

ARTICLE III: ENVIRONMENTAL PROTECTION
FLOOD DAMAGE PREVENTION ORDINANCE

STATUTORY AUTHORIZATION, FINDINGS OF FACT,
PURPOSE AND OBJECTIVES

§ 5-301

Statutory Authorization.

A. Article IX, Section II of the Constitution of the State of Georgia and Official Code of Georgia Annotated (O.C.G.A.) Section 36-1-20(a) have delegated the responsibility to local government units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the (Mayor and Council of the Town of Thunderbolt, Georgia does ordain this ordinance and establishes this set of floodplain management and flood hazard reduction policies for the purpose of regulating the use of flood hazard areas. It is determined that the regulation of flood hazard areas and the prevention of flood damage are in the public interest and will minimize threats to public health and safety as well as to private and public property.

B. Findings of Fact.

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

C. Statement of Purpose. It is the purpose of this ordinance to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (2) restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion;
- (3) control filling, grading, dredging, and other development which may increase flood damage or erosion, and;

- (4) prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.
- (5) control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters.

D. Objectives. The objectives of this ordinance are:

- (1) to protect human life and health;
- (2) to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in floodplains;
- (3) to help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas;
- (4) to minimize expenditures of public money for costly flood control projects;
- (5) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (6) to minimize prolonged business interruptions, and;
- (7) to insure that potential home buyers are notified that property is in a flood area.

§ 5-302

General Provision:

A. Lands to which this ordinance applies.

This ordinance shall apply to all areas within the jurisdiction of the Town of Thunderbolt.

B. Basis for areas of special flood hazard.

The "Special Flood Hazard Area" identified by the Federal Emergency Management Agency (FEMA) in its Flood Insurance Study (FIS), dated 8/16/2018, with accompanying maps and other supporting data, and any revision thereto, are adopted by reference and declared a part of this ordinance. For those land areas acquired by a municipality through annexation, the current effective FIS, supporting data and any revision thereto, for Chatham County (*unincorporated county*), dated 8/16/2018, are hereby adopted by reference.

Areas of special flood hazard may also include those areas known to have flooded historically or defined through standard engineering analysis by governmental agencies or private parties but not yet incorporated in a FIS. Areas identified through standard engineering analysis but not yet incorporated in an FIS include, but are not limited to, those areas adjacent to the 1% annual chance floodplain whose elevations are below a locally applied freeboard.

The Repository for public inspection of the Flood Insurance Study (FIS), accompanying maps and other supporting data is located in the Zoning Administrator's office at 2821 River Drive, Thunderbolt, Georgia.

- C. Establishment of development permit.
A Development Permit shall be required in conformance with the provision of this ordinance PRIOR to the commencement of any development activities.
- D. Compliance.
No structure or land shall hereafter be located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations.
- E. Abrogation and Greater Restrictions.
This ordinance is not intended to repeal, abrogate, or impair any existing ordinance, easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- F. Interpretation. In the interpretation and application of this ordinance all provisions shall be:
 - (1) considered as minimum requirements;
 - (2) liberally construed in favor of the governing body; and,
 - (3) deemed neither to limit nor repeal any other powers granted under state statutes.
- G. Warning and disclaimer of liability.
The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur; flood heights may be increased by man-made or natural causes. This ordinance 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 ordinance shall not create liability on the part of the Town of Thunderbolt, Georgia or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.
- H. Penalties for violation.
Failure to comply with the provisions of this ordinance or with any of its requirements, including conditions and safeguards established in connection with grants of variance or special exceptions shall constitute a violation. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$1,000.00 and in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense.

Nothing herein contained shall prevent the Town of Thunderbolt, Georgia from taking such other lawful actions as is necessary to prevent or remedy any violation.

I. Incorporation of Federal Regulations.

This ordinance is intended to carry into effect regulations of the Federal Emergency Management Agency, title 44, Code of Federal Regulations, part 59 and part 60, particularly 44 CFR 60.3, as amended, as such regulations relate to the Town of Thunderbolt, and such regulations are hereby incorporated into and made a part of this chapter by reference. In the event of omission from this chapter of any requirement of 44 CFR 60.3, it shall be deemed to be supplied herein by reference, and in the event of any inconsistency between the provisions of this chapter and requirements of 44 CFR 60.3, the more restrictive provision shall be controlling.

