ARTICLE 5

REQUIREMENTS FOR IMPROVEMENTS, RESERVATIONS, AND DESIGN

5-101 General Requirements

5-101.4 Character of the Land -- Land which the Planning Commission finds to be unsuitable for subdivision or development due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations or topography, utility easements, or other features which would be harmful to the safety, health, and general welfare of inhabitants of the land and surrounding areas shall not be subdivided or developed unless adequate methods are formulated by the developer and approved by the Planning Commission, upon recommendation of the Director of Public Works and/or Town Planner, to solve the problems created by the unsuitable land conditions. Such land shall be set aside for such uses as will not be endangered by any feature deemed by the Planning Commission to be harmful to the public health, safety, and general welfare.

(1) Where protection against flood damage is necessary, in the opinion of the Planning Commission, flood-damage protection techniques may include, as deemed appropriate by the Planning Commission any or all of the following:

(a) the imposition of any surety and deed restrictions enforceable by the Planning Commission to regulate the future type and design of uses within flood-prone areas;

(b) flood-protection measures designed so as not to increase, either individually or collectively, flood flows, height, duration, or damages, and so as not to infringe upon the regulatory floodway;

(c) installation of flood warning systems;

(d) the use of fill, dikes, levees, and other protective measures; and

(e) the use of flood-proofing measures, which may include:

(i) anchorage to resist flotation and lateral movement.

(ii) accessory structures containing fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other

coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(iii) reinforcement of walls to resist water pressures.

(iv) use of paints, membranes, or mortars to reduce seepage through walls.

(v) addition of mass or weight to structures to resist flotation.

(vi) installation of pumps to lower water levels in structures.

(vii) construction of water supply and waste treatment systems so as to prevent the entrance of or contamination of flood waters.

(viii) installation of pumps or comparable facilities for subsurface drainage systems to relieve external foundation wall and basement flood pressures.

(ix) building design and construction to resist rupture or collapse caused by water pressure of floating debris.

(x) installation of valves or controls on sanitary and storm drains which permit the drains to be closed to prevent backup of sewage and storm water into buildings or structures.

(xi) location and installation of all electrical equipment, circuits, and appliances so that they are protected from inundation by the regulatory flood.

(xii) location of storage facilities for chemicals, explosives, buoyant material, flammable liquids, or other toxic materials which would be hazardous to the public health, safety, and welfare at or above the regulatory flood protection elevation, or design of such facilities to prevent flotation of storage containers or damage to storage containers which could result in the escape of toxic materials.

The acceptability of any flood-protection methods formulated by the subdivider or his agent shall be determined by the Planning Commission, as recommended by staff, which shall be guided by the policies set forth in Sections 1-104 and 3-102.4, of these regulations.

(2) When a proposed lot contains natural or manmade features that affect the feasibility of construction, it shall be designated a critical lot. Lots are designated critical during the preliminary plat review process and/or subsequent subdivision submittals based on soil conditions, degree of slope, flooding, or other lot features. A lot shall be designated as critical if one of the following conditions apply:

(a) The lot is created on a natural slope of 15% to 20%. Any lot/area with a slope exceeding 20% shall be set aside and noted on the plat as a No Disturbance Area that is not to be disturbed by grading operations. The Planning Commission has the right to grant variances for construction/disturbance of areas of slope exceeding 20%.
(b) The lot contains natural floodplain. Lots in floodplains shall be subject to the floodplain/floodway development standards in the Smyrna Municipal Zoning Ordinance.
(c) The lot is adjacent to a large/significant drainage channel, blue line stream, sinkhole, and/or otherwise low lying area with the potential for flooding as determined by the Town Engineer.
(d) The lot contains problem soils, sinkholes, or other adverse earth formations or topography.

A star symbol (*) shall be used to identify critical lots on the face of the preliminary plat, construction plans, and final plat. A critical lot designation can be removed if evidence has been presented to the Town Engineer that the lot no longer fits the definition of a critical lot. Any lot that will be created as a result of the grading process that meets the definition of a critical lot shall also be identified as such on the final plat.

Prior to application for a building permit on a lot designated as critical, a surveyed plan shall be submitted to the Town Engineer for approval. Said plan shall be stamped by a State of Tennessee licensed professional civil engineer with expertise in geotechnical, soils, hydrology, and/or structures. The plan shall provide a survey of existing conditions, details of the proposed development, and address any concerns in relation to the feasibility of construction (all shown to a point 10 feet outside of the lot boundaries).

No building permit shall be issued on a critical lot until the Town Engineer approves the plan submitted for the lot. Items to be reviewed as a part of the plan include driveway slope, driveway/sidewalk crossings, the diversion of runoff away from foundations, grading near lot boundaries, avoidance of excessive foundation and retaining wall heights, design details of any retaining walls subject to structural loading, and any other details deemed necessary by the Town Engineer. The maximum slope of a residential driveway shall be 15%.

No Certificate of Occupancy shall be issued for any lot designated critical until certification from the design engineer has been provided to the Town Engineer stating that the site was constructed in reasonable accordance with the approved plan, including certification from a registered land surveyor stating the exact elevations of the finished floor and garage for any lot that requires a minimum finished floor elevation.