Table of Contents
Executive Summary ............................................................................................................ 3
Intent .................................................................................................................................. 3
Outline ................................................................................................................................. 3
  Centennial Biomedical Campus Foundations ............................................................... 3
  Centennial Biomedical Campus Master Planning Strategies ........................................ 3
  Approval Process ............................................................................................................ 3
Centennial Biomedical Campus Foundations .................................................................. 5
  Site Characteristics of Centennial Biomedical Campus .............................................. 5
History of Centennial Biomedical Campus ..................................................................... 5
Campus Vision ................................................................................................................. 6
References ......................................................................................................................... 7
Centennial Biomedical Campus Master Planning Strategies ...................................... 8
Centennial Biomedical Campus Guiding Principles ..................................................... 8
Design Guidelines and Standards .................................................................................... 9
  Campus Neighborhoods .................................................................................................. 9
  Shared Open Spaces ....................................................................................................... 10
  Natural Areas .................................................................................................................. 10
  Character Places .......................................................................................................... 13
  Hubs of Interaction ....................................................................................................... 17
  Mixed Use Neighborhoods ............................................................................................ 17
  Residential ...................................................................................................................... 17
  Parcel Land Use ............................................................................................................ 18
  Sustainability ................................................................................................................ 21
  Stormwater Management ............................................................................................... 21
  Buildings and Their Details ........................................................................................... 22
  Paths for a Pedestrian-Oriented Campus ...................................................................... 23
  Streets as Paths .............................................................................................................. 25
  Transit Paths .................................................................................................................. 26
  Parking ........................................................................................................................... 26
Centennial Biomedical Campus Infrastructure Systems .............................................. 28
  Water Supply .................................................................................................................. 28
  Wastewater Transport and Treatment .......................................................................... 28
  Electric Power Supply .................................................................................................... 28
  Telecommunications ...................................................................................................... 29
  Natural Gas Supply ......................................................................................................... 29
  Thermal Utilities ............................................................................................................ 29
Design Approval Process .................................................................................................. 31
  Project Scope Statement ............................................................................................... 31
  Developer/Designer Selection ......................................................................................... 31
  Site Selection Approval ................................................................................................. 31
  Design Intent Approval ................................................................................................ 31
  Final Plan Approval ...................................................................................................... 32
  Permits ........................................................................................................................... 32
Appendix ........................................................................................................................... 33
Executive Summary

Intent
The NC State University Physical Master Plan, *A Campus of Neighborhoods and Paths*, includes in its Foundations our Campus Vision, Guiding Principles, and Design Guidelines and Standards. These Foundations will guide the design of Centennial Biomedical Campus (CBC). This document, *Centennial Biomedical Campus Development and Design Guidelines*, is specific to the CBC and intends to focus, expand and communicate university standards, to facilitate the development process and encourage creative development and design. These Guidelines, the Physical Master Plan and the Project Scope Statement establish design and development criteria that will be the basis for approval for all CBC design.

All development is guided by the Physical Master Plan and the Development and Design Guidelines. Projects may not embody every idea and concept in the plan but all projects strive to include appropriate concepts as budget and scope allow. Since growth at NC State is incremental, each project will leave NC State’s campus a better place and will be designed in such a way that does not prevent future growth according to the master plan. This document is not a schedule for project delivery.

A more thorough understanding of the campus master plan concepts can be found in The Physical Master Plan, *A Campus of Neighborhoods and Paths*. That document and subsequent updates may be found on the NC State Facilities web page at [www.ncsu.edu/facilities/physical_master_plan](http://www.ncsu.edu/facilities/physical_master_plan).

Outline
The Development and Design Guidelines are organized into three sections and are illustrated with supporting drawings and maps:

**Centennial Biomedical Campus Foundations**
This section includes the Campus Vision and Design Guidelines and Standards. Included in this section is specific design direction for Streetscapes, Signage, Natural Areas, Character Places, Hubs of Interaction, Buildings and Open Space requirements for CBC.

**Centennial Biomedical Campus Master Planning Strategies**
The Strategies section describes specific development and planning methods to plan and build the CBC as a unique place.

**Approval Process**
The University Trustees’ Buildings and Property Committee approves all CBC designs. This section outlines the steps in the approval process that include a specific Project Scope Statement for each project. It is the intent of the Project Scope Statement to supplement these Guidelines with unique and specific requirements for each project.
Centennial Biomedical Campus Master Plan Rendering – Figure 1
Centennial Biomedical Campus Foundations

Site Characteristics of Centennial Biomedical Campus
The subject property, owned by The State of North Carolina and under the care of North Carolina State University, is located in Raleigh’s Southwest Planned District and is bordered by Hillsborough Street, Blue Ridge Road, Wade Avenue and the I-440 Beltline. Across from Blue Ridge Road are the NC State Fairgrounds and the Westchase Office complex. South of Hillsborough Street is a rail line and an industrial area. The College of Veterinary Medicine is located on a 218 acre tract and consists of over 20 buildings and structures which are used for instruction, research, clinical service and outreach. The Laboratory Animal Resource Unit maintains buildings and outdoor areas for the maintenance and care of animals used in teaching and research. The North Carolina Highway Patrol and the University Club with its recreational facilities and golf course are also located on the site.

The site has access to Hillsborough Street and Blue Ridge Road but does not have access from Wade Avenue or the I-440 Beltline.

The physical and natural aspects of the site are notable because the rolling topography. The open pasture land creates valued scenic vistas. Larger contiguous areas of trees exist along portions of Wade Avenue and I-440. The ridge on the western edge of campus at Blue Ridge Road is the high point of the campus and is one of the highest elevations in Wake County. Hillsborough Street runs along a slightly lower ridge. The topography generally falls from the southwest to the northeast corner of campus. The headwaters of House Creek are located on CBC and nearly all of campus drains to the creek. A dam on it in the center of campus has created a five acre farm pond. North of the pond, a second branch joins House Creek from the east. The slopes along this eastern stream branch are among the steepest on the site. The most significant stands of woods are in the areas adjacent to these two streams.

History of Centennial Biomedical Campus
With the graduation of its first class in 1985, the College of Veterinary Medicine is one of the youngest veterinary programs in the country. Despite its relative youth, the College has gained international recognition on the strength of its teaching, research, engagement and patient care. Instruction is offered in three departments—Clinical Sciences, Molecular Biomedical Sciences and Population Health and Pathobiology. In addition to the four-year Doctor of Veterinary Medicine degree, there are programs leading to master and doctoral degrees in several areas with numerous opportunities for specialization.
College of Veterinary Medicine was built on what had originally been the University Dairy Farm. When the farm was relocated, many of the existing barns and other facilities were renovated for the animals kept on the site.

