AN ORDINANCE FOR THE CITY OF CLEMSON, SOUTH CAROLINA

Chapter 5: BUILDING, CONSTRUCTION AND RELATED ACTIVITIES
Article II: Flood Damage Prevention
***Amend*- Section 5.22 Administration**

Now, therefore, be it ordained that the City Code of the City of Clemson, South Carolina shall be amended as follows:

Done and ordained this the 13th day of June 2016.

First Reading: 05/16/16

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J.C. Cook III, Mayor

Final Reading: 06/13/16

Attest:

Ord. No CC-2016 - 11

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Beverly A. Coleman, Municipal Clerk

Sec. 5-22. - Administration.

(a) Designation of local administrator. The ~~zoning and codes administrator~~ Building Official is hereby appointed to administer and implement the provisions of this article.

(b) Adoption of letter of map revisions (LOMR). All LOMRs that are issued in the areas identified in subsection 5-20(d) of this article are hereby adopted.

(c) Designation of party responsible for biennial report. ~~Zoning and codes administrator~~ Building Official is hereby designated as the party responsible to submit the biennial report to FEMA.

(d) Construction permit and certification requirements. Application for a construction permit shall be made to the local administrator on forms furnished by him or her prior to any development activities. The development permit 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; and the location of fill materials, storage areas, and drainage facilities. Specifically, the following information is required:

(1) A sealed survey that shows the 100-year floodplain contour or a statement that the entire lot is within the floodplain must be provided by the development permit applicant when the lot is within or appears to be within the floodplain as mapped by the Federal Emergency Management Agency or the floodplain identified pursuant to either the duties and responsibilities of the local administrators of subsection 5-22(e)(1) or the standards for subdivision proposals of subsection 5-23(b)(13). The survey must be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by it. The survey must show the floodway, if any, as identified by the Federal Emergency Management Agency or the floodway identified pursuant to either the duties or responsibilities of the local administrators of subsection 5-22(e)(1) the standards for subdivision proposals of subsection 5-23(b)(13).

(2) Where base flood elevation data is provided as set forth in subsection 5-20(d) or the duties and responsibilities of the local administrators of subsection 5-22(e)(1), the application for a development permit within the flood hazard area shall show:

a. The elevation (in relation to mean sea level) of the lowest floor of all new and substantially improved structures, and

b. If the structure will be floodproofed in accordance with the non-residential construction requirements of subsection 5-23(b)(2) the elevation (in relation to mean sea level) to which the structure will be floodproofed.

(3) Where any watercourse will be altered or relocated as a result of proposed development, the application for a development permit shall include a description of the extent of watercourse alteration or relocation, an engineering study to demonstrate that the flood-carrying capacity of the altered or relocated watercourse is maintained and a map showing the location of the proposed watercourse alteration or relocation.

(4) When a structure is floodproofed, the applicant shall provide certification from a registered, professional engineer or architect that the nonresidential, floodproofed structure meets the floodproofing criteria in the nonresidential construction requirements of subsection 5-23(b)(2).

(5) A lowest floor elevation or floodproofing certification is required after the lowest floor is completed. As soon as possible after completion of the lowest floor and before any further vertical construction commences, or floodproofing by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the local administrator a certification of the elevation of the lowest floor, or floodproofed elevation, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by it. Any work done prior to submission of the certification shall be at the permit holder's risk. The local administrator shall review the floor elevation survey data submitted. The permit holder immediately and prior to further progressive work being permitted to proceed shall correct

deficiencies detected by such review. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

(6) Upon completion of the development a registered professional engineer, land surveyor or architect, in accordance with South Carolina law, shall certify according to the requirements of subsection 5-22(7) that the development is built in accordance with the submitted plans and previous pre-development certifications.

(e) Duties and responsibilities of the local administrator for this article.

(1) Permit review. Review all development permits to assure that the requirements of this article have been satisfied.

(2) Requirement of federal and/or state permits. Review proposed development to assure 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, 33 U.S.C 1334.

