

**MINUTES OF THE REGULAR MEETING OF THE LAKE LURE TOWN COUNCIL  
HELD TUESDAY, NOVEMBER 18, 2008, 7:00 P.M. AT THE LAKE LURE MUNICIPAL  
CENTER**

**PRESENT:** Mayor Pro Tem Russ Pitts  
Commissioner Wayne Hyatt  
Commissioner Jeanine Noble  
Commissioner Linda Turner

Steve Wheeler, Town Manager  
J. Christopher Callahan, Town Attorney

**ABSENT:** Mayor Jim Proctor

**CALL TO ORDER**

Mayor Pro Tem Pitts called the meeting to order at 7:00 p.m.

**INVOCATION**

Attorney Callahan gave the invocation.

**APPROVE THE AGENDA**

After discussion, Commissioner Noble made a motion to approve the agenda as amended. Add an item as 9d on the consent agenda to authorize the Mayor Pro Tem on behalf of Town Council to inform the Zoning and Planning Board about a clerical correction as outlined by Mayor Pro Tem with regards to a memorandum from the Mayor dated October 20, 2008 pertaining to a directive regarding utility easements. Commissioner Turner seconded the motion and the vote of approval was unanimous.

**Public Hearing - Consider Proposed Ordinance No. 08-11-18 Amending the Town of Lake Lure Subdivision Regulations, Title IX, Chapter 91 and the Zoning Regulations, Title IX, Chapter 92, Pertaining to Mountain and Hillside Development**

Community Development Director Shannon Baldwin gave a brief overview and answered questions pertaining to proposed Ordinance No. 08-11-18 amending the Town of Lake Lure Subdivision Regulations, Title IX, Chapter 91 and the Zoning Regulations, Title IX, Chapter 92, pertaining to mountain and hillside development. Mr. Baldwin read into the record his memorandum

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dated November 12, 2008 pertaining to the mountain and hillside development ordinance. (Attached is a copy of the memorandum from Shannon Baldwin dated November 12, 2008.) Mr. Baldwin read into the record a memorandum dated November 12, 2008 from Community Development Technician Sheila Spicer regarding the public hearing notices. (Attached is a copy of the memorandum from Sheila Spicer dated November 12, 2008.) Community Development Attorney Michael Egan read into the record his summary of the August 27, 2008 draft of the Town of Lake Lure mountain and hillside development ordinance and he answered questions pertaining to this ordinance. (Attached is a copy of the summary from Michael Egan.)

Mayor Pro Tem Pitts opened the public hearing regarding proposed Ordinance No. 08-11-18 and invited citizens to speak during the public hearing. Todd Dunnick with Mountain Land Properties and representing Michael Shaheen owner of lot 103A and lot 105R in Deerfield in the Rumbling Bald Resort; John Bittle, a general contractor and representing Mr. and Mrs. Cooley who owns lot 13 on the Shumont Ridge; Josh Farmer, attorney of Rutherfordton and representing several clients who are land owners in Lake Lure; and Rob Manors, co-owner of two lots on Sugar Bush Point, conveyed their concerns to Council about the proposed ordinance.

Mayor Pro Tem Pitts read into the record an email from James Gillespie praising the ordinance. (Attached is a copy of the email from James Gillespie.)

After discussion, Commissioner Turner made a motion to close the public hearing. Commissioner Hyatt seconded the motion and the vote of approval was unanimous.

**Adopt Ordinance 08-11-18 Amending the Town of Lake Lure Subdivision Regulations, Title IX, Chapter 91 and the Zoning Regulations, Title IX, Chapter 92, Pertaining to Mountain and Hillside Development**

Public notices were duly given and published in the Forest City Daily Courier newspaper.

After discussion, Commissioner Noble made a motion to adopt Ordinance No. 08-11-18, amending the Town of Lake Lure Subdivision Regulations, Title IX, Chapter 91 and the Zoning Regulations, Title IX, Chapter 92, pertaining to mountain and hillside development as revised. That this ordinance be consistent with the 2007-2017 comprehensive plan for the reasons set forth in the recommendation sent by the zoning and planning board. Also, direct the Zoning and Planning Board to study this ordinance further and consider public comments made during this hearing. Direct the Zoning and Planning Board to draft amendments including recommendations from Community Development Mike Egan and bring back to Town Council the proposed amendments no later than 60 days. Commissioner Turner seconded the motion and the vote of approval was unanimous.