Construction began on the College of Veterinary Medicine in 1979 and was finished three years later. The Main Building was designed with a library on one end and food services on the other. Offices and laboratories open out to a three-story mall where students are able to observe activities, such as surgery, through glass walls. The building also features large lecture halls and a stair tower. *

In 1998, the State Legislature of North Carolina designated approximately 200 acres surrounding the College of Veterinary Medicine and the University Club as eligible for the Centennial Campus Financing Act. At the same time, North Carolina State University received advance planning funds for a research laboratory addition and renovation of the College of Veterinary Medicine. A master planning activity, “Master Plan 2000”, was initiated by the University employing Flad & Associated, Pearce Brinkly Cease + Lee, and Affiliated Engineers to analyze the space needs of the College, to identify and quantify the renovation and addition project and to develop a long-range plan for the locations of additional space and for the location of a biotechnology component.

In 2003 the team of Small Kane, Foil Wyatt and Jova/Daniels/Busby was engaged by the University to review past master plans to specifically evaluate options for the expansion of the Veterinary Teaching Hospital. The study indicated a need for a new small animal hospital located at the southern end of the existing facility and also a new large animal hospital at the northern end.

In 2006 the university engaged the team of WK Dickson and Jerry Turner and Associates to assist in creating a Planned Development Conditional Use Overlay District for the CBC campus. The master plan and the conditions of the rezoning were approved by Raleigh City Council on September 5, 2007. This Planned Development District master plan is a primary planning tool and provides conditions for development, including building locations, development intensities, building setbacks from public rights -of-way, building heights and typical street sections.

The Randall B. Terry, Jr. Companion Animal Veterinary Medical Center is expected to be the national model for excellence in companion animal medicine. The Terry Center offers cutting-edge technologies for imaging, cardiac care, cancer treatments, internal medicine and surgery. It more than doubled the size of the previous companion animal hospital and can accommodate the more than 20,000 cases referred to the CVM each year.

**Campus Vision**

All land use within the urban campus is guided by the North Carolina State University Physical Master Plan, *A Campus of Neighborhoods and Paths*. The master plan outlines a Campus Vision, Guiding Principles, and Design Guidelines and Standards for all campus development. The *Centennial Biomedical Campus Development and Design Guidelines* document focuses more in depth on this unique campus and supplements the university master plan with a Vision, Guiding Principles and Design Guidelines and Standards specific to this campus.
North Carolina State University’s Centennial Biomedical Campus is a research, advanced technology and academic community where university, industry and government partners interact and collaborate in multidisciplinary programs directed toward the resolution of contemporary problems. In this "knowledge enterprise zone," hubs of activity challenge traditional, artificial barriers to creation, integration and application of advancements in knowledge. The resulting synergy leads to technological innovation and transfer, application-based teaching and learning, sound business investment and greater quality of life in North Carolina and beyond.

The unique master plan for this environmentally sensitive, mixed-use academic village responds to the professional, educational and recreational needs of the university’s faculty, staff and student body, as well as those of corporate and government affiliates whose presence on CBC add to its vigor and effectiveness. The plan will establish Campus Neighborhoods developed within an intimate, human-scaled campus environment, while The Pastures, lake and natural areas are enhanced to continue to serve as a working teaching laboratory for the university.

CBC development is organized to respect existing campus natural systems. The developable areas are framed by the natural systems, which provide a contiguous network of open space connected by a system of greenway-style paths throughout and around campus. All development is undertaken with consideration of preserving, connecting and enhancing these natural systems and areas.

**References**

The design/construction teams and campus community shall coordinate with the following resources for projects at CBC:

* A Campus of Neighborhoods and Paths (2007)  
  www.ncsu.edu/facilities/physical_master_plan

  Development of the site and buildings will follow the guiding principles and design guidelines set forth in the campus physical master plan.

* Master Plan for a Planned Development District, MP-4-06, Centennial Biomedical Campus, North Carolina State University (Approved September 5, 2007)

  Construction at CBC shall comply with the conditional use zoning outlined in the development master plan.

* CBC Tree Conservation Plan (2010)

  Development of CBC shall harmonize with the areas of tree preservation; both primary and secondary areas as well as areas of Alternate Compliance.
**Centennial Biomedical Campus Master Planning Strategies**

1. Plan the various networks of the campus based on the natural characteristics of the site.
2. Establish Character Places by matching prominent site features with appropriate user functions.
3. Promote the understanding that individual building projects are to respond harmoniously to the context of the built and natural campus environment.
4. Integrate structured parking into a thoughtful urban design that creates a campus identity.
5. Relate the campus to the larger community through access, transportation, amenities, recreation and other uses.
6. Implement project design according to the specific Project Scope that will be prepared for each project and area development.

**Centennial Biomedical Campus Guiding Principles**

CBC serves as a living laboratory and learning community. Campus design, planning and infrastructure encourage integrative partnerships between CBC partners and university faculty and students in research and extension.

Trinity Road will become the ceremonial entry into the Centennial Biomedical Campus.

Campus development is organized around the land’s natural features such as significant ecological areas, topography, views, and stream/drainage corridors.

The Pastures will remain an undeveloped, pastoral setting for the study and care of animals used in teaching and research. Views of the Pastures from Wade Avenue and Hillsborough Street shall be preserved.

Development is mixed-use, including animal hospitals, academic and research space, library, offices and food service. This mix provides an attractive and stimulating campus environment that encourages university / partner collaboration.

A residential component may be included in parcels B3, B4, B5 and B6. See *Figure 6 – Parcel Land Use.*

The future building in parcel B-5 will be developed to create a Shared Open Space with the University Club.

Campus design reduces the number of automobiles by providing appropriate parking (size and location) in combination with enhanced transit facilities and transit connections to the other campus precincts, the City of Raleigh and the greater Research Triangle region. See *Figure 9 - Transit Paths.*
Design Guidelines and Standards
The Foundations section in the university’s Physical Master Plan establishes the overall design direction for all university projects. The following guidelines and standards supplement the master plan and apply specifically to CBC.

The master plan for CBC is based on Shared Open Space network and Natural Systems, the foundation for designing and building interconnected Campus Neighborhoods. See Figures 3 – Shared Open Spaces and Figure 4 - Natural Systems.

