ARTICLE 10
FLOODPLAIN MANAGEMENT

Division I. General Provisions.

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Division I. General Provisions.

Sec. 10-1. Findings.

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

(b) These flood losses are caused by the occupancy in flood hazard areas of uses vulnerable to floods, which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages, and by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities.

(c) Effective floodplain management and flood hazard protection measures can: protect human life and health; minimize damage to private property; minimize damage to public facilities and infrastructure such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains; and minimize expenditure of public money for costly flood control projects associated with flooding and generally undertaken at the expense of the public.

(d) Flood hazard areas can also serve important stormwater management, water quality, streambank protection, stream corridor protection, wetlands preservation and ecological purposes when permanently protected as undisturbed or minimally disturbed areas.

(e) 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; 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 any liability on the part of the City of Powder Springs or any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.

Sec. 10-2. Purposes.

The purpose of this article is to protect, maintain and enhance the public health, safety, environment and general welfare and to minimize public and private losses due to flood conditions in flood hazard areas, and to protect the beneficial uses of floodplain areas for water quality protection, streambank and stream corridor protection, wetlands preservation, and ecological and environmental protection by provisions designed to accomplish the following objectives:

(a) Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;

(b) Restrict or prohibit uses that are threats to public health and safety as well as property due to flooding or erosion hazards, or that increase flood heights, velocities, or erosion;

(c) Control filling, grading, dredging and other development activities that may increase flood damage or erosion;

(d) Prevent or regulate construction of flood barriers that will unnaturally divert flood waters or that may increase flood hazard to other lands;

(e) Limit or prohibit altogether the alteration of natural floodplains, stream channels and natural protective barriers that are involved in accommodation of flood waters; and

(f) Protect the stormwater management, water quality, streambank protection, stream corridor protection, wetlands preservation and ecological functions of natural floodplain areas.

Sec. 10-4. Title.

This article shall be known as "The City of Powder Springs Floodplain Ordinance."

Sec. 10-4. Definitions.

The following definitions shall apply to the interpretation and enforcement of this article, unless otherwise specifically provided:

Addition: Any walled and roofed expansion to the perimeter or height of a building.

Adjacent: Land areas located within the defined horizontal distance from the future-conditions floodplain boundary that are at or lower in elevation than either 3 feet above the base flood elevation or 1 foot above the future-conditions flood elevation, whichever is higher, unless the area is hydraulically independent. "Hydraulically independent" shall mean absolutely no connection to the potential flooding source such as through pipes, sewer laterals, down drains, foundation drains, ground seepage, overland flow, gated or valved pipes, excavated and backfilled trenches, etc. with no fill or other manmade barriers creating the separation.

Appeal: A request for a review of an interpretation of any provision of this article.

Area of future conditions flood hazard: The land area that would be inundated by the one-percent-annual-chance flood based on future-conditions hydrology (i.e., 100-year future-conditions flood).

Area of shallow flooding: A designated AO or AH Zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater 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 indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard: The land subject to a one percent or greater chance of flooding in any given year. This includes all floodplain and flood prone areas at or below the base flood elevation designated as Zones A, A1-30, A-99, AE, AO, AH, and AR on the Flood Insurance Rate Map (FIRM) applicable to the city of Powder Springs.

Accessory structure or facility: A structure established on the same parcel of land as a principal structure and the use of which is incidental to the use of the principal structure.

Base flood: A flood having a one percent chance of being equaled or exceeded in any given year, also known as the 100-year flood.

Base flood elevation: The highest water surface elevation anticipated at any given location during the base flood.

Basement: Any area of a building having its floor subgrade below ground level on one or more sides.

Building: Has the same meaning as "structure."

Development: Any man-made change to improved or unimproved real estate, including but not limited to, buildings or other structures, mining, dredging, filling, clearing, grubbing, grading, paving or any other installation of impervious cover, excavation or drilling operations or storage of equipment or materials.

Director of Public Works: The City of Powder Springs director of public works, or his or her designee.

