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**ATTACHMENT 1**

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of NORTH CAROLINA  
at CHAPEL HILL

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November 29, 2006

Ms. J.B. Culpepper, Planning Director  
Town of Chapel Hill  
405 MLK Jr. Blvd  
Chapel Hill, North Carolina 27514

**Re: UNC at Chapel Hill Development Plan Modification No. 3 Application  
Response to Questions from November 13, 2006 Public Hearing**

Dear Ms. Culpepper:

At the November 13, 2006, Public Hearing, we heard a number of questions relating to our Development Plan Modification No. 3 application. This letter provides additional information in response to the issues raised at the hearing.

**Bike and Pedestrian Safety**

As we have described in the full application, the University is committed to mitigating development impacts on bicyclists and pedestrians by installing and maintaining safe and effective routes through campus. Several streetscape improvement projects have already been installed on campus and each of the projects in the proposed modification incorporates landscape and hardscape elements to tie the building into the existing networks.

The bicycle and pedestrian safety projects included on page 38 of the application include pedestrian sidewalks, new bollards and plantings, crosswalks, striping, and other safety improvements at the following locations:

**Projects Recently Completed:**

- Mason Farm Road
- Manning Drive
- South Road
- South Road at Country Club
- Boundary/Battle/Country Club

**Projects In Design or Construction:**

- Blythe Drive
- Manning Drive and East Drive
- South Columbia

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- Ridge Road
- South Road Bridge at Caudill Laboratories
- Manning Drive Bridge at Dental Sciences Building
- Paul Green Drive

**In Study:**

- South Road pedestrian plan
- Pedestrian Bridge on South Road at the Student Union

Furthermore, specific improvements in Development Plan Modification No. 3 include the construction of continuous sidewalks on Ridge Road from Country Club Road to Stadium Drive.

In addition to the pedestrian and bicycle improvements that are in place and planned for major routes through campus, we recognize the need for additional measures as recently reported to Council by the Fordham Boulevard Committee. We have agreed to work with the town to fund some of these improvements, specifically by providing \$50,000 of funding as specified in the draft stipulations, and we are willing to partner with the town and the appropriate agencies to investigate a long-term solution to the need for a safe and reliable pedestrian and bicycle connection across Fordham Boulevard, connecting the central campus with the eastern facilities along Old Mason Farm Road.

During construction, the University develops construction staging and pedestrian circulation routes to ensure safe access throughout the construction process. Traffic control plans, signage and maps are included in construction plans and require contractor compliance; these plans are provided with each project's Site Development Permit application.

**Transportation and Parking****South Campus Parking & Pedestrian Improvements**

In the approved Development Plan, the large deck in the Bell Tower lot was connected to Manning Drive by a new road. That road is no longer needed because of the decrease in parking spaces in the Bell Tower Lot. Some portion of the 990 additional cars in the Craige Deck were expected to use Manning Drive on the previously proposed road. The shift from Bell Tower to Craige Deck does not, therefore, result in significant change in traffic impacts from the previously approved plan as many of the cars from the Bell Tower deck would have used Manning Drive.

The University is committed to implementing measures to provide safe operations for vehicles and pedestrians. While segments of Manning Drive are being widened to allow for left-turn lanes, pedestrian control measures are being implemented to direct pedestrians to signalized crossings, and pedestrian bridges are being constructed. The new Blythe Road will help reduce demand on Manning by providing access to Craige Deck via Skipper Bowles Drive.

The University is increasing parking on the south part of campus in comparison to existing conditions. This change in allocation also serves the increased employment on south

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campus. However, the parking changes indicated in Modification No. 3 are only changes to the allocations that were included in the previous development plan update. The total number of new parking spaces included in the development plan is unchanged.

### **Country Club Road**

The increase in parking trips in the model that was noted on Country Club Road between South Road and Raleigh Street appears to be generated by the parking trips associated with the Cobb Deck and the Rams Head deck.