Campus Neighborhoods
The Campus Neighborhood is the fundamental building component of CBC. Buildings are clustered around a Shared Open Space, creating a place of unique character and providing the opportunity for mixed-use activities. Campus Neighborhoods have certain similar characteristics such as a Human Scale, an exterior Hearth, Mixed-Use, and Design Harmony. However, the character of each neighborhood will be different as the architecture responds to the challenges of site, program, and supporting mixed uses. As one in a collection that forms a neighborhood, each building is designed in context with nearby structures, succeeding because it adds to its Campus Neighborhood, the entire campus fabric and the natural surroundings. All buildings are human scaled both physically and psychologically, with detailing that evokes a sense of connection to the public activities inside. At CBC the Shared Open Space may be part of the contiguous natural system of creeks, buffers and woods or be built Shared Open Spaces such as courtyards and plazas. All activities, neighborhoods, and Shared Open Spaces are connected one to the next by a network of paths.

In a development parcel there will generally be one neighborhood created by clusters of buildings that provide a mix of uses and form a variety of natural and built open spaces. This arrangement contributes to creating places of unique character. The CBC College Hearth is a built Shared Open Space at the entry CVM. This neighborhood has a mix of uses: teaching, research, hospital buildings, a library and food service. Across from the Pastures, facilities in the B6 parcel are clustered around the golf course. Development adjacent to the University Club should promote connectivity with the existing neighborhood. Architectural features of the buildings or site may afford opportunities to create Portals, which act as an entrance to the Campus Neighborhood and aid in wayfinding. Development shall strengthen the connectivity between the neighborhoods and with the North Carolina Museum of Art and the NC State Fairgrounds through campus paths.
Shared Open Spaces
More than 90 acres of Shared Open Space and Green Space will be provided at Centennial Biomedical Campus. Buildings and campus elements are arranged so that identifiable, positive spaces are created. Shared Open Space is intended to be public and ranges in size and character from built forms, such as Hearths and courtyards, to areas that follow the land and natural drainage such as the paths planned around the Pastures. A common element of these open spaces is that the basic enclosure formed by the buildings is grounded to the natural landscape and connected to other spaces and activities with a network of Campus Paths. The combination and organization of courtyards and paths allows the campus to grow organically. It is within these spaces that much of the life of the campus happens.

The connectivity of open spaces is a primary defining characteristic of the campus. This Shared Open Space network is conceived as an interrelated system of open spaces. Campus Paths link both natural and constructed open spaces. See Figures 3 – Shared Open Spaces.

The configuration and connectivity of these Shared Open Spaces is a primary defining characteristic of the campus. The core area, consisting of parcels B1 through B4, will contain at least three significant courtyards. The courtyards, along with the campus streets of William Moore Drive and Trinity Road will serve as the organizing elements for their neighborhoods. Other smaller Hearths and gathering spaces should complement and relate to these primary courtyards. See Figure 6 – Parcel Land Use.

Green Space consists of open land that is not built upon, but which have restrictions regarding access to the public. While not Shared Open Space, these areas are of benefit to the campus. The College of Veterinary Medicine maintains pastures and paddocks used for the care of animals. These pastures remain secure for the protection of the animals and the public. The University Club par three golf course also provides open space, scenic vistas and area that is not built upon. These green space areas provide valuable open areas that significantly contribute to the pastoral character of the eastern part of campus. See Figure 8 – Campus Paths and Shared Open Spaces.

Natural Areas
The intrinsic natural characteristics of the site are the prime form determinants of the land plan. House Creek with its protective buffers, tree conservation areas, open space and green space preserves provide the basic structure of the campus. In a fundamental way the site’s natural system of hilltops, drainage and watercourses shall provide a contiguous and imperative network of open space. See Figure 4 – Natural Systems.

Essential to both the campus and the University is a physical and philosophical connection to the natural environment. The scale of the connection can range from natural light in, and views from, a building to parcel development that follows and respects the vegetation, topography, watercourses and landforms.
Shared Open Spaces – Figure 3
Natural Systems – Figure 4
**Character Places**

Character Places are fundamental to the Master Plan. Landmarks, Iconic Places, Hallowed Places, All Campus Paths and Landscape Features are among the Character Places found on campus. At CBC they include large sections of the campus or multiple neighborhoods yet each has an identity derived from a collection of building facades, a unique streetscape, a prominent site feature or a mixture of uses within a well defined area. Character Places establish images that help designers of individual projects understand the context in which they are working. A description of the most significant Character Places follows. See Figure 5 - Character Places.

**Trinity Road**

Trinity Road will be the ceremonial entrance to CBC. It will descend east from Blue Ridge Road offering a view of the CBC College Hearth and the Pastures beyond. The importance of the entry will be signified with plantings framed by a gateway of brick and metal and a planted median. The drive will be lined with brick sidewalks and street trees adjacent to the curb that transition into the Multipurpose Path along Blue Ridge Road. Buildings at the intersection of Blue Ridge Road and Trinity Road may have massing or architectural elements that address the corner.

**William Moore Drive**

William Moore Drive is a primary entrance to CBC and forms a spine about which the neighborhoods are organized. From its intersection with Hillsborough Street to its intersection with Blue Ridge Road, it transitions from a curvilinear drive offering views of the Pastures to a more urban setting, envisioned as a highly animated, active main street. Lined with brick sidewalks and street trees, the drive incorporates the Design Guidelines of Shared Open Space, Hubs of Interaction and Campus Streets.

Buildings on the east and west side shall be approximately two to four stories tall. Building entrances, large openings and public-oriented activities shall face the street to create a lively street frontage and village atmosphere. Visibility of Activities, allowing pedestrians to see into buildings through doors and windows, is especially important to create a streetscape that feels safe and interesting.

**CBC College Hearth**

The CBC College Hearth is envisioned to be the campus’ primary Hub of Interaction with pedestrian activity being generated by the College of Veterinary Medicine and its library, the Terry Center and its café and William Moore Drive. A visual link from the Hearth to the Pastures is emphasized and it is visible from both directions on William Moore Drive as well as Trinity Road. Buildings adjacent to the Hearth are two stories with pitched metal roofs and prominent entrances. New construction in the vicinity shall relate to the Hearth.
**North Quadrangle**
The buildings framing the North Quadrangle Campus Courtyard will align with the topography and create a Hub of Interaction. Buildings will be three to four stories tall. Those along the east perimeter will take up the grade as it falls west to east and create a flat usable green. Buildings along the west perimeter that are at a higher elevation may also take advantage of views to the Pastures. The collection of buildings will be unified with architectural elements such as arcades or colonnades. Building entrances around the quadrangle will relate to one another.