Elevated building: A non-basement building that has its lowest elevated floor raised above the ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

Elevation certificate: A document prepared by, or under the direct supervision of, and certified by a registered land surveyor or professional engineer indicating the actual elevation relative to mean sea level to which any new or substantially improved structures have been flood-proofed including the lowest floor elevation or flood-proofing level immediately after the lowest floor or flood-proofing has been completed. Certificates documenting the flood-proofing of non-residential structures, including certification of the design criteria used, shall be prepared by, or under the direct supervision of, and certified by a professional engineer or architect.

Existing construction: Any structure for which the "start of construction" commenced before the effective date of the initial floodplain management ordinance adopted by the city as a basis for the city's participation in the National Flood Insurance Program.

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) is completed before the effective date of the initial floodplain management ordinance adopted by the city as a basis for the city's participation in the National Flood Insurance Program

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 installation of utilities, construction of streets and either final site grading or the pouring of concrete pads.

FEMA: The Federal Emergency Management Agency.

Flood or flooding: A general and temporary condition of partial or complete inundation of normally dry land related to: overflow of inland or tidal waters; or unusual and rapid accumulation or runoff of surface waters from any source.

Flood Insurance Rate Map or FIRM: An official map of a community, issued by FEMA, delineating the areas of special flood hazard and/or risk premium zones applicable to the community.

Flood insurance study: The official report by FEMA providing an examination, evaluation and determination of flood hazards and corresponding flood profiles and water surface elevations of the base flood.

Floodplain or flood-prone area: Any land area susceptible to flooding.

Floodproofing: Any combination of structural and non-structural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities and to structures and their contents.

Floodway or regulatory floodway: The channel of a stream, river, or other watercourse and the adjacent 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: Any use that cannot be conducted unless 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 shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Future conditions flood: A flood having a one percent chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

Future-conditions flood elevation. The highest water surface elevation anticipated at any given location during the future-conditions flood.

Future-conditions floodplain: Any land area susceptible to flooding by the future-conditions flood.

Future-conditions hydrology: The flood discharges associated with projected land use conditions based on the zoning map, comprehensive plan, and/or watershed study projections of a community, and without consideration of projected future construction of stormwater management (flood detention) structures or projected future hydraulic modifications within a stream or other waterway, such as bridge and culvert construction, fill or excavation.

Highest adjacent grade: The highest, natural elevation of the ground surface prior to construction adjacent to the proposed walls of a structure.

Historic structure: For purposes of this article, any structure characterized by the following description: (a) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places by states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places by communities with historic preservation programs that have been certified by an approved state program as determined by the Secretary of the Interior.

Lowest floor: The lowest floor of the lowest enclosed area, including a basement. An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access or storage in an area other than a basement area, is not considered the lowest floor of a building, provided that such enclosure is not built to render the structure in violation of other provisions of this article.

Manufactured home: For purposes of this article, a structure, transportable in one or more sections, built on a permanent chassis and designed to be used with or without a permanent foundation when attached to the required utilities. For purposes of this article only, the term includes any structure commonly referred to as a “mobile home” regardless of the date of manufacture. The term also includes parked trailers, travel trailers and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property. The term does not include “recreational vehicle.”

Mean sea level: The datum to which base flood elevations shown on the Flood Insurance Rate Map (FIRM) applicable to the city of Powder Springs are referenced. For purposes of this ordinance, this term is synonymous with National Geodetic Vertical Datum (NGVD) of 1929 or the North American Vertical Datum (NAVD) of 1988.

New construction: Any structure (see definition) for which the “start of construction" commenced on or after the effective date of the initial floodplain management ordinance adopted by the city as a basis for community participation in the National Flood Insurance Program.

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 the initial floodplain management ordinance adopted by the city as a basis for community participation in the National Flood Insurance Program.

Owner: The legal or beneficial owner of a site, including but not limited to, a mortgagee or vendee in possession, receiver, executor, trustee, lessee or other person, firm or corporation in control of the site.

Permit: The permit issued by the jurisdiction or local permitting authority to the applicant that is required prior to undertaking any development activity.

Recreational vehicle: Any vehicle that is: built on a single chassis; 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by light duty truck; and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Repetitive loss: Flood related damage sustained by a structure on two separate occasions during any 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure prior to the damage.

Site: The parcel of land being developed, or the portion thereof on which the development project is located.