### **Transportation Demand Management Strategies**

In addition to continuing to work within the approved number of parking spaces, the University continues to be successful with other transportation demand management strategies. This year, the University was honored with a "Super Achiever Award" from the EPA recognizing outstanding businesses and organizations that contribute to the regional quality of life by working to clean the air, reduce congestion and encourage commuters to try a smarter way to travel to work. The University was selected from 156 agencies in our region. Only four agencies received this award this year. To qualify, award winners had to participate in Triangle Air Awareness, the SmartCommute challenge and be designated a Best Workplace for Commuters. The University reported 48 % of commuters using an alternative mode and doubled its participation in the SmartCommute Challenge this year. In 2006, the University was recognized as a Best Workplace for Commuters by the Environmental Protection Agency and the NC Department of Transportation. The 2006 award is one of several the University has earned in recent years for commuter assistance efforts.

As part of our commitment to alternative modes, the University is a partner with Chapel Hill and Carrboro in providing fare free transit community-wide. Each Project in the proposed modification is responsible for supporting appropriate transit and alternate transportation facilities, including bicycle and pedestrian facilities on campus.

### **Energy**

#### **Energy Efficiency**

The University's Board of Trustees has recently adopted an update to the Campus Master Plan that guides growth on campus. The University relies on national and local experts to advise the University on everything from architectural design to transportation demand management to energy.

The University has reviewed the AIA Guidelines for sustainable design and the strategies promoted in those guidelines directly relate to our CRed pledge. The University has pledged to reduce carbon emissions 60% by 2050. We have completed our carbon inventory, and we have set intermediate goals with defined dates to meet them. The University's timetable to meet its carbon reduction pledge is as follows (consistent with the repair and replacement cycle of the campus): 10 percent reduction by 2015; 20 percent reduction by 2030; 30 percent reduction by 2040; 45 percent reduction by 2045; 60 percent reduction by 2050. The University will be referring to these intermediate CRed goals along with the best thinking

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that comes from our experience on the current campus as we develop and refine our energy strategies for the University this year.

The energy philosophy adopted by the University for the central campus is described in the University's Strategic Energy and Water Plan<sup>1</sup> contains three strategic energy goals:

1. Providing reliable, cost effective energy and water supply and services
2. Designing and maintaining high performance buildings
3. Educating and engaging the campus community in energy conservation

Since the University operates an existing, mature campus, the first operational strategy focuses on the efficiency of production through the use of a highly efficient and effective central system. A central energy system is inherently more efficient and reliable than separate stand-alone systems from energy, air quality and maintenance perspectives because of economies of scale. At this level of development, the central system also allows the demand and supply to be balanced over a larger number of users, thereby increasing the efficiency of the system. By using cogeneration, the University provides the most efficient energy possible to campus, twice as efficient as producing steam only and separately purchasing electricity from Duke Energy. A new thermal storage tank has been installed to provide chilled water to the campus at lower energy costs. The chilled water is chilled at night when energy rates are lower and discharged during the day when rates are higher. The tank shaves 10 megawatts off energy demand during peak summer periods. From a sustainability perspective, this operation reduces Duke Energy's need to increase generation at coal or gas fired plants during peak days, thereby reducing greenhouse gas emissions. The University meters steam, chilled water, and electricity consumption in each building so as to improve management and to identify opportunities for reduction initiatives. The University operates a central Energy Management Control System (EMCS) to actively monitor and control building HVAC systems for optimum performance. The University routinely connects all new buildings to the EMCS system and would expect to do so for those proposed in this Modification.

The second approach towards energy efficiency is reducing the consumption of energy on campus. Consumption is addressed both through the design of new, energy efficient buildings and the upgrades and renovations of existing buildings. Since 2000, the University's capital program has included a combination of new buildings and significant renovations. While the University has added 675,000 SF in new and expanded buildings, it has also renovated 1.78 M SF and has demolished 255,000 SF. All new construction and building renovations must comply with state building and energy codes. The new building construction allows us to take existing buildings off line for comprehensive renovations. Each comprehensive renovation includes energy efficiency improvements including window replacement, new HVAC systems, lighting, water reducing plumbing fixtures, and improved insulation as well as addressing life safety and accessibility deficiencies. Energy conservation projects are also done on buildings that are not undergoing other renovations.

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<sup>1</sup> <http://www.sustainability.unc.edu>

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Educating the campus community is the third, and final strategy in conserving energy use in these new and renovated buildings. The University has reduced per capita energy consumption 11% since 2002.