**South Quadrangle**
The buildings framing the South Quadrangle Campus Courtyard will align with the topography and create a Hub of Interaction. Buildings will be three to four stories tall and will take cues from the CVM Research Building for their architectural expression. The collection of buildings will be unified with architectural elements such as arcades or colonnades. Building entrances around the quadrangle will relate to one another. Buildings south of the Research Building shall accommodate a campus path connection to the Shared Open Space south of the Terry Center.

**Hillsborough Street, Wade Avenue, and Blue Ridge Road Campus Edges**
A distinctive characteristic of CBC is the view from Hillsborough Street to the Pastures, lake, and barns, collectively called the Teaching Animal Unit (TAU). Unusual in the midst of a capital city, the view offers a glimpse of the state’s agrarian heritage that blends seamlessly with a technologically advanced center of teaching and research in veterinary medicine. This view is a cherished feature of the campus and will never be blocked with construction. Any changes to the landscape in this area will be to enhance the pastoral character of the setting or improve pedestrian routes along Hillsborough Street. An asphalt multipurpose path shall parallel Hillsborough Street. Street trees along this Campus Edge are clustered to permit views to the Pastures.

Likewise, the view from Wade Avenue to the equine grazing hillside is highly valued and will not be impacted with construction. The view is framed by tree buffers to the east and west which will be maintained. An asphalt multipurpose path encircling the campus will follow this edge.

The Campus Edge at Blue Ridge Road opposite the NC State Fairgrounds will present a more urban front. Buildings fronting the street will be three to four stories tall and will have prominent entries on both their east and west facades. The edge shall be pedestrian friendly, having a minimum eight foot wide brick multipurpose path. Regularly spaced street trees allow views of the buildings and their entrances.
Teaching Animal Unit Research Farm Buildings and the Pastures
The Teaching Animal Unit (TAU) encompasses the lake and the Pastures (Hallowed Place), the dairy barns with their silos (Landmark), several one story research farm buildings and various animal pens and paddocks. The TAU farm buildings create a microcosm of an animal production environment that offers students and researchers the unique opportunity to study veterinary practices in their actual conditions without leaving campus.

These buildings create an architectural and symbolic transition between the large scale college buildings and the Pastures. The two gambrel-roofed dairy barns with silos are the most prominent feature and views to them will be preserved. They along with the milking parlor and the collection of basic, one story, metal-roofed buildings to the north are typical, utilitarian, agrarian structures. The buildings are closely clustered and are organized around narrow, permeable-surface roads which contribute to the sense of being in a rural setting. Future development will continue to enhance the farm-like character of the area by maintaining the scale, massing, materials, density and siting of structures, roads and fencing.

University Club
The University Club building sits atop a slight rise from which members enjoy sweeping views of the golf course and the Pastures beyond. It is approached from Hillsborough Street via a tree-lined drive. Future development in the B5 parcel will be sited to create a Shared Open Space between the University Club and the new building.
Character Places – Figure 5

Legend
- Shared Open Space
- Existing Buildings
- Future Buildings
- Property Line
1 Trinity Road
2 William Moore Drive
3 CBC College Hearth
4 North Quadrangle
5 South Quadrangle
6 Campus Edges
7 Teaching Animal Unit (TAU) and Pastures
8 Residential
9 University Club
Hubs of Interaction
The character of a campus is perhaps defined more by the location of activities than by any other factor. Campus activities will be located or placed to best promote encounters, interactions and communication. Buildings and pedestrian activity will address the street. The food service facility on the CBC College Hearth and other neighborhood retail or food service operations adjacent to the North and South Quadrangles are planned to activate the development in the B5 parcel.

The intersection of Trinity Road and William Moore Drive is a Hub of Interaction due to a convergence of transit, the All Campus Path and major connector paths in addition to serving as a vehicular intersection. The intersection shall employ traffic calming methods to move traffic in a more pedestrian friendly manner.

Mixed Use Neighborhoods
The university’s Physical Master Plan is based on a vision of the campus becoming a beautiful tapestry of Campus Neighborhoods, human-scaled places where individuals can form a lasting personal connection to this large university. These neighborhoods are diverse in character, organized around attractive, lively open spaces and developed in ways that invite human interaction and communication. Centennial Biomedical Campus will be developed to establish an academic community that encourages communication, interaction and collaboration among university and private industry entities through the development of Mixed Use Neighborhoods. Academic, research, retail and living activities will be collocated to an extent such that interaction and communication are facilitated within each neighborhood. The scale of each neighborhood, generally demarcated by a walking radius of 600 feet, will give each a recognizable and distinctive identity.

Residential
Housing may be integrated into mixed-use structures in parcels B1, B2, B3, B4 and B5. Stand alone single use housing structures are not anticipated in these areas. See Figure 6 – Parcel Land Use.

A potential concentration of housing units is envisioned in the north east corner of parcel B6. The character of the units will develop based on the natural characteristics of the area. The units and their parking areas will be sited to align with the topography and preserve dense tracts of tree cover to create a wooded setting for the neighborhood. Views to the golf course and the Pastures are primary amenities. A tree buffer between the site and Wade Avenue and the I-440 Beltline will be maintained and enhanced. Materials that blend the units into the wooded setting will be used.
Parcel Land Use

Two Guiding Principles for the design and planning of Centennial Biomedical Campus are Mixed-Use Activities and Human-Scaled Campus Neighborhoods and Paths.

Permitted uses on the campus include:

*Academic*
University occupied facilities used for the purpose of teaching, research and accessory uses.

*Corporate*
Non-university partners’ space used for the purposes of research and development, offices and incubator facilities.

*Commercial*
Facilities intended primarily to provide retail and food services to campus occupants, accommodations and executive classroom facilities.

*Residential*
Housing facilities, both university and private, will provide a variety of product types.

*Special*
Places of assembly for students and general public, as well as required public safety and support services. Such special uses are primarily intended to serve campus occupants.

*Parking*
Structured and surface parking is to meet user needs and city zoning requirements. The majority of the parking internal to campus development parcels will be structured to fulfill the building area expectations of the master plan.

The Centennial Biomedical Campus Land Use table provides a breakdown by development parcel of site area, proposed non-residential and residential building areas and the total proposed building area. The program provides a net floor area ratio (FAR) for non-residential development.