(3) Watercourse alterations.

a. Notify adjacent communities and the South Carolina Department of Natural Resources, Land, Water, and Conservation Division, State Coordinator for the National Flood Insurance Program, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

b. In addition to the notifications required watercourse alterations per subsection 5-22(e)(3), written reports of maintenance records must be maintained to show that maintenance has been provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained. This maintenance must consist of a comprehensive program of periodic inspections, and routine channel clearing and dredging, or other related functions. The assurance shall consist of a description of maintenance activities, frequency of performance, and the local official responsible for maintenance performance. Records shall be kept on file for FEMA inspection.

c. If the proposed project will modify the configuration of the watercourse, floodway, or base flood elevation for which a detailed flood insurance study has been developed, the applicant shall apply for and must receive approval for a conditional letter of map revision with the Federal Emergency Management Agency prior to the start of construction.

d. Within 60 days of completion of an alteration of a watercourse, referenced in the certification requirements of subsection 5-22(7), the applicant shall submit as-built certification, by a registered professional engineer, to the Federal Emergency Management Agency.

(4) Floodway encroachments. Prevent encroachments within floodways unless the certification and flood hazard reduction provisions of subsection 5-23(b)(7) are met.

(5) Adjoining floodplains. Cooperate with neighboring communities with respect to the management of adjoining floodplains and/or flood-related erosion areas in order to prevent aggravation of existing hazards.

(6) Notifying adjacent communities. Notify adjacent communities prior to permitting substantial commercial developments and large subdivisions to be undertaken in areas of special flood hazard and/or flood-related erosion hazards.

(7) Certification requirements.

a. Obtain and review actual elevation (in relation to mean sea level) of the lowest floor of all new or substantially improved structures, in accordance with administrative procedures outlined in subsection 5-22(d)(5).

b. Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, in accordance with the floodproofing certification outlined in subsection 5-22(d)(4).

c. When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the nonresidential construction requirements outlined in subsection 5-23(b)(2).

(8) [Boundary interpretation.] Where interpretation is needed as to the exact location of 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), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

(9) [Map boundary/field elevation conflict.] Where a map boundary showing an area of special flood hazard and field elevations disagree, the base flood elevations for flood protection elevations (as found on an elevation profile, floodway data table, etc.) shall prevail. The correct information should be submitted to FEMA as per the map maintenance activity requirements outlined in subsection 5-23(b)(8).

(10) Special flood hazard area/topographic boundaries conflict. When the exact location of boundaries of the areas special flood hazards conflict with the current, natural topography information at the site; the site information takes precedence when the lowest adjacent grade is at or above the BFE, the property owner may apply and be approved for a letter of map amendment (LOMA) by FEMA. The local administrator in the permit file will maintain a copy of the letter of map amendment issued from FEMA.

(11) [Inspections.] Make on-site inspections of projects in accordance with the administrative procedures outlined in subsection 5-22(f)(1).

(12) [Administrative.] Serve notices of violations, issue stop-work orders, revoke permits and take corrective actions in accordance with the administrative procedures in subsection 5-22(f).

(13) Records maintenance. Maintain all records pertaining to the administration of this article and make these records available for public inspection.

(14) Annexations and detachments. Notify the South Carolina Department of Natural Resources Land, Water and Conservation Division, State Coordinator for the National Flood Insurance Program within six months of any annexations or detachments that include special flood hazard areas.

(15) Federally funded development. The President issued Executive Order 11988, Floodplain Management May 1977. E.O. 11988 directs federal agencies to assert a leadership role in reducing flood losses and losses to environmental values served by floodplains. Proposed developments must go through an eight-step review process. Evidence of compliance with the executive order must be submitted as part of the permit review process.

(16) Substantial damage determination. Perform an assessment of damage from any origin to the structure using FEMA's residential substantial damage estimator (RSDE) software to determine if the damage equals or exceeds 50 percent of the market value of the structure before the damage occurred.

(17) Substantial improvement determinations. Perform an assessment of permit applications for improvements or repairs to be made to a building or structure that equals or exceeds 50 percent of the market value of the structure before the start of construction. Cost of work counted for determining if and when substantial improvement to a structure occurs shall be cumulative for a period of five years. If the improvement project is conducted in phases, the total of all costs associated with each phase, beginning with the issuance of the first permit, shall be utilized to determine whether "substantial improvement" will occur. The market values shall be determined by one of the following methods:

b.[a.] The current assessed building value as determined by the county's assessor's office or the value of an appraisal performed by a licensed appraiser at the expense of the owner within the past six months.

c.[b.] One or more certified appraisals from a registered professional licensed appraiser in accordance with the laws of South Carolina. The appraisal shall indicate actual replacement value of the building or structure in its pre-improvement condition, less the cost of site improvements and depreciation for functionality and obsolescence.

d.[c.] Real estate purchase contract within six months prior to the date of the application for a permit.

(f) Administrative procedures.

