



Orange County Planning
Flood Development
Permit Application Form:

Case Number: _____

Date: _____ PIN Number: _____

Property Address: _____

Applicant: _____ Owner: _____

Address: _____ Address: _____

Phone Number: _____ Phone Number: _____

Cell Phone: _____ Cell Phone: _____

Email: _____ Email: _____

PROPOSAL: Please check all applicable boxes:

STRUCTURES: [] Residential [] Non-residential [] Accessory

[] New [] Replacement [] Addition [] Alteration/Renovation

[] Deconstruction [] Relocation

WATERWAY:

[] Alteration [] Relocation [] Improvement [] Required buffer restoration

UTILITIES (i.e. above and/or buried utility lines):

[] New [] Alteration [] Relocation [] Deconstruction

STREETS (i.e. public/private, driveway, bridge, rail, pedestrian path, etc.):

[] New [] Alteration [] Relocation [] Deconstruction

OTHER:

[] Drainage Improvement(s) including culvert work [] Grading [] Fill [] Excavation

What exactly are you proposing to do: _____

EXISTING STRUCTURES: (If more than 4 existing structures/buildings, please attach additional information)

Type/Use:	In SFHA	Existing floor area (in square feet):	Total floor area (in square feet) proposed:	Value of Structure	Structure being altered as part of this project	Cost of construction

Property Acreage: _____ Total Disturbed Land Area (in square feet): _____

FIRM Data:

Map Panel Number: _____ Suffix: _____ Map Panel Date: _____

Flood Zone (actual zone): _____ Map Index Date: _____

Regulatory Floodway/Non-Encroachment Area Info (check one):

Project Within Floodway/Non-encroachment Area: _____ Project Outside Floodway/Non-encroachment Area: _____

**** NOTE:** Per Section(s) 6.21.5 (A) and (C) of the Orange County Unified Development Ordinance (UDO), applicants are required to attach engineering certification, and supporting data, demonstrating development activity will not result in an increase in flood levels (i.e. a no-rise certification) for projects located within floodways or non-encroachment areas. **

Base Flood Elevation (BFE) for Property: _____

**** NOTE:** Per Section(s) 6.21.5 (B) (1) and (2) of the UDO substantial improvement of any existing residential and non-residential structure (including manufactured homes) shall require the reference level, including basement, elevated no lower than two feet above the regulatory flood protection elevation, as defined in Article 10 of this Ordinance. This includes all utilities (i.e. electric, HVAC ducts, heating/air conditioning/electrical equipment, etc.).

Per Section 2.6.2 (B) of the UDO proposed elevation, and method thereof, of all development within a special flood hazard area shall be based on the following datum:

- (1) Elevation in relation to NAVD 1988 of the proposed reference level (including basement) of all structures;
- (2) Elevation in relation to NAVD 1988 to which any non-residential structure in Zone AE will be flood-proofed; and
- (3) Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or flood proofed.

New development within the regulatory floodway is expressly prohibited. **

Does project involve development of a garage?: (circle answer) (Yes) (No)

If 'Yes' will garage be used for any purpose other than parking vehicles, building access, or storage? (Yes) (No)

**** NOTE:** If the garage area is going to be used for any purpose other than parking vehicles, building access, or storage then the garage shall be used in determining the lowest floor elevation in accordance with applicable County regulation(s) as embodied within the UDO ******

Proposed Method of Elevating Pre-FIRM Structure: _____

**** Note:** If foundation wall is used, demonstrate a minimum of 2 openings. Required openings are to be 1 sq. inch per sq.ft. of enclosed footprint area below identified BFE ******

I, the undersigned, understand that the issuance of a Floodplain Development Permit in accordance with the provisions of Section 2.6 of the UDO is contingent upon the above/submitted information being correct and that the plans and supporting data have been or shall be provided as required. I also understand that prior to occupancy of the structure being permitted, an elevation and/or floodproofing certificate signed by a professional engineer or registered land surveyor must be on file with the Orange County Planning and Inspections Department indicating the "as built" elevations in relation to mean sea level (MSL).