<table>
<thead>
<tr>
<th>Parcel</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAR</td>
<td>0.75</td>
<td>0.75</td>
<td>1.00</td>
<td>1.00</td>
<td>0.25</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Residential density is assumed to be 560 square feet per dwelling unit. See Figure 7 – Centennial Biomedical Campus Land Use.
## Centennial Biomedical Campus Land Use – Figure 7

<table>
<thead>
<tr>
<th>Parcel &amp; Building Number</th>
<th>Parcel Area (Acres)</th>
<th>Existing Buildings (GSF)</th>
<th>Future Buildings (GSF)</th>
<th>Planned Total (GSF)</th>
<th>Maximum Allowable (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 - B1a</td>
<td></td>
<td></td>
<td>0</td>
<td>104,900</td>
<td>104,900</td>
</tr>
<tr>
<td>B1 - B1b</td>
<td></td>
<td></td>
<td>0</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>B1 - 301</td>
<td></td>
<td>312,413</td>
<td>0</td>
<td>312,413</td>
<td></td>
</tr>
<tr>
<td>B1 - 302</td>
<td></td>
<td>12,644</td>
<td>0</td>
<td>12,644</td>
<td></td>
</tr>
<tr>
<td>B1 - 303</td>
<td></td>
<td>11,386</td>
<td>0</td>
<td>11,386</td>
<td></td>
</tr>
<tr>
<td>B1 - 304</td>
<td></td>
<td>11,386</td>
<td>0</td>
<td>11,386</td>
<td></td>
</tr>
<tr>
<td>B1 - 305</td>
<td></td>
<td>5,787</td>
<td>0</td>
<td>5,787</td>
<td></td>
</tr>
<tr>
<td>B1 - 306</td>
<td></td>
<td>3,880</td>
<td>0</td>
<td>3,880</td>
<td></td>
</tr>
<tr>
<td>B1 - 307</td>
<td></td>
<td>5,690</td>
<td>0</td>
<td>5,690</td>
<td></td>
</tr>
<tr>
<td>B1 - 308</td>
<td></td>
<td>7,076</td>
<td>0</td>
<td>7,076</td>
<td></td>
</tr>
<tr>
<td>B1 - 309</td>
<td></td>
<td>6,986</td>
<td>0</td>
<td>6,986</td>
<td></td>
</tr>
<tr>
<td>B1 - 310</td>
<td></td>
<td>6,966</td>
<td>0</td>
<td>6,966</td>
<td></td>
</tr>
<tr>
<td>B1 - 311</td>
<td></td>
<td>6,382</td>
<td>0</td>
<td>6,382</td>
<td></td>
</tr>
<tr>
<td>B1 - 314</td>
<td></td>
<td>6,450</td>
<td>0</td>
<td>6,450</td>
<td></td>
</tr>
<tr>
<td>B1 - 315</td>
<td></td>
<td>1,242</td>
<td>0</td>
<td>1,242</td>
<td></td>
</tr>
<tr>
<td>B1 - 320</td>
<td></td>
<td>1,872</td>
<td>0</td>
<td>1,872</td>
<td></td>
</tr>
<tr>
<td>B1 - 321</td>
<td></td>
<td>1,368</td>
<td>0</td>
<td>1,368</td>
<td></td>
</tr>
<tr>
<td>B1 - 322</td>
<td></td>
<td>990</td>
<td>0</td>
<td>990</td>
<td></td>
</tr>
<tr>
<td>B1 - 323</td>
<td></td>
<td>726</td>
<td>0</td>
<td>726</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal B1</strong></td>
<td>36.40</td>
<td>403,244</td>
<td>113,900</td>
<td>517,144</td>
<td>530,000</td>
</tr>
<tr>
<td>B2 - 300C</td>
<td>9.00</td>
<td></td>
<td>126,877</td>
<td>0</td>
<td>126,877</td>
</tr>
<tr>
<td><strong>Subtotal B2</strong></td>
<td>9.00</td>
<td>126,877</td>
<td>0</td>
<td>126,877</td>
<td>260,000</td>
</tr>
<tr>
<td>B3 - B3b</td>
<td></td>
<td></td>
<td>0</td>
<td>140,400</td>
<td>140,400</td>
</tr>
<tr>
<td>B3 - B3c</td>
<td></td>
<td></td>
<td>0</td>
<td>35,200</td>
<td>35,200</td>
</tr>
<tr>
<td>B3 - B3d</td>
<td></td>
<td></td>
<td>0</td>
<td>93,200</td>
<td>93,200</td>
</tr>
<tr>
<td>B3 - 300A</td>
<td></td>
<td></td>
<td>103,000</td>
<td>0</td>
<td>103,000</td>
</tr>
<tr>
<td>B3 - 300B</td>
<td></td>
<td></td>
<td>0</td>
<td>47,500</td>
<td>47,500</td>
</tr>
<tr>
<td><strong>Subtotal B3</strong></td>
<td>13.20</td>
<td>103,000</td>
<td>316,300</td>
<td>419,300</td>
<td>550,000</td>
</tr>
<tr>
<td>B4 - B4a</td>
<td></td>
<td></td>
<td>0</td>
<td>72,400</td>
<td>72,400</td>
</tr>
<tr>
<td>B4 - B4b</td>
<td></td>
<td></td>
<td>0</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>B4 - B4d</td>
<td></td>
<td></td>
<td>0</td>
<td>71,600</td>
<td>71,600</td>
</tr>
<tr>
<td>B4 - B4e</td>
<td></td>
<td></td>
<td>0</td>
<td>86,000</td>
<td>86,000</td>
</tr>
<tr>
<td>B4 - B4f</td>
<td></td>
<td></td>
<td>0</td>
<td>81,600</td>
<td>81,600</td>
</tr>
<tr>
<td>B4 - B4g</td>
<td></td>
<td></td>
<td>0</td>
<td>72,800</td>
<td>72,800</td>
</tr>
<tr>
<td>B4 - B4h</td>
<td></td>
<td></td>
<td>0</td>
<td>102,400</td>
<td>102,400</td>
</tr>
<tr>
<td>B4 - B4i</td>
<td></td>
<td></td>
<td>0</td>
<td>88,400</td>
<td>88,400</td>
</tr>
<tr>
<td><strong>Subtotal B4</strong></td>
<td>17.40</td>
<td></td>
<td>0</td>
<td>675,200</td>
<td>675,200</td>
</tr>
<tr>
<td>B5 - B5a</td>
<td>13.50</td>
<td></td>
<td>0</td>
<td>68,000</td>
<td>68,000</td>
</tr>
<tr>
<td><strong>Subtotal B5</strong></td>
<td>13.50</td>
<td></td>
<td>0</td>
<td>68,000</td>
<td>68,000</td>
</tr>
<tr>
<td>B6 - 130</td>
<td>38.50</td>
<td></td>
<td>22,676</td>
<td>0</td>
<td>22,676</td>
</tr>
<tr>
<td>B6 - 130J</td>
<td></td>
<td></td>
<td>4,602</td>
<td>0</td>
<td>4,602</td>
</tr>
<tr>
<td><strong>Subtotal B6</strong></td>
<td>38.50</td>
<td></td>
<td>27,278</td>
<td>0</td>
<td>27,278</td>
</tr>
<tr>
<td>B7 - B7a</td>
<td>90.00</td>
<td></td>
<td>0</td>
<td>4,500</td>
<td>4,500</td>
</tr>
<tr>
<td>B7 - B7b</td>
<td></td>
<td></td>
<td>0</td>
<td>4,500</td>
<td>4,500</td>
</tr>
<tr>
<td><strong>Subtotal B7</strong></td>
<td>90.00</td>
<td></td>
<td>0</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td><strong>Precinct Totals</strong></td>
<td>218.00</td>
<td>660,399</td>
<td>1,182,400</td>
<td>1,842,799</td>
<td>2,190,000</td>
</tr>
</tbody>
</table>
Sustainability
All projects follow sustainability guidelines found in the Physical Master Plan. University projects over 20,000 GSF will achieve LEED Silver certification or better. The CBC community shall work together to actively advance a sustainability commitment by incorporating sustainable design and construction on each project and engaging the campus occupants in reducing environmental impact.

