# Appendix Index

## A. Committee Working Documents

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Members of Select Committee</td>
</tr>
<tr>
<td>2. Millennial Campus Infrastructure Report (Joe Walker)</td>
</tr>
<tr>
<td>3. Millennium Campus IT Report (Craig Fowler)</td>
</tr>
<tr>
<td>4. Issues of Interest to WCU</td>
</tr>
<tr>
<td>5. 18 January 2012 - Minutes</td>
</tr>
<tr>
<td>6. 27 January 2012 - Agenda</td>
</tr>
<tr>
<td>7. 27 January 2012 - Minutes</td>
</tr>
<tr>
<td>8. 10 February 2012 Notes: Visit with NC State</td>
</tr>
<tr>
<td>9. 29 February 2012 - Notes from UNC Charlotte Visit</td>
</tr>
<tr>
<td>10. 16 March 2012 - Notes from Faculty/Staff/Student Forum</td>
</tr>
<tr>
<td>11. Comparison of NC State/UNC Chapel Hill and UNC Charlotte (Dr. Susan Jenkins)</td>
</tr>
<tr>
<td>12. 23 March 2012 - Agenda</td>
</tr>
<tr>
<td>13. 23 March 2012 Powerpoint (Tom McClure)</td>
</tr>
<tr>
<td>14. 23 March 2012 - Minutes</td>
</tr>
<tr>
<td>15. 20/20 Commission Report</td>
</tr>
</tbody>
</table>

## B. Materials from NC State

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4 May 2012 - Amy Lubas Follow-up to Questions</td>
</tr>
<tr>
<td>a) Flowchart of Tenant Selection Process</td>
</tr>
<tr>
<td>b) Benefits of &quot;Partnership Engagement&quot;</td>
</tr>
<tr>
<td>c) Permitted Tenant Approval Sheet</td>
</tr>
<tr>
<td>2. History of Centennial Campus</td>
</tr>
<tr>
<td>3. Brochure - &quot;N.C. State Centennial Campus&quot;</td>
</tr>
<tr>
<td>4. Brochure - &quot;Bridging The Gap Between Discovery &amp; Results&quot;</td>
</tr>
</tbody>
</table>

## C. Materials from UNC Charlotte

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4 May 2012 - Gail Keane Follow-up to Questions</td>
</tr>
</tbody>
</table>
a) CRI Millennial Campus Revenue ..................... 166
b) CRI Organizational Chart ............................ 167

2. Copy of Publication: "Millennial" ......................... 168

3. Summary Sheet - CRI .................................... 192

4. CRI 5 Page Rate Sheet ................................. 194

5. Portal Building Brochure ............................... 195

6. Standard Business Forms Used by CRI ............... 197

D. Comprehensive Economic Development Strategy
   2011 .......................................................... 250

E. Proposed Organizational Chart .......................... 303

F. EDA Grant Materials ....................................... 304

G. Illustrated Alignment of Core Competencies &
   Strategic Partnerships ................................. 305
NOTE: Page 000001 to Page 000010 intentionally omitted.
<table>
<thead>
<tr>
<th>First &amp; Full Name</th>
<th>Title</th>
<th>address 1</th>
<th>address 2</th>
<th>City</th>
<th>state</th>
<th>slp</th>
<th>phone</th>
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<tbody>
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<td>Asheville</td>
<td>NC</td>
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<td>Mr. Jack Cecil</td>
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<td>28734</td>
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<td>Asheville</td>
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<td>28802</td>
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<td>Asheville</td>
<td>NC</td>
<td>28802</td>
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<td>Dr. Lewis E. Buck, Jr.</td>
<td>Vice Chancellor</td>
<td>Advancement &amp; External Affairs</td>
<td>HFR 460</td>
<td>Asheville</td>
<td>NC</td>
<td>28802</td>
</tr>
<tr>
<td>Clifton Metcalf</td>
<td>Mr. Clifton Metcalf</td>
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<td>Office of the Chancellor</td>
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<td>Asheville</td>
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</tbody>
</table>

email:
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- jecoll@billorestate.com
- Tec's assistant is Yolanda
- jenkins@cafdp.org
- yunick@wcu.edu
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- Ed.Broadway@Hometrustbanking.com
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email:
- cmetcalf@wcu.edu
To: Steve Warren  
Chair – Millennial Initiative Select Committee

From: Joe Walker, PE  
Associate Vice Chancellor for Facilities Management

Re: Millennial Initiative Committee  
Infrastructure Information for West Campus

Per your request, please find information below in regards to outlined infrastructure needs and requirements for the expansion of West Campus:

1. **Potable Water:**
   Existing Conditions:
   Tuckaseigee Water & Sewer Authority (TWSA) provides water service up Old Savannah Road. A 10” supply line runs up the north side of this road from NC 107 to the existing Cullowhee fire station. Beyond the fire station, the line reduces to an 8” line and runs to the west side of the Laurel Oak Apartments, on the south side of the road. Water service is also provided via WCU to the NCCAT facility via a 6” line from the east side of campus.

   Requirements and Findings:
   In July 2006, the design firm of Woolpert Inc. performed hydraulic modeling using software to simulate the existing water supply system utilizing the proposed total build-out of the five (5) neighborhoods. This was done to determine the correct sizing of potential water mains to serve the West Campus and was based upon worst case elevation coverage for fire protection/flow requirements. Planning assumptions were utilized in the modeling also, such as:
   - Existing elevations (fire station at 2190’ and TWSA reservoir at 2506.5’
   - Hydrant pressure at fire station equal to 120 PSI static.
   - Services to multiple story buildings to be 4” and single story to be 1”.
   - Minimum water main size of 8” for all mains that support hydrants.
   - Minimum pressure at buildings of 50 PSI for sprinkler coverage.

   The water model simulations were performed by placing fire flows of 500 gallons per minute at various points in the model. Under fire flow conditions, the water system should not have a pressure at any point that is less than 20 PSI.

   The software model yielded that the West Campus can be served with a maximum potable water line size of 10” diameter. A majority of the campus will be able to be served with an 8” line with some 6” lines used throughout the neighborhoods for looping and distribution. For example, this is the case of the new Health Building. It is currently tied to the 10” line via an 8” service line that is then split to a 6” fire line and a 4” domestic line to the building.

Facilities Management  
3476 Old Cullowhee Rd., Cullowhee, NC 28723 Tel. 828-227-7442 – FAX 828-227-7198 www.wcu.edu
For the build-out of neighborhoods #1 (Health) and #2 (proposed Education), the existing TWSA conditions will suffice. With further development beyond these two neighborhoods, and especially beyond the fire station, the existing 8” line will need to be upgraded to a 10” line.

2. Sanitary Sewer:
Existing Conditions:
TWSA has an 8” collector line that runs up the Long Branch drainage corridor to the west edge of the fire station. This 8” line crosses under Cullowhee Creek and connects directly to an existing 24” collector line that runs north-south on the east side of campus along Cullowhee Creek. There is also an 8” collector line from the NCCAT facility tied to the same 24” collector on east campus.

Requirements and Findings:
Woolpert, Inc. also performed a study for the sanitary sewer requirements for the West Campus. The two (2) key areas evaluated to determine findings were 1) waste water loading by code required fixture counts and square footage and 2) Gallons per day discharge based upon square footage. The square footage used was from the previous Master Planning build-out figures for each neighborhood.

To determine the wastewater loading necessary for the sizing of the sanitary line system, the 2000 international Plumbing Code and the NC Administrative Code (2001) were utilized to arrive at a minimum number of plumbing fixtures (toilets, urinals, lavatories, showers and tubs) required for the total build-out of the West Campus. This resulted in the following fixture counts:

<table>
<thead>
<tr>
<th>Area</th>
<th>Users</th>
<th>Toilets</th>
<th>Urinals</th>
<th>Lavatories</th>
<th>Showers</th>
<th>Tubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood #1</td>
<td>1428</td>
<td>121</td>
<td>46</td>
<td>105</td>
<td>131</td>
<td>18</td>
</tr>
<tr>
<td>Neighborhood #2</td>
<td>2361</td>
<td>181</td>
<td>54</td>
<td>170</td>
<td>219</td>
<td>29</td>
</tr>
<tr>
<td>Neighborhood #3</td>
<td>1326</td>
<td>104</td>
<td>33</td>
<td>56</td>
<td>124</td>
<td>17</td>
</tr>
<tr>
<td>Neighborhood #4</td>
<td>1530</td>
<td>109</td>
<td>36</td>
<td>126</td>
<td>144</td>
<td>19</td>
</tr>
<tr>
<td>Neighborhood #5</td>
<td>2040</td>
<td>157</td>
<td>47</td>
<td>147</td>
<td>192</td>
<td>26</td>
</tr>
<tr>
<td>Town Center West</td>
<td>2245</td>
<td>63</td>
<td>16</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>10930</strong></td>
<td><strong>735</strong></td>
<td><strong>232</strong></td>
<td><strong>618</strong></td>
<td><strong>810</strong></td>
<td><strong>109</strong></td>
</tr>
</tbody>
</table>

To determine the appropriate sizes for the main collector lines and any potential lift station from the West Campus to the existing 24” collection on east campus, the peak hourly flow was determined for three (3) options:
A. Build-out of Neighborhoods #1 (Health), #2-#4 and Town Center West.
B. Build-out of Neighborhoods #1 (Health) and #2 only.
C. Build-out of Neighborhood #5 via tie to existing NCCAT line.
This resulted in the following information:

<table>
<thead>
<tr>
<th>Area</th>
<th>Type</th>
<th>GPD</th>
<th>GPD Total</th>
<th>Peak Flow @ 2.5 (25%)</th>
<th>Gallon/day (GPD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option “A”</strong></td>
<td>Neighborhood #1</td>
<td>109,050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighborhood #2</td>
<td>180,325</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighborhood #3</td>
<td>101,195</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighborhood #4</td>
<td>116,760</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Town Center West</td>
<td>141,633</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>723,963</strong></td>
<td><strong>1.80</strong></td>
<td><strong>181,000</strong></td>
</tr>
<tr>
<td><strong>Option “B”</strong></td>
<td>Neighborhood #1</td>
<td>109,050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighborhood #2</td>
<td>180,325</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>289,375</strong></td>
<td><strong>0.73</strong></td>
<td><strong>73,000</strong></td>
</tr>
<tr>
<td><strong>Option “C”</strong></td>
<td>Neighborhood #5</td>
<td>137,720</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>137,720</strong></td>
<td><strong>0.35</strong></td>
<td><strong>35,000</strong></td>
</tr>
</tbody>
</table>

Option “A” for the total build-out, less Neighborhood #5 (which would utilize NCCAT feed), results in the need to upgrade from the existing 8” TWSA line to a 12” main collector line along Old Savannah Road. All other lines within development would be a mixture of 10” and 8” lines. Further, to get the sanitary flow from the West Campus to the 24” collector line on east campus, it is recommended that a submersible 1600 GPM pump station be installed near the junction of NC 107. The force main from this station would need to be a 12” diameter line.

Option “B” for the build-out of Neighborhoods #1 (Health) and #2 requires no upgrade to the existing TWSA 8” collector line. It is capable of carrying the load.

Option “C” concerns service to Neighborhood #5 by utilizing the 6” gravity NCCAT line. The addition of Neighborhood #5 would require this 6” line to be replaced with an 8” gravity line.

3. **Electric Service:**

   **Existing Conditions:**
   Duke Energy has three (3) main transmission line corridors that are present on the West Campus acreage. There is a 161 KV overhead transmission line and a 66KV overhead transmission line that bisects the West Campus. There is also a 66KV transmission line spur that feeds the existing east campus substation. WCU Power Company has 12.47 KV distribution lines on the West Campus that feed NCCAT, surrounding businesses and residential customers. This distribution is fed from east campus substation.

   **Requirements and Findings:**
   Due to cost and time constraints, Neighborhood #1 (Health) is being supplied by the 12.47 KV WCU distribution. Line upgrades were performed to allow for this expansion to the WCU system. Upgrades will also allow for second major academic building in Neighborhood #2. For a total build-out and further development, it is recommended that Duke Energy construct a new substation fed from the overhead 66 KV transmission lines that bisects the West Campus. This station should be constructed as close as possible to the existing right of way. It is further recommended that this substation be located in Neighborhood #1. Duke Energy would own and maintain the station on the line side of the switch gear. WCU would own the switch gear and all distribution equipment on the load side.
The substation would contain two 66 KV-12.47/7.2 KV transformers sized such that either would supply the entire West Campus demand. Each transformer would then supply power to 15KV rated switch gear containing main circuit breakers which would be the source of the underground distribution feeders. Underground feeders, via concrete encased duct bank, emanating from the substation would then be routed to pad mounted 15KV switches in each neighborhood. The switches would then provide looping/sectionalizing capability and fused feeds to building transformers.

4. Chilled Water & Medium Temp Water Distribution:
   Existing Conditions:
   During the Master planning process, it was decided that independent chilled water (CHW) systems and medium temperature water (MTW) systems would be provided for each neighborhood. As neighborhoods are also built-out, each would be connected for additional redundancy (firm capacity). The Town Center would have independent systems that would be developed as the Town Center is implemented. For example, the new Health Buildings main equipment/utility plant is sized to provide chiller capacity and boiler capacity for other buildings as well as within the neighborhood.

Requirements and Findings:
Using the square footage requirements outlined from the Master Planning process, the following loads for CHW (Tons) and MTW (MBTUH) were determined:

<table>
<thead>
<tr>
<th>Plant Capacities</th>
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<tbody>
<tr>
<td>Chilled Water</td>
</tr>
<tr>
<td>Neighborhood #1</td>
</tr>
<tr>
<td>Neighborhood #2</td>
</tr>
<tr>
<td>Neighborhood #3</td>
</tr>
<tr>
<td>Neighborhood #4</td>
</tr>
<tr>
<td>Neighborhood #5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Med Temp Water</th>
<th>Load</th>
<th># Boilers</th>
<th>Capacity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood #1</td>
<td>15202 MBTUH</td>
<td>2</td>
<td>8000 MBTUH</td>
<td>16000 MBTUH</td>
</tr>
<tr>
<td>Neighborhood #2</td>
<td>25148 MBTUH</td>
<td>3</td>
<td>12500 MBTUH</td>
<td>37500 MBTUH</td>
</tr>
<tr>
<td>Neighborhood #3</td>
<td>14115 MBTUH</td>
<td>2</td>
<td>7000 MBTUH</td>
<td>14000 MBTUH</td>
</tr>
<tr>
<td>Neighborhood #4</td>
<td>16286 MBTUH</td>
<td>2</td>
<td>8000 MBTUH</td>
<td>16000 MBTUH</td>
</tr>
<tr>
<td>Neighborhood #5</td>
<td>21715 MBTUH</td>
<td>2</td>
<td>11000 MBTUH</td>
<td>22000 MBTUH</td>
</tr>
</tbody>
</table>
In order to take full advantage of the reliability and redundancy offered by central heating and cooling, we want to subscribe to the philosophy of “firm capacity” (or “n+1”). This means that the largest machine in the system can be down for any reason and the load can still be met. This is why Neighborhood #2 (which is the largest) has an additional chiller and boiler.

5. Communications:
Existing Conditions:
- Fiber Optic: Currently there is fiber routed from the Bookstore on east campus and then aerial to the new Health Building in Neighborhood #1, following the overhead power distribution lines. A second path of fiber is routed from the Health Building underground via duct bank and direct burial back along Old Savannah Road to east campus at the Camp Lab building. A planned second data center is to be located within the new Health building. Craig Fowler can provide additional information.
- Telephone: Currently, Frontier provides telephone service to the west campus area. A 25 pair cable is routed to the new Health Building for critical systems such as fire alarm and elevator. Standard phone service for Health building is voice over internet protocol (VoIP).
- Cable Television: Currently, Mediacom provides residential connections on the West Campus. A single line is present along Old Savannah Road.

Requirements and Findings:
Note: Concrete encased duct banks will need to be installed parallel to electric duct banks for all communication cabling between neighborhoods and buildings. Combined corridors for shared utilities will need to be established.
- Fiber Optic: Craig Fowler to provide infrastructure information.
- Telephone: This will need to be explored further with local utility. Hard wire/cable connections will need to be made for building critical needs. VoIP can be established for new construction. Breakout of private use versus university use will also need to be determined (i.e.: point of origin, extension).
- Cable Television: This will need to be explored further with local utility. Mediacom representatives are anticipating improvement of their services in the area to include broadband service and improved digital cable service. Further investigation of campus contracted cable service will also need to be explored as an alternative option, especially for any new residential facilities.

6. Roads and Walks:
Existing Conditions:
Currently, Old Savannah Road that serves as the main corridor to west campus consists of a single two lane road. No sidewalks, bike paths or street lighting is present.

Requirements and Findings:
Old Savannah Road will need to be widened from junction of NC 107 to just beyond entrance to new Health Building/Neighborhood #1. In association with widening, a bike path should be provided along with sidewalks and any required crosswalk locations. Street lighting will also need to be provided for pedestrian safety. Secondary roads within each proposed neighborhood would be developed as build out occurs.
Millennial Campus IT Infrastructure
February 2012

University Fiber
The university currently has in place two 96 stand (single mode) fiber optic cables run from HHS to the main campus. One cable is mostly underground following Little Savannah road. This cable terminates in Forsyth. The other cable follows a primarily aerial route, crosses 107 near NCCAT, and terminates in the Bookstore.

These fibers provide a redundant and diverse path between the main campus and HHS. The plan is for HHS to serve as the hub for future university connectivity on the millennial campus. Of the 192 fibers run to HHS about 18 are expected to be used initially which leaves 174 fibers for future growth between the main and millennial campuses.

External connectivity
Balsam West owns a fiber cable that passes by HHS and runs down Little Savannah road before it turns south on 107. Western will shortly be moving to this fiber as its path to the North Carolina Research and Education Network (NCREN, which is managed by MCNC) and the Internet.

A number of different network providers own or have options to use Balsam West fiber. These providers include:

- MCNC (NCREN provider and only available for use by entities that fall inside the education and other community anchors mission of MCNC)
- FRC/Palmetto Net
- Balsam West
- ERC

Any of these providers could provide network services to other entities that might reside on the millennial campus.

Additionally, Duke Energy has transmission lines that cross the millennial campus. Duke’s data network affiliate, DukeNet, has fiber running along this transmission path and could be another carrier that millennial campus occupants could contract with for network services.

Connectivity paths would have to be discussed and included in development plans.

Server Center
A server room, approximately 900 sq. ft. in size, is included in the HHS building. This room will house those servers that are needed to support the systems in HHS (VoIP, video capture, security camera recording, etc...). This server room will also be an alternate/redundant server location for the university.
Space and cooling limitations preclude this room from being heavily used or as a complete mirror of what is currently housed in the Forsyth data center, but IT is designing plans to replicate the most critical campus systems in this room.

An additional 2nd Internet connection will be housed in this space to provide redundancy and capacity. This is a key prerequisite for potentially more use of external cloud and hosting resources.

The room has protected power with both a central battery backup (UPS) and a backup generator.

The room will have 9 standard height equipment racks. One will be reserved for the 2nd Internet connection. Another rack will be taken up with equipment supporting systems in the building. This leaves 7 racks for future growth and potential duplication/backup of critical campus systems.

**Campus network connectivity**

HHS will have two 10 Gigabit/s connections to the main campus to support access to on-campus resources and the Internet.

In addition, the server center in HHS will have two 10 Gigabit/s connections to the Forsyth data center so that the HHS server center and the Forsyth data center create/operate like a single server network. This single network is critical to allow easy migration of servers and data between the HHS server center and the Forsyth data center.

HHS will serve as a hub for future expansion of the data network on the millennial campus with new buildings coming back to HHS for their network connection. While HHS will serve as this connectivity point, the overall design of the data network for the millennial campus needs to be a redundant ring architecture to ensure continuous operation.

**Land line phone service**

HHS will be WCU's first implementation of Voice over IP (VoIP) on campus. The current campus switch has the ability to support the estimated 150 phones that will be installed in HHS. With the addition of additional cards and added licenses the current phone switch can scale up to support thousand VoIP phones.

Additional phone switch equipment will be installed in HHS to provide continued phone service (survivability) if the network between HHS and the main campus were to go down. This survivability feature will be expanded as the millenial campus grows. The ultimate plan will be to have the VoIP system serviced from two locations, one on the millenial campus and one on the main campus, each one able to back up the other.
HHS also has a limited number of phone lines from Frontier communications. These lines are used for fire alarm and elevator phone service. Fire code requires that at least one fire alarm phone line per system be fed directly from the local telephone provider and not through a private switch (PBX). Frontier installed a 25-pair cable in HHS that could be used to support the life safety needs of a few more buildings but as the millennial campus grows Frontier will need to be contracted to install more lines.

**Cell Phone service**
The outside areas of the millennial campus have minimal but useable cell phone coverage. Once inside HHS cell service fades quickly and large portions of the building have no service.

The campus is in talks with Verizon Wireless to determine the best way to provide their service in the building. Verizon Wireless has provided a quote of approximately $65,000 to install a repeater system in the building that would receive their existing outdoor signal and relay it to a series of antennas that they would install in the building. Verizon Wireless has paid for this kind of repeater system for other customers if Verizon decides it is in their best economic interest to do so. The university is in discussions for several months with Verizon Wireless on the business case for HHS, however they have not yet decided if they will pay for the HHS system.

Any other buildings on the millennial campus can expect to have this same lack of signal and would have to have a similar repeater system installed.

Putting a repeater system in every new millennial campus building would not be the most economical way of covering the entire campus and Verizon Wireless has studied the possibility of placing a full size cell site to cover the millennial campus. Talks with Verizon Wireless are ongoing but it’s doubtful that Verizon Wireless would be willing to make such a large investment until there were a significant number of Verizon Wireless subscribers on the millennial campus on a daily basis. Feedback from Verizon Wireless is that there analysis/decisions are based on current usage and coverage issues, not anticipated usage in the future.

AT&T is the other major cell service provider in the area but no talks have been had with them yet.

**Cable TV**
HHS will be connected to the campus cable TV system and receive the same programming as the rest of the campus. As future university buildings are installed on the millennial campus they will be tied into the campus cable TV system as well.

Morris Broadband is the local cable TV provider and they have service in the immediate area. If cable TV service were required by some non-university entity on the millennial campus Morris Broadband should be able to service their needs.
IT office space
There is a single office in HHS dedicated for IT staff. This office is currently configured with 3 workspaces.
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There is a single office in HHS dedicated for IT staff. This office is currently configured with 3 workspaces.
ISSUES OF INTEREST
TO THE
WCU MILLENNIAL INITIATIVE SELECT COMMITTEE

I. Tying Development of the Millennial Campus to the University’s Mission
   a. Prior to beginning development of the millennial campus, what consideration was given to the University’s Mission?
   b. How, if at all, did you involve the academic community in the development of the millennial campus?
      i. What role does the academic community have in the development of the campus?
      ii. Did you identify what you believed the core competencies of the University are in assessing how to develop the millennial campus?

II. Local and Regional Need Assessment
   a. Have you considered local and regional needs in the development of the millennial campus?
      i. How did you do that?
   b. How did you integrate the defined regional/local needs with the mission of the University and the development of the millennial campus?

III. Infrastructure Assessment & Needs
   a. How and by what methods did you identify and evaluate your infrastructure needs for the development of your campus?
   b. What would you do differently in terms of infrastructure if you could?
   c. How do you relate and engage the University with the surrounding community and region?
   d. Did you define “success” for the millennial campus before you began?
      i. What was your definition of “success?”
   e. How are you tracking the progress of the millennial campus and how are you sharing that progress with the University, community and region?

IV. Strategic Plan
   a. Do you have a strategic plan for your millennial campus?
      i. How did you develop that plan?
      ii. Who did you involve in the development of that plan?
      iii. Have you revised the plan? When? How often do you do so?

V. Strengths, Weaknesses, Opportunities & Threats (SWOT)
   a. What did you consider to be the Strengths, Weaknesses, Opportunities and Threats to the development of the Millennial campus?
      i. By what process did you assess each of those elements?
b. If a local business has expressed concerns regarding a potential use of the millennial campus how have you managed that concern?

i.

VI. A Nimble Approach to Private/Public Partnerships?

a. What has been your experience in creating private/public partnerships?

b. In terms of leasing or developing property, what if any obstacles have you encountered in terms of governmental evaluation and approval?

i. How have you managed that process

ii. What do you consider to be the "best practices" in the area of developing your property and obtaining governmental approval

iii. What suggestions would you have in terms of creating and maintaining an efficient and timely process of evaluating applications to locate on campus?

1. Are there changes in legislation that you would recommend to attain the goal of expediting the responsible development of a millennial campus?

iv. By what methods do you identify prospects for partnerships/development. What is your process for consummating the legal relationships.

v. What if any legal exposures have arisen upon the denial or rejection of a proposed partnership/development at the millennial campus

c. Have you accessed or coordinated any private financing groups, such as "angel networks" in the development of your millennial campus

i. How did you identify such groups?

ii. In what ways have you utilized such opportunities?

VII. The Institutional Process

a. What if any committee or other structures do you have in place to evaluate applications or interest of persons or entities wishing to locate on your millennial campus?

b. If you have a committee, who comprises membership?

i. By what process was the membership of the committee determined?

ii. Is there a rotation schedule for the membership on the committee, i.e., do they serve on staggered terms?

c. What decision making authority does the committee have?

d. Does the evaluative process consist of objective or other criteria?

i. How was that criteria developed?

e. How & by what process have you involved external stakeholders?

i. Do you involve external stakeholders on the issue of what entities exist on the millennial campus

f. How have you managed situations of perceived competition or threats to local businesses in the development of your millennial campus
g. How and by what methods do you communicate with external stakeholders and constituent groups in the community
   i. What has been the best/worst methods
   ii. How have you incorporated such groups/constituents suggestions into the development of the millennial campus?
   iii. How have you communicated to such groups how their inputs have been evaluated/accepted/rejected?
       1. Do you have a permanent process in place to handle such communication issues/ and if so what is it?

h) Do you have a process in place to recruit private/public partnerships?
   i. Who is responsible for this?
   ii. what criteria exists for recruitment?
       a) how was that criteria developed and established?
REGULAR MEETING OF THE SELECT COMMITTEE
ON THE MILLENNIAL INITIATIVE OF
WESTERN CAROLINA UNIVERSITY

Room 510, H.F. Robinson Building

18 January 2012

The Select Committee on the Millennial Initiative of Western Carolina University met in regular session on 18 January 2012 in Room 510 of the H.F. Robinson Building. The meeting was called to order at 8:00 a.m. by Steve Warren.

I. ATTENDANCE

The following members of the Committee were present: Mr. Clifton Metcalf, Mr. Ed Broadwell, Mr. Jack Cecil, Dr. Lewis Buck, Mr. Phil Drake, Ms. Susan Jenkins, Dr. Teek Penland, and Mr. Steve Warren. Present by way of telephone call in was Mr. Richard Williams and Ms. Joan Macneill.

Absent was Ms. Diane Lynch.

Following the calling to order of the meeting, each member of the Committee introduced themselves.

II. CHARGE TO THE COMMITTEE

Western Carolina University Chancellor Dr. David Belcher provided the Select Committee its charge.

Chancellor Belcher thanked each member of the Committee for serving on a task force which he believes will be of extraordinary importance to Western Carolina University and the surrounding region. The Chancellor believes the Committee will be of great benefit in its service particularly in the areas of economic and community development in Western North Carolina. The Chancellor indicated that when he first began looking at the Millennial Initiative of Western Carolina University, he found it to be remarkable in concept. He indicated WCU’s Millennial Initiative was probably more similar in concept to the Centennial Campus at N.C. State than others. He indicated that while the Millennial Initiative is designed to create public/private partnerships which can benefit the region and can further WCU’s educational mission. It is designed to be open to public/private partnerships which can further and enhance the traditional WCU priorities of instruction, research and service.

Dr. Belcher also indicated there were several reasons why this is the right moment to revisit the Western Carolina University Millennial Initiative. First, the University is undergoing
a comprehensive strategic planning process. He notes that the current strategic planning process is engaging both internal and external constituents. It is to consider what should be the direction of the institution over the coming years. It is in that setting that it is important that we take a fresh look at the Millennial Initiative and where it has come from, where it is today, and where it should go in the next six to eight years. Another issue deals with the limitations of the current economy. Chancellor Belcher indicated that it was understood that we must invest money in the Millennial Initiative for it to become what we all believe it can be. We must invest wisely and strategically and target those investments at the fundamental points of intersection between Western Carolina University and its mission and the regional economic and community development needs on the other. Finally, the last reason this is an important time to take a fresh look at the Millennial Initiative is we need an external perspective on this undertaking. Dr. Belcher noted there were members of this Committee who would bring an internal perspective to the issues to be considered by this Committee. It also is composed of an external group of people who have the best interest of Western Carolina at heart and who are broad thinkers and think holistically about collaborative solutions to the problems and challenges facing Western and the region. In addition, the Committee consists of people who understand what the opportunities are that we can seize.

With that as background, Chancellor Belcher indicated the charge to the Committee really consists of three overarching tasks. First, to evaluate and propose strategic uses and objectives of the Millennial Campus. Look for ways to explore ways to exploit the points of intersection between the institution's mission on the one hand and the opportunities, challenges, strengths on the others in the Western North Carolina area. Secondly, to recommend an institutional process which will engage both the institution but also the external constituents in considering and evaluating the possibilities with the Millennial Initiative. Chancellor Belcher indicated the Millennial Initiative will be facing a changing environment and therefore will need to be nimble enough to respond. Finally, the Committee should propose as much as possible, short and long term goals with appropriate plans and metrics for the Millennial Campus and Initiative.

Chancellor Belcher then briefed the Committee on the current strategic planning process of Western Carolina University, indicating that it was a year long process which is expected to be finished by June of 2012 for the Board of Trustees Meeting. He indicated that Melissa Wargo at Western would be a good resource for the Committee if he had any questions.

Finally, Chancellor Belcher indicated he was extraordinarily interested in the work of the Select Committee on the Millennial Initiative of Western Carolina. In speaking with leaders of Western North Carolina on the issues of Western Carolina University, Chancellor Belcher has indicated that he believes the Millennial Initiative has to be a priority for Western Carolina University. Western Carolina University is a regional institution. Western Carolina University needs to pay attention to western North Carolina. The work of the Committee will help chart our course for Western North Carolina in the years to come.

Mr. Warren then provided the Committee with a booklet of materials entitled "WCU Millennial Initiative Select Committee" which in part contained materials on the mission of
Western Carolina University, Western Carolina University's Vision Statement, and a draft of the current Strategic Planning Commission of Western Carolina University.

Mr. Warren then reviewed the dates for the upcoming meetings, to wit

January 27, 2012, 9:00 am-12:00 pm, Board Room, Chancellor's Office, 5th Floor, HFR Building, WCU.

Third Meeting, Travel to other campus sites - N.C. State, UNC, February 10, 2012.


Fifth Meeting, March 23, 2012.

Sixth Meeting, March 28, 2012.

III. INTRODUCTION TO THE HISTORY OF THE MILLENNIAL INITIATIVE CONCEPT

Mr. Clifton Metcalf, Vice Chancellor for Advancement in External Affairs then presented the Committee with information on the history of the Millennial Initiative concept. Mr. Metcalf indicated that the Millennial Initiative really is rooted in the first Centennial Campus which is located at N.C. State University. He indicated that campus is really a community of researchers, students, faculty, and business partners working together on a common interest in solving world problems. Mr. Metcalf indicated that the campuses can be organized in community clusters focusing on research and student education and economic development. He also noted that while currently, there are no buildings at "UNC North" the Millennial Campus at Chapel Hill, there are plans to develop that campus consistent with that theme.

Mr. Metcalf did give a handout to the Committee consisting of the Millennial Campus Legislation for its review.

He did note the past work of Eva Kline and Associates on the Western Carolina Millennial Initiative.

IV. THE UMSTEAD ACT AND ITS IMPACT ON MILLENNIAL CAMPUS DEVELOPMENT

Mary Ann Lochner gave a presentation to the Committee on the Umstead Act and its impact on Millennial Campus development.

Ms. Lochner first began by noting that UNCW obtained a grant to set up marine research in association with its Millennial Campus. She noted that the grant UNCW obtained was a
matching grant and the University did not have matching funds. The University used the bond funding provisions in the Millennial Campus Act to assist with the matching grant portion. UNCW is the first campus that availed itself of doing private financing for a Millennial project to get matching funds. Ms. Lochner distributed a copy of the Umstead Act to the Committee. She noted that the Umstead Act is a complicated statute. However, the key elements consisted of state agencies being forbidden from competing with private businesses. However, Ms. Lockner pointed out that under N.C.G.S. 66-58(b)(8)(i) the provisions of the Umstead Act which prohibits sale of merchandise or services by governmental units does not apply to a "Millennial Campus of a constituent institution of the University of North Carolina."

Ms. Lochner noted that in 2001 in an Attorney General's Opinion was issued in connection with N.C. State wanting to develop and operate a golf course on its Millennial Campus. The Attorney General's Opinion indicated that the University must be mindful that the use of University properties and resources are public in nature must be consistent with public service and public use which essentially means the Millennial Campus has to be developed consistent with the University's mission, i.e., teaching and learning. To the extent that we engage in research, learning and economic development, those activities have to enhance the University's mission.

Ms. Lochner did speak briefly regarding the proposition of leasing properties to third parties. Western Carolina is not prohibited from entering into ground leases of the property for University activities. There are issues relating to transactional clearances in terms of the lease, and having to lease property for fair market value, which are the kinds of issues that the office of counsel would look at. It should always be kept in mind with regard to these type of activities that they bear a relation to the mission of the University.

Ms. Lochner did indicate that, for example, with regard to the development of the "Town Center" that utilizing leases for businesses, grocery stores, etc. have been considered and would be appropriate for the development of a town center concept.

Mr. Warren then pointed out that in the last section of the handout there is a listing of developers and companies that have expressed interest in the WCU Millennial Campus.

Dean Buck pointed out that in considering what the Millennial Campus should become and dealing with the issue of profits and not for profits that would be involved, it will be important to have a process which is nimble and responsive to the needs of private businesses. The process would need to be such that we could respond in a timely fashion to allow potential entities to make reasonable business decisions in a timely fashion. Ms. Lockner noted that if the State is involved it can take up to two years to get a ground lease approved.

Dean Buck suggested it would be good to have a standard ground lease wherein the State would be willing to accept that standard for ground lease which could result in an expedited process. Ms. Lockner indicated they do have such documents. However, given budget cuts there has been a reduction in personnel at the State level which has led to prolonging any approval processes. It is important that any business partner know of this kind of process so they can work it into their business pro formas.
The Committee did turn to noting that we have over 300 acres on the West campus available but only 50% of may be buildable given the slopes involved.

Ms. Lochner indicated that one way that could be available to expedite the approval process is to do a large ground lease devoted to a singular purpose, example, research and development, which would then allow you to develop that property, having already obtained State approval.

Mr. Metcalf then noted that as the Committee works through the process we may even want to look at potential suggestions for amendment to the law as a proposal which would help us address the issue of expediting approval processes for public/private partnerships on Millennial Campuses.

V. **A HISTORY OF THE CONCEPTS PLANS FOR THE WC MILLENNIAL INITIATIVE.**

Mr. Joe Walker, Associate Vice Chancellor for Facilities Management, then gave an excellent presentation, through multiple PowerPoint’s, on:

A. Campus-wide Master Plan Development.
B. The Specific Health Neighborhood Master Plan.
C. The Specific Town Center Plan.
D. University engagement with the broader community including Forest Hills and Cullowhee, and
E. Infrastructure of the Millennial Campus.

Mr. Warren noted that he would distribute a color version of the brochure "Millennial Initiative Concept Plan, April 2006" for the Committee members. It is this plan that Mr. Joe Walker indicated contains the most vital information relative to the development of the Millennial Initiative.¹

During the discussion, Mr. Cecil noted that, for example, with 3 million square feet at approximately $300 total build out costs per square foot, we are looking at almost $1 billion in development to give you a sense of the scale involved.

Mr. Cecil noted that the current enrollment at Western is roughly 9,300 students. It was noted the projected enrollment at Western at one point was 16,000.

Mr. Walker noted that State Construction takes the position that it should be involved in the construction projects on the Millennial Campus. This may impact the cost of construction. One issue to consider is whether State Construction would come off of the 50-year building life requirement.

¹ Mr. Warren subsequently sent this Concept Plan in .pdf format to the Committee members.
Ms. Jenkins indicated that some thought should be given to what type of businesses would be used to fill up the buildings as they are constructed. Mr. Walker indicated that, for example, that in the past some thought had been given to having clinical space in association with the Health Building and businesses to compliment the Engineering programs, (e.g. adaptive assisted devices). There may exist opportunities for physical and speech therapy in association with the Health Building.

Ms. Jenkins indicated that all this potential development represents new change. For example there are issues about health care costs and how businesses are being developed in Western North Carolina in the health care industry, and there is a need to be practical in the setting of what can be developed in Western North Carolina.

Mr. Warren indicated one of the issues we'll be looking at is what types of entities we wish to have on the Millennial Campus and what would be the criteria for selection.

Mr. Metcalf indicated there had been a lot of interest in development around the new HHS Building.

Mr. Warren indicated the goal of the Committee is to come up with a process that is uniform but is nimble and can react to circumstances at the time.

Dr. Penland indicated the question Ms. Jenkins raised in terms of practical ways of developing these campuses and neighborhoods of interest on the campus is important, for example, in the health care area, as it is important to know first what is needed in the area. Mr. Penland indicated that while Cullowhee is different, we also need to be mindful of regional needs as well. For example, what are the needs that we are not currently building for?

Another way of looking at this said Dr. Penland is what is added value and what is competition in the area. And redundancy.

Mrs. Jenkins concurred that the question is, in terms of future development, what is added value needs to be looked at seriously.

VI. TOUR OF HEALTH AND HUMAN SERVICES BUILDING.

Thanks to the efforts of Mr. Joe Walker and his staff, the Committee was transported to the new Health and Human Services Building on the West Millennial Campus. The Committee took an approximate forty-five minute guided tour of the building. It was unanimously agreed that the building represents the state of the art in terms of technology and facilities, not only in Western North Carolina but really in the nation. The Committee was grateful to Mr. Joe Walker and his staff, and members of the construction team, for providing us with an excellent tour of the building.

Thereafter, there being no further business, the Committee adjourned.
Millennial Initiative Select Committee
27 January 2012
9am – 12 noon
Chancellor’s Board Room – 5th Floor HFR Admin. Building

Agenda

I. 9:00 -
Call to Order -
A)Review & Approval of 18 January 2012 Minutes

II. 9:05-10:30
The Final Report to the Chancellor

a. Defining the Goals and Objectives of the Final Report
   i. What are the Strategic Uses and Objectives of the Millennial Campus?
   ii. What should be the Institutional Process which will engage both WCU and Its External Constituents
   iii. Identifying Short and Long Term Goals for Millennial Campus Development
       1. What should be the metrics for measurement?

b. What Issues Need to be Addressed per the WCU Strategic Plan:
   i. What are the immediate needs of the University
   ii. What are the immediate needs of the Region
   iii. What are the long term needs of the University
   iv. What are the long term needs for the Region

c. Should Development be Prioritized?

III. Business Partnerships & Neighborhoods of Interest
a. What should be the criteria for selection
b. What should be the process for selection
   i. Involving the University Constituency
   ii. Involving Regional/Community Constituencies
iii. The Chancellor and Board of Trustees

c. **Should there be a “Recruitment Process” for business partnerships?**
   i. What should be the criteria for recruiting

d. **Who should be involved**
   i. –

IV. 10:30-11:15
**Strengths/Weaknesses/Opportunities/Threats (SWOT)**

   a. **What are the Strengths of WCU and the Millennial Initiative?**
   b. **What are the Weaknesses of WCU and The Millennial Initiative?**
   c. **What are the Opportunities that Exist for the WCU Millennial Initiative?**
   d. **What are the Threats to Successfully Developing the WCU Millennial Initiative?**

V. 11:15-11:30 –
   a. Visit by President Tom Ross and Senator Tom Apodoca

VI. 11:30 – 12 noon am
   a. **Goals Associated with Visiting Other Millennial Campuses**
      i. What questions should we ask?
      ii. What documents do we want to see
MINUTES OF THE SELECT COMMITTEE
ON THE MILLENNIAL INITIATIVE OF
WESTERN CAROLINA UNIVERSITY

Chancellor's Boardroom, 9:00 a.m. - 12:00 noon
5th Floor, HFR Admin Building

27 January 2012

CALL TO ORDER

Mr. Warren called the meeting to order. There was a motion to approve the Minutes of the last meeting of 18 January 2012, the motion was seconded by Mr. Broadwell. The motion unanimously carried.

FINAL REPORT TO CHANCELLOR

The Committee began a discussion of what subjects the final report to the Chancellor should contain.

Dr. Buck remarked that the purpose of the Millennial Campus should be a vehicle to unite the University to the broader external community with shared interests of economic development and resultant transformation of this region.

Dr. Buck indicated the kind of things the Committee needed to think about can be found within the draft of the Strategic Plan: the educational needs and other needs of the region that are articulated there at a high level. We can talk about different economic clusters, for example health care, which could be the center of the Millennial Campus in terms of a conceptual framework. We have had broad expressions of interest from a number of different entities, for example, MedWest and Mission and others about being participants on that campus.

Dr. Buck said there other expressions of interest which are not unrelated to the Health and Human Sciences area, for example, Pharm Agra in Brevard. Pharm Agra is a botanical medicine company. They are looking to manufacture a topical type ointment here. This would help with the economic development of the region.

Dr. Susan Jenkins commented one focus should be defining the regional needs of Western North Carolina. WCU should be mindful of a practical approach to meeting those needs in a way which is not duplicative. In her current work with the Cherokee Preservation Foundation, she has observed groups devoted singularly to working on their own counties. We need to bring these various interests, - many of which have the same problems - together to talk about common solutions - this could be the essence of the Millennial Campus. For example, there is a trash problem in Waynesville. They could have the same problem in Cherokee. Why are we not sitting down or having a place where people could come together and talk about their
experiences where we could learn from each other. It is teaching and learning which is the future. The Millennium Campus could serve to be a significant change agent in taking that manufacturing, mountain mentality and refocus that mentality to an entrepreneur focus. How can we build within school systems a youth entrepreneurship culture? We should have the Millennium Initiative focus on going beyond a livable wage to that of a good living in Western North Carolina. The Millennial Campus could be a place that people could come together to learn and even be an incubator. Western's Millennial Campus could be a place where we would draw people in. Being in Cherokee and a Native American it is Dr. Jenkins' observation the populace are scared to come to Cullowhee and Western because they are intimidated - most of the faculty are called doctors. It is a different culture. We need to be mindful of that so that we can begin the process of drawing people in. We could have a center for entrepreneurship that would focus on Region A where people could talk about common solutions and it would complement a lot of what is happening in the business school and other areas.