I certify that to the best of my knowledge the information contained within this application package, and in the supporting documents, is a factual representation of the proposed development and includes all submittal information as documented within Section 2.6 of the UDO. I understand that no work of any kind shall commence until a Permit has been issued, that same may be revoked if any false or misleading statements are made herein and, if revoked, all work must cease until the Permit is re-issued.

By signing this application, I acknowledge and agree that the County Floodplain Administrator, or their designee, have a right, upon presentation of proper credentials, to enter the subject property at any reasonable hour for the purposes of inspection or other enforcement action.

Owner

Date:

Applicant

Date:

Official Use Only:

Date Application Filed: _____ Fee Collected: _____

Accepted by: _____ Permit Case Number: _____

Zoning of Property: _____ Watershed Overlay District: _____

Staff Assigned to Review: _____

Within the Efland Village Overlay District, no construction activity shall begin nor shall any excavation, soil removal, filling, grading or disturbance of vegetation, including trees, be commenced, nor any sign erected for any use subject to the requirements of the overlay district until such time as a site plan has been approved and a permit issued by the Planning Director in accordance with this Section and Section 2.4 of this Ordinance.

(D) Major Transportation Corridor Overlay District

(1) Approval Requirements

Within the Major Transportation Corridor District, no construction activity shall begin nor shall any excavation, soil removal, filling, grading or disturbance of vegetation, including trees, be commenced, nor any sign erected until such time as a site plan has been approved and a permit issued by the Planning Director in accordance with this Section and Section 2.4 of this Ordinance.

2.5.8 Additional Requirements for Economic Development Districts

- (A)** Prior to submission of an application for site plan approval, applicants shall meet with representatives of the Planning and Inspections, and Economic Development Departments to identify policies, procedures, regulations, and fees applicable to development proposals.
- (B)** Any proposed subdivision in an Economic Development District shall follow the approval procedures as specified in Section 2.16.
- (C)** In addition to the submittal requirements contained in this Section, a complete application shall also include:
- (1)** Building elevation drawings for each proposed structure; and
 - (2)** A minimum of two drawings of sections through the site illustrating existing and proposed grades, as well as the relationship of different site features.

SECTION 2.6: FLOODPLAIN DEVELOPMENT APPLICATION PERMIT AND CERTIFICATE REQUIREMENTS

2.6.1 Requirements for Special Flood Hazard Area

- (A)** All projects proposing the development of property located within a Special Flood Hazard Area (SFPA) shall be required, regardless of the proposed land use, to submit a site plan prepared by a registered engineer, landscape architect, or land surveyor in accordance with the provisions of Section 2.5.
- (B)** (A)(B) Flood damage prevention regulations contained herein shall apply to all Special Flood Hazard Areas within the jurisdiction of Orange County, including properties located within the Extra-Territorial Jurisdictions (ETJs) of local municipalities used for bona fide farm purposes in accordance with Part 1, Article 19 of Chapter 160A of the North Carolina General Statutes.

2.6.2 Plans and Application Requirements

Application for a floodplain development permit shall be made to the Floodplain Administrator on forms furnished by the Planning Department prior to any development activities proposed to be located within flood prone areas.

The following items/ information shall be presented to the Floodplain Administrator to apply for a floodplain development permit:

- (A)** A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:

