AN ORDINANCE UPDATING FLOOD DAMAGE PREVENTION STANDARDS IN THE TOWN OF DUCK, NORTH CAROLINA

Ordinance 20-01

WHEREAS, the Federal Emergency Management Agency (FEMA) has notified the Town of Duck that revised Flood Insurance Rate Map (FIRM) panels will become effective on June 19, 2020; and

WHEREAS, by the effective date of the FIRM, the Town of Duck is required, as a condition of continued eligibility in the National Flood Insurance Program (NFIP), to adopt floodplain management regulations that meet the standards of NFIP regulations; and

WHEREAS, it is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flooding by restricting or controlling development that potentially increases danger or damage to persons, structures, or properties; and

WHEREAS, the Duck Planning Board thoroughly reviewed these standards and voted unanimously to recommend approval of this ordinance at its public meeting on February 12, 2020; and

WHEREAS, the Duck Town Council found these amendments to the Flood Damage Prevention Ordinance to be consistent with the recommendations of the Town of Duck CAMA Land Use Plan.

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

PART I. The existing Chapter 150, *Flood Damage Prevention*, of the Duck Town Code shall be replaced in its entirety by the following standards:

CHAPTER 150: FLOOD DAMAGE PREVENTION

GENERAL PROVISIONS

150.01 STATUTORY AUTHORIZATION.

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Article 6 of Chapter 153A; Article 8 of Chapter 160A; and Article 7, 9, and 11 of Chapter 160D (Effective January 1, 2021) of the North Carolina General Statutes, delegated to local governmental units the authority to adopt regulations designed to promote the public health, safety, and general welfare.

Therefore, the Town Council for the Town of Duck, North Carolina, does ordain as follows:

150.02 FINDINGS OF FACT.

(A) The flood prone areas within the jurisdiction of the Town of Duck 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 sea level rise, increased frequency and intensity of rainfall, obstructions in floodplains causing increases in flood heights and velocities, and occupancy in flood prone areas of uses vulnerable to floods or other hazards.

150.03 STATEMENT OF PURPOSE.

It is the purpose of this ordinance 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 that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;

(B) Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage;

(C) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters;

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

(E) Prevent or regulate the construction of flood barriers that will unnaturally divert floodwaters or which may increase flood hazards to other lands.

150.04 OBJECTIVES.

The objectives of this ordinance 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 (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are 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;

(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; and

(J) Ensure that potential buyers are aware that property is in a Special Flood Hazard Area or area subject to potential flooding;

(K) Mitigate flood risks in all areas of the Town of Duck by implementing local elevation standards for all Special Flood Hazard Areas and Shaded X and X zones.

150.05 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 it's most reasonable application.

"Accessory Structure (Appurtenant Structure)" means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms and may or may not be located on the same parcel as the farm dwelling or shop building. For the purposes of this chapter only, accessory structures are considered structures used for parking and storage only.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure.

"Appeal" means a request for a review of the Floodplain Administrator's interpretation of any provision of this ordinance.

"Area of Shallow Flooding" means a designated Zone AO or AH on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located 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" see "Special Flood Hazard Area (SFHA)".

"Attendant Utility" means any utility that accompanies a structure, including, but not limited to ductwork, electrical, mechanical, plumbing, and heating & cooling.

"Base Flood" means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

"Base Flood Elevation (BFE)" means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a "Special Flood Hazard

Area", it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the "Freeboard", establishes the "Regulatory Flood Protection Elevation".

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Breakaway wall. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

"Building" see "Structure".

"Chemical Storage Facility" means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

"Coastal Area Management Act (CAMA)" means North Carolina's Coastal Area Management Act, this act, along with the Dredge and Fill Law and the Federal Coastal Zone Management Act, is managed through North Carolina Department of Environmental Quality (NCDEQ) Division of Coastal Management (DCM).

"Coastal Barrier Resources System (CBRS)" consists of undeveloped portions of coastal and adjoining areas established by the Coastal Barrier Resources Act (CoBRA) of 1982, the Coastal Barrier Improvement Act (CBIA) of 1990, and subsequent revisions, and includes areas owned by Federal or State governments or private conservation organizations identified as Otherwise Protected Areas (OPA).

"Coastal High Hazard Area (CHHA)" 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. The area is designated on a FIRM, or other adopted flood map as determined in Section 150.07 of this ordinance, as Zone VE, or any property containing a structure or proposed structure abutting the Atlantic Ocean to a maximum limit of the Ocean Erodible Area (OEA) as defined by the CAMA.

"Design Flood": See "Regulatory Flood Protection Elevation."

"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, excavation or drilling operations, or storage of equipment or materials.

"Development Activity" means any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

"Digital Flood Insurance Rate Map (DFIRM)" means the digital official map of a community, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

"Disposal" means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into

any waters, including groundwaters.

"Elevated Building" means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

"Encroachment" means the advance or infringement of uses, fill, excavation, buildings, structures or development into a special flood hazard area, which may impede or alter the flow capacity of a floodplain.

"Existing building and existing structure" means any building and/or structure for which the "start of construction" commenced before the community entered the NFIP, dated October 6, 1978.

"Existing Manufactured Home Park or Manufactured Home 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) was completed before September 3, 2003, the effective date of the initial floodplain management regulations adopted by the Town of Duck.