**ORDINANCE NUMBER 08-11-18**

**AN ORDINANCE CONCERNING MOUNTAIN & HILLSIDE DEVELOPMENT;  
AMENDING §91.06 OF THE SUBDIVISION REGULATIONS OF THE TOWN OF LAKE**

**LURE CONCERNING THE DEFINITION OF “STEEP SLOPE”; AMENDING §91.55(B) THEREOF CONCERNING THE CREATION OF LOTS ON STEEP SLOPES; CREATING A NEW §92.041 OF THE ZONING REGULATIONS OF THE TOWN OF LAKE LURE ESTABLISHING MOUNTAIN RIDGE PROTECTION OVERLAY ZONES; CREATING A NEW ARTICLE 12 OF SUCH ZONING REGULATIONS ESTABLISHING STANDARDS FOR MOUNTAIN AND HILLSIDE DEVELOPMENT; AMENDING SECTION 92.005 THEREOF TO PROVIDE DEFINITIONS**

**WHEREAS**, the mountains, hillsides and ridges of the Town of Lake Lure are characterized by steep slopes and thin, sensitive soils; and, because of the natural stresses placed on such environment, they require special protection; and

**WHEREAS**, land disturbing activities on the high elevations, hillsides, steep slopes and ridges of Lake Lure potentially threaten the public health, safety, welfare and economic progress of the Town; and

**WHEREAS**, such land disturbing activity may endanger the quality of surface water by increasing erosion and stream sedimentation; has the potential to induce landslides; has the potential to adversely affect groundwater due to difficulty in providing proper sewage disposal; and may damage the habitat of some species of wildlife (plants, animals, and insects); and

**WHEREAS**, the intent of this ordinance is to retain an overall appearance similar to that of the natural terrain, i.e., to limit extreme alteration of the terrain and blend approved alterations of topography into the natural shape of the land, to preserve the mountain tops, hillsides, slopes, banks, and ridge lines in as natural a state as possible by responsible development using innovative design principles, to encourage only minimal grading which relates to the natural contours of the land, to preserve and protect visually significant rock outcroppings, native plant materials, natural drainage patterns and water courses, and areas of visual significance, to encourage a variety of building types, padding techniques, grading techniques, site design, arrangement and spacing of buildings in developments, to encourage innovative architecture, landscaping, circulation and site design, and to discourage mass grading of large pads and excessive terracing; and

**WHEREAS**, the Town of Lake Lure Comprehensive Plan recognizes that the physical setting of the town, with its rural charm, spectacular views and natural resources, is a primary attraction for all of those who visit and live there and further contains objectives and policies minimizing negative impacts from grading on steep slopes.

**NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF LAKE LURE, NORTH CAROLINA, MEETING IN REGULAR SESSION AND WITH A MAJORITY OF THE COUNCIL MEMBERS VOTING IN THE AFFIRMATIVE:**

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**SECTION ONE.** This ordinance shall be known and may be referred to as the Mountain & Hillside Development Ordinance.

**SECTION TWO.** Section 91.006 of the Subdivision Regulations of the Town of Lake Lure is hereby amended to delete the definition of *steep slope* contained therein and to add the following definition for *building and grading envelope*.

*Building and grading envelope (BGE):* The limits of disturbance affected by the establishment of a building and grounds. All buildings, walls, lawns, driveways, site amenities, and associated disturbance from construction activity shall be confined within this zone. The BGE may be sited in one mass or apportioned into several smaller compounds connected by walks or drives.