Dr. Jenkins mentioned that she and Mr. Drake had discussed, at the last meeting, the Balsam West Fibernet Network. There are now 50+ schools all connected via broadband in six counties. Now the youth connect to the broader world. In that process they find out they usually know more about the technology than the teachers. So for each reaction there is a reaction. For example, there now is a person in Franklin that has developed their own app for a smart phone. There are opportunities to take this to the next level and Western could really be the place where we can bring people together and nurture them through the entrepreneurship program and the school of business, or whatever place that would be.

Dr. Jenkins indicated as we prepare our final report we should develop the idea of the Millennium Campus as being a regional center for entrepreneurship and technology.

Mr. Cecil commented our final report should address that any potential focus and use of the Millennial campus should aligned with what the Chancellor found in his walks and talks around the region. That is where the strategic plan may ultimately end up. Mr. Cecil indicated that life is changing quickly within the region and the intelligence gathered through the Chancellor's listening tour would help us immensely. At the last meeting we talked about the way the villages have been designed. During the tour of the Health building Mr. Cecil mentioned he was unaware the building is fully occupied. He believes the next cluster will be based on the strategic plan and where ultimately the Chancellor and his staff and the Board of Trustees wants to take Western - what is the next discipline or cluster of disciplines that need to be housed in the building in the next village. Once you have them together then you can leverage the things - the medical devices and Pharm Agra example and MedWest - all that makes sense around the health sciences. Mr. Cecil indicated what made the Centennial Campus so successful was that they moved the entire School of Engineering and the School of Textiles to that campus. Once you have all the professors and students there, it's an easy way to build your cluster around those two anchors. Western needs to do the same thing. You don't want split campuses where you have Health Service on one side and half on the other side. Western may be close to starting its School of Engineering and that should go across the street. This is about creating opportunities for the citizens of Western North Carolina having improved lives. You can define that from an educational perspective, a job perspective, a health perspective -
whatever that may be. That is what the driving mission statement is: the opportunity to create wealth for your families.

We should look for commonality between academic disciplines. That could be a suggestion in terms of final recommendations. Mr. Cecil noted that there is a mood in public schools toward the STEM curriculum. This type of collaboration could be a niche as well. There might be a STEM campus.

Mr. Metcalf indicated he thought Dr. Lewis summed up the mission of the Millennial Campus very well. To that, he added: 1) the value to our students and faculty. That really needs to be examined. We want to increase the opportunity to work with cutting edge people that fosters innovation, creativity and economic development. He suggests even looking at the State as a whole. Mr. Metcalf indicated there is a regional diversity here - whether it be either plants or other things that is unique. Keep in mind we have an opportunity that no one else can tap.

Mr. Cecil added that one absolute advantage that Western has over any other campus is Forensic Studies.

Mr. Warren indicated we should address the issue of prioritizing or sequencing the development.

Dr. Penland noted our final report to the Chancellor should address both inputs but outcomes. Dr. Penland stated while we could simply say we need more doctors or nurses, the ultimate purpose and desired outcome is improved health. In looking at the methods of measurement, if we only measure the outputs we end up with more doctors and nurses. But ultimately we are seeking less diabetes, cancer, and improvement of general physical health. The ultimate goal is to go beyond the Millennial Campus and to look at public/private relationships where academia and the public work together to achieve a benefit to humanity that we could point to with data to and see that we are living better and measure in the right way.

In terms of how to integrate with the Strategic Plan we should look at what other real outcomes we are looking for, like community outcomes. In that process you get more jobs and the economy improves, but ultimately we should say the real metric on this should be on target to improve health and the purpose of the community. Progressive research and economic development is broad and we need to be more specific in terms of defining outcomes. We should also define the inputs to see if it is realistic. Are we talking about putting a Mayo Clinic here? That might be great but it may not be realistic. So inputs to outcome is what we want to look at.

Mr. Williams commented as we develop our final report to the Chancellor and make our conclusions and recommendations, we should be prepared to answer the questions: “so what? why?” That means being very clear about what WCU's role is in the region. Many campuses have a lot of mission creep and are into everything. You cannot articulate what their role is in the community. Western, not only because of the geography and the surroundings, is in a unique place. This new campus should fit the overall University and its in the community. These are
serious investments in a time where the question is the cost of education and where the money is coming from.

Joan Macneill noted she had an interesting meeting with the other Board chairs and President Ross recently. There was a bleak assessment of the economy going forward from President Ross in conjunction with state funding not coming back to prior levels any time soon. All public universities should expect and be prepared to deal with lack of funding which has consequences for the families and parents, students and our donors. Ms. Macneill mentioned her experience during the Chancellor's forums which she had people come up to her during a recent basketball game indicating that she had met them during one of those forums. This is important in the way that the University is perceived. These people reminded her of what they said. She believes these people felt empowered as they could express their voice. This type of interaction is something we would like to see repeated. The outside constituents of WCU crave this type of interaction. Our Millennial campus has the capacity to convene this type of meeting of the minds. The University has the ability to attract people to convene the thought process to get the right questions asked. She has seen this on the get acquainted tours the Chancellor has recently taken. One of the things that came out of the session is the field of hospitality, which links to the school of business and local tourism. We should give our local community the opportunity provide input to the development of our millennial campus.

Ms. McNeill commented that in moving forward with economic development we have the ability of the people on this campus to bring out a lot of thoughts to bear and to bring people together to learn and foster that entrepreneurial spirit. That should be part of the mission as part of the broader level. Do not forget we have that role and ability.

Dr. Jenkins then commented that you must listen to understand versus listening to respond. Our society is based on responding.

Dr. Buck said he appreciated Dr. Jenkins' comment about some constituents being intimidated by the University. Recently one of the candidates for the provost spoke and talked about engaging with the community with a shared vision and engaging as equals. It is easy to be professorial to the outside community for people who don't have advanced degrees. He has friends in the business community who have a lot of talent and vision which may not be academically refined but they have a good sense of what needs to be done and how to do it in terms of the ultimate goal. The University can help them with the building blocks to get there.

Ms. Macneill stated that engaging our academic community with regional business leaders speaks to the value our faculty and students have. This is a two-way street. We learned as much from the forums as anything. It should be emphasized there is learning on both sides of that equation, and when you are listening to understand you get so much farther ahead. This is a key role of the University. WCU should be open to that. The millenium campus should have facilities for that to happen.

Mr. Drake shared his comments about what should be the end goal of our report and what items it should contain, and what he saw as the prominent features of the Millennial Initiative. Mr. Drake indicated that he loves "elevators pictures." Therefore, when we present this report to
people we should be prepared to be able to articulate our conclusions and recommendations in a few short sentences. First: how we are going to improve technology. Secondly, how do we intend to impact businesses in Western North Carolina and the region. Third, how we are going to impact Cullowhee. If we can articulate those three things very well to the public they will buy into this. Mr. Drake said it was his hope that we could train people in the areas to help build their own businesses. He noted that the local School of Engineering is doing rapid prototyping which he believes is significantly underutilized by the region.

Dr. Penland asked Mr. Drake what he considered to be the starting point for improving technology. Mr. Drake noted he had difficulty in acquiring experts in computer programming — especially those who are not only adept at computer programming but those who are also adept at business. Often what happens is you find a great programmer of business applications but that person does not have an adequate understanding of what a debit is and how to tell a computer what to do with those different debits and credits. Mr. Drake indicated he is not finding any computer science graduates or business graduates that have that kind of knowledge in both areas. He either has to take a computer programmer and teach them about business or he has to take a business person and teach them how to program. Dr. Penland asked if there was employment capacity in the region in terms of technology and opportunity for improvement in the region? Mr. Drake indicated he could use them here, and he could hire ten of those tomorrow if they had both of these skill sets.

Ms. Lynch commented she really liked what she was hearing about the notion of integrating the disciplines on the campus. Ms. Lynch stated what has driven development of the Millennial campus in the past was targeted funding for buildings: we were going to start with the Health Building because that's what we've got the money for. Second, we were going to build the Education Building because that's what we thought we could get the money to build next. There is no logic there. We have to think seriously about those types of things that are complementary and can be integrated together, be it business and health care or science technology, engineering and math (STEM). She believes the Millennial Campus is predicated on the fact that Western is an engaged institution, so it makes perfect sense of course to extend that engagement philosophy into the millennial campus. Ms. Lynch stated she liked Dr. Jenkins suggestion to focus on the region and would extend the concept of region to be larger when we talk about what kind of services we want to provide to where the campus could be a place people access research about the issues they are concerned about. For example if it was trash in Franklin or Waynesville, there is probably a place in Georgia or Colorado that has those types of problems and has done something about them. If we could create the kind of base of information and provide nimble access that would serve a real need for our area.

Mr. Broadwell stated much value had been stated during the meeting. Whether its entrepreneurial skills contributed from the University or an incubator, we should be able to provide those kind of skills here. Think about all those skill sets could be here to help an incubator.

Mr. Broadwell notes we talk about Region A, Region B, and Region C. Perhaps we need to see where our students come from. How far can we effectively lead? One of the key points we should recognize is that yesterday we did not have all the resources in the world and yet here we
are. We have to figure out how to be more effective and efficient with the dollars than maybe some of our brethren in the eastern part of the state. We have some very hard working people here who can be very focused and make major commitments. Mr. Broadwell noted that he finds business analysts an extremely important profession. Those analysts have to look at a business and tell them what is critical to an industry’s current success and future. There really needs to be a great place for those young interns to be. We need to really let that be publicized throughout all of Western North Carolina that a millennial campus is a place to gain skills so they can leverage those skills to have exciting careers. The Millennial Initiative will be a place where they could do that.

Mr. Broadwell stated his hope is that when we talk about leadership and regional leadership, we recognize we have a new Chancellor, who can provide leadership from an education standpoint in the region.

Mr. Cecil led the delegation in a round of applause for Dr. Penland on the last day of his service with MAHEC and stated he was grateful that he is spending it with Western Carolina University.

Mr. Cecil said he believed in the role the University in creating new young leaders. We need to tie this university with the region to which it serves. Not only today, but what the region will need in the future.

Dr. Buck indicated the business school is hosting an event in hospitality in February. If you look at the pool in western North Carolina you have government, health care and hospitality, tourism and recreation being the leaders. We would be remiss if we don't incorporate these areas somewhere in the Strategic Plan. Dr. Buck indicated a successful organization should leverage three things. First: identify your core competence. Second, identify your strategic assets, for example, says we have the most visited national park in the country. Thirdly, you need to leverage your strategic relationships. You need at least two of those three legs to be successful. Dr. Buck indicated he does believe Western does have strategic assets. In terms of the Millennial Initiative - what are those partnerships, relationships, integration of disciplines that can create truly strategic advantage for the University and the surrounding area.

Mr. Metcalf indicated that our college of business is a great resource for regional information. The skill is there in the School of Business. Mr. Broadwell indicated he has used the School of Business as well. The North Carolina Department of Commerce’s Dale Carroll was former CEO of Advantage West. And you also have Joe Crocker. And those are resources that are very close to this University.

Dr. Penland noted that in terms of health care connections to the region that the North Carolina Health Network is a good resource. MAHEC is another good resource. The Shep Center research component would love to connect with this Millennial Initiative to be a part of ongoing research that will be necessary to make priority decisions.
Mr. Warren indicated the final report could contain an identification of the needs of the region but that could change in six months.

The Committee then turned its conversation to the topic of creating an institutional process for assessing what types of public/private partnerships we want to bring, who should be involved in that, and what should be the criteria for assessing that. We would want to develop a nimble institutional process which can refocus and reengage.

In terms of the institutional process, Dr. Buck stated one of the things we need to remember if we are going to attract profits or nonprofits, we have to be able to create those legal relationships whether it is a lease agreement or intellectual property agreement and do it quickly. The Kimmel school has a defined intellectual property contract that doesn't require other university approval other than the Dean of the Kimmel School. We should have a document which have been preapproved for use by the appropriate authorities.

Mr. Warren indicated that one thing we may want to look at legislative type solutions to these type of constraints. The Umstead Act took care of us on the front end in terms of exempting us from the development of Millennial Campus, but we need to get some relief on the back end in terms of the actual details of developing the Millennial Campus. Mr. Buck indicated as long as we could "ring fence" this campus we will stay within the boundaries of the requirements established by whatever office in Raleigh and we should have a certain amount of latitude to go ahead and negotiate the partnerships.

Dr. Buck commented on the role of the academic constituencies in developing the Millennial Initiative. Dr. Buck indicated our academic colleagues should be part of identifying our true capabilities. If you ask any academic department on the campus just rate yourself from 1 to 5 they would all be 5s. We do have certain capabilities that align very well with the region and some others that don't align at all but are still great academic departments with fine faculty. We need to know what's relevant to the needs of the region. We need to be strategic in who we hire whether it be a provost or dean or the next faculty member because if we have a focus for the University we need to develop that focus and concentrate our efforts on bringing people who can contribute to that core competency in that area.

Dr. Buck indicated that parameters should be put in place so that when we do build something it does not become something we do not want it to. Dr. Penland indicated what makes it difficult for the community is envisioning what it can be but also what we don't want it to be. By spending time at this point to say for sure we want it to contribute to lifestyle, living conditions, both economically and humanely.

Mr. Warren raised the question of how UNC North was engaging the local community. Mr. Metcalf indicated they did have some focus groups and community meetings which may be something that our Committee would want to suggest.

Dr. Jenkins added it is important that we emphasize reaching out to the community. If we do ask for some input from the surrounding community and region we need to get back with them. We need to be very mindful of reciprocity. We need to give feedback. There should be
constant feedback because everything is changing. Mr. Metcalf indicated if this was perceived as community function with University benefits it would not succeed. It has to be the community.

Mr. Williams commented the UNC North campus was an extraordinary opportunity to bring people together and they had to be very intentional about going after governmental leaders and neighborhood alliance leaders to be sure those people understood the place and got feedback from them about what they wanted this university. This was a slow and painful process. The Town Council is allowing things to develop as slow as it can. But it does require a process of engaging all the different stakeholders to get them to understand what UNC North means for Chapel Hill. The logistics of that was appointing a person assigned by the campus to reach out to the mayor and the council and other alliance people to talk about the desire to come and get their ideas and brainstorm with them. They had a number of forums throughout the process being very intentional about bringing folks in

The Committee then recessed for fifteen minutes.

The Committee reconvened to discuss the institutional process. Mr. Drake indicated we need to involve businesses and obtain their input.

Ms. Lynch indicated she is not sure what the process should be, but it is very important that we do have a process. There have been a couple of experiences which were not productive and did not have people at the table that needed to be there. We should look at a legislative approach to make it more efficient and less cumbersome in terms of building private/public partnerships.

Mr. Warren raised the issue of whether there should be, in the final analysis, a permanent entity in place which may have members on staggered terms whose charge would be to come up with an established criteria which is constant to evaluate applications - a permanent structure in place for the next 100 years. Dr. Penland indicated he thought that absolutely needed to be the case. Mr. Metcalf indicated this should be a smaller type group. Dr. Buck indicated the Committee would need to involve the academic side of the institution with whatever core competency was involved in that particular endeavor which would be involved before the contract was signed.

Ms. Macneill stated any permanent committee structure would have an overarching understanding that the timeframes of academia and business are different and that has to be emphasized. We have to recognize those differences. We are going to lose people if we don't act. We have to be deliberative but not to the point where we lose the opportunity.

Dr. Penland indicated established criteria can be used to assess applications but we have to be sensitive to added value and competition. If, for example, in the area of healthcare, and it was a hospital or other entity there would be local businesses that would raise their heads and say that they would want to be a part of that process. We have to be sensitive to that. Mr. Warren raised the question of whether or not there would be a community or regional representative on this committee. Dr. Penland indicated there should be such a representative on the committee. Dr. Penland indicated that, for example, it was issue of osteopathic medicine which you believe
was a good one, there would be need for a regional representative to look at this. Ms. Macneill indicated there are really two issues. One would be how do you develop the kind of cookie-cutter type lease and those type issues, and for that you would not need an outside stakeholder. You could then get to the point to where you can move forward with an application which might influence or impact other people, that is a point you bring in outside stakeholders, otherwise the process would be too unwieldy.

The Committee then turned to the issue of what should be the metrics for measurement of short term and long term goals for campus development.

Dr. Penland indicated it simply should be measuring the right thing. And that would probably vary from entity to entity.

Dr. Jenkins indicated that we need to make sure the region sees that added value - what is the added value to the region, not just the University. Dr. Jenkins indicated that the foundation is thinking about doing a sustainability index. It would be a process that the community would be engaged in. It is tracking the process.

Mr. Cecil said that there are some good metrics on sustainability which might have been transferred over to the Land of Sky and they may use those metrics in terms of doing their regional planning effort. That would be a good resource on the sustainability index issue and the metrics associated with that.

Mr. Warren indicated we should not only define what the regional needs and community needs are, but also define the metrics of how the Millennial Initiative is meeting those needs.

Mr. Cecil indicated that whatever that metrics are, he would recommend we come up with probably no more than ten to fifteen. Otherwise it becomes too unwieldy.

Mr. Broadwell, he indicated such metrics should be reported on a regular basis, say on an annual basis, reports to Trustees or to our constituencies.

Mr. Broadwell indicated we should be mindful who our tenants and we should really work hard to have stars. He would hope we would have high goals and high standards - the kinds of places where students would want an internship and be a part of for years to come.

At approximately 11:15 the Committee was joined by UNC System President, Mr. Tom Ross, and Senator Tom Apodoca. During the course of the visit President Ross indicated that we should be proud of Senator Apodoca not only because he went to Western, but also because he is a strong supporter of the UNC system. Mr. Ross indicated that what the Committee is involved in is a very important project and that the whole area of the Millennial Initiative has great meaning for the University.
Senator Apodaca indicated he appreciated what the Committee is doing. He indicated that Western Carolina oftentimes has not gotten what it deserves from the Legislature. He wanted us to know that he supported us 100% and hopes that we can do some good things for Western.

President Ross indicated that when Centennial Campus was first getting started many people thought it was a crazy idea. It has made a huge difference to North Carolina and North Carolina State. The first key is to find industries that are in this part of the State, or that need to be in this part of the State, and try to figure out a way to get them on the campus and develop the synergy they will get from locating their businesses on the campus. In addition, these businesses should access student and faculty - not just WCU faculty but the entire UNC faculty. We need to think about ways to get some key businesses over at the Millennial Campus, even if they are not a big operation. The new HHS building creates opportunities as well. We also need to take advantage of the business school and the rapid product center.

Senator Apodaca indicated that he believed the Legislature would be receptive to ideas of creating more efficient process by which to develop public/private partnerships on Millennial Initiative Campuses.

The Committee then turned its attention to the strength, opportunities and weaknesses of the Millennial Campus.

Mr. Ed Broadwell commented that in some ways we are ploughing new ground but we have some wonderful examples to look at, that is in Charlotte or Raleigh. We can learn things from some of the local obstacles that UNC North has confronted. In addition, we can cover a lot of ground in terms of infrastructure and process, what have you done right and wrong. Mr. Broadwell indicated he believed the other campuses would be very willing and excited to see us and share their ideas with us.

The issue arose as to how to deal with, from a process standpoint, the situation where company A, that wishes to establish on the Millennial Campus, but company B is a local business, how to deal with that "threat or opportunity" to develop on the Millennial Campus? Mr. Drake said he would not consider it so much as a threat to have, for example, someone who competes with an entity that sold software because he sells software all over the country and not just in Cullowhee. But for someone who has a downtown restaurant in Cullowhee and another place comes in, that's what we want to avoid is to avoid giving someone an advantage that they wouldn't ordinarily have by just locating a business somewhere else. In other words, we do not want to give them an undue advantage because we don't want to take tax dollars from the person who is operating down the street who has the restaurant and use his tax dollars to help this other person open up another restaurant. That would be the real challenge as to how we deal with that.

Ms. Macneill stated generally competition of small businesses is good because it makes you sharper. We just need to make sure we have a level playing field. She sees this kind of competition as a positive.
Dr. Jenkins noted in her ten years experience in Cherokee that sometimes businesses and nonprofits do not have all the skills needed. They may not be as open to new ideas and new people. The question is could we provide some of that capacity.

Ms. Macneill stated that the business school, under Dr. Buck's leadership, has been really good at doing those type of things.

Dr. Penland indicated that one of the big strengths is WCU has the reputation of wanting to partner with local businesses and help them. That will be a real strength in recruiting people here in offering to help them. People need that kind of support right now and that is a strength for this Millennial Initiative.

Ms. Lynch said this whole issue speaks to the matter of transparency and communication that must exist for decisions that are made about the Millennial Initiative. Whether it is our campus or Wal-Mart downtown, there will be an issue of impact on local constituencies.

Dr. Penland we need to ask what are the aspirations for this campus and what are the results we are looking for and integrate that into some type of public forum of getting that input. We can get consensus and that can really be a strength.

Mr. Broadwell commented that it will be hard to minimize the strength of the skill sets that are here on the campus to support public/private partnerships. This could be a great showroom for the skill sets as well. We should even be able to recruit better tomorrow than we have in the past.

Mr. Warren asked Dr. Buck how he felt we could leverage the successful accomplishments of the business school in the past? Dr. Buck stated if you are talking about a cluster in the economic development context, you're talking about bringing in competing entities deliberately who are complementary, they may be unrelated to one another, but they do feed off one another because of the underlying skill sets.

The School of Business does a lot with this SBTCD clients and non SBTCD clients. Advantage West is supporting the Blue Ridge Angel Investors Network to provide startup financing to entities that may not yet be bankable because they don't have the assets or cash flow to meet the standards of a commercial lender. The Business School can work with these type of entities to make sure they are ready to accept this kind of financing.

One of the struggles is there exists so many different competing agencies working for economic development: there is a Sylva Economic Development Group, Jackson County, Haywood, Advantage West, and many other types of organizations, the Rural Fund, and some of those are not on the same page.

Dr. Buck indicated that the metrics will be not just one one but rather be individualized to whatever field or group may be making application. For example, health care, environment, etc.
You may have two or three or four key metrics to look at that aspect of our performance over time.

The Committee reviewed its objectives in touring N.C. State's Centennial Campus and meeting with representatives of those in charge of developing UNC North in the upcoming weeks.

The Committee adjourned at approximately 12 noon.
NOTES FROM SESSION WITH REPRESENTATIVES OF NORTH CAROLINA STATE UNIVERSITY CENTENNIAL CAMPUS

10 February 2012

THOSE PRESENT

1. Mike Harwood - Development Office
2. Dennis Keeler
3. Amy Lubas
4. Randy Wilson

1. The overarching message is that you have to be creative.

2. A video was shown regarding the current state of the Centennial Campus. That video can be found at the following website address: ________________.

3. Mr. Keeler wanted us to know that Chancellor Ramsey Woods would have been with us but for the Chancellor’s meeting with the Board of Governors today.

4. Randy Wilson - This is not just about real estate this is about programs and partnerships.

5. Mr. Harwood was the University architect for ten years.

6. Mr. Wilson indicated he came out of industry work.

7. The Centennial campus is a "work-live-play environment." They hosted 45 different companies and they landed 9 companies last year. When they talked to them, one of the key points is to ask them "why are you here." One of the things they tell them, if you are here for cheap real estate this is not the place to be. The reason you should be here are students, subject matter expert, faculty - specialized facilities - combined with a very unique environment where everybody comes together in a integrated model following the theme of the late Claude McCuney who was one of the original visionaries of the campus. "Partnering is a contact sport."

8. It is not always obvious when you drive through the campus that all those factors were considered when you bring the buildings together.

9. They didn't incorporate many parking decks in order to conserve the land.

10. The new library will be a nerve center for people to come together. It is designed as a nontraditional library where there are a lot of collaboration spaces.

11. Mr. Wilson said he had only been there ten years and the space has more than doubled since he has been there.
12. The Millennium Act allowed this to happen. Their campus started in 1984.

13. The Association of Unity Research Parks and there is nothing like this one.

14. The Centennial Campus is 25 years in the making.

15. Mike Harwood indicated that especially where we are WCU as far as unique about Centennial Campus as to what the Committee is doing right now. The people that initially thought about the master plan for the Centennial campus did not know that carbon footprint would be a big issue - didn't know that sustainable communities would be a big issue - they were not using these terms but now we see an area that is much more compact than what was originally thought. The work that our Committee is doing is really important in laying the groundwork for the next thirty years.

16. They have worked with the Department of Administration to give them the tools to work with the campus that Governor Hiatt wanted them to be. Governor Hiatt wanted to make sure that the land would be put to a higher and better use - he challenged the University how can you reimagine what the University does and make this something than just agricultural land.

17. WSU should not imitate what they did because what they did was specific to Raleigh and NC State. We need look to at Western Carolina and the region and how we can play on our strengths and what is over the horizon. When you develop the vision you must stick to the vision and not give up on it. There will be a lot of bumps in the road.

18. You must have a master plan that needs to be refreshed along the way.

19. Partnerships matter. Even though they had a master vision, the concepts and principles were not in place at the time of its inception.

20. They have an oral history of some of the people that have developed the Centennial Campus that exists in the archives now. They talk about what some of the models were and how things worked. That is available if we would like to see it.

21. One of the important principles is you cannot be here unless you are a partner with us. They do have a partnership office. If things don't work out at the end of the lease they tell them that things just aren't working out, it's probably time to move on.

22. In the early days they were eager for anybody to come to the campus. As you begin to build some success, you need to figure out how to say no in a way that people agree with you that it is not the best thing for them.

23. It was asked how you go about evaluating or establishing criteria for tenants. We were provided with a criteria which is on the website.
24. Ms. Lubas indicated the partnership process is one of give and take. If you ask them about what they're doing at the University currently, and what they expect to be doing, will those partnerships grow, that's part of what you're trying to evaluate is how realistic is this prospect. Do they see the value of collaboration and partnership with the University? You have to use a sliding scale because a two person startup is never going to collaborate with the University the same way a major R&D unit of a multinational corporation does. It is somewhat dependent on the size of the company and how much square footage they want to take on the Centennial campus. If you want to take 2000 square feet - you would expect a little less than if you take 20,000 square feet. And its an evaluation process. The key point is that once a company is permitted to be a tenant we don't just let them go about their business - we work with them throughout their life on the campus to continue to build engagement with the University. Those people in the leadership role of that company may change, and the new leadership may not know about the benefits of Centennial Campus. It is a constant re-education. Thus you need to constantly work with them to rebuild and create new opportunities.

25. They do have Chancellor breakfasts, executive breakfasts every quarter. Such events that bring out the tenants. They do events like, for example, runs to benefit the community. For example, they did an event where they provided meals to the hungry. They had a health screening for example with Rex Hospital. e.g. bloodmobiles, recycling events. It is building a sense of community.

26. The question was asked how do you involve faculty from the various colleges and how do they maintain that engagement over time - Ms. Lubas said right from the get go - if a prospect comes to the table ask if they already have a connection to the University. If they do, they call that faculty member and say would you like to join us? Do you like the company? Just sort of do a little due diligence with the faculty that has the contact. If they do not have any relationship with the University, they sit down with them and ask them what are their research areas - where do they envision the connection might be - they go about it broadly and pull in department heads from several different departments as well as across several different colleges. You never exactly know where the connection might be.

27. They really don't have designated point people on campus. It is more ad hoc. This after having done it for 12 years, they know where to go to depending on the area in terms of the faculty or department heads they go to first and they may bring in others.

28. Faculty is very, very key to the success. This model does not work if you don't have faculty engaged. It cannot be overemphasized.

29. You want to have the faculty be there when you are engaging these partnerships. You do not want to waste the faculty's time. The faculty has to see what's in it for them. We are very respectful of their time and not overburden them. The Centennial Campus also produces for the faculty. You have to build that trust in relationship both with the partners and internally with the faculty.

30. The education and the research is really all part of the same axel and this is what drives the development.
31. A lot of times when a relationship is brokered and the tenant does engage, thus they find the tenant will go out on different threads. One example is the company Pentair which makes water filters. It took them two years to get them on the campus. They have 6,000 square feet of space. An idea of their department uses a lot of energy to use water. The next thing they knew they were talking with people involved with cloud computing - they didn't talk to the College of Tech about their water filters that can clog up. The idea was wouldn't it be nice to tell the customers that your filter is getting ready to clog up. They put some type of Wi-Fi device in the pump or filter, the software was developed. There's part of this is, have the internal people that can connect the dots. You recognize that a university is both broad and deep and you look for those connections.

32. They are developing portals to Duke and Carolina and other universities where they can find resources. You want to get this in the hands of the public before they can access it as well. You build on this kind of thing over time.

33. It is now set up as a 501(c)(3). They are University employees. A little bit of their salaries might be paid from some of the revenues from the campus.

34. The Centennial Campus is not a research park it is part of the University.

35. They have used their availment to acquire some key holdings they can then trade and shift around with the University.

36. First you have to figure out what kind of investment they want to make, then build the internal infrastructure for the promotion of the campus and the kind of partnership activities that we are talking about. This cannot be really someone's part time job. They need to be focused just on development of the Millennial Campus.

37. In terms of who initiates contact with the Centennial Campus, it works both ways. Once you get a reputation, business become more opportunistic. The NC State team has been more proactive in terms of developing partnerships and tenants. In order to align your partners with your own internal interest so you define what those interests are, e.g., safety and security. If you were a patent attorney they would probably be okay with locating on the Centennial Campus but would not a criminal attorney.

38. The question was asked when was the first developer that had particular economic clusters with the master plan matched up with the University's expertise? In the beginning the college would just talk to anybody who would listen, but if you look at the marketing materials as time has progressed you can see how things developed.

39. You do need an anchor. The real watershed are the ones _______ Centennial Campus - that was in 2000.

40. Originally the campus was designed in the neighborhood concept and the neighborhoods were based on key streaks of the University research. It was advance materials,
information and communication technologies and biosciences. That has always been the theme. Those areas do change over time. There was a desire to recruit businesses to the campus that had the research focus. You do align - one important thing is you align with your current research interests. Dr. Buck indicated that your core competencies change and you develop your master plan according to that.

41. These core competencies get refreshed by the Council of Deans every few years. Now there are four of them health, well being, safety and security, education IT, energy environment and then there is crosscutting manufacturing processes and information technology, analytics, leadership. They are starting to get a sense in talking with the federal folks that we need to focus on transportation, cyber security - you've got to go where the money is. That has an impact on the research interest. You have to stay in tune and harmony with that.

42. Ms. McNeill asked in the early years when they were in a panic phase about development were there any pitfalls to avoid.

43. Early on, they did act as a developer for some of the buildings in the early 90's. They got a little insecure and built some buildings and incurred a lot of debt just to make it look like they were bringing a lot of activity. These were self liquidating buildings. That was most early on, now they don't do it as much because really all real estate loses money in the first three years. But now the building is occupied. They did not see the consequences of what they were doing. Initially as they acquired all this debt how are they going to charge the rents because the State process is not an efficient way to build a speculative office building. That's what the private sector does. They have now turned a sow's ear into a silk purse by asking how can we make the private sector ... is how to make, private investment, University investment, State investment. Now they have all three legs. Now they have to start growing each one of them and the ________ is a great investment for the Legislature that will transform the campus. The private sector is looking for a conference center.

44. The last building that came on line was by a private developer. That should be finished within the next two years. That's not right. It will be on July of this year. The building is called Ventures I through IV have opened fully leased. The occupancy rate now is in the high 90's. 90 percentile.

45. Has there always been a person from day one whose sole job has been to oversee the development of the Centennial Campus? When he first got engaged the partnership and development office was one and the same. But they found splitting them now makes a lot more sense.

46. It's tough if you try to do both.

47. They had two people in the early days, Cloud McKenny (his day job was Dean of the College of Design) and then also his predecessor, the University architect, who also had a consultant team. They thought they would use the Carlisle Capital Group at the University of Maryland and they picked them as a consultant. They wound up going bankrupt which they didn't have to pick up on their own. Cloud then positioned to Special Assistant to the Chancellor
and Cloud was the person whose title was "Centennial Campus Coordinator." As time progressed he got an assistant, and then got a partnership developer.

48. So it really was a situation for a while where everyone was doing their day job and working at Centennial Campus as a piece of it. About ten years ago the real estate function was taken from the finance and business and put into the Partnership office. And then they realized that was really too much - it was better to be stereo rather than mono. He and Dennis now have their own facility staff for grounds management or own contract and design staff - they have a little bit of expertise but they are aligned with the University as a whole. A stand alone ______ park is not the way to go.

49. Charlie reports that the research channel he reports directly to the Vice Chancellor Terry Lomax, who reports to the CFO (Charlie) who reports to the Chancellor. He and Mike tag team a lot, so this is how things evolved. They started with a notion to part time, but once they realized they had a tiger by the tail they really needed to bring that up to scale. In some cases it took up to ten years to get there.

50. The question was asked whether you would put the present day structure in place if you had to start over again. The response was they would have stated there was not enough activity early on to keep two of them full time engaged. You could probably start with one officer but make it clear that you focus on getting the partners and recruiting to where WCU’s expertise’s staff is at this point. Do we wish to employ. They did have a land planning consultant, and infrastructure consultant, a traffic planning consultant so they could really have a team that helped us address all the kinds of regulatory issues we had to go through with the City of Raleigh. They do have great relations with the city staff.

51. You need to be sensitive about dealing with the media. Their experience when you get them what they would like to have and answer their questions and get the information they need. You call them to ask them if there is anything else they need.

52. You need to work closely with the economic development entities. They all work together and play together well, so if there is a prospect we work with them and they ask them to come to the table. They do meet regularly with the local economic development groups and let them know about potential partnerships and what projects they are working on. They work with the Department of Commerce for their projects and try to be a team. They just try to be a team player and that has served them well. They were not team players early on - not on purpose - they just did not recognize the value they brought to the table.

53. The Centennial Campus recently hosted Innovation Summit. This was recommended by one of the faculty. So the University actually hosted the event. And co-hosted with the Chamber of Commerce. Those type of interactions build trust and strong relationships. In terms of involvement with other groups they cast a pretty wide net.

54. There is not a formal process that says that if we get a call from a potential partner that we have to call a certain agency or other group. However, when you are in management relationships and you think about it that way, you are sharing information on a regular basis.
This is not about making sure you check a box about contacting someone but you're just trying to make sure everybody is on the same page, and that we are on the team together, and we are not freelancers.

55. The question was asked as to whether the work, live and play were balanced out. The response was they're doing really good at work but not so good at live. They have had some developer issues there where litigation is now pending and that has really slowed things up on the housing initiative.

56. They do have coming on a 1200 unit student housing which is in development and they also have some faculty housing that is being planned out. The vision from the 80's was that one-third of the space would be residential. They did not specify students or apartments or faculty. Student houses will be upper classmen. There is no place that they are aware of where you have businesses in the same geographic proximity where students are going to class. This is what really adds to the energy and attractiveness to the businesses - this is their future work force. Finding talent is tough but observing that talent for four years and figuring out who is the best is an advantage that you can't get in any other place.

57. It was asked whether they have reviewed an application, and have interviewed by the various deans or other people internally, and they have said that we do not want you here and has that led into any legal consequences to that type of decision? They really never had that type of a case but they did have an instance where they wanted to put a sizeable research operation on the campus and they decided that was not a good fit. Mainly, the process has been before they ever get to the point where they have to say no it becomes apparent during the workup process that the company really does not see a fit.

58. The real magnet is the students. One of the big changes they have seen is the College of Engineering. They are moving the College of Engineering to the Centennial Campus. People in ________, computer science, do not have a problem finding a job.

59. About a million square feet primarily will be housing.

60. As we have Town Center planned, this will be right in the middle of their campus. That changes all the retail projections. You will not have 15,000 cars going by it every day. You would have some retail ground floors - good places to eat. Currently, they have a couple of coffee shops but no restaurants.

61. What ___ acres. State has a little under 13 acres. They have a 70 acre lake, a 100 acre nature preserve. They will have a lot of vertical parking rather than - in order to preserve the space. The square footage on the building really drives whether your parking deck is economical to build.

62. They also have off campus partners. They do have a lot of partnership relationships off campus. For example, IBM - they a partnership relationship with IBM and they have many activities with IBM. For example, down the dialogue stage is the idea of remote control laboratories. This could in some ways link to a "virtual Centennial" campus.
63. Company is not about philanthropy anymore. Now it's more what's in it for me than what is the win-win if I come on your campus. This ties back to the central point about it really is your faculty. Who are we getting our grants from and who are we collaborating with. You can always go talk to those companies - could you do more if you were co-located. Knowledge transfer is a contact sport - taking that research in technology and putting it in the marketplace - that takes interaction. This is not the RTP model. ________ that type of interaction take place.

64. In terms of different organizations that are nonprofits that are existed here. There is a listing in the materials. They are listed. There are not that many nonprofits. One challenge for nonprofits is the rental rates. Their rates run the higher end of the market in the area.

65. Dr. Jenkins mentioned one of the issues we want to get people from the region to connect with the University. We want to describe the resources that would allow this. There has been talk of putting a facility on campus that would allow NC State to reach out to nonprofits. They do a lot of work with the College of Humanities and Central Sciences. They would have an interest in having that facility. They would have incubators on campus.

66. How do you train ________ to be entrepreneurial? Terry Lomax on their staff is working on these type of issues.

67. They are looking closer at a different way now. They are looking at event closers for example.¹

68. The only other way you reach out to nonprofits is the campus a place for events. They have hosted a lot of fund runs, fundraisers, and those type of things.

69. They said they have a partnership that says they come in and say we want to hire your students. But you have to think of what does the partnership mean. It's not just about hiring students. They tell the prospects they are looking for something beyond just hiring the students. ________ think about what they could do.

70. These partnerships range from formal to informal. You might think about having a business put an outpost on the Millennial Campus so they could know where the blue chipper's are.

71. They are 3 million square feet out of a total of 14 million square feet for the total campus. They have North Central Southwest and Centennial as their five campus precincts.

72. Dr. Buck asked when they do get to a master plan real valuation updates do they have a Centennial Campus Committee within the University? They do update their master plan every five years. This was the first one that had a Centennial Campus focus component. They do have works on each of the five campus precincts. They bring people in to say this is what's

¹ He mentioned a meeting of the Association of University Research Parks (see www.AURP.net).
happening within this precinct and this is the kind of things we need to focus in on so the master plan really refreshes. It's not just changing foot prints but it is also thinking about the underpinning vision statements and guiding principles. At those gatherings, the representatives are students, faculty, staff, as with the Centennial Campus their offices are very integral and will probably share that particular task force. Finance, student affairs, research into the University - all of these people are involved.

73. With regard to the use of consultants, they do use consultants. For example, they did not rely upon the College of Design to do the work of the administrative units. They use the College of Design periodically - "we let them play in the sandbox with our students" but frankly there is not a lot of value added for them. This is a teaching tool not a planning tool. They do use outside consultants for almost everything they do.

74. They do employees of the month for University. This came from the University of Minnesota.²

75. Not only do you need to engage deans and department heads, because that is not where the faculty, but you need to engage with faculty as well. When we use the master plan effort to open up the process to those who will self select and come to the meetings and say they are interested in these types of things. You get some pretty good ideas coming out of it. But you should not think you have an embedded talent at the University to develop the campus.

76. In the beginning there were some faculty that thought it was a boondoggle. Now, it has really developed into a pride of place.

77. What is it about Cullowhee and WCU that we can find that will build pride of place.

78. You have to be tireless about selling the concept.

79. They have a rolling tenure infrastructure plan. Every project pays an assessment. Both State owned and third party buildings pays an assessment. Sometimes those fees are paid up front and sometimes they are built into the ground lease. It has been important to feed the ten year plan.

80. Categories of ownership: a) appropriated buildings (College of Textiles); b) leasable buildings which N.C. State has financed, see third party lease civil buildings.

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² See www.scholarswalk.umn.edu. Noting "the Scholars Walk celebrates the research and classroom accomplishments of the University's award-winning faculty and students, and provides a prominent memorial for those honored. Featuring listings of national and international award recipients as well as recipients of competitive University awards, the Scholars Walk stretches from Walnut Street near the McNamara Alumni Center to West Applebee Hall and Pleasant Street."
81. In terms of how much money these type of ______ it is a 0-7 gain. Everything they pay in is reinvested into the campus either the infrastructure or refurbishing buildings that are now almost twenty years old.

82. They are currently working on some legislative rewrites who want to be happy to share that with us.

83. In terms of intellectual property they do have master research agreements.

84. The Millennial Campus site does have a trust fund feature which they use.

85. They are measuring things a little more closely today than they used to in terms of revenues and disbursements.

86. Because over time they have set up different bills with different rental rates, CPI is built into the lease. Some rents were getting out of kilter. Some rents were getting ahead of the market and some were lagging behind. So there was an effort to recalibrate and readjust all that. They actually lowered some rents and raised a couple to get it back into kilter. They recognized the need to do that periodically.

87. Of the current 500,000 square feet about 70% of it is leased to NC State, College of Engineering. They were looking at the cost the academic units were having to pay in the building.

88. They used R&R money for business that the State bills (R&R is Repair and Renovation money). For example, if they need a roof and 60% is occupied by the college, then they will use 60% from the State and 40% from the private companies.

89. They have at times used money from F&A to subsidize somewhere else (Facility & Administration). They spend a little over $3 million a day as F&A and rent subsidies. F&A is who the overhead portion of a grant. To manage the grant.

90. They initially had a ration of buildings to begin with themselves and then used private developers to buildings.

91. The question was asked whether there was any type of inventory original and what SS were existing to meet those needs. The answer was that in recently there have been those kind of inventories. Initially, it was "build and they will come." Initially the idea was if you could put research of the private sector and combine with research of the University good things would happen. And then you have to be careful about partnering with a company that could overwhelm you.

92. The comment was made that our Committee has looked at defining regional needs, where the region is strong in meeting its needs and where it is weak in meeting those needs. This is closely tied to the concept of value added. They look at it from the standpoint of if it is a good for NC State it's going to be good for Raleigh and good for Wake County. They would think that
if it is good for Western Carolina it's going to be good for the region. We do not want somebody that will not add value to the University. Anything that strengthens the University will strengthen the region. They do not start from the standpoint of what does Wake County want, how do we meet that need. They start from the standpoint it's all about our faculty, what does the faculty want. A lot of people think they want a specialty institution not by telling you that.

93. With your partners, it's the value they get for the price. For example, for some companies they do not have to have a recruiting person because of being on the campus. They have a much lower turnover rate than does the rest of the region in terms of leased space.

94. Early on, they do not believe they really understood what great value had to offer. A little more reluctant to press people. Now, they do their due diligence. On the due diligence issue, because some companies are concerned about the public records component, is that they will go to the company's own offices. The actual thing about how can we go out and find the next company. That is why the relationship with the Department of Commerce is so valuable.

95. When you look at it and it is like red hat, they have essentially "graduated." NC State really did not want them to get any bigger on campus. However, the good news is that they are staying in Wake County and there still is the mutual support for the University.

96. Their original limitation of size was important. You have to think how big do you want any owner to be and how big do you want any tenant to be. It is an asset concentration question. Be sure that you know how big you want that tenant to get and they know how big you want them to get. They started with the square footage percentage and now it's gone to a percentage figure.

97. In terms of mix of tenants, now, they get tenants focused on more the core technologies of the University. You see tenants that have more of an interest for the College of Engineering. They see a lot more big companies looking to place components of their organizations there. Earlier on they had more startup activity. They have an incubator and always have had an incubator. An incubator they have right now is space for only one to two people. They have ten small wet labs.