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

(1) The overflow of inland or tidal waters; and/or
(2) The unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Insurance" means the insurance coverage provided under the National Flood Insurance Program.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, issued by the FEMA, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated. (see also DFIRM)

"Flood Insurance Study (FIS)" means 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 Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.

"Flood Prone Area" see "Floodplain"

"Flood Zone" means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

"Floodplain" means any land area susceptible to being inundated by water from any source.

"Floodplain Administrator" is the individual appointed to administer and enforce the floodplain management regulations. The Floodplain Administrator may assign duties of the position to a designee.

"Floodplain Development Permit" means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

"Floodplain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in

the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

"Floodplain Management Regulations" means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

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

"Flood-resistant material" means any building product [material, component or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

"Freeboard" means the height added to the BFE 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, blockage of bridge or culvert openings, storm surge or precipitation exceeding the base flood, and the hydrological effect of urbanization of the watershed. The BFE plus the freeboard establishes the "Regulatory Flood Protection Elevation".

"Free and Clear of Obstruction" means the required space below the lowest floor of an elevated structure located in a CHHA that is open and is designed to allow floodwaters to flow freely beneath the structure, experiencing only minimal resistance from supporting structural elements such that floodwaters transfer only minimal lateral forces to the foundation system. For the purposes of this chapter, the space below the structure that is unobstructed as described herein shall be a minimum vertical distance of 2 feet, measured from the highest adjacent grade below the structure to the bottom of the lowest horizontal structural member of the lowest floor. Non-bearing solid breakaway walls, open lattice panels and insect screening are not considered obstructions that will impede the free flow of floodwaters and may be allowed below the lowest floor of the structure.

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

"Hazardous Waste Management Facility" means, as defined in NCGS 130A, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

"Highest Adjacent Grade (HAG)" means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

"Historic Structure" means any structure that is:

(1) Listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;
(2) 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;
(3) Individually listed on a local inventory of historic landmarks in communities with a "Certified Local Government (CLG) Program"; or
(4) Certified as contributing to the historical significance of a historic district designated by a community with a "Certified Local Government (CLG) Program."

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

"Letter of Map Change (LOMC)" means an official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

(1) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
(2) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
(3) Letter of Map Revision Based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
(4) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

"Light Duty Truck" means any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

(1) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle, or
(2) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or

(3) Available with special features enabling off-street or off-highway operation and use.

"Local Elevation Standard" means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) or in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, Shaded X and X zones as depicted on the FIRMs for Dare County.

"Lowest Adjacent Grade (LAG)" means the lowest elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

"Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable design flood requirements of this ordinance.

"Manufactured Home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"Manufactured Home Park or Subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Map Repository" means the location of the official flood hazard data to be applied for floodplain management. It is a central location in which flood data is stored and managed; in North Carolina, FEMA has recognized that the application of digital flood hazard data products carries the same authority as hard copy products. Therefore, the NCEM's Floodplain Mapping Program websites house current and historical flood hazard data. For effective flood hazard data, the NC FRIS website (http://FRIS.NC.GOV/FRIS) is the map repository, and for historical flood hazard data the FloodNC website (http://FLOODNC.GOV/NCFLOOD) is the map repository.

"Market Value" means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

"New Construction" means structures for which the "start of construction" commenced on or after the effective date of the initial floodplain management regulations and includes any subsequent improvements to such structures.

"Non-Conversion Agreement" means a document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is considered a violation of the ordinance and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed in the Dare County Register of Deeds. The agreement must show the clerk's or recorder's stamps and/or notations that the filing has been completed.

"Ocean Erodible Area" This is the area where there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The oceanward boundary of this area is the mean low water line. The landward extent of this area is the distance landward from the first line of stable and natural vegetation as defined in 15A NCAC 07H .0305(a)(5) to the recession line established by multiplying the long-term

annual erosion rate times 90; provided that, where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation. For the purposes of this Rule, the erosion rates are the long-term average based on available historical data. The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "2011 Long-Term Average Annual Shoreline Rate Update" and approved by the Coastal Resources Commission on May 5, 2011 (except as such rates may be varied in individual contested cases or in declaratory or interpretive rulings). In all cases, the rate of shoreline change shall be no less than two feet of erosion per year. The maps are available without cost from any Local Permit Officer or the Division of Coastal Management on the internet at-http://www.nccoastalmanagement.net

"Otherwise Protected Area (OPA)" see "Coastal Barrier Resources System (CBRS)".

"Post-FIRM" means construction or other development for which the "start of construction" occurred on or after October 6, 1978, the effective date of the initial Flood Insurance Rate Map.

"Pre-FIRM" means construction or other development for which the "start of construction" occurred before October 6, 1978, the effective date of the initial Flood Insurance Rate Map.

"Primary Frontal Dune (PFD)" means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
This definition applies only to this chapter for floodplain management purposes and varies from the definition used by the N.C. Division of Coastal Management in the CAMA.

"Principally Above Ground" means that at least 51% of the actual cash value of the structure is above ground.

"Public Safety" and/or "Nuisance" means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

"Recreational Vehicle (RV)" means a vehicle, which is:

(1) Built on a single chassis;
(2) 400 square feet or less when measured at the largest horizontal projection;
(3) Designed to be self-propelled or permanently towable by a light duty truck;
(4) Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use, and
(5) Is fully licensed and ready for highway use.

For the purpose of this chapter, "Tiny Homes/Houses" and Park Models that do not meet the items listed above are not considered Recreational Vehicles and should meet the standards of and be permitted as Residential Structures.