**SECTION THREE.** Section 91.55(B) of the Subdivision Regulations of the Town of Lake Lure, entitled "Steep Slopes", is hereby amended to read as follows:

(B) Steep Slopes

~~(1) To verify the average slope of the land being subdivided, and to accurately map any steep slopes and/or deep depressions occurring on that land, the subdivider shall obtain a professional survey as described below:~~

~~(a) The survey shall be computed in sufficient detail to produce a topographical map with contour lines at no greater than 5 foot intervals.~~

~~(b) The mapping will be produced to National Map Accuracy Standards as published by the USGS:~~

~~1. Horizontal.~~

~~90% of all visible planimetric features will be within 1/40th of an inch, based on the mapping scale, of their correct coordinate positions, and no such well defined features shall be in error by more than 1/20th of an inch, based on the mapping scale.~~

~~2. Vertical.~~

~~90% of all contours on clear unobscured ground will be correct to within 1/2 of the contour interval. The remaining 10% will not exceed in error by more than the contour interval.~~

~~90% of all spot elevations on clear unobscured ground will be correct to within twenty-five percent of the specified contour interval, and none will be in error by more than fifty percent of that contour interval.~~

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~~3. Obscured and Uncertifiable Areas:~~

~~Obscured areas and areas that can not be certified to the above accuracies, by an Aerial Mapping Firm, must be supplemented by field surveyed topo, produced by a NC Professional Land Surveyor, in critical design areas such as proposed roads, all proposed cut & fill areas, and any other areas deemed critical by the Town's development review committee.~~

- ~~(2) Extensive land clearing and construction of roadways on steep slopes is prohibited without the application of permanent slope stabilization and environmental protection measures suitable to the local topography, as detailed in Chapter 96, the Soil Erosion and Sedimentation Control Regulations, plus review and approval by a licensed geotechnical engineer:~~
- ~~(3) Where the construction of roadways on steep slopes is approved, the roadways shall be constructed along the contour of the land:~~
- (4) Any development planned for steep slopes shall follow the aesthetic as well as the technical recommendations of the geotechnical engineer and/or the erosion control and/or tree protection officer(s) to minimize the impact of construction on the viewshed.
- (1) No residential lot shall be created pursuant to this Chapter unless the average slope of such lot is less than 30% or, in the alternative, unless such lot contains a building and grading envelope with an average slope of less than 30%.
- (2) The preliminary plat shall demonstrate compliance with this paragraph in the following manner:
  - (a) A note indicating the topographic survey confirms all lots in the proposed subdivision have average slopes of less than 30%; or
  - (b) A note, based on the topographic survey, identifying which lots have average slopes of 30% or greater and confirming that all other lots have average slopes of less than 30%.
  - (c) Lots with average slopes of 30% or greater shall have depicted thereon a building and grading envelope meeting the requirements of Article 12 of Chapter 92, Mountain & Hillside Development.
- (3) No development activities shall take place outside the bounds of any such building and grading envelope except as authorized by Article 12 of Chapter 92, Mountain & Hillside Development.

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- (4) For the purpose of demonstrating compliance with this paragraph, the formula contained in §92.206(I) of the Zoning Regulations shall be used to determine slope.

[ADDITIONS TO TEXT ARE UNDERLINED; DELETIONS ARE ~~STRUCK THROUGH~~.]

**SECTION FOUR.** Section 92.005 of the Zoning Regulations of the Town of Lake Lure, entitled “Definitions”, is hereby amended to add the following definitions:

*Building and grading envelope (BGE):* The limits of disturbance affected by the establishment of a building and grounds. All buildings, walls, lawns, driveways, site amenities, septic fields, and associated disturbance from construction activity shall be confined within this zone. The BGE may be sited in one mass or apportioned into several smaller compounds connected by walks or drives.

*Community Development Director.* The person charged with administration of this chapter. Also, sometimes referred to herein as “Director”. Unless specified otherwise, the terms “Community Development Director” and “Director” include the designee thereof.

*Excavation:* A land-disturbing activity involving the mechanical removal of earth material.

*Filling:* A land-disturbing activity involving the placement of fill material, including the temporary stockpiling of fill material.

*Fill material:* A deposit of earth or other natural or man-made material placed by artificial means.

