

**Town of Montreat
Board of Commissioners
Special Meeting
October 23, 2008 – 6:00 p.m.
Kirk Allen Building**

The Montreat Board of Commissioners held a Special Meeting on October 23, 2008 at 6:00 p.m. in the Kirk Allen Building. Present among the Board were Mayor Letta Jean Taylor, Mayor Pro Tem Eric Nichols, Commissioner Bill Hollins, Commissioner Jack McCaskill and Commissioner O’Neil Tate. Commissioner Ruth Currie was absent. Representing Town Staff were Town Administrator Ron Nalley, Town Clerk Misty R. Gedlinske and Building Inspector/Code Administrator David Currie. Approximately 15 members of the public were also present. Mayor Taylor called the meeting to order and gave the invocation.

Agenda Adoption

Mayor Taylor explained that each presenter would be given one hour in which to complete their presentations and answer any questions from the public. She said there would also be a recess between presentations. Commissioner Hollins then moved to adopt the meeting agenda as presented. Commissioner McCaskill seconded and the motion carried 4/0.

Presentation to Council: Linda Giltz and Bill Eaker - Land-of-Sky Regional Council

Bill Eaker advised that about three years ago, the Land-of-Sky Regional Council had begun to hear concerns from member governments, community leaders and other citizens about impacts associated with steep slope development. Land-of-Sky Regional Council then secured funding from the Z. Smith Reynolds Foundation to establish the Mountain Ridge and Steep Slope Protection Advisory Committee. The purpose of this committee was to identify and examine all issues related to steep slope and mountain ridge development and to develop a set of regulatory and non-regulatory strategies to promote safer, more responsible and sustainable development. Mr. Eaker pointed out that neither the Advisory Committee nor Land-Of-Sky Regional Council had any regulatory authority and said the Advisory Committee’s report, entitled “Mountain Ridge and Steep Slope Protection Strategies” was completed and submitted for informational purposes only and offered to government, non-profit and private sector organizations for their reference. He explained the two-year process used for developing the plan, including roundtable discussion with Land-of-Sky Regional Council Board, consultations with regional planners and managers, formation of a broad-based Project Advisory Committee, and ten Community Listening Sessions which met monthly during the development period. He also said that seven Advisory Committee subcommittees each drafted sections of the report, which was now available in final form on the Regional Council website, www.landofsky.org, or in print at a cost of \$10 per copy.

Linda Giltz said the Advisory Committee had discovered three over-arching issues throughout the course of their work, the first of which was that all policies developed to address this issue must be based on the best available scientific data. The second recommendation was that governments need to work together to ensure policy consistency, and the third was that decision-makers should consider the inter-relatedness of issues and that tradeoffs exist among the report’s recommendations. She also referred to a slope measurement diagram explaining how varying

degrees of slope could be expressed as a degree, a ratio or as a percentage and noted that for the purpose of ordinance or policy development, the Committee recommended focusing slope measurement on the area to be disturbed by development, rather than calculating an average slope across the entire parcel. Ms. Giltz then began outlining some key findings on the following specific issue areas related to the Advisory Committee's report, along with strategies and recommendations for each item.

Economic Impacts of Development and Preservation: Ms. Giltz noted that the benefits and costs associated with both development and preservation of steep slopes and mountain ridges affected individuals as well as the community as a whole. She recommended that local governments should consider a variety of financing mechanisms to generate revenues for protecting ridges and steep slopes. She also said that both local and state governments should consider incentives to reward developers who protect viewsheds, habitats and water quality and reward land owners who dedicate private property into permanent conservancy.