"Reference Level"

(1) For structures within the Special Flood Hazard Areas designated as Zones AE and AO the reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower, with only flood resistant materials located below the

reference level.

(2) For structures within Coastal High Hazard Areas, the reference level is the bottom of the lowest horizontal structural member of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower.

(3) For structures within Zones Shaded X or X, the reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork whichever is lower with only flood resistant materials located below the reference level.

"Regulatory Flood Protection Elevation" In Special Flood Hazard Areas means the "Base Flood Elevation" plus the "Freeboard" OR the "Local Elevation Standard", whichever is greater, for those areas where base flood elevations have been determined on the FIRM; the base flood depth above the highest adjacent grade or "Local Elevation Standard", whichever is greater, for those areas identified as AO zones of the FIRM, or the "Local Elevation Standard" for those areas identified as Shaded X or X zones on the FIRM.

For the Town of Duck, the RFPE is applied as follows:

(1) In CHHA zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 2 feet of freeboard.

(2) In AE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 3 feet of freeboard OR an elevation to or above 10 feet NAVD 1988, whichever is greater.

(3) In AO zones, the RFPE is the designated base flood depth on the effective FIRM above the highest natural adjacent grade OR an elevation to or above 10 feet NAVD 1988, whichever is greater.

(4) In Shaded X and X zones, the RFPE is 10 feet NAVD 1988 OR the natural grade elevation if the natural grade is greater than 10 feet NAVD 1988.

"Remedy a Violation" means to bring the structure or other development into compliance with state and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

"Salvage Yard" means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

"Sand Dunes" means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"Secondary Structure" means a structure that features habitable conditioned space above the RFPE located on the same parcel as a primary use structure. A secondary structure is not an accessory structure as defined in this section. When applying the standards of this chapter, a secondary structure is subject to the same standards as a primary use structure.

"Shaded X Zone" means areas of moderate flood hazard shown on the FIRM and are the areas between the limits of the base flood and the 0.2% annual chance for flood. Also commonly referred to as the 500-year flood.

"Shear Wall" means walls used for structural support but not structurally joined or enclosed at the end (except by breakaway walls). Shear walls are parallel or nearly parallel to the flow of the water.

Solid Waste Disposal Facility" means any facility involved in the disposal of solid waste, as defined in NCGS 130A-290(a)(35).

"Solid Waste Disposal Site" means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

"Special Flood Hazard Area (SFHA)" means the land in the floodplain subject to a one percent (1%) or greater chance of being flooded in any given year, as determined in Section 150.07 of this ordinance.

"Start of Construction" (definition applies only to this chapter)

(1) Start of Construction includes substantial improvement and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date.
(2) The actual Start of Construction means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation.
(3) Permanent construction does not include 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 accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.
(4) For a substantial improvement, the actual Start of Construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

"Substantial Damage" means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of "substantial improvement".

"Substantial Improvement" means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

(1) Any correction of existing violations of state or community health, sanitary, or safety code specifications which have been identified by the community 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 and the alteration is approved by variance issued pursuant to Section 150.19 of this ordinance.

"Technical Bulletin and Technical Fact Sheet" means a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.

It should be noted that Technical Bulletins and Technical Fact Sheets provide guidance on the minimum requirements of the NFIP regulations. State or community requirements that exceed those of the NFIP take precedence. Design professionals should contact the community officials to determine whether more restrictive State or local regulations apply to the building or site in question. All applicable standards of the State or local building code must also be met for any building in a flood hazard area.

"Temperature Controlled" means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

"Unshaded X Zone" means the areas of minimal flood hazard shown on the FIRM which are areas outside of the Special Flood Hazards Areas and higher than the elevation of the 0.2% annual flood chance.

"Variance" is a grant of relief from the requirements of 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, other certifications, or other evidence of compliance with the standards of this chapter is presumed to be in violation until such time as that documentation is provided.

"Water Surface Elevation (WSE)" means the height, in relation to NAVD 1988, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means 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.

150.06 LANDS TO WHICH THIS ORDINANCE APPLIES.

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

150.07 BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS.

The SFHAs are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated June 19, 2020 shown on the FIS for Dare County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance, and all revisions thereto after January 1, 2021. Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of the Town of Duck are also adopted by reference and declared a part of this ordinance.

Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within three months.

150.08 ESTABLISHMENT OF A LOCAL ELEVATION STANDARD FOR SHADED X AND X ZONES.

A locally adopted elevation standards shall apply to any Shaded X or X zone as identified on the effective DFIRMs for Dare County. These areas may be vulnerable to flooding from storm surge, wind-driven tides, and excessive rainfall associated with storm systems. Many of these areas have flooded during past storm events and continue to remain at risk to flooding. Therefore, an elevation standard and other floodplain development standards have been determined by the Town of Duck to be appropriate for these Shaded X and X zones as defined in Section 150.05. All development activities in any Shaded X or X zone shall conform to the provisions set forth in this Chapter.

150.09 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 in accordance with the provisions of this ordinance.

150.10 COMPLIANCE.

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

150.11 ABROGATION AND GREATER RESTRICTIONS.

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

150.12 INTERPRETATION.

In the interpretation and application of this ordinance, all provisions shall be:

(A) Considered as minimum requirements;
(B) Liberally construed in favor of the governing body; and
(C) Deemed neither to limit nor repeal any other powers granted under State statutes.

150.13 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. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside

the SFHAs 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 Duck 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.