*Grading:* Any scraping, excavating or filling of the earth's surface or combination thereof.

*Land-disturbing activity:* Any grading of land, any clearing of vegetation, and any construction or rebuilding of a building or structure. This term shall not include activities such as ordinary maintenance and landscaping operations, individual home gardens, the upkeep of yard and grounds, repairs, and the cutting of firewood for personal use.

*Natural ground surface:* The ground surface in its original state before any land-disturbing activity.

*Rock outcropping:* The part of a rock formation that appears above the surface of the surrounding land.

*Slope:* An inclined earth surface, the inclination of which is expressed as the ratio of horizontal distance to vertical distance. In this Ordinance, slopes are generally expressed as a percentage; percentage of slope refers to a given rise in elevation over a given run in distance. A fifty (50) percent slope, for example, refers to a 100-foot rise in elevation over

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a distance of 200 feet. A fifty (50) percent slope is expressed in engineering terms as a 2:1 slope.

*Undisturbed:* The natural ground surface remains in its natural state; no land disturbing activity occurs; no vegetation is removed except as exempted by this Ordinance; and no impervious surface is constructed thereon.

**SECTION FIVE.** Article 12 of the Zoning Regulations of the Town of Lake Lure, entitled “Mountain and Hillside Development”, is hereby created to read as set forth herein.

**12 MOUNTAIN AND HILLSIDE DEVELOPMENT**

**§ 92.200 Applicability.**

The regulations contained in this Article apply to mountain and hillside development which is any lot, tract or parcel of land for which the average slope, as defined herein, equals or exceeds 30 percent. Applicability shall initially be determined by means of the Town’s GIS maps. Property owners may provide topographic maps of the property if they disagree with the determination made by reference to the GIS maps.

**§ 92.201 Goals.**

This Ordinance is adopted in order to further the following goals:

- (1) To preserve the appearance and protect the natural resources of Lake Lure’s mountains and hillsides;
- (2) To protect ridgelines and steep slopes;
- (3) To prevent soil erosion, and to control storm water runoff;
- (4) To protect trees and other native vegetation;
- (5) To encourage responsible development and to allow for reasonable uses that complement the natural and visual character of the natural landscape;
- (6) To encourage the application of sound and innovative design principles to development of these areas; and
- (7) To provide standards and guidelines for building and subdivision designs so they will be compatible with mountain and hillside surroundings in a way that benefits the landowner and the community.

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**§ 92.202 Lots of Record.** Any existing lots, tracts or parcels of record as of the effective date of this Ordinance shall be considered without exception to be approved for the building of a single-family dwelling; provided, however, that all requirements for the Health Department are met and any required development permit or building permit is obtained. Provided, further, for any building requiring a Level 2 analysis, as per §92.205(B), the applicant shall provide a geotechnical analysis and report demonstrating the site is suitable and safe for construction of the proposed dwelling. Any new structures also must meet all applicable building codes and those development standards that may be set by other regulations, as may be required.

**§ 92.203 Exemptions.** The following land uses or activities are exempt from the requirements of this Section.

- (A) Agriculture and forestry, provided that such activities are consistent with the best management practices established by the North Carolina Division of Forest Resources or the North Carolina Natural Resources Conservation Service, consistent with all state and federal laws, and all applicable regulations promulgated by the State of North Carolina.
- (B) Landscape maintenance activities including the removal of diseased, dead or damaged trees, provided, however that such activities shall be carried out in conformance with applicable regulations of this resolution or other resolutions that might apply.
- (C) Any land-disturbing activity on any land which was contained in or subject to any site-specific development plan granted a statutory vested right.
- (D) Additions to single family residences, on legal lots of record, properly permitted and approved prior to the effective date of this resolution, shall be permitted, subject to the following:
  - (1) The addition complies with the requirements of Section 92.207 herein.
  - (2) The height of the building addition does not exceed the height of the existing building or the maximum height permitted pursuant to the regulations contained herein, whichever is greater.
  - (3) No land disturbance is required to accomplish the building addition that would encroach on any reserved area, or that exceeds the land disturbance maximum specified herein.