(1) Inspections of work in progress. As the work pursuant to a permit progresses, the local administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the administrator has a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction at any reasonable hour for the purposes of inspection or other enforcement action.

(2) Stop-work orders. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this article, the administrator in conjunction with the building official may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reasons for the stoppage, and the conditions under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

(3) Revocation of permits. The local administrator in conjunction with the building official may revoke and require the return of the development permit by notifying the permit holder in writing, stating the reason for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of state or local laws; or for false statements or misrepresentations made in securing the permit. Any permit mistakenly issued in violation of an applicable state or local law may also be revoked.

(4) [Notice of violation.] When the local administrator finds violations of applicable state and local laws, it shall be his/her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law on the property he owns.

(5) Actions in event of failure to take corrective action. If the owner of a building or property shall fail to take prompt corrective action, the administrator shall give him written notice, by certified or registered mail to his last known address or by personal service, that the building or property is in violation of the flood damage prevention ordinance;

(6) Order to take corrective action. If, upon a hearing held pursuant to the notice prescribed above, the local administrator shall find that the building or development is in violation of the flood damage prevention ordinance, he/she shall make an order in writing to the owner, requiring the owner to remedy the violation within such period, not less than 60 days, the local administrator may prescribe; provided that where the administrator finds that there is imminent danger to life or other property, he may order that corrective action be taken in such lesser period as may be feasible.

(7) Appeal. Any owner who has received an order to take corrective action may appeal from the order to the building board of appeals by giving notice of appeal in writing to the ~~zoning and codes administrator~~ Building Official within ten days following issuance of the final order. In the absence of an appeal, the order of the administrator shall be final. The ~~building~~ construction and fire board of appeals shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(8) Failure to comply with order. If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of

the city council following an appeal, he shall be guilty of a misdemeanor and shall be punished in the discretion of the court.

(9) Denial of flood insurance under the NFIP. If a structure is declared in violation of this article and after all other penalties are exhausted to achieve compliance with this article, then the local administrator shall notify the Federal Emergency Agency (FEMA) to initiate a Section 1316 of the National Flood Insurance Act of 1968 action against the structure upon the finding that the violator refuses to bring the violation into compliance with the article. Once a violation has been remedied, the local administrator shall notify FEMA of the remedy and ask that the Section 1316 be rescinded.

(10) [Incorporated by reference.] The following documents are incorporated by reference and may be used by the local administrator to provide further guidance and interpretation of this ordinance as found on FEMA's website at www.fema.gov:

a. All FEMA Technical Bulletins;

b. All FEMA Floodplain Management Bulletins;

c. FEMA 348 Protecting Building Utilities from Flood Damage;

d. FEMA 499 Home Builder's Guide to Coastal Construction Technical Fact Sheets.

(Ord. No. CC-2011-07, 9-6-11)

Sec. 5-23. - Provisions for flood hazard reduction.

(a) General standards. Development may not occur in the special flood hazard area (SFHA) where alternative locations exist due to the inherent hazards and risks involved. Before a permit is issued, the applicant shall demonstrate that new structures cannot be located out of the SFHA and that encroachments onto the SFHA are minimized. In all areas of special flood hazard the following provisions are required:

(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, and lateral movement of the structure.

(2) All new construction and substantial improvements shall be constructed with flood-resistant materials and utility equipment resistant to flood damage in accordance with Technical Bulletin 2, Flood Damage-Resistant Materials Requirements, dated 8/08, and available from the Federal Emergency Management Agency.

(3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.

(4) Electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of the base flood plus one foot.

(5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

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

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

(8) Any alteration, repair, reconstruction, or improvement to a structure that is in compliance with the provisions of this article, shall meet the requirements of "new construction" as contained in this article. This includes post-FIRM development and structures.

(9) Nonconforming buildings or uses. Nonconforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this article. Provided, however, nothing in this article shall prevent the repair, reconstruction, or replacement of an existing building or structure located totally or partially within the floodway, provided that the bulk of the building or structure below base flood elevation in the floodway is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this article.

(10) Americans with Disabilities Act (ADA). A building must meet the specific standards for floodplain construction outlined in subsection 5-23(b), as well as any applicable ADA requirements. The ADA is not justification for issuing a variance or otherwise waiving these requirements. Also, the cost of improvements required to meet the ADA provisions shall be included in the costs of the improvements for calculating substantial improvement.

