



TOWN OF KNIGHTDALE

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TOWN OF KNIGHTDALE ORD #06-04-19-001

AN ORDINANCE TO AMEND THE UNIFIED DEVELOPMENT ORDINANCE OF THE TOWN OF KNIGHTDALE REGARDING FLOOD DAMAGE PROTECTION

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF KNIGHTDALE, NORTH CAROLINA:

WHEREAS, the Town of Knightdale has received a petition to amend the Unified Development Ordinance in regard to the sections addressing flood damage prevention; and

WHEREAS, the Town of Knightdale Unified Development Ordinance Section 15.15 establishes uniform procedures for amending the text of the Ordinance; and

WHEREAS, the Town's regulations for flood damage prevention need to be updated to reflect changes in the state's model ordinance prior to the implementation of new Flood Insurance Rate Maps on May 2, 2006;

NOW, THEREFORE BE IT ORDAINED by the Town Council of the Town of Knightdale, North Carolina:

Section 1. That the Unified Development Ordinance of the Town of Knightdale Code be amended to read as follows (*explanatory notations in italics*):

Section 6.5(C)(1) Basis for Establishing the Special Flood Hazard Areas and Future Conditions Flood Hazard Areas

The Special Flood Hazard Areas and Future Conditions Flood Hazard Areas are those identified by the Federal Emergency management Administration (FEMA) or produced under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRMs), for Wake County dated May 2, 2006, which are adopted by reference and declared to be a part of this ordinance. The Special Flood Hazard Areas and Future Conditions Flood Hazard Areas also include those defined through standard engineering analysis for private developments or by governmental agencies, but which have not yet been incorporated in the FIRM. This includes, but is not limited to, detailed flood data:

- a. Generated as a requirement of this ordinance;
- b. Preliminary FIRMs where more stringent than the effective FIRM; or
- c. Post-disaster Flood Recovery Maps.

Section 6.5(C)(2) Establishment of Floodplain Development Permit

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas and Future Conditions Flood Hazard Areas determined in 6.5(C)(1).

Section 6.5(C)(6) 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 on rare occasions. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that

land outside the Special Flood Hazard Areas and Future Conditions Flood Hazard Areas 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 or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

Section 6.5(D)(1)(b) The Special Flood Hazard Area or Future Conditions Flood Hazard Area determination for the proposed development per available data specified in Section 6.5(C)(1).

Section 6.5(D)(1)(g) The flood openings requirements as dictated by FEMA Technical Bulletin 1-93 Opening in Foundation Walls, if in Zones A, AE or X (Future).

Section 6.5(D)(2)(a) Elevation Certificates

Section 6.5(D)(2)(a) becomes **Section 6.5(D)(2)(a)(i)**

An Elevation Certificate (FEMA Form 81-31) is required after the reference level is completed. Within 21 calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the Administrator a certification of the elevation of the reference level in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. Any work done within the 21 day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the certification or failure to make said corrections required shall be cause to issue a stop-work order for the project.

Section 6.5(D)(2)(b) becomes **Section 6.5(D)(2)(a)(ii)**

A Final As-Built Elevation Certificate (FEMA Form 81-31) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. The 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. In some instances, another certification may be required to certify corrected as-built construction. 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.

Section 6.5(D)(2)(c) becomes **Section 6.5(D)(2)(a)(iii)**

Section 6.5(D)(2)(b) Floodproofing Certificate

If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data and an operation plan, is required prior to the start of any new construction. It shall be the duty of the permit holder to submit to the Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Administrator shall review the certificate data and plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required correction shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Occupancy.

Section 6.5(D)(2)(d) becomes **Section 6.5(D)(2)(c) Certification Exemptions:** The following structures, if located within Zones A, AE or X (Future), are exempt from the elevation/floodproofing certification requirements specified in 6.5(D)(2)(a) and (b):

Section 6.5(E)(2)(h) New solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted in Special Flood Hazard Areas or Future Conditions Flood Hazard Areas. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility maybe located in a Special Flood Hazard Area or Future Conditions Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to Section 6.5(D)(2) of this code.

Section 6.5(E)(3) Specific Standards

In all Special Flood Hazard Areas where BFE data has been provided and in Future Conditions Flood Hazard Areas where Future Conditions Flood Elevations data has been provided, as set forth in Section 6.5(C)(1), the following provisions are required.

Section 6.5(E)(3)(b) Non-residential Construction

New construction or substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation. Structures located in A, AE and X (Future) Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure below the required flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered 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 6.5(D)(2).

Section 6.5(E)(3)(c) Manufactured Homes

New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation. In no case shall manufactured mobile homes be allowed in an A, AE or X (Future) Zone.

Section 6.5(E)(3)(d) Elevated Buildings

New construction or substantial improvements of elevated buildings that include fully enclosed areas that are below the regulatory flood protection elevation shall not be designed to 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, be constructed entirely of flood resistant materials below the regulatory flood protection level in A, AE or X (Future) zones and meet the following design criteria.

Section 6.5(E)(3)(d)(i)(c) If a building has more than one enclosed area, each area must have openings on exterior walls to allow floodwater to automatically enter and exit.

Section 6.5(E)(3)(f) Recreational Vehicles

Recreation vehicles shall not be allowed within a Special Flood Hazard Area or a Future Conditions Flood Hazard Area. Furthermore, they shall be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (A recreational vehicle is read 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).

Section 6.5(E)(3)(g)(i)(e) designation, accompanied by documentation, of a location outside the Special Flood Hazard Area or Future Conditions Flood Hazard Area to which the temporary structure will be moved.