The construction of new Student Family Housing and Ram Village added bed capacity and housing options on campus. The increased bed capacity has allowed the University to implement a renovation program for existing residence halls beginning with Alexander, Connor, and Winston; Kenan, McIver, and Alderman; Cobb; and now Morrison Residence Hall. The renovation to Morrison includes the installation of solar panels to generate domestic hot water. In the same way, the new Student and Academic Services Building will allow the University to provide a comprehensive renovation to Steele Building and complete the renovation to Hanes Hall. The new building for the School of Information and Library Science included in the Development Plan Modification No. 3 will allow the University to follow with a comprehensive renovation to Manning Hall.

### Sustainability

New buildings on campus are connected to the central energy production system. The University currently uses the LEED checklist to guide the design of new buildings on campus. Certification is not a current program requirement but the checklist is part of the 2004 Campus Design and Construction Guidelines, which each designer on campus is required to follow. The checklist in the guidelines is specific to campus, identifying 25 points that should be met on each project. The design team is responsible for identifying an additional eight points to achieve a silver level equivalent project. We are incorporating some lessons learned on campus during the final edit of the 2007 version of the Design and Construction Guidelines.

Sustainability efforts on campus are not limited to building design. A sample of green building features for capital projects and other sustainability efforts on campus includes:

- Rams Head Development (Green roof technology on plaza, waste food pulper and dehydrator on dish line);
- Carrington Hall Nursing School Addition (green roof, water efficient fixtures, CO2 monitors, energy recovery system) (a ruling on the LEED certification is pending from the USGBC);
- Morrison Residence Hall renovation (Solar panels for domestic hot water);
- Global Education Center (Green roof technology and reclaimed water system for irrigation and toilet flushing);
- In a cooperative effort with OWASA, a reclaimed water system is being constructed to use reclaimed wastewater in campus chiller plant cooling towers;
- Genomic Sciences Building (Green roof technology, day lighting, chilled beams)
- Environment, Health and Safety building (incorporates a controlled day lighting system in office space);
- Botanical Garden Visitor Education Center (Designed to LEED platinum level) will incorporate geothermal heating and cooling, solar thermal and photovoltaic technology;

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- Retro-commissioning of 3 existing buildings (MBRB, Carroll Hall and Bioinformatics) in 2006;
- Construction waste management requirements on all projects; last year we diverted 60 tons of construction and demolition waste from landfills;
- The kitchen prep and food waste from all campus dining halls and the university conference center is composted, as is the animal bedding from labs;
- The Office of Waste Reduction and Recycling (OWRR) manages a campus-wide solid waste recycling program that diverts 39% annually from landfills, sponsors Green game events on in residence halls, conducts recycling operations during athletic and special events and oversees active educational programs across the campus;
- The Grounds Department composts all organic materials removed from campus grounds and uses the compost materials for campus planting areas;
- Storm water mitigation on all projects to prevent any increase in the volume, rate, or pollutant load compared to the pre-construction condition as well as best management practices. Examples include green roofs, underground cisterns, porous pavement, infiltration beds, replanting for rainwater retention;
- 15 LEED Accredited Professionals on University staff
- Enhanced water efficiency on campus to include waterfree urinals, dual flush toilets, and closed loop cooling systems;
- Campus Sustainability Reports for 2005, 2003, 2002 and 2001 (available on website);
- A comprehensive tree protection program has been put in place to include GIS mapping, inch for inch replacement of removed trees and a campus tree warden.

The University's Sustainability Policy has been endorsed by the Chancellor's Cabinet. The policy can be viewed on the Sustainability website: [www.sustainability.unc.edu](http://www.sustainability.unc.edu). The University also has an active Sustainability Advisory Committee (SAC), chartered by the Vice Chancellor for Finance & Administration. The committee, with members from academia, administration and support organizations promotes policies and practices for improved sustainability. An energy efficient purchasing policy was drafted by the SAC and adopted by the Vice Chancellor's Group for implementation campus wide. A high performance building policy is also under development by the SAC.