§ 5-303

Administration:

A. Designation of ordinance administrator.

The Town of Thunderbolt, Georgia Zoning Administrator or his/her designee is hereby appointed to administer and implement the provisions of this ordinance.

B. Permit procedures.

Application for a Development Permit shall be made to the Zoning Administrator on forms furnished by the community PRIOR to any development activities, and may include, but not be limited to, the following: plans in duplicate drawn to scale showing the elevations of the area in question and the nature, location, and dimensions of existing or proposed structures, earthen fill placement, storage of materials or equipment, and drainage facilities.

Specifically, the following information is required:

(1) Application Stage.

- (a) Elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all proposed structures;
- (b) Elevation in relation to mean sea level to which any non-residential will be floodproofed;
- (c) Design certification from a registered professional engineer or architect that any proposed non-residential floodproofed structure will meet the floodproofing criteria of section 5-304;

- (d) Design certification from a registered professional engineer or architect that any new construction or substantial improvement placed in a Coastal High Hazard Area will meet the Criteria of section 5-304(F).
- (e) Description of the extent to which any watercourse will be altered or relocated as a result of a proposed development, and;

(2) Construction Stage.

For all new construction and substantial improvements, the permit holder shall provide to the Administrator an as-built certification of the regulatory floor elevation or floodproofing level immediately after the lowest floor or flood proofing is completed. Where a structure is subject to the provisions applicable to Coastal High Hazards Areas, after placement of the lowest horizontal structural members. Any regulatory floor certification made relative to mean sea level shall be prepared by, or under the direct supervision of, a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for non-residential structures, said certification shall be prepared by, or under the direct supervision of, a professional engineer or architect and certified by same.

Any work undertaken prior to submission of these certifications shall be at the permit holder's risk.

Once construction or substantial improvements have been completed, the permit holder shall provide to the Zoning Administrator a final Elevation Certificate with photographs of the completed work. This is required to obtain a certificate of occupancy and flood insurance.

The Zoning Administrator or his/her designee shall review the above referenced certification data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being allowed to proceed. Failure to submit certification or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

C. Duties and responsibilities of the administrator.

Duties of the Zoning Administrator or his/her designee shall include, but shall not be limited to:

- (1) Review all development permits to assure that the permit requirements of this ordinance have been satisfied;

- (2) Advise permittee that additional federal or state permits including, but not limited to, Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334 may be required, and require that copies of such permits be provided and maintained on file with the Building Permit.
- (3) Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding.
- (4) When Base Flood Elevation (BFE) data or floodway data have not been provided in accordance with section 5-302(B), then the Zoning Administrator or his/her designee shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source in order to administer the provisions of section 5-304.
- (5) Review and record the actual elevation in relation to mean sea level (or highest adjacent grade) of the regulatory floor, including basement, of all new or substantially improved structures in accordance with section 5-303(B)(2).
- (6) Review and record the actual elevation, in relation to mean sea level to which any new or substantially improved structures have been floodproofed, in accordance with section 5-303(B)(2).
- (7) When floodproofing is utilized for a structure, the Zoning Administrator or his/her designee shall obtain certification of design criteria from a registered professional engineer or architect in accordance with section 5-304.
- (8) Obtain design certification from a registered professional engineer or architect that any new construction or substantial improvement placed in a Coastal High Hazard Area will meet the criteria of section 5-304(F).
- (9) In Coastal High Hazard Areas, the Zoning Administrator or his/her designee shall review plans for adequacy of breakaway walls in accordance with section 5-304(F).
- (10) Make substantial damage determinations following any event that causes damage to structures in those areas identified in section 5-302(B).
- (11) Notify 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 (FEMA).

- (12) For any altered or relocated watercourse, submit engineering data/analysis within six (6) months to FEMA to ensure accuracy of community flood maps through the Letter of Map Revision process. Assure flood carrying capacity of any altered or relocated watercourse is maintained.
- (13) 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) the Zoning Administrator or his/her designee 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 Ordinance.
- (14) All records pertaining to the provisions of this ordinance shall be maintained in the office of the Zoning Administrator or his/her designee and shall be open for public inspection.
- (15) If a portion of the structure is located in an area of special flood hazard, the entire structure shall comply with the requirements of this ordinance.
- (16) If a structure is located in multiple flood zones and/or base flood elevations (BFEs), the entire structure shall comply with the most restrictive requirements of this ordinance.
- (17) The duties of the Zoning Administrator or his/her designee under this Division shall include but not be limited to: render decisions regarding on-site construction activities involving fill placement and other floodplain management related activities.