98. You need to ask the question what are we good at (what do those experts look like). Who do they want to collaborate with. Who do they aspire to collaborate with. There was really no one true policy.

99. In the new library they are doing a center for nonprofits, center for emerging issues (Emerging Issues Institute).

100. Keep your mind on the makeup of the students as well. Are the students from ten years ago the same students today. Social network issues and have a dialogue with each other and how they engage each other. For example, there is a study about how people use handhelds and how it is changing their lives. You just can't focus on what your faculty brings to the table you have to focus on your students and let your students guide you, as they will be the one creating the businesses.
NOTES FROM UNC CHARLOTTE
MILLENNIAL CAMPUS MEETING
February 29, 2012

Those present:

1. Gail King - Charlotte Research Institute, Business Office Manager
2. Dr. Larry Burke - Associate Director
3. Bob Wilhelm

Members of the WCU Millennial Initiative Committee:

1. Ms. Joan MacNeill
2. Mr. Clifton Metcalf
3. Mr. Jack Cecil
4. Mr. Steve Warren
5. Mr. Phil Drake
6. Dr. Susan Jenkins
7. Mr. Ed Broadwell
8. Dr. Teck Penland

1. Mr. Wilhelm indicated that he had been on campus since 1993.

2. They have looked for a lot of different ways to be connected to their students and constituents around the region. They offer courses in satellite locations. In the last few years or so they have been looking for ways to build infrastructure in the center of Charlotte. They have built a 90,000 square foot building, that is about 75 yards away from the light rail line that runs through Charlotte. The current plan is for the light rail to be extended up to the University to run right by the campus. And where the student slept in dorms, they are looking for a way to connect the center of city presence which has a very vibrant night life. They envisage that as the rail line develops there will be a development corridor from the center of city up to the campus now existing.

3. They do have a team of people doing work at the Murdoch Research Institute.

4. They do have the Millennial Campus at UNC Charlotte, but it is also very closely connected to the main campus as well. While the geography of WCU may be further you probably do have areas of interest in other regional areas such as Asheville or Hickory.

5. They currently have about 2400 acres.

6. They hold themselves out as being the University for Technology and the business partnerships. There has been a lot more focus on applied science and engineering.
7. There are currently about 25,500 students now. They have slowed their growth in the last couple of years. They have over 80,000 alumni, most of which are located near the Charlotte area. They have added 19 PhD programs just recently. They currently do about $30 million in expenditures and research and the goal for the next five years is to do $50 million. Some of their partner in health research is the Carolinas Health Care System.

8. The Charlotte Research Institute was accredited in 2000. There were various goals set at the time, some having to do with education, some having to do with transportation. A key goal was UNC Charlotte stepping up as a research university to help the region. The community stepped up with cash - the Duke Energy Foundation made a $10 million endowment in 2000 to support activities in terms of growing the research enterprise. Wachovia made a similar type investment and they saw that kind of support from the community. They had some very outstanding prominent community members serving on the Board of the Charlotte Research Institute to help develop strong support from the community.

9. At the beginning they got support from McKenzie who did a pro bono study and helped them work through the focused areas in terms of technology and science areas. At the beginning their effort was to focus on informatics, precision metrology, manufacturing. See the object was to ______ our research enterprise at Charlotte to serve the economy in terms of the knowledge workers seeking jobs.

10. The second thing that happened was the formation of the Charlotte Research Institute as the umbrella organization on this campus to focus the effort. The third part was the activity to make use of the Millennial Campus Act and to identify a parcel of land they would work from. This all happened in fairly short order in the early 2000's

11. Beth Hardin, who is now the Vice-Chancellor for Business Affairs was at that point in time the senior leader of the University and led a lot of the early work to form the Charlotte Research Institute to get Millennial Campus designation.


13. They got a lot of partners along the way. The Economic Development Agency being one.

14. Millennial Campus for them is in two pieces. One piece is about 84 acres which has been designated thus far. They also have a corridor about 20 acres that is designated on the interior of the campus. By and large these are the buildings where they are doing applied research. They are doing various types of engineering in these buildings and chemistry. They also plan to build an education college and also their health and human services college. They anticipate designating other areas of the campus in the future.

15. The first proposal included 84 acres in one area and 16 acres in another area.

16. There are a number of __________ that are on the campus.
17. All of their buildings so far have been through some kind of state secured funding. They have built a number of the buildings with the bond. They have had direct appropriations from the Legislature for example for bioinformatics. With the Portal Building they have just completed issue of bonds - they have had $140 million bond issue and about $7 million of that is going to cover construction of the Portal Building and they will service that debt some amount from their endowment or foundation funds and combined with a extremely ________ F&A receipts from the federal research grants. They charge about 48% for on-site and 26% for off site in terms of F&A. They renegotiate that over time with the federal government.

18. Energy production infrastructure is a big deal in Charlotte and they are making a much bigger investment across the community and University with the Charlotte Research Institute and Millennial Campus. Also, bioinformatics is a big area for them. They have hired more than a dozen faculty into the department of bioinformatics and they have a team at the North Carolina Research Campus in Kannapolis. They have invested a lot in systems biology and computational biology will be like semiconductors and computer chips were 50 years ago.

19. At this point Mr. Cliff Cameron and Mr. Olin Smith visited with the Committee and shared their experiences and recollections over the development of the UNC Charlotte Research Institute.

20. There has been some discussions about siting an osteopathic school of medicine in Kannapolis but not much has come of that. It was done to the pharmaceutical industry and Charlotte is pretty small. However, at Charlotte there are more than fifty companies making medical devices.

21. They look for various ways to engage with the community whether it be cultural, social or economic. The economic area is a big part of what they are focusing on. Energy production was a strong driver of economic development in North Carolina and in the Charlotte region. In the 1920's and 1930's. In the last century there was a resurgence of the power industry through the 50's, 60's and 70's. There was more effort to build a larger aggregate and even nuclear energy. This sort of went dormant for awhile. Now, over the last ten years, as the national energy agenda has become a lot more focused, Charlotte has been a natural place for business activity to be aggregated. So the nuclear design activity that was Duke's eventually got sold and is now a very significant part of a French company called AREVA and they have a big footprint in Charlotte. Shaw is also in Charlotte as in Asheville Engineering Services Company. ________ Duke Energy and Progress brought a different dynamic in terms of attracting more concentrations into the region. They have developed a very focused mesh in terms of the energy initiative, both through providing technology support and through advanced research and technology for the companies in the region and to develop economic and energy security. They spend a lot of time with these companies asking them what they need for new or younger engineers as they come into the workforce. They continue to tailor their curriculum in engineering to meet those needs. They have done the same thing in the financial industry.

22. They have the energy production infrastructure setup (_____) was formed in response to the need for them to supply highly trained engineers. They have got specific funding from the Legislature for this and have funded professor positions out of this.
23. One approach in terms of how they structure their research programs is that they are typically invested in what they think of as research platforms. So for many years they have had a platform in manufacturing metrology, informatics, over the course of decades these platforms have been directed at different kinds of industries and economic sectors and now they are starting to see some crossover through the Epic enterprise. They have a large scale energy manufacturing laboratory on campus and they work directly in the facilities of Siemens inside of Charlotte.

24. Mr. Cecil indicated that we have the National Climactic Data Center in Asheville which is a repository of weather information and there would have to be some type of intersection with the University and that resource. While the Charlotte Research Institute does look at some climate modeling.

25. Charlotte looks at moving ideas to innovation. The campus has been engaged in the region since it started. They have had a business incubator, the Ben Craig Center for more than 25 years. (Information on this can be found at "www.bencraigcenter.com." The incubator program at the Ben Craig Center provides office space, advisory service and access to a network of business leaders. There have been about 125 companies at the Ben Craig Center.

26. Their goal for them is to have two successful startups a year in the incubator program. They are thinking more along the lines of what they need to scale up to serve the business community with their strategic planning with the incubator is drawing people there to get the work done - senior business leaders around the region to mentor these people. They want to define their effort more on the lines of venture products and a regional effort. They want to engage all the other partners that are doing this kind of work so they have more of a regional approach in terms of business startups. They want to make sure the community leaders understand the best ways they can help us. There are a lot of ideas floating around - they want to settle on a few ideas and get people moving in the same direction. They are willing to supply us with more background material on these efforts just on common issues, funding, financing, will identify the best opportunities for business correctly.¹

27. In terms of illustrative planning effort is to come up with a broader approach to this. They have a broader umbrella organization for their partners to participate in. The business competition is now broader but they have different ways of connecting with companies in the region.

28. While they want to serve the region there is a lot in it for UNC Charlotte. In terms of how it impacts UNC Charlotte they have a certificate program involving both graduates and undergraduates. Michael Crotat at Arizona State is also running a certificate program and doing up to 2,000 a year. They are trying to draw in community partners and entrepreneurs to come to Charlotte. They are also bringing a secure facility to support the classified research they do. They are the only campus that has a facility security clearance.

¹ Email them and ask them to get a copy of their current Strategic Plan.
29. Through their efforts they are trying to attract the best faculty they can and entice them to work with companies. They treat this as a strength. The Millennial Campus is core to the mission of the University - not something to the side. The stuff that goes on in the buildings of Millennial Campus is the same kind of stuff that will go on in some parts of the rest of the campus.

30. They have business offices in the same buildings as they do the academic offices. They spread it around the campus with the hopes that it becomes a virus.

31. They talk to the Chamber of Commerce as often as they can. They also talk to the U.S. Economic Development Agency for the U.S. Department of Commerce, Charlotte Regional Partnership.

32. Olin Smith then spoke about the development of the University Research Park. It really got started around 1966. There was not much in the area at the time. IBM was the biggest coup that resulted in bringing people in the park. This was an organization that bought farmland and put the roads in and attracted these national firms. The idea they had was that they would bring the faculty and they would have an idea. They would then bring in an incubator. Thus, this was the first Ben Craig Center. Now the Ben Craig Center is to date 50,000 square feet. There was always a lot of overlap between the Research Park, The University of Charlotte, with members being on the Board of Trustees and even on the Board of Governors. They want to give faculty members an opportunity to work in the business incubator.

33. There came a point where they put their land in University endowment. This has helped them to avoid local taxes. Now you don't have to do that because of the tax benefits of the Centennial Campus. They do have covenants now which endure the development is compatible.

34. They did put in a couple of day care centers to help with child care issues in the park. It was very successful. Over time day care is an up and down proposition. They have now closed one of the day care centers. You can think of these type of amenities when you develop the property.

35. The business charter they had, within that charter, to support the University of North Carolina at Charlotte. However, they were not an affiliated entity of the University. The park itself is at 501 (see where this is) organization. This is different from the ______ foundation as a 501C3.

36. They now have a Hilton Hotel in the area, some retail development, some condominiums (all within the Research Park). They did pick two outstanding builders and it wasn't long before that it was up and running.

37. Barry Burns then spoke about the business plan competition they have held in the last ten years. Applications were expected to exceed 50. Last year, one of the participants that made it to the finals was a student, in the student category, was from Western Carolina, who developed an app called "Cullowhere." You could ask the application a question and find out
what was going on in Cullowhee, who's having specials, what events were going on - they ended up winning the People's Choice Award. It was Frank Lockwood leading the Entrepreneurship Program at Western and he had a wonderful experience in the competition. In this competition, business leaders from Charlotte volunteer to coach the teams.

38. They are engaged with companies in the Research Park. The Charlotte Research Institute reaches out to companies that they don't have relationships with to get them on campus. ________get enough people on campus to see the new facilities that they have and hear about the research they have going on, meet the faculty, that they will get them hooked.

39. They do have "meet and greets" for companies to come in and hear what they have to say. Through that they build relationships. Marketing and partnership building is a contact sport.

40. Centennial at NC State is one model. NC State has over 1,000 acres and it is pretty much real estate organization.

41. The dominant model for NC State is a long term ground lease and let the company build the building. That is not how NC Charlotte has done it. That is not to say they won't do it that way in the future but they just haven't evolved that way. They started out by finding space right beside the faculty member - where they could share a lab with faculty and students. They now build buildings intentionally building space with partners in mind. They set aside two suites of offices. That's very attractive space with windows and carpet and these suites are for the business partners.

42. With regard to the Portal Building, Bank of America came to them and said we want to go through an internship. We'll start with 50 students and go up to 200 students. We'd like for you to find a space on campus. We want to have a building where we have a bull pen and a trading environment, and a couple of our folks will be there to do the supervising. The Portal Building ________into bringing in anchor tenants on campus like the Bank of America. Right now the students have to go off campus to participate in an internship program. The Portal Building also allows them to bring the Ben Craig Center on campus.

43. They provided to us documents regarding space use agreements and other form documents they use.

44. They have had companies that wanted to come in and actually build the Portal Building with private financing. However, the Chancellor didn't want to give up control of the land.

45. With their secure facility they now have an opportunity to host governmental meetings that need classified facilities, so they now have the capacity to host companies doing classified research.

46. They work closely with the Chamber of Commerce in Charlotte in international business development. They maintain very close contact with them.
47. They have seen a lot of opportunities where businesses want to come in and pay for the opportunity to use some of the state of the art equipment to develop a product.

48. They have a model established for the National Science Foundation and with the Industry University collaborate with the Research Center - established by the National Science Foundation. Companies pay a membership fee and pool their resources, currently has 16 companies and a center for precision metrology at $35,000 a year and they decide as a group what research will be performed and what results will be shared. If they have something more to fund that's proprietary, they do that in addition to what they fund through the membership. This is a great opportunity for the students because they work with this company for a couple of years and the company gets to see their work and virtually every one of these students get hired.

49. Dr. Penland asked how critical is the mix of businesses that they bring in to the campus and do you have a decision making process about what businesses to bring in. The answer was they spend a lot of time meeting with business folks and understanding what their objectives are. They have industries that overlap with their areas of competency. They want to do a few things very well.

50. They evaluate on criteria. There is a document operating model that the companies have to assess and have to buy into.

51. The Epic Center has _______ as many energy companies as they can at the same time. They have two levels of steering or advisory committees within the companies.

52. With the smaller companies they have some particular criteria about what they are looking for - that should maybe in our package when we are looking for companies doing research and development. Have an ongoing relationship or have a potential of having an ongoing relationship as an R&D partner with the faculty. They are not in the real estate business per se. They want companies that want to collaborate with the faculty.

53. Because they state up front what they're looking for the companies tend to be more self selecting in terms of applications.

54. Gail will be an excellent person to discuss what the processes used. She does a good job of managing the real estate transaction and providing high level customer service to the companies. In this kind of interaction, they have gone a long, long time without any payment in arrears.

55. Dr. Penland asked whether or not there was a special admission process for students. The answer was yes. For example, with the Bank of America, it was a joint effort to determine what they were looking for and for the University to work with them to identify candidates and schedule the interviews.
NOTES FROM WESTERN CAROLINA UNIVERSITY
FACULTY / STAFF / STUDENT FORUM
16 March 2012
Blue Ridge Hall Conference Room A
12:00 noon to 1:30 p.m

Committee Members in Attendance:

Mr. Steve Warren
Ms. Joan MacNeill
Dr. Louis Buck
Dr. Susan Jenkins
Ms. Dianne Lynch

1. Mr. Warren presented an overview of the work of the Committee to date. Mr. Warren stated that the Committee was very interested in the input from the University family / faculty / staff / students. One thing that has been apparent from the Committee's work to date is that it is very critical that faculty, and the rest of the University family, be an integral component to the development of the Millennial Campus.

2. Mr. Warren indicated that the community was interested in input from the University family on what Western Carolina University's core competencies were.

3. During the course of the meeting the following core competencies were suggested:

1) The nursing program;
2) Forensics
3) Health sciences
4) The Western Way - strong academic ties
5) Education
6) Recreation management (sports management)

4. Dr. Gurney Chambers indicated that Health and Human Sciences was a core competency, especially given the fact that the health industry constitutes the single largest employer in the region.

5. It was noted that Western Carolina's 20/20 Commission is also doing work on the Western Carolina Mission Statement, and our Committee should be mindful of that as we continue our work. (The website for the 20/20 Commission is: "www.wcu.edu/27337.asp".

6. It was also commented that the Strategic Planning Commission should be mindful of the Western Carolina University Quality Enhancement Plan (the WCU - QEP can be viewed at: "www.wcu.edu/12286.asp".)
7. It was commented that the Park & Recs Management Program has a close relationship to tourism in the area. In addition, there may be strategic alliances with the Nantahala Outdoor Center.

8. It was noted that as we move forward with the work of the Millennial Initiative that we be mindful of infrastructure issues. For example, a cell phone repeater is having to be installed at the new Health and Human Sciences Building in order to have decent cell service.

9. As we view what business opportunities might exist it would be helpful to think of the three legged stool of: 1) Engineering Technology, 2) Service Sector, and 3) Preservation.

10. Dr. Scott Higgins indicated that the University world has changed in some degree as we are not chasing grants anymore. We need to be mindful of opportunities of corporate capital and collaboration.

11. Comments were made that it would be useful to have a permanent committee in place to evaluate potential private/public partnerships. Each academic department should be evaluated for potential inclusion.

12. A suggestion was made that a business conference center on the Millennial Campus would be an extraordinarily useful building. This would assist Western Carolina in terms of developing the hospitality and tourism linkages, elderly services, and certified programs. There simply isn't a place in Western North Carolina for this type of meeting space at this point.

13. If we place incubators on the Millennial Campus we need to be sensitive to funding issues.

14. In terms of the development of the Millennial Campus, we need to be mindful of pedestrian movement.

15. As the Millennial Campus is developed, as part of the larger University, there is a need for child care and we need to be mindful of that as we think strategically about the development of the Millennial Campus. There may be partnerships to be had in terms of linkages with University programs.

16. A discussion was had with regard to the development of a town center and the impact that that may have on local businesses. A process should be in place to allow for transparent consideration of issues related to the development of the town center and its relationship to local businesses.

17. As the Millennial Campus is developed, it is important that Western Carolina think of sustaining the culture of Western Carolina. The traditions of Western Carolina should be continued. For example, there are various plaques on buildings now commemorating certain sites on campus - we need to have a consistent sustainability of these types of cultures as the Millennial Initiative is developed.
18. In terms of the town center, a student commented that Western Carolina needs to attract and offer businesses that would meet needs that right now just aren't being met. For example, there are no restaurants like a "cookout" that allow students on the weekends to go visit and enjoy.

19. The comment was made that as the Millennial Initiative is developed that we be mindful that we are dealing with a new kind of student - this is the Facebook generation which presents a real opportunity to advertise the features of the Millennial Campus.
<table>
<thead>
<tr>
<th>NC State University</th>
<th>Work-Live-Play</th>
<th>25 Years in the making</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic/University</strong></td>
<td><strong>Centennial Campus (CC)</strong></td>
<td><strong>Business Sector</strong></td>
</tr>
<tr>
<td>- Faculty – subject matter expertise</td>
<td>Integrated Model</td>
<td>Partnerships are essential and if it does not occur then businesses can be asked to leave</td>
</tr>
<tr>
<td>- Students – undergrads and graduate</td>
<td>Faculty/Student/Business</td>
<td></td>
</tr>
<tr>
<td>- Specialized facilities such as wet labs</td>
<td>Need Principles/Criteria for tenants and partnerships</td>
<td>Need an anchor tenant</td>
</tr>
<tr>
<td>- Engaging faculty is more adhoc</td>
<td>Areas of focus:</td>
<td></td>
</tr>
<tr>
<td>- Faculty is key to the success but must constantly help faculty understand this opportunity</td>
<td>- Health/well-being</td>
<td></td>
</tr>
<tr>
<td>- Education and research of Univ. drives development</td>
<td>- Safety and security</td>
<td></td>
</tr>
<tr>
<td>- Univ is still trying to train faculty to be more entrepreneurial</td>
<td>- Education IT</td>
<td></td>
</tr>
<tr>
<td>- Core competencies in education &amp; research are reviewed periodically by Univ so there is alignment with the CC work</td>
<td>- Energy &amp; environment</td>
<td></td>
</tr>
<tr>
<td>- A large part of the research focus depends on federal funding areas</td>
<td>Cross cutting Areas:</td>
<td></td>
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<tr>
<td></td>
<td>- Manufacturing processes</td>
<td></td>
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<tr>
<td></td>
<td>- Information technology</td>
<td></td>
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<tr>
<td></td>
<td>- Analytics</td>
<td></td>
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<tr>
<td></td>
<td>- Leadership</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Newer Interests that has federal funding:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Transportation, Cyber security</td>
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</tbody>
</table>

**Results from last few years**

<table>
<thead>
<tr>
<th>NC State University</th>
<th>Work-Live-Play</th>
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</thead>
<tbody>
<tr>
<td><strong>Academic/University</strong></td>
<td><strong>Centennial Campus (CC)</strong></td>
<td><strong>Business Sector</strong></td>
</tr>
<tr>
<td>- Better at work than the living part, however a 1200 Unit Student Housing is planned</td>
<td>Virtual Centennial Campus</td>
<td>Having students involved with the work of the business can be a feeder system for businesses</td>
</tr>
<tr>
<td>- Academic units most involved is engineering and the college is moving to the CC</td>
<td></td>
<td>NC State engineering students are getting jobs after working on business projects</td>
</tr>
<tr>
<td>- A town center is planned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Partnership on and off CC have been fruitful.</td>
<td>Moving toward a remote control lab and cloud computing will encourage more off-campus opportunities</td>
<td></td>
</tr>
<tr>
<td>- Partnership with IBM is an example of an off-campus project that is virtual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Not many nonprofits on CC</td>
<td>Difficult to get nonprofits on CC</td>
<td>Nonprofits cannot afford the rent and assessments</td>
</tr>
<tr>
<td>- Do have nonprofit events like fun runs and community events</td>
<td></td>
<td>Gov. Hunt Library is being built on CC</td>
</tr>
</tbody>
</table>

**Key Question**

What is the “win-win” for both the University and Business Community?

Taking research to the market place or knowledge transfer
<table>
<thead>
<tr>
<th>Academic/University</th>
<th>Centennial Campus (CC)</th>
<th>Business Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Used consultants for all planning</td>
<td>Planning and Infrastructure Development</td>
<td>Categories of Ownership</td>
</tr>
<tr>
<td>• Did not use faculty or student expertise in actual planning – land, building,</td>
<td>The CC believes it is good for the University then it is good for the community</td>
<td>• Appropriated buildings (College of Textiles)</td>
</tr>
<tr>
<td>infrastructure, policies</td>
<td></td>
<td>• Leasable building which NC State has financed</td>
</tr>
<tr>
<td>• Each project pays an assessment – state-owned, third party building</td>
<td></td>
<td>• Third part leased buildings</td>
</tr>
<tr>
<td>• Sometimes the fees are paid up front or built into the ground lease</td>
<td></td>
<td>Mix of tenants:</td>
</tr>
<tr>
<td>• All leased resources are reinvested into the campus</td>
<td></td>
<td>• Focused on core technology of University</td>
</tr>
<tr>
<td>• Intellectual Property- have developed a master research agreements</td>
<td></td>
<td>• Big companies – they tend to place satellite research labs on to the CC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Early – start-ups and incubators – small staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CC has 10 small wet labs</td>
</tr>
<tr>
<td>• Development of CC started out with people having other jobs during the day</td>
<td>Investment of Private Sector, University and State of North Carolina</td>
<td>• 90% occupancy rate</td>
</tr>
<tr>
<td>• Eventually they moved to having a separate office for Development and Partnership</td>
<td></td>
<td>Partnership Breakdown</td>
</tr>
<tr>
<td>because the work is different but complementary</td>
<td></td>
<td>• Industry - 75%</td>
</tr>
<tr>
<td>• Needed help with land planning, infrastructure and traffic planning with the city</td>
<td></td>
<td>• Govt. - 16%</td>
</tr>
<tr>
<td>of Raleigh</td>
<td></td>
<td>• Nonprofit - 9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engagement Rate - 95%</td>
</tr>
<tr>
<td>• Work closely with the N.C. Dept. of Commerce for business that might be suitable</td>
<td>Need to work with Economic Development entities – at first they did not see the</td>
<td>• CC recently co-hosted an Innovation Summit with the area Chamber of Commerce</td>
</tr>
<tr>
<td></td>
<td>value and the work of the CC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open communications between/among the CC and area groups is important in building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>trust for the work of the CC</td>
<td></td>
</tr>
<tr>
<td>UNC – Chapel Hill</td>
<td>Town of Chapel Hill</td>
<td>Carolina North</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Academic/University</strong></td>
<td><strong>Community</strong></td>
<td><strong>Millennial Campus</strong></td>
</tr>
<tr>
<td>• Leadership Advisory Committee formed in 2006</td>
<td>• Public workshops held &amp; goals &amp; obj. developed with Town of Chapel Hill (Town)</td>
<td>• Academic Research Campus</td>
</tr>
<tr>
<td>• Univ. Carolina North Technical Workshops focused on Land use of area</td>
<td>• Town and Univ. meeting agreed upon a 20 yr. plan</td>
<td>• Provides space for campus growth</td>
</tr>
<tr>
<td>• Univ. meeting community - 2007</td>
<td>• Agreement between Univ. and Town resulted in Development Plan the defines rights and obligations for each party – 2009</td>
<td>• Carolina North Plan – approved by Bd of Trustees – 2007</td>
</tr>
<tr>
<td>• Univ. engaged community</td>
<td></td>
<td>• Design guidelines approved by Bd of Trustees - 2008</td>
</tr>
<tr>
<td>• Faculty engagement has waned due to the length of getting underway</td>
<td></td>
<td>• Partnership have changed</td>
</tr>
</tbody>
</table>

**Future Plans**

<table>
<thead>
<tr>
<th>Carolina North will be a model of sustainable comm. that will respond to</th>
<th>Community is dealing with issues of:</th>
<th>First building on campus will be School of Public Health, part of Medical School &amp; Life Sciences</th>
<th>Possible outside partnerships with:</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Climate and solar orientation</td>
<td>o Growth</td>
<td>o Law School</td>
<td>o Life Sciences</td>
</tr>
<tr>
<td>o Respect for natural setting, habitat, water, energy, transportation</td>
<td>o Envir. sustainability</td>
<td>o Research Building</td>
<td>o Medical Devices</td>
</tr>
<tr>
<td>o Transportation</td>
<td>o Transportation</td>
<td>o Housing</td>
<td></td>
</tr>
</tbody>
</table>

**Key Question**

What are the intersections for the different academic units where collaboration can occur?
<table>
<thead>
<tr>
<th>UNC - Charlotte</th>
<th>Moving Ideas to Innovation</th>
<th>10 Years in the Making</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic/University</strong></td>
<td><strong>Charlotte Research Institute (CRI)</strong></td>
<td><strong>Business Sector</strong></td>
</tr>
</tbody>
</table>
| • UNC-C is the research Univ. for the Charlotte area, esp. in area of applied science & engineering. | • Built on strong research history of 30 yrs. of University Park/Center  
  o First recruited IBM & other national firms  
  o Ben Craig Business Incubator helped with start-ups | • Chamber, economic development entities, city, region and national firms have relied on UNC-C for years via the Research Park and Incubator |
| • UNC-C original research focus:  
  o Optoelectronics  
  o Informatics, Visual Analytics & Internet Technology  
  o Precision Metrology | • Newer Research Initiatives:  
  o Energy Production and Infrastructure  
  o Bioinformatics – Genome  
  o Nanoscale Science  
  o Biomedical Engineering System  
  o Translational Med Research, esp. Cancer Research  
  o Motor Sport and Automotive Engineering  
  o Infrastructure, Design, Environmental & Sustainability | • Major Economic Focus in Charlotte area:  
  o Energy Environmental  
  o Defense & Security  
  o Life Science & Medical  
  o Financial Initiatives  
  o Video/TV  
  o Motorsports |
| • Faculty Teams collaborate, for example  
  o Bioengineer  
  o Biologist  
  o Medical researchers | • Energy Production Infrastructure Center (EPIC) - this has led to building labs and office space for established companies to increase collaboration.  
  • Mission of EPIC:  
    o Produce Technology workforce  
    o Advance Research and Technology  
    o Create Strategic Industries for University Research  
    o Develop Carolina Economic and Energy Security | • Major business entities came together with CRI developing an Advantage Carolina Planning Process with the Mission of:  
  o Connect Research with Business  
  o Market Results and Partnerships  
  o Access to Millennial Campus  
  o Grow UNC-C Research  
  o Seed funding for Industry Partnerships |
<p>| • Univ. initially invested in specific research platforms such as energy that now has emerged into the EPIC Center | | • Charlotte has emerged as energy engineering stronghold with more than 200 specific “power cluster” firms |</p>
<table>
<thead>
<tr>
<th>Academic/University</th>
<th>Charlotte Research Institute (CRI)</th>
<th>Business Sector</th>
</tr>
</thead>
</table>
| **Results from last few years** | **Initial research platforms now form CRI Centers:**  
  - Center for Optoelectronics & Optical Communications (Griggs Hall)  
  - Center for Precision Metrology (Duke Centennial Hall)  
  - Bioinformatics and Genomics Center | **UNC-C receives around $30 million a year for research but wants to expand this to over $50 million a year.** |
|  - CRI works throughout campus not just in one or two areas | **New PORTAL Building (Partnership, Outreach and Research to Accelerate Learning) will focus on university, industry with emphasis on research, business growth and job creation. A space for industry partners with internships for students, faculty & specialized facilities. In the PORTAL building will be:**  
  - Ben Craig Center for Incubator services for entrepreneurship & business start-ups.  
  - Secure Classified Infrastructure facilities for defense and security projects | **Charlotte region receives over $200 million a year for research and much goes to the work of the Research Park & CRI.** |
|  - The area has an upscale hotel, retail development and condominiums, plus day care centers for workers at the Research Park and CRI | **Companies pay a membership fee for using the precision equipment and member businesses decide what research is done and how shared. Anything more is funded by the company and is proprietary.** | |
|  - CRI allows for Univ. to offer  
  - Experiential learning for students  
  - Faculty recruitment is enhanced  
  - Univ. collaborates with business | **CRI offers smaller space for businesses than Centennial Campus** | |
|  - CRI is looking for companies that want to collaborate with faculty vs. being a place where business can find a place to locate. | **CRI wants to build partnerships via the space by sharing a lab with the business with faculty and student input** | |
| | **CRI has satellite areas in the Center City of Charlotte and the NC Research Park in Kannapolis** | |

**Major Question**

*How can the CRI strengthen the regional economy in the next decade?*
Millennial Initiative Select Committee

23 March 2012

9am – 12 noon

Chancellor's Board Room – 5th Floor HFR Admin. Building

Agenda

I. 9:00 am
   a. Call to Order
   b. Overview of Today's Meeting

II> 9:05 am – 10:05 am

Mr. Tom McClure – Director, Office of Regional Affairs

History of Potential Partnership Interest in Development of the WCU Millennial Campus

II. 10:05am – 12 Noon

A) What We Have Learned Thus Far – Common Elements of Millennial Initiative Success

B) Areas of Inquiry that Need More Followup
   1) Attached is WCU Agenda Issues for Other Millennial Campuses

C) The Chancellor's Charge and the Final Report
   1. Identifying Strategic Uses and Objectives for the Millennial Initiative
   2. Recommendation of Institutional Process
   3. Long and Short Term Goals with Metrics

D) Future Meeting Times and Objectives
Millennial Initiative
Building Western North Carolina Together

Firms of interest in the Millennial Initiative

SORA HOLDINGS, LLC
LAT PURSER & ASSOCIATES
FAIRMONT PROPERTIES
RCG
OCKHAM
GRUBB PROPERTIES
NOVA
SKANSKA
SUNBELT CAPITAL
BALFOUR BEATY CAMPUS SOLUTIONS
CHINQUAPIN DEVELOPERS
MCMILLAN-PAZDAN-SMITH GROUP
PPDI – PHARMACEUTICAL PRODUCT DEVELOPMENT INC.
BCD – BATSON COOK DEVELOPMENT COMPANY
THE SHOPPING CENTER GROUP

RFQ RESPONSES
COLONY DEVELOPMENT PARTNERS
NEX CORE GROUP
KDC REAL ESTATE DEVELOPMENT AND INVESTMENTS
BREMNER DRAKE
COGDILL + ERDMAN
SPENCER
MATRIX REAL ESTATE SERVICE, LLC
NICHOLS LAND DEVELOPMENT

Source: Appalachian Regional Commission.
Unique Biodiversity
Southern Appalachia Region
Botanicals Production
Botanicals for Medicine
Production, Processing

WCU Faculty
Marketing
Research
Testing

Partners
Private Industry
Mission Hospitals
Med-West – Carolinas Health System
The NC Arboretum
  Bent Creek
Highlands Biological Station
Appalachian Regional Commission
US Economic Development Administration
NC Biotechnology Center
EBCI
Private Universities
Huge Economic Development Potential

Western NC  
Southwest VA  
East Tennessee  
Northeast GA  
Upstate SC

Continue to define WNC as place for CAM

Building on Thousand Year Tradition

Define WCU as the University of Southern Appalachia

Catalyst for Harnessing Academic Institutions
Define the Millennial Initiative as a Southern Appalachia Initiative

Potential for Cluster Development

Integrative, Complementary, and Alternative Medicine
MINUTES OF THE SELECT COMMITTEE
ON THE MILLENNIAL INITIATIVE OF
WESTERN CAROLINA UNIVERSITY

March 23, 2012

THOSE PRESENT

Ms. Dianne Lynch
Mr. Ed Broadwell
Mr. Phil Drake
Dr. Louis Buck
Dr. Susan Jenkins
Ms. Joan MacNeill
Chair Steve Warren

Mr. Warren called the meeting to order.

Mr. Warren then called upon Mr. Tom McClure to brief the Committee on his
experience in development of the Millennial Campus and apprise the Committee as to those
entities that have expressed interest in participating in a private/public partnership with the
University.

SORA Holdings was the first firm to come to campus that expressed an interest.
They made a presentation. Traditionally, WCU had a team made up of the Vice Chancellor of
Financial Affairs, Legal Affairs, Dianne Lynch and Tom McClure to meet with any entity
expressing an interest. In this instance Chancellor Bardo met with Sora. They were interested in
developing the town center. SORA is headquartered in Maryland and they were doing a project
in Rowan College in New Jersey. Tom does not know where that project is at this point. They
came several times and were very serious about the town center. However, at that time it was
decided the best thing to do was to pull back because of the alcohol issue. To develop the town
center, whether you agree with it or not, alcohol is an issue. When Tom did an RFI last April to
see if any developers would be interested in developing the town center SORA immediately
responded as well as others.

As far as the town center is concerned, they have shown the property near the
Outreach Center. All of that is in a flood plain which creates a problem.

Lat Purser & Associates from Charlotte. They are interested in being a part of
developing the Millennial Campus, but not the lead developer. They have very good relationship
with Harris Teeter. Lat Purser indicated Harris Teeter has a neighborhood model grocery store
they thought would be an excellent fit here. However, they would not be able/willing to come in
with a straight ground lease. There would have to be some type of creative financial
arrangement: perhaps nothing much up front and then as the revenues build they would share the
revenues with WCU. WCU would probably need to get some type of permission from the
legislature to do this.
Fairmont Properties. When Tom did the RFI last April they responded, not with a proposal but with a letter and a phone call. They are in Cleveland, Ohio - they have ten or twelve years experience working with Universities with town center type developments. If we move ahead, that is one of the firms we should pursue. They have been very interested and have followed up a couple of times with phone calls to see where we were and definitely want to be included in any RFQ that might be published.

RCG is a local firm headquartered in Massachusetts with an office in Brevard. They were more interested in acquiring the commercial strip in the middle of campus and redeveloping that. Their area of focus is more in redevelopment. They also are interested in purchasing our steam plant and doing cogeneration of electricity and selling steam back to the University. Tom shifted that off to the physical facilities and did not know what happened to that.

Ockham is a company that has visited WCU. Discussions were about the possibility of a level one contract research organization being on the Millennial Campus in the health neighborhood. They have expressed some interest and we need to follow up on that.

Grubb Properties is a developer of properties with whom we are working to develop the public/private office building in the health neighborhood. That started out with an RFQ in November of 2009 to develop a private multi-tenant medical office building. Medwest has committed to 20,000 feet in that building. MAHEC had tentatively committed to 10,000 square feet. They got behind with that when the economy went south. We are going back to MAHEC soon, and begin to have some more discussions with the new CEO of that organization about square footage in that building. It is more strategic for WCU to define what we want in the building rather than the developer just putting things they want in there. They also have two complementary medicine providers that are interested in space. CarePartners also has had some discussions about having space in the building for prosthetics and orthotics.

There is Nova Southeastern University which we contacted about 18 months ago to see what level of interest it would have in having health partnership on the Millennial Campus with their College of Osteopathic Medicine. They were very interested. WCU has gone to their headquarters and they have come here. Just in the last couple of days the Chancellor and Tom had conversations about Nova. Nova is very interested in pursuing a dialogue with Western to locate a satellite campus for their College of Osteopathic Medicine and Optometry.

Dr. Buck raised a question about Chapel Hill's concern. Tom responded those would have to be discussed but felt there would be no competition with UNC Chapel Hill. Nor does he believe there was competition with Mission Hospital. One issue that would have to be resolved is rotation. Having a residential campus would be a huge asset for WCU and an engine for economic development. We have looked at 30 colleges of osteopathic medicine in the United States and found two that would be compatible with Western. One was North Texas and the other is Nova. Nova is the private institution. It is the seventh largest private institution in the United States. It is an excellent match. There are a lot of things Western is doing that is compatible. Dr. Jenkins raised a question about the cost associated with Nova and the school.
Nova has indicated they would give five seats to Cherokee students for a full scholarship. Secondly, this is a 501(c)(3) and we could lease to them for $1 a year and negotiate as part of that a reduced tuition rate for North Carolina residents or students transferring into Western Carolina University. Nova's tuition is probably $35,000 per year. They have about 28,000 or 29,000 students. They get 4,000 applications a year for medical school, and they take about 225 students. They envision 75 students for the first year and over a period of time going up to a full cohort of students. We believe the peripheral development around the school would be substantial. The peripheral development has been medical and research. For nonmedical WCU students - there would be all kinds of opportunities in the medical field because of things that would naturally come to the campus. Tom indicated he can do some more email to us about the type of peripheral development that could take place. Nova is a private nonprofit 501(c)(3) organization. It has been a very successful school. There is no college of osteopathic medicine in North Carolina - Campbell is in the process of putting one in. The advantage with Nova is they already have an international reputation and they have the infrastructure. There is no college of optometry in North Carolina. Nova wants to bring their College of Optometry starting with about ten students.

Skanska is a large international construction firm and consulting firm. They were more interested in working with WCU on a consulting basis. They have been to the campus several times. Dr. Buck has indicated he has worked with Skanska and they are a very high quality outfit.

Sunbelt Capital has developments and offices all over the south. Tom indicated he spent the morning with them last fall here on the campus. They have substantial access to institutional capital to finance ground leases, developments, and they have a division within their company that works with some private developers that would be interested in having a private school in the education neighborhood. Such a school would be a feeder school to WCU.

Balfour Beatty Campus Solutions is a company based in Dallas primarily doing housing for students but interested in visiting the campus at some point.

Chinquapin Developers out of Cashiers visited the campus re the MI but not big enough to be a player in the Town Center development.

McMillan-Pazdan-Smith Group has been on the campus several times. They have made presentations about the town center. We do not know if they have the experience for the town center development. They did the design for the Jackson County Library which is very nice.

PPDI-Pharmaceutical Product Development Inc is a corporation located in Wilmington, NC. They have had discussions about the possibility of putting in a branch of their company in their health neighborhood. Just about the time conversation started they were negotiating a sale to the Carlisle Group. Carlisle is now getting ready to go public so we do not know whether that one is still good or not. PPDI is a worldwide pharmaceutical company. They do clinical trials and testing worldwide.
Batson Cook Development Company came to campus about two months ago. They are interested in the town center but they are more interested in a retirement community in the health neighborhood.

Batson Cook and Fairmont Properties were the two we ought to pursue if we are interested in developing a town center.

Colony Development Partners built the 50,000 square foot medical office building located on the WestCare Campus and the developer with whom we originally engaged to develop the multi-tenant MOB in the Health Neighborhood of the MI. Colony sold to Grubb Properties with whom we are now negotiating for development of the MOB.

Western is located right in the heart of the Southern Appalachian Mountains. We have a unique biodiversity in the region. There is a tremendous opportunity related to that. Over the last two years the Appalachian region lost all of the jobs that were created here in the previous ten years. In the Appalachian region we have the world’s greatest biodiversity. There is a lot of interest in botanical medicine. Western North Carolina is the recognized place to come to for complementary and alternative medicine. WCU has faculty involved in marketing and research and testing at this point - we have potential partners in the private industry.

We are working with a company out of north Georgia that is a leader in the industry and very interested in working with Western. We are going to be presenting a proposal to the Chancellor on the 7th of April in this regard. Our partnership would be Mission Hospitals, MedWest, Carolinas Health System, and the North Carolina Arboretum.

Researchers of Bent Creek, Highlands Biological Station, Appalachian Regional Commission, would be very interested in this. We have the U.S. Economic Development Administration that would provide money for some buildings.

Mr. McClure, commented we would have to have discussions with the Chief about involvement with the Eastern Band. We know that the arboretum is involved with the Eastern Band. Dr. Jenkins indicated the reason she cautions us in this regard is for a long time the pharmaceutical companies all over the world have taken indigenous knowledge and used that in pharmaceuticals. That is really an issue. Dr. Jenkins indicated that the Eastern Band is trying to develop relationships which will take a long time. Dr. Jenkins said we have to be very careful about putting the Eastern Band down as a partner because of this issue Mr. McClure indicated we do not want the millennial campus to be limited to pharmaceuticals. We want this to be botanicals and natural medicines. Once a product becomes a “pharmaceutical” they come under a whole different set of guidelines and scrutiny, and we are very aware and sensitive to what is going on, especially with the Cherokee.

Dr. Buck gave an example, of Golden Seal not having to do the trials. Now, Botanica, which used to be Organa Farms, is looking for a place where they can do this kind of testing and perfecting to guarantee the quality of these natural products and what they need is lab space. They need wet lab space and the students to work in the labs. They want to make an
effort to try to standardize the quality of these natural products. The economic potential to this is phenomenal.

Mr. McClure indicated they were two months away from releasing a landmark study on the economic impact of complementary and alternative medicine in Western North Carolina. One of the professors in the business school is doing the study. This is a landmark study on complementary alternative medicine and the economic impact that is here and the potential for it in Western North Carolina. Western is well positioned to capitalize on this opportunity that has huge economic development potential in Western North Carolina, Southwest Virginia, East Tennessee, Northeast Georgia, and upstate South Carolina. This can be centered right here. It can be right on our Millennial Campus. There is an opportunity to define Western as the University of Southern Appalachia. There really is not a research university in Southern Appalachia. We could define the Millennial Initiative the Southern Appalachia Initiative. Mr. McClure indicated that the Vice President of GA several years ago recommended that WCU do this. It is a natural fit for the University.