Start of construction: Includes substantial improvement, and shall be the date the permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was initiated within 180 calendar days of the permit date. The actual start of construction shall be either the first placement of permanent construction of the structure on a site, such as the pouring of slabs 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: initial land preparation, such as clearing, grading and filling; installation of streets and/or walkways; excavation for a basement, footings, piers or foundations or the erection of temporary forms; or the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or part of the main structure. For a substantial improvement, the actual start of construction shall be the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the exterior dimensions of the building.

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

Subdivision: The division of a tract or parcel of land resulting in one or more new lots or building sites for the purpose, whether immediately or in the future, of sale, other transfer of ownership or land development, and includes divisions of land resulting from or made in

connection with the layout or development of a new street or roadway or a change in an existing street or roadway.

Substantial damage: Destruction of any origin sustained by a structure whereby the cost of restoring the structure to the previous condition would equal or exceed 50 percent of the market value of the structure prior to the damage. This term also includes "repetitive loss."

Substantial improvement: Any reconstruction, rehabilitation, addition, or other improvement to a structure occurring during a 10-year period in which the cumulative cost equals or exceeds 50 percent of the market value of the structure prior to the improvement. The market value of the building means (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed. However, the term does not include those improvements to a structure required to comply with existing state or local health, sanitary or safety code specifications that are the minimum necessary to ensure safe living conditions that have been identified by a city code enforcement officer or building inspector. In addition, the term does not include any alteration of a historic structure, provided the alteration shall not preclude the continued designation of the structure as a historic structure.

Substantially improved existing manufactured home park or subdivision: The repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equal to or exceeding 50 percent of the value of the streets, utilities and pads prior to commencement of the repair, reconstruction or improvement.

Variance: The grant of relief from the requirements of this article.

Violation: Failure of a structure or other development to fully comply with the requirements of this article. A structure or other development without an elevation certificate, other certifications or other evidence of compliance required by this article is presumed to be in violation until that documentation is provided.

Sec. 10-5. Applicability.

(a) This article shall be applicable to all areas of special flood hazard within the city limits of Powder Springs, and all other areas defined in this article as subject to or susceptible to flooding, including but not limited to areas of future conditions flood hazard and areas of shallow flooding.

(b) This article shall also be applicable to structures and buildings authorized "adjacent" (as defined in this article) to the future conditions floodplain.

(c) No individual, owner, developer, or contractor shall initiate or perform any development activity on a site in an area of special flood hazard, area of future-conditions flood hazard, or in any other flood hazard area established by this article, without first meeting the requirements of this article.

(d) No permit shall be approved for any development activity that does not meet the applicable requirements, restrictions and criteria of this article

Sec. 10-6. Designation and Duties of Administrator.

The director of community development is hereby appointed to administer and implement the provisions of this article. The administrator shall have the following duties as they pertain to this article:

(a) Review all development applications and permits to assure that the requirements of this article have been satisfied and to determine whether proposed building sites will be reasonably safe from flooding;

(b) 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 but not limited to Section 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1334;

(c) When base flood elevation data or floodway data have not been provided, then the administrator shall require the applicant to obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other sources in order to meet the provisions of this article;

(d) Review and record the actual elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all new and substantially improved structures;

(e) Review and record the actual elevation, in relation to mean sea level to which any substantially improved structures have been floodproofed;

(f) When floodproofing is utilized for a non-residential structure, the administrator shall review the design and operation/maintenance plan and obtain certification from a licensed professional engineer or architect;

(g) Notify affected adjacent communities and the Georgia Department of Natural Resources prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency;

(h) Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions) the administrator shall make the necessary interpretation. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article. Where floodplain elevations have been defined, the floodplain shall be determined based on flood elevations rather than the area graphically delineated on the floodplain maps;

(i) Maintain all records pertaining to the provisions of this article, which shall be open for public inspection;

(j) Coordinate all revisions to flood insurance rate maps with the Georgia Department of Natural Resources and FEMA; and

(k) Review and make recommendations with regard to variance applications filed pursuant to this article.

Notwithstanding the provisions of this section, the Powder Springs director of public works shall also have certain administrative responsibilities as specifically designated in this article, as it pertains to engineering considerations.