150.14 PENALTIES FOR VIOLATION.

In addition to the penalty provisions set forth in N.C.G.S. § 143-215.58, any person violating the provisions of this chapter shall be subject to a civil penalty in the amount of $100.00 per violation. Each day such violation continues shall be considered a separate offense. The person cited for the violation must pay the civil penalty within five (5) days of being cited for the violation. In the event that the person cited for the violation does not pay the civil penalty within the prescribed time, the town may bring a civil action to recover the penalty and associated court costs. Nothing herein contained shall prevent the Town of Duck from taking such other lawful action as is necessary to prevent or remedy any violation.

ADMINISTRATION

150.15 DESIGNATION OF FLOODPLAIN ADMINISTRATOR.

The Director of Community Development, hereinafter referred to as the "Floodplain Administrator", or their designee, is hereby appointed to administer and implement the provisions of this ordinance. In instances where the Floodplain Administrator receives assistance from others to complete tasks to administer and implement this ordinance, the Floodplain Administrator shall be responsible for the coordination and community's overall compliance with the National Flood Insurance Program and the provisions of this ordinance.

150.16 FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION REQUIREMENTS.

(A) *Application Requirements.* Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities. The following items shall be presented to the Floodplain Administrator to apply for a floodplain development permit:

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

(a) The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;

(b) The boundary of the SFHA, Shaded X or X Zone as delineated on the FIRM or other flood map as determined in Section 150.07, or a statement that the entire lot is within the SFHA;

(c) Flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 150.07;

(d) The BFE and/or RFPE where provided as set forth in Sections 150.07 or 150.17;

(e) The old and new location of any watercourse that will be altered or relocated as a result of proposed development;

(f) The boundary and designation date of the Coastal Barrier Resource System (CBRS) area or Otherwise Protected Areas (OPA), if applicable; and

(g) The certification of the site plan by a registered land surveyor or professional engineer.

(2) Proposed elevation, and method thereof, of all development including but not limited to:

(a) Elevation in relation to NAVD 1988 of the proposed reference level (including basement) of all structures;

(b) Elevation in relation to NAVD 1988 to which any non-residential structure in Zones A, AE, AH, AO, A99, Shaded X or X will be floodproofed; and

(c) Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or floodproofed.

(3) If floodproofing, a Floodproofing Certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance plan that include, but are not limited to, installation, exercise, and maintenance of floodproofing measures.

(4) 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:

(a) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls); and

(b) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Section 150.21(D)(3) when solid foundation perimeter walls are used in Zones A, AE, AH, AO, A99, Shaded X or X.

(c) The following, in CHHA, in accordance with the provisions of Section 150.21(D)(4) and Section 150.22:

1. V-Zone Certification with accompanying plans and specifications verifying the engineered structure and any breakaway wall designs; In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction.

2. Plans for open wood latticework or insect screening, if applicable; and

3. Plans for non-structural fill, if applicable. If non-structural fill is proposed, it must be demonstrated through coastal engineering analysis that the proposed fill would not result in any increase in the BFE or otherwise cause adverse impacts by wave ramping and deflection on to the subject structure or adjacent properties.

(5) Usage details of any enclosed areas below the lowest floor.

(6) 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.

(7) Certification that all other Local, State and Federal permits required prior to floodplain development permit issuance have been received.

(8) Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of Subsections 150.21 (F) and (G) of this ordinance are met.

(9) In Shaded X and X zones, a survey prepared by a licensed North Carolina surveyor may be used to demonstrate the natural grades of the parcel relative to the RFPE of 10 feet.

(B) *Permit Requirements.* The Floodplain Development Permit shall include, but is not limited to:

(1) 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.).

(2) The flood zone determination for the proposed development in accordance with available data specified in Section 150.07.

(3) The Regulatory Flood Protection Elevation required for the reference level and all attendant utilities.

(4) The Regulatory Flood Protection Elevation required for the protection of all public utilities.

(5) All certification submittal requirements with timelines.

(6) The flood openings requirements, if in Zones A, AE, AH, AO, A99, Shaded X or X Zone.

(7) Identify uses of enclosures below the RFPE and a statement that they are limited to the following uses: parking, building access and limited storage only.

(8) A statement, if in CHHA, that there will be no alteration of sand dunes which would increase potential flood damage.

(9) A statement, if in CHHA, that there will be no fill used for structural support.

(10) A statement, that all materials below RFPE will be flood resistant materials.

(C) *Certification Requirements.*

(1) *Elevation Certificates for AE, AO, VE, Shaded X and X Zones.*

(a) An Elevation Certificate (FEMA Form 086-0-33) for the proposed development must be submitted as part of the permit application materials. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. The Floodplain Administrator or designee shall review the certificate data submitted. Deficiencies with the elevation certificate detected by such review shall be corrected by the permit holder prior to the start of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.

(b) With the understanding that lesser documentation leads to a greater assumption of risk by the permit holder and property owner, the permit holder has the following options for submission of an under-construction documentation:

1. The Town of Duck encourages submission of an under-construction elevation certificate to the Floodplain Administrator at the time a rough-in inspection is scheduled with the Town of Duck Building Inspector; or

2. In lieu of an elevation certificate, the permit holder may submit alternative documentation from a registered land surveyor or professional engineer regarding the elevation of the reference level in relation to mean sea level; or

3. The permit holder may opt not to submit an under-construction elevation certificate or alternative documentation from a registered land surveyor or professional engineer prior to the rough-in inspection.