§ 5-304

Provisions For Flood Hazard Reduction:A. General Standard.

In ALL areas identified in the “Basis for areas of special flood hazard” the following provisions are required:

- (1) New construction and substantial improvements of existing structures shall be anchored to prevent flotation, collapse, and lateral movement of the structure;
- (2) New construction and substantial improvements of existing structures shall be constructed with materials and utility equipment resistant to flood damage;

- (3) New construction and substantial improvements of existing structures shall be constructed by methods and practices that minimize flood damage;
- (4) Elevated Buildings - All New construction and substantial improvements of existing structures that include ANY fully enclosed area located below the lowest floor formed by foundation and other exterior walls shall be designed so as 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. (NOT APPLICABLE IN COASTAL HIGH HAZARD AREAS).
 - (a) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - (i) Provide a minimum of two (2) openings, each on a different wall, having a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to flooding;
 - (ii) The bottom of all openings shall be no higher than one (1) foot above grade; and,
 - (iii) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwater in both directions.
 - (b) So as not to violate the "Lowest Floor" criteria of this ordinance, the unfinished or flood resistant enclosure shall only be used for parking of vehicles, limited storage of maintenance equipment used in connection with the premises, or entry to the elevated area, and
 - (c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

- (5) All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, 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 flooding.
- (6) Manufactured homes shall be anchored to prevent flotation, collapse, and lateral movement. Methods of anchoring 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.
- (7) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (8) 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;
- (9) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding, and;
- (10) Any alteration, repair, reconstruction, or improvement to a structure, which is not compliant with the provisions of this ordinance, shall be undertaken only if the non-conformity is not furthered, extended, or replaced.

B. Specific Standards.

In ALL areas identified in the "Basis for areas of special flood hazard" section, the following provisions are required:

- (1) New construction and/or substantial improvements - Where base flood elevation data are available, new construction and/or substantial improvement of any structure, including manufactured homes shall have the lowest floor, including basement, elevated no lower than **two (2) feet** above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of section 5-304(A)(4), "Elevated Buildings".

- a. All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at or above **two (2) feet** above the base flood elevation.
- (2) Non-Residential Construction - New construction and/or the substantial improvement of any non-residential structure located in areas identified in the “Basis for areas of special flood hazard” section may be floodproofed with permission of the administrator in lieu of elevation. (NOT APPLICABLE FOR COASTAL HIGH HAZARD AREAS) The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to **three (3) feet** above the base flood elevation, 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 registered 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 above, and shall provide such certification to the official as set forth above and in section 5-303(C)(7). An operation and maintenance plan shall be provided to assure the continued viability of floodproofing measures.
- (3) Standards for Manufactured Homes and Recreational Vehicles - Where base flood elevation data are available:
- (a) All manufactured homes placed and/or substantially improved on: (1) individual lots or parcels, (2) in new and/or substantially improved manufactured home parks or subdivisions, (3) in expansions to existing manufactured home parks or subdivisions, or (4) on a site in an existing manufactured home park or subdivision where a manufactured home has incurred "substantial damage" must have the lowest horizontal member, including basement, elevated no lower than **two (2) feet** above the base flood elevation.
1. All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at or above **two (2) feet** above the base flood elevation.

- (b) Manufactured homes placed and/or substantially improved in an either existing manufactured home park or subdivision must be elevated so that:
 - (i) The lowest floor of the manufactured home is elevated no lower than ***two (2) feet*** above the level of the base flood elevation, or
 - (ii) The manufactured home chassis is elevated and supported by reinforced piers (or other foundation elements of at least an equivalent strength) of no less than 48 inches in height above grade.
 - (iii) All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at or above ***two (2) feet*** above the base flood elevation or forty eight (48) inches above grade.
 - (c) All manufactured homes must be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement. (ref. section 5-304(6) above)
 - (d) All recreational vehicles placed on sites must either:
 - (i) Be on the site for fewer than 180 consecutive days.
 - (ii) Be fully licensed and ready for highway use, (a recreational vehicle is ready for highway use if it 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), or
 - (iii) The recreational vehicle must meet all the requirements for "New Construction", including the anchoring and elevation requirements of section 5-304(B)(1), above.
- (4). Floodway - Located within Special Flood Hazard Areas established in section 5-302(B), are areas designated as floodway.