Sec. 10-7. Basis for Establishment.

For purposes of defining and determining "areas of special flood hazard," "areas of future-conditions flood hazard," "areas of shallow flooding," "base flood elevations," "floodplains," "floodways," "future-conditions flood elevations," "future-conditions floodplains," potential flood hazard or risk categories as shown on FIRM maps, and other terms used in this article, the following documents and sources may be used for such purposes and are adopted by reference thereto:

(a) **Flood insurance study.** The Flood Insurance Study (FIS) for Cobb County, Georgia, and incorporated areas, revised March 4, 2013, with accompanying maps and other supporting data and any revisions thereto. Studied "A" zones, as identified in the FIS, shall be used to establish base flood elevations whenever available.

(b) **Other studies of 100-year flood.** Other studies, which may be relied upon for the establishment of the base flood elevation or delineation of the base or one-percent (100-year) floodplain and flood-prone areas, including: any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey, or any other local, state or federal agency applicable to Powder Springs or Cobb County; and any base flood study conducted by a licensed professional engineer that has been prepared utilizing FEMA approved methodology and approved by the City of Powder Springs.

(c) **Studies of future conditions.** Other studies, which may be relied upon for the establishment of the future-conditions flood elevation or delineation of the future-conditions floodplain and flood-prone areas, including: any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey, or any other local, state or federal agency applicable to the City of Powder Springs; and any future-conditions flood study conducted by a licensed professional engineer that has been prepared utilizing FEMA approved methodology approved by the City of Powder Springs. For all streams with a drainage area of 100 acres or greater, the future-conditions flood elevations shall be provided by the City of Powder Springs. If future-conditions elevation data is not available from the City of Powder Springs, then

such elevation data shall be determined by a licensed professional engineer using a method approved by FEMA and the City of Powder Springs.

(d) **Floodways.** The width of a floodway shall be determined from the FIS or FEMA approved flood study. For all streams with a drainage area of 100 acres or greater, the regulatory floodway shall be provided by the City of Powder Springs. If floodway data is not available from the City of Powder Springs such data shall be determined by a licensed professional engineer using a method approved by FEMA and the City of Powder Springs.

(e) **Base flood data not available.** Where streams exist, but no base flood data have been provided (A-Zones), the director of community development shall review and reasonably utilize any available scientific or historic flood elevation data, base flood elevation and floodway data, or future-conditions flood elevation data available from a federal, state, local or other source to administer the provisions and standards of this article.

(f) **Repository.** The repository for public inspection of the FIS, accompanying maps and other supporting data is located at the department of community development of the City of Powder Springs.

Sec. 10-8. Interpretations.

(a) If a proposed development is located in multiple flood zones, or multiple base flood elevations cross the proposed site, the higher or more restrictive base flood elevation or future condition elevation and development standards shall take precedence.

(b) When only a portion of a proposed structure is located within a flood zone or the future conditions floodplain, the entire structure shall meet the requirements of this article.

[Secs. 10-9 and 10-10 Reserved].

Division II. Standards.

Sec. 10-11. Encroachment in Regulatory Floodway.

(a) Located within areas of special flood hazard are areas designated as floodway. A floodway may be an extremely hazardous area due to velocity floodwaters, debris or erosion potential. In addition, floodways must remain free of encroachment in order to allow for the discharge of the base flood without increased flood heights.

(b) Encroachments within the regulatory floodway, including earthen fill, new construction, substantial improvements or other development are prohibited, except for activities authorized by variance in accordance with the requirements of this article; provided, however, that encroachments within the regulatory floodway may be permitted for bridges, culverts, roadways, and utilities, if a licensed professional engineer provides and certifies hydrologic and hydraulic analyses and supporting technical data, performed in accordance with standard engineering practice, demonstrating that the encroachment will

not result in any increase to the pre-project base flood elevations, floodway elevations, or floodway widths during the base flood discharge.

Sec. 10-12. Development within Area of Special Flood Hazard.

No development shall be allowed within any area of special flood hazard except for activities authorized by variance in accordance with the requirements of this article, unless specifically exempted by this article.

Sec. 10-13. Development Within or Adjacent to Future-conditions Flood Hazard Area.