The arrangement of buildings on the site shall support sustainable development by permitting the future construction and installation of sustainable initiatives. Building features such as green roofs, solar panels (Hot water & solar PV), photovoltaic systems, optimizing daylighting and the recovery / reuse of rain water should be considered to further NC State’s commitment to sustainability while enhancing the building design and experience. The planning and integration of sustainability into holistic approach is critical to the success of a project.

University projects will showcase NC State’s commitment to state and national sustainability leadership in promoting and practicing environmental, social and economic principles throughout the life of the building and site while having a positive impact on the campus and surrounding community. This shall be achieved through the implementation of the following principles:

Educating building occupants
Undertaking an integrated design process
Considering life cycle costs of both traditional and renewable systems
Making building occupant health and comfort a priority
Maximizing energy efficiency, management and energy performance of traditional and renewable energy systems
Implementing third-party commissioning
Integrating technological advances
Allowing for programmatic flexibility
Maximizing and improving natural areas and native plantings at the site

The design teams, construction teams and campus community will fully participate in sustainability through the design, construction, operation and maintenance of building and site projects.

Stormwater Management
The requirements of NC State University’s and Centennial Biomedical Campus’ stormwater management design are: to protect the health and safety of the environment, the campus population, and the general public; to address both stormwater quality and quantity concerns; and to meet or exceed the requirements of the university’s Municipal Separate Storm Sewer System (MS4) Permit (permit number NC000376) and other applicable Federal, State and Local regulations.

The majority of CBC occupies the headwaters of House Creek, an urbanized drainage system. The drainageways and swales are subject to the Neuse River Buffer Rules and form the structure for CBC's
Open Space. It is intended for these existing, naturally occurring drainageways, swales and vegetated or naturalized areas to remain open and vegetated, with unimpeded overland flow of stormwater.

Buildings and landscape development projects will incorporate a combination of methods to minimize the production of stormwater runoff by slowing and infiltrating water near the source rather than relying on a regional control device serving the entire watershed. Required detention is proposed as a secondary function in regional extended detention wetland structures whose primary function is water quality. Required detention will also be accomplished on a building site by building site basis using underground storage below bioretention and open areas. Extra care will be given to any device that may impact the Pastures and Teaching Animal Unit (TAU) space. All designs must incorporate maintenance access to stormwater management devices. See Appendix – Stormwater Plan.

All designs shall minimize erosive grades and large contiguous areas of impervious surface. Projects shall employ best management practices (BMPs) as the primary means for controlling stormwater, for preventing downstream flooding, stream bank erosion and the pollution of waters. Campus stormwater is managed as an integrated systems approach; each project site will be studied in context with the entire watershed and impacts downstream.

Specific guidelines for stormwater management at NC State University can be obtained from the following website www.ncsu.edu/ehs/environ/Stormwater.htm or by directly contacting the Stormwater Program Manager with the NC State Environmental Health and Public Safety Division.

Buildings and Their Details

The architectural character of CBC is varied and has been shaped by the Design Guidelines of A Campus of Neighborhoods and Paths, the NC State Physical Master Plan. Master Plan Guiding Principles and Architectural Standards such as Design Harmony, Human Scale and NC State University Style prevail. Building design will express the function it contains and will reflect the era in which it is built.

A prevailing design principle is that individual buildings have a role in the creation of Neighborhoods and Character Places, and in the defining of Shared Open Space. The spaces defined by the buildings are the focus of the Neighborhoods. They are an essential element of the total campus and relate to the overall mission of the university as they create an arena for encounter, interaction and communication.

Neighborhoods with distinct characteristics exist from east to west. The small scaled, sloped-roofed, utilitarian agrarian structures of the Teaching Animal Complex form the first step as the land use transitions perceptibly from pastoral setting to urban research campus. William Moore Drive forms the boundary where buildings to the east hug the ground at one to two stories and their activities are enclosed under broad sloping roofs. The character and landscape details of these buildings are intended to be reminiscent of the bucolic settings to which the client base, the animals, are accustomed.

The scale and architecture of the buildings to the west of William Moore Drive convey that one has entered a more urban environment; their massing is more vertical with more rectilinear footprints. They are three to four stories tall and may have less prominent roof forms. Their orthogonal orientation addresses the streets and forms rectilinear Shared Open Spaces. The sloped site of the North
Quadrangle presents an opportunity for buildings on the west side to enjoy views of the Pastures looking over green roofs atop buildings on the east side.

The University Club and the proposed residential buildings to the north will develop their own architectural characters taking advantage of the unique opportunity for views to the golf course and the Pastures. Parcel B-5 contains a prominent building site. Development in this area is envisioned to be low scale, two to three stories in height with sloped roofs. The wooded edge to the east will be maintained and enhanced.