A floodway may be an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and have erosion potential. By definition, the area must remain free of encroachment in order to allow for the discharge of the 1% annual chance flood without increasing the 1% annual chance flood water surface elevation more than a designated one (1) foot rise.

Therefore, the following provisions shall apply:

- (a) Encroachments are prohibited, including earthen fill, new construction, substantial improvements or other development within the regulatory floodway. Development may be permitted however, provided it is demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the encroachment shall not result in ANY increase in flood levels or floodway widths during a 1% annual chance flood discharge. A registered professional engineer must provide supporting technical data and certification thereof.
 - (1). Use of fill within the special flood hazard area shall result in no net loss of natural floodplain storage.
 - (2). Mitigation excavation on site or on an adjacent site must be connected to the Special Flood Hazard Area at an elevation less than or equal to an elevation **two (2) feet** below the 1% annual chance flood elevation
- (b) ONLY if section 5-304(B)(4)(a) above is satisfied, then any new construction or substantial improvement shall comply with all other applicable flood hazard reduction provisions of section 5-304.

C. Standards for Special Flood Hazard Areas Without Established Base Flood Elevations and Floodway (Zone A)

Located within the “Basis for areas of special flood hazard” established in section 5-302(B), where streams exist but no base flood data nor floodway data have been provided (Zone A), the following provisions apply:

- (1) When base flood elevation data or floodway data have not been provided in accordance with section 5-302(B), then the Zoning Administrator or his/her designee shall obtain, review, and reasonably utilize any scientific or historic base flood elevation and floodway data available from a Federal, State, or other source, in order to administer the provisions of section 5-304. ONLY if data are not available from these sources, then the following provisions (2&3) shall apply:
- (2) No encroachments, including structures or fill material, shall be located within an area equal to the width of the stream or twenty-five feet, whichever is greater, measured from the top of the stream bank, unless certification by a registered professional engineer is provided demonstrating that such encroachment shall not result in more than one foot increase in flood levels during the occurrence of the base flood discharge.
 - a. Use of fill within the special flood hazard area shall result in no net loss of natural floodplain storage
 - b. Mitigation excavation on site or on an adjacent site must be connected to the Special Flood Hazard Area at an elevation less than or equal to an elevation **two (2) feet** below the 1% annual chance flood elevation
- (3) In areas identified in the “Basis for areas of special flood hazard areas” without base flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than **three (3) feet** above the highest adjacent grade at the building site. Openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of section 5-304(A)(4) "Elevated Buildings".
 - (a) All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated no less than **three (3) feet** above the highest adjacent grade at the building site.

The Zoning Administrator or his/her designee shall certify the lowest floor elevation and the record shall become a permanent part of the permit file.

D. Standards for Special Flood Hazard Areas With Established Base Flood Elevations Without Designated Floodways (Zone AE).

Located within the “Basis for areas of special flood hazard” established in section 5-302(B), where streams with base flood elevations are provided but no floodways have been designated, (Zones AE) the following provisions apply:

- (1) No encroachments, including fill material, new structures, or substantial improvements shall be allowed within the area of special flood hazard, unless certification 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, shall not increase the water surface elevation of the 1% annual chance flood. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.
 - a. Use of fill within the special flood hazard area shall result in no net loss of natural floodplain storage
 - b. Mitigation excavation on site or on an adjacent site must be connected to the Special Flood Hazard Area at an elevation less than or equal to an elevation **two (2) feet** below the 1% annual chance flood elevation
- (2) New construction or substantial improvements of buildings shall be elevated or floodproofed to elevations established in accordance with section 5-304(B).