Mr. McClure indicated that Western did a proposal last year to EDA, as they were looking to do funding 25-30 projects across the United States. It turned out to be more political than it was meritorious. We have letters of endorsement from the Mayor of Asheville, Chairman of the Buncombe County Commissioners, Chair of the North Carolina Society for Integrative Medicine - a number of suppliers and distributors of these products. So the support is out there, but Western just needs to get its arms around it and move forward.

Mr. McClure indicated that we really do not have a master plan in terms of what goes on the Millennial Campus. Mr. McClure indicated that right now it's basically him that has been in charge of looking at opportunities for the Millennial Campus. He uses a part time secretary. We do need a staff for the Millennial Campus if we're going to be serious about it. There just really hasn't been a focus there. The budget cuts have had a huge impact.

Ms. Lynch indicated that as we move forward on this, for example, with Nova, there has to be communications with President Ross and our other sister institutions, and that's just a practical acknowledgement of what has to happen.

A consensus is that we have to have someone who is in charge of and advocate for the Millennial Campus and you have to dedicate some reasonable expenditures to it. All the Millennial Campuses we have visited have had one person who would not let it go and who was dedicated to the development of that particular Millennial Campus.

Dr. Jenkins said that we should be aware of things that are so sensitive for the Cherokee tribe when it deals with alternative medicine. The implication is that the Cherokee Nation has been involved with this for many, many years. Also, there is an economic component to this. The Cherokee never talk about the economic issue. They don't care that this medication is sold anywhere else. This is part of their culture and there should be sensitivity to this fact as we talk about participating in the development of alternative medicines. She gave an illustration
of how a foreign corporation came and interviewed one of the elders, and now that interview is being advertised overseas.

Dr. Buck indicated that the tribe should be a partner - we want to do something with them, not do something to them. Ms. Lynch indicated that this culture of using alternative medicine extends beyond the Cherokee, and in fact we all have family members who used medicinal plants. It is in many ways part of our entire southern Appalachian heritage.

Dr. Buck indicated in terms of wealth creation there is an opportunity to create pharmaceutical products and retain the benefits of that development and we should not turn our back on this.

The other thing on the Millennial campus is we need infrastructure dollars. We probably need $5 million so that we can make the property across the street look presentable - so we are not taking them out in the woods. Ms. MacNeill indicated that while we were at UNC Charlotte, Jack Cecil brought in a couple of individuals who initially developed the idea that is now the UNC Millennial Campus. They needed roads. They had the right connections to get the roads put in.

Mr. McClure indicated in terms of infrastructure - we need some streets and roads into the property. In terms of sewer, the Tuckasegee Water & Sewer Authority (TWASA) can take care of the sewer and water - they have some money to expand their plants. They will need to put in some larger lines over on the property across the street, and that will evolve.

On the town center, in order to get a developer, we're going to have to put some capital on the front end, because otherwise the developer will have to come in and take this and develop it from the ground up. The only incentive we would have to offer them would be a below market ground lease and we would need some legislative grace to deviate.

The Commerce Department does have some money, but it's normally tied to jobs that are over 110% of the manufacturing wage in the county, so we're talking jobs in the $15/hour range, which retail would not create. We are not totally excluded from those dollars but it would be a hard sell. So while commerce would not necessarily be interested in the development of town center, they may be interested in putting money on the table if we can tie it in to jobs in terms of the development of the Millennial Campus. A lot of those funds have to be matched. For example, we could go to the EDA to get a couple million dollars. We have to match that to about 50%.

In terms of development, we ought to develop the other side first, as that will drive the town center. Dr. Jenkins indicated there might be an opportunity with the Golden Leaf Foundation. Mr. McClure indicated we really have not had that much luck with Golden Leaf.

Golden Leaf has had some interest in the Tier 1 counties: Swain, Graham, Cherokee, and Clay. They just put $2 million in last year and are getting ready to engage with
Clay County. The problem is if you put the money in per county it becomes a silo and the effort ought to be made regionally.

Mr. McClure has talked about reengaging Western North Carolina Leadership Tomorrow, and he has talked to the Chancellor about reengaging that entity. It died a few years ago. The Chancellor wants us to be a leader in the region. This was a leadership organization and it needs to be reborn.

Dr. Louis Buck indicated they met with hospitality groups in the region a few weeks ago. They talked about the hospitality tourism program and what they wanted WCU to provide in terms of graduates and skills; one of the growing areas is medical tourism. This involves people coming here for treatment or procedures, and while they are rehabbing or in the hospital or a care center, there are things for the families to go and do and see.

There was discussion regarding a real opportunity which exists between the announcement of the 20/20 Commission and the announcement of the Millennial Initiative Committee in terms of momentum and defining this as being Western.

The Committee also asked Mr. McClure about his experience in terms of interaction with local businesses and their sensitivity to the development of the Millennial Campus. Mr. McClure indicated there are two definite points of view in Cullowhee. One is that we don't want to see this development and want to keep the mom and pop shops. Then there is the other side that suggests that we do need new development.

Western is the center of the county and the largest precinct in the county, and we have over 200,000 people coming to the campus for a variety of things during the year. If we have a hotel here some would stay overnight. If they were a restaurant they would eat there. If there is a big performing arts center they may spend the night. We could have conferences here. We could have conventions here. We have a nationally recognized college of education so there are national conferences we could have here. However, most commercial restaurants will want the ability to serve alcohol if they are to locate here.

It was noted there will be a referendum in the county in May on alcohol sales which will have an impact upon the potential for development around the county. Mr. McClure indicated he believed the overall perception was we need some development for the community. Fairmont Properties is experienced in these type of community developments. They see the University as being a University which is a continuing and abiding institution which is complimentary to retail operations. In other words, they say it is a quintessential example of nonretail demand generator serving as an anchor by attracting students, faculty, administrative staff, visitors, researchers, and their respective families on a regular basis. These institutions have a long term presence within the marketplace and are resilient and draw a highly coveted creative class consumer base. That is exactly what we need. When you see the projects that Fairmont's done you see the shops - boutique shops - that they have done at Syracuse University or Ohio and several universities. WCU needs a retail base - we need a bookstore. Like at Old
Miss "Square Books" - we need a campus town. There is some concern by Sylva that it would hurt them but the other side of the coin is that most of these dollars that may be spent here if we had those kinds of shops are going out of town now and are not being spent here. This type of downtown would be a connector to the Highlands Cashiers community.

Dr. Buck indicated that for the town center to be developed there would have to be more than a promise of development on the Millennial Campus. In terms of CURVE, Mr. McClure does not know exactly where they are at this point in terms of development. We could have a good model for the Millenium Campus when these experiences are publicized. It has been Mr. McClure's experience that most of the entrepreneurs that have been successful are from somewhere else. They've not been local. Obviously, there are exceptions. Mr. Drake indicated that this is going to hurt some mom and pop stores. Whether it is a Wal-Mart or whatever it is, any development has the potential to hurt existing businesses. When you build a new restaurant, it hurts existing restaurants. If all the business is a substitution it would hurt but if it's something that's added to a rising tide, this is what we have to ensure is that we are bringing in enough more business so that your business doesn't suffer. Whether the University develops these new businesses or not at some point other folks are going to come in and do it. It depends on whether we want to influence what it looks like or not. The reality today is you can shop on line and get pretty much anything you want and even avoid the sales tax.

The question arose as to Dr. Penland's input about a partnership with Nova Southeastern. Dr. Penland indicated he served on a committee years ago where there was a recommendation for two schools of osteopathic medicine to be in North Carolina along with the legislation that actually brought the extension to Asheville for the third and fourth year medical schools. Those were both strategies of how we would keep the positions here. Along with that were schools that would do residencies. So there were multiple strategies based around the known piece of data that in North Carolina we're getting further and further behind because of the attrition of doctors. So the osteopaths, MAHEC, have involved those doctors in our allopathic medicine residencies for years. They make great doctors. The AHEC at Fayetteville actually holds 50% of their slots for osteopathic doctors because they are more likely to stay in the regional area and practice the kind of medicine that clearly give access. Dr. Penland indicated he does not think there is any question that we would really benefit in this state from having a school here, and especially Western North Carolina. When it came up a year ago, people are going to be somewhat fearful that it would be competitive toward the rotation sites. Dr. Penland disagrees with that. He believes that is what AHECs do is to go out and find those positions, those mentors that are willing to do that - provide training and there has been some reimbursement to do that. But that is a key - where will you find the rotation sites and the preceptors.

Dr. Penland stated the Shep Center has looked at the availability preceptors/teaching faculty throughout the region. There is enough willingness there to do this. It is harder in the current economy because the doctors will say I don't have enough time to do that, but there are doctors that really are interested in staying on the cutting edge. The recommendation of the North Carolina Institute of Medicine is in their documentation. Campbell is going to put in an osteopathic school of medicine. Nova is aware of Campbell and does not believe there will be any competition.
The Institute of Medicine report came out about six years ago. It was that same report that was presented to the legislature to say here are the strategies to deal with the shortage of doctors. There is an osteopathic school in Virginia Tech that is trying very hard to get our students. MAHEC does rotations for that school.

Mr. Broadwell indicated that if we have these types of osteopathic schools we would like to have it to where North Carolinians got preference. Nova did indicate that there would be no limits on the number of North Carolina students they would admit as far as the last conversation that he had. The Western students could have dual enrollment.

Mr. McClure said that when Nova met with regional focus groups last year - the feedback from hospital administrators who are keen on making this work were still a bit unclear about what would be their real cost. Dr. Penland indicated there really needs to be some finer strategic planning around the financial piece because the thing that would kill it would be if any of the hospitals believed that one of their doctors would have to stretch a little - or if it's going to cost them anything. Dr. Penland feels like they need to go back to Nova and get more specific financial data on the cost to local care facilities. There is the feeling from the hospitals that they would like to have more osteopathic doctors - the question is how do we get there when we're starting from scratch. We don't have anyone that would play the role of supervisor right now - will the school supply that? The issue here is that the supervisors cannot be allopathic doctors. There needs to be a financial strategy that really is very definitive by Nova before they meet with hospital administrators.

Dr. Penland said that if we do make a decision that health care is one of the directions Millennial Campus would go, that it is data driven so we can show exactly what is needed. For example, what hospitals need to run hospitals, or what physicians want - informatics - different things they need aren't always there. So if we would make a recommendation on health care let's make sure it's going to be sustainable for the future for everyone.

Mr. McClure did note that Dr. Olson Huff is very interested in having a dental clinic on the Millennial Campus - especially for children. This would be fully paid for. This building would be built with funds that are available and it could be outfitted by funds also that are available. Dr. Penland says he has been getting cryptic emails from Dr. Huff and it is believed there might be those kinds of funds available. Dr. Huff is very supportive of what we are doing in the health neighborhood. Dr. Huff has put this proposal on the table with Dean Linda Stanford and it is noted that we need to get up with him to see where we go with this. Dr. Penland noted that East Carolina has a plan of putting dental clinics - five or so across North Carolina, and one of those he believes is supposed to be in Sylva. We don't know where that stands at this point. But the question would be if you get the University putting two dental clinics in this close to the community - what would private practitioners think. It was stated Dr. Huff's proposal deals more with children and the other one would be more general. We believe there is a need for this - as illustrated by the dental clinics that are overfilled at times.
The Committee then turned its attention to a basic outline of the format of its report to the Chancellor and what topics needed more information.

The Committee looked at the elements that have been common to the success of the other Millennial Campus and what other things we still need to know. The Committee shared ideas about an initial draft of the final report to the Chancellor. The Committee made note the Chancellor directed the Committee to: 1) evaluate and propose strategic uses and objectives of the Millennial Campus and through that process exploit the points of intersection between the institution's mission on the one hand and opportunities, challenges and strengths within the western North Carolina region; 2) recommend an institutional process which will engage both the institution and external constituents in considering and evaluating the possibilities with the Millennial Initiative, and 3) short and long term goals with appropriate plans and metrics for the Millennial Campus and Initiative.

With that in mind, the Committee discussed potential topical assignments as follows:

**STRATEGIC USES AND OBJECTIVES**

1. Health care and regional needs - Dr. Teck Penland.
2. Core Competencies of the University - Dr. Louis Buck and linkage as to the external community.
3. Reaching out to the community - Dr. Susan Jenkins.
4. Suggestions for Private Partnerships: -Mr. Phil Drake/Ms. Joan MacNeill
5. Infrastructure needs - Jack Cecil and Phil Drake (SW to get Craig Fowler's and Joe Walker's report to him).

**INSTITUTIONAL PROCESS**

6. Administrative Processes & Evaluative Criteria: Ms. Dianne Lynch
   A) Including who reports to whom
7. There is a consensus that there is a person whose sole job it is to oversee the development of Millennial Campus and this position should be appropriately staffed.

**LONG TERM AND SHORT TERM GOALS/METRICS**

8. Mr. Ed Broadwell indicated it would be helpful to review past budgets specific to the millennial campuses we have visited in this regard, along with past strategic plans.
WCU’s Mission, Core Values & Guiding Principles, and Vision Statement

Our Mission (who we are):

To improve individual lives and enhance economic and community development in our region, state and nation through engaged learning opportunities in our academic programs, educational outreach, research and creative activities, and cultural activities.

Our Core Values and Guiding Principles (what guides and inspires us):

Excellence in Scholarship, Teaching, and Learning

Collaboration with and Respect for our Communities

Free and Open Interchange of Ideas

Responsible Stewardship and Organizational Effectiveness

Organizational and Environmental Sustainability

Cultural Diversity and Equal Opportunity

Our Vision Statement (who we want to be):

To be a national model for student learning and engagement that embraces its responsibilities as a regionally engaged university.
The Story of Our Future

Honoring Our Past, Defining Our Future

The story of WCU is one deeply connected to the past, to the land, and to the people of our region; thus, the story of our future must be about connections and belonging. We are rooted in our service to the people of Southern Appalachia and beyond. WCU belongs not just to our students and our faculty and staff, but to the whole community, for we are integrally connected to this region as its educational, economic, and cultural center. WCU’s past shapes its future—a future that will have a meaningful impact on the lives of everyone we touch as an institution.

The following vignettes illustrate how we envision the future of WCU for our students, employees, and communities.

The future WCU from a student's perspective:

WCU is where the citizens of our region, state, and beyond seek and attain the essential abilities, work ethic, and practical knowledge of a university graduate. It is the place where they forge lifelong friendships, explore different philosophies and values, and expand their horizons with international experiences.

The student begins her relationship with WCU with a seamless transition into her new learning environment. Compilation of documentation, evaluation of transfer credit and awarding of financial aid are fully automated and accomplished almost immediately, the processes behind them almost invisible to her. Her primary concern is acquainting herself with the physical and virtual campus, meeting new friends and peers, and selecting from an array of student organizations and activities in which to become engaged.

Once she begins classes, she faces a new set of choices. Most of her professors are encouraging students to participate in research and creative activities. Her student mentor assures her that the experience is invaluable and she will have many such opportunities. Her coursework is rigorous and the expectations are high, but her professors are friendly and approachable, her classes are small, and with the new skills she is learning she feels prepared to meet any challenge. If she experiences personal or academic difficulty, she seeks out one of the many tutoring, counseling, and other support services that help her remain engaged, motivated, and positive.

As she settles into University life, she begins to explore her campus community more deeply. She can often be found at Hunter Library, where she meets classmates and friends in the group learning spaces to work on collaborative projects. She likes that her professors emphasize active and collaborative learning and she finds such projects teach her more than she could have ever anticipated. Her job mentoring new students and her service learning activities help her connect to the larger community. Her faculty research advisor has just told her that her paper was accepted at a national conference and, despite her nerves, she is looking forward to the experience, knowing her research advisor will mentor her through the experience. She is also anxiously waiting to depart for her study abroad program; most of her friends have participated in an international learning
In a variety of units and departments. Communications from colleagues and campus administration keep him up to date on important matters and, where appropriate, invite his input. He especially enjoys the team-based engagement activities that the University sponsors. The campus community relations office often makes referrals in response to requests for assistance from external organizations. As a result, he finds that he is frequently invited to present or consult on projects external to the University.

His work at WCU is more than just a job. He gets tremendous personal satisfaction from being a member of a tight-knit and supportive campus environment. He notices that this satisfaction spills over into the larger community, where he and his colleagues are involved in local school, sports, and community activities. All in all, WCU feels more like an extended family than a place of work—a place where he and his family feel at home.

The future WCU from our communities’ perspective:

For our communities, WCU is a diverse and vibrant place where alumni come to reconnect and continue to shape their futures; regional businesses and industries, local governments, and civic organizations seek assistance and support in developing and revitalizing our communities; educators in our schools and community colleges turn for advice and expertise; and local residents come to experience first class cultural and sporting events and mark special events in their own lives.

For the community member, a visit to WCU is a routine and frequent occurrence conducted with no real sense of what is ‘on’ campus and what is ‘off’. A typical week for a member of the community is as follows ...

On Monday, she visits the west side of campus for an appointment with one of the health clinics which operates in conjunction with our College of Health and Human Sciences. After her appointment, she decides to grab coffee with a friend and do a little shopping at the Town Center complex on campus. That evening, she logs onto WCU’s learning management system to work on an online course she is taking. She appreciates the flexibility and high quality of the online programs offered by WCU.

On Tuesday, her oldest daughter has rehearsal for her upcoming high school graduation in the Ramsey Center and her youngest is involved in a Catamount Athletics sports camp. That evening, she participates in a parent panel at her son’s school with future teachers from the College of Education and Allied Professions.

On Wednesday, she meets with WCU’s community relations officer at the county offices in Sylva regarding a grant to expand sidewalks through the Tuckasegee River Park in Cullowhee. The office has been tremendously supportive in the past, resulting in grants to promote development around the river.

On Thursday, her company is hosting a regional conference for its clients at WCU. The University’s conference services, meeting spaces and catering services are in high demand. Conference services at WCU showcase the many activities and recreational opportunities that make the Southern Appalachian region so popular. Her company is expecting record attendance.

On Friday, she attends a workshop in Murphy, where a faculty member from WCU’s College of Business is giving a presentation on area economic trends for regional business owners. That evening, she and a friend attend their favorite Broadway production in the Bardo Arts Center. She loves the high level of talent in the WCU Theatre program and is impressed by their collaboration with well-known artists.

On Saturday, it’s time to cheer her favorite Catamount team! She and her family hold season passes to all the home games and it’s a tradition to attend together. The quality of the teams and the family-friendly experience is unequaled in the region.

On Sunday, she and her partner can be found strolling along the river on the many paths and trails that link the campus with the Jackson County linear park trails. They deeply enjoy the mountain
landscapes, the sense of belonging, the sense that they are at home.
Strategic Direction #2 – Enrich the Total Student Experience

Every WCU student’s experience reinforces high standards and expectations, connects with the surrounding communities and beyond, and instills pride in the University.

WCU is committed to working towards the best interests of the region and state through deliberately and consciously considering what it means to educate citizens, a pursuit which encompasses both curricular and co-curricular elements that serve to prepare students to participate in and help create a vibrant, intellectually, culturally, and economically thriving region, state, nation, and world.

GOAL 2.1: Foster a student-centered campus culture that emphasizes academic excellence, personal growth, networking opportunities, and global and social awareness.

INITIATIVE 2.1.1: Ensure that the mission of every academic support and student services unit espouses academic excellence as a primary emphasis.

INITIATIVE 2.1.2: Review, and where necessary modify, all student recruitment and promotional materials to include expectations related to academic rigor and standards.

INITIATIVE 2.1.3: Align, and where appropriate consolidate, academic support and experiential learning services to ensure consistent, interconnected, and efficiently provided assistance to students.

INITIATIVE 2.1.4: Develop and/or formalize mentoring program(s) which help students develop a sense of personal, intellectual, and professional identity.

INITIATIVE 2.1.5: Create leadership and experiential opportunities at the local, regional, national, and international levels, ensuring that all students participate in such opportunities and can document how these learning experiences are interconnected with their program of study.

INITIATIVE 2.1.6: Expand international experiences for all Western students through such strategies as increasing study abroad opportunities, developing exchange programs with international universities, recruiting a sizable international student population to WCU, and enhancing global awareness components of existing curricula. (See related INITIATIVE 1.3.3)

GOAL 2.2: Foster active citizenship among WCU students.

INITIATIVE 2.2.1: Integrate the elements of the Western Carolina University "Community Creed" into institutionally affiliated programs and services.

INITIATIVE 2.2.2: Include students as full, voting members on campus decision-
making committees, as appropriate.

**INITIATIVE 2.2.3:** Increase the number of Academic Living-Learning Communities that integrate active, collaborative, and interdisciplinary learning experiences with curricular GOALS, ensuring necessary logistical and administrative support.

**INITIATIVE 2.2.4:** Provide every student with an opportunity to participate in student-led outreach projects that focus on civic engagement. (See related INITIATIVE 2.1.5)

**INITIATIVE 2.2.5:** Create a culture of participating in the democratic process as demonstrated by large percentages of students who are registered to vote and who vote.

**INITIATIVE 2.2.6:** Provide opportunities for students to explore all points of view on various issues and to understand the perspectives of others through civil and informed discourse and debate.

**GOAL 2.3:** Instill pride in the university through more visible recognition and celebration of institutional achievements and traditions.

**INITIATIVE 2.3.1:** Build and sustain a high-quality athletics program that excites and instills pride among students, faculty, staff, alumni, and friends of the University.

**INITIATIVE 2.3.2:** Create and sustain campus traditions which strengthen students' connection to their University and its surrounding communities.

**INITIATIVE 2.3.3:** Build and sustain consistent celebrations of Cherokee history, culture, and traditions.

**INITIATIVE 2.3.4:** Include in the University's comprehensive communications plan a focused strategy to celebrate with the institution's internal and external audiences the accomplishments and achievements of students, faculty, and staff. (See also INITIATIVE 6.2.1)

**INITIATIVE 2.3.5:** Ensure that University events are consistently well-advertised to external audiences.
Strategic Direction #3 – Enhance Our External Partnerships

WCU is recognized as an active partner with the Western North Carolina region, its communities, organizations, and businesses.

Partnerships with regional businesses and industries, non-profits, civic organizations, government agencies, communities, and cities are an integral part of WCU's core mission as a recognized, regionally engaged university. The University’s emphasis on integrated learning experiences, its commitment to engaged scholarship, and its embrace of the institution’s role as both a steward of this unique and special place and a catalyst for economic and community development all demonstrate and reinforce WCU’s commitment to enhancing engagement with external partners.

GOAL 3.1: Strengthen relationships and communication between the University and its external partners.

INITIATIVE 3.1.1: Senior campus leadership will model the institution’s commitment to community outreach and involvement.

INITIATIVE 3.1.2: Establish an annual leadership tour of the Western North Carolina region designed to reinforce WCU’s connection with its external constituents and to update University leadership consistently about regional and local priorities.

INITIATIVE 3.1.3: Establish the appropriate leadership and organizational structure at WCU to support, coordinate, and facilitate external partnerships and collaborations.

INITIATIVE 3.1.4: Create an institutional council with representatives from each division and college to enhance internal communication about external partnerships and engagement, including the sponsorship of an annual inventory of such activities.

INITIATIVE 3.1.5: Develop and implement e communications plan that informs Western's external community about University resources (inventoried annually), such as programs, services, facilities, and faculty/staff expertise, which are available to the public. (See INITIATIVE 6.2.1)

GOAL 3.2: Position the University as a key leader in regional economic and community development efforts.

INITIATIVE 3.2.1: Facilitate an annual conference for regional government, nonprofit, community, education and business leaders to focus attention and action on regional strategies for economic and community development.

INITIATIVE 3.2.2: Develop the West (Millennial) Campus as a national model for building, in a rural context, public-private partnerships which are integrated into the academic enterprise and which support community and economic development.
INITIATIVE 3.2.3: Develop the programs at Biltmore Park to position WCU as a key provider of graduate and professional programs in the greater Asheville-Hendersonville area along the I-26 growth corridor.

INITIATIVE 3.2.4: Work with external partners to facilitate economic and community development in Cullowhee and Jackson County which form the University's backyard, and participate in the formation of formalized community leadership for Cullowhee which can serve as the voice of the community as it anticipates growth and development.

INITIATIVE 3.2.5: Seek out and implement internal synergies among outreach efforts and potential partnerships which are focused on economic and community development and consistent with the curricular focus areas identified by the 2020 Commission.

INITIATIVE 3.2.6: Facilitate collaborative research and development efforts between WCU and external partners.

GOAL 3.3: Align internal processes and reward systems to foster external engagement.

INITIATIVE 3.3.1: Develop models and strategies to formally recognize and reward faculty and staff participation in educationally-based external engagement.

INITIATIVE 3.3.2: Ensure that all division and departmental personnel processes, including those related to annual faculty evaluation, tenure, promotion, and review, provide faculty and staff the formal opportunity to detail and describe educationally-based external engagement activities.

INITIATIVE 3.3.3: Promote the University's support of staff-initiated community service.
Strategic Direction #4 – Invest in Our People

WCU is recognized as one of the most highly competitive and desirable employers in the region.

Excellent faculty and staff are prerequisites for the fulfillment of Western's mission. Western must therefore advocate for competitive compensation for its employees and facilitate professional development; leadership development, succession, and stability; and support for issues related to quality of life, as appropriate, all of which will enhance the recruitment, development, and retention of qualified and satisfied faculty and staff.

GOAL 4.1: Make salary and total compensation packages an institutional priority in order to attract, reward, and retain the highest quality employees.

\textbf{INITIATIVE 4.1.1:} Advocate for the financial resources necessary to offer competitive salaries and compensation packages.

\textbf{INITIATIVE 4.1.2:} Develop a regular and recurring process for employee salary review.

\textbf{INITIATIVE 4.1.3:} Develop and implement strategies for retaining high-performing employees with competitive salary adjustments and compensation packages within existing policies.

\textbf{INITIATIVE 4.1.4:} Develop and implement a program of competitive, summative grants to support innovative faculty pursuits within the context of Western Carolina's mission and values.

\textbf{INITIATIVE 4.1.5:} Advocate with other UNC system institutions for a competitive and attractive health benefits plan that is cost-effective for employees and their families.

GOAL 4.2: Ensure professional development opportunities for all employees.

\textbf{INITIATIVE 4.2.1:} Make support for professional development for all employees a fiscal priority at WCU.

\textbf{INITIATIVE 4.2.2:} Include in each supervisor’s performance evaluation an assessment of his/her support for and their unit's progress in professional development.

\textbf{INITIATIVE 4.2.3:} Ensure appropriate orientation and annual refresher updates for all staff and faculty, as appropriate.

\textbf{INITIATIVE 4.2.4:} Ensure that all faculty and staff understand performance evaluation processes and criteria.
INITIATIVE 4.2.5: Establish a campus leadership academy to cultivate faculty and staff leaders.

GOAL 4.3: Work to develop a work-life environment for Western employees that enhances their personal and professional lives.

INITIATIVE 4.3.1: Develop a network within the university and with regional businesses and institutions to enhance employment opportunities for spousal and partner hiring.

INITIATIVE 4.3.2: Partner with appropriate civic leaders in the development and revitalization of Cullowhee and Jackson County, with specific emphasis on developing a community core around the campus aimed at improving the quality of life for faculty, staff, students, and the community. (See related INITIATIVE 3.2.4)

INITIATIVE 4.3.3: Accommodate flexible work arrangements for staff, where appropriate and possible.

INITIATIVE 4.3.4: Facilitate a network of opportunities, where possible, for affordable childcare, healthcare, and housing options for faculty, staff, and students.

INITIATIVE 4.3.5: Increase diversity among faculty and staff.

GOAL 4.4: Adequately support scholarship and creative activities in support of Western’s mission as a regional comprehensive university.

INITIATIVE 4.4.1: Establish an organizational structure to accommodate the research, graduate school, and millennial initiative ambitions of the university.

INITIATIVE 4.4.2: Ensure appropriate institutional infrastructure to support scholarship and research.

INITIATIVE 4.4.3: Increase support for scholarship and creative activities, including funding for reassigned time for scholarship, library support, graduate research assistantships, summer research grants, seed funding, start-up support where appropriate, equipment replacement, and travel for conference presentations.

GOAL 4.5: Create an environment in which the primary role of faculty as teacher-scholars is recognized and valued.

INITIATIVE 4.5.1: Develop and implement integrated faculty workload expectations and policies that facilitate exemplary teaching, scholarly productivity, and public service in alignment with Western Carolina’s commitment to external engagement.

INITIATIVE 4.5.2: Provide department heads and deans flexibility within the parameters of fiscal realities in assigning workload to faculty to accommodate significant contributions for such out-of-classroom responsibilities as advising, undergraduate and graduate research supervision and mentoring, and student career development.

INITIATIVE 4.5.3: Eliminate redundant and ineffective service obligations and committees across campus.

GOAL 4.6: Foster an inclusive University community where the contributions of all employees are recognized and valued.

INITIATIVE 4.6.1: Establish opportunities that give University staff access to university administration in the governance process.

INITIATIVE 4.6.2: Develop a forum that facilitates collaboration among members of the Faculty and Staff Senates and the Student Government Association on university-wide issues and projects.
Strategic Direction #5 – Invest in Our Core Resources

WCU’s core infrastructure is sustainable and positioned to support its strategic priorities.

Western will ensure a consistently updated infrastructure in support of its mission and vision. Infrastructure is interpreted broadly to include facilities, technology, fiscal practices, and business processes and procedures.

GOAL 5.1: Implement sustainable funding models to ensure fiscal stability.

INITIATIVE 5.1.1: Eliminate operational dependence on one-time funding for core functions and services.

INITIATIVE 5.2.2: Maintain a favorable bond rating.

INITIATIVE 5.2.3: Develop and implement processes to identify resources for reallocation and reallocate such resources to areas with demonstrated/potential growth, capacity for revenue generation, and critical strategic need.

GOAL 5.2: Develop a comprehensive University Master Plan.

INITIATIVE 5.2.1: Charge a task force consisting of representatives of internal and external constituents and supported by an external consultant to develop a comprehensive campus master plan that takes into account such factors as anticipated enrollment growth, the environment, sustainability, energy efficiency, core infrastructure needs, building priority needs, departmental/unit consolidation, technology infrastructure, campus safety and security, green space, transportation, campus design standards, and the integration of the campus with the surrounding community. The comprehensive plan will include the following components:

- a comprehensive facility condition assessment for existing buildings and infrastructure (utilities, information technology, roads, etc.)
- a campus Sustainability Plan that aligns with the UNC Sustainability Policy
- an assessment and prioritization of core infrastructure needs in light of emerging technologies
- an assessment and prioritization of new building needs
- a prioritized plan for addressing repair and renovation needs
- incorporation of green space throughout the campus
- a plan to consolidate like parts of individual units/colleges where possible
- a campus Parking and Transportation plan that facilitates access to education sites, and includes investment in multimodal options such as bike lanes, greenways, etc.
- a process for allocating and budgeting space as a core resource to maximize space utilization
- a plan to ensure the integration of campus development with the community surrounding the university

GOAL 5.3: Improve the effectiveness and efficiency of campus business processes to ensure continuous improvement and to realize financial savings.

INITIATIVE 5.3.1: Review the use of expendables, including printed documentation, and where reasonable, reduce such usage and transition to digital alternatives.

INITIATIVE 5.3.2: Conduct business flow analyses of all key functions and revise or eliminate unnecessary or redundant business processes and leverage existing enterprise solutions (Banner, Blackboard, R25, SharePoint, etc.).

INITIATIVE 5.3.3: Consolidate and centralize similar operations across campus.

GOAL 5.4: Sustain and increase Information Technology capabilities and capacity required to meet the GOALS of the university.

INITIATIVE 5.4.1: Establish and systematize a sustainable funding model for information technology which accommodates operational support, replacements and upgrades, university growth, and strategic initiatives.

INITIATIVE 5.4.2: Establish capacity planning, management, and implementation processes to ensure accommodation of mandatory and anticipated information technology needs, including both human resources and technologies (e.g., bandwidth, storage, servers, digital media, software licenses, wireless networking, wired networking, cloud services, etc.).

INITIATIVE 5.4.3: Establish a multi-year technology capability planning process that is revisited annually.

INITIATIVE 5.4.4: Assess periodically and revise, where necessary, the Information Technology disaster recovery plan.

GOAL 5.5: Maintain and improve campus safety systems, capabilities, and infrastructure in support of the University’s strategic priorities.

INITIATIVE 5.5.1: Complete and maintain updated emergency response plans and business continuity plans for critical functions of the university.

INITIATIVE 5.5.2: Implement sustainable funding models in support of campus safety systems and infrastructure.

INITIATIVE 5.5.3: Enhance campus wide emergency preparedness with on-going communication and training.

INITIATIVE 5.5.4: Sustain and enhance partnerships (e.g., mutual aid agreements, EMS service provision, etc.) with local governments, regional public safety agencies, and health organizations in support of campus and community safety priorities.

INITIATIVE 5.5.5: Systematically assess and upgrade technologies (e.g., radio systems, access controls, cameras, etc.) in support of campus safety objectives.
Strategic Direction #6 – Garner Support for Our Vision

WCU Develops the resources and markets the vision to ensure achievement of its strategic priorities.

WCU’s continued emergence as an ambitious institution of higher education dedicated to the economic and community development of Western North Carolina depends on the development and cultivation of consistent and robust funding sources and an ongoing communications strategy designed to ensure that internal and external stakeholders are consistently informed about the university and its progress in achieving strategic goals.

GOAL 6.1: Facilitate a shared understanding of and commitment to the institution’s strategic vision among WCU faculty, staff and students.

INITIATIVE 6.1.1: Create or modify existing orientation messages for new faculty, staff, and students to ensure early introduction to and understanding of the university’s strategic vision.

INITIATIVE 6.1.2: Align all internal budgeting and annual reporting processes to reflect and reinforce the strategic vision and priorities of the University.

INITIATIVE 6.1.3: Ensure consistency among vision messages from all internal sources.

GOAL 6.2: Facilitate a shared understanding of the institution’s strategic vision among the University’s external communities.

INITIATIVE 6.2.1: Develop and implement comprehensive and consistent University communications and marketing plans designed to fulfill the University’s strategic priorities.

INITIATIVE 6.2.2: Ensure the appropriate leadership and organizational structure necessary to develop and implement comprehensive communication and marketing plans designed to communicate Western’s strategic vision effectively, concisely, and consistently to all external stakeholders.

INITIATIVE 6.2.3: Create a network for regional engagement and statewide advocacy through a mobilized and informed alumni base.

INITIATIVE 6.2.4: Develop a process to review periodically the University brand and tailor the marketing message accordingly.

GOAL 6.3: Maximize and target a balanced and diverse mix of financial resources that will enable achievement of Western’s strategic vision.
INITIATIVE 6.3.1: Develop and implement a comprehensive enrollment management process that maximizes state appropriations per the formula funding system in a manner consistent with the University's strategic priorities related to access and success, including incremental increases in admissions standards.

INITIATIVE 6.3.2: Revisit the organizational structure of all campus offices and functions related to enrollment management to ensure lean, robust, and efficient operations. (See also GOAL 1.6.)

INITIATIVE 6.3.3: Explore innovative possibilities for revenue generation such as summer revenue opportunities, the initiation of certificate/executive programs, and cooperative education opportunities to reduce dependency on state funding and tuition and fee increases.

INITIATIVE 6.3.4: Develop and implement a comprehensive plan to increase significantly WCU's advocacy efforts among elected officials on behalf of university and system priorities.

INITIATIVE 6.3.5: Develop and implement an advocacy plan for state/system action on three key market-based issues:

- tuition policy flexibility (in-state or surcharge) for students in bordering states
- differential tuition in high demand/high expense programs
- modification/elimination of differential treatment of distance education in the UNC formula funding system.

INITIATIVE 6.3.6: Pursue a comprehensive development campaign targeting:

- gifts at all levels in support of WCU's strategic goals and initiatives.
- particular philanthropic support for endowed merit- and need-based scholarships to enable WCU to recruit and retain the best academically qualified students and to support WCU's commitments to student access and student success.
- an increase in the participation and engagement of WCU alumni in University activities and in the number of alumni donors by 50% by 2020.
- adequate development and alumni staffing to ensure the campaign's success.

INITIATIVE 6.3.7: Develop infrastructure for research and sponsored programs, technology transfer, and commercialization consistent with strategic priorities to achieve the following by 2020:

- Increase in the number of research grant and contract applications by 100%
- Increase in the number of grants and contracts received by 50%
- Increase in the total annual amount of awards received by 25%.

INITIATIVE 6.3.8: Pursue funding resources for development of the Millennial Campus.
Strategic Direction #1 – Fulfill the Educational Needs of State and Region

WCU’s faculty, staff, and students together make the University’s academic mission paramount.

Western Carolina University is committed, first and foremost, to fulfilling its academic mission of providing each student a rigorous and relevant curriculum with learning experiences that emphasize knowledge and skills that are durable, flexible, and transferable. WCU is committed to providing an education grounded in a strong set of foundational knowledge and skills combined with specific practical knowledge in content degree areas, the outcome of which is personal, intellectual, and economic enrichment for each student. WCU seeks to ensure educational opportunities that result in graduates who are prepared for success, who are ready to compete in a challenging, changing, and global environment, and who are committed to contributing to the intellectual, cultural, and economic development of our region and state.

GOAL 1.1: Deliver high-quality academic programs (undergraduate, graduate, and professional) designed to promote regional economic and community development.

**INITIATIVE 1.1.1:** Undertake a rigorous and inclusive process to prioritize all undergraduate and graduate programs based on universally applied criteria, including quality, regional need, demand, enrollment trends, retention and graduation rates, and alignment with the University mission and the following integrated curricular focus areas: Creative Arts, Education, Environment, Health, Innovation and Technology, and Recreation and Tourism.

**INITIATIVE 1.1.2:** Develop visionary strategic plans for each of the curricular focus areas through inclusive processes to accomplish the following:

1. Position and market WCU as the cultural heart of Western North Carolina in the creative arts.
2. Fulfill WCU’s historic and continuing commitment to be the regional leader in teacher education.
3. Assume regional leadership in the study of the environment and environmental policy.
4. Position WCU as the premiere regional provider of baccalaureate and graduate education in the health professions with an emphasis on culturally sensitive, integrative, and intergenerational healthcare.
5. Establish WCU as a hub of innovation, facilitating interdisciplinary connections among academic programs in in such disciplines as business, the sciences, engineering, technology, and entrepreneurship and external collaboration with
Industry, start-up companies, research institutes, non-profit organizations, and
government agencies.

6. Advance the recreation and tourism industries of Western North Carolina.

INITIATIVE 1.1.3: Position WCU as a preferred provider of graduate and
professional programs in the greater Asheville-Hendersonville area in fulfillment of its
historic commitment to this vital part of the Western North Carolina region.

INITIATIVE 1.1.4: Provide access to academic programs at off-campus sites in
Western North Carolina within available resources and as dictated by data-based
needs analyses.

INITIATIVE 1.1.5: Align departments, colleges, and divisions, as appropriate, to
support the strategic vision of the University.

INITIATIVE 1.1.6: Identify and develop integrated, cross-disciplinary centers/institutes
of study and outreach, where appropriate, based on the curricular focus areas.

INITIATIVE 1.1.7: Increase the total number of WCU graduates by 25% by 2020 to
meet the regional need for an educated workforce.

GOAL 1.2: Fully integrate into the general education program and into each major and minor at both
undergraduate and graduate levels an emphasis on those core abilities expected of all WCU
students: to integrate information from a variety of contexts; to solve complex problems; to
communicate effectively and responsibly; to practice civic engagement; and to clarify and act on
purpose and values.

INITIATIVE 1.2.1: Hire faculty and staff who understand and will contribute to WCU’s
core educational values, its holistic academic mission, its commitment to outreach
and engagement, and the achievement of the institution’s strategic priorities.

INITIATIVE 1.2.2: Develop and implement effective, faculty-led mentoring programs
for students, aided and reinforced by advising and course scheduling in the support
units and designed to reinforce the university’s core values.

INITIATIVE 1.2.3: Incorporate writing and research into all levels of the curricula.

INITIATIVE 1.2.4: Ensure that all academic programs incorporate the core abilities
detailed in Goal 1.2.

INITIATIVE 1.2.5: Incorporate into the formal evaluation of faculty work a
consideration of how curricula, pedagogies, and scholarship successfully advance the
university learning outcomes.

GOAL 1.3: Ensure that all programs include cross-curricular, experiential, applied, and
international/global awareness opportunities for all students.

INITIATIVE 1.3.1: Reduce, and where possible eliminate, bureaucratic and financial
barriers to cross-curricular design and team-teaching.

INITIATIVE 1.3.2: Incorporate expectations for experiential and applied learning
opportunities, including undergraduate research opportunities, in the curricular review
process.

INITIATIVE 1.3.3: Ensure that meaningful international/global experience
opportunities are available to every student, regardless of major, including options to
study with international scholars on WCU’s faculty, to participate in faculty-led
international travel courses, and to study abroad.

GOAL 1.4: Eliminate barriers to student access through coordinated endeavors with Birth (B)-12 and
community college partners.
INITIATIVE 1.4.1: Establish a network of regional advisory committees to enhance communication and collaboration among B-12, community college, and WCU faculty and administrators in the areas of 1) curriculum goals and transferability; 2) the benefits of higher education and the best strategies for marketing and recruiting; and 3) admissions and financial aid.

INITIATIVE 1.4.2: Review, revise where appropriate, and electronically automate all Articulation Agreements between WCU and community colleges in the WCU service area with the goal of maintaining high academic standards and facilitating curricular transfer; develop a standard review protocol and timeline.

INITIATIVE 1.4.3: Expand opportunities for WCU staff, faculty, and students to visit with B-12 students and community college students (both on- and off-campus) to share information regarding the importance of higher education and the pathways, processes, and programs at WCU.

INITIATIVE 1.4.4: Expand coordinated communications and recruiting efforts among B-12, community colleges, and WCU regarding the value of education and affordable avenues for all individuals to access and benefit from it.

GOAL 1.5: Make WCU (the Cullowhee campus and the off-campus site at Biltmore Park in the Asheville-Hendersonville area) a destination for short-term, educationally-based programs, activities, and events, including summer school, continuing education, camps, conferences, and personal enrichment opportunities.

INITIATIVE 1.5.1: Pursue a cohesive, consistent, and efficient organizational and policy structure to facilitate short-term, educationally-based programs, activities, and events, including review of facilities use policies, university organization, and virtual format possibilities.

INITIATIVE 1.5.2: Expand the number of resident and distance summer school offerings for a wide variety of learners, including WCU students, guest students, senior citizens, B-12 students, and the general public; expand summer school enrollment by 25% by 2020.

INITIATIVE 1.5.3: Expand the number of camps and conferences which WCU offers by 50% by 2020.

INITIATIVE 1.5.4: Develop and implement a coordinated marketing plan to promote WCU's Cullowhee campus and its programs in Asheville at Biltmore Park conference destinations. (See initiative Goal 6.2.1)

GOAL 1.6: Attain a student population that balances the University's commitment to access, its responsibility for student success, and ensures the sustainability of University funding.

INITIATIVE 1.6.1: Develop data-driven admission strategies (for first-time freshman, transfer, graduate, and distance students) that balance the University's aim to increase the academic profile of entering students while continuing to serve the educational role of access as a regional comprehensive university.

INITIATIVE 1.6.2: Conduct ongoing program assessment and prioritization, and allocate resources to positively affect enrollment.