If submitted, the Floodplain Administrator shall review the elevation certificate or other documentation and report any deficiencies to the permit holder immediately and such deficiencies shall be corrected immediately prior to further work being permitted to proceed.

(c) 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. 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. 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. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. 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 in Section A. To the extent possible, 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" × 3". Digital photographs are acceptable.

(d) In Shaded X and X zones, the proposed and under construction elevation certificates are not needed if a current survey of the parcel is submitted that demonstrates the natural grade of the structure footprint is above the RFPE of 10 feet. A finished construction elevation certificate is required at the completion of the project.

(2) *Floodproofing Certificate.*

(a) If 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. 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. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. 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. Failure to submit the certification or failure to make required corrections 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 Compliance/Occupancy.

(b) 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. 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. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. 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. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.

(3) *Elevation of chassis.* If a manufactured home is placed within Zones A, AE, AH, AO, A99, Shaded X or X and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation certification is required in accordance with the provisions of Subsection 150.21(C)(2).

(4) *Alterations and relocations.* If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineer's certified 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 showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.

(5) *Certification Exemptions.* The following structures, if located within Zones A, AE, AH, AO, A99, Shaded X or X are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:

(a) Recreational Vehicles meeting requirements of Section 150.21(F); and

(b) Temporary Structures meeting requirements of Section 150.21(G).

(6) *V-Zone/CHHA Certification.* A V-Zone/CHHA Certification with accompanying design plans and specifications is required prior to issuance of a Floodplain Development permit within CHHA. It shall be the duty of the permit applicant to submit to the Floodplain Administrator said certification to ensure the design standards of this ordinance are met. A registered professional engineer or architect shall develop or review the structural design, plans, and specifications for construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this ordinance. This certification is not a substitute for an Elevation Certificate.

(7) *Non-Conversion Agreement.* A non-conversion agreement shall be required for all new construction and substantial improvements which feature an enclosure area below the RFPE and with walls greater than 4 feet in height that may be converted after occupancy of the structure. This signed, completed non-conversion agreement shall be completed by the property owner of record (if different than the permit holder) and shall be recorded in the Dare County Register of Deeds. A copy of the recorded agreement shall be provided to the Town of Duck Building Inspector prior to the issuance of the certificate of occupancy. Failure to submit the certification shall be cause to withhold the issuance of a certificate of occupancy.

(8) *Release of Restrictive Covenant.* If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below RFPE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

(9) *Acknowledgement Form.* Acknowledgement forms shall be signed and completed by property owners or authorized agent at the time permits are issued by the Town of Duck Building Inspector. This acknowledgement form indicates the specific flood zone designation for the subject property; outlines the construction standards for elevation of the structure to the regulatory flood elevation and explains the use restrictions associated with the property.

(D) Determinations for existing buildings and structures.

For applications for building permits to improve buildings and structures, including alterations, movement, relocation, 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.

150.17 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

The Floodplain Administrator shall perform, but not be limited to, the following duties:

(A) Review all floodplain development applications and issue permits for all proposed development to assure that the requirements of this ordinance have been satisfied.

(B) Review all proposed development to assure that all necessary local, state and federal permits have been received, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

(C) Notify adjacent communities and the North Carolina Department of Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).

(D) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.

(E) Obtain actual elevation (in relation to NAVD 1988) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with the provisions of Section 150.16(C).

(F) Obtain actual elevation (in relation to NAVD 1988) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of Section 150.16(C).

(G) Obtain actual elevation (in relation to NAVD 1988) of all public utilities in accordance with the provisions of Section 150.16(C).

(H) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of Sections 150.16(C) and

150.21(B).

(I) Where interpretation is needed as to the exact location of boundaries of the SFHAs, Shaded X or X zones, floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.

(J) When BFE data has not been provided in accordance with the provisions of Section 150.07, obtain, review, and reasonably utilize any BFE data in order to administer the provisions of this ordinance.

(K) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

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

(M) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

(N) Revoke floodplain development permits as required. The Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.

(O) Make periodic inspections throughout the Special Flood Hazard Areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.

(P) Follow through with corrective procedures of Section 150.18.

(Q) Review, provide input, and make recommendations for variance requests.

(R) Maintain a current map repository to include, but not limited to, historical and effective FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with

the provisions of Section 150.07, including any revisions thereto, including Letters of Map Change issued by FEMA.

(S) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-Fs) and Letters of Map Revision (LOMRs).

150.18 CORRECTIVE PROCEDURES

(A) *Violations to be Corrected*: When the Floodplain Administrator finds violations of applicable state and local laws; it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.

(B) *Actions in Event of Failure to Take Corrective Action*: If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the owner's last known address or by personal service, stating:

(1) That the building or property is in violation of the floodplain management regulations;

(2) That a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

(3) That following the hearing, the Floodplain Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.

(C) *Order to Take Corrective Action*: If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, he or she shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than sixty (60) calendar days, nor more than 180 days. Where the Floodplain Administrator finds that there is imminent danger to life or other property, he or she may order that corrective action be taken in such lesser period as may be feasible.

(D) *Appeal*: Any owner who has received an order to take corrective action may appeal the order to the local elected governing body by giving notice of appeal in writing to the Floodplain Administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(E) *Failure to Comply with Order*: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58 and shall be punished at the discretion of the court subject to the penalties outlined in Section 150.14.