No development shall be allowed within or adjacent to any area of future-conditions flood hazard, except for activities authorized by variance in accordance with the requirements of this article, unless specifically exempted by this article.

Sec. 10-14. Revision of Boundaries.

(a) **Floodway.** If an applicant proposes to revise a floodway boundary, no permit authorizing the encroachment into or an alteration of the floodway shall be issued by the City of Powder Springs until an affirmative Conditional Letter of Map Revision (CLOMR) is issued by FEMA or a no-rise certification is approved by the City of Powder Springs.

(b) **Floodplain.** Any significant physical changes to the base flood floodplain shall be submitted as a Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Amendment (CLOMA), whichever is applicable. The CLOMR submittal shall be subject to approval by the City of Powder Springs using the FEMA Community Concurrence forms before forwarding the submittal package to FEMA for final approval. It shall be the applicant's responsibility to forward the CLOMR to FEMA and for obtaining the CLOMR approval. Within six months of the completion of any development authorized, the applicant shall submit as-built surveys and plans for a final Letter of Map Revision (LOMR).

Sec. 10.15. Engineering Study.

(a) **Required.** An engineering study shall be required, as appropriate to the proposed development activities on the site, whenever a development is proposed that will disturb any land within a floodway, area of special flood hazard, or area of future-conditions flood hazard, except as may be specifically waived by this section.

(b) **Exemption.** The director of community development, after consulting with the director of public works, may waive the engineering study requirement for single-lot residential development on streams without established base flood elevations and floodways.

(c) **Study components.** Engineering studies shall at minimum include the following:

1. A description of the extent to which any watercourse or floodplain will be altered or relocated as a result of the proposed development;

2. A physical illustration on a preliminary plat, grading plan, or site plan, as appropriate, which shall clearly define all proposed encroachments; step-backwater analysis, using a FEMA-approved methodology approved by the director of public works;

3. Floodplain storage calculations based on cross-sections (at least one every 100 feet) showing existing and proposed floodplain conditions and demonstrating that base flood floodplain and future-conditions floodplain storage capacity will not be diminished by the proposed development. Computations will be shown duplicating Flood Insurance Study results and will then be rerun with the proposed modifications to determine the new base flood profiles, and future-conditions flood profile.

(d) **Submission, review, and approval.** An engineering study required by this article shall be submitted to and is subject to approval of the director of public works prior to approval of any permit that would authorize the disturbance of land.

Sec. 10.16. General Standards for Encroachments.

(a) **Prohibited conditions.** No development shall be authorized, and no variance shall be granted within any area of special flood hazard or area of future-conditions flood hazard that could result in development or condition that:

1. Raises the base flood elevation or future-conditions flood elevation equal to or more than 0.01 foot;

2. Reduces the base flood or future-conditions flood storage capacity;

3. Changes the flow characteristics as to the depth and velocity of the waters of the base flood or future-conditions flood as they pass both the upstream and the downstream boundaries of the development area; or

4. Creates hazardous or erosion-producing velocities, or results in excessive sedimentation.

(b) **Compensation for storage capacity.** Compensation for storage capacity shall occur between the average ground water table elevation and the base flood elevation for the base flood, and between the average ground water table elevation and the future-condition flood elevation for the future-conditions flood, and lie either within the boundaries of ownership of the property being developed and shall be within the immediate vicinity of the location of the encroachment. Acceptable means of providing required compensation include lowering of natural ground elevations within the floodplain, or lowering of adjoining land areas to create additional floodplain storage. In no case shall any required compensation be provided via bottom storage or by excavating

below the elevation of the natural (pre-development) stream channel unless such excavation results from the widening or relocation of the stream channel.

(c) **Slope of cut areas.** Cut areas shall be stabilized and graded to a slope of no less than 2.0 percent.

(d) **Transitions.** Effective transitions shall be provided such that flow velocities occurring on both upstream and downstream properties are not increased or decreased;

(e) **Verification via engineering study.** Verification of no-rise conditions (less than 0.01 foot), flood storage volumes, and flow characteristics shall be provided via a step-backwater analysis meeting the requirements of this article (see also Sec. 10-15, "Engineering Study" of this article).