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- (4) The building addition is in conformity with the purposes and intent and consistent with regulations of this Ordinance as determined by the community development director or designee.
- (E) Development of subdivisions for which preliminary or final plat approval has been granted prior to the effective date of this ordinance. The building of homes and other structures on such lots shall comply with applicable provisions contained herein.

**§ 92.204 Application Requirements for All Land-Disturbing Activity Other Than That Associated With a Single-Family Dwelling.** The following information shall be submitted as part of the first request for development authorization including, without limitation, approval of a preliminary subdivision plat, permit for land-disturbing activity, development plan approval, or permit for a building, road, or driveway for anything other than a single-family dwelling. In order to reduce costs to applicants, the topographic survey, soils report, hydrological report and plan, and geotechnical analysis and report need not address areas not proposed for development. Surveys, reports, plans and analyses required herein shall in all cases be prepared by a qualified licensed professional.

- (A) *Topographic survey.* A topographic survey of the project site shall be required for preliminary subdivision plat approval. Notes and details of existing terrain shall be included in the required topographic information, as needed to adequately portray the natural and man-made features of the land, as well as its elevations. A topographic survey may be required by the community development director for any other application for land-disturbing activity or building approval where reliable data on existing topography including county GIS maps or other topographic maps which may be available do not provide sufficient detail to administer the requirements of this Ordinance. Said topographic survey, if required by this section or by the community development director pursuant to this section, shall provide contour intervals of no more than five feet unless otherwise approved by the community development director.
- (B) *Certification of Maximum Structure Height.* Plans submitted with an application for a certificate of zoning compliance shall contain a certification that the maximum height of any proposed structure complies with the height restrictions contained in these Regulations.
- (C) *Soils report.* This report shall include conclusions and recommendations regarding the effect of soil conditions on the proposed development. The report may use the soil survey prepared and published by the Natural Resources Conservation Service for Rutherford County, North Carolina, as its basis, although site-specific soil tests may be required at the discretion of the community development director.

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- (D) ***Hydrology report and plan.*** This report shall include a complete description of the hydrology of the site, including the presence and location of springs, seeps and streams and the classification of streams as perennial, intermittent or ephemeral. The report shall also include conclusions and recommendations regarding the effect of hydrological conditions on the proposed development, and the capability of the site to be developed. A hydrological control plan shall also be required. At minimum said plan shall show and take into account the direction of flow within the local drainage basin; all natural drainage channels directed toward and away from the site within fifty feet of the perimeter of the site, and other natural drainage ways which may affect or be affected by the development proposal. Alterations of natural drainage ways shall be prohibited except for approved road crossings and drainage structures. Natural drainage ways shall be rip-rapped or otherwise stabilized below drainage and culvert discharge points for a distance sufficient to convey the discharge without channel erosion. Special notations shall be included which highlight details of the terrain, existing natural surface drainage and areas subject to seepage or spring flow.
- (E) ***Geotechnical Analysis and Report.*** This analysis and report shall address the existing geology, topographic and hydrologic conditions of the site, including an evaluation of the ability of the site to accommodate the proposed activity. Such analysis and report shall contain a professional opinion regarding slope stability, soil-bearing capacity, the potential for landslide or other geological hazards and their potential impact on structures or surrounding properties, and any other pertinent information. The geotechnical report and analysis shall also contain recommendations regarding foundation design, cut or fill slope design, soil-bearing potential, and building restrictions or setbacks, such as a re necessary to satisfy the intent of this ordinance and to protect the public health, safety and welfare. Upon completion of all improvements shown on approved plans but prior to the issuance of any final approval of improvements by the Town, the applicant shall submit a declaration by the geotechnical engineer or engineering geologist that all work was done in substantial accordance with the recommendations contained in the geotechnical analysis and report as approved and in accordance with approved plans.
- (F) ***Assessment.*** A written assessment of how the project has been designed to minimize the negative impacts of development on the environment of the mountain or hill.

