpretation;
- F. Notify adjacent communities and the South Dakota Department of Water and Natural Resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency;
- G. Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained;
- H. When base flood elevation data has not been provided in accordance with this Title, the Floodplain Administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a Federal, State or other source, in order to administer the provisions of this Title;
- I. When a regulatory floodway has not been designated, the Floodplain Administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- J. Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in Zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than one foot, provided that the community **first** applies for a conditional FIRM revision through FEMA (Conditional Letter of Map Revision).

### **34.02.03: PERMIT PROCEDURES**

Application for a Development Permit shall be presented to the Floodplain Administrator on forms furnished by him/her and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard. A development Permit shall be obtained before construction or development begins within any area of special flood hazard established in this ordinance. Specifically, the following information is required:

- A. Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures;

- B. Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;
- C. A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the applicable floodproofing criteria of Section 34.03.02;
- D. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
- E. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use; and
- F. The relationship of the proposed use to the comprehensive plan for that area.

#### **34.02.04: APPEAL PROCESS**

The City Council is hereby designated as the Appeal Board. The Council shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this Title.

The process for filing an appeal shall be as follows:

- A. Any person aggrieved by a decision of the Floodplain Administrator under this Title may file a notice of appeal with the Finance Officer. Any appeal shall be filed within 30 days of the decision of the Floodplain Administrator that is being appealed.
- B. Upon receipt of a notice of appeal, the Finance Officer shall notify the City Council and a public meeting shall be held within thirty (30) days after the date said appeal was filed. The City Council shall provide notice to the person specifying the time, date, and location of the hearing.
- C. The City Council may notify the aggrieved person of its decision following the hearing; however, the Council shall issue a written decision to the person within twenty (20) days of the hearing. The Council may affirm or reverse the decision of the Building Inspector.

The Floodplain Administrator shall maintain a record of all actions involving an appeal.

#### **34.02.05: VARIANCES**

The City Council shall have the authority to grant variances from the strict application of this Title subject to the conditions and procedures set forth herein.

The process for filing an appeal shall be as follows:

- A. Any variance request shall be filed with the Finance Officer.
- B. Upon receipt of a variance request, the Finance Officer shall notify the City Council and a public meeting shall be held within thirty (30) days after the date said request was filed. The City Council shall provide notice to the person specifying the time, date, and location of the hearing.
- C. The City Council may notify the applicant of its decision following the hearing; however, the Council shall issue a written decision to the person within twenty (20) days of the hearing.

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 ordinance.

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 relevant factors in this Title have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

Upon consideration of the relevant factors set forth herein and the intent of this Title, the Common Council of the City of Sturgis may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this Title.

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

Variances may be issued for the repair or rehabilitation 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 the variance is the minimum necessary to preserve the historic character and design of the structure.

The following Prerequisites apply to the granting of any variance:

- A. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- B. Variances shall only be issued upon:
  - a. showing a 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 local laws or ordinances.
- C. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the 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.

The Floodplain Administrator report variances to the Federal Emergency Management Agency upon request.

### **CHAPTER 34.03 PROVISIONS FOR FLOOD HAZARD REDUCTION**

#### **SECTIONS:**

- 34.03.01: General Standards
- 34.03.02: Specific Standards
- 34.03.03: Standards for Subdivision Proposals
- 34.03.04: Standards for Areas of Shallow Flooding (AO/AH Zones)
- 34.03.05: Floodways

#### **34.03.01: GENERAL STANDARDS**

In all areas of special flood hazards the following provisions are required for all new construction and substantial improvements:

- A. All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
- B. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- C. All new construction or substantial improvements shall be constructed with materials resistant to flood damage;

- D. All new construction or substantial improvements shall be constructed 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.
- E. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- F. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters; and,
- G. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

### **34.03.02: SPECIFIC STANDARDS**

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

**Residential Construction** - new construction and substantial improvement of any residential structure shall have the lowest floor (including basement), elevated to or above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standard of this subsection as proposed in Section 34.02.03(A) is satisfied.

**Nonresidential Construction** - new construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated to or above the base flood level or together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure 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. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the Floodplain Administrator.

**Enclosures** - new construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which 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 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, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

**Manufactured Homes –**

- A. Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, 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.
- B. Require that manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites (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 a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- C. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with Zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of this section be elevated so that either:
  - 1. the lowest floor of the manufactured home is at or above the base flood elevation, or
  - 2. the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

**Recreational Vehicles -** Require that recreational vehicles placed on sites within Zones A1-30, AH, and AE on the community's FIRM either:

- A. be on the site for fewer than 180 consecutive days,
- B. be fully licensed and ready for highway use, or

- C. meet the permit requirements of Section 34.02.03(A) and the elevation and anchoring requirements for "manufactured homes" set forth above in this Section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

#### **34.03.03: STANDARDS FOR SUBDIVISION PROPOSALS**

- A. All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with Sections 34.01.01, 34.01.03 and 34.01.04 of this Title.
- B. All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet Development Permit requirements of this Title.
- C. Base flood elevation data shall be generated for subdivision proposals and other proposed development including the placement of manufactured home parks and subdivisions which is greater than 50 lots or 5 acres, whichever is lesser, if not otherwise provided pursuant to this Title.
- D. All subdivision proposals including the placement of manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
- E. All subdivision proposals including the placement of manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

#### **34.03.04: STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH ZONES)**

Located within the areas of special flood hazard established in Section 34.01.06, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

- A. All new construction and substantial improvements of **residential** structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).
- B. All new construction and substantial improvements of **non-residential** structures; have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified), or; together with attendant utility and sanitary facilities

be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

- C. A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Section are satisfied.
- D. Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.

#### **34.03.05: FLOODWAYS**

Floodways located within areas of special flood hazard established Section 34.01.06 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

- A. Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway *unless* it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.
- B. If Section 34.03.05(A) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 34.03.05