- (1) The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, driveways, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;
 - (2) The boundary of the SFHA as delineated on the FIRM or other flood map as determined in Section 1.1.3 of this Ordinance or a statement that the entire lot is within the SFHA;
 - (3) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 1.1.3 of this Ordinance;
 - (4) The boundary of the floodway(s) or non-encroachment area(s) as determined in Section Section 1.1.3 of this Ordinance;
 - (5) The Base Flood Elevation (BFE) where provided as set forth in Section(s) 1.1.3, 1.10.2, and 6.21;
 - (6) The old and new location of any watercourse that will be altered or relocated as a result of proposed development; and
 - (7) Preparation of the plot plan by or under the direct supervision of a North Carolina licensed professional Land Surveyor or Professional Engineer and certified by them.
- (B) Proposed elevation, and method thereof, of all development within a SFHA including but not limited to:
- (1) Elevation in relation to NAVD 1988 of the proposed reference level (including basement) of all structures;
 - (2) Elevation in relation to NAVD 1988 to which any non-residential structure in Zone AE will be flood-proofed; and
 - (3) Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or flood proofed.
- (C) If flood proofing, a flood proofing certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures completed by a registered professional engineer or architect shall be required certifying that the non-residential flood proofed development will meet the flood-proofing criteria in Section 6.21.
- (D) A Foundation Plan drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this Ordinance are met. These details include but are not limited to:
- (1) Proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear wall); and
 - (2) Openings to facilitate equalization of hydrostatic flood forces on walls according to Section 6.21(B), when solid foundation perimeter walls are used in Zones.
- (E) Usage details of any enclosed space below the regulatory flood protection elevation.
- (F) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage;
- (G) Copy of all other Local, State and Federal permits required prior to floodplain development permit issuance (i.e. Wetlands, Erosion and Sedimentation Control, Riparian Buffers, Mining, etc.);
- (H) If the application is for placement of recreational vehicles and/or temporary structures, documentation to ensure compliance with Section 6.21(B)(5) and (7) of this Ordinance.

- (I) If a watercourse is proposed to be altered and/or relocated, a description of the extent of watercourse alteration or relocation, an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map, drawn to scale, (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

2.6.3 Data Requirement

The following information shall be provided at a minimum on the floodplain development permit to ensure compliance with this Ordinance.

- (A) A complete description of all the development to be permitted under the floodplain development permit (e.g. house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).
- (B) The SFHA determination for the proposed development per available data specified in Section 1.1.3 of this Ordinance.
- (C) The regulatory flood protection elevation required for the reference level and all attendant utilities.
- (D) The regulatory flood protection elevation required for the protection of all public utilities.
- (E) All certification submittal requirements with timelines.
- (F) A statement that no fill material shall encroach into the floodway or non-encroachment area of any watercourse, if applicable.
- (G) If in an AE zone, specify the minimum foundation opening requirements.
- (H) State limitations of below BFE enclosure uses (if applicable) such as, parking, building access and limited storage only).
- (I) (H)(I) A statement indicating that all materials below BFE and/or Regulatory Flood Protection Elevation (RFPE) must be flood resistant materials.

2.6.4 Certification Requirements

- (A) **An Elevation Certificate (FEMA Form 086-0-33)**
- (1) Is required within 7 calendar days of establishment of the reference level elevation,
- (2) It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, or flood proofing elevation, whichever is applicable, in relation to NAVD 1988.
- (a) Said certification shall be prepared by, or under the direct supervision of, a North Carolina licensed professional Land Surveyor or Professional Engineer and certified by them.
- (b) Any work done within the 7 day calendar period and before submission of the certification shall be at the permit holder's risk.
- (3) The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and before further work being permitted to proceed.
- (4) Failure to submit the certification or failure to make required corrections shall be cause to deny the floodplain development permit and/or issue a stop-work order for the project.
- (5) A final Finished Construction Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance.

- (a) It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities.
 - (i) Elevation certification shall be prepared by, or under the direct supervision of, a North Carolina licensed professional Land Surveyor or Professional Engineer and certified by the same.
- (b) The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance.
- (c) In some instances, another certification may be required to certify corrected as-built construction.
- (d) Failure to submit the certification or failure to make said corrections required shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- (e) The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided within the Finished Construction Elevation Certificate. These photographs should show the entire building, including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" x 3". Digital photographs are acceptable

(B) Floodproofing Certificate (FEMA Form 086-0-34)

- (1) In those instances where non-residential floodproofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the actual start of any new construction.
- (2) It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988
 - (a) Floodproofing certification shall be prepared by, or under the direct supervision of, a North Carolina licensed professional Land Surveyor or Professional Engineer and certified by the same and shall be accompanied by all documentation as detailed in Section 2.6.2 of this Ordinance.
- (3) The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval.
- (4) Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit.
- (5) Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- (6) A final Finished Construction Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy.