**§ 92.205 Application Requirements for Land-Disturbing Activity Associated With a Single-Family Dwelling.** A plot plan of the lot or site on which the building is to be located shall be submitted to the building inspector for review and approval by the community development director. The plot plan shall be prepared by a registered surveyor, professional civil engineer, or other qualified licensed professional approved by the community development director and shall show the finished floor elevation of the building in relation to the natural ground surface and in relation to the uppermost point of the crest, summit, or ridge top of the mountain or hill on which said building is constructed. The plot plan shall also indicate the limits of the area to be disturbed and the slope of the building and grading envelope and of any proposed driveways. Areas proposed or required to remain undisturbed shall be marked on the plot plan and in the field with tape, orange plastic fencing, or other approved marker until a certificate of occupancy is issued or as otherwise approved by the community development director. The following additional information shall be submitted along with the plot plan.

(A) **Level 1 Requirements.** Every application for authorization to undertake land-disturbing activities associated with development of a single-family dwelling shall contain a topographic survey of the lot with contour intervals of two feet and a certification of maximum structure height as per §92.204(B). The applicant shall also conduct an analysis of the Rutherford County soils map. If the soils map indicates the presence of problematic soils, a soils report meeting the requirements of §92.204(C) should accompany the application.

(B) **Level 2 Requirements.** Level 2 requirements apply to any application to develop a single-family home where (1) the soils report confirms the presence of problematic soil types, and/or (2) the natural slope of the building and grading envelope equals or exceeds 40%. In addition to the topographic survey and certification of maximum building height required in §§92.204(A) and 92.204(B), Level 2 applications shall also contain the following information:

- (1) A soils report meeting the requirements of Section §92.204(C), if one has not already been provided;
- (2) A hydrology report and plan meeting the requirements of §92.204(D), above; and
- (3) A geotechnical analysis and report meeting the requirements of §92.204(E), above.

**§ 92.206 General Regulations for All Land-Disturbing Activity.** The following minimum standards shall apply to earth moving and land-disturbing activity which is not otherwise exempt.

(A) **Minimum Alterations.** Earth moving shall be limited to the minimum required for building foundations, driveways, drainage control structures and other

approved improvements and immediate areas surrounding the building, structure, road driveway, drainage structure or other approved improvements. With the exception of approved stockpiling or restoration efforts, substantial earth moving beyond that required for the installation or construction of approved buildings, structures, driveways, roads, or drainage structures shall not be permitted.

- (B) ***Cut and Fill.*** Unless otherwise specifically approved by the Town, cut slopes shall be no steeper than one-and-one-half horizontal to one vertical (1½:1) and fill slopes shall not be steeper than two horizontal to one vertical (2:1). Slopes exceeding 35 feet in height shall be benched at 35-foot intervals.
- (C) ***Compaction of Fill.*** All fill shall be stabilized in conformance with generally accepted engineering standards, including a compacted density of a least ninety-five percent (95%). Vegetation which has been cut or cleared shall be removed from the site and shall not be covered by, or imbedded in, fill material.
- (D) ***Timing of Disturbance and Prompt Completion.*** The applicant for any land-disturbing activity regulated hereunder shall propose a construction program to regulate the timing of construction which shall be designed to accomplish all earth moving and land disturbance in the shortest practical period of time. Absent extenuating circumstances beyond the control of the developer, failure to comply with the construction program shall constitute a violation of this ordinance
- (E) ***Natural Drainage Channels.*** Natural drainage ways shall be preserved to the maximum extent possible.
- (F) ***Impact on Adjacent Property.*** Realignment of streams and natural drainage channels shall not be permitted except for the purpose of effecting a stream crossing and only as specifically approved by the community development director upon issuance of all necessary state and federal permits. In such cases, natural or typical flow of surface or subsurface water shall not be altered or obstructed in any way by grade changes if such alteration may adversely affect the property of another by either contributing to pooling or collection of waters, or to the concentration or intensification of surface water discharge.
- (G) ***Density Limits.*** Unless developed as a planned unit development pursuant to the provisions of Paragraph (H), below, development on lands that are subject to this Ordinance shall meet the density and development requirements shown in Table 1, below. No lot that is subject to the requirements of this Ordinance shall be approved for subdivision unless it complies with the requirements of this table.