Public Safety: Ms. Giltz said that in North Carolina, structural damage caused by landslides was not typically covered by homeowners' insurance. She mentioned several causes and triggers for landslides, such as underlying geology and geomorphology, weather and climate, slope modifications, deforestation, earthquakes and precipitation and said that on average, a damaging landslide occurred nearly every year in the region. She also noted that the narrow, steep roads common in the region, often with one point of entry and exit to an area, could lengthen emergency response time. Ms. Giltz then listed the strategies and recommendations for addressing these issues, including requiring a geotechnical analysis for proposed developments on slopes greater than 40%, designing roads with at least two points of access to all areas of development, ensuring minimum road widths and designs to accommodate fire and other emergency vehicles, and advocating for the State Legislature to provide funding to complete Landslide Hazard Mapping for all 24 western North Carolina counties by 2016. She also mentioned the Firewise program, which she explained provided online information to homeowners about ways to make their homes and properties more resistant to fire damage.

Public Health: Mr. Eaker advised that although steep slope developments relied heavily on groundwater as a potable water supply source, groundwater storage was typically limited in these areas due to thin soils, increased run-off and limited groundwater recharge. He also noted a higher risk of septic system failures in steep slope areas. As part of the strategies and recommendations for this issue, Mr. Eaker said that site-specific evaluations should be made prior to development in steep slope areas to ensure adequate water capacity and sustainability of supply. He also said private wells should be monitored for quality every three years, and noted the Advisory Committee's concern that the State's standard setback distances between private well and septic tank systems may not be adequate to prevent well contamination in steep slope areas. Mr. Eaker said the Advisory Committee also recommended additional research on the impact of septic systems on groundwater, as well as wastewater discharges into local streams.

Water Quality: Mr. Eaker said that land-disturbing activities could greatly change the overall health of a stream watershed through increased stormwater run-off, increased erosion and

sedimentation, all of which had a negative impact on fish and other aquatic species. He pointed out that the Advisory Committee's recommendations to address these issues were the most controversial strategies included in the report and that more research was likely needed in this area. He said the Advisory Committee recommended that impervious surfaces in steep slope areas should be limited to no more than 10% of the total project area, and at least 50% of the entire steep slope development tract should be preserved as forestland. He also said that Streamside Protection Areas should be established on all perennial streams, intermittent streams and wetlands and should be based on the slope of the adjacent land. Mr. Eaker further stated that local governments should consider adopting their own local erosion and sedimentation control programs, and that both State and local governments should require all steep slope developments to submit comprehensive storm water management plans.

Loss of Natural Areas: Mr. Eaker said increasing pressure from suburbanization of remote areas and forest fragmentation was reducing wildlife habitat and increasing the number of incidents between humans and animals, especially bears. He also advised that many privately-owned working forests were being converted to development, which negatively impacted the timber industry and the number of jobs associated with timber management and harvesting. He said the Advisory Committee recommended that each county should establish a Land Conservation Fund, using State and federal matching fund grants, to protect highly valued natural resources and open space and to provide recreational opportunities for visitors. He also said the General Assembly should appoint a study committee to review property tax laws in order to provide incentives to landowners interested in dedicating their lands into permanent conservation. He said the Committee also advocated long-term funding for various State conservation trust funds and encouraged local governments to adopt land use policies that incorporated conservation design principles and development incentives for environmentally sensitive projects.

Preferred Development Processes and Best Management Practices: Ms. Giltz spoke about the Committee's recommended preferred development processes for steep slope areas which emphasized a need for procedures that encouraged greater communication with planning departments during the early phases of construction. She said the Committee also supported conservation-based development plans through both regulations and incentives and listed faster permitting processes, allowances for increased density and reduced permitting fees as examples of possible incentive options. Ms. Giltz also mentioned the development of a Sensitive Developer Certification Program and said that the Mountain Council for Accountable Development was working with local governments, the Asheville Homebuilders Association and the Asheville Board of Realtors to develop and offer this service.

Next Steps: Ms. Giltz said that the Advisory Committee would continue their meetings to provide guidance and assistance in implementing the strategies and recommendations found in their report. She also advised that the Land-of-Sky Regional Council staff would continue their education efforts through report distribution, presentations to local governments and other interested parties, newspaper articles and by launching a steep slope development resources website.