- (a) It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988.
 - (i) Floodproofing certificate shall be prepared by, or under the direct supervision of, a North Carolina licensed professional Land Surveyor or Professional Engineer and certified by the same.
 - (b) The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy.
 - (c) Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit.
 - (d) Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy
- (C)** If a manufactured home is placed within Zone AE and the elevation of the chassis is more than 36 inches in height, an engineered foundation certification is required per Section 6.21.
- (D)** If a watercourse is to be altered or relocated, the following shall be submitted by the permit applicant prior to issuance of a floodplain development permit:
- (1)** A description of the extent of watercourse alteration or relocation;
 - (2)** An engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and
 - (3)** A map, drawn to scale, showing the location of the proposed watercourse alteration or relocation.
- (E)** For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:
- (1)** Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;
 - (2)** Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;
 - (3)** Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and
 - (4)** Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required
- (F)** Certification Exemptions
- The following structures, if located within Zone AE, are exempt from the elevation/flood proofing certification requirements specified in items (A) and (B) above:
- (1)** Recreational vehicles meeting requirements of Section 6.21(B)(5);
 - (2)** Temporary structures meeting requirements of Section 6.21(B)(7); and

- (3) Accessory Structures with any dimension that is 12 feet or greater in height, width, or depth, meeting requirements of Section 6.21(B)(8).

SECTION 2.7: SPECIAL USE PERMITS

2.7.1 Generally

- (A) Any use or development designated by applicable zoning district regulations contained within Article 5 as a special use, or as allowed only pursuant to a special use permit (either Class A or Class B), may be established in that district only after the use or development is authorized by a validly issued and recorded special use permit.
- (B) This section sets forth required review and approval procedures for submittal, review, and approval of applications for special use permit.
- (C) A special use permit authorizes its holder to use or develop a particular parcel of land in a particular way, as specified by the terms and conditions of the special use permit.
- (D) A special use permit imposes on its holder the responsibility of ensuring that the authorized use or development continues to comply with the terms and conditions of approval.
- (E) Issuance of a special use permit does not relieve the holder of the special use permit of the additional responsibility of obtaining a building permit or any other permit or approval required by any other applicable law.

2.7.2 Review and Approval Flow Chart

The review and approval process for Special Use Permits is shown in the procedure's flowchart.

~~identified on the property. If a viable repair area is identified on the property, the owner shall not be required to connect to the public sewer system, but may choose to connect if so desired.~~

- ~~(D) There shall be no such connection requirement for any structure or property if an adequate septic facility is currently in use and in good working order.~~

SECTION 6.21: FLOOD REGULATIONS

6.21.1 Intent

The intent of these regulations is to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

- (A) Restrict or prohibit uses, which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion, flood heights or velocities;
- (B) Require that uses vulnerable to floods, including facilities, which serve such uses, be protected against flood damage at the time of initial construction;
- (C) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;
- (D) Control filling, grading, dredging, and all other development, which may increase erosion or flood damage; and
- (E) Prevent or regulate the construction of flood barriers, which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

6.21.2 Objectives

The objectives of these regulations are to:

- (A) Protect human life, safety, and health;
- (B) Minimize expenditure of public money for costly flood control projects;
- (C) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (D) Minimize prolonged business losses and interruptions;
- (E) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, cable and other communication facilities, and sewer lines, streets, and bridges located in flood prone areas;
- (F) Minimize damage to private and public property due to flooding;
- (G) Make flood insurance available to the community through the National Flood Insurance Program (NFIP);
- (H) Maintain the natural and beneficial functions of floodplains;
- (I) 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; and
- (J) Ensure that potential homebuyers are notified that property is in a Special Flood Hazard Area.

6.21.3 Findings of Fact

- (A) Special Flood Hazard Areas (SFHA) are flood prone areas within the planning jurisdiction of Orange County which are subject to periodic inundation, which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, 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 cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood prone areas by uses vulnerable to floods or hazards to other lands, which are inadequately elevated, flood proofed, or otherwise unprotected from flood damages.