(f) **Public utilities and facilities.** Public utilities and facilities, such as water, sanitary sewer, gas, and electrical systems, shall be located and constructed to minimize or eliminate infiltration or contamination from flood waters; and

(g) **Continuing maintenance.** The property owner shall be responsible for continuing maintenance as may be needed within an altered or relocated portion of a floodplain on the property so that the flood-carrying or flood storage capacity is maintained. The City of Powder Springs may direct the property owner, at no cost to the City of Powder Springs, to restore the flood-carrying or flood storage capacity of the floodplain if the owner has not performed maintenance as required by the approved floodplain management plan on file with the city.

(h) **Anchoring.** New construction and substantial improvements, if authorized by variance, shall be anchored to prevent flotation, collapse and lateral movement of the structure. Manufactured homes, if permitted, shall be anchored to prevent flotation, collapse, and lateral movement. Methods of anchoring manufactured homes, if permitted may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable State requirements for resisting wind forces.

(i) **Materials.** New construction and substantial improvements, if authorized by variance, shall be constructed with materials and utility equipment resistant to flood damage;

(j) **Methods of construction.** New construction and substantial improvements, if authorized by variance, shall be constructed by methods and practices that minimize flood damage.

Sec. 10.17. Standards for Buildings.

(a) Freeboard. If permitted, all new construction and substantial improvements shall have the lowest floor, including basement, elevated no less than 3 feet above the base flood elevation or 1 foot above the future-conditions flood elevation, whichever is higher. New construction or substantial improvement of principal non-residential structures meeting

the requirements of this article, if authorized, may be floodproofed in lieu of elevation (see Sec. 10-20 of this article).

(b) **Enclosure.** All new construction and substantial improvements that include any fully enclosed area located below the lowest floor formed by foundation and other exterior walls, if authorized by variance, shall be designed to be an unfinished or flood resistant enclosure. The enclosure shall be designed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater. Designs for complying with this requirement must be certified by either a licensed professional engineer or architect to meet or exceed the following minimum criteria:

1. Provide 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;

2. The bottom of all openings shall be no higher than one foot above grade; and

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

So as not to violate the "lowest floor" criteria of this article, the unfinished and flood resistant enclosure shall solely be used for parking of vehicles, limited storage of maintenance equipment used in connection with the premises, or entry to the elevated area. The interior portion of such enclosed area shall not be finished or partitioned into separate rooms.

(c) **Heating and air conditioning equipment.** All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be designed and/or located 3 feet above the base flood elevation or 1 foot above the future-conditions flood elevation, whichever is higher, so as to prevent water from entering or accumulating within the components during conditions of flooding.

(d) **Drainage and stormwater management.** All proposed development shall include adequate drainage and stormwater management facilities per the requirements of the city. Adequate drainage shall be provided to reduce exposure to flood hazards

(e) **Water supply.** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

(f) **Sanitary sewer systems.** New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

(g) **On-site waste disposal systems.** On-site waste disposal systems shall be located and constructed to avoid impairment to, or contamination from, such systems during flooding.

(h) **Other public utilities.** All public utilities and facilities, such as sewer, gas, electrical, and water systems shall be located and constructed to minimize or eliminate flood damage.

(i) **Nonconformities.** Any alteration, repair, reconstruction or improvement to a structure which is not compliant with the provisions of this article, shall be undertaken only if the nonconformity is not furthered, extended or replaced;

Sec. 10-18. Non-inhabitable Accessory Structures and Facilities.

(a) Without the need for a variance which otherwise would be required by this article, the community development director may authorize the placement of non-inhabitable accessory structures and facilities, such as but not limited to barns, sheds, gazebos, detached garages, recreational facilities and other similar non-inhabitable structures and facilities in an area of special flood hazard or future conditions floodplain area, if they: are constructed of flood-resistant materials; designed to provide adequate flood openings; and are anchored to prevent flotation, collapse and lateral movement of the structure.

(b) The community development director may place additional conditions on authorization of such non-inhabitable accessory structures and facilities, as may be considered necessary to meet the spirit and intent of this article.

Sec. 10-19. Recreational Vehicles.