(b) Specific standards. In all areas of special flood hazard where base flood elevation data has been provided, as set forth in subsection 5-20(d) or outlined in the duties and responsibilities of the local administrator subsection 5-22(e), the following provisions are required:

(1) Residential construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor elevated no lower than one foot above the base flood elevation. No basements are permitted. Should solid foundation perimeter walls be used to elevate a structure, flood openings sufficient to automatically equalize hydrostatic flood forces shall be provided in accordance with the elevated buildings requirements in subsection 5-23(b)(6).

(2) Nonresidential construction. New construction and substantial improvement of any commercial, industrial, or nonresidential structure (including manufactured homes) shall have the lowest floor elevated no lower than one foot above the level of the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, flood openings sufficient to automatically equalize hydrostatic flood forces shall be provided in accordance with the elevated buildings requirements in subsection 5-23(b)(6). No basements are permitted. Structures located in A zones may be floodproofed in lieu of elevation provided that all areas of the structure below the required elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

(3) [Certification.] A registered, professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certifications shall be provided to the official as set forth in the floodproofing certification requirements in subsection 5-22(d)(4). A variance may be considered for wet-floodproofing agricultural structures in accordance with the criteria outlined in subsection 5-24(d) of this article. Agricultural structures not meeting the criteria of subsection 5-24(d) must meet the nonresidential construction standards and all other applicable provisions of this article. Structures that are floodproofed are required to have an approved maintenance plan with an annual exercise. The local administrator must approve the maintenance plan and notification of the annual exercise shall be provided to it.

(4) [Manufactured homes.] Manufactured homes are not allowed within any designated floodplain.

(5) [Recreational vehicles.] Recreational vehicles are not allowed within designated floodplains.

(6) Elevated buildings. New construction and substantial improvements of elevated buildings that include fully-enclosed areas below the lowest floor that are usable solely for the parking of vehicles, building access, or limited storage in an area other than a basement, and which are subject to flooding shall be designed to preclude finished space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

a. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet or exceed all of the following minimum criteria:

b. Provide a minimum of two openings on different walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding.

c. The bottom of each opening must be no more than one foot above the higher of the interior or exterior grade immediately under the opening.

d. Only the portions of openings that are below the base flood elevation (BFE) can be counted towards the required net open area.

e. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.

f. Fill placed around foundation walls must be graded so that the grade inside the enclosed area is equal to or higher than the adjacent grade outside the building on at least one side of the building.

g. Hazardous velocities. Hydrodynamic pressure must be considered in the design of any foundation system where velocity waters or the potential for debris flow exists. If flood velocities are excessive (greater than five feet per second), foundation systems other than solid foundations walls should be considered so that obstructions to damaging flood flows are minimized.

h. Enclosures below lowest floor.

1. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).

2. The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, must be void of utilities except for essential lighting as required for safety, and cannot be temperature controlled.

3. One wet location switch and/or outlet connected to a ground fault interrupt breaker may be installed below the required lowest floor elevation specified in the specific standards outlined in subsections 5-23(b)(1), (2), and (3).

4. All construction materials below the required lowest floor elevation specified in the specific standards outlined in subsections 5-23(b)(1), (2), and (3) should be of flood-resistant materials.

(7) Floodways. Located within areas of special flood hazard established in subsection 5-22(d) are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

a. No encroachments, including fill, new construction, substantial improvements, additions, and other developments shall be permitted 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 the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the local administrator.

1. A conditional letter of map revision (CLOMR) has been approved by FEMA. A letter of map revision must be obtained upon completion of the proposed development.

2. If subsection 5-23(b)(7) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of section 5-23.

3. Permissible uses within floodways may include: general farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, wildlife, and related uses. Also, lawns, gardens, play areas, picnic grounds, and hiking and horseback riding trails are acceptable uses, provided that they do not

employ structures or fill. Substantial development of a permissible use may require a no-impact certification. The uses listed in this subsection are permissible only if and to the extent that they do not cause any increase in base flood elevations or changes to the floodway configuration.