6.21.4 Compliance

No structure or land shall hereafter be located, extended, converted, altered, or developed, improved, or maintained in any way without full compliance with the terms of the provisions of this section and other applicable regulations.

6.21.5 Special Flood Hazard Areas (SFHA)

(A) **Provisions for Flood Hazard Reduction**

In all SFHAs the following additional standards shall be met:

- (1) All new construction and substantial improvements shall be designed and adequately anchored to prevent flotation, collapse, or lateral movement of the structure.
- (2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to minimize flood damage.
- (3) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (4) All electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment and facilities shall be located at or above the Regulatory Flood Protection Elevation (RFPE) or designed and installed to prevent water from entering or accumulating within the components during the occurrence of the base flood. These include but are not limited to HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, appliances (washers, dryers, refrigerator, etc.), hot water heaters, and electric outlets/switches.
 - (a) Replacements that are part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.
 - (b) Replacements that are for maintenance and not part of a substantial improvement may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consistent with the code and requirements for the original structure.
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (8) Fuel and Chemical Storage
 - (a) With the exception of structures or tanks used for chemical and/or fuel storage incidental and necessary to the daily operations of a water treatment plant or wastewater treatment facility, the storage of the following chemicals and compounds shall be prohibited within SFHAs:
 - (i) Acetone,

- (ii) Ammonia,
 - (iii) Benzene,
 - (iv) Calcium carbide,
 - (v) Carbon disulfide,
 - (vi) Celluloid,
 - (vii) Chlorine,
 - (viii) Hydrochloric acid,
 - (ix) Prussic acid,
 - (x) Magnesium,
 - (xi) Nitric acid,
 - (xii) Oxides of nitrogen,
 - (xiii) Phosphorus,
 - (xiv) Potassium,
 - (xv) Sodium,
 - (xvi) Sulfur,
 - (xvii) Acetylene gas,
 - (xviii) Gasoline and any petroleum product,
 - (xix) Lumber,
 - (xx) Charcoal or coal dust,
 - (xxi) Polychlorinated biphenyls (PCBs),
 - (xxii) Poly nuclear aromatic
 - (xxiii) Volatile organic compounds (VOCs), or
 - (xxiv) Any priority pollutants listed in Table 1 of Section 307 of the Clean Water Act (P.L. 92-500), as amended
- (b) Where chemicals and fuel are necessary for the operation of water and/or wastewater treatment facilities, the storage structure or tank may be located within a SFHA provided it is either elevated or flood proofed in accordance with the standards contained herein and certified in accordance with Section 2.6.4 of this Ordinance.
- (9)** The following facilities shall be prohibited in SFHAs:
- (a) Hospitals,
 - (b) Nursing homes,
 - (c) Foster care facilities,
 - (d) Sheriff's facilities,
 - (e) Fire stations,
 - (f) Emergency operations centers,
 - (g) Solid waste disposal facilities,
 - (h) Hazardous waste management disposal facilities,
 - (i) Junk/salvage yards,
 - (j) Chemical storage facilities, and

- (k) Vehicle and equipment storage facilities.
- (10) Any inhabited structure within any SFHA shall have unobstructed, dry access during a regulatory flood event.
- (11) Nothing in this Ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this Ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the RFPE in the floodway, non-encroachment area, or stream setback and provided that such repair, reconstruction, or replacement meets all of the other requirements of this section and the Ordinance.
- (12) When a structure is partially located in a SFHA, the entire structure shall meet the requirements for new construction and substantial improvement.
- (13) New fill material within any SFHA shall be prohibited except as part of a roadway construction project consistent with the standards contained herein.
- (14) Grading activities within any SFHA shall be prohibited except as part of a roadway construction project consistent with the standards contained herein.
- (15) Public utilities and facilities shall be constructed to minimize flood damage consistent with these and all other applicable County regulations.
- (16) In cases where development is otherwise allowed within identified SFHA's, adequate drainage shall be provided.
- (17) When a structure is located in a SFHA with multiple Base Flood Elevations (BFEs), the provisions for the highest BFE shall apply.