E. Standards For Areas of Shallow Flooding (Zone AO)

Areas identified in the “Basis for areas of special flood hazard” established in section 5-302(B), may include designated "AO" shallow flooding areas. These areas have 1% annual chance flood depths of **one (1) to three (3) feet** above ground, with no clearly defined channel. The following provisions apply:

- (1) New construction and substantial improvement of any structure, including manufactured homes, shall have the lowest floor, including basement, elevated to at least **two (2) feet** above the flood depth number specified in feet 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 at least **four (4) feet** above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of section 5-304(A)(4), "Elevated Buildings".

The Zoning Administrator or his/her designee shall certify the lowest floor elevation level and the record shall become a permanent part of the permit file.

- a. All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at or above **two (2) feet** above the flood depth number specified on the Flood Insurance Rate Map (FIRM), above the highest adjacent grade. If no flood depth number is specified, all heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at least **four (4) feet** above the highest adjacent grade.
- (2) New construction or the substantial improvement of a non-residential structure may be floodproofed with permission of the administrator in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight at least **three (3) feet** above the flood depth number specified in feet on the Flood Insurance Rate Map (FIRM), above the highest adjacent grade, or in the case that no flood depth number is specified, to a height of **five (5) feet** 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 registered 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 above, and shall provide such certification to the official as set forth above and as required in Articles 5-303(c) (7). Drainage paths shall be provided to guide floodwater around and away from any proposed structure.
- F. Coastal High Hazard Areas (ZONE VE)
Located within the areas of special flood hazard established in section 5-302(B) , are areas designated as Coastal High Hazard Areas (Zone VE). These areas have special flood hazards associated with wave action and storm surge; therefore, the following provisions shall apply:
- (1) All new construction and substantial improvements of existing structures shall be located landward of the reach of mean high tide;

- (2) All new construction and substantial improvements of existing structures shall be elevated on piles, columns, or shear walls parallel to the flow of water so that the bottom of the lowest supporting horizontal structural member (excluding pilings or columns) is located no lower than **two (2) feet** above the base flood elevation level. All space below the lowest supporting member shall remain free of obstruction or constructed with non-supporting breakaway walls. Open wood lattice work or decorative screening may be permitted for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with subsection (F)(6) below;
- (3) All new construction and substantial improvements of existing structures shall be securely anchored on pilings, columns, or shear walls;
- (4) All pile and column foundations and the structures attached thereto shall be anchored to resist flotation, collapse, and lateral movement due to the combined effects of wind and water loads acting simultaneously on ALL building components, both (non-structural and structural). Water loading values shall equal or exceed those of the 1% annual chance flood. Wind loading values shall be in accordance with the most current edition of the Standard Building Code.
- (5) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in section 5-304(F) herein.
- (6) All space below the lowest horizontal supporting member must remain free of obstruction. Open wood lattice work or decorative screening may be permitted for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action without causing structural damage to the supporting foundation or elevated portion of the structure. The following design specifications are allowed:
 - (a) No solid walls shall be allowed,
 - (b) Material shall consist of open wood lattice or mesh screening only.
 - (c) If aesthetic open wood lattice work or screening is utilized, any enclosed space shall not be used for human habitation, but shall be designed to be used only for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises.

- (7) Prior to construction, plans for any structures having open wood latticework or decorative screening must be submitted to the Zoning Administrator or his/her designee for approval;
- (8) Any alteration, repair, reconstruction, or improvement to any structure shall not enclose the space below the lowest floor except with open wood latticework or decorative screening, as provided in this Section.
- (9) There shall be no fill used as structural support. Non-compacted fill may be used around the perimeter of a building for landscaping/aesthetic purposes provided the fill will wash out from storm surge, (thereby rendering the building free of obstruction) prior to generating excessive loading forces, ramping effects, or wave deflection. The Zoning Administrator or his/her designee shall approve design plans for landscaping/aesthetic fill only after the applicant has provided an analysis by an engineer, architect, and/or soil scientist, which demonstrates that the following factors have been fully considered:
 - (a) Particle composition of fill material does not have a tendency for excessive natural compaction;
 - (b) Volume and distribution of fill will not cause wave deflection to adjacent properties; and
 - (c) Slope of fill will not cause wave run-up or ramping.
- (10) There shall be no alteration of sand dunes or mangrove stands, which would increase potential flood damage;
- (11) Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of section 5-304(F)(4) are met.