150.19 VARIANCE PROCEDURES

(A) The Town of Duck Board of Adjustment as established by the Town of Duck, hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.

(B) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.

(C) Variances may be issued for:

(1) 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;

(2) Functionally dependent facilities if determined to meet the definition as stated in Section 150.05 of this ordinance, provided provisions of Subsections 150.19(I)(2) and (I)(4) have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or

(3) Any other type of development provided it meets the requirements of this Section.

(D) In reviewing variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in 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 as defined under Section 150.05 of this ordinance as a functionally dependent facility, where applicable;

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

(7) The compatibility of the proposed use with existing and anticipated development;

(8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(9) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(10) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

(11) 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.

(E) A written report addressing each of the above factors shall be submitted with the application for a variance.

(F) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.

(G) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the RFPE and the elevation to which the structure is to be built and that such construction below the RFPE increases risks to life and property, and that the issuance of a variance to construct a structure below the RFPE may result in increased premium rates for flood insurance up to $25 per $100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.

(H) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the FEMA and the State of North Carolina upon request.

(I) Conditions for Variances:

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

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

(3) Variances shall only be issued prior to development permit approval.

(4) Variances shall only be issued upon:

(a) A showing of good and sufficient cause;

(b) A determination that failure to grant the variance would result in exceptional hardship; and

(c) 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.

(J) A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located at elevations below the RFPE in the SFHA and Shaded X and X zones provided all of the following conditions are met:

(1) The use serves a critical need in the community.

(2) No feasible location exists for the use at elevations at or above the RFPE in the SFHA and Shaded X and X zones.

(3) The reference level of any structure is elevated or floodproofed to at least the RFPE.

(4) The use complies with all other applicable federal, state and local laws.

(5) The Town of Duck has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

PROVISIONS FOR FLOOD HAZARD REDUCTION

150.20 GENERAL STANDARDS

The following provisions are required:

(A) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.

(B) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements.*

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

(D) All new electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall be located at or above the 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, water heaters, and electric outlets/switches.

(1) 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.

(2) 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.

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

(F) 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 flood waters.

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

(H) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 150.19(J). 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 may be located in a SFHA only if the structure or tank is either elevated or floodproofed to at least the RFPE and certified in accordance with the provisions of Section 150.16(C).

(I) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.

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

(K) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(L) All subdivision proposals and other 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.

(M) When a structure is partially located in a SFHA, the entire structure shall meet the requirements for new construction and substantial improvements.

(N) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest RFPE shall apply.

150.21 SPECIFIC STANDARDS

In addition to the provisions of Section 150.20, the following provisions are required:

(A) *Residential Construction.* New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Section 150.05 of this ordinance.

(B) *Non-Residential Construction.* New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the RFPE, as defined in Section 150.05. Structures located in Zones A, AE, AH, AO, A99 Shaded X and X may be floodproofed 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. For AO Zones, the floodproofing elevation shall be in accordance with Section 150.23. A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 150.16(C), along with the operational plan and the inspection and maintenance plan.

(C) *Manufactured Homes.*

(1) New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the RFPE, as defined in Section 150.05.

(2) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation system, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.

(3) All enclosures or skirting below the lowest floor shall meet the requirements of Section 150.21(D).

(4) 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.

(D) *Elevated Buildings.* Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor or below the lowest horizontal structural member in VE zones:

(1) Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

(2) Shall be constructed entirely of flood resistant materials at least to the Regulatory Flood Protection Elevation; and

(3) Shall include, in Zones A, AE, AH, AO, A99, Shaded X and X, flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:

(a) A minimum of two flood openings on different sides of each enclosed area subject to flooding;

(b) The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding or a minimum of one engineered inch for each square foot of enclosed area for an engineered opening;

(c) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit consistent with Subsection 150.21(D)(3)(a) above;

(d) The bottom of all required flood openings shall be no higher than one (1) foot above the higher of the interior or exterior adjacent grade;

(e) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

(f) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

(4) In CHHA shall either be free of obstruction or constructed with breakaway walls, open wood latticework or insect screening, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building. The following design specifications shall be met:

(a) Material shall consist of open wood or plastic lattice or insect screening; or

(b) Breakaway walls shall contain the required amount and size of flood vents consistent with Subsections 150.21(D)(3)(a) and (b) and meet the following design specifications:

1. Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or

2. Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

(5) 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. This agreement shall be recorded with the Dare County Register of Deeds and shall transfer with the property in

perpetuity. The Town of Duck will have the right to inspect the enclosed area. Such inspection should be coordinated with the property owner.

(6) Release of restrictive covenant. If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below RFPE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

(E) *Additions/Improvements/Conversions.*

Standards in All Flood Zones (AE, AO, VE, Shaded X, and X):

(1) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.

(b) A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.

(2) Additions to pre-FIRM or post-FIRM structures that are a substantial improvement with no modifications/rehabilitations/improvements to the existing structure other than a standard door in the common wall, shall require only the addition to comply with the standards for new construction.

(3) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction consistent with the code and requirements for the original structure.

(b) A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

(4) A substantial improvement must comply with the standards for new construction. For each building or structure, the 1-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. 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:

(a) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the code enforcement official and that are the minimum necessary to assume safe living conditions.

(b) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

(5) Areas in existing structures may be converted to conditioned, temperature-controlled space provided the use is limited to parking, storage and access. Property Owner will be required to record a non-conversion agreement consistent with Subsection 150.21(D)(5).