(B) Specific Standards Where Base Flood Elevation (BFE) Data Provided

In all SFHAs where BFE data has been provided, as set forth in Section 1.10 or 4.3, the following standards shall be met:

(1) Residential Construction

- (a) New construction of residential structures within the SFHA shall be prohibited.
- (b) Substantial improvement of any existing residential structure (including manufactured homes) shall require the reference level, including basement, elevated no lower than two feet above the regulatory flood protection elevation, as defined in Article 10 of this Ordinance.
- (c) Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to automatically facilitate equalization of hydrostatic flood forces on exterior walls shall be provided pursuant to Section 2.6.3.

(2) Non-Residential Construction

- (a) New construction of non-residential structures within the SFHA shall be prohibited.
- (b) Substantial improvement of any existing commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the RFPE.
- (c) Structures located in the AE Zone may be flood proofed to the RFPE in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the RFPE are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

- (d) A North Carolina licensed Professional Engineer or Architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in Section 2.6.

(3) Manufactured Homes

- (a) Replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation.
- (b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, or lateral movement according to the State of North Carolina Regulations for Manufactured/Mobile Homes, 1995 Edition, and any revision thereto adopted by the Commissioner of Insurance pursuant to NCGS §143-143.15 or a certified engineered foundation.
- (c) When the elevation would be met by an elevation of the chassis 36 inches or less above the grade at the site, reinforced piers or other foundation elements of at least equivalent strength shall support the chassis.
- (d) When the elevation of the chassis is above 36 inches in height, an engineering certification is required.
- (e) All foundation enclosures or skirting below the lowest floor shall comply with the standards in Section 2.6.4.
- (f) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management coordinator.

(4) Road and Driveway Crossings

- (a) Any public road, private road, or driveway crossing a SFHA shall require a 'No-Impact' certification approval from the North Carolina Emergency Management Division before any building permits can be issued for new construction which derive their vehicular access from such public roads, private roads, or driveways.
- (b) If the "No- Impact" certification data demonstrate that the Base Flood Elevation will rise more than one vertical foot, then the developer shall file a Conditional Letter of Map Revision with the North Carolina Division of Emergency Management for review and approval. Before any building permit can be issued for the improvements associated with the crossing, an approved Letter of Map Revision shall be on file in the Planning and Inspections Department.

(5) Recreational Vehicles

Recreation vehicles placed on sites within a SFHA shall be consistent with either of the following:

- (a) Be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or
- (b) Meet all the requirements for new construction, including anchoring and elevation requirements of Section 2.6 and Section 6.6.1(B)(3) of this Ordinance.

(6) Fully Enclosed Areas Below Regulatory Flood Protection Elevation (RFPE)

- (a) With the substantial improvement of elevated buildings, fully enclosed areas that are below the RFPE shall not be used for human habitation, but shall be designated for use only as follows:
 - (i) For parking of vehicles,
 - (ii) Building access, or
 - (iii) Limited storage of maintenance equipment used in connection with the premises.
- (b) Such spaces shall be constructed entirely of flood resistant materials below the regulatory flood protection level in the AE zone and meet the following criteria:
 - (i) Shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. To meet this requirement, the foundation must either be certified by a North Carolina licensed Professional Engineer or Architect or meet the following minimum design criteria:
 - a. Provide a minimum of two openings on different sides of each enclosed area subject to flooding;
 - b. The total net area of all openings must be at least one square inch for each square foot of enclosed area subject to flooding;
 - c. If a building has more than one enclosed area, each area must have openings on exterior walls to allow floodwaters to directly enter and exit;
 - d. The bottom of all required openings shall be no higher than one foot above the adjacent grade;
 - e. Openings may be equipped with screens, louvers, or other opening coverings or devices provided they permit the automatic flow of floodwaters in both directions; and
 - f. Foundation enclosures made of flexible vinyl or sheet metal skirting are not considered enclosures for regulatory and flood insurance rating purposes, and therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires hydrostatic openings as outlined above to comply with this Ordinance.
 - (ii) The enclosed areas shall be used solely for parking of vehicles, building access, or storage.
 - (iii) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).
 - (iv) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.
 - (v) Property owners shall be required to execute and record a non-conversion agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished, or otherwise converted to habitable space.