During discussion, Charlie Mitchell asked if the steep slope development resources website was available to the public. Ms. Giltz replied that the site was still under construction and said that some information was available through links from the Land-of-Sky Regional Council's home page. Mary Standaert asked how disturbed area was determined on smaller lots with potentially wide variations in the degree of slope. Ms. Giltz said the Committee did not base their recommendation on a specific lot size, but rather focused more on using conservation-based approaches to guide the type, size and location of proposed development. Wade Burns cited potential difficulties in enforcing a 10% impervious surface limitation on those lots in Montreat that were only one-quarter acre in size or smaller. Mr. Eaker said the Committee's recommendations were not intended to be used as an ordinance themselves, but instead as a reference for municipalities to use when drafting ordinances suited to their specific circumstances. Charlie Mitchell referred to the City of Asheville's hillside development ordinance and asked if their regulations for smaller lots were based on Land-of-Sky Regional Council's recommendations. Ms. Giltz said she knew that Asheville's ordinances were based on scientific evidence but was not aware of the specific source. Mr. Eaker explained that local governments often used other municipalities' ordinances and regulations as templates which were then revised to address the particular situations and experiences of that area.

Mayor Taylor thanked Mr. Eaker and Ms. Giltz for their presentation and announced a recess until 7:30 p.m.

**Presentation to Council: Rick Wooten – North Carolina Division of
Land Resources (Geotechnical Survey)**

Landslide Hazards and Landslide Hazard Mapping – Rick Wooten: Mr. Wooten gave a brief history of the North Carolina Geological Survey, which he explained was part of the Department of Environment and Natural Resources – Division of Land Resources. He said the purpose of his division was to map and describe the State's geology and mineral resources and to encourage wise conservation of those reserves through accurate and unbiased statistical information. He advised that as a result of the damage to the region from Hurricanes Frances and Ivan, the North Carolina General Assembly had enacted the Recovery Act of 2005, which authorized the Geological survey to perform landslide hazard mapping for 19 western counties and funded this effort through recurring appropriations from the State Legislature.

Mr. Wooten said that between 1990 and 2006, North Carolina experienced six fatalities and 45 destroyed or condemned structures as a result of landslides. Of these, one fatality and 28 condemned or destroyed structures were located on modified slopes. He cited the negative financial impacts of landslides on local communities as a result of lost commercial income and the high costs of repair and reconstruction. He advised that development on steep slopes could be achieved safely through proper geotechnical analysis, surveying, and design, but cautioned that long-term maintenance of ditches, culverts and other water control measures was essential to the success of these projects.

Montreat Board of Commissioners
Special Meeting
October 23, 2008

Mr. Wooten explained that the most dangerous type of landslide was known as a debris flow, during which the soil material on a slope becomes saturated with infiltrating water, liquefying it and causing rapid separation from the bedrock. He said that debris flow landslides normally began in concave areas near the ridge tops, traveled quickly down natural drainage paths and tended to increase in volume as the displaced soil progressed down the slope. He cautioned that human activities such as cut and fill slopes or the removal of natural vegetation can accelerate natural water infiltration to increase the risk of debris flow landslides. At the bottom of the hill, the landslide debris collects in what it known as a debris fan, which can build up significantly over geologic time due to repeated slides. He said that these areas were typically above the flood plain, carried a lower landslide risk, and often contained natural springs or other sources of groundwater for well drilling.

Mr. Wooten presented photographs of Starnes Cove and the Beaverdam area of north Asheville as examples of property damage from debris flow landslides caused by cut slope failures during Hurricanes Frances and Ivan in 2004, as well as the fatal debris flow landslide in the Peeks Creek community of Macon County during the same storms. He also showed photographs of a debris flow in the Bent Creek area in November 1977, which he said was caused by heavy rainfall that was not associated with a tropical storm system, as well as debris fan deposit examples in Maggie Valley and upper Beaverdam Creek. He noted two significant flood events in the area's history, one in 1916 affecting the French Broad River watershed in Buncombe, Transylvania and Henderson Counties. The second event, which occurred in Watauga, Jackson and Haywood Counties in 1940, caused thousands of individual landslides, extensive structural and roadway damages and multiple fatalities. Mr. Wooten also referred to a graph depicting episodes of heavy rainfall events over the past century, which showed that significant flooding events had occurred in western North Carolina in 30-year cycles over the past century. He also said that five inches of rain or more in a 24-hour period was the threshold his department used when predicting a rainfall amount that could potentially trigger a landslide.