**Paths for a Pedestrian-Oriented Campus**

Campus pedestrian paths, both interior and exterior, provide the network that moves people about the campus. This continuous network provides an opportunity to reinforce the goal of the campus being a pedestrian-friendly place of connected neighborhoods and open spaces.

The primary All Campus Path at CBC lines William Moore Drive, linking developed neighborhoods and their open spaces. An east-west All Campus Path will be developed from the CBC College Hearth to the parking deck. Neighborhood Paths line the streets and move through neighborhoods to take pedestrians to other parking areas, natural areas, greenways and city sidewalks that lead to points beyond campus.

A Greenway Path will encircle the campus, offering views of the Pasture from many directions. The path will follow the campus’ west and south perimeters at Blue Ridge Road and Hillsborough Street and meander through the woods in the northeast corner of the campus. A structured separation will be required between the greenway path and restricted areas.

A Connector Path will run along Trinity Road west toward the North Carolina State Fairgrounds. A ceremonial entrance to CBC will be constructed at the Trinity Road and Blue Ridge Road intersection. It will incorporate the branding components used at other Gateways located on North and Centennial Campuses.

All external building identification and wayfinding signage will be executed in accordance with the NC State University Campus Exterior Signage Manual. *See Figure 8 - Campus Paths and Shared Open Spaces.*
Campus Paths, Shared Open Spaces and Green Space – Figure 8

Legend
- All Campus Paths
- Connector Paths
- Neighborhood Paths
- Greenway/Multipurpose Path
- Major Pedestrian Entrances
- Shared Open Spaces
- Green Space
- Existing Buildings
- Future Buildings
- Property Line
**Streets as Paths**

Streets are intended to unify, not divide, the campus. In this regard, streets are an important part of the campus fabric and will provide connectivity not only along the path of the street but also through its breadth, one side to another. This will be accomplished by observing the following design guidelines:

- **Regard the street edge as an important pedestrian zone.** Provide ample walkways with furnishings, lighting and trees to reinforce the scale of the pedestrian environment.

- **Generally, observe the street as frontage for buildings.** Place a principal entrance there on grade and use the architecture to reinforce the pedestrian zone.

- **Place building mass and entrances on principal streets and use secondary streets for service and parking access.**

- **Where the street has an edge to the built environment, provide regularly spaced street trees on 35’ to 50’ centers.**

- **Provide a planting strip between the sidewalk and the curb for street tree plantings.** This strip is to support tree roots and provide separation for pedestrians from traffic. It will be at least 6 feet wide but is preferably 10 feet wide. If this strip is not desirable, the sidewalk must be made significantly wider to accommodate tree plantings in tree grates or planters behind the curb and to provide adequate movement for a high concentration of pedestrians.

- **Where William Moore Drive is between Hillsborough Street and the Pastures, irregular clusters of new tree plantings will be used in place of regularly spaced street tree plantings to preserve views of the Pasture from Hillsborough Street.**

- **Centennial Biomedical Campus will have a network of interconnected accessible linkages for pedestrians, bicycles, transit and other vehicles.** Paths will connect to the North Carolina State Fairgrounds and other surrounding lands to the west. A variety of traffic calming devices will be employed to reduce high traffic speed and give priority to the pedestrian without adversely affecting the safe movement of vehicles and trailers carrying animals.
Transit Paths
Transit systems will use campus and city streets to cross and connect the precincts of NC State’s campus. The routes and stops of all transit modes enhance the Campus Neighborhoods and their features and the Pedestrian Paths. See Figure 9 - Transit Paths

Centennial Biomedical Campus transit goals include:

- The establishment of multiple vehicular entrances and a road network that is safe, aesthetically pleasing and which distributes traffic throughout the internal street network to external access points.

- The creation of convenient alternatives to the automobile including Wolfl ine transit, pedestrian sidewalk and trail systems, bicycle-safe campus streets and the future rapid transit station.

- The coordination of transit systems that serve the campus and integrate the site with the larger university campus. In addition to Wolfline transit, Capital Area Transit and Triangle Transit also provide service in the area.

Parking
For each project, the Project Scope Statement will specify the amount of parking required based on use and on Raleigh’s zoning requirements. Parking areas form transition places between the vehicular and the pedestrian domains and have clearly defined Pedestrian Paths within them. The master plan dictates substantial structured parking.

Parking areas for commuters are located at the perimeter of campus and near thoroughfares in order to minimize automobile traffic through campus streets.

Parking is located for the practicality of connecting with alternative modes of transit and is located adjacent to campus paths, transit stops, bus layovers, bike parking and other conveniences.

The majority of parking in parcels B3 and B4 will be structured. Integrating structured parking into a university Neighborhood is a significant challenge. Designers must incorporate parking structures into a composition that serves functional demands, meets users’ needs for accessing vehicles and meets master plan requirements for creating vital campus spaces. Deck elevators and stairs will be located adjacent to Shared Open Spaces in order to create vital and safe Campus Paths.

Parking in parcels B1, B2 and B5 is anticipated to be primarily surface lots. Surface parking, including large animal transport vehicles for short-term daytime visitors is critical near the hospitals. See Figure 6 – Parcel Land Use.
Transit Paths – Figure 9

Legend
- Existing Wolfline Bus Route
- Existing Triangle Transit Bus Route
- Future Triangle Transit Rail Station
- Future Triangle Transit Rail Corridor
- Existing buildings
- Future Buildings
- Property Line
Centennial Biomedical Campus Infrastructure Systems

Water Supply
Potable water supply for fire protection, industrial and domestic use is to be provided by the City of Raleigh to two points of delivery on Centennial Biomedical Campus. All facilities within the Campus are to be served by a private water distribution system owned by the university. The entire campus is billed for one meter managed by the City of Raleigh, third party buildings will be metered by North Carolina State University. This distribution system is to be capable of providing all capacity necessary for fire protection, industrial and domestic needs. In general, the system shall consist of a 12-inch main from Blue Ridge Road and a 8-inch main from Hillsborough Street. A system of looped configurations utilizing 8-inch and 12-inch pipes is to be employed to serve the campus with dead-end configurations utilized only when necessary.

Wastewater Transport and Treatment
All wastewater generated in the campus area is to be discharged into the City of Raleigh wastewater collection system to be treated by the City of Raleigh. Some public wastewater collectors currently exist on campus. These lines will stay in place and may be used for campus development. The main public sanitary line exits the property to the North crossing Wade Avenue.