INITIATIVE 1.6.3: Expand efforts to recruit students in programs associated with the curricular focus areas.

INITIATIVE 1.6.4: Make the securing of endowed merit and need-based financial aid an institutional fundraising priority. (See related initiative 6.3.5)

INITIATIVE 1.6.5: Enhance support for scholarships, graduate assistantships, and student research to attract and retain students who are prepared for the rigors of a
Western Carolina educational experience.

INITIATIVE 1.6.6: Increase the diversity of the student body and ensure campus resources necessary to support a diverse student body in order to serve the needs of the changing demographics of the region and state and to enhance the educational experience of all students.

INITIATIVE 1.6.7: Increase WCU's freshman-to-sophomore retention rate to 80% by 2020.

INITIATIVE 1.6.8: Increase WCU's six-year graduation rate to 60% by 2020.
From: Amy Lubas <aelubas@ncsu.edu>
Subject: Re: WCU Milennial Initiative Followup
Date: May 4, 2012 9:48:26 AM EDT
To: Steve Warren <steve@longpark.com>
Cc: Michael Harwood <mharwood@ncsu.edu>

Steve,

I'm going to provide answers to some of your questions. Michael Harwood, copied on this email, will provide additional information, but he is out until late next week so it make take some time before you hear from him.

There are two primary offices that oversee Centennial Campus - my office, The Centennial Campus Partnership Office, and Mike's office, The Centennial Campus Development Office. The CCPO is headed up by an Associate Vice Chancellor, who reports directly to the Vice Chancellor of Research. Under the AVC we have 2 Partnership Developers, 1 Marketing/Communications person, and 2 administrative staff. We are in the process of hiring a new position, a business development director. We would like to also add another partnership developer and/or a person to manage events and community. Michael can provide you with details on the CCDO organization.

The CCPO budget is small. Staff salaries are paid through a combination of overhead and direct monies. We receive a small amount each year to host events. As Centennial is fully part of the University, many budget items are not separate and distinct for Centennial. But this is a question much better answered by Michael.

The CCPO evaluates each prospect individually. I've attached 3 documents that will help you understand our process. There is a flow chart, a list of typical partnerships and an example of a permitted tenant form. The permitted tenant form is required before any lease can be
executed.

Centennial Campus is currently engaged in a strategic planning process. Our last strategic plan was written back in the 80's. It is not in a format that is sharable.

I hope that some of this information is helpful to you. Good luck as your move forward with your project at WCU!

Regards,
Amy

On Fri, Apr 27, 2012 at 12:18 PM, Steve Warren <steve@longparker.com> wrote:

Dear Amy:

I can't thank you enough for taking time out of your busy day to discuss with me the WCU Millennial Committee's desire to obtain some followup information from you. We were so impressed with the quality of the N.C.State operation - if we can follow your excellent path we know we will be successful!

Amy, the type of information we could really use would be:

1. Organizational Chart - showing titles of individuals and how the various duties within each job assignment relates to the others.

2. Budgets - If you could provide us with examples of how you allocate "revenue" and "expenses" specific to the operation of the Centennial campus that would be wonderful. Any explanation or specific examples you could provide us as to how the Centennial campus "budget" fits within the overall budget of N.C. State would be most appreciated.

4. Historical and Current Strategic Plans for the N.C. State Centennial Campus.

Amy, I didn't mention it, but if you have any type of infrastructure budget for that portion of the campus designated as "centennial" that would be very useful.

Thank you so much Amy- WCU is so grateful for your help!

Steve
Steve Warren
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& Payne P.A.
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ESTABLISHING CCPO APPROVAL TO LOCATE ON CENTENNIAL CAMPUS

Do the activities of the prospective organization looking to locate on Centennial Campus align with the academic and/or research activities of NC State University and the mission of Centennial Campus.

NO

YES

Is there an existing linkage with NCSU and are faculty supportive of a CC location?

NO APPROVAL

YES

Has the prospect met with faculty and is there clear opportunity for linkage and faculty endorsement? Have those partnerships/collaborations begun?

APPROVAL

NO

YES

If no clear imminent opportunities for linkage, has the CCPO established that the organization is willing, able and likely to engage in a relationship with NCSU within a reasonable amount of time after locating on Centennial? (This is most applicable to incubator companies)

APPROVAL

NO APPROVAL

NO

APPROVAL

NO APPROVAL
Partnership Engagement

Informal consulting and discussions with faculty
Using students as part-time workers
Hiring graduates
Basic lab and equipment sharing and use
Contractual consulting with faculty
PR value
  Joint development and sponsorship of seminars and lecture series
  Sponsoring Senior Design projects
  Hiring co-ops
  Mentoring and volunteering with students
  Serving as adjunct faculty, members of advisory teams or guest lecturers
  Joining Centers
Space/equipment donations
Collaboration on new standards, test protocols, etc.
Facilitating spin-outs
Support for grant appropriations, new initiatives and connectivity with others
  Joint research
  Partnering on projects including pilots
  Collaborative grants and projects
  Participation in formal programs like Hi-Tec
  Sponsoring research
  Licensing technology
  Joint curriculum input and development
  University spin-outs/equity and royalty positions

Increasing level of connection
Permitted Tenant Approval Sheet

All Centennial Campus prospects, regardless of size, derivative, and/or proposed location, must confess a stated desire to engage in appropriate and meaningful ways with the University.

Signature on this sheet indicates that a representative from the Centennial Campus Partnership Office has met with or spoken to direct employees of the prospective tenant and has determined that the prospect meets the requirements for permitted tenant status. Signature must be obtained prior to lease execution. Space lease amounts of 10,000sf or greater require signature from the Vice Chancellor of Research and Innovation.

Organization Name:
MingYang Wind Power

Date:
(unless exercised, tenant approval expires 1 year from date)
November 17, 2011

Location and Square Footage approved for:
Up to 5,900 sf of office space

Company Description as related to Centennial operation:
Designs and manufactures wind turbines for off shore use. Looking to open an R&D facility in the US.

Areas of Existing/expected Partnership:
MAE Department – Dr. Ashok Gopalarathnam, Dr. Bob Nagel and Yun Jing have all met with prospect. Others interested are Fuh-Gwo Yuan and Kara Peters. Likely areas of collaboration exist in wake studies, blade noise physics and blade design optimization. Dr. Gopalarathnam has indicated support for the company to take space on campus.

FREEDM also presents some opportunities for collaboration but those have not yet been explored.

Approved by: ________________________________  
(CCPO Representative)

Approval date: __________________________
Special Collections Research Center
Centennial Campus Documentation Project

The History of North Carolina State University's Centennial Campus

By: Paige Meszaros, 2004

This History was commissioned by the Centennial Campus Partnership Office for the Centennial Campus Twentieth Anniversary Celebration

"The real action at today's top universities takes place at the interface—where ideas, people and technology from industry, government and universities come together to solve problems and create new products, better service, and smarter workers. Centennial Campus is Master Planned to use that interface to create a win-win environment for NC State and its partners."[1][77]

Introduction

North Carolina State University was founded in 1887 as a land-grant institution intended to be used to educate the working classes of the post-Civil War South. The Morrill Act was responsible for implementing Land Grant Universities around North Carolina.[2][88] While at the time these institutions were intended to respond the needs of an Industrial Revolution, today, North Carolina State University is responding to an intellectual revolution in the sciences and technology. The Morrill Act followed in the tradition of the Land-Grant College Act passed by the United State Congress in 1862. This legislation provided for, "the endowment, support and maintenance of at least one college (in each state) where the leading object shall be, without excluding other scientific or classical studies to teach such branches of learning as are related to agriculture and the mechanic arts in order to promote liberal and practical education of the industrial classes in the several pursuits and professions of life."[3][99]

In 1984, the University was pushed into the twenty-first century by a second land grant deriving from a bi-partisan effort to reallocate sections of land in west Raleigh. Resulting from decisions by the State of North Carolina, the administrations of Governors James B. Hunt and James G. Martin, a new portion of land was transferred to NCSU. Hunt said, when reflecting in 2004 on the experience, "I'd been [thinking] so much about how to compete with the world, how we transform our economy, knowing that universities have to be the key to that, and in particular North Carolina State University. So I decided, 'Listen, we ought to have a place where we can have business and universities and the best thinkers all working together, working alongside each other, parking in the same parking lots, having lunch together.'"[4][1010] The origins of the idea of Centennial Campus being a place for
students, faculty, industry, and government to live, learn, work, and play together were evident at this early stage of development.[5]

The land on which Centennial Campus stands today originally belonged to the Dorothea Dix Hospital. In 1848, with the help of democratic leader of the North Carolina House, James C. Dobbin, the Memorial Bill was passed to establish land for a mental asylum in North Carolina. By 1849, state money was appropriated and construction began in 1850. A site was selected in west Raleigh and the State Asylum built there became known as "Dix Hill" in honor of Dorothea's grandfather Elijah. The project was completed in 1856.[6]

The area of Centennial Campus and the Dix hospital are known as the Lake Raleigh Basin. In 1865, large portions of the land were used for the encampments of 60,000 Union soldiers. During the nineteenth and twentieth centuries, the Dix property gradually swelled as more land was acquired through purchases from Raleigh residents. During the period of 1907-1972, the hospital used portions of the property for a group of 100 farmers called the Oak Colony. Growing fruits and vegetables and raising livestock was seen as an important form of therapy for these Dix residents.[7]

By 1974, the State of North Carolina transferred the property (which would later become Centennial Campus) to the Department of Agriculture, which used it to grow animal feed until 1985. Precursors to Centennial Campus existed on NCSU's main campus as early as the 1970s. Faculty and administrators actively recruited industry clients interested in research. Grants from groups such as the National Science Foundation helped fund scholarship in numerous departments. Until that time, the undeveloped land was used by local residents for a variety of activities including dog walking, jogging, four-wheel driving, cycling, hunting, picnicking, and horseback riding.

The land on which Centennial Campus has been developed is prime real estate in the heart of the city of Raleigh. It was clear in the early 1980s that NCSU's main campus had run out of space. Hardy Berry, Vice Chancellor for Communications articulated that thought in an interview with the press, "The University is bursting at the seams now, and is extremely cramped in every way- for housing, laboratory facilities, parking, offices, and classrooms."[8] Although many of those involved in NCSU's administration, local government, and state government were pleased with the land allocation, other, quite vocal groups protested. Chancellor Bruce Poulton, who oversaw the transfer, referred to it as a "benefaction" for the future of the university and the people of North Carolina.

On December 19, 1984, Governor James B. Hunt, Jr., in a public ceremony at the State Capitol, allotted the initial parcel of land totaling approximately 355 acres to NCSU. By February 1985, the parcel was enlarged by an additional 450 acres by Governor James G. Martin. The request for the second parcel of land was initiated by Bill Friday and would "be granted contingent upon NCSU developing a plan for use of all the land that would be acceptable to the Capital Planning Commission and would gain the approval of the Council of State."[9] This land, when totaled with later acquisitions by the university, equal more area than the original campus (approximately 1,000 acres). Today, NCSU is the largest university in the state system and the Centennial Campus, which has evolved from the second land grant to the school, is the major component of the school's future expansion.

From the very beginning of its history, even before Centennial Campus was truly
conceived, the land transfer was steeped in controversy. Journalists and politicians rejected the move as, "...the arrogance of power that can come at the end of an administration."[10][1616] This referred to the fact that the transfer took place on the tail end of Governor Hunt's first two-term administration in the mid-1980s. Others questioned the level at which the public had been consulted before the transfer and the level of effectiveness at which the land currently owned by NCSU was being used.

The transfer had been completed by referencing a rarely used state statute that allows the Secretary of Administration to exchange land between agencies under the governor's control. State Labor Commissioner in the mid-1980s, John Brooks, stated that the law that regulates the UNC university system declares that NCSU cannot be classified as a state agency and therefore could not receive the reallocation. Brooks had estimated that the original land grant to the university had a value of approximately $350 million. "When one state agency declares state property assigned to them as excess to their current needs and a second state agency needs the land for their legislatively approved mission, the Council of State has the legal authority to make the transfer BUT the state retains the ownership."[11][17][17]

The UNC system is regulated by the legislative branch of the government of North Carolina, while Governor Hunt represented the executive branch of North Carolina. Therefore, the original transfer of land was jeopardized by the decision to make the reallocation through the governor's office and not the State Legislature. Ultimately, however, Lacy H. Thomburg of the State Attorney General's office, who supervised the transfer, disagreed with Brooks and declared the transfer legal despite the fact that the Council of State had not been involved.[12][18][18]

Resistance from the Council of State was fierce because some members had intended to use the property to build a training school for vocational occupations. State Commissioner of Agriculture at the time, Jim Graham, wanted the land to be used for a new State Farmer's Market, food processing center, and distribution site. The City of Raleigh competed for the land in order to build residential or commercial structures that would bring in tax revenue. Eventually, the arguments of Governor Hunt, his staff, Chancellor Bruce Poulton, and other NCSU officials won out. "Expansion of the university's main campus [was] limited on the east, north, and west by fully developed property. Therefore, the only possible direction for expansion is to the south. The Dix property is the only property available for future expansion of the campus,' Hunt said.'[13][19][19] Although the Hunt administration did not specify land use for NCSU, education and research purposes were always a part of the planning.

The North Carolina Alliance for the Mentally Ill was another group who questioned the reallocation of land to NCSU, but for very different reasons. Representatives of the organization argued that it was wrong to assume that the therapy provided to Dix patients by the farmland was no longer needed. They also questioned the level of commitment of the city of Raleigh and the State of North Carolina to providing improvements, modernization, and community support services to the mentally ill. In an editorial for the Raleigh Times newspaper, it is clear that some North Carolinians saw the land transfer as a personal attack, "to the families and friends of mentally ill persons this land giveaway is just one more cruel example of the apathy and callousness with which the mentally ill are regarded in North Carolina very substantial new state funding is urgently called for."[14][20][20]

All of the tension, which existed between city and state government in the capital city, was exacerbated in the 1980s as Raleigh's population and businesses boomed. Many
residents, especially those on the western side of the city and close to downtown, resisted Centennial Campus. They argued that development stemming from the university was changing residential areas into urbanized places filled with traffic, pollution, parking zones, and construction. Centennial could potentially house and employ two-thirds the number of individuals who worked downtown in the late 1980s, pump hundreds of millions of dollars annually into the local economy, enlarge the tax base of the area, all in a space ten times larger than Crabtree Valley Mall. The biggest problem involved with the campus was traffic. City planners estimated that once a critical mass was reached on campus, potentially 100,000 cars a day would go in and out of the campus. The Centennial Campus project and the infrastructure necessary for its development only added to the fears and issues of longtime Raleigh natives. Vice Chancellor for Finance and Business, George Worsley, said, "You have to understand the fundamental philosophy by which the Centennial Campus plan developed. The foundation of that mixed-use campus came from a realization that there needed to be more cooperative effort between the university and industry." The administration of NCSU believed that the concerns of residents could be resolved by the success of the project.

One method of doing this would be to focus on building road networks and alternative transportation to alleviate damage to residential areas. A people mover or monorail system could be used to connect main campus to Centennial Campus as well as to RDU International Airport and even downtown Durham and the Research Triangle Park. "A people mover is an automated transit system that provides frequent, high-speed service with one or more passenger cars that move along a fixed guideway or rail installed either on the ground or above ground." To date, a mass transit system, other than main campus Wolfline bus routes, has not been built. Reasoning for this is that the population of staff and students at Centennial is not large enough to justify the expense yet. Approximately 700-800 students ride the bus from main campus to Centennial now.

Monorail systems take up very little ground space, are more ecologically responsible, and have larger capacities than buses. A system in Raleigh could potentially handle approximately 15,000 passengers a day. In 1997, the estimated cost was $60 billion for construction and infrastructure. A maintenance cost of 3-5% of the capital cost would be approximately $3 million per year. The NCSU Student Senate endorsed a proposal for mass transit (beyond Wolfline) in 1991. A feasibility study completed in 1989 determined that the year 2000 would have been the ideal time to implement the plan. However, university and city planners continue to discuss options.

Some NCSU faculty were anything but enamored of the idea of Centennial Campus. Many attended public meetings and spoke out, voted not to move to the new campus (the entire faculty of the College of Textiles voted not to move to Centennial several years before their new facilities were built), and wrote editorials to the press. One Associate Professor of Design, Dennis Wood, wrote a scathing attack on the new campus, "we remain convinced that a better university does not demand the consumption of 800 acres of land that would better serve as a regional park; does not necessitate the further pollution of Raleigh with the exhaust of an added 100,000 vehicle trips per day; does not, perhaps even demand the employment and housing of an additional 20,000 students, researchers, and support staff."

An Academic New City is Conceived
Once NCSU acquired the two tracts of land totaling 780 acres the task before the university now was development. A University Planning Committee was formed with the intention of collecting proposals from all areas of the university. Eighty-three proposals were submitted after a request was published in NCSU's Official Bulletin. The ideas were deliberated, consolidated, and then incorporated into a report that outlined five areas of potential development for NCSU. Many ideas focused on the concept of NCSU building a "technopolis" where a combination of the university, corporations, and government agencies worked together. These included the following:

- graduate research centers which would explore topics such as biotechnology or public policy
- academic support facilities such as libraries, computational centers or video classrooms
- faculty/staff/student support facilities
- public access uses that could include a visitors' center or a center for the performing arts
- natural and recreational projects like parks or athletic fields

The Master Plan for development and design began in 1985 when an interdisciplinary team of both internal and external professionals was assembled by the NCSU Board of Trustees. The resulting land-use plan was supported by the NCSU Board of Trustees, the North Carolina University System Board of Governors, the State Capital Municipal Government, and the North Carolina Council of State. All of these diverse entities worked together to ensure that the land acquired by NCSU and later developed into the Centennial Campus would first and foremost support the academic mission of the university and serve the people of North Carolina.

The man selected to serve as a liaison between the new Centennial Campus and NCSU administration and the public at large was Claude E. McKinney. Serving first as the Dean of the School of Design at NCSU, his role slowly evolved from Special Assistant to Chancellor Bruce Poulton to Director of Centennial Campus until his retirement from the university in 2000. McKinney is a North Carolina native with degrees from UNC-Chapel Hill. He was selected because of his experience with the development of an "academic new city" in Columbia, Maryland. Centennial Campus, was viewed by many, as NCSU's chance to build an academic new city of its very own. McKinney wrote of the North Carolina project, "The Centennial Campus continues to consume my attention. It is a project, which I believe, is of some significance for American higher education. This new academic community promises to be an important economic development initiative which will impact the entire state and far beyond."

McKinney, more perhaps than any other individual associated with the Centennial Campus project, provided a vision of the future of education in the United States. He once wrote,

"I have felt for many years that 'the university' was an underutilized resource which American corporations and government have never engaged in a proper way. This is not only due to the reticence of the corporate and governmental reservations about how unresponsive universities might [choose] to be, it is the faculty in the universities who have been unwilling to allow themselves to apply their substantial intellectual talent to the needs of society. Perhaps this university's greatest opportunity will be in science and technology as we attempt to build a stronger position in international competition. We are clearly doing something different..."
Carley Capital Group, a Washington based firm, was selected as the master developer for Centennial Campus in April 1986. Although the corporation sought partnerships in which it could buy portions of the land and pay costs of roads and utilities, NCSU chose to develop a contract in which the university controlled all of the land. Chancellor Bruce Poulton stated his rationalization for this point of view, "The university's expansion represents a quantum leap both in physical size and educational potential. To make sure the people of North Carolina derive full benefit, the property must remain in public hands and subject to public control."

The Carley Capital Group was assisted by the University Planning Committee who were administrators, faculty, students, and alumni organized to solicit ideas and proposals for development. Additionally, landscape architects and land planning groups (such as Land Design, Inc. of Charlotte), urban designers, engineers, transportation and traffic operations firms participated.

The Centennial Campus was off to a rocky start and further complications arose when journalists and faculty began to frame its development as a potential ethical conflict between academic honor and corporate growth. Questions were raised:

- What risks will the university face, and what controls will it surrender, as it allows private development on public land?
- Who will make sure that the public interest is served by the private development and research conducted there?
- How will the new campus be governed and controlled—by private developers and contractors, or by the university?
- Will the university's academic integrity be compromised by the expected increase in lucrative corporate research contracts?

Planners were comforted, however, by the enormous oversight for the project due to its connection to a state institution. Carley Capital Group and its associates were monitored by the University's Board of Trustees (until the firm ended its association with the university in the late 1990s), the UNC Board of Governors, the City of Raleigh, and the State of North Carolina. The city of Raleigh provides water and sewer facilities while the university generates its own power and provides telecommunications. The state provides natural gas resources for Centennial Campus. In this way, groups from a local to a state level work together at the university.

Four basic principals guided the development of Centennial Campus. One, all projects would be mission-driven to reflect the research and teaching capabilities of university faculty. Two, the university would promote good environmental stewardship. Three, Centennial Campus would exemplify high design standards. Standards so high and innovative that the campus won a design award from the North Carolina chapter of the American Society of Landscape Architects in 1987. Moreover, four, the new campus would have to be economically self-sustaining through a financially sound business model. Claude E. McKinney argues that Centennial Campus has benefited the citizens of North Carolina. He stated, "The State's Department of Economic and Community Development has brought potential clients to [Centennial], as have the Triangle Regional Association and the Greater
The Master Plan has been organized around seven planning strategies with eight goals for implementation. The concepts evolving from a vision of a blend of private development, investment, and academic research. The strategies include the following:

- To plan the campus through the approach of mixed-use clusters/academic neighborhoods and to structure and focus activity with an arrangement of buildings and open courtyards.
- To base the planning of various networks of the campus on the natural characteristics of the site.
- To establish character areas by matching prominent site features or well-defined land units with particular mixtures of users.
- To emphasize accessible linkages and connectedness across the campus by giving special attention to the relationships between pedestrian, bicycle, vehicular networks, and their nodal intersections.
- To promote the understanding that individual building projects are to respond to the context of the campus as a whole as expressed by the natural systems, circulation networks, academic neighborhoods, clusters, and character areas.
- To relate the campus to the larger community through access, transportation, amenities, recreation, retail, and other uses.
- To implement project design according to the specific Project Brief that will be prepared for each project and area development.

The goals for the Master Plan are as follows:

- To proactively assist the consultant architects and development partners in the design and development process.
- To support the mission of the University.
- To direct the establishment of an academic community which encourages communication, interaction, and collaboration between the University, private industry, and government.
- To ensure that this community is integrated into the physical and social context of the City of Raleigh.
- To establish a long-term commitment by the community to responsible stewardship of the land, of the built environment, and of the management of the design, and development process.
- To provide a high-quality environment that supports communication among the campus participants.
- To plan, build, and support campus development to encourage a high quality of life.
- To fulfill the Physical Master Planning Goals approved by the University Trustees.

The importance of harmony between architecture and the environment is evident in the buildings on the Centennial Campus. A concentration on caring for the environment serves as a model for other parks and a learning opportunity for NCSU students.

The Centennial Campus Master Plan is a document, which outlines how the new land acquisition will enhance the school's original land-grant mission "dedicated to the development and application of science and technology to identified economic and social needs, and to training the citizens responsible for making the economy and
By fulfilling its educational mission in a high tech world, NCSU has been able to achieve national prominence as a major research university in science and technology and to support the growth and evolution of a once purely agrarian and industrial campus.

The campus developed as a series of clusters with a mix of academic and private research buildings. Twelve academic clusters of approximately 25-30 acres each have been proposed. Each cluster would contain laboratories, classrooms, offices, public and private buildings, residences, plazas, courtyards, etc. Over forty percent of the land has been set aside for open space and green areas. Raleigh City Councilwoman Norma DeCamp Burns emphasized the importance of environmental stewardship in the late 1980s when she stated that, "People belittle the importance of trees and think it's only an appearance issue, but trees have powerful environmental effects."[33] On Centennial Campus, trees purify the air by removing carbon dioxide, reduce noise, provide shade, and cool the city by radiating water through their branches and leaves.

The idea of clusters, "extends [the university's] original mission to produce farmers for the state's fields and engineers for the state's factories but as the state's economy changes the university needs to get more involved not only in helping existing industries but also in promoting newer ones such as computers and biotechnology."[34] Planners also envisioned that the cluster concept would promote "cross-fertilization" between academic departments that was lacking on the main campus.

The year 1986 brought changes to the land allocated for Centennial Campus. The Master Plan called for a portion of land owned by the Catholic Diocese of Raleigh to be acquired by the university. Via sale, lease, or trade, the land adjoining the former Dix property was crucial to further development. The Catholic Diocese was interested in expanding facilities for the Cardinal Gibbons School. The land in question lay south of Cardinal Gibbons Drive and was formerly used by the Diocese as the site for a Catholic orphanage. NCSU bought the land from the Diocese for $7.5 million through another exchange with the NCSU Endowment. Vatican approval, however, was needed before the sale was finalized.

By 1987, Centennial Campus administrators were interested in rapid development. However, the NCSU Board of Trustees' suggestion that the school incorporate a procedure bypassing the General Administration and the Board of Governors was met with cool reception. The plan involved leasing land to private companies for research. The revenue generated from leases would go back to the school (with the approval of the Council of State and State Legislature). The UNC Board of Governors is supposed to have final say in real estate deals at system universities. Centennial Campus and its proposal for rapid development threatened that tradition.[35] The solution was for NCSU to, "[draft] a 'memorandum of understanding' that would allow the University to control the land on a daily basis. The memorandum would weed through the lengthy process of seeking approval for the projects from the Board of Governors and the Council of State."[36] With the decade of the 1990s came a re-evaluation of the progress of Centennial Campus. Chancellor Bruce Poulton was gone and replaced by Chancellor Larry Monteith from the School of Engineering. The original plan for the campus had envisioned a major corporate and government tenants. The slow rate of growth inspired the new Chancellor to assemble a group of developers and real estate experts to re-evaluate the Master Plan and come up with new strategies. Monteith stated, "
to re-evaluate the Master Plan and come up with new strategies. Monteith stated, "Let's overlay this nice Master Plan with some financial realities." It is important to keep in mind, however, that during the late 1980s-early 1990s, North Carolina experienced a recession and that university research parks do not emerge overnight, "the recession halted the state money needed to build the academic research centers that were supposed to lure corporations. State and university budget short-falls directly impacted Centennial's potential for growth.

One reason corporations were hesitating is the long process of approvals for state construction and the complicated guidelines that hindered contractors and designers. "The chief obstacle to the campus' success is the inability of a public institution to match the efficiency and speed of private companies in putting up new buildings. The developers urged NCSU to take a more aggressive approach to marketing and public relations. They would focus on a four pronged strategy of research partnerships, workforce partnerships, training partnerships, and technology environments. Research programs included advanced materials, biotechnology, veterinary medicine, advanced communications technologies, environmental technologies, and manufacturing process engineering.

In the early 1990s, Centennial Campus realized some major projects that helped to push further towards success. The College of Textiles moved from the main campus to Centennial land and the Engineering Graduate Research Center was established. The designers of Walter Robbs Callahan and Pierce Architects of Winston-Salem designed the new College of Textiles as an enormous 300,000-square-foot building in four parts, each connected by arcades and plazas. Classes began in the new building in spring of 1991. The College was important to NCSU because it showed that academic institutions could play a role in helping industry in North Carolina compete with cheaper, foreign imports.

For Dean of the College of Engineering and later Chancellor of NCSU, Larry Monteith, Centennial provided the necessary space for sophisticated laboratories needed to recruit competitive graduate students as well as helping maintain the national stature of the school. Architects throughout the project have been encouraged to incorporate technology into their design concepts for the buildings rather than trying to disguise it.

The early 1990s also saw government tenants moving onto Centennial Campus. The National Weather Service move was a part of a national modernization of the organization emphasizing new equipment and techniques. The United State Department of Agriculture selected Centennial as the site for its new APHIS Center for Plant Health Science and Technology (APHIS stands for Animal Plant Health Inspection Service). This laboratory is concerned with plant protection and quarantine techniques.

In autumn 1994, around the tenth anniversary celebration of Centennial Campus, Director Claude McKinney thanked Governor Hunt, "for the faith he had in [NCSU's] ability to use this land with a sense of stewardship and respect for quality to help the state in its economic development objectives and to further the University's mission into the twenty-first century." In a conference in 1988, McKinney had outlined the importance of Chancellor Bruce Poulton in development as well,

This vision evolved through a series of discussions led by Chancellor Bruce R. Poulton with Trustees, members of the faculty and administrative advisory staff, and our corporate and governmental supporters. It is important to note that this vision was not a simple response to a direct charge, but more an interpretation of
vision was not a simple response to a direct charge, but more an interpretation of the University's larger responsibility in the 1980s and beyond. We are in a position in which the University's faculty can step forward, taking an initiative as intellectual entrepreneurs and through their scientific and technological advancements, contribute to the state's economic development. This University has accepted the broader mission and is taking a risk in the institutional marketplace rather than [waiting] for a direct 'commission' by some higher authority. Historically, educational institutions have been 'condemners of people' to address the conditions in our society. NCSU will now convene a different kind of forum- beyond rhetoric- one of action bringing together our institution with our partners in government and industry.[42]

During the early development of the campus, every detail of design, infrastructure, finance, and management had to be created and implemented. This process included guidelines for naming the new buildings and road networks that were to grace Centennial. Following in a tradition much like that of the main NCSU campus, the procedures for naming structures and streets on Centennial were meant to reflect the components of the Master Plan. Names would honor university and non-university individuals, faculty, alumni, and groups mainly. However, exceptions were made to include significant dates or events in campus history, historical North Carolina places, symbols, activities, or functions with special meaning to the university. Character areas such as neighborhoods and open space are identified by names that connect people, events, places, or activities to the location.[43]

Functioning of Centennial Campus Today

Currently, there are seven categories of land use associated with Centennial Campus. Some of these categories have already been built and are being used such as R & D facilities, multi-tenant and special-use offices, retail establishments, and incubator facilities. Others such as residences and the hotel and executive conference center remain underdeveloped or have not yet been built. However, ownership of new land allows the university to renew its commitment to North Carolinians as a land-grant institution.

The Master Plan calls for three broad categories of housing on Centennial Campus, including university sponsored undergraduate and graduate living space, faculty and staff housing, and "market-rate" housing available to the public. Residential neighborhoods have been slow to develop:

North Carolina State University's Centennial Campus is a research and advanced technology community where university, industry, and government partners interact in multidisciplinary programs directed toward the solution of contemporary problems. In this 'knowledge enterprise zone,' clusters of activity break down traditional, artificial barriers to creation, integration, and application of advances in knowledge. The resulting synergy leads to: technological innovation and transfer, reality-based teaching and learning, sound business investment, and greater quality of life for North Carolina and beyond.[44]

Centennial Campus caters to two different types of customers- primary and intermediate. Primary customers are companies and government agencies who have a significant Research and Development need that may be enhanced by partnerships with academic departments at the university. Intermediate customers are university and non-university individuals and groups who help to connect potential primary customers with NCSU. Primary customers benefit from being associated with a major American research university as well as financially from access to people, technology,
The Partnership Development Office was created to serve as a liaison between NCSU and private companies and the government. It "is based on teamwork which delivers a seamless integration of quality service to prospective resident partners from first contact throughout the period of co-location with the University." Partnership Developers work with representatives from various corporate and government organizations regarding issues with locating and maintaining space at Centennial.

In order to match the right kinds of businesses and researchers to Centennial Campus, NCSU wrote evaluation criteria for potential tenants. This allows the university to screen corporate and government resident partners to make sure that they will adhere to the programmatic requirements of the faculty and departments at NCSU. The five criteria are as follows:

- The organization should have an established relationship with some unit of the University, or there must be an expressed interest by the organization and the University in establishing such a relationship.
- The organization could have an interest in the University's intellectual property, i.e. patent or copyright or in the unprotected research produced by our faculty and/or graduate students.
- The organization could have been a sponsor of research or a member of one of the University's established centers or institutes. These multi-disciplinary units, with their corporate members, are a natural precedent to resident partnership status.
- The organization should have as its principal activity the conduct of research or research related management in their facilities on Centennial Campus. Research and Development is a logical extension of research. If manufacturing is involved, it should be in pilot or limited units of production.
- The organization should present evidence of financial stability to the University in negotiating for space on the Centennial Campus. Other factors such as quantity of space (a suite vs. a complete building), length of lease commitment and other financial considerations will be addressed on a case by case basis.

Generally, the process of recruiting new partners for Centennial Campus follows five basic steps. In the first exploratory stage, partners are recommended to NCSU by groups like university faculty, the Chamber of Commerce, or the North Carolina Department of Commerce. Once a potential client has been identified, an initial meeting is set up to introduce the prospective partner to Centennial. At this meeting, the future for the Campus is outlined and the partner is invited to a second meeting. The second meeting is a round table discussion involving the faculty, administration, and partner. At this meeting, a formal invitation to join Centennial may be issued. Next, a written proposal is sent to the partner and the partner is expected to send back a letter of intent to the university. Finally, negotiations over lease, infrastructure, etc. are conducted.

In 1991-1992, Centennial Campus was able to apply those guidelines and procedures towards its first corporate tenant, ABB Power T&D Co. Asea Brown Boveri is a multinational firm based in Zurich, Switzerland. Their Transmission Technology Institute opened at Centennial in Research Building I. The NCSU Endowment Fund exchanged approximately two acres of land (70 acres had been purchased by the
Partnerships between the university, industry, and government agencies fundamental to Centennial Campus were not without criticism. The media and state government pressured NCSU to ensure that the academic mission of the school was not compromised. However, the university has triumphed over this obstacle by incorporating safeguards to counter corporate competition and corruption. Guidelines created by NCSU state that industry-sponsored research must lead to new knowledge and be supervised and approved by faculty. Additional guidelines are as follows:

- Special emphasis should be given to research projects that ‘provide financial support for students, enhance the educational and research facilities of the university and contribute to the professional development of the faculty.’
- All research projects must be approved by a department head, the dean of a college and the vice chancellor for research.
- The university will not ’knowingly’ undertake research on weapons development. The university ’does not, under normal circumstances, encourage acceptance of any research project which is secret or classified.’
- The university holds patent rights to inventions arising from university research to assure ’the utilization of such inventions for the public good.’

After the development of a plan for land use, the next challenge to NCSU administrators was the creation of a programmatic plan for Centennial Campus. Dr. Charles Moreland, working in the university research office with Frank Hart (Vice Chancellor for Research), Jaine Place (Centennial Campus Staff), and George Worsley (Vice Chancellor for Finance & Business), was charged with outlining a way to link private companies with NCSU. This team decided to allow NCSU faculty to have a large role in recruitment. Professors in the strongest programs at NCSU would develop relationships with companies that were already supporting research in the field. In this way, corporations and start-ups could participate in a ”research center approach” where faculty and student interaction were crucial.

Besides easy access to people, technology, and amenities, Centennial Campus also stands out for its ability to expand, design and building quality, environmental stewardship, access to RDU International Airport, proximity to downtown Raleigh, and transportation networks. However, the campus is considered less competitive in price, currently available space, construction timelines and lease processing time, infrastructure for sites, and leases, which are limited to a maximum of 40 years.

**Obstacles for Centennial Campus**

A major obstacle to the success of Centennial Campus was the issue of revenue created from its development. Generally, revenue produced from property development at any school in the UNC system are sent back to the state’s general fund. Money is then distributed as the Council of State sees fit as opposed to being invested back into NCSU. Chancellor Bruce Poulton, in a 1986 interview with The News and Observer, stated that he would lobby for new legislation or regulations.
A major component of Centennial Campuses' Master Plan has always been an executive conference center, which would exist to meet the educational needs of the corporations and scientists working at NCSU. Additionally, educational classrooms within the center could serve as meeting spaces for government and private agencies. The scope of the 300,000 square foot project included 250 guest rooms, 25-50,000 square feet of meeting rooms and dining rooms, audio/visual capabilities, food prep and service areas, and recreational facilities at an approximate cost of $40-50 million. Chancellor Larry Monteith argued that the conference center is necessary if Centennial is meant to be a hub of intellectual activity. For him the wealth created by such a center would help create jobs and support causes such as the arts that government agencies tend not to fund.

One focal point for the executive conference center is a proposed golf course facility, which would serve the dual purposes of recreation and education. "The principal research agenda for a golf course would involve NCSU faculty and graduate students in the areas of agronomy, soil science, plant pathology, biotechnology, entomology, agricultural engineering, toxicology, wildlife management, urban forestry, textiles, and agricultural economics." A golf course might also serve as a bridge between the university and the larger Raleigh community while at the same time providing additional revenue as well. The faculty at NCSU maintain that building and maintaining a golf course at Centennial Campus would increase student internship and research opportunities, provide a field trip site for interdisciplinary majors on campus, expand the facilities for the Athletic Department, and potentially serve as a sight for a potential PGA Academy.

**Financing & Business Model**

The Centennial Campus is long-term project, which is expected to carry the university into the next century of its development. Easily expected to exceed $1 billion in cost it must be financed in a variety of ways. First, NCSU acquires funds from the North Carolina State Legislature in the form of appropriations and bonds. Second, corporations and the federal government provide money in the form of research grants awarded to faculty and students. The third, and most important source of revenue comes from the money generated from leases of land and buildings on the campus to companies and government agencies in a land-lease system. "Under such an arrangement, the university would lease land to a private company or developer who then would put up a building and rent space to private clients interested in a research partnership with the university such leases would be paid in advance revenue could be used to retire the debt from revenue bonds issued to pay for such needs as roads and sewer systems."

Legal changes by the State Legislature were needed to allow the Centennial business model to work. The following law was passed to regulate NCSU, "The purpose of this Article is to authorize the Board of Governors of The University of North Carolina to issue revenue bonds, payable from any leases, rentals, charges, fees, and other revenues but with no pledge of taxes or the faith and credit of the State or any agency or political subdivision thereof, to pay the cost, in whole or part, of buildings, structures, or other facilities for the Centennial Campus, located at North Carolina State University at Raleigh. As a result, the Centennial Campus model has..."
Perhaps the most unique aspect to Centennial Campus lies in its flexibility to adapt and change over time. Rather than sell the land to corporations or the government, as many research parks often do, NCSU leases the land so that future Chancellors have the power to re-evaluate land usage in the coming decades of the twenty-first century. In this way, NCSU holds the land in trust for the education of future citizens of North Carolina, the United States, and the world. This flexibility encourages an attitude of support for the university’s changing needs.

**Centennial Campus Magnet Middle School**

The concept of the Centennial Campus Magnet Middle School grew out of an idea meant to bring the school systems of the Triangle closer together. A model elementary school would be built in Chapel Hill/Orange County and a model high school would be built in Durham County. Governor James B. Hunt, Raleigh Council members, the Triangle J Council of Governments, and NCSU’s Department of Education were all involved in brainstorming sessions and presentations leading to a proposal to use part of the land of Centennial Campus for a model middle school. In a 1995 memo from Claude E. McKinney to Charles Moreland, obstacles to the project were made clear, "The overture was met with cool reception because the Centennial Campus never anticipated having such an institution in its compact, interactive Master Plan. The concept grew more credible as we learned that Wake County would be willing to consider a building lease and therefore, would be an operational expenditure, as opposed to a capital investment."[61][67]

A new, compact school, in an urban setting was seen as a way to inject creativity into the Wake County Public School system while at the same time benefiting NCSU’s College of Education. Serving a student body of approximately 660 students from across the county, the compact building is located on the southwest portion of campus. It is hoped that the school will be a model (like Exploris Middle School and Moore Square Magnet Middle School in downtown Raleigh) of how a school system like Wake County will transition from suburban to urban in the coming decades of the twenty-first century.

The creators of the Magnet Middle School worked from the premise that school children in the middle grades have already identified their academic strengths and weaknesses. In other words, these students have identified their predisposition towards mathematics, science, and technology. Students with a talent and desire to excel in those fields would be the ideal candidates for the new Magnet Middle School. Although the school still recruited a diverse student body and taught a diverse curriculum, many educators saw the school as an opportunity to increase educational opportunities in technological areas. Wake County Public Schools and NCSU developed five guidelines to help shape Centennial Campus Magnet Middle School:

- Extensive interaction between students and adults, including community members, industry and government researchers, and NC State professors and students.
- Exploration of adolescent concerns and real-world issues through a curriculum, which integrates skills and concepts of various disciplines.
- Use of cutting-edge technologies as a resource in all teaching and outreach areas.
- Maximized linkages with other educators, parents and youth-serving
professionals in developing and disseminating innovative teaching/learning strategies.

- Broad opportunities for ongoing research, evaluation, teacher preparation, and professional development.\[62]\[5868

The mission statement of the new school shows the intimate connection it has with the resources of the local community:

*The Centennial Campus Magnet Middle School, a collaboration of the Wake Public School System and NC State University, creates an exemplary educational community of young adolescents and adults who learn by actively discovering, integrating, and applying knowledge in a dynamic global and technological environment. This collaboration promotes educational change through a unique state and national outreach program for educators, parents, and community members [the school] will hold high expectations for all, and will provide a high-quality education, which honors the diversity and unique needs of middle school students.\[63]\[6969

**Centennial Campus vs. Research Triangle Park**

From the earliest stages of development, Centennial Campus struggled to clearly distinguish itself from the Research Triangle Park. Claude E. McKinney wrote, "The Centennial Campus is a complimentary activity to the Research Triangle Park. In its park environment the Research Triangle facilitates research enterprises, which support individual corporate and governmental cultures. The Centennial Campus seeks to build a mixed-use, urban scale interactive environment which will facilitate collaboration between university researchers and corporate/governmental scientists."\[64]\[7070 McKinney even envisioned degrees of collaboration between RTP and Centennial, often stating publicly that the corporate research centers at the Park may eventually send scientific teams to work at Centennial with faculty, staff, and students.

The administrators and staff of Centennial Campus have made a conscious effort to limit the number of large corporations that reside at NCSU. Unlike RTP, which sells its land, Centennial Campus deals in long and short-term leases. A few large companies could easily overwhelm the land in a short time period. "A campus where there is a turnover, where small businesses get large, where large businesses move off, where some of the small businesses fail, where some merge or are sold, provides dynamic and ever-changing opportunities of developing meaningful partnerships based upon the ever-changing research agenda of the university."\[65]\[7171

Centennial Campus is a very urban and compact campus, which is appropriate for a university in the heart of the city and right beside downtown. The RTP is filled with more open space that is outside of developed areas. Companies working at RTP are also much more likely to remain isolated from one another in the effort to maintain corporate privacy in research. In opposition to that, Centennial has developed a decidedly more collaborative atmosphere between faculty, students, and private industry.

**Conclusions**

Today Centennial Campus is involved with a number of innovative and exciting partnerships. The computer science department at NCSU is actively engaged with Red Hat, Inc., a company focusing on Linux operating system development. Red Hat,
Inc. is headquartered at Centennial. The department of engineering has benefited from work with NASA's Mars Rover Robotics Project. The National Oceanic and Atmospheric Administration's (NOAA) weather forecasting headquarters has given additional opportunities to students in both undergraduate and graduate programs. The College of Education has had real teaching and learning experiences to offer its students via the Centennial Campus Middle School. Although 1,000 acres seems almost too much land for one university to develop, the timeline for the project is 100 years. It took a century for the main campus to exhaust its resources, Centennial has over 75 years left to catch up to the original land grant campus.