Mr. Wooten said that preliminary mapping in Buncombe County showed that the majority of development within Montreat was constructed on an extensive network of debris fan deposits, which he said were at a lower risk for landslides as long as development higher up on the surrounding slopes was done carefully and responsibly. He noted that the areas within Montreat with a greater risk of landslide damage were those sections near streams or within former debris flow paths. He also said that according to his department's studies, the risk of landslides on both natural and modified slopes occurred most frequently in areas with a slope of 40% or greater. Mr. Wooten presented photographs of a debris flow fan on Assembly drive across from Robert Lake Park and debris flow areas along portions of Flat Creek. He also referred to photographs of slope failures on Westminster Terrace and Chapman Road, as well as slope stabilization measures undertaken on Texas Road near the ball field.

Mr. Wooten said that floodplain mapping should be completed for Buncombe County by the end of the year and would include a statistical information database, landslide inventory maps, a geologic hazards map, a stability index map and a debris flow pathways map. He pointed out that these maps were not intended to be regulatory in nature and should not be used as a

Montreat Board of Commissioners
Special Meeting
October 23, 2008

substitute for site-specific evaluations. He said the purpose of the mapping was to serve as a planning tool to help identify areas where further investigation may be warranted before undertaking any land-disturbing activities.

During discussion, John Hinkle asked whether a geotechnical analysis should be required on lots with less than a 40% slope. Mr. Wooten replied that he had not seen a reason to require this unless special circumstances existed. Charlie Mitchell asked under what circumstances a global stability index would be needed. Mr. Wooten said that that this may be helpful in determining how the soil on a particular site would react to a proposed cut slope or other land-disturbing activity. Mary Standaert referred to a sequence of lots of varying slope on Shenandoah Terrace and asked about the landslide potential of lots with greater than a 40% slope that were bordered by lots with more gentle slopes. Mr. Wooten replied that the landslide potential for a specific site was best determined by its contours and geography and said that the 40% slope threshold was intended to be used for statistical purposes to show at what point landslides were observed more frequently. Bill Eaker asked whether there were enough qualified professionals in the area to perform geotechnical and global stability analyses if the Town adopted an ordinance which required them. Mr. Wooten said that there were several firms in the area that could provide these services. Wade Burns asked whether a geotechnical analysis should be required by ordinance for all lots above a certain slope percentage. Mr. Wooten said he recommended at least a preliminary site assessment of the soil content and quality prior to any land disturbing activity, followed by additional monitoring during the grading and construction process. In response to Mr. Eaker's questions about homeowner's insurance, Mr. Wooten reiterated that structural damages caused by landslides were not covered by homeowner's insurance, although some flood insurance policies may cover certain types of water-related damages.

Mayor Taylor thanked Mr. Eaker, Ms. Giltz and Mr. Wooten for their presentations. Mr. Nalley announced that a second workshop would be held on November 5 at 6:00 p.m. in the Kirk Allen Building to hear presentations from the Asheville Homebuilders Association and S&ME Engineering, Inc. He invited the public to attend and asked anyone with specific questions about an individual lot to contact Town staff.

Adjournment

There being no further items of business to discuss, Commissioner Tate moved to adjourn the meeting. Commissioner Hollins seconded. The motion carried 4/0 and the meeting was adjourned at 8:45 p.m.

Letta Jean Taylor, Mayor

Misty R. Gedlinske, Town Clerk