Additional Standards in Shaded X and X Zones:

(6) Remodeling or renovations of existing structures with the reference level located below the current applicable RFPE that do not increase the footprint or temperature-controlled area of the structure may be authorized at the existing reference level or higher. Reconstruction of damage to the structure with no increase in footprint may be authorized at the existing reference level or higher.

(F) *Recreational Vehicles.* Recreational vehicles shall either:

(1) Meet the following standards for temporary placement:

(a) Be on site for fewer than 180 consecutive days; or

(b) 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.)

(2) Permanent Placement. Recreational vehicles located in the Town of Duck that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.

(G) *Temporary Non-Residential Structures.* Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval:

(1) A specified time period for which the temporary use will be permitted. Time specified may not exceed three (3) months, renewable up to one (1) year;

(2) The name, address, and phone number of the individual responsible for the removal of the temporary structure;

(3) 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);

(4) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and

(5) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

(H) *Accessory Structures.* The following criteria shall be met:

(1) Accessory structures shall not be used for human habitation (including working, sleeping,

living, cooking or restroom areas)

(2) Accessory structures may have conditioned, temperature-controlled space provided the use is limited to parking or storage. The property owner will be required to record a non-conversion agreement consistent with Subsection 150.21(D)(5). Electrical, heating, ventilation, plumbing, air conditioning, and other service equipment associated with an accessory structure shall be located at or above the RFPE.

(3) Accessory structures shall be designed to have low flood damage potential;

(4) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

(5) Accessory structures shall be firmly anchored in accordance with the provisions of Section 150.20(A);

(6) Accessory structures, regardless of the size or cost, shall not be placed below elevated buildings in the CHHA;

(7) All service facilities such as electrical shall be installed in accordance with the provisions of Section 150.20(D); and

(8) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with the provisions of Subsection 150.21(D)(3). The Floodplain Administrator shall certify installation of required flood openings in compliance with these provisions.

(9) Secondary structures located on the same parcel in addition to a principal use structure which feature conditioned, temperature-controlled areas elevated above the regulatory flood protection elevation shall be constructed consistent with Sections 150.20 and 150.21.

(I) *Tanks*. Gas and liquid storage tanks shall meet the following criteria:

(1) *Underground Tanks*. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty; or

(2) *Above-Ground Tanks, Elevated*. Above-ground tanks in flood hazard areas may be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area; or

(3) *Above-Ground Tanks, Not Elevated*. Above ground tanks that do not meet the elevation requirements of Subsections 150.21(B) and (I)(2) shall not be permitted in the CHHA. Above-ground tanks in flood hazard areas may be located below the regulatory flood protection elevation provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy and lateral movement, during

conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.

(4) *Tank Inlets and Vents.* Tank inlets, fill openings, outlets and vents shall be located at or above the regulatory flood protection elevation or fitted with covers designed to prevent lateral movement, the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood.

150.22 COASTAL HIGH HAZARD AREA

Coastal High Hazard Areas are SFHAs established in Section 150.07. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, all new construction and substantial improvements shall meet the following provisions in addition to the provisions of Sections 150.20 and 150.21:

(A) All new construction and substantial improvements must be located landward of the reach of mean high tide and comply with all applicable setback standards of the Town's Zoning chapter.

(B) All new construction and substantial improvements shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is no lower than the regulatory flood protection elevation. Floodproofing shall not be utilized on any structures in CHHAs to satisfy the regulatory flood protection elevation requirements.

(C) All new construction and substantial improvements shall have the space below the bottom of the lowest horizontal structural member of the lowest floor either be free of obstruction or constructed with breakaway walls, open wood latticework or insect screening, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building. The following design specifications shall be met:

(1) Material shall consist of open wood or plastic lattice having at least 40 percent of its area open, or

(2) Insect screening; or

(3) Breakaway walls shall meet the following design specifications:

(a) Breakaway walls shall have flood openings that allow for the automatic entry and exit of floodwaters to minimize damage caused by hydrostatic loads, per Subsection 150.21(D)(3); and

(b) Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or

(c) Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot

(either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

(D) All new construction and substantial improvements shall be securely anchored to pile or column foundations. All pilings and columns and the structure attached thereto shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.

(1) Water loading values used shall be those associated with the base flood.

(2) Wind loading values used shall be those required by the current edition of the North Carolina State Building Code.

(E) For concrete pads, including patios, decks, parking pads, walkways, driveways, pool decks, etc. the following is required:

(1) Shall be structurally independent of the primary structural foundation system of the structure and shall not adversely affect structures through redirection of floodwaters or debris; and

(2) Shall be constructed to breakaway cleanly during design flood conditions, shall be frangible, and shall not produce debris capable of causing damage to any structure. The installation of concrete in small segments (approximately 4 feet x 4 feet) that will easily break up during the base flood event or score concrete in 4 feet x 4 feet maximum segments is acceptable to meet this standard; and

(3) Reinforcing, including welded wire fabric, shall not be used in order to minimize the potential for concreted pads being a source of debris; and

(4) Pad thickness
   (a) shall not exceed 4 inches; or
   (b) a design professional shall certify that the design and method of construction to be used will be compliant with the applicable criteria of this section.

(F) For swimming pools and spas, the following is required:

(1) They must be designed to withstand all flood-related loads and load combination and
   (a) Be elevated so that the lowest horizontal structural member is elevated above the RFPE; or
   (b) Be designed and constructed to break away during design flood conditions without producing debris capable of causing damage to any structure; or
   (c) Be sited to remain in the ground during design flood conditions without obstructing flow that results in damage to any structure.