The challenges for Centennial Campus have not disappeared though perhaps they become easier as the project’s success is cemented with each new partnership. Housing developments; linking main campus to Centennial; developing a core mixed-use center; and building the hotel, executive conference center, and people-mover system still lie ahead. Most likely the threat of competition with the private sector, a lack of political support, and budget issues have delayed most of these projects.\textsuperscript{[66]}\textsuperscript{[7272]}

Centennial Campus is rapidly becoming a model, "something that is envied by a lot of other universities in the United States and a lot of other universities in other countries in the world."\textsuperscript{[67]}\textsuperscript{[373]} Governor Hunt has said, "My belief is that no other campus is doing this to the extent that we are, but I suspect many have learned about the idea and are beginning to do it. And indeed I think it is a smart thing for them to do. We just want to run harder and stay ahead."\textsuperscript{[68]}\textsuperscript{[474]} From the language used here, it is clear that Hunt has much pride in the accomplishment of Centennial Campus.

The legacy of an entity as unique as Centennial Campus is that many individuals associated with the project want to take sole credit for the idea. However, given the numerous records in the North Carolina State University Archives and the information given in interviews over the years, several versions of the "history" of Centennial Campus exist. Time, death, memories, and reflections have more than likely blurred the facts for most people. It is clear that the hard work and planning were conducted by the Hunt administrations, Martin administration, Chancellor Bruce R. Poulton, Chancellor Larry Monteith, and Claude E. McKinney, regardless of whose idea birthed a new day for North Carolina's technical university.

\textsuperscript{[1]}\textsuperscript{[575]} 1999 Promotional Booklet for Centennial Campus, North Carolina State University Archives, Box UA 3.10.1.

\textsuperscript{[2]}\textsuperscript{[676]} Report of a University/Industry/Government Conference on Uses of the Dix Campus Property to Enhance the Industry/University Research Interface, NCSU McKimmon Center, November 20, 1985, NCSU Archives.

\textsuperscript{[3]}\textsuperscript{[777]} "Marking a Milestone: NCSU’s Centennial Campus to be a 'new academic city,' " by: Mike Collins, Triangle Business, April 27-May 4, 1987, NCSU Archives.

\textsuperscript{[4]}\textsuperscript{[878]} Interview with James B. Hunt by Ron Kemp of NCSU Creative Services, January 22, 2004.

\textsuperscript{[5]}\textsuperscript{[797]} In an interview with NCSU Creative Services on April 20, 1995, Bruce R
Poulton stated that he "became aware of what was called the Dix Hill Farm. I approached a woman who was head of Health and Human Services. Dr. Sarah Morrow, asking about was there any opportunity to get some of that land reassigned, indeed she would be willing to recommend the transfer that led us to the Governor's office for exploratory conversations about was there any real chance and Dr. Hunt's response to that was 'well you show me on paper what you would do with that land and make your case as to why it's critical to NC State University and we'll take it from there.'"

No other independent source in the NCSU Archives or oral history interview has been able to corroborate this version of Centennial's history. Poulton declined to participate in this project stating in an email, "I am going to write the history of the acquisition and early development of CC covering the period 1982 to 1990. I will publish it myself if I have to but I am not going to allow that history to be written by people who were not involved or have it come out as a surprise gift from Governor Hunt!" (email Bruce Poulton to Carla Skuce, June 23, 2004). Future scholarship on the history of Centennial Campus will have to compare this report to Poulton's.


[16] "Centennial Campus Plan Faces Scrutiny Over its Impact on City." by: Paul


[27] "Public-Private Link is Foundation for NCSU's 'academic new city,' " The News and Observer, May 25, 1986, NCSU Archives Box UA 50.5.3.


[34] "Public-Private Link is Foundation for NCSU's 'academic new city,' " The News and Observer, May 25, 1986, NCSU Archives Box UA 50.5.3.


[38] "Building on Centennial," editorial, Technician, November 17, 1993, NCSU Archives.


[43] Proposed Criteria and Guidelines to Be Used in Naming Facilities on the Centennial Campus, April 22, 1994, NCSU Archives.


[48] Evaluation Criteria for Corporate/Governmental Resident Partners on the Centennial Campus, North Carolina State University, NCSU Archives.


[50] "NCSU Scrambled to Accommodate Facility," by: Trish Wilson, The News
and Observer, September 6, 1992, NCSU Archives.


[52] Interview with Charles Moreland by Ron Kemp of NCSU Creative Services, July 2004.


[56] Interview with Larry Monteith by Paige Meszaros, July 2004.

[57] Interview with Larry Monteith by Paige Meszaros, July 2004.


[63] Centennial Campus Magnet Middle School Mission Statement, January 9, 1995, NCSU Archives.


[65] Interview with Larry Monteith by Paige Meszaros, July 2004.

[66] Interview with Larry Monteith by Paige Meszaros, July 2004.

[67] Interview with Charles Moreland by Ron Kemp of NCSU Creative Service, July 2004.

[68] Interview with James B. Hunt by Ron Kemp of NCSU Creative Services,
NC STATE UNIVERSITY
CENTENNIAL CAMPUS
An extraordinary research campus for people doing extraordinary work.
ALTERNATIVE ENERGY SOLUTIONS.
GLOBAL HEALTH ADVANCES.
ENVIRONMENTAL SUSTAINABILITY.

NC State's mission and tradition lead us to boldly tackle big, tough challenges. It's in our DNA. It's part of our vision. We transform lives and improve the human condition through innovation and discovery. Whether it's research that leads to breakthrough scientific discovery or assisting startups, we just roll up our sleeves and get the job done.

Thus it's no accident NC State has one of the most envied and successful research campuses in North America. Early on we saw the value of putting world-class researchers, corporate, governmental and non-profit partners together in close proximity. We knew both sides would benefit. We also knew true innovation would result.

No wonder the Association of University Research Parks (AURP) named Centennial Campus its outstanding research park. It's also no accident NC State ranks as one of the top research institutions in the country.

NC State brings its "A" game onto Centennial Campus. We invite you to do the same.
BENEFITS & PRIVILEGES

Here are many of the benefits and privileges our partners enjoy by being a part of the Centennial Campus community:

- Ongoing research and collaboration opportunities with more than 75 NC State departments, centers, and institutes located on Centennial Campus
- Access to state-of-the-art laboratories and world-class research equipment
- Close access and proximity to four colleges with a strong physical presence on Centennial — College of Engineering, College of Textiles, College of Veterinary Medicine, and College of Education
- Close access and proximity to the Graduate School
- Access to other colleges and departments on NC State’s main campus, which is located five minutes from Centennial Campus
- Ongoing partnership and liaison services through the Centennial Campus Partnership Office
- Easy access to the rich portfolio of intellectual property through the Office of Technology Transfer
- Scheduled campus-wide programs for employees, including Lunch and Learn series, Focus on Fitness Day, Executive Breakfast Club, and Health Works! Program
- Executive conference center and hotel (coming soon)
- 75-acre lake with fishing pier and non-motorized boat launch
- Greenway along restored creek
- Five minutes from I-40 and downtown Raleigh
- Twenty minutes from RTP and Raleigh-Durham International Airport
- Access to NC State libraries, gym, pool, and shared conference space
- Discounts to athletic, cultural, and arts events
- Discounts to McKimmon Continuing Education Center
- Close proximity to The State Club (private dining facility on campus)
- Eligibility for membership in the NC State University Club
- Free bus transportation around campus and throughout the Triangle
- 18-hole championship golf course
- 18-hole disc golf course

The 200,000-square foot James B. Hunt, Jr. Library will feature an automated book retrieval system.
MAP & DIRECTIONS

From RTP and Raleigh-Durham International Airport
Take I-40 east towards Raleigh. Exit Gorman Street. Turn left at light. Take Gorman Street to Avent Ferry Road. Turn right. Take Avent Ferry Road to Varsity Drive. Turn right. Receive parking pass at information booth just ahead.

From Downtown Raleigh
Take S. Blount Street to Martin Luther King Boulevard. Turn right (going west). Take MLK Boulevard until it turns into Western Boulevard. Turn left onto Avent Ferry Road. Turn left onto Varsity Drive. Enter Campus. Receive parking pass at information booth just ahead.

From Wilmington, NC
Take I-40 north towards Raleigh. Follow signs for I-40 west at split. Exit right onto Lake Wheeler Road. Turn left on Centennial Parkway. Turn left onto Avent Ferry Road. Turn left onto Varsity Drive. Enter Campus. Receive parking pass at information booth just ahead.

To learn more about Centennial Campus or to visit campus, contact us at (919) 515-7036.

centennial.ncsu.edu
LOCATION, LOCATION, LOCATION
- At Centennial you aren’t just collaborating with a University - you are part of it. Centennial Campus is NC State University. Here you will find a fully integrated research and development playground that co-locates university departments, research labs and centers with corporate and government entities. The campus consists of 1,300 acres of compact mixed-use development, master planned on a pedestrian scale, with a commitment to environmental sustainability and preservation of open space and natural beauty.

AN ENVIRONMENT FILLED WITH RECREATIONAL ACTIVITIES - Right outside your door you’ll find a wide variety of fitness and recreational opportunities waiting for you before, after or during your workday. Amenities include:
- 18 hole championship golf course
- Greenway trails
- Fitness course with 5 exercise stations
- Disc golf course
- Quick access to all of the Carmichael Gymnasium facilities
- Sidewalks throughout campus
- Fishing pier and observation deck
- Boat launch ramp (non-motorized only) and a 75 acre lake
- Multi-purpose play fields

PARTNERSHIP SERVICES –
All corporate and government entities (we call them Partners) that locate on Centennial receive ongoing, personalized services from the Partnership Office. We are here to help you make faculty contacts, locate equipment or labs you might need, find student workers and to answer any and all questions you may have about the University and Centennial.

ACCESS TO CONFERENCE AND MEETING SPACE – Throughout the campus there are various sizes and shapes of meeting space. Everything from a 90-seat auditorium to a 250 person multi-purpose room to a 30-seat conference room. Most spaces are available free of charge. Just let us know what you need and we’ll help you find it.

www.centennial.ncsu.edu
October, 2010
CENTENNIAL CAMPUS COMMUNITY EVENTS – The Partnership Office hosts numerous events through the year aimed at bringing people together. Events include the Lunch and Learn Series, Executives Breakfast Club, HR Network, Chancellor’s Lunch, Focus on Fitness Day, Partner Appreciation Holiday Reception, and more. Additional lectures available to Partners include:
• Wachovia Lecture Series
• Fidelity Lecture Series
• Entrepreneur’s Lecture Series

UNIVERSITY AFFILIATE STATUS – This status has been granted to all employees of Centennial Campus Partners, just one more way we make sure you feel like part of the University community. Privileges include:
• Library Privileges – including special partner level access to the NC State Libraries’ print and digital collections and to resources worldwide, along with expert instruction and assistance from library technicians.
• Full use of NC State University gymnasium, pool, indoor track and fitness facilities and programs (starting at $15/month)
• Faculty/Staff discounts at University sporting and cultural events
• Free access to the Wolfline bus system, the Capital Area Transit system and the Triangle Transit Association
• Discounted rates at McKimmon Continuing Education Center
• Partner membership options at The State Club (a private dining facility located on the south side of Lake Raleigh on Centennial Campus)
• Eligibility for membership in the NC State University Club

PUBLICITY – We can help you tell your story to the news media by coordinating coverage. We’re always on the lookout for interesting stories from partners as we publicize and promote Centennial Campus and would welcome your ideas.

COMMUNICATION – We have a number of different communication avenues to keep you and your employees informed about activities, events and university happenings. These include:
• Centennial Campus website (centennial.ncsu.edu)
• Centennial Campus Online Network (centennialcampus.ning.com)
• Centennial Campus Facebook page
• Centennial Campus weekly e-newsletter

HIGH SPEED INTERNET ACCESS – Partners have the option to connect to NC State University’s fiber optic cable strands. Two preferred providers have been selected for this service option. Contact the Partnership Office for additional details.

HEALTHWORKS! – This program has been created to promote health awareness on the campus. Includes:
• Onsite mobile mammography
• Bloodmobile
• Flu shot clinics
• Heart and vascular screenings
• Weight Watchers at Work programs
• Lectures on good health, mental health and exercise-related issues

FACILITIES PLANNED FOR OPENING IN THE NEXT FIVE YEARS – Centennial continues to grow and improve its surroundings. The following projects are currently under construction or in the advanced planning stage:
• Hunt Library
• Executive conference center and hotel
• Additional laboratory and office buildings
• Additional food service options
• Additional residential options
• Additional greenways and recreational amenities
• Mixed-use town center
Below is a list of corporate, government, and non-profit partners located on Centennial Campus.

3F, LLC
6fusion
ABB, Inc.
Able SoftSystems
Advanced Energy Corporation
Agile Sciences
Agilent Technologies
Alera Labs, LLC
Allied Telesis Labs, Inc.
All Systems Broadband
Analog Devices
AnimalScan
Appealing Products, Inc.
ArcLight Wireless
Asylum Research
BAMS
Centennial Campus Middle School
ClearConnex
Corsair EDA, Inc.
Environmental EDA & Exchange
First Analytics
Green Energy Corp.
GSK, Analysis Applications, Research
& Technologies
Handsfree Networks
I-Cubed
ImmunoReagents, Inc.
Juniper Networks, Inc.
JVS Export
Knowledge Sharing Systems, Inc.
Land Trust Alliance
McKim & Creed

MESO
NC Wildlife Resources Commission
NDRI
NOAA National Weather Service
North Carolina Virtual Public School
Partnership for Defense Innovation
Pentair Pool & Spa
Phononic Devices
Physical Devices
Premitec, Inc.
Real-Time by Design
Red Hat
RGL Solutions
Sisu Chemicals, LLC
SKEMA
Spirent Communications
Sunguard
Talecris Biotherapeutics, Inc.
Tego Data Systems
Telos MedTech
US Forest Service
USDA-APHIS-Eastern Regional Office
USDA-APHIS-PPQ-Center for Plant
Health, Science and Technology
USDA-APHIS-PPQ-State Plant Health
Directors Office
USDA-APHIS-VS-NC Office
USDA-APHIS-VS-National Center for
Import and Export
Venganza
Vizurion Entertainment
VRCIBE (Viacec Research Center for
Internet Business Engineering)
WebAssign
WISERsystems
CENTENNIAL CAMPUS FACTS

FOOTPRINT
• Two campuses – Centennial Campus and Centennial Biomedical Campus (includes the College of Veterinary Medicine)

BUILDINGS ON CAMPUS
34

PARTNERS
• 60+ corporate, government and non-profit partners
• More than 75 NC State research centers, institutes, laboratories and departmental units

POPULATION
• 2,760 partner employees
• 1,350 university faculty, staff and post-docs
• 3,400 university students
• 600 middle school students
• 60 housing residents

INFRASTRUCTURE INVESTMENT
• 3 million sq. ft. of constructed space
• Build out: 9 million sq. ft. and 40,000 employees, students and residents

RECREATION & AMENITIES
• Innovation Cafe - Casual Dining Facility
• Lonnie Poole 18-hole championship public golf course
• Greenway trails and game fields
• NC State affiliate privileges
• Fishing Pier and Lake
• 9-hole Disc Golf Course
• Community Events

SIZE
• 1,334 acres
• Centennial - 1,120 acres
• Biomedical – 214 acres

FUTURE CONSTRUCTION
• James B. Hunt, Jr. Library
• Alliance Center Office Building
• Flex Building at Centennial Biomedical Campus
• Executive Conference Center and Hotel
• The Shores Residential (Phase II)
• Residential and Student Housing
• Chancellor’s Residence

NC STATE UNIVERSITY
• Largest four-year institution in North Carolina (31,000 students and 8,000 faculty and staff)
• Major presence on Centennial Campus: College of Engineering, College of Textiles, College of Veterinary Medicine, and Graduate School
• Currently ranks 7th nationally in industry research R&D expenditures among all universities without medical schools (National Science Foundation: 2009 Report)
BRIDGING

the gap between discovery and results

CENTENNIAL CAMPUS PROGRESS REPORT (2010-2011)
What does NC State's Centennial Campus mean to the citizens of North Carolina?

"Centennial Campus reflects NC State's deep and ongoing commitment to collaborations and partnerships that benefit all of the citizens of North Carolina — whether it is helping create new ventures or finding new discoveries. The addition of the Hunt Library on the campus will enhance its tradition of modeling a cutting-edge learning environment. Centennial Campus is a tremendous asset to NC State and will be for years to come."

Randy Woodson
Chancellor, North Carolina State University

"NC State’s Centennial Campus plays a critical role in spurring innovation and creating jobs. It exemplifies the tremendous possibilities when corporations, governmental agencies, nonprofits and academia all collaborate. Centennial Campus is truly on the cutting edge of economic development and serves as a model for others to follow. We couldn’t be more proud."

Governor Beverly Perdue
North Carolina
CENTENNIAL CAMPUS has crossed over into new territory. Fresh from a successful celebration in 2009 of the first 25 years, we started mapping out what the next 25 years might look like. Would it have more students, corporate, governmental and non-profit partners? Would it have more places to live, dine, play and even shop? Would Centennial Campus finally fulfill its visionary master plan and, in the process, become a true “living laboratory”? Would it continue to be the innovative leader in university-owned and operated research parks?

While long-term strategic plans were discussed, debated, analyzed and crafted, ongoing development and community activities marched forward, bringing new enthusiasm and excitement to campus. The simple fact is — 2010 and 2011 have been banner years for Centennial Campus. Leased space is at an all-time high, new buildings emerged during one of the toughest economic climates in decades, and significant partnerships and collaborations were forged that will drive economic development for years to come. Perhaps even more exciting — the next several years promise to be even better.

Centennial Campus has always been a bridge — a bridge to the vision of the past with the tremendous opportunities of tomorrow, including leading research efforts in distributed energy, comparative medicine, computer security and many other important thrust areas.

We invite you to take a look at what we’ve done, where we’re going and the extraordinary partnerships that make it all happen.
INNOVATION

bridging dreams and concrete plans

Innovation is the lifeblood of any university and the economic engine of many communities. At NC State, innovation has taken center stage as new initiatives on Centennial Campus bridge the gaps between creative ideas and demonstrated results.

NEW INNOVATION AND ECONOMIC DEVELOPMENT INITIATIVES ESTABLISHED

NC State has brought several innovation and economic development initiatives under one "roof" to turn research excellence into real-world solutions for entrepreneurs, government agencies and non-profit organizations. These activities are led by Vice Chancellor Terri Lomax.

STUDENT INCUBATOR OPENS

The next great business idea just might come out of converted office space for student entrepreneurs on Centennial Campus. The space, called "The Garage" in honor of the many technology entrepreneurs who have started successful businesses in their own garages, combines hi-tech wizardry with interactive surroundings in an effort to spur creativity and innovation among entrepreneurial-minded students. The Garage is considered the first phase of a much larger living and learning environment where student entrepreneurs will take classes, test out new ideas and start new enterprises - all in close proximity to their dorm room.

DAUGHERTY AWARD

An endowment fund established to bridge pure research and product commercialization for entrepreneurs (The Richard L. and Marlene V. Daugherty Centennial Campus Entrepreneurism Endowment) awarded grants to two new promising technologies in wireless RFID communications and biomedical engineering in 2010 and 2011.

WISERsystems, Inc. is developing a novel, highly mobile smart network technology approach to wireless RFID asset tracking across the supply chain.

The other Daugherty Endowment grant recipients, Drs. Glenn Walker, associate professor in the Department of Biomedical Engineering, and Ravish Sachar, a Raleigh cardiologist, are using their grant to develop a prototype for a "smart" catheter used in cardiovascular interventions.

DID YOU KNOW? Centennial Campus is home to one of the top advanced analytics education programs in the U.S.
There is always something to be learned from the seemingly unrelated.
VERY SMART FIBERS

Dr. Behnam Pourdeyhimi leads the Nonwovens Institute as it partners with companies to create new smart filtration devices that remove pathogens from air, water and biopharmaceuticals.

HEATING UP

Phononics CEO Toni Atti collaborates with engineering professors Dr. John Muth and Dr. Robert Kolbas to develop highly effective thermoelectric semiconductor materials for cooling, refrigeration and energy environments.

JOBS COUNCIL SUMMIT

Business and government leaders met on Centennial for a White House Jobs Council “listening session” to focus on smart grid technology and energy.
TRANSFORMING THE GRID
Dr. Subhashish Battacharya works on a smart solid-state transformer prototype, which was named one of the world's 10 most important emerging technologies by MIT Review.

TEXTILES RESEARCH
A researcher uses software and hardware developed on Centennial to get a closer look at a piece of fabric.

At Centennial Campus, collaboration is a contact sport. Partnerships are meant to happen in and around the halls of campus buildings. They bring new ideas to the table and foster stronger, more favorable outcomes. If collaboration is the key to successful economic development, then Centennial Campus is leading the way.

New Partners (2010 - 2011)
6fusion
Alera Labs
All Systems Broadband
Arclight Wireless
BlueLine Associates
First Choice Laboratories
Green Energy Corp.
Handsfree Networks
JVS
Pentair Pool & Spa
Phononic Devices
Physical Devices, LLC
SKEMA
Tego Data Systems
Telos MedTech

DID YOU KNOW? Centennial Campus is home to one of the largest nonwovens institute and research centers in the world.
Looking ahead, Centennial Campus has a number of exciting projects both on the drawing board and under construction. When those are completed, the award-winning research campus will have an even more compelling story and set the bar even higher for others to follow.
JAMES B. HUNT, JR. LIBRARY

When completed in 2012, the James B. Hunt, Jr. Library will anchor Centennial Campus's academic oval and be one of the most visible structures on campus. Featuring a state-of-the-art Automated Book Delivery System (ABDS), the 221,000-square-foot facility will hold two million books that will be sorted and stored in a specially controlled warehouse in the library.

The building will also include wireless connectivity, video conferencing, online scheduling, collaborative projection, moveable whiteboards, video walls and technology-enabled furniture. The Hunt Library is also the future home of the Institute for Emerging Issues, a public policy "think-and-do" tank that brings together leaders from businesses, nonprofit organizations and higher education to tackle some of the biggest issues facing North Carolina's future growth and prosperity.

Raleigh-based Pearce Brinkley Cease + Lee are the architects of record for the project, with world-renown architectural firm Snøhetta as the lead designer. The construction company Skanska is overseeing development and the facility is being financed by the citizens of North Carolina, along with private donations.
Development continued.

Centennial Campus continues to grow and evolve as a thriving community of facilities, people and amenities as new facilities were either designed, started or completed in 2010 and 2011. In addition, improvements to current facilities were ongoing, including building renovations, HVAC upgrades, stream restoration, the extension of the greenway, and the installation of a wireless mesh environment that will be used as a research test bed. Below is a snapshot of recent development activity.

**STUDENT HOUSING**

A new student housing complex will provide 1,195 beds in an apartment-style setting for engineering and other students.

**APARTMENT COMPLEX**

A 292-unit apartment complex, called the “Greens at Centennial Campus,” will provide more housing options to area professionals.

**CAROL JOHNSON POOLE CLUBHOUSE**

A permanent two-story club house will mark the entrance to the Lonnie Poole Golf Course.

**ALLIANCE BUILDING**

A 150,000-square foot office building will sit near the corner of Varsity and Main Campus Drives.

**CHANCELLOR’S RESIDENCE (THE POINT)**

The Chancellor’s residence borders Lake Raleigh and rests next to the Park Alumni Center.

**CONFERENCE CENTER AND HOTEL**

Plans continue to move forward for a three-star, privately developed and managed conference center and hotel.
THE RANDALL B. TERRY, JR. COMPANION ANIMAL VETERINARY MEDICAL CENTER

The newly completed 110,000 square-foot Terry Center on the Centennial Biomedical Campus makes it one of the largest veterinary hospitals in the U.S. and a global model for excellence in companion animal medicine. It features a new linear accelerator to treat a variety of different forms of cancer with precision, a 64-slice Computed Tomography (CT) Unit to create high-resolution images of the heart, brain or lungs and the nation's leading Canine Bone Marrow Transplant Unit. The facility also has room to handle more than 20,000 small-animal patients yearly and dedicated teaching space for the 3rd highest ranked veterinary medicine school in the nation.

A partnership of state appropriations and private giving is making the Terry Center complex a reality. The Center is named for Randall B. Terry, Jr. of High Point, whose charitable foundation provided a $20 million pledge to the College of Veterinary Medicine.

DID YOU KNOW? The College of Veterinary Medicine is third highest ranked veterinary school in the U.S.
Development continued.

Two very different buildings opened in 2010-2011, yet they each contribute significantly to the success of Centennial Campus. In addition, a number of smaller but highly critical facilities and amenities were added that will greatly enhance the atmosphere for students, faculty and partners alike.

KEYSTONE SCIENCE CENTER OPENS

With its state-of-the-art office and lab spaces, the 72,000 square-foot Keystone Science Center opened for the first time and immediately made a lasting impression. Privately developed by the Keystone Corporation, partners include Agile Sciences, WebAssign, Pentair Pool & Spa, All Systems Broadband and the FREEDM Center. The FREEDM Center in the Keystone Center contains a prototype of an operational smart grid.

Keystone was installed with 268 solar panels, which will be used by the FREEDM Systems Center to study how distributed renewable energy can be tied to the current electrical grid.

"The Keystone Science Center is an outstanding example of collaboration between NC State, our corporate partners and the state of North Carolina."

NC State Chancellor Randy Woodson

DID YOU KNOW? Keystone houses the only NSF-funded smart grid research center in the U.S.
VENTURE COMPLEX WINS AWARD

The Venture complex has received "The Outstanding Building of the Year" (TOBY) Award for 2011 by the southern region of the Building Owners and Managers Association (BOMA). The complex won in the "suburban low rise office park" category and competed against a number of other southern cities, such as Atlanta, Birmingham, Chattanooga, Jacksonville and Orlando.

The property is managed by Portfolio Property Management Global, LLC and owned by MayfieldGentry Realty Advisors, LLC.

The TOBY Awards recognize quality in office buildings and excellence in office building managements. Buildings are judged across several categories, including physical presentation of the building, tenant relations, energy conservation, community impact, training of building personnel, emergency preparedness and security, and environmental and regulatory affairs.

ENGINEERING BUILDING III OPENS

The 240,000 square-foot-building became the third facility on Centennial Campus to open its doors to students and faculty of the College of Engineering. Featuring two wind tunnels, 80 laboratories and NC State's first green roof, the Engineering Building III complex is home to the Department of Biomedical Engineering and Department of Mechanical and Aerospace Engineering. The new building was funded by the citizens of North Carolina.
Other community events that took place on Centennial:
- Lunch 'n Learn
- Focus on Fitness
- IronKids Triathlon
- Jimmy V Golf Classic
- City of Oaks Marathon
- Executive Breakfast Club
- Rex Healthcare Blood Drive
- Polar Plunge and Torch Run 5K

INNOVATION CAFÉ
University Dining has opened the first dining facility on campus, providing a rich variety of offerings.

STOP HUNGER NOW
Staff and employees on Centennial volunteered their time and raised money to support feeding children and families overseas.

FARMERS MARKET
Local producers now sell fresh fruits and vegetables on Centennial.
Centennial is more than a place. It's a community. It's a community of volunteers helping the less fortunate. It's also a community of companies seeking additional markets overseas. It's people in one place - reaching out. That's why Centennial Campus works. It's a community that knows no borders or limits.

**DID YOU KNOW?** The Biomanufacturing Training and Education Center (BTEC) is one of the largest facilities of its kind in the world.

**USDA - APHIS**
The mission of the USDA's Animal and Plant Health Inspection Service (APHIS) located on Centennial includes protecting and promoting U.S. agricultural health.

**SKEMA**
One of France's top business schools chose Centennial Campus for its first North American location.

**BTEC**
This one-of-a-kind biomanufacturing training and education facility attracts students from foreign governments and businesses.
Steve, please see below in red ink so as to easily see response for each question. I hope this is helpful to you and good luck. Let me know if we can help further.

Thanks, Gail

P. Gail Keene | Business Officer to the Vice Chancellor | Manager, CRI Millennial Campus Business Office
UNC Charlotte | Research & Economic Development | Charlotte Research Institute
9201 University City Blvd | Charlotte NC 28223
Phone: 704-687-8286 or 687-7733 | Fax: 704-687-8281
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From: Steve Warren [mailto:steve@longparker.com]
Sent: Friday, April 27, 2012 11:48 AM
To: Keene, Gail
Subject: Thank You and Follow Up

Dear Gail:

I can't thank you enough for taking time out of your busy day to discuss with me the WCU Millennial Committee's desire to obtain some follow information from you. We were so impressed with the quality of the Charlotte operation - if we can follow your excellent path we know we will be successful!

Gail, the type of information we could really use would be:

1. Organizational Chart - showing titles of individuals and how the various duties within each job assignment relates to the others. ATTACHED.

2. Budgets - If you could provide us with examples of how you allocate "revenue" and "expenses" specific to the operation of the Millennial campus that would be wonderful. You mentioned Banner reports that you can generate which gives you insight into the performance of your public/private partners. (P.S. - Kudos to you for knowing how to operate Banner!!) As I mentioned to you during our phone conversation, we set up a unique fund number for each business partner as they arrive on campus. We have one (1) expense fund that we use to expense any items that are purchased or paid for with Millennial Campus funds. This makes it easy to track, reconcile, and for balances. I have enclosed one graph that I produce for annual updates to Bob Wilhelm “MILL CAMPUS REV.ppt.”

3. Objective, Evaluative Criteria for potential partners with UNC. Current Research Collaborators or potential collaborators with UNC Charlotte (Science/technology).
4. Historical and Current Strategic Plans for the UNC Millennial Campus. Charlotte Research Institute and the Millennial Campus

The Millennial Campus at UNC Charlotte, known as the Charlotte Research Institute, was created in 2002 to further the university’s teaching, research, and service mission as well as enhance the economic development of the region.

The Charlotte Research Institute (CRI) is the portal for business-university technology partnerships at UNC Charlotte. Building on the internationally known results of its research centers in Precision Metrology, eBusiness Technology, and Optoelectronics, the CRI supports new research ventures, university partnerships with regional, national, and international enterprises, and spin-off companies created from UNC Charlotte research results.

The CRI is committed to the development of intellectual capital through global collaborations with industry, government, and academia. The CRI seeks to develop technology-based academic and business partnerships, ranging from consultation to onsite collaborative research. These efforts attract expertise and resources to the region resulting in the creation of a top-tier interdisciplinary technology research community. Important products of this endeavor include regional cooperation, entrepreneurship, and economic development.

The CRI research vision will continue to grow as emerging research initiatives, such as bioinformatics, biomedical engineering systems, translational research, and energy production and infrastructure develop at UNC Charlotte. CRI helps companies initiate new partnerships at UNC Charlotte and offers a variety of opportunities to engage talented faculty and make use of specialized facilities that are available only at UNC Charlotte.

The Millennial Campus designation has special significance for the University of North Carolina System and allows UNC Charlotte to efficiently engage with partner companies. In particular, partner companies may contract for use of research capabilities or facilities on the Millennial Campus, contract for sole-use space, and construct and manage privately owned buildings. The Charlotte Research Institute manages all activities of the Millennial Campus.

Gail, I didn't mention it, but if you have any type of infrastructure budget for that portion of the campus designated as "millennial" that would be very useful. Every building on the Millennial campus houses administrative departments who manage the building operations so infrastructure is already in place; however PORTAL will be the first that we must provide the infrastructure resources.

Thank you so much Gail - WCU is so grateful for your help!

Steve
Steve Warren
Long, Parker, Warren & Anderson
&Paye P.A.
P.O Box 7216
Asheville, NC 28802
(828)-255-2244
Fax(828)-253-1073
steve@longparker.com
CRI Millennial Campus Revenue
FY 04 – FY 11 YTD

University Business Partners

Active University Business Partners:

1. 411FIT, LLC (Terry Montgomery, President)
2. Albany Instruments (Teodor Dogaru, President)
3. CoeOptics, LLC (Cindy Johnson, President)
4. Connectivity Concepts, LLC (Manwell Bynum, President)
5. Dot Metrics Technologies, Inc. (Rosanna Stokes, President)
6. HepatoSys, Inc. (Elizabeth Clemens)
7. Institute for Social Capital (Sharon Portwood, Exe Dir)
8. Intepoint, LLC (Mark Armstrong, Manager)
9. NCBC (Marjorie Benbow, Exe Dir)
10. NCRC (Kannapolis Research Campus)
11. Photonic Discovery, LLC (Scott Williams, Manager)
12. RGW Research & Engineering (Gary Wilson, Owner)
13. Southwest Education Alliance (Ric Vandett)
14. Soymeds, Inc. (Kenneth Pillar)
15. Target Communications Group, LLC (Anne Russell, President)
16. V-Bio, Inc. (Fran Newman, President)
17. World Affairs Council (LJ Stambuk, Exe Dir)

*FY10 NOTE:
LOSS OF ISC REVENUE DUE TO COOPERATIVE AGREEMENT.

Updated by Gall Keene 9/23/11
MILLENNIAL
CLEAN LIVING

Dot Metrics Technologies
Purely H2O
UIDP & Biotech

POST DOC
OXFORD & CAMBRIDGE ALUM COMES TO UNC CHARLOTTE

UNC CHARLOTTE
Charlotte Research Institute
FEATURES
Executive Director's Note | 4
Graduate School Open House | 5
Potential graduate students gather literature for graduate programs.
UIDP & Biotech 2010 | 6
With a flurry of activities, UIDP & Biotech conferences kick off Fall semester.
CLOSEUP | 10
Alisa Mason ventures into a new professional field.
FUTURE Events | 12
Look at what events are coming up in 2011.
SPOTLIGHT ON CRI BUSINESS OFFICE | 15
Gail Keene, and Lolita Gonzales.
CLEAN LIVING | 18
Dot Metrics Technologies, a purely innovative CRI partner.
POST DOC | 20
Dr. Marcus Jones, Physical Chemist.
BEN CRAIG CENTER | 22
Changes coming in 2011
Dr. ROBERT WILHELM

Letter from the
Executive Director

With this issue we bring strong examples of the work and results that the Charlotte Research Institute pursues in our focus areas. Our primary mission is to support the growth of research at UNC Charlotte and to translate research results into application and economic growth by building strong partnerships. The University Industry Demonstration Partnership Conference and the Charlotte Biotechnology Conference are two examples of our efforts to enable research translation to the economic community. Several articles also give you a peek at the up and coming talent in our research centers.

Second, CRI works to market the science and engineering capability of UNC Charlotte. Alisa Mason, our most recent marketing intern, has made great strides in communicating our biotechnology expertise and the opportunities offered by our partnership with the North Carolina Research Campus in Kannapolis. Opening the CRI campus to our business partners is the third key activity for CRI. This active focus on business processes gives you a good idea of the strong foundation that CRI is building. CRI has put in place several key business partners. Other key areas are business growth and entrepreneurial outreach, the Ventures, the UNC-China Center, business incubator, and UNC-Chapel Hill's partnership for innovation and business development. Kannapolis illustrate our direction for economic growth outreach. The article on this subject, the CRI Up and Coming Business Partners, shows an example of the results we are obtaining.

We hope your interest grows with each edition of the magazine - we look forward to hearing from you.

[Signature]
Whether you are looking into post graduate studies, research topics, or just thinking of improving job prospects, graduate course work might be right up your alley. On October 19 representatives from a variety of UNC Charlotte graduate programs offered information and encouragement to potential applicants at an Open House held at the newly created Center for Graduate Life at the Cone University Center. Detailed information about the application and admissions processes as well as the 100+ academic programs is also available by visiting the UNC Charlotte Graduate School at www.graduateschool.uncc.edu
Prestigious Conference at UNC Charlotte

UNC Charlotte welcomed representatives from industry, public and private universities, foundations and government agencies for the fall conference organized by the University-Industry Demonstration Partnership (UIDP) group on the Charlotte Research Institute Millennial campus at UNC Charlotte. The three day conference from October 4th to 6th began with the keynote address by Mr. David Kappos, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (USPTO) and concluded with remarks by Mr. Louis Foreman founder and Chief Executive Officer of Enventys. The conference was organized on the theme “Accelerating Innovation: System-level Strategies for University-Industry Collaboration”.

Keynote Speaker

David Kappos, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office (USPTO), discussed strategies to overcome the challenges faced by America’s innovation community. He focused on the importance of securing university intellectual property and the transfer of technology from university laboratories to marketplace. He also emphasized the best practices that foster both maximum technology diffusion and revenue capture.

The UIDP conference concluded with a grand reception at Bissell House where hosts UNC Charlotte Chancellor Dr. Philip Dubois and Lisa Lewis Dubois joined sponsors and conference participants to share good food and reflection of ideas shared during the information sessions. The reception served as an informal opportunity to initiate partnerships between industry and university representatives.
Keynote Speaker

Louis Foreman is the founder and Chief Executive Officer of Enventys, an integrated product design and engineering firm based in Charlotte, NC and Taiwan. Over the past 20 years Louis has created nine successful start ups and has shared responsibility for creation of 20 others. Louis was a founding member of The Inventors Network of the Carolinas, a nonprofit organization that empowers inventors through education, support and networking opportunities.

Energy Speakers Panel

Associate Provost for Strategic Research Partnerships & Executive Director of the CRI at UNC Charlotte, Dr. Robert Wilhelm facilitated an energy discussion panel. Discussions were focused on traditional energy generation and interests of distribution companies as well as alternative technologies. Dave Gandy, Program Manager, Electric Power Research Institute (EPRI) highlighted the innovation programs at EPRI. Gene Christiansen, General Manager for Service, Metso Power and Mark Ehrnhzwender, Director of Business Development, Evonik Energy Services, discussed the interests of international companies and the alternative energy sector with specific focus on activity in the Charlotte Region and the Southeast. Lastly, David Swenson, Vice President, Economic Development Services, The Charlotte Regional Partnership, addressed the broader opportunities for many universities and community colleges to be involved in the Charlotte Energy Hub initiative and the UNC Charlotte Energy Production and Infrastructure Center (EPIC).
The 9th Annual Charlotte Biotechnology Conference organized by CRI and sponsors around the region was held on October 27th.

The one-day conference included presentations from numerous biotechnology companies and research institutions. The conference provided insight from some of the most recognized North Carolina biotechnology business and research professionals in addition to highlighting regional opportunities and investment trends within the local biotechnology sector.

The mission of the Charlotte Biotechnology Conference is to provide an overview of current activities and opportunities within the university, research, business, investment and economic development sectors.

Dr. Joan Lorden, UNC Charlotte Provost kicked off the event with a welcoming address. Dr. David Hodgson provided a keynote address about the role of bioinformatics in healthcare.

The program included presentations and panelists from UNC Charlotte, North Carolina Biotechnology Center, David H Murdock Research Institute, Carolinas Healthcare System, and other recognized business partners in the region. Dr. Robert Wilhelm, Executive Director of CRI at UNC Charlotte concluded the event with cash awards to winners of the student poster competition. Sponsors and speakers were treated to a closing reception at the Bioinformatics Research Center.
INTELLECTUAL EMPHASIS

Dr. David Hodgson, Chief Information Officer, Tethys Bioscience was the keynote speaker at the 9th annual biotech conference held at UNC Charlotte. He talked about the role of Bioinformatics in the relationship of drug discovery, diagnostics and technology. He focused on revolutions in biology and medicine and talked about the latest innovations in the field of health sciences. He shared some exciting ideas about mobile medicine and the future of health sciences that will be available to patients online anywhere around the world.

Poster Competition

Students from UNC Charlotte and other universities in the Carolinas presented the latest research results from various fields of Biotechnology. Twelve finalists presented their posters during the conference. Innovation with commercial potential in the field of biotechnology was the focus of the poster presentation sessions. Some of the interesting ideas included: “Effects of Silica-Calcium phosphate nanocomposite bioactive ceramic coatings on bone formation”; “A Noninvasive vasectomy technique utilizing near infrared laser irradiation in conjunction with cryogen spray cooling of the skin surface”, and “Design of a data mining pipeline for improvement of exon analysis from microarray data.”

TOP TO BOTTOM
1. Ankit
   Grand Price – $1,000
   UNC Charlotte
2. Julie Anne Steen
   2nd Price – $500
   Wake Forest University
3. Christopher Michael Cilip
   Runner Up – $250.00
   UNC Charlotte
4. Zachary Dylan Cary
   Runner Up – $250.00
   Wake Forest University
Experience is what counts, the Charlotte Research Institute & Rowan-Cabarrus Community College join forces to launch interns into the research stratosphere.

While interning at the North Carolina Research Campus (NCRC) with the Charlotte Research Institute (CRI), Salisbury native Alisa Mason discovered various facets to planning and marketing biotechnology events.

With an Associate's Degree in marketing from Rowan-Cabarrus Community College (RCCC) under her belt, Mason decided to pursue a second Associate's Degree in accounting at RCCC with hopes of landing a position in a new profession.

Mason, began her journey with the help of her business instructor Charles Albrechtat, who introduced her to Dottie Moore (RCCC Job Developer). Moore "came to our class to talk about the CRI at NCRC internship program." Since the internship was best suited for "someone savvy enough to come in and learn quickly," Dottie knew I would be a great fit," says Mason.

In retrospect "Alisa was a key factor to the success of the conference" explains CRI Biotechnology Conference Producer Clare Cook Faggart, "I can honestly say that we had a great team, and she was a vital part of it."

This partnership has attracted "students from all different curricula," explains Moore, "from Information Technology to Biotechnology, Business, and Marketing."

Amongst the many assigned projects, "I helped with the logistics for the 2010 Charlotte Biotechnology Conference" says Mason, "I'm very proud of what all of us accomplished!" The 320 conference attendees were treated to an entertaining and thought provoking opening keynote address from the Chief Information Officer of Tethys Bioscience, Dr. David Hodgson (CRI Events page 9). A full day of panel discussions and presentations followed focusing on the business of biotechnology. The exposure Alisa gained from the CRI internship revealed opportunities available in the Charlotte region for careers in biotechnology and in the general scientific community.

The RCCC, UNC Charlotte, and NCRC partnership has deep roots, with a classroom and laboratory building located at the NCRC. The 62,332 square foot structure houses 10 classrooms, 7 general purpose rooms, 10 laboratories, 2 computer labs, a library, and a community event room which seats 95. This facility is in close proximity to the NCRC Core Laboratory where CRI and UNC Charlotte operate a satellite office.

By creating and maintaining this internship program, relationships with CRI, RCCC, and NCRC continue to flourish by providing unique hands on professional experiences for aspiring masterminds.
The focus of the annual Five Ventures® Business Plan Competition is on early-stage high-growth businesses with less than $350,000 in third party investment or revenue (excluding grants). Entrepreneurs are to submit a two-page Executive Summary. All Executive Summaries are reviewed by our selection committee. Semi-Finalists are selected to provide oral presentations to a panel of 30 to 50 judges who then select Finalists. On April 14, 2011 finalists compete for cash and in-kind awards.

Visit us online at charlotteresearchinstitute.com click events tab.

It has been ten years since UNC Charlotte introduced the Five Ventures® competition to the world. Now, in its tenth anniversary the competition continues to evolve to support the region’s growing emphasis on innovative entrepreneurs.