Section 6.5(E)(3)(h) Accessory Structures

When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area or Future Conditions Flood Hazard Area, the following criteria shall be met.

Section 6.5(E)(3)(h)(viii) Accessory structures shall not be temperature-controlled;

Section 6.5(E)(4) Subdivisions and Major Developments

All subdivisions and major development proposals located with Special Flood Hazard Areas or Future Conditions Flood Hazard Areas shall:

Section 6.5(E)(4)(d) All subdivision proposals and major development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

Section 6.5(E)(5) Standards for Floodplains Without Established Base Flood Elevations

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Section 6.5(C)(1), where no BFE data has been provided, the following provisions shall apply:

- a. No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of fifty feet each side from top of bank or five times the width of the stream whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- b. The BFE used in determining the regulatory flood protection elevation shall be determined based on one of the following criteria set in priority order:
 - i. If BFE data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with Section 6.5(D)(2).
 - ii. All subdivision and major development proposals shall provide BFE data if development is greater than five (5) acres or has more than 50 lots/manufactured home sites. Such BFE data shall be adopted by reference per Section 6.5(C)(1) to be utilized in implementing this ordinance.
 - iii. When BFE data is not available from a Federal, State, or other source as outlined above, the reference level, including basement, shall be elevated at least two (2) feet above the highest adjacent grade.

Section 6.5(E)(6) struck

Section 6.5(E)(7) struck

Section 15.12(D) becomes **Section 15.12(C) Flood Damage Protection Variance Procedures**

1. Variances may be issued for
 - The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure
 - Functionally dependant facilities as defined in Chapter 19 provided provisions of Section ??? have been satisfied, and such facilities are protected by methods that minimize flood damages.
 - Any other type of development, provided it meets the requirements stated in this section.
2. In passing upon variances, the LURB shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance
followed by Subsections (a.-k.)

Section 15.12(E)(1) becomes **Section 15.12(C)(3)**

Section 15.12(E)(2) becomes **Section 15.12(C)(4)**

5. Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations or ordinances.

6. Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.
7. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
8. Variances shall only be issued prior to development permit approval.

Section 15.12(C) becomes **Section 15.12(D) Required Findings of Fact**

Section 15.12(D) *add following after Subsection 5*

Flood Damage Protection Variances shall only be issued upon the additional findings of fact:

6. A showing of good and sufficient cause; and
7. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

Section 15.12(E) Items Not Cause for Variance

Keep remaining portions of old Section 15.12(C) under this heading.

Chapter 19 *(Add the following definitions)*

Base Flood Elevation (BFE): A determination of the water surface elevations of the base flood based on current conditions hydrology as published in the FIS. When the BFE has not been provided in a Special Flood Hazard Area, it may be obtained from engineering studies available from a Federal or State source using FEMA approved engineering methodologies. This elevation, when combined with the freeboard, established the Regulatory Flood Protection Elevation in Special Flood Hazard Areas.

Flood Insurance Rate Map (FIRM): An official map of a community, issued by the FEMA, on which the Special Flood Hazard Areas, the Future Conditions Flood Hazard Areas, and the risk premium zones applicable to the community are delineated.

Flood Insurance Study (FIS): An examination, evaluation and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the FEMA. The FIS report includes FIRMs and Flood Boundary and Floodway Maps, if published.

Freeboard: The height added to the BFE or Future Conditions Flood Elevation to account 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, bridge openings and the hydrological effect of urbanization on the watershed. The BFE plus the freeboard establishes the Regulatory Flood Protection Elevation.

Future Conditions Flood: The flood having a one percent (1%) chance of being equaled or exceeded in any given year based on future conditions hydrology.

Future Conditions Flood Elevation: A determination of the water surface elevations of the one percent (1%) annual chance flood based on future conditions hydrology as published in the FIS. This elevation, when combined with the freeboard, established the Regulatory Flood Protection Elevation "in Future Conditions Flood Hazard Areas.

Future Conditions Flood Hazard Area: The land area that would be inundated by the one percent (1%) annual chance flood based on future conditions hydrology as determined in Section 6.5(C)(1) of this ordinance.

Future Conditions Hydrology: The flood discharges associated with projected land-use conditions based on Wake County's June 2003 Equivalent Zoning Classification and without consideration of projected future construction of flood detention structures or projected future hydraulic modifications within a stream or other

waterway such as bridge and culvert construction, fill, and excavation. Future conditions flood discharges are published in the FIS.

Non-encroachment Area: 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 one (1) foot as designated in the FIS report.

Special Flood Hazard Area: The land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year based on current conditions hydrology, as determined in Section 6.5(C)(1) of this ordinance.

Water Surface Elevation: The height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Watercourse: A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Section 2. That all laws and clauses of law in conflict herewith are hereby repealed to the extent of said conflict.

Section 3. That if this ordinance or application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of this ordinance which can be given separate effect and to the end the provisions of this ordinance are declared to be severable.

Section 4. That this ordinance has been adopted following a duly advertised public hearing of the Town Council and following review and recommendation by the Land Use Review Board.

Section 5. That this ordinance shall be enforced as provided in G.S. 160A-175 or as provided for in the Knightdale Town Code.

Section 6. That this ordinance shall become effective upon its adoption by Town Council.

Adopted this 19th day of April, 2006.

Douglas M. Boyd, Mayor

ATTEST:

Town Clerk

APPROVED AS TO FORM:

Town Attorney