G. Standards For Subdivisions

- (1) All subdivision and/or development proposals shall be consistent with the need to minimize flood damage;
- (2) All subdivision and/or development proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- (3) All subdivision and/or development proposals shall have adequate drainage provided to reduce exposure to flood hazards, and;
- (4) For subdivisions and/or developments greater than fifty **(50) lots or five (5) acres**, whichever is less, base flood elevation data shall be provided for subdivision and all other proposed development, including manufactured home parks and subdivisions.

Any changes or revisions to the flood data adopted herein and shown on the FIRM shall be submitted to FEMA for review as a Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Amendment (CLOMA), whichever is applicable. Upon completion of the project, the developer is responsible for submitting the “as-built” data to FEMA in order to obtain the final LOMR.

- (5) All subdivision plats shall delineate all zones as determined from information provided in section 5-302(B) to include using the same datum, all letters of map change (LOMC), and designed finished floors, garages, and carports.

H. Standard For Critical Facilities.

- (1) No new critical facilities and substantial improved critical facilities shall be located in the 1% annual chance flood plus **two (2) feet** freeboard delineated floodplain or the 0.2% annual chance flood, whichever wider.
- (2) All ingress and egress from any critical facility must be protected to the 1% annual chance flood elevation plus **two (2) feet** or the 0.2% annual chance flood elevation, whichever higher.

I. Standards for Areas Adjacent to the 1% Annual Chance Floodplain

- (1) New construction and/or substantial improvements– New construction and/or substantial improvement of any structure or manufactured home shall have the lowest floor, including basement and access to the building, elevated no lower than **two (2) feet** above the base flood elevation. In the case of areas adjacent to Coastal High Hazard Areas (V-Zones), the lowest supporting horizontal member shall be elevated no lower than **two (2) feet** above the base flood elevation.
 - a. All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities shall be elevated at or above **two (2) feet** above the base flood elevation.
- (2) Non-Residential Construction– New construction and/or the substantial improvement of any structure may be floodproofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to **three (3) feet** above the base flood elevation, 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 registered 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 above, and shall provide such certification to the official as set forth above and in section 5-303(C)(7). (NOT APPLICABLE IN COASTAL HIGH HAZARD AREAS).

§ 5-305

Variance Procedures:

- (A) The Zoning Board as established by the Town of Thunderbolt, Georgia shall hear and decide requests for appeals or variance from the requirements of this ordinance.
- (B) The board shall hear and decide appeals when it is alleged an error in any requirement, decision, or determination is made by Zoning Administrator or his/her designee in the enforcement or administration of this ordinance.
- (C) Any person aggrieved by the decision of the Zoning Board may appeal such decision to the Mayor and Council. Appeals to the decision made by Town Council may be taken to Superior Court.
- (D) Variances may be issued for the repair or rehabilitation of Historic Structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a Historic Structure and the variance is the minimum to preserve the historic character and design of the structure.
- (E) 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 1% annual chance flood and create no additional threats to public safety.
- (F) Variances shall not be issued within any designated floodway if ANY increase in flood levels during the 1% annual chance flood discharge would result.
- (G) In reviewing such requests, the Zoning Board shall consider all technical evaluations, relevant factors, and all standards specified in this and other sections of this ordinance; 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;
 - (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 to the comprehensive plan and floodplain management program for that area;
- (8) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (9) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and effects of wave action, if applicable, expected at the site; and
- (10) 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.
- (11) Compatibility of the proposed use with existing and anticipated development;
- (12) Any advice and comments received from the Federal Emergency Management Agency; and
- (13) FEMA guidelines.

(H) Conditions for Variances:

- (1) A variance shall be issued ONLY when there is:
 - (i) a finding of good and sufficient cause,
 - (ii) a determination that failure to grant the variance would result in exceptional hardship, and;
 - (iii) 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.
- (2) The provisions of this Ordinance are minimum standards for flood loss reduction; therefore any deviation from the standards must be weighed carefully. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and, in the instance of a Historic Structure, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building.

- (3) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation of the proposed lowest floor and stating that the cost of flood insurance will be commensurate with the increased risk to life and property resulting from the reduced lowest floor elevation.
- (4) The Zoning Administrator or his/her designee shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.
 - (I) Upon consideration of the factors listed above and the purposes of this ordinance, the Zoning Board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
 - (J) Variances shall not be issued “after the fact.”
 - (K) Any variance granted shall be perpetually included on the deed.