All recreational vehicles, if authorized to be placed on a site in a flood hazard area established by this article, must comply with one of the following conditions:

(a) Remain on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use. A recreational vehicle that is licensed, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached structures or additions shall be deemed ready for highway use; or

(b) Meet all the requirements for substantial improvement of a residential building, including anchoring and elevation requirements.

Sec. 10-20. Floodproofing.

(a) If a non-residential structure is authorized in a flood hazard area designated pursuant to this article and floodproofing rather than elevation is also permitted, the structure, together with attendant utility and sanitary facilities, must be designed to be watertight to 1 foot above the base flood elevation, or at least as high as the future-conditions flood elevation, whichever is higher, with walls substantially impermeable to the passage of water and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

(b) A licensed professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the

provisions of this section, and shall provide such certification to the director of community development using the FEMA floodproofing certificate along with the design and operation/maintenance plan.

Sec. 10-21. Areas on Streams without Established Base Flood Elevations and Floodways (A-Zones).

For any areas of special flood hazard where streams exist, but no base flood data have been provided (A-Zones), the following provisions shall apply:

(a) No encroachments, including structures or fill material, shall be located within an area defined by a distance equal to twice the width of the stream or 50 feet from the top of the bank of the stream, whichever is greater.

(b) In special flood hazard areas for which base flood or future-conditions flood elevation data is not available, new construction and substantial improvements shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three feet above the highest adjacent grade on the building site. Flood openings sufficient to facilitate automatic equalization of hydrostatic flood forces shall be provided for flood prone enclosures in accordance with this article.

Sec. 10-22. Areas of Shallow Flooding (AO Zones).

Areas of special flood hazard may include designated "AO" shallow flooding areas. These areas have base flood depths of 1 to 3 feet above ground, with no clearly defined channel. The following provisions apply in these areas:

(a) All new construction and substantial improvement of residential and non-residential structures shall have the lowest floor, including basement, elevated to no less than 1 foot above the flood depth number in feet specified on the Flood Insurance Rate Map (FIRM) above the highest adjacent grade. If no flood depth number is specified, the lowest floor, including basement, shall be elevated a minimum of 3 feet above the highest adjacent grade. Flood openings sufficient to facilitate automatic equalization of hydrostatic flood forces shall be provided in accordance with standards of this article.

(b) New construction and substantial improvement of a non-residential structure may be flood proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to the specified FIRM flood level plus 1 foot above the highest adjacent grade, with walls substantially impermeable to the passage of water, and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A licensed professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice, and shall provide such certification to the director of public works using the FEMA floodproofing certificate along with the design and operation/maintenance plan; and

(c) Drainage paths shall be provided to guide floodwater around and away from any proposed structure.

Sec. 10-23. Subdivision of Land.

(a) All subdivision proposals shall identify the areas of special flood hazard and areas of future-conditions flood hazard therein and provide base flood elevation data and future-conditions flood elevation data.

(b) All residential lots in a proposed subdivision shall have sufficient buildable area outside of the future-conditions floodplain such that encroachment of residential structures into the future-conditions floodplain will not be required.

(c) All subdivision plans shall provide the elevations of all proposed structures in accordance with this article.

[Secs. 10-24 to 10-30 Reserved].

Division III. Flood Hazard Area Variance.

Sec. 10-31. Variance Procedures.

(a) Development within areas of special flood hazard and future conditions floodplain, as well as other flood hazard areas defined and regulated by this article, must receive a flood hazard variance in order to proceed with development and/or building, unless specifically exempted by this article.

(b) The procedures for applying for and deciding on applications for flood hazard variances shall be in accordance with this division and article 14 of this development code.

Sec. 10-32. General Criteria for Flood Hazard Area Variances.

In lieu of criteria for the granting of variances generally, as provided in article 14 of this development code, a flood hazard area variance shall be issued only when it has been determined that the following criteria have been met:

(a) Good and sufficient cause for the relief sought exists;

(b) Failure to grant the variance would result in exceptional hardship;

(c) The variance is the least deviation from the standards of this article necessary to accomplish the objectives of the applicant and/or the minimum necessary to afford relief; and

(d) Granting of the variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, or creation of a nuisance.