For 2011, the Charlotte Research Institute will increase the focus on high potential ventures and provide participants with helpful learning and coaching resources. The competition will be announced in early January and will culminate with public presentations and awards on April 14, 2011.

Application instructions can be found at www.charlotteresearchinstitute.com
UNC Charlotte will host the 3rd annual NORTH CAROLINA NANOTECHNOLOGY COMMERCIALIZATION CONFERENCE on March 29 - 30, 2011 at Barnhardt Student Activity Center at UNC Charlotte.

Organization of this conference is lead by the North Carolina Department of Commerce. After a successful launch in Raleigh in 2009 and well attended sequel in Greensboro in 2010 the third annual event is all set for its venture in the Queen city. The two day conference is expected to feature events and activities of interest to both technologists and industry representatives. Some of the highlights of the conference will be national-level keynote speakers including Doug Jamison, CEO of Harris & Harris, an investment firm with a nanotech portfolio; technical sessions, workshops, and exhibits showcasing the latest advances in the field; discussions on financing, licensing, and business development geared towards the nanotech entrepreneur; sessions and exhibits showcasing cutting-edge research, products, and technologies; student poster competition and networking opportunities with industry and university professionals.

For details and registration to this event, please visit:

www.ncscitech.com/ncncc/

The sixth annual InnoVenture Southeast Conference will be held in Greenville, South Carolina on May 10-11, 2011. The InnoVenture Southeast Conference has been held annually since 2004 and is managed by InnoVenture LLC. The conference is for business developers, technology scouts, and entrepreneurs who are seeking promising business opportunities. InnoVenture helps clients find qualified leads to customers, capital, talent or technology. Unlike one-on-one initiatives or membership organizations, the InnoVenture process efficiently grows a base of connections targeted around client priorities. Where appropriate, InnoVenture helps to incubate these connections into new game-changing ventures. The upcoming event will offer many keynote presenters from different companies and networking events to promote talent in the southeast region.

Details about the conference can be found at:

www.innoventuresoutheast.com

InnoVenture 2011
SOUTHEAST
CONFERENCE
May 10-11, 2011
2ND CALL FOR PAPERS

Deadline for abstract submittal extended to January 28, 2011

EMERGENCY MANAGEMENT & ROBOTICS
FOR HAZARDOUS ENVIRONMENTS


August 7-10, 2011, Knoxville, TN, USA

Important Deadline Dates
JANUARY 28, 2011
Electronic submission of text abstract
FEBRUARY 28, 2011
Notification of invitation / rejection to submit full-length paper
MAY 13, 2011
Electronic submission of full-length papers

Anticipated Technical Sessions

ROBOTIC & REMOTE SYSTEMS (R&RS)

Telerobotics for Unstructured Environments
Intelligent and Autonomous Robotics
Networked Sensors and Robots
Micro/Nano Robotics
Robot and Teleoperator Dynamics and Control
Human/Teleoperator Interfaces
Modular Robotics
Innovative Sensors and Actuators for Remote/Robotic Applications
Autonomous and Multi-Agent Robotics Systems
Remote Sensing and Robotic Platforms
Cooperative Robotic Sensing and Mapping
Space and Underwater Robotics Applications
Medical, Rehabilitation, and Assistive Robotics
Emergency Response and Explosive Ordnance Disposal Robotics
Remote System Waste Remediation
Robotic Decontamination, Decommissioning, and Demolition
New Remote Tools and Processes
Robotics and Remote Handling in Next Generation Reactors and Fuel Recycle
Other Topics and Applications for Robotics and Remote Systems

EMERGENCY PREPAREDNESS & RESPONSE (EP&RI)

Actual Events & Exercises - Lessons Learned
Biologically Operations and Emergency Response
Consequence Modeling and Assessment
Protective Actions for Workers and the Public
Emergency Response Systems & Equipment
EP&R for 10 CFR 52 Construction Operating License Applications (CCLAs)
EP&R for Large Scale (~75,000+ Participant) Events
EP&R for Radiological Dispersal & Improvised Nuclear Devices
EP&R Infrastructure and Transportation Issues
EP&R Security Issues and Analysis
Human Factors in EP&R
New and Emerging Technologies for EP&R
Pandemic Planning: Facility Operations & Shutdown
Public and Media Relations during Emergencies
Severe Weather Planning for Key Facilities
Software Quality Assurance Requirements for EP&R
Prompt Notification Systems and Programs
Urban Search and Rescue Applications

General Co-Chairs
Dr. Barry Burks, UNC Charlotte
bburks1@unc.edu, 704-687-8283
Jim Fairbent, Dept of Energy,
Jim.fairbent@nnsa.doe.gov, 202-586-8759

Technical Program Co-Chairs
Emergency Management - Carl Mazzola, Shaw Environmental Robotics & Remote Systems - Dr. William Harnel, UT Knoxville

Topical Web Site
http://www.EPRRSD.org
Today, this two person entity serves as the engine for an ever expanding research innovation hub.

To the untrained eye, steady production algorithms can best describe the Charlotte Research Institute's Business Office workflow. This two member organization "does much more than pay bills," explains Gail Keene, CRI Business Manager.

Under the management of Gail Keene (Business Manager) and Lolita Gonzales (Business Office Specialist), the CRI Business Office is a very detailed and multi-faceted operation. In adherence to University policies, procedures, and goals, this department's main objective of being trustees of University financial records, and guardians of university assets and liabilities, the CRI Business Office is in the business of the Charlotte Research Institute Millennial Campus operations, Ben Craig Center operations, and the North Carolina Research Campus CRI operation in Kannapolis.
There are a myriad of services the CRI Business Office provides to UNC Charlotte students, faculty, staff, University Business partners and external constituencies. Primarily divided into four categorical structures: Financial Management, CRI Millennial Campus Operations, CRI Funding Opportunities, and Human Resources Management.

Keene and Gonzales keep the process flow streamlined by "providing accurate management of Millennial Campus transactions," and "accurate and timely financial reporting," explains Keene. This rigorous checks and balances process serves as the operations basis, while striving for superior customer service with a focus on accuracy, accountability, availability, efficiency, professionalism and integrity. By collaborating with faculty and staff on financial and personnel responsibilities, coordinating activities, and facilitating inter-departmental communications, the CRI Business Office approaches each situation with as much flexibility and creativity for all stakeholders (internal and external), while complying with required business processes.
CRI Funding Opportunities

- Carolina Medical Center Collaborative Grants Program
- March 1st Application Deadline
- October 1st Application Deadline
- Duke Energy Special Initiatives Program
- Post-Doctoral Fellowships
- Distinguished Visiting Faculty
- Travel Grants
- Miscellaneous Funding Events
- Wachovia Gift Fund
- Jr. Faculty Summer Salaries
- Research Supplies

Human Resources Management

- Policies & Procedures
- Staff Recruitment
- Performance Review Process
- Staff Development & Training needs
- Required Compliance Documents
- Payroll and Timesheets
- Student Employees
- Temporary Employees

"We are extremely motivated to meet the needs of each individual in an environment of mutual trust and respect," says Keene.

No man is an island, and no successful Business Office performs to its optimum without a clear objective and departmental direction: "we work as a team with Dr. Bob Wilhelm and staff, and UNC Charlotte and Kannapolis Research Center operations to develop budgets, monitor expenditures and provide good fiscal management partnerships to accomplish the many research and operational goals," says Keene.

There is much more to the CRI Business Office than bill paying. This two person entity serves as the engine for an ever expanding research innovation hub of the UNC Charlotte Millennial Campus.

Gail Keene, Business Manager
Lolita Gonzales, Business Specialist
Secure Fax

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704-687-7733
704-687-8281

www.charlottecesciichinstitute.com

www.uncc.edu
The United Nations Environmental Programme (UNEP) estimates the total usable freshwater supply for ecosystems and humans is about 53 quadrillion gallons of water - less than 1 percent of all freshwater resources. As the need for water purifying and disinfection methodologies increase, professionals with big ideas develop small instruments to achieve a clean objective.

Dot Metrics Technologies (Dot Metrics), Inc. - a Charlotte Research Institute (CRI) partner since 2005- was cofounded by Rosanna Stokes (CEO) and Ed Stokes (Associate Professor of Electrical Engineering at UNC Charlotte). Both are UNC Charlotte alumna. Dot Metrics' core competency is the integration of Deep UV (DUV) Light Emitting Diode (LED) technology in systems that disinfect fluids and surfaces. Currently the company lead by Ms. Stokes is developing a novel DUV Flow Cell disinfection technology platform that is user safe, environmentally friendly, scalable and portable, which can be used in various applications. DUV Flow Cells developed by Dot Metrics have demonstrated an efficient use of DUV dosage that allows the disinfection of 10X the volume of water per unit time with respect to traditional disinfecting systems sporting a planar array of DUV sources.

In the current standard, UV assisted air and water (fluids) disinfection systems portability is not easily available; these systems require fine voltage and massive use of bulky mercury (Hg) lamps. DUV LEDs are significantly smaller than Hg lamps, and can be packaged hermetically so that they are unaffected by the fluids; their reduced footprint allows use in small volume and/or pipe applications. "Designing a system that optimizes LED technology," says Stokes, greatly enhances the process of water purification.
Technologies

Research Leader, Dr. Paolo Batoni, explains potential applications for Dot Metrics' DUV Flow Cell technology:

- Reduced footprint air and water disinfection units
- Disinfection of air and water in the areas of the world with chronic sanitary deficiencies
- Water disinfection in disaster recovery efforts
- Gray water recycling
- Point of use disinfection in health care

The "price (of DUV LEDs) is high because demand is low," says Charlotte native and Director of Research, Dr. Jennifer Pagan. DUV LEDs are an emerging technology and, in addition to being more robust than fragile quartz tube lamps, they do not contain mercury. Individual chips currently last up to 1000 hours, and provide < 2mW optical power. Multi-chip clusters can be used where more optical power is required.

As the deep UV technology progresses, options for its use increase. Dot Metrics' future looks bright as frontrunners in deep UV LED system design.

For more information visit: www.dotmetricstech.com
KEEPING UP WITH DR. JONES

CAMBRIDGE, OXFORD, TORONTO, AUSTRALIA, AND CHARLOTTE.
IT'S FAIR TO SAY DR. MARCUS JONES IS AN AVID GLOBE TROTTER
originally from Lancashire, England near the Irish Sea, Dr. Marcus Jones has been quenching his thirst for research knowledge.

A rower at Oxford, Cambridge, and rowing coach at the University of Colorado “a sport that favors tall people (I’m 6’5”),” explains Dr. Jones. Dr. Jones holds a Bachelor’s Degree in Chemistry from the University of Oxford, and a PhD in Chemistry from the University of Cambridge. In addition, he was a Visiting Scientist at the Australian National University, and completed Postdoctoral tenures at the University of Toronto, and the National Renewable Energy Laboratory in Golden, Colorado.

Currently, Dr. Jones is an Assistant Professor of Physical Chemistry in the Chemistry Department at the University of North Carolina Charlotte. His research expertise encompasses nanoscale science, photovoltaic materials, laser spectroscopy and computational chemistry. His specific research interests are in excitons in nanoscience, semiconductor nanocrystals, photoluminescence spectroscopy, time correlated single photon counting, and computational data analysis. This research niche complements the growing UNC Charlotte research community that strives to inquire into diverse scientific arenas.

Although globe trotting has provided for an amalgamation of priceless research experiences, the “Nanoscale Science Ph.D. Program is pretty unique,” explains Dr. Jones. The program addresses the development, manipulation, and use of materials and devices on the scale of roughly 1-100 nanometers in length, and the study of phenomena that occur on this size scale.

Five years from now, Dr. Jones hopes to have “obtained tenure, lead an active and well-supported student research group, and be a recognized leader in the field,” explains the Lancashire native.

In a collaborative effort the “very active student research group” also known as the Nanoscale Dynamics Group (NDG) is working with “Dr. Pat Moyer’s group in Physics,” explains Dr. Jones, “because his interests and experimental work are very much in line with our own.” Dr. Jones and Dr. Moyer’s groups hold “joint weekly group meetings and will be working together on several experimental projects.”

NDG, focuses on the study of light-induced charge and energy-transfer dynamics in colloidal semiconductor nanocrystals and aims to understand the processes that couple their electronic states with surface traps, coordinated ligands and other nearby nanostructures. Results from these studies could eventually be used to develop the next generation of highly efficient solar cells. Graduate students are encouraged to join, and undergraduates are invited to partake in the ongoing research.

UNC Charlotte and the Charlotte Research Institute are keenly attentive to the innovative research pathways Dr. Jones is set to undertake in years to come.

For more information on the Nanoscale Dynamics Group visit: www.nano-dynamics.uncc.edu
There is something to be admired about people who venture into entrepreneurship, their spirit of individuality propels business innovation. In its 24 years of service The Ben Craig Center (BCC), along with UNC Charlotte have been champions for entrepreneurial innovation.

The center has completed a major strategic planning effort, explains BCC President Paul Wetenhall, “the principal difference going from solely an incubator to an organization building the region’s entrepreneurship and innovation ecosystem.” This creates an opportunity for a major impact on the region’s entrepreneurial growth.

The organization will likely adopt a new name consistent with the new mission. It will work to improve entrepreneurial and innovation practices, and educate community leaders about best practices. The organization “will be anchored at UNC Charlotte and it will engage the regional community in identifying and developing entrepreneurial talent” says Wetenhall.

Watch for The rebirth of the Ben Craig Center business incubator with a new name in early 2011.
With CRI conferences and forums right around the corner, visit us online for registration and general event information.

CRI Fast Fax, this is the premiere way of keeping up with what is current at CRI. Also, further acquaint yourself with the centers that make up this innovation hub. Find out their research specialties and industrial capabilities.
The Charlotte Research Institute (CRI) is the portal for business-university partnerships at UNC Charlotte.

Regionally CRI works with the community and the campus to:
- accelerate technology commercialization
- increase the growth of entrepreneurial ventures
- develop intellectual capital
- partner in new business and research ventures
- spur economic growth

With facilities on the Charlotte Research Institute Campus and at the North Carolina Research Campus in Kannapolis, CRI helps companies initiate new partnerships at UNC Charlotte and offers a variety of opportunities to engage talented faculty and make use of specialized resources available at UNC Charlotte.

We partner with regional and national companies to:
- co-locate your businesses at UNC Charlotte
- engage our science and technology experts
- contract with our application/solution specialists
- leverage our cutting edge equipment and technology
- license our inventions and intellectual property

Innovation and entrepreneurship are strongly supported by CRI's Ben Craig Center business incubator (BCC) through:
- the incubator program
- business advisory services
- educational events

BCC focuses on community businesses and University startups that benefit most directly from proximity to expertise, services, and equipment that only the BCC and the University can provide. In addition, the Small Business and Technology Development Center located at Ben Craig Center supports hundreds of small businesses each year.
UNC Charlotte's research capabilities represent a vital economic development tool for business attraction. The CRI Campus is a geographically distinct part of the University of North Carolina at Charlotte, located on the University's Millennial Campus which currently covers 102 acres of land. The Millennial Campus, as defined by North Carolina legislation, offers special opportunities for collaboration with private sector partners.

CRI's mission is to accelerate research, partnerships, and business development by:
- promoting and sustaining UNC Charlotte research center activity
- marketing UNC Charlotte and CRI in the Carolinas region and beyond
- developing and maintaining entrepreneurial development programs and business startup services
- creating and managing research and business development infrastructure

The Institute's research centers consist of people and facilities that are thematically aggregated to address complex problems in an interdisciplinary fashion.

**Research Centers**

- Bioinformatics and Genomics Center
- Biology and Translational Research
- Center for Lean Logistics and Engineering Systems
- Center for Optoelectronics and Optical Communication
- Center for Precision Metrology
- Cyber Defense and Network Assurance Center
- Energy Production and Infrastructure Center (EPIC)
- Infrastructure, Design, Environment and Sustainability Center (IDEAS)
- Mechanical Engineering
- Motorsports and Automobile Engineering Research Center
- Nanoscale Science Initiative
- Visualization Center

**National Science Foundation Funded Industry/University Collaborative Research Centers**

- Safety, Security & Rescue Robotics
- Meta-Materials
- Sustainability Integrated Buildings and Sites

**Contacts**

**Robert Wilhelmi, Ph.D.**
Vice Chancellor, Research and Economic Development
Executive Director, Charlotte Research Institute
Professor of Mechanical Engineering & Engineering Science
UNC Charlotte, 9201 University City Boulevard
286 Grigg Hall
Charlotte, NC 28223-0001

Phone: 704-687-2291
Fax: 704-687-2292
Email: rjwilhelmi@unc.edu
Website: cri.uncc.edu

**Barry Burks, Ph.D.**
Associate Director, Charlotte Research Institute
UNC Charlotte, 9201 University City Boulevard
253 Grigg Hall
Charlotte, NC 28223-0001

Phone: 704-687-3283
Fax: 704-687-7911
Email: bburks@uncc.edu
Website: cri.uncc.edu
### UNC Charlotte/CRI Space Rate Sheet

#### On-campus Facilities

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Space, Dry Lab, Wet Lab:</td>
<td>Approximately $20/square foot and up depending on type space and specific building for on-campus facilities</td>
</tr>
<tr>
<td>Space Size:</td>
<td>Range from 150—400 square feet, depending on type space needed for on-campus facilities</td>
</tr>
<tr>
<td>Included Services:</td>
<td>Internet/phone Connection</td>
</tr>
<tr>
<td></td>
<td>Facilities Maintenance (heat/AC, lighting, electrical, toilet facilities)</td>
</tr>
<tr>
<td></td>
<td>Janitorial and cleaning services (office, lawn, sidewalks and parking areas)</td>
</tr>
<tr>
<td></td>
<td>Elevator service and common area access</td>
</tr>
<tr>
<td></td>
<td>Purchase of parking permits</td>
</tr>
<tr>
<td></td>
<td>Campus ID Card</td>
</tr>
<tr>
<td></td>
<td>Library Services on-campus</td>
</tr>
<tr>
<td></td>
<td>Term of one (1) year, renewable</td>
</tr>
</tbody>
</table>

#### Ben Craig Center (incubator service)

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Space:</td>
<td>Approximately $18/square foot, off-campus in Ben Craig Center</td>
</tr>
<tr>
<td>Space Size:</td>
<td>Square footage negotiable, depending on type space needed for on-campus facilities</td>
</tr>
<tr>
<td>Included Services:</td>
<td>Internet/phone Connection</td>
</tr>
<tr>
<td></td>
<td>Facilities Maintenance (heat/AC, lighting, electrical, toilet facilities)</td>
</tr>
<tr>
<td></td>
<td>Janitorial and cleaning services (office, lawn, sidewalks and parking area)</td>
</tr>
<tr>
<td></td>
<td>Elevator service and common area access</td>
</tr>
<tr>
<td></td>
<td>Access to accounting services</td>
</tr>
</tbody>
</table>

#### Contacts:

**Barry L. Burks, Ph. D.**  
Associate Director  
Charlotte Research Institute  
UNC Charlotte  
9201 University City Boulevard  
253 Grigg Hall  
Charlotte, NC 28223-0001  
Office: 704-687-8283  
Fax: 704-687-7911  
bburks@uncc.edu  
www.charlotteresearchinstitute.com

**P. Gail Keene**  
CRI Business Manager  
Charlotte Research Institute  
UNC Charlotte  
9201 University City Boulevard  
Charlotte, NC 28223-0001  
Office: 704-687-8286  
Fax: 704-687-8281  
pkeene@uncc.edu  
www.charlotteresearchinstitute.com
PARTNERSHIP OUTREACH AND RESEARCH TO ACCELERATE LEARNING

PORTAL GROUNDBREAKING PROGRAM
THURSDAY, DECEMBER 15, 2011 | 1:45 PM

Ceremony Speakers
(IN ORDER OF APPEARANCE)

DR. ROBERT G. WILHELM
VICE CHANCELLOR, RESEARCH AND ECONOMIC DEVELOPMENT
EXECUTIVE DIRECTOR, CHARLOTTE RESEARCH INSTITUTE

DR. PHILIP L. DUBOIS
CHANCELLOR, UNC CHARLOTTE

PAUL D. WETENHALL
PRESIDENT, THE BEN CRAIG CENTER, INC.

Reception Following
UNIVERSITY BUSINESS PARTNER
APPRECIATION RECEPTION
GRICG HALL, CHARLOTTE RESEARCH INSTITUTE
The PORTAL building (Partnership, Outreach, and Research to Accelerate Learning) reflects the University of North Carolina at Charlotte's commitment to university-industry partnerships with particular emphasis on research, business growth and job creation. A focal point for the Charlotte Research Institute campus, PORTAL offers new capacity to locate business partners directly within the creative mix of students, faculty and specialized facilities at UNC Charlotte. Supporting new research initiatives and an expanding program for entrepreneurship and business startup, the building will also offer secure facilities for defense and security projects.

UNC CHARLOTTE

9201 UNIVERSITY CITY BOULEVARD | CHARLOTTE, NORTH CAROLINA, 28223
# Business Partners Space Use Agreement - CHECKLIST

**COMPANY NAME:**

**SPACE LOCATION:**

<table>
<thead>
<tr>
<th>Done?</th>
<th>Process to follow</th>
<th>Date Sent</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verify company status w/NC Secretary of State website</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verify renewal w/business partner &amp; needs going forward</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare Rate Sheet (office/lab space and equipment list if needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Include Blueprint of office/lab space</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Forward to Office of Sponsored Programs (OSP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Send all exhibits/lab hazardous forms to business partner to complete</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Exhibit A - Blue print of space</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Exhibit B - Hazardous materials inventory list</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Exhibit C - Space Access List</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Exhibit D - Lab Hazard Checklist</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Exhibit E - BioSafety Checklist</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CRI sign rate sheet &amp; return to OSP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Receive approved rate sheet from OSP w/ all signatures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare draft agreement and send to OLA with supporting documents</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* OLA approves Draft Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Send to Vice Chancellor for Business Affairs signature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Receive signed agreement from Business Affairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Execute w/Business Partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Sign 3 copies w/business partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Request Insurance Binder from Business Partner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Request check payment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Disburse copies of signed agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- One copy to General Counsel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- One copy to Richard LaLieberte</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- One copy to Sponsored Programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- One copy for CRI Files with signatures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide ID &amp; Access to Campus</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* Banner ID Card</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Parking Memo &amp; Discuss parking services</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* ITS Registration of equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Building Access &amp; office keys</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* Label door plate for business partner signage</td>
<td></td>
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<tr>
<td></td>
<td>* Discuss &amp; Order Phone Install</td>
<td></td>
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<tr>
<td></td>
<td>* Notify Housekeeping of cleaning space, recycling bins &amp; mail service</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* Discuss Library services available</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* Discuss Food Services available on-campus</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>* Discuss Policies &amp; Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Send welcome letter to new partner from Wilhelm</td>
<td></td>
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<tr>
<td></td>
<td>* Update Business Partner List</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Communicate to Staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Add new business partner to active list &amp; website</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TIMEFRAME:**

**Notes:**

---

Page 000197
Space Rate Determination Form

Use this form to request a rate determination for license of space on the UNC Charlotte Campus. If UNC Charlotte equipment will be used fill out an Equipment Rate Determination Form.

Requesting Department: Charlotte Research Institute  Date: ____________
Requested by:  P. Gail Keene  Telephone: 7-8286

Client Information
Corporate Name: ___________________________  Address: ___________________________
City: ___________________________  State: ___________________________  ZIP Code: ___________________________
Corporate Official Authorized to sign agreement: ___________________________
Is business partner an employee of UNC Charlotte?  □ Yes  □ No
If they use SBIR funding, are they sub-contracting to UNC Charlotte?  □ Yes  □ No
Are they utilizing UNC Charlotte faculty in their work?  □ Yes  □ No
If YES: Faculty Name: ___________________________  Dept. ___________________________
Faculty Service Provided: ___________________________  Reimbursement Method: ___________________________
Identified Conflicts of Interest or Commitment: ___________________________

Information Required For Rate Determination
Date rate is needed by: ___________________________  Building: ___________________________
Rooms: ___________________________
Term: ___________________________
Activity to be performed in the Space: ___________________________

RCM Rate Determination Calculations (for RCM use only)

<table>
<thead>
<tr>
<th>Building #</th>
<th>Assignable Sqft</th>
<th>Annual Rate per Sqft</th>
<th>Space Price per Day</th>
<th>License Tenure in Days</th>
<th>Total Space Cost</th>
</tr>
</thead>
</table>

Prepared by RCM Name: ___________________________  Phone: ___________________________  Date: ____________

Approvals
Requesting Department ___________________________  Initials Date
Research Cost Management ___________________________  ____________
Vice Chancellor Academic Affairs ___________________________  ____________
Or ____________________________________________________________  ____________
Vice Chancellor Research & Federal Relations ___________________________  ____________
Equipment Rate Determination Form

This form is used to request a rate determination for license of equipment on the UNC Charlotte Campus. If UNC Charlotte space will be licensed also, fill out a Space Rate Determination Form. Before requesting equipment rates using this form, contact the Research Cost Management (RCM) Cost Analysis Office to find out if the requested equipment has predetermined rates established by a UNC Charlotte Recharge Unit.

Requesting Department: ___________________________ Date: ___________________________
Requested by: ___________________________ Telephone: ___________________________

Client Information
Corporate Name: ___________________________ Address: ___________________________
City: ___________________________ State: _______ ZIP Code: ___________________________
Corporate Official Authorized to sign agreement: ___________________________

Is business partner an employee of UNC Charlotte? ☐ Yes ☐ No
If they use SBIR funding, are they sub-contracting to UNC Charlotte? ☐ Yes ☐ No
Are they utilizing UNC Charlotte faculty in their work? ☐ Yes ☐ No
If YES: Faculty Name: ___________________________ Dept: ___________________________
Faculty Service Provided: ___________________________ Reimbursement Method: ___________________________
Identified Conflicts of Interest or Commitment: ___________________________

Information Required For Rate Determination

Date rate is needed by: ___________________________

<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>UNCC Tag #</th>
<th>Average Annual Usage in Hours</th>
<th>Name of Faculty Operator</th>
<th>Name of Assistant Operator</th>
<th>License use hours / day</th>
<th>License # of days</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
**RCM Rate Determination Calculations** (for OPS use only)

<table>
<thead>
<tr>
<th>Tag #</th>
<th>Annual Dep. Exp.</th>
<th>Equipment hourly rate</th>
<th>Faculty operator hourly rate</th>
<th>Assistant operator hourly rate</th>
<th>Total Hourly Rate</th>
<th>Total License Cost per machine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Total License Cost: _____________________________________________________________

Prepared by RCM Name: __________________________ Phone: __________ Date: __________

**Approvals**

<table>
<thead>
<tr>
<th>Requesting Department</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Cost Management</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Vice Chancellor Academic Affairs</th>
<th>Initials</th>
<th>Date</th>
</tr>
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</table>

Or

<table>
<thead>
<tr>
<th>Vice Chancellor Research &amp; Federal Relations</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Page 000200
EXHIBIT B
Licensee Hazardous Material
Inventory Form

(A hazardous material is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.)

<table>
<thead>
<tr>
<th>Chemical / Product Name</th>
<th>Chemical / Product Manufacturer Name</th>
<th>Quantity</th>
<th>Unit of Measure (pound, gallon, pint, kilogram, milliliter, gram, etc.)</th>
<th>CAS Number (If available)</th>
<th>Building</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Date:
Licensee Primary Location:
Person completing Inventory:
Emergency Contact (Name/number):

BUSINESS PARTNER SIGNATURE: ______________________________
DATE: ________________
Exhibit C

University Business Partner Agreement Attachment

Business Partner Company
Name

President/Manager

Campus Location Phone

Address

City State Zip

Phone eMail

List of persons who will have access to the office/lab space being licensed:

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

Name Phone

BUSINESS PARTNER SIGNATURE

DATE:

Page 000202
EXHIBIT D: LAB HAZARD CHECKLIST

Company Name

Building & Room#

PI/Contact Name

Contact Phone

PARTNER SIGNATURE __________________________________________ DATE ______________________

Please check the hazards that are associated with your laboratory activities – return your completed copy via email to pgkeene@uncc.edu or hardcopy to Gail Keene, Grigg Hall #254.

HAZARDS (check :

- Biological Hazard – Biosafety levels 2 or 3 organisms present
- Laser Radiation Hazard – Any work involving class 3b or 4 lasers
- Flammable Gas Hazard – Compressed gas cylinders that contain flammable gas
- Toxic Gas Hazard – Compressed gas cylinders that contain toxic gas
- Flammable Materials – Any materials that pose a flammability hazard
- Corrosive Materials – Any materials that have low or high pH
- Ultraviolet Light
- High Pressure Reactions – Reactions that have a potential for high pressure release
- Radioactive Materials – Radiochemicals and sealed radiation sources
- Radio Frequency or Microwave Radiation
- Strong Magnetic Fields
- X-Ray Producing Devices – Diffraction and fluorescence units, electron microscopes
- Acutely Toxic Materials
- Carcinogenic Materials
- Reproductive Hazards
- High Voltage Equipment – equipment or processes using greater than 110 volts
- Other Hazards – Materials or processes posing health or safety hazards not listed above
Brief Description of the Proposed Laboratory Activities.

Describe any waste materials that will be generated, estimated amount of waste, and waste streams that are to be disposed at UNC Charlotte facilities or by UNC Charlotte staff.

INTERNAL REVIEW BY:
SAFETY OFFICER ____________________________________________
RECOMMENDATION ____________________________________________
SIGNATURE ____________________________________________ DATE: ________________________

RISK MANAGEMENT OFFICER ____________________________________________
RECOMMENDATION ____________________________________________
SIGNATURE ____________________________________________ DATE: ________________________
EXHIBIT E: Biosafety Protocol Form

The UNCC Biosafety Committee (BSC) and the Institutional Biosafety Committee (IBC) are the institutional review bodies responsible for oversight of all research and teaching activities involved with potentially hazardous biological agents including but not limited to infectious agents, human and non-human primate materials (including established cell lines and whole blood), select agents, recombinant DNA and studies involving human gene transfer.

ALL RESEARCHERS who work with one or more of the materials listed on page 2 in the “Materials Used” box MUST complete and submit this form to the IBC for approval via email to dsaitrey@uncc.edu. If you have any questions, contact the Office of Research Services (704) 687-3311.

GENERAL INFORMATION

Application Status:  □ New Application  □ Three Year Renewal  □ Amendment

Title of Project:

Principal Investigator:                Degree:

Department:                            Academic Title:

Mailing Address:

Telephone:                             Fax:                            Email:

Co-Investigator(s):                    Tel:                           Email:

Lab Supervisor/Manager:               Tel:                          Email:

Project Funded? □ Y  □ N  □ Pending

Funding Agency:  Proposed Start Date:

Title of Funded Project:

List Research Location(s) – building/room(s):

Other UNCC site(s) including leased space:

<table>
<thead>
<tr>
<th>Non-UNCC Facility (list each below):</th>
<th>Did this facility grant approval for this study? (if yes, attach a copy of IBC approval letter or equivalent to this protocol)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>□ Y  □ N  □ Pending  □ Not Required</td>
</tr>
</tbody>
</table>

FOR BIOSAFETY COMMITTEE (BSC/IBC) USE ONLY

Full Committee Review □ Sponsored Programs Notification □

Protocol Number:                               Date Received:

Approval Date:

rDNA □ Infectious Agent □ Animal Use □ Human subjects □

Exempt □ Expedited review □ IACUC notification □ IRB notification □

Amendment □ Signature page □

IBC Chair Signature: ____________________________

Date: ______________________________

Page 000205
### MATERIALS USED

<table>
<thead>
<tr>
<th>Yes/No</th>
<th>Description</th>
<th>Additional Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The use of non-exempt Recombinant DNA</td>
<td>Addendum I</td>
</tr>
<tr>
<td></td>
<td>For further explanation of Recombinant DNA classifications, please see Addendum I of this form and the NIH Guidelines for Recombinant DNA Research (Section III-A through F)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The creation of transgenic or other genetically modified plants or animals</td>
<td>Addendum I</td>
</tr>
<tr>
<td></td>
<td>Animals inoculated with or exposed to hazardous materials</td>
<td>Addendum II</td>
</tr>
<tr>
<td></td>
<td>Human subjects</td>
<td>Addendum III</td>
</tr>
<tr>
<td></td>
<td>Infectious agents (Bacteria, Virus, Yeast, Fungus, Parasitic Agents)</td>
<td>Addendum IV</td>
</tr>
<tr>
<td></td>
<td>Human/Non-Human Primate material including established human cell lines</td>
<td>Addendum V</td>
</tr>
<tr>
<td></td>
<td>Known Carcinogens or Mutagens</td>
<td>Addendum VI</td>
</tr>
<tr>
<td></td>
<td>Toxins (Biological or Chemical)</td>
<td>Addendum VI</td>
</tr>
<tr>
<td></td>
<td>CDC Select Agents</td>
<td>Addendum VI</td>
</tr>
</tbody>
</table>

### PROJECT DESCRIPTION

Please give a detailed non-technical description of the project and its potential value. If including multiple organisms, please discuss the overall laboratory research program.

Provide detailed procedures and list associated occupational hazards for each procedure. Cross reference each procedure with personnel identified in Section B, “Personnel/Training (to follow).” (e.g., John Doe will inoculate animals with HeLa cell lines, contains cervical cancer cells.)

1.
For each occupational hazard listed in the procedures above, describe any risk-reducing devices. (e.g., 1. inoculate animals with HeLa cell lines inside biosafety cabinet; use engineered needles; use animal restraints; wear safety glasses, gloves, labcoat.)

1.

<table>
<thead>
<tr>
<th>Biosafety Level and Risk Group</th>
<th>BSL-1</th>
<th>BSL-2</th>
<th>BSL-2+</th>
<th>BSL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Group</td>
<td>RG-1</td>
<td>RG-2</td>
<td>RG-3</td>
<td>RG-4</td>
</tr>
</tbody>
</table>

Please see page 8 for a description of the different groupings. More than one BSL or RG may be applicable. Please check all that apply to this work.
PERSONNEL / TRAINING

A. Describe the Principal Investigator(s)'s qualifications and training that are relevant to the procedures this project will employ. Specify years of experience. If the Principal Investigator does not have relevant qualifications or experience, explain how the required expertise and training will be provided.

New UNCC Faculty must attach a curriculum vitae or NIH biosketch to this form.

B. List ALL personnel working under this protocol.
All such employees, including the Principal Investigator, should be trained in the safe use and handling of potentially hazardous materials prior to commencement of this project. The IBC may require that training be provided by someone other than the Principal Investigator.

List additional personnel together in last row; when personnel change, submit the updated information as an amendment.

<table>
<thead>
<tr>
<th>Name</th>
<th>9-digit UNCC ID #</th>
<th>Degree</th>
<th>Job title</th>
<th>Years experience</th>
<th>Procedures performed (from page 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td></td>
<td></td>
<td></td>
<td>years</td>
<td></td>
</tr>
</tbody>
</table>

OCCUPATIONAL HEALTH

All employees who have occupational exposure to potentially hazardous materials must be aware of their risk of exposure to these materials as well as control measures that reduce or eliminate the exposure risk.

Have all employees working with human material been offered the Hepatitis B vaccine? □ Y □ N □ N/A

Are serological tests or other immunizations required for this protocol? □ Y □ N

If yes, identify each:
Biohazard Awareness and/or Training Certification for Laboratory Workers

The Biosafety Committee requires that all laboratory workers are made aware of the University Biosafety Manual and have received proper awareness and/or training on the handling of potentially hazardous biological agents.

By signing the form below, you are acknowledging that you have been made aware of the existence of potentially hazardous biological agents in the laboratory and any symptoms they may cause, the need for and availability of vaccines as well as the location of the Biosafety Manual and its availability to you, and/or that you have received training on the handling of biohazardous organisms sufficient for you to safely conduct your work.

It is the Principal Investigator's responsibility to maintain up-to-date, signed Biohazard Awareness Certification forms for all laboratory personnel and documentation of necessary training for all laboratory personnel who handle potentially hazardous biological agents.

Print additional pages as necessary.

**Name of Agent/Organism and Strain:**

**Biosafety Level:**  □ BSL-1  □ BSL-2  □ BSL-2+  □ BSL-3

<table>
<thead>
<tr>
<th>Laboratory Worker Certification</th>
<th></th>
<th>Ph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept.:</td>
<td>Building:</td>
<td></td>
</tr>
<tr>
<td>Status: Check one.</td>
<td>Faculty</td>
<td></td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trainer:</td>
<td>Lab Duties:</td>
<td></td>
</tr>
</tbody>
</table>

**Awareness and Training Status:** Check all that apply.

☐ I have been made aware of the existence of potentially hazardous biological agents in the laboratory and any symptoms they may cause, the need for and availability of vaccines as well as the location of the Biosafety Manual and its availability to me.

☐ I have received training on the handling of biohazardous organisms sufficient for me to safely conduct my work.

**Signature:**

**Date:**

---

<table>
<thead>
<tr>
<th>Name:</th>
<th>Ph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept.:</td>
<td></td>
</tr>
<tr>
<td>Status: Check one.</td>
<td></td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td></td>
</tr>
<tr>
<td>Trainer:</td>
<td></td>
</tr>
</tbody>
</table>

**Awareness and Training Status:** Check all that apply.

☐ I have been made aware of the existence of potentially hazardous biological agents in the laboratory and any symptoms they may cause, the need for and availability of vaccines as well as the location of the Biosafety Manual and its availability to me.

☐ I have received training on the handling of biohazardous organisms sufficient for me to safely conduct my work.

**Signature:**

**Date:**

---

<table>
<thead>
<tr>
<th>Name:</th>
<th>Ph:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept.:</td>
<td></td>
</tr>
<tr>
<td>Status: Check one.</td>
<td></td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td></td>
</tr>
<tr>
<td>Trainer:</td>
<td></td>
</tr>
</tbody>
</table>

**Awareness and Training Status:** Check all that apply.

☐ I have been made aware of the existence of potentially hazardous biological agents in the laboratory and any symptoms they may cause, the need for and availability of vaccines as well as the location of the Biosafety Manual and its availability to me.

☐ I have received training on the handling of biohazardous organisms sufficient for me to safely conduct my work.

**Signature:**

**Date:**
SAFETY EQUIPMENT

Date of last laboratory inspection (IBC use only):

Biosafety cabinet type(s): Location(s): Certification date(s):

Fume hood used? □ Y □ N □ N/A Location(s): Certification date(s):

List all engineered sharps employed (e.g., needles, cutting tools, etc). An ‘engineered sharp’ has a physical attribute built into the device that effectively reduces the risk of an exposure incident (e.g., retractable needles, hinged needle shields, needleless IV connectors, etc.). Use of engineered sharps is required, unless the IBC granted prior authorization.

Manufacturer(s) and Model(s):

If engineered sharps cannot be used, explain why:

Personal Protective Equipment worn while handling agents:

□ Disposable gloves □ Head cover

□ Shoe covers □ Eye protection □ Full face shield

□ Lab Coat/ Overalls □ Fitted respirator (fit testing required: call EH&S) □ Other:

Disinfectant(s) used: Contact time: Concentration:
(Bleach solutions must be made monthly) (Bleach minimum 15 minutes) (Bleach minimum 10%)

TRANSPORTATION / SHIPPING

Containers used to transport materials between locations must meet applicable Department of Transportation requirements and be properly labeled, sealed, leak-proof, and puncture resistant.

Check ALL that apply:

□ Materials will not be transported outside of the laboratory where used.

□ Materials will be hand carried on campus from: to:

□ Materials will be transported by vehicle from: to:

List all individuals who will transport materials in a vehicle:

□ Materials will be transported to campus from the following off site location(s):

List all individuals who will transport materials from off-site:

□ Materials will be shipped off campus (using Fed-Ex, etc.).

Attach copies of current Shipper Training Certifications for persons who initiate shipments. If no one in the laboratory has a Shipper Training Certification (DOT/ IATA) – Please contact Airpack, Inc @ 704-329-7293 for assistance. Contact the UNCC Office of Technology Transfer 704-687-8013 if a Material Transfer Agreement Form is needed.
**SECURITY**

Describe below how you will secure and limit access to laboratories where hazardous materials are used or stored.

<table>
<thead>
<tr>
<th>Physical Security:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Card key access</td>
<td>□ Lock doors when unoccupied</td>
</tr>
<tr>
<td>□ Keys issued by PI</td>
<td>□ Use Equipment Locks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal Security Procedures:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ No unauthorized personnel allowed</td>
<td></td>
</tr>
<tr>
<td>□ Escort all Guests and Visitors</td>
<td></td>
</tr>
<tr>
<td>□ Escort Housekeeping and Maintenance personnel</td>
<td></td>
</tr>
<tr>
<td>□ Other:</td>
<td></td>
</tr>
</tbody>
</table>

**WASTE DISPOSAL**

My lab will produce (check appropriate boxes):

<table>
<thead>
<tr>
<th>Biological Waste consisting of:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Sharps waste</td>
<td></td>
</tr>
<tr>
<td>□ Pathological waste</td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenic/Toxic Waste consisting of:

| □ Solid waste | | □ Excess and expired carcinogenic chemicals or toxins | |
| □ Carcinogenic animal carcasses | | □ Chemical remains and contaminated bedding | |

**EMERGENCY PROCEDURES**

In case of an exposure incident, my lab personnel are instructed to obtain treatment at the following location(s):

During Normal Business Hours:  □ Student Health Center (704) 687-7400

After-hours/Weekends:  □ Carolina Medical Center-University Hospital

Campus Police:  □ (704) 687-2200

□ Other:  |
The Biosafety Level and Risk Group information is given as a reference. Where appropriate please be sure to include the Biosafety Level and Risk Group for EACH agent that will be used. The Biosafety Level criteria are taken from the BMBL 5th edition. The Risk Group criteria are found in the NIH Guidelines for Research Involving Recombinant DNA Molecules, Section II-A-2.