§ 5-306

Definitions:

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

“0.2% Annual Chance Flood” means the flood having a 0.2 percent chance of being equaled or exceeded in any given year.

“1% Annual Chance Flood” means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

“Accessory Structure” means a structure having minimal value and used for parking, storage, and other non-habitable uses, such as garages, carports, storage sheds, pole barns, hay sheds and the like.

“Addition (to an existing building)”-means any walled and roofed expansion to the perimeter or height of a building in which the addition is connected by a common load-bearing wall other than a firewall. Any walled and roofed addition, which is connected by a firewall or is separated by an independent perimeter load-bearing wall, shall be considered "new construction".

“Appeal” means a request for a review of the Zoning Administrator's interpretation of any provision of this ordinance.

“Areas adjacent to the 1% annual chance floodplain” means those areas that are at or below **two (2) feet** above the base flood elevation, unless the area is hydraulically independent (meaning absolutely no connection to the 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).

“Area of shallow flooding” means a designated Zone AO or Zone AH on a community's Flood Insurance Rate Map (FIRM) with 1% annual chance flood depths from one (1) to three (3) feet, and/or where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

“Area of special flood hazard” is the land within a community subject to flood hazard. Areas of Special Flood Hazard shall be those designated by the local community and referenced in section 5-302(B).

“Base flood,” see “1% Annual Chance Flood”

“Base Flood Elevation (BFE)” The elevation shown on the Flood Insurance Rate Map for Zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO, V1-V30, and VE that indicates the water surface elevation resulting from a flood that has a one (1) percent chance of equaling or exceeding that level in any given year.

“Basement” means that portion of a building having its floor sub grade (below ground level) on all sides.

“Building” see “Structure”

“Coastal High Hazard Area” means a Special Flood Hazard Area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Identified as Zone VE on Flood Insurance Rate Maps (FIRMs)

“Critical Facility” means any public or private facility, which, if flooded, would create an added dimension to the disaster or would increase the hazard to life and health. Critical facilities include:

- (a) Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, or water-reactive materials;
- (b) Hospitals and nursing homes, and housing for the elderly, which are likely to contain occupants who may not be sufficiently mobile to avoid the loss of life or injury during flood and storm events;

- (c) Emergency operation centers or data storage centers which contain records or services that may become lost or inoperative during flood and storm events; and generating plants, and other principal points of utility lines.
- (d) Generating plants and other principal points of utility lines.

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

"Dry Floodproofing" means any combination of structural and non-structural additions, changes, or adjustments to structures, which reduce or eliminate flood damages to real estate or improved real estate property, water, and sanitary facilities, structures, and their contents. Structures shall be floodproofed with a minimum of twelve (12) inches of freeboard (more is recommended) in relation to the base flood elevation. Dry floodproofing of a pre-FIRM residential structure that has not been substantially damaged or improved is allowed. Dry floodproofing of a post-FIRM residential building is not allowed. Non-residential structures may be dry floodproofed in all flood zones with the exception of the Coastal High Hazard Area (Zone VE). (NOTE: Dry floodproofing of a residential building has no impact on (reducing) NFIP flood insurance premiums).

"Elevated building" means a non-basement building built to have the lowest floor of the lowest enclosed area elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns, piers, or shear walls adequately anchored so as not to impair the structural integrity of the building during a 1% annual chance flood event.

"Encroachment" means development which extends into the prescribed boundary of a regulated area.

"Existing construction" means structures for which the "start of construction" commenced before November 14, 1979 [the effective date of the initial floodplain management regulations adopted for that community].

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and final site grading or the pouring of concrete pads) is completed before November 14, 1979 [i.e., the effective date of the FIRST floodplain management regulations adopted by a community].

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

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

- (a.) the overflow of inland or tidal waters; or
- (b.) the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the Federal Insurance Administration, where the boundaries of areas of special flood hazard have been defined as Zone A.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, issued by the Federal Insurance Administration (FEMA), delineating the areas of special flood hazard and/or risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" the official report by the Federal Insurance Administration evaluating flood hazards and containing flood profiles and water surface elevations of the 1% annual chance flood.