The University's 2006 Strategic Energy and Water Plan is a concise summary of the University's deliberate efforts to improve energy efficiency and the associated return on investment over the past three fiscal years. It is available in the energy section of the Sustainability website. <http://www.sustainability.unc.edu/>

The Point to Point bus fleet operates on biodiesel fuel; the University service station gasoline tank/dispenser system has been converted to E-10 (10% ethanol) for state vehicles; an E-85 fuel tank is being installed at the service station in 2007. OWASA and other state vehicles also purchase these fuels from the University.

As these examples illustrate, the University is committed to energy efficiency and sustainability on central campus.

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### **Impervious Surface**

As part of the Site Development Permit application and Construction Plan, the University has committed to improving and maintaining and quality of pervious spaces on campus. The campus stormwater management plan has been an important component of this commitment.

The Sierra Club recognized UNC as a leader in stormwater solutions, recognizing that "UNC is on the leading edge of sustainable development, comparable to other large institutions"<sup>2</sup>. Specific projects recognized in the report included the Carolina Inn's Head development, the Carolina Inn Hall addition and the Michael athletic center. As the development continues, additional lawn areas will be replaced with mulch, new native landscape areas will reduce maintenance and increase infiltration on campus, more green areas will be added to the campus and additional infiltration projects will be constructed.

As the University has built Development Plan projects, we have remained committed to the requirement that there be no increase in stormwater runoff as a result of new construction. The stormwater tables in the full application show a snapshot of the land cover on campus since 1998, as they have done in each update. Although there appears to be a large increase (about 40 acres) in impervious surface in the Meeting of the Waters sub-basin, when the updated mapping is considered, the actual increase is only about 13 acres. The 1998 base mapping that was used in developing these tables was recently updated when the University recently prepared a Stormwater Master Plan. That process used field verification and better technology to create a more accurate base map on which the new tables are based. The updated mapping will continue to be used in future Development Plan Modifications.

As part of the Site Development Permit application and construction approval for Development Plan projects, a stormwater management plan is provided to the town for review and approval. Furthermore, an erosion control permit is obtained from the state to address and regulate runoff and sedimentation control. The University Department of Environment Health and Safety monitors these processes on behalf of the University. Additionally, landscape restoration is a part of each project.

### **Carolina Inn Addition**

The Carolina Inn pays an occupancy tax on all non-University related occupants. The Inn is an active member of the Visitor's Bureau and is active in promoting tourism in Orange County and downtown Chapel Hill. The Inn is listed in the National Register and the National Historic Hotels list and a contributing resource to the local Cameron McCauley Historic District. The expansion of the Inn will provide more rooms, a portion of which will generate additional non-University related occupancy taxes.

<sup>2</sup> Building Better II, A Guide to America's Best New Development Projects, Clean Water Edition, Sierra Club, November 2006.

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### Relationship to Carolina North

We are committed to the Chancellor's vision of Carolina North as a model of sustainability. As many of you are aware, the University has retained nationally recognized consultants BNIM and AEI to assist in early sustainability and structure planning and we look forward to continuing to work towards our vision both at Carolina North and on our main campus.

### Four Findings

In the statements above and at the public hearing of November 13, 2006, the University has presented substantial, competent and material evidence to enable the Council to find that this proposed Development Plan Modification meets the four findings of fact required for approval of the application. First, the pedestrian and bicycle safety improvements, and the contributions to transit and transportation improvements all support the public health safety and general welfare. Second, the application requires no variance from the regulations and standards of the Land Use Management Ordinance (LUMO). Third, the proposed modification maintains and enhances the value of contiguous property as evidenced by continuing property value increases of adjacent property, this data will be provided at the public hearing in December. Lastly, the Development Plan Modification conforms with the general plans for development in both the LUMO and the Comprehensive Plan, in which the campus is identified as "university" use and there are numerous references to cooperative planning between the Town and the University because "the fulfillment of the missions of UNC and the UNC Health Care system will be accompanied by growth of those institutions." (Comprehensive Plan 2.2, Major Themes).

We believe this information above responds to the issues raised at the Town Council's November 13, 2006, Public Hearing on our Development Plan Modification No. 3 application. We'd look forward to answering additional questions on December 4<sup>th</sup>.

Sincerely,



Anna A. Wu, AIA  
Director

c: Ms. Pat Crawford  
Ms. Carolyn Elfland  
Ms. Mary Jane Felgenhauer  
Mr. Bruce Runberg