<table>
<thead>
<tr>
<th>Biosafety Level and Risk Group information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BSL-1</strong></td>
</tr>
<tr>
<td>• Low risk agents (generally risk group 1), special containment equipment not required</td>
</tr>
<tr>
<td>• Work is done on open bench tops</td>
</tr>
<tr>
<td>• Standard microbiological practices are observed</td>
</tr>
<tr>
<td>• Biohazard signs should be posted</td>
</tr>
<tr>
<td><strong>BSL-2</strong></td>
</tr>
<tr>
<td>• Moderate risk agents (generally risk group 2), biosafety cabinets, restrictions to research areas</td>
</tr>
<tr>
<td>• All BSL-1 containment and practices plus the following:</td>
</tr>
<tr>
<td>• Laboratory access is restricted when experimental work is in progress</td>
</tr>
<tr>
<td>• Personnel have specific training in handling of agents</td>
</tr>
<tr>
<td>• Biological safety cabinets (BSC) or other physical containment devices are used for potential aerosol generation procedures</td>
</tr>
<tr>
<td>• Biohazard signs must be posted</td>
</tr>
<tr>
<td>• Specific PPE (personnel protective equipment) and entrance requirements</td>
</tr>
<tr>
<td><strong>BSL-2+</strong></td>
</tr>
<tr>
<td>• Moderate-High risk agents (generally risk groups 2 or 3), BSL-2 containment with BSL-3 practices</td>
</tr>
<tr>
<td>• All BSL-2 containment and practices plus the following:</td>
</tr>
<tr>
<td>• Laboratory access is restricted</td>
</tr>
<tr>
<td>• Personnel have specific training in handling of agents</td>
</tr>
<tr>
<td>• All procedures are performed in biological safety cabinets (BSC)</td>
</tr>
<tr>
<td>• Biohazard signs must be posted</td>
</tr>
<tr>
<td>• Written safety policies provided by the investigator defining laboratory procedures, waste disposal, disinfection and medical surveillance</td>
</tr>
<tr>
<td>• Centrifuge safety cups must be used</td>
</tr>
<tr>
<td><strong>BSL-3</strong></td>
</tr>
<tr>
<td>• High risk agents (generally risk group 3), BSL-3 containment facilities and practices</td>
</tr>
<tr>
<td>• All BSL-2 containment and practices plus the following:</td>
</tr>
<tr>
<td>• Laboratory access is restricted</td>
</tr>
<tr>
<td>• Personnel have specific training in handling of agents; training certification must be completed and signed</td>
</tr>
<tr>
<td>• All procedures are performed in biological safety cabinets (BSC)</td>
</tr>
<tr>
<td>• Biohazard signs must be posted</td>
</tr>
<tr>
<td>• Written safety policies provided by the investigator defining laboratory procedures, waste disposal, disinfection and medical surveillance</td>
</tr>
<tr>
<td>• Centrifuge safety cups must be used</td>
</tr>
<tr>
<td>• Specific facility design parameters must be followed, including requirements for location, ventilation, room integrity and security</td>
</tr>
<tr>
<td>• Facility must be commissioned according to all federal commissioning processes and those set up by the University of North Carolina- Charlotte</td>
</tr>
<tr>
<td><strong>BSL-4</strong></td>
</tr>
<tr>
<td>• NO current facilities exist at the University of North Carolina at Charlotte</td>
</tr>
</tbody>
</table>

2. Risk Groups (or class) information

<p>| Risk Group 1 | Agents are <em>Not</em> associated with disease in healthy adult humans. |
| Risk Group 2 | Agents are associated with human disease that is rarely serious. There are often preventive or therapeutic interventions available. |
| Risk Group 3 | Agents are associated with serious or lethal human disease for which preventive or therapeutic interventions <em>MAY</em> be available. |
| Risk Group 4 | Agents are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are <em>NOT USUALLY</em> available. |</p>
<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
<th>Section of NIH Guidelines</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>III-A-1-a</td>
<td>Deliberate transfer of a drug resistance trait to microorganisms that are not known to acquire the trait naturally. (Check NO for standard drug resistance, e.g., ampicillin into E. coli.) If Yes, explain:</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>III-B-1</td>
<td>Experiments involving the cloning of toxin molecules with LD₅₀ of less than 100 nanograms per kilogram body weight. If Yes, explain:</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>III-C-1</td>
<td>Experiments involving the deliberate transfer of rDNA, or DNA or RNA derived from rDNA, into one or more human research participants. If Yes, explain:</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>III-D-1</td>
<td>Experiments using Risk Group 2, 3, or 4, or restricted agents as host-vector System. If Yes, explain:</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>III-D-2</td>
<td>Experiments in which DNA from Risk Group 2, 3, or 4 agents or restricted organisms is cloned into nonpathogenic prokaryotic or lower eukaryotic host vector systems. If Yes, explain:</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>III-D-3</td>
<td>Experiments involving the use of infectious DNA or RNA viruses in tissue culture systems. If Yes, explain:</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>III-D-3</td>
<td>Experiments involving the use of defective DNA or RNA viruses in the presence of a helper virus in tissue culture systems. If Yes, explain:</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>III-D-4 III-E-3</td>
<td>Experiments involving whole animals in which the animal’s genome has been altered by stable introduction of recombinant DNA, or DNA derived there from, into the germ-line (transgenic animals). If Yes, explain:</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>III-D-5 III-E-2</td>
<td>Experiments involving whole plants. If Yes, explain:</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>III-E-1</td>
<td>Experiments involving the formation of rDNA molecules containing no more than two-thirds of the genome of any eukaryotic virus? If Yes, explain:</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>III-D-6</td>
<td>Experiments involving more than 10 liters of culture. If Yes, explain:</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>III-D-7</td>
<td>Exempt Experiments. If Yes, explain:</td>
</tr>
</tbody>
</table>

**Source(s) of inserted DNA:** List Genus/Species or common name of the source organism of the insert DNA. What gene(s) will be used?

**Nature of the inserted DNA sequence:** Describe the function/activity of the DNA or its product. (i.e. Biological marker, sequences, promoter, etc.)

**Intended use of rDNA:** Describe the intended use of the recombinant DNA molecule (i.e. cloning, sequencing, expression, over expression of protein in yeast for structure/function, CDNA library, screen for clones, etc.)
<table>
<thead>
<tr>
<th>Recombinant Material:  Host-Vector System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host(s):</strong> Indicate the host(s) used to propagate</td>
</tr>
</tbody>
</table>

Select 'Yes' or 'No' for each question as it pertains to your research.

The link to the *NIH Guidelines for Research Involving rDNA* has been included for your use:


<table>
<thead>
<tr>
<th>Will you attempt to express a foreign gene?</th>
<th>☐ No</th>
<th>☐ Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>If so, what protein(s) will be produced?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vector Plasmid or Recombinant Virus: (i.e. E. coli, other bacteria, laboratory animals, humans, human/animal cells)</td>
<td>(i.e. bacterial plasmid, virus, Baculovirus, Adenovirus, Lentivirus)</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of Viral Vectors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If viral vectors are used please name the strain and provide detailed information about the strain including how it is engineered to be replication incompetent.
| | |
| | |
| | |
| | |
| Testing for Replication Competent Virus (RCV) |
Describe how you will assure your vector material is free from replication contamination by replication-competent virus (RCV).
| | |
| | |
| | |
| | |
| List previous experience or training for each personnel working with viral vectors: |
1. |
<table>
<thead>
<tr>
<th>IACUC Protocol Number:</th>
<th>Approval Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IACUC Protocol Title:</td>
<td></td>
</tr>
<tr>
<td>Also complete the Animal Holding Room Door Sign on page 11. (Questions? Contact the Vivarium at (704) 687-8318.)</td>
<td></td>
</tr>
</tbody>
</table>

**Species of animal (include invertebrates and vertebrates):**

<table>
<thead>
<tr>
<th>Field caught?</th>
<th>Yes</th>
<th>No</th>
<th>(Use of animals that are potential reservoirs of zoonotic diseases)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Transgenic or other genetically modified animals?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>A. Infectious agents, vectors, or human cell lines used in live animals?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>If yes, identify:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>B. Hazardous chemicals/toxins in animals?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>If yes, identify:</th>
</tr>
</thead>
</table>

If question A. or B. above was answered "Yes," complete questions below.

<table>
<thead>
<tr>
<th>Maximum infectious/hazardous dose per animal:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum infectious units per dose:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Method of Delivery:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Animal anesthetized during injections of agent:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Animal restrainers used for injecting hazardous materials:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

A. **Agent excreted/shed?** | Yes | No |

If yes, explain the measures your lab will take to prevent accidental exposure to employees, animal handlers, students, visitors and other animals:
ANIMAL HANDLER PRECAUTIONS

Building: Room number: Date:

IACUC PROTOCOL:
Please list the agent(s) used in the appropriate box (click inside the box to add text):

Radiation Safety Permit #: IBC # (biologicals): IBC # (chemicals):

The animals in this program are part of an approved experiment involving radioactive materials, biohazardous organisms and/or chemical carcinogens. The precautions checked below apply to this experiment.

Principal Investigator: 
Emergency contact person: 

Identified hazard(s):

☐ The researcher or his/her technicians are responsible for the feeding and care of these animals. Individual cages are labeled with appropriate warning labels.

☐ The following items must be assumed to be contaminated with hazardous materials and must be handled only by the researcher or his/her technicians: ☐ Cage ☐ Water bottle ☐ Bedding

☐ Animal carcasses ☐ Equipment (specify): 

☐ Environmental Health and Safety MUST dispose of animal carcasses; call EH&S at (704) 687-4291.

☐ ALL contaminated waste must be disposed of through Environmental Health & Safety at (704) 687-4291.

☐ Filter top cages MUST be opened in a biological safety cabinet.

☐ The following personal protective equipment MUST be worn/used in this room:

☐ Lab coat/Coveralls ☐ Head cover ☐ Eye protection
☐ Shoe covers ☐ Surgical mask ☐ Gloves (double)
☐ Respirator (list make/model/type filter):

☐ Other:

☐ Hands MUST be thoroughly washed upon leaving the room.

☐ Current Medical Surveillance Clearance is required for entry.

☐ Other:
**ADDENDUM III**

<table>
<thead>
<tr>
<th>IRB protocol number:</th>
<th>Approval date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRB Protocol Title:</td>
<td></td>
</tr>
<tr>
<td>If you have questions, contact the IRB office at (704) 687-3311</td>
<td></td>
</tr>
</tbody>
</table>

**Briefly describe any research involving human subjects:**

<table>
<thead>
<tr>
<th>Will rDNA be used in human gene transfer experiments?</th>
<th>☐ Yes</th>
<th>☐ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will rDNA be used in human subjects?</td>
<td>☐ Yes</td>
<td>☐ No</td>
</tr>
</tbody>
</table>
**ADDENDUM IV.**

List ALL potentially infectious agents used in this project.

<table>
<thead>
<tr>
<th>Agent (e.g., Lentivirus)</th>
<th>Risk Group</th>
<th>Biosafety Level (BSL)</th>
<th>Aerosol Producing Procedures</th>
<th>Building</th>
<th>Room #</th>
<th>Room Function</th>
</tr>
</thead>
</table>

* Contact Environmental Health and Safety immediately at (704) 687-4291 if you plan to work with agents in NIH Risk Group 3.
### ADDENDUM V

#### Human/Non Human Primate Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Name/Description</th>
<th>Source</th>
<th>Primary Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Whole blood/serum</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>□ Blood component</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>□ Unfixed tissue</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>□ Established cell lines</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>□ Human Embryonic Stem Cell Lines</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>*Requires IRB Approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Cells</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>□ OPIM (Other Potentially Infectious Materials)</td>
<td></td>
<td></td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

#### Types of manipulations:

- □ Centrifugation
- □ Sonification
- □ Dissection
- □ Pipetting
- □ Blending/Mixing
- □ Other:

As indicated by the Environmental Health & Safety Office and the Bloodborne Pathogen Standard, all employees with occupational exposure to any of the materials listed above must attend annual Bloodborne Pathogen training. Training is conducted through the EH & S office: [http://www.safety.uncc.edu/](http://www.safety.uncc.edu/)
ADDENDUM VI

Attach MSDS?  Attach Floor Plan?

(Indicate use and storage areas)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Carcinogen or Mutagen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxin (Biological or Chemical)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CDC Select Agent</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Location stored: Location used:

Total amount purchased:

Agent name: BSL (if appropriate) Beginning concentration: Final concentration:

Laboratory or site of origin: Mailing or street address:

Phone: Email address:

Dilution procedures:

Describe the safe handling and disposal procedures that will be used for this agent:

Attach a sketch/floor plan (not blueprints) for laboratory(ies) where work will be performed. Show entry, location of fume hoods, biosafety cabinets, incubators, freezers, autoclaves, storage (locked or unlocked) and other equipment specified in the BMBL, NIH Guidelines, 29 CFR 1910, or other reference document as recommended for work with the agents. Mark location of air intake and exhaust vents.

Describe the air-handling system for the location(s) where the work will be performed (e.g., single pass or re-circulating, type of filters, method for handling safety cabinet and fume hood exhaust).

FOR IBC USE ONLY:

☐ No significant carcinogen/toxin hazard
☐ Weak carcinogen/toxin hazard
☐ Significant carcinogen/toxin hazard
☐ Substantial carcinogen/toxin hazard (requires special attention)
☐ Other:

Biosafety Protocol Form – Updated 9/03/2009 Page 17 of 18

Page 000221
INVESTIGATOR'S ASSURANCE

1. I confirm that all persons involved with this project (including my collaborators) have been adequately trained in good microbiological techniques, have received instruction on any specific hazards associated with the project and worksite, and are aware of any specific safety equipment, practices and behaviors required while conducting project procedures and using these facilities. The IBC may review my records documenting this instruction.

2. I will immediately report to the Environmental Health and Safety Office any accident, injury, spill of biohazardous material, equipment or facility failure (i.e., ventilation failure), and/or any breakdown in procedure that could result in potential exposure of laboratory personnel, staff or the public to biohazardous or toxic material.

3. I confirm that any proposed changes to my work that would result in an increased level of biohazard will be reported to the IBC before the change is implemented.

4. I confirm that no work that requires IBC approval will be initiated or modified until approval is received.

5. I will notify the IBC of all personnel changes or additions through the submission of an amendment.

6. I have read and understand my responsibilities as Principal Investigator outlined in Section IV-B-4 of the NIH Guidelines, and agree to comply with these responsibilities.

7. I certify that the information provided within this application is accurate to the best of my knowledge. I also understand that, should I use the project described in this application as a basis for a funding proposal (either intramural or extramural), I am responsible for ensuring that the description of procedures in the funding proposal is identical in principle to that contained in this application.

8. I confirm that all persons involved with this protocol will comply with all environmental laws and regulations and that this project does not significantly impact the environment.

Investigator's Signature:

Date:

Please send a hard copy of the signed page to the Office of Research Services attn: Dixie Airey or fax this page with signature to 704-687-2292. Electronic signatures are not acceptable.
STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

FACILITIES LICENSE AGREEMENT

THIS FACILITIES LICENSE AGREEMENT ("Agreement") is made and entered into this the 1st day of October 2011, by and between The University of North Carolina at Charlotte, ("University"), and Intepoint, LLC, a limited liability corporation organized under the laws of the State of North Carolina, with its principal place of business located at 21451 Country Club Drive, Cornelius, North Carolina 28031, ("Licensee").

RECITALS:

A. University has requested and approved the execution of this Facilities License Agreement for the purposes herein specified; and

B. The execution of this Agreement for and on behalf of the University has been duly approved by the appropriate authorities; and

C. The parties hereto have mutually agreed to the terms of this Facilities License Agreement as hereinafter set out.

THEREFORE, in consideration of the premises and the promises, covenants and the payments to be made, University hereby grants a revocable license to use the facilities described below and hereinafter referred to as the "Licensed Premises":

Being approximately THREE HUNDRED AND SIXTY-THREE (363.3) usable square feet of office space designated as Room 146, Grigg Hall, UNC Charlotte main campus, Charlotte, Mecklenburg County, North Carolina, as shown in Exhibit A, attached.

THE TERMS AND CONDITIONS OF THIS FACILITIES LICENSE AGREEMENT ARE AS FOLLOWS:

1. Term. To allow Licensee to use said Licensed Premises for a term of SIX (6) MONTHS commencing on the 1st day of October 2011 and terminating on the 30TH day of March 2012. This Facilities License Agreement does not confer any real property interest in the Licensed Premises and this Facilities License Agreement may be revoked at any time without notice to the Licensee. Because this is a mere license, Licensee understands that its use of the space is subordinate to University needs and that this license will be terminated at any time that the University needs the Licensed Premises for other purposes.

2. Fee. For use of the Licensed Premises, Licensee agrees to pay to University a fee of THREE THOUSAND FOUR HUNDRED AND FORTY DOLLARS ($3,440) for the term of the Facilities License Agreement ("License Fee"), such sum to be paid upon execution of this
Facilities License Agreement  Payment is for license to access and use the Licensed Premises. The Licensee agrees to pay the aforesaid License Fee to University at the following address:

**Director of Financial Services**  
The University of North Carolina at Charlotte  
9201 University City Blvd.  
Charlotte, North Carolina 28223-0001

3. **Payment.** If Licensee fails to make any payments required by this Agreement, then the amount due bears interest from the time due until paid at the maximum contract rate permitted at law or 18% per annum, whichever is greater.

4. **Amenities.** To the extent the following services are available to University personnel working in the same location as Licensee, the Licensee will have the benefit of the following at no additional cost:

   (a) Heating, air conditioning, hot and cold water, lighting and electrical sockets (including existing telephone jack and computer network connectors), and toilet facilities.
   (b) Janitorial and cleaning services and supplies.
   (c) Elevator service and common area access to Licensed Premises.
   (d) The right to purchase, at Licensee's expense, ____ (__) parking permit[s] for the duration of the term. Parking shall be in accordance with University's regulations for parking and traffic.

5. **Condition of Licensed Premises.** The Licensed Premises are being provided to Licensee in an "as is" condition. University is not required to perform any work, install any fixtures or equipment, or render any services to make the Licensed Premises ready or suitable for Licensee's use or occupancy. The Licensee may make no changes of any sort to the Licensed Premises without the written permission of the University.

6. **Personal Access to Licensed Premises.** Licensee's personnel, agents or employees may not access the Licensed Premises unless they are certified by the University's lab manager in regards to safety, protocols, and hazardous materials handling. Licensee's personnel, agents or employees may not operate any University equipment without the prior consent of and training by the University's lab manager.

7. **Material Safety Data Sheet (MSDS).** Licensee must submit a properly completed MSDS form and a list of all hazardous material that Licensee will bring to the Licensed Premises. The completed MSDS form is attached as Exhibit B to this Agreement and incorporated herein. Licensee may not bring any hazardous materials onto the University campus if they are not included in Exhibit B.

8. **Emergency Contact List.** Licensee must provide to the University a list of all individuals who are authorized to have access to the Licensed Premises. The list will include which individuals should be contacted in the event of an emergency, along with contact information for each such
person. This list of individuals will be attached to this Agreement as **Exhibit C**.

9. **Select Agents.** Licensee is absolutely barred from bringing any select agents onto University property. Licensee may not engage in any activity under this Agreement involving recombinant DNA without prior review by the University’s Institutional Biosafety Committee and the written approval of the University’s Vice Chancellor for Research and Economic Development.

10. **Damage to Premises.** If the Licensed Premises are destroyed or damaged to an extent that they are no longer usable, by fire or other casualty, this Facilities License Agreement immediately terminates and the License Fee will be apportioned to the time of the damage. Nothing in this section or elsewhere in this Agreement waives or otherwise affects the University’s right to seek and recover damages from the Licensee, should any damage be attributable to the Licensee, its employees or agents.

11. **Indemnification.**
   (a) Licensee will indemnify, hold harmless and defend the University, its employees, officers, agents, representatives, and Board of Trustees, from any liability, loss or damage they may suffer as the result of claims, demands, damages, costs, citations, fees (including attorney fees) or suits arising out of in any manner connected with the use of the Licensed Premises or activities to be carried out pursuant to this Facilities License Agreement by Licensee, its agents or invitees, licensees, servants, employees or agents.

   (b) Licensee must notify University immediately when it becomes aware of a claim or action and must cooperate with University in responding to such claim or action. Neither Licensee nor its employees, agents or officers will compromise or settle any claim or action without the prior written approval of University.

12. **Insurance.**
   (a) Licensee must provide and maintain during the term of this Agreement, at Licensee’s sole cost, workers’ compensation insurance as required by the State of North Carolina. Such insurance must waive subrogation of any action, claim, attorney’s fees or damages against University in connection to or arising out of any alleged injury incurred on University property.

   (b) Licensee must provide and maintain during the term of this Facilities License Agreement, at Licensee’s sole expense, a comprehensive general liability insurance policy in an amount of not less than $1,000,000.00 per occurrence for death or bodily injury, $1,000,000.00 per occurrence for property damage liability, and $2,000,000.00 aggregate, with a deductible of no more than $100,000.00 for such liability insurance. The general liability and property damage liability policies must list The University of North Carolina at Charlotte as an additional insured and Licensee’s insurance will for all purposes be considered the primary coverage.

   (c) If Licensee stores any equipment, data or property at the Licensed Premises, Licensee
shall insure such property, equipment or data in amount equal to its worth and in addition to the insurance requirements set forth in this section.

13. University Policies. Licensee must follow any applicable University policies and procedures as pertain to access to the University, use of University property, or any other applicable University policies and procedures.

14. DISCLAIMER OF WARRANTIES. UNIVERSITY DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, WHETHER WRITTEN OR ORAL, WITH RESPECT TO THE LICENSED PREMISES, THE CONDITION OF THE LICENSED PREMISES, AND THE EQUIPMENT OR MATERIALS LOCATED IN THE LICENSED PREMISES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EXCEPT AS EXPRESSLY PROVIDED IN THIS FACILITIES LICENSE AGREEMENT, UNIVERSITY SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE THAT MAY ARISE IN CONNECTION WITH THE FURNISHING, PERFORMANCE OR USE BY THE LICENSEE OF THE LICENSED PREMISES OR ITS EQUIPMENT OR ANY SERVICES PROVIDED BY THE UNIVERSITY INCLUDING, WITHOUT LIMITATION, ANY INDIRECT, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST OR ANTICIPATED PROFITS, ARISING OUT OF OR IN ANY WAY RELATED TO THIS FACILITIES LICENSE AGREEMENT, REGARDLESS OF WHETHER THE LICENSEE WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE REMEDIES SET FORTH UNDER SECTION 15 SHALL BE THE SOLE AND EXCLUSIVE REMEDIES OF THE LICENSEE FOR ANY BREACH OF ANY OBLIGATIONS, WHETHER ARISING OUT OF CONTRACT OR TORT, OF THE UNIVERSITY.

15. LIMITATION OF LIABILITY. THE UNIVERSITY’S MAXIMUM AGGREGATE LIABILITY WITH RESPECT TO ANY DEFAULT IN THE PERFORMANCE OR NON-PERFORMANCE OF ITS OBLIGATIONS UNDER THIS FACILITIES LICENSE AGREEMENT IS LIMITED TO THE REFUND OF THE LICENSE FEE SET FORTH IN SECTION 2 ABOVE, PREVIOUSLY PAID TO THE UNIVERSITY BY THE LICENSEE.

(a) Licensee will return the Licensed Premises in as good order and condition as when received, excepting normal wear and tear at the end or early termination of this Agreement.

(b) The Licensee must remove any improvement or fixture placed by it on the Licensed Premises if required to do so by the University, and restore any portion of the Licensed Premises altered by it. In the event Licensee elects to remove Licensee's improvements or fixtures, or is required to remove same by University and such removal causes damage or injury to the Licensed Premises, Licensee will repair, or reimburse University to repair, only to the extent of any such damage or injury.

17. Notice. All notices herein provided to be given, or which may be given, by either party to the
other, shall be deemed to have been fully given when made in writing and deposited in the United States mail, certified and postage prepaid, and addressed to the University at:

Vice Chancellor for Business Affairs  
The University of North Carolina at Charlotte  
9201 University City Blvd.  
Charlotte, North Carolina 28223-0001  

or to the Licensee at:

Contact Name  
Business Name  
Address  
City, State Zip  

Any such notice may be made by personal service. The address to which notices must be mailed as aforesaid to either party may be changed by written notice.

18. **Waiver.** The failure of either party to insist in any instance upon strict performance of any of the terms and conditions herein is not and may not be construed to be a waiver of the same in any other instance. No modification of any provision hereof and no cancellation or surrender of this Agreement is valid unless in writing and signed and agreed to by both parties.

19. **Receipt of Mail and Packages.** Under no circumstances may the Licensed Premises be used as a mailing address or any sort of business headquarters by the Licensee.

20. **Termination.** Termination of this Agreement by either party for any reason does not affect any rights and obligations accrued prior to the effective date of termination. No termination of this Agreement, however effectuated, will release the parties hereto from their rights and obligations under Articles 10, 11, 13, 14, 15 and 23.

21. **Educational Purposes.** The Licensed Premises will be used entirely by the Licensee for educational purposes (Licensee's authorized signing agent should initial next to the marked box below):

    □ Yes          □ No  

22. **Assignment.** Licensee may not assign or otherwise transfer in whole or in part this Agreement.

23. **Choice of Law and Venue.** The laws of the State of North Carolina govern the validity, performance and enforcement of this Agreement and this Agreement must be construed pursuant to such laws.
IN TESTIMONY WHEREOF, this Facilities License Agreement has been executed by the parties hereto, in triplicate originals, as of the date first above written.

UNIVERSITY:
THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

By: ____________________________
   Elizabeth A. Hardin
   Vice Chancellor for Business Affairs

LICENSEE:
[BUSINESS NAME]

By: ____________________________
   [Authorized Signer Name]
   [Signer Title]
STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

LABORATORY USE AGREEMENT

THIS LABORATORY USE AGREEMENT ("Agreement") is made and entered into this the _____ day of ___________ 20___, by and between The University of North Carolina at Charlotte, ("University"), and ____________________________, a [corporation/sole proprietorship/limited liability company] organized under the laws of the State of ____________, with its principal place of business located at ____________________________, ("Licensee").

RECITALS:

A. University has requested and approved the execution of this Laboratory Use Agreement for the purposes herein specified; and

B. The execution of this Agreement for and on behalf of the University has been duly approved by the appropriate authorities; and

C. The parties hereto have mutually agreed to the terms of this Laboratory Use Agreement as hereinafter set out.

THEREFORE, in consideration of the premises and the promises, covenants and the payments to be made, University hereby grants a revocable license to use the laboratory space described below and hereinafter referred to as the “Licensed Premises”:

Being approximately ________ usable square feet of [laboratory/office] space designated as Room ___, __ [building name] , UNC Charlotte main campus, Charlotte, Mecklenburg County, North Carolina, as shown in Exhibit A, attached.

THE TERMS AND CONDITIONS OF THIS LABORATORY USE AGREEMENT ARE AS FOLLOWS:

1. Term. Licensee will have access to use said Licensed Premises for a term of ____ (__) [months/years], commencing on the ____ day of ___________ 20___ and terminating on the ____ day of ___________ 20___ . This Facilities License Agreement does not confer any real property interest in the Licensed Premises and this Laboratory Use Agreement may be revoked at any time without notice to the Licensee. Furthermore, Licensee understands and agrees that Licensor must give priority in scheduling to University classes and research and that this Agreement does not guarantee that the Licensee will have access to the allotted Licensed Premises.

2. Fee. The Licensee agrees to pay to University for the Licensed Premises, excluding access to and use of the Equipment therein, the sum of ____________________________ AND NO/100 ($__________) for the term of the Laboratory Use Agreement ("License Fee"). This
License Fee is to be paid at the execution of this Laboratory Use Agreement. Payment is for license to use the Licensed Premises, building insurance, building maintenance, common area maintenance, and building services (including electricity, water and sewer), local telephone service and local University internet connections.

3. **Payment.** Payment of the Licensee Fee must be made within thirty (30) days of the date of invoice. Any payments of Licensee required hereunder, whether for use of space or otherwise, shall bear interest from the time due until paid at the maximum contract rate permitted at law or eighteen percent (18%) per annum, whichever is greater.

The Licensee agrees to pay the aforesaid License Fee to University at the following address:

**Director of Financial Services**  
The University of North Carolina at Charlotte  
9201 University City Blvd.  
Charlotte, North Carolina 28223-0001

4. **Amenities.** To the extent the following services are available to University personnel working in the same location as Licensee, the Licensee will have the benefit of the following at no additional cost:

(a) Heating, air conditioning, hot and cold water, lighting and electrical sockets (including existing telephone jack and computer network connectors), and toilet facilities.
(b) Janitorial and cleaning services and supplies.
(c) Elevator service and common area access to Licensed Premises.
(d) The right to purchase, at Licensee's expense, ____ (__) parking permit[s] for the duration of the term. Parking shall be in accordance with University's regulations for parking and traffic.

5. **Condition of Licensed Premise.** The Licensed Premises are being provided to Licensee in an “as is” condition. University shall not otherwise be required to perform any work, install any fixtures or equipment, or render any services to make the Licensed Premises ready or suitable for Licensee's use or occupancy.

6. **Personnel Access to Licensed Premises.** Licensee’s personnel, agents or employees may not access the Licensed Premises unless they are certified by the University’s lab manager in regards to safety, protocols, and hazardous materials handling. Licensee’s personnel, agents or employees may not operate any University equipment without the prior consent of and training by the University’s lab manager.

7. **Material Safety Data Sheet (MSDS).** Licensee must submit a properly completed MSDS form and a list of all hazardous material that Licensee will bring to the Licensed Premises. The completed MSDS form is attached as **Exhibit B,** as well as a Laboratory Hazard Checklist attached hereto as **Exhibit D** to this Agreement and incorporated herein. Licensee may not bring any hazardous materials onto the University campus if they are not included in **Exhibit B.**
8. **Emergency Contact List.** Licensee must provide to the University a list of all individuals who are authorized to have access to the Licensed Premises. The list will include which individuals should be contacted in the event of an emergency, along with contact information for each such person. This list of individuals will be attached to this Agreement as **Exhibit C.**

9. **Select Agents.** **Licensee is absolutely barred from bringing any select agents onto University property.** Licensee may not engage in any activity under this Agreement involving recombinant DNA without prior review by the University’s Institutional Biosafety Committee and the written approval of the University’s Vice Chancellor for Research and Economic Development. Licensee must complete a Biosafety Protocol Form attached hereto as **Exhibit E.**

10. **Damage to Premises.** If the Licensed Premises are destroyed or damaged to an extent that they are no longer usable, by fire or other casualty, this Laboratory Use Agreement immediately terminates and the Licensee Fee will be apportioned to the time of the damage. Nothing in this section or elsewhere in this Agreement waives or otherwise affects the University’s right to seek and recover damages from the Licensee, should any damage be attributable to the Licensee, its employees or agents.

11. **Indemnification.**
   (a) Licensee will indemnify, hold harmless and defend the University, its employees, officers, agents, representatives, and Board of Trustees, from any liability, loss or damage they may suffer as the result of claims, demands, damages, costs, citations, fees (including attorney fees) or suits arising out of or in any manner connected with the use of the Licensed Premises or activities to be carried out pursuant to this Laboratory Use Agreement by Licensee, its agents or invitees, licensees, servants, employees or agents.

   (b) Licensee must notify University immediately when it becomes aware of a claim or action and must cooperate with University in responding to such claim or action. Neither Licensee nor its employees, agents or officers will compromise or settle any claim or action without the prior written approval of University.

12. **Insurance.**
   (a) Licensee must provide and maintain during the term of this Agreement, at Licensee’s sole cost, workers’ compensation insurance as required by the State of North Carolina. Such insurance must waive subrogation of any action, claim, attorney’s fees or damages against University in connection to or arising out of any alleged injury incurred on University property.

   (b) Licensee must provide and maintain during the term of this Laboratory Use Agreement, at Licensee’s sole expense, a comprehensive general liability insurance policy in an amount of not less than $1,000,000.00 per occurrence for death or bodily injury, $1,000,000.00 per occurrence for property damage liability, and $2,000,000.00 aggregate, with a deductible of no more than $100,000.00 for such liability insurance. The general liability and property damage liability policies must list The University of North Carolina at Charlotte as an additional insured and Licensee’s insurance will for all purposes be considered the primary coverage.
(c) **[Review the Hazard Checklist to determine if this clause applies]** Licensee will provide and maintain during the term of this Laboratory Use Agreement, at Licensee's sole cost, an environmental impairment insurance policy with a limit of no less than $5,000,000.00. The general liability, property damage liability and environmental impairment policies must list The University of North Carolina at Charlotte as an additional insured and Licensee's insurance will for all purposes be considered the primary coverage.

(d) If Licensee stores any equipment, data or property at the Licensed Premises, Licensee shall insure such property, equipment or data in amount equal to its worth and in addition to the insurance requirements set forth in this section.

13. **University Policies.** Licensee must follow any applicable University policies and procedures as pertain to access to the University, use of University property, or any other applicable University policies and procedures.

14. **DISCLAIMER OF WARRANTIES.** UNIVERSITY DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, WHETHER WRITTEN OR ORAL, WITH RESPECT TO THE LICENSED PREMISES, THE CONDITION OF THE LICENSED PREMISES, AND THE EQUIPMENT OR MATERIALS LOCATED IN THE LICENSED PREMISES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EXCEPT AS EXPRESSLY PROVIDED IN THIS LABORATORY USE AGREEMENT, UNIVERSITY SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE THAT MAY ARISE IN CONNECTION WITH THE FURNISHING, PERFORMANCE OR USE BY THE LICENSEE OF THE LICENSED PREMISES OR ITS EQUIPMENT OR ANY SERVICES PROVIDED BY THE UNIVERSITY INCLUDING, WITHOUT LIMITATION, ANY INDIRECT, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST OR ANTICIPATED PROFITS, ARISING OUT OF OR IN ANY WAY RELATED TO THIS LABORATORY USE AGREEMENT, REGARDLESS OF WHETHER THE LICENSEE WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE REMEDIES SET FORTH UNDER SECTION 15 SHALL BE THE SOLE AND EXCLUSIVE REMEDIES OF THE LICENSEE FOR ANY BREACH OF ANY OBLIGATIONS, WHETHER ARISING OUT OF CONTRACT OR TORT, OF THE UNIVERSITY.

15. **LIMITATION OF LIABILITY.** THE UNIVERSITY'S MAXIMUM AGGREGATE LIABILITY WITH RESPECT TO ANY DEFAULT IN THE PERFORMANCE OR NON-PERFORMANCE OF ITS OBLIGATIONS UNDER THIS LABORATORY USE AGREEMENT IS LIMITED TO THE REFUND OF THE LICENSE FEE SET FORTH IN SECTION 2 ABOVE, PREVIOUSLY PAID TO THE UNIVERSITY BY THE LICENSEE.

16. **Surrender of Licensed Premises.**

(a) Licensee will return the Licensed Premises in as good order and condition as when received, excepting normal wear and tear at the end or early termination of this Agreement.

(b) The Licensee must remove any improvement or fixture placed by it on the Licensed Premises if required to do so by the University, and restore any portion of the Licensed Premises altered by it. In the event Licensee elects to remove Licensee's improvements or
fixtures, or is required to remove same by University and such removal causes damage or injury to the Licensed Premises, Licensee will repair, or reimburse University to repair, only to the extent of any such damage or injury.

17. **Notice.** All notices herein provided to be given, or which may be given, by either party to the other, shall be deemed to have been fully given when made in writing and deposited in the United States mail, certified and postage prepaid and addressed to the University at:

Vice Chancellor for Business Affairs  
The University of North Carolina at Charlotte  
9201 University City Blvd.  
Charlotte, North Carolina 28223-0001

or to the Licensee at:

CONTACT NAME  
BUSINESS NAME  
ADDRESS  
CITY, STATE ZIP

Any such notice may be made by personal service. The address to which notices must be mailed as aforesaid to either party may be changed by written notice.

18. **Waiver.** The failure of either party to insist in any instance upon strict performance of any of the terms and conditions herein is not and may not be construed to be a waiver of the same in any other instance. No modification of any provision hereof and no cancellation or surrender of this Agreement is valid unless in writing and signed and agreed to by both parties.

19. **Receipt of Mail and Packages.** Under no circumstances may the Licensed Premises be used as a mailing address or any sort of business headquarters by the Licensee. Package or equipment deliveries to the Licensed Premises are permitted so long as such equipment and/or the contents of such packages are for use at the Licensed Premises and are approved by the Laboratory Manager. Licensee may use Licensors internal mail for campus correspondence.

20. **Termination.** Termination of this Agreement by either party for any reason does not affect any rights and obligations accrued prior to the effective date of termination. No termination of this Agreement, however effectuated, will release the parties hereto from their rights and obligations under Articles 10, 11, 13, 14, 15 and 23.

21. **Educational Purposes.** The Licensed Premises will be used entirely by the Licensee for educational purposes (Licensee’s authorized signing agent should initial next to the marked box below):

☐ Yes ☐ No
22. **Assignment.** Licensee may not assign or otherwise transfer in whole or in part this Agreement.

23. **Choice of Law and Venue.** The laws of the State of North Carolina govern the validity, performance and enforcement of this Agreement and this Agreement must be construed pursuant to such laws. All disputes regarding this Agreement or use of the Licensed Premises will be resolved by a court of competent jurisdiction in the County of Mecklenburg in the State of North Carolina.

**IN TESTIMONY WHEREOF,** this Laboratory Use Agreement has been executed by the parties hereto, in triplicate originals, as of the date first above written.

**UNIVERSITY:**
**THE UNIVERSITY OF NORTH CAROLINA**
**AT CHARLOTTE**

By: ____________________________
__Elizabeth A. Hardin__
__Vice Chancellor for Business Affairs__

**LICENSEE:**
__[BUSINESS NAME]__

By: ____________________________
__[Authorized Signer Name]__
__[Signer Title]__
This Agreement, made and entered into this ______ day of ________________, 1995, between The University of North Carolina at Charlotte (hereinafter called CONTRACTOR) and ___________________________ (hereinafter called SPONSOR), witnesses that:

Whereas, each party desires to enter into this Agreement for the benefits reasonably expected to be gained therefrom;

The parties hereto mutually agree as follows:

1. **Scope of Work**

CONTRACTOR will use reasonable efforts to perform research as described in its proposal entitled "________________________" which is attached hereto as Attachment "A" and incorporated herein by reference.

2. **Term of Service**

The term of the Agreement will begin on ____________, 19__, and end on ________________, 19__, unless extended by the mutual agreement of the parties.

3. **Cost of Services**

SPONSOR agrees to pay to CONTRACTOR the sum of $___________ for these services. SPONSOR agrees to pay the sum of $__________ upon approval of this agreement and the remainder according to the following schedule:

- [Comment (6): Fixed fee must have advanced payment upfront. Typically it's either 25% at start; 50% at midway point; 25% upon completion. Od payment terms should be approved by OUP.]

SPONSOR agrees to pay said invoices within 15 days of the invoice date. CONTRACTOR reserves the right to discontinue work if SPONSOR fails to pay invoices rendered by CONTRACTOR within the time herein specified. SPONSOR agrees to pay a late payment charge of 1 1/2 percent per month on all overdue amounts.

4. **Use of Names in Publicity**

SPONSOR agrees that no advertising or publicity matter having or containing reference to CONTRACTOR will be disseminated without the prior written consent of CONTRACTOR.

5. **Confidentiality**

It is agreed that Subcontractor or Sponsor may, from time to time, make available to the other party's employees or students confidential information.
Confidential information means information disclosed to the other party's personnel which is designated by the disclosing party either orally or in writing as confidential information. Verbal notification as to the confidential nature of the information disclosed will be confirmed by written notice to the other party within 15 days of disclosure. Confidential information also includes information which becomes known to the other party's employees or students as a consequence of their involvement in research activities subject to the Agreement and not generally known, including, but not limited to, information relating to trade secrets or other proprietary information. It is further agreed that such confidential information disclosed to or obtained by the other party will be treated as confidential and that the other party's personnel will use all reasonable efforts to avoid, directly or indirectly, without the prior written consent of the disclosing party, developing, disclosing, offer to divulge, furnishing, or making known or accessible to anyone whatsoever for the use or benefit of anyone other than the disclosing party any such information. All records, in whatsoever form disclosed, containing such information or copies thereof shall be and remain the property of the disclosing party and shall be returned to that party upon request or at the termination of the Agreement for any reason. This confidentiality obligation shall survive termination of the Agreement for a period of five (5) years. The obligations of confidentiality and nondisclosure shall not apply to:

a. Information which is or becomes public knowledge through no fault of the party to whom it was disclosed as confidential.

b. Information disclosed to the receiving party by a third party entitled to disclose.

c. Information already known to the receiving party or information independently developed by the receiving party without the assistance of the disclosing party's confidential information as evidenced by written records of the receiving party's personnel.

d. Information which is required by law to be disclosed; provided that the receiving party will give the disclosing party reasonable notice of any such request prior to making the disclosure.
6. Patents and Copyrights

Title to all inventions, discoveries, computer software or other copyrightable material or data, conceived or resulting from the performance of work hereunder, shall reside in CONTRACTOR. CONTRACTOR shall and does grant to SPONSOR a nonexclusive, nontransferable, noncommercial, royalty-free license to utilize for internal purposes only any such inventions, discoveries, computer software or other copyrightable material or data.

7. Publications

CONTRACTOR shall have the right to publish any of the results of this research program after first providing SPONSOR with a copy of the proposed publication with a notice of intent to submit for publication. If, within a period of no more than 90 days from the date of such notice, SPONSOR fails to request a delay, CONTRACTOR shall be free to proceed immediately with the publication. However, if SPONSOR notifies CONTRACTOR that a delay is desired, the submission of the manuscript to the publisher shall be withheld for the period requested, but in no event shall the total period of delay be longer than one year from the date of the notice of intent to submit for publication mentioned above.

CONTRACTOR agrees not to publish under any circumstances SPONSOR'S proprietary information received solely as a result of this Agreement and not otherwise available to contractor.

8. TERMINATION

Performance under this Agreement may be terminated by the SPONSOR upon thirty (30) days' written notice. Performance may be terminated by CONTRACTOR if circumstances beyond its control preclude continuation of the program. Upon termination by either party, CONTRACTOR will be reimbursed for all costs and noncancellable commitments incurred in performance of the program prior to the date of termination in an amount not to exceed the total research commitment set forth in the above paragraph.

9. Warranties; Liability, Indemnification

CONTRACTOR makes no warranties, express or implied, as to any matter whatsoever including, without limitation, the condition of the work or any product or deliverable, tangible or intangible, developed under this Agreement, or the ownership or fitness for a particular purpose of any such product or deliverable. CONTRACTOR shall not be liable for any direct consequential, or other damages suffered by SPONSOR or by any third party resulting from the use of the work produced by CONTRACTOR under this Agreement, and SPONSOR agrees to hold harmless and indemnify CONTRACTOR for all demands, expenses, and losses arising out of the use by SPONSOR or any third party using or relying on the work produced by CONTRACTOR under this Agreement.
10. ** Entire Agreement**

This agreement constitutes the entire understanding between the parties. No other terms and conditions, be they consistent, inconsistent, or additional to those contained herein, shall be binding upon the CONTRACTOR, unless and until such terms and conditions have been specifically accepted in writing by both parties. Any purchase order issued in connection with the contract shall be a fiscal control document only. The terms and conditions appearing in this Project Agreement contract shall supersede and replace any and all terms and conditions contained in such purchase order.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by these duly authorized officers this day and year first written above.

________________________________________
SPONSOR

________________________________________
AUTHORIZED SIGNING OFFICIAL

By____________________________________

Title __________________________________

Date ________________________________

________________________________________
CONTRACTOR

________________________________________
AUTHORIZED SIGNING OFFICIAL

By____________________________________

Title __________________________________

Date ________________________________
This Standard Services Agreement (this “Agreement”) is made this _____ day of ____________, 20____ (“Effective Date”), by and between The University of North Carolina at Charlotte, a body corporate and politic under the laws of the State of North Carolina, located at 9201 University City Boulevard, Charlotte, North Carolina 28223-0001 through its _______________ a department of UNC at Charlotte (“Contractor”), and _______________ a, with its principal place of business at _______________, hereinafter referred to as “Client.”

1. Services to be Performed by Contractor
Contractor will perform the agreed upon