(8) Map maintenance activities. The National Flood Insurance Program (NFIP) requires flood data to be reviewed and approved by FEMA. This ensures that flood maps, studies and other data identified in subsection 5-20(d) accurately represent flooding conditions so appropriate floodplain management criteria are based on current data. The following map maintenance activities are identified:

a. Requirement to submit new technical data.

b. For all development proposals that impact floodway delineations or base flood elevations, the community shall ensure that technical or scientific data reflecting such changes be submitted to FEMA as soon as practicable but no later than six months of the date such information becomes available. These development proposals include; but are not limited to:

1. Floodway encroachments that increase or decrease base flood elevations or alter floodway boundaries;

2. Fill sites to be used for the placement of proposed structures where the applicant desires to remove the site from the special flood hazard area;

3. Alteration of watercourses that result in a relocation or elimination of the special flood hazard area, including the placement of culverts; and

4. Subdivision or large scale development proposals requiring the establishment of base flood elevations in accordance with subsection 5-23(b)(13)d.

c. It is the responsibility of the applicant to have technical data, required in accordance with subsection 5-23(b)(8), prepared in a format required for a conditional letter of map revision or letter of map revision, and submitted to FEMA. Submittal and processing fees for these map revisions shall also be the responsibility of the applicant.

d. The local administrator shall require a conditional letter of map revision prior to the issuance of a floodplain development permit for:

e. Proposed floodway encroachments that increase the base flood elevation; and

f. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

g. Floodplain development permits issued by the local administrator shall be conditioned upon the applicant obtaining a letter of map revision from FEMA for any development proposal subject to subsection 5-23(b)(8).

h. Right to submit new technical data. The floodplain administrator may request changes to any of the information shown on an effective map that does not impact floodplain or floodway delineations or base flood elevations, such as labeling or planimetric details. Such a submission shall include appropriate supporting documentation made in writing by the local jurisdiction and may be submitted at any time.

(9) Accessory structures.

a. A detached accessory structure or garage, the cost of which is greater than $3,000.00, must comply with the requirements as outlined in FEMA's Technical Bulletin 7-93, Wet Floodproofing Requirements or be elevated in accordance with subsections 5-23(b)(1) and (b)(6) or dry floodproofed in accordance with subsection 5-23(b)(2).

b. If accessory structures of $3,000.00 or less are to be placed in the floodplain, the following criteria shall be met:

1. Accessory structures shall not be used for any uses other than the parking of vehicles and storage.
2. Accessory structures shall be designed to have low flood damage potential.
3. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters.
4. Accessory structures shall be firmly anchored to prevent flotation, collapse and lateral movement of the structure.
5. Service facilities such as electrical and heating equipment shall be installed in accordance with subsection 5-23(a)(4).
6. Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with subsection 5-23(b)(6)a.
7. Accessory structures shall be built with flood-resistance materials in accordance with Technical Bulletin 2, Flood Damage-Resistant Materials Requirements, dated 8/08, and available from the Federal Emergency Management Agency. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

(10) Swimming pool utility equipment rooms. If the building cannot be built at or above the BFE because of functionality of the equipment, then a structure to house the utilities for the pool may be built below the BFE with the following provisions:

a. Meet the requirements for accessory structures in subsection 5-23(b)(9).

b. The utilities must be anchored to prevent flotation and shall be designed to prevent water from entering or accumulating within the components during conditions of the base flood.

(11) Elevators.

a. Install a float switch system or another system that provides the same level of safety necessary for all elevators where there is a potential for the elevator cab to descend below the BFE during a flood per FEMA's Technical Bulletin 4-93, Elevator Installation for Buildings Located in Special Flood Hazard Areas.

b. All equipment that may have to be installed below the BFE such as counter weight roller guides, compensation cable and pulleys, and oil buffers for traction elevators and the jack assembly for a hydraulic elevator must be constructed using flood-resistant materials where possible per FEMA's Technical Bulletin 4-93, Elevator Installation for Buildings Located in Special Flood Hazard Areas.

(12) Fill. An applicant shall demonstrate that fill is the only alternative to raising the building to meet the residential and nonresidential construction requirements of subsections 5-23(b)(1) and (2) that the amount of fill used will not affect the flood storage capacity or adversely affect adjacent properties. The following provisions shall apply to all fill placed in the special flood hazard area:

a. Fill may not be placed in the floodway unless it is in accordance with the requirements in subsection 5-23(b)(7)a.

b. Fill may not be placed in tidal or non-tidal wetlands without the required state and federal permits.

c. Fill must consist of soil and rock materials only. A registered professional geotechnical engineer may use dredged material as fill only upon certification of suitability. Landfills, rubble fills, dumps, and sanitary fills are not permitted in the floodplain.

d. Fill used to support structures must comply with ASTM Standard D-698, and its suitability to support structures certified by a registered, professional engineer.

e. Fill slopes shall be no greater than two horizontal to one vertical. Flatter slopes may be required where velocities may result in erosion.

f. The use of fill shall not increase flooding or cause drainage problems on neighboring properties.

g. Fill may not be used for structural support in the coastal high hazard areas.

h. Will meet the requirements of FEMA Technical Bulletin 10-01, Ensuring That Structures Built on Fill in or Near Special Flood Hazard Areas Are Reasonably Safe from Flooding.