(e) No variance shall be issued within any designated floodway that would cause any increase in flood levels during the base flood discharge.

Sec. 10-33. Flood Hazard Area Variances for Specified Uses.

(a) **Functionally dependent use.** Variances may be issued for development necessary for the conduct of a functionally dependent use, provided the criteria of this article are met, no reasonable alternative exists, and the development is protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.

(b) **Historic structure.** 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 continued designation of the structure as a historic structure, and the variance issued shall be the minimum necessary to preserve the historic character and design of the structure.

Sec. 10-34. Records of Variance Decisions.

The community development director shall maintain the records of all variance decisions, granted and denied, and report these to the Georgia Department of Natural Resources and the Federal Emergency Management Agency upon request.

[Secs. 10-35 to 10-40 Reserved].

Division IV. Permit Procedures and Requirements.

Sec. 10-41. Floodplain Management/Flood Damage Prevention Plan Required.

(a) An application for a development project with any area of special flood hazard or area of future-conditions flood hazard located on the site shall include a floodplain management / flood damage prevention plan which shall be submitted along with other development plans as specified by article 8 of this development code.

(b) All development permits and/or use and occupancy certificates or permits may be revoked at any time in the event the construction and development activities are not in strict accordance with the approved plans.

Sec. 10-42. Contents of Plan.

Contents of floodplain management plan shall include the following, in addition to other information required for development plans as specified in article 8 of this development code:

(a) Site plan drawn to scale showing existing and proposed elevations of the area in question and the nature, location and dimensions of existing and proposed structures, earthen fill placement, amount and location of excavation material and storage of materials or equipment;

(b) For all proposed structures, spot ground elevations at building corners and elevations at an interval of 20 feet or less along the foundation footprint, or one-foot contour intervals across the building site;

(c) Base flood elevations and future-conditions flood elevations;

(d) Boundaries of the base flood floodplain and future-conditions floodplain;

(e) Location of the floodway, if applicable;

(f) Certification of the above information by a licensed professional engineer or land surveyor;

(g) For all buildings and structures, the elevation relative to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all proposed structures; elevation relative to mean sea level to which any non-residential structure will be flood proofed; certification that any proposed non-residential flood proofed structure meets the criteria of this article;

(h) Location and total net area of flood openings as required by this article for enclosures below the base flood elevation;

(i) Design plans certified by a licensed professional engineer or architect for all proposed structure(s);

(j) Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development;

(k) Hard copies and digital files of computer models, if any, copies of work maps, comparison of pre- and post-development conditions base flood elevations, future-conditions flood elevations, flood protection elevations, special flood hazard areas and regulatory floodways, flood profiles and all other computations and other information similar to that presented in the FIS;

(l) Copies of all applicable state and federal permits necessary for the proposed development, including, but not limited to, permits required by Section 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1334; and

(m) All appropriate certifications required under this article. The approved floodplain management/flood damage prevention plan shall contain certification by the applicant that all development activities will be performed according to the plan or previously approved revisions.

Sec. 10-43. Construction Stage Submittal Requirements.

(a) The permit holder shall provide to the community development director an as-built elevation certificate or (if non-residential construction) a floodproofing certificate s for

all new construction and substantial improvements on sites with a floodplain management/flood damage prevention plan.

(b) Such certificate shall include the lowest floor elevation or flood proofing level and shall be provided to the community development director immediately after the lowest floor or flood proofing is completed. A final elevation certificate shall be provided after completion of construction, including final grading of the site. Any lowest floor certification made relative to mean sea level shall be prepared by or under the direct supervision of a licensed land surveyor or professional engineer and certified by same.

(c) When flood proofing is utilized for non-residential structures, said certification shall be prepared by or under the direct supervision of a licensed professional engineer or architect and certified by same using the FEMA floodproofing certificate. This certification shall also include the design and operation/maintenance plan to ensure continued viability of the flood proofing measures.

(d) Any work undertaken prior to approval of these certifications shall be at the permit holder's risk. The community development director shall review the above referenced certification data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to any further work being allowed to proceed. Failure to submit certification or failure to make the corrections required hereby shall cause the issuance of a stop work order for the project.

[Secs. 10-44 to 10-50 Reserved].