All other required collection lines are to be installed as private lines owned by the university. Effluent subject to Title 40 Code of Federal Regulations Chapter 1, Subchapter N will require pretreatment at their points of origin, or as mandated by State and local laws and regulations. The wastewater collection system is to function as sanitary sewer only and the discharge of stormwater into the system shall not be allowed. Pump stations are to be employed only when absolutely necessary and are to be located so as to most efficiently collect their service areas by gravity but they shall not be located in identified environmentally sensitive or highly visible areas. Pressure piping is to parallel gravity collector pipe where possible.

Electric Power Supply
Electric power supply is to be provided by private distribution system, owned by the university. In general, the campus primary power distribution system is to consist of a primary loop feed at 22,860 Y/13,200 volts, 3 phase, 4 wire, 60 hertz originating from a North Carolina State University owned substation. Switchgear provided shall include main disconnect switches to disconnect the main line from all sub loop feeders. Taps to the main line are to be made through pad-mounted loop feed switches. Duct lines are to be concrete encased. Minimum distribution voltage shall be 12,470 volts. Loop loads are not to exceed 40% of feeder wire capacity. All electrical cabling is to be underground. Transformers, 1500 KVA, or less are to be pad mounted. Transformers greater than 1500 KVA are to be substation type. In general, building transformers are to be pad mounted or located in building vaults and screened from public view. Progress Energy has no service distribution on campus.
Telecommunications
The University is the primary telecommunications service provider for university facilities within the campus. All telecommunications infrastructure originates from the West Main Distribution Frame (WMDF) facility in the CVM Research Building. Cabling is to be carried in a concrete encased ductbank built common to the electrical distribution system with adjacent manholes. Telephone dial tone and fiber optic cable connections are required for all campus facilities. Only University-owned fiber optic cables and AT&T copper telephone cables will be allowed in the above ductbank system.

Telecommunication services for non-University buildings and non-University tenants in University owned buildings will be provisioned as follows. At the direction of the University, AT&T will install copper entrance cable into each new building. In addition, the University will install fiber optic entrance cable into each new building. Non-University tenants will contract directly with AT&T for copper based services. A limited number of private carriers will be granted use of University owned fiber optic cable to provide services via the Preferred Service Provider (PSP) program currently in use on Centennial Campus. In addition, if non-University tenants need to interconnect spaces in multiple CBC buildings, they would rent fiber optic cable from the University at the current standard monthly rate.

Intrabuilding infrastructure in University buildings and within spaces in non-University buildings occupied by University groups will be in accordance with the latest version of the University Wiring Standard (UWS). Intrabuilding infrastructure in non-University buildings and non-University tenants in spaces in University owned buildings will be isolated from other tenants and at the discretion of the tenant/building owner.

Wireless network services (Wi-Fi) within buildings and in common spaces outdoors will typically be provided by the University, utilizing current wireless technologies and campus deployment processes.

Natural Gas Supply
In general, natural gas supply is to be provided to all campus facilities by North Carolina State University. The installation of the campus distribution system is to be the responsibility of North Carolina State University.

Thermal Utilities
Consistent with the principles of sustainable design, resource conservation, and efficient, responsible development, the university is continuing the phased conversion and construction of district cooling and heating systems. Centralization of these systems consumes less fossil fuel and reduces life-cycle costs as compared to individual building heating and cooling equipment for a campus environment.

Centennial Biomedical Campus has an existing central utility plant on William Moore Drive that provides district steam and chilled water generation and distribution. The master plan envisions the expansion of centralized systems and the construction of underground distribution as additional university-owned facilities are constructed.
Thermal Utilities – Figure 10
Design Approval Process
The Design Approval Process outlined below is an interactive and collaborative process which facilitates and enhances development activities. It is intended to encourage creative development and design opportunities as well as ensure responsible stewardship of the university’s resources. The Board of Trustees’ Buildings and Property Committee (BPC) is the approving body for all projects on land administered by NC State University.

Project Scope Statement
Prior to initiating the designer/developer selection process, the Office of the University Architect will prepare a Project Scope Statement that will consist of specific site and campus design requirements, which supplement the Physical Master Plan and specific Campus Design Guidelines. For certain projects the specific design requirements will be identified in the Request for Proposals or other formats.

Developer/Designer Selection
Each project will undergo a competitive designer/developer selection process. For projects that involve state funds, either appropriated or self-liquidating, this process will result in the selection of the team by NC State University. After a public announcement of the project, proposals will be received and evaluated by the university. A minimum of three teams will be short listed for interviews. The interview committee will consist of user group representatives, university project management staff and members of the Trustees’ Buildings and Property Committee. The recommendation of the interview committee is then approved by the Buildings and Property Committee members not involved in the selection. The University Architect is responsible for the selection process.

Site Selection Approval
The Physical Environment Committee (PEC), a university standing committee which is made up of students, faculty and staff, reviews the site plan proposals for all projects. Their charge is to assist the university administration with evaluating each site proposal for compliance with the standards of the Physical Master Plan. Their recommendations, along with those of the university staff, are presented to the Board of Trustees’ Buildings and Property Committee which approves all site selections. Typically, the PEC will review each project twice. The designer is expected to make presentations at both PEC meetings.

Design Intent Approval
The Physical Master Plan, Design and Development Guidelines, and the Project Scope Statement will be the basis for evaluating the design at the Schematic Design (SD), Design Development (DD), and Construction Document (CD) project phases. Design coordination meetings shall be held on a regular basis throughout the design process. The role of the Campus Design Review Panel (CDRP) is to make recommendations to the Board of Trustees’ Building and Property Committee about the suitability of each project’s design. The CDRP will evaluate each project a minimum of two times during the design development phase. The designer is expected to make presentations at both meetings. The Buildings and Property Committee shall approve all building plans and specifications.
**Final Plan Approval**
The Facilities Division is responsible for ensuring that the final plans issued for bids are consistent with the design intent drawings approved by the Trustees. The university will review and approve the plans consistent with the project schedule.

**Permits**
None of the previous materials or processes relieves the design team of the obligation to secure all necessary permits and approvals from governing authorities. University projects including gifts-in-place will be submitted to the State Construction Office for review, comments and approval. Projects funded from other sources and located on land leased from the university shall be submitted to the City of Raleigh for the issuance of a building permit. Each project is subject to City of Raleigh zoning requirements. All projects are required to submit an environmental assessment which must demonstrate methods for complying with applicable development and stormwater requirements.