"Floodplain" means any land area susceptible to flooding.

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

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

"Floor" means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

“Freeboard” means a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, blockage of bridge and culvert openings, and the hydrological effect of urbanization of the watershed.

“Functionally dependent facility” means a facility which cannot be used for its intended purpose, unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers or shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

“Highest adjacent grade (HAG)” means the highest natural elevation of the ground surface, prior to construction, adjacent to the proposed foundation of a building.

“Historic Structure” means any structure that is;

- (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 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 and determined as eligible 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 and determined as eligible by communities with historic preservation programs that have been certified either:
 1. By an approved state program as determined by the Secretary of the Interior, or
 - Directly by the Secretary of the Interior in states without approved programs.

“Lowest floor” means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage, in an area other than a basement, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of other provisions of this code.

“Manufactured home” means a building, transportable in one (1) or more sections built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

“Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

“Mean Sea Level” means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the regulatory floodplains. For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, the North American Vertical Datum (NAVD) of 1988, or other datum, to which base flood elevations shown on a community’s Flood Insurance Rate Map are referenced.

“National Geodetic Vertical Datum (NGVD)” as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the regulatory floodplains.

“New construction” means, for floodplain management purposes, structures for which the “start of construction” commenced after November 14, 1979 [the effective date of the FIRST floodplain management ordinance adopted by the community] and includes any subsequent improvements to such structures.

“New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after November 4, 1979 [i.e., the effective date of the first floodplain management regulations adopted by a community].

“North American Vertical Datum (NAVD)”. has replaced the National Geodetic Vertical Datum of 1929 in existing and future FEMA Flood Modernization Maps.

“Recreational vehicle” means a vehicle which is built on a single chassis, which measures four hundred (400) square feet or less when measured at the largest horizontal projection, is designed to be self-propelled or permanently towable by a light-duty truck, and is designed primarily as temporary living quarters for recreational, camping, travel, or seasonal

use and not for use as a permanent dwelling.

"Start of construction" means the date the development permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of the structure such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation, and includes the placement of a manufactured home on a foundation. (Permanent construction does not include initial land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of buildings appurtenant to the permitted structure, such as garages or sheds not occupied as dwelling units or part of the main structure. (NOTE: accessory structures are NOT exempt from any ordinance requirements)

"Structure" means, for the purpose of flood damage prevention, a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other manmade facilities or infrastructures.

"Subdivision" means the division of a single lot into two (2) or more lots for the purpose of sale or development.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

"Substantial improvement" means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during a five (5) year period, in which the cumulative cost equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction" of the improvement. The designated 5 year period begins at the date of the initial improvement to the structure. NOTE: *The market value of the structure should be (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 occurring.*

This term includes structures, which have incurred "substantial damage", regardless of the actual amount of repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been

- identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
- (2) Any alteration of a “historic structure” provided that the alteration will not preclude the structure’s continued designation as a “historic structure”.

“Substantially improved existing manufactured home parks or subdivisions” is where the repair, reconstruction, rehabilitation, or improvement of the streets, utilities, and pads equals or exceeds fifty (50) percent of the value of the streets, utilities and pads before the repair, reconstruction, rehabilitation, or improvement commenced.

“Variance” is a grant of relief from the requirements of this ordinance, which permits construction in a manner otherwise prohibited by this ordinance

“Violation” means the failure of a structure or other development to be fully compliant with the community’s floodplain management regulations. A structure or other development without the elevation certificate, or other certifications, or other evidence of compliance required by this ordinance is presumed to be in violation until such time as that documentation is provided.

“Wet floodproofing” means a method of construction which allows water to enter a structure in such a way that will minimize damage to the structure and its contents. Wet floodproofing is appropriate for functionally dependent use and uses that facilitate open space use by variance only, structures utilized for parking or limited storage, or when all other techniques are not technically feasible. Wet floodproofing shall not be utilized as a method to satisfy the requirements of this ordinance for bringing substantially damaged or improved structures into compliance. Wet floodproofing is not allowed in lieu of complying with the lowest floor elevation requirements for new residential buildings.

SEVERABILITY

If any section, clause, sentence, or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

Ordinance adopted on _____.

BY: _____

Certified by: _____

Date: _____