TABLE 1

Average Natural Slope of Lot To Be Subdivided	Minimum Lot Size (acres)	Maximum Building & Grading Envelope (BGE)
30--34%	1	25%
35--39%	2	20%
40% or more	5	15%

NOTE:

Minimum lot size may also be expressed in terms of dwelling units per acre. Thus, a two-acre minimum lot size would result in a maximum density of one dwelling per two acres (or one-half dwelling per acre) and so forth. This table shall not be construed to impair the clustering of dwellings and lots so long as maximum density is not exceeded.

(H) **Planned Unit Development Alternative.** In lieu of developing land subject to the density limits contained in paragraph (G), above, the owner of such land may propose to develop it as a planned unit development in accordance with the procedures contained in Article 4 of this Chapter. The Board of Adjustment shall approve such application so long as the applicant demonstrates that the proposed planned unit development complies with applicable standards and requirements contained in Article 4, as well as the following additional standards:

- (1) The average natural slope of the building and grading envelope for each lot proposed for development shall be less than 30 percent.
- (2) With the exception of §92.206(G) concerning density limits, the proposed development shall comply with the requirements of this Chapter.

(I) **Determining Slope.** Average slope shall be determined for each separate land tract in accordance with the methods and procedures contained herein. All slope determinations for the purposes of administering the Mountain & Hillside Development Ordinance shall be the natural slope of the lot to be developed or subdivided, which is to say the slope of the lot prior to any modification due to development activities.

(1) Prior to commencing any development or land disturbing activity and prior to making application for any permits and/or other approvals, the calculated average slope for a particular land tract shall be approved by the Director. Average slope calculations and supporting documentation shall be submitted to the Director for review. Within 20 days of receipt, the Director shall: (a) request additional information; (b) request revisions to the average slope calculation submittal; or (c) issue written concurrence with the determination of average slope, as submitted.

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- (2) Each slope calculation submitted to the director for review shall include a scaled map, accurately showing (a) topography for the entire land tract, (b) a closed perimeter line delineating a single area proposed for any type(s) of land of land-disturbing activity, and (c) the deeded land tract boundary. The accuracy and detail of the map shall be acceptable to the director for site specific conditions and the particular land-disturbing activities proposed. In certain cases, the director may, at their discretion, require that the slope calculation and associated mapping be prepared by a NC Professional Land Surveyor, a NC Professional Engineer, or a NC Professional Landscape Architect.
- (3) For an individual building site, the basis of the average slope calculation will include only the building and grading envelope for such site. For subdivisions, the average slope calculation shall be based on the entire tract to be subdivided unless the subdivider has elected to exclude areas subject to an absolute conservation easement pursuant to §92.206(J) or the Director has approved a division of area pursuant to §92.206(K) below.
- (4) Land slopes shall be calculated based on both (i) the downstream drainage slope from the highest, most remote point within delineated area of proposed land-disturbance, and (ii) the upstream drainage slope from the lowest, most remote point within the delineated area of proposed land-disturbance in accordance with the following requirements.
- (5) Land slope based on the highest, most remote point shall be calculated by determining the maximum horizontal length of drainage travel (D) from the highest, most remote point (Elevation H1) within the delineated area of land-disturbance in a downslope, drainage direction and perpendicular to topographic contours for the greatest distance to the lowest point (Elevation H2) at which drainage would exit the delineated area of proposed land-disturbance. Slope based on the highest, most remote point shall be calculated using the following formula:

$$S_a = ((H1-H2)/D)(100)$$

Where:

$S_a$  = slope expressed as a percentage

H1 = elevation of highest, most remote point

H2 = elevation of the lowest point drainage point  
below H1

D = is the maximum length of drainage travel  
between points H1 and H2 expressed as a  
horizontal measurement (D is not necessarily  
a straight line distance)

- (6) Land slope based on the lowest, most remote point shall be calculated by determining the maximum horizontal length of drainage travel (D) from the lowest, most remote point