(13) Standards for subdivision proposals and other development.

a. All subdivision proposals and other proposed new development shall be consistent with the need to minimize flood damage and are subject to all applicable standards in these regulations.

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

c. All subdivision proposals and other proposed new development shall have adequate drainage provided to reduce exposure to flood damage.

d. The applicant shall meet the requirement to submit technical data to FEMA in subsection 5-23(b)8. when a hydrologic and hydraulic analysis is completed that generates base flood elevations.

(14) Standards for streams with established base flood elevations but without floodways. Along rivers and streams where base flood elevation (BFE) data is provided but no floodway is identified for a special flood hazard area on the FIRM or in the FIS. No encroachments including fill, new construction, substantial improvements, or other development shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating 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.

(Ord. No. CC-2011-07, 9-6-11)

Sec. 5-24. - Variance procedures.

(a) Establishment of appeal board. The building board of appeals, as established by the City of Clemson, shall hear and decide requests for variances from the requirements of this article.

(b) Right to appeal. Any person aggrieved by the decision of the appeal board or any taxpayer may appeal such decision to the court.

(c) Historic structures. Variances may be issued for the repair of rehabilitation of historic structures upon the 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.

(d) Considerations. In passing upon such applications, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this article, and:

(1) The danger that materials may be swept onto other lands to the injury of others.

(2) The danger to life and property due to flooding or erosion damage, and the safety of access to the property in times of flood for ordinary and emergency vehicles.

(3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.

(4) The importance of the services provided by the proposed facility to the community.

(5) The necessity to the facility of a waterfront location, where applicable.

(6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.

(7) The compatibility of the proposed use with existing and anticipated development, and the relationship of the proposed use to the comprehensive plan and floodplain management program for that area.

(8) 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.

(9) 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.

(10) Agricultural structures must be located in wide, expansive floodplain areas, where no other alternative location for the agricultural structure exists. The applicant must demonstrate that the entire farm acreage, consisting of a contiguous parcel of land on which the structure is to be located, must be in the special flood hazard area and no other alternative locations for the structure are available.

(11) Findings. Findings listed above shall be submitted to the appeal board, in writing, and included in the application for a variance. Additionally, comments from the Department of Natural Resources, Land, Water and Conservation Division, State Coordinator's Office, must be taken into account and included in the permit file.

(12) Floodways. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result unless a CLOMR is obtained prior to issuance of the variance. In order to ensure the project is built in compliance with the CLOMR for which the variance is granted the applicant must provide a bond for 100 percent of the cost to perform the development.

(e) Conditions. Upon consideration of the factors listed above and the purposes of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article. The following conditions shall apply to all variances:

(1) Variances may not be issued when the variance will make the structure in violation of other federal, state, or local laws, regulations, or ordinances.

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

(3) Variances shall only be issued upon a showing of good and sufficient cause, a determination that failure to grant the variance would result in exceptional hardship, and a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(4) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation (BFE) and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk. Such notification shall be maintained with a record of all variance actions.

(5) The local administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency (FEMA) upon request.

(6) Variances shall not be issued for unpermitted development or other development that is not in compliance with the provisions of this article. Violations must be corrected in accordance with subsection 5-22(f)(5) of this article.

(Ord. No. CC-2011-07, 9-6-11)

Sec. 5-25. - Legal status provisions.

(a) Effect on rights and liabilities under the existing flood damage prevention ordinance. This article in part comes forward by re-enactment of some of the provisions of the flood damage prevention ordinance enacted January 18, 1988, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued there under are reserved and may be enforced. The enactment of this article shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of the City of Clemson, South Carolina, enacted on January 18, 1988, as amended, which are not reenacted herein, are repealed.

(b) Effect upon outstanding building permits. Nothing herein contained shall require any change in the plans, construction, size or designated use of any building, structure or part thereof for which a building permit has been granted by the chief building inspector or his authorized agents before the time of passage of this article; provided, however, that when start of construction has not occurred under such outstanding permit within a period of 60 days subsequent to passage of this article, construction or use shall be in conformity with the provisions of this article.

(c) Effective date. The ordinance from which this article derives shall become effective upon adoption.

(Ord. No. CC-2011-07, 9-6-11)