Orange County shall have the right to inspect the enclosed area on an annual basis to confirm compliance with this agreement. This agreement shall be recorded within the Orange County Registrar of Deeds and shall transfer with the property in perpetuity.

- a. If a property bound by a non-conversion agreement is modified to remove the enclosed areas below the RFPE, the owner may request release from the agreement after staff inspection and submittal of confirming documentation.

(7) Temporary Non-Residential Structures

Prior to the issuance of a floodplain development permit for a temporary structure, the applicant shall submit in writing for the review and approval of the Floodplain Administrator, a plan for the removal of such structure(s) in the event of a hurricane or flash flood warning notification. The plan shall include the following information:

- (a) A specified time period for which the temporary use will be permitted. Time specified may not exceed three months.;
- (b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;
- (c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
- (d) A copy of the contract or other suitable instrument with a trucking company to ensure the availability of removal equipment when needed; and
- (e) Designation, accompanied by documentation, of a location outside the SFHA to which the temporary structure will be moved.

(8) Additions/Improvements

- (a) Where a fire wall or independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition need comply with the standards for new construction.
- (b) Pre-FIRM Structures
 - (i) For additions and/or improvements, in combination with any interior modifications to the existing structure, that are not considered a substantial improvement, as defined, and do not require a zoning or building permit, the addition and/or improvements shall be designed to minimize flood damages and shall not be any more non-conforming than the existing structure.
 - (ii) For additions and/or improvements, in combination with any interior modifications to the existing structure, that are considered a substantial improvement as defined, requiring a zoning or building permit, both the existing structure and the addition and/or improvements shall comply with the standards for new construction.
- (c) Post-FIRM Structures
 - (i) Additions to post-FIRM structures with no modifications to the

existing structure shall require only the addition to comply with the standards for new construction.

- (ii) For additions and/or improvements, in combination with any interior modifications to the existing structure, that are not considered a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
 - (iii) For additions and/or improvements, in combination with any interior modifications to the existing structure, that are considered a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- (d) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a five year period, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the 5 year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 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 before the damage occurred. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:
- (i) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assume safe living conditions.
 - (ii) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

(C) Floodway and Non-encroachment Areas

- (1) Areas designated as floodways or non-encroachment areas are located within the SFHA established in Section 1.1.3 of this Ordinance.
- (2) The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles.
- (3) The following provisions shall apply to all development within such areas:
 - (a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses, performed according to standard engineering practice, that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the Floodplain Administrator before issuance of floodplain development permit.

- (b) If FEMA has approved a Conditional Letter of Map Revision (CLOMR), then a Letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment.
- (c) No manufactured homes shall be permitted.

(D) Subdivisions, Manufactured Home Parks, and Major Developments

All subdivisions, manufactured home parks, and major development proposals located within SFHAs shall:

- (1) Be consistent with the need to minimize flood damage.
- (2) Have public utilities and facilities such as sewer, gas, electric, cable, and water systems located and constructed to minimize flood damage.
- (3) Have adequate drainage provided to reduce exposure to flood hazards.
- (4) Have provided all Base Flood Elevation (BFE) data adopted by reference per Section 1.1.3 of this Ordinance.

(E) Effect Upon Outstanding Floodplain Development Permits

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a floodplain development permit has been granted by the Floodplain Administrator or his/her authorized agents before the time of passage of this Ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six months subsequent to passage of this Ordinance or any revision thereto, construction or use shall be in conformity with the provisions of this Ordinance.

(F) Enforcement

The provisions of the SFHA shall be enforced in accordance with the requirements contained within Section 9.7 of this Ordinance.