(2) Registered design professionals must certify to local officials that a pool or spa beneath or near

a building in a CHHA will not be subject to flotation or displacement that will damage building foundations or elevated portions of the building or any nearby buildings during a coastal flood.

(3) Pool equipment shall be located above the RFPE whenever practicable. Pool equipment shall not be located beneath an elevated structure.

(4) Consistency with all applicable standards specified in the Town's Zoning chapter.

(G) For all elevators, vertical platform lifts, chair lifts, etc., the following is required:

(1) Elevator enclosures must be designed to resist hydrodynamic and hydrostatic forces as well as erosion, scour, and waves.

(2) Utility equipment in CHHAs must not be mounted on, pass through, or be located along breakaway walls.

(3) The cab, machine/equipment room, hydraulic pump, hydraulic reservoir, counter weight and roller guides, hoist cable, limit switches, electric hoist motor, electrical junction box, circuit panel, and electrical control panel shall:
(a) be elevated to or above the RFPE; or
(b) constructed using flood damage-resistant components/materials.

(4) Elevator shafts/enclosures that extend below the RFPE shall be constructed of reinforced masonry block or reinforced concrete walls and located on the landward side of the building to provide increased protection from flood damage. Drainage must be provided for the elevator pit.

(5) Flood damage-resistant materials can also be used inside and outside the elevator cab to reduce flood damage. Use only stainless steel doors and door frames below the RFPE. Grouting in of door frames and sills is recommended.

(6) If an elevator is designed to provide access to areas below the RFPE, it shall be equipped with a float switch system that will activate during a flood and send the elevator cab to a floor above the RFPE.

(H) Accessory structures, regardless of size or cost, shall not be permitted below elevated structures.

(I) *Fill/Grading.*

(1) Minor grading and the placement of minor quantities of nonstructural fill may be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios, walkways, and similar site elements.

(2) The placement of site-compatible, non-structural fill under or around an elevated building is limited to two feet (2'). Fill greater than two feet (2') must include an analysis prepared by a qualified registered design professional demonstrating no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent elevated buildings and structures.

(3) The fill material must be similar and consistent with the natural soils in the area.

(4) Nonstructural fill with finished slopes that are steeper than five (5) units horizontal to one (1) unit vertical shall be permitted only if an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent elevated buildings and structures.

(5) Fill and grading activities must be consistent with the applicable standards as specified in the Town's Zoning chapter.

(J) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

(K) No manufactured homes shall be permitted except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and elevation standards of this Section have been satisfied.

(L) Recreational vehicles may be permitted in CHHAs provided that they meet the Recreational Vehicle criteria of Section 150.21(F).

(M) A deck that is structurally attached to a building or structure shall have the bottom of the lowest horizontal structural member at or above the RFPE and any supporting members that extend below the RFPE shall comply with the foundation requirements that apply to the building or structure, which shall be designed to accommodate any increased loads resulting from the attached deck. The increased loads must be considered in the design of the primary structure and included in the V-Zone Certification required under Subsection 150.16(C)(6).

(N) A deck or patio that is located below the RFPE shall be structurally independent from buildings or structures and their foundation systems, and shall be designed and constructed either to remain intact and in place during design flood conditions or to break apart into small pieces to minimize debris during flooding that is capable of causing structural damage to the building or structure or to adjacent buildings and structures.

(O) In CHHAs, development activities other than buildings and structures shall be permitted only if also authorized by the appropriate state or local authority; if located outside the footprint of, and not structurally attached to, buildings and structures; and if analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwaters or wave runup and wave reflection that would increase damage to adjacent buildings and structures. Such other development activities include but are not limited to:

(1) Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures;

(2) Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the design flood or otherwise function to avoid obstruction of floodwaters.

(3) Docks, piers and similar structures.

(P) No more than four (4) electrical outlets and no more than four (4) electrical switches may be permitted below RFPE unless required by building code.

150.23 STANDARDS FOR AREAS OF SHALLOW FLOODING (ZONE AO)

Located within the SFHAs established in Section 150.07, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Sections 150.20 and 150.21, all new construction and substantial improvements shall meet the following requirements:

(A) The reference level shall be elevated at least as high as the designated base flood depth specified on the Flood Insurance Rate Map (FIRM) plus a freeboard of one foot above the highest adjacent grade OR at or above 10 feet NAVD 1988, whichever is greater.

(B) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required above in Section 150.23(A) so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with Sections 150.16(C)(2) and 150.21(B).

(C) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

LEGAL STATUS PROVISIONS

150.24 EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION ORDINANCE

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted September 3, 2003 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of the Town of Duck enacted on September 3, 2003, as amended, which are not reenacted herein are repealed.

150.25 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 or 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 (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

150.26 SEVERABILITY

If any section, clause, sentence, or phrase of the 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.

150.27 EFFECTIVE DATE

This ordinance shall become effective June 19, 2020.

150.28 ADOPTION CERTIFICATION

I hereby certify that this is a true and correct copy of the Flood Damage Prevention Ordinance as adopted by the Town Council for the Town of Duck, North Carolina.

Don Kingston, Mayor

ATTEST:

Lori Ackerman, Town Clerk

Date adopted: May 20, 2020

Motion to adopt by: Nancy Cavaness

Vote: 5 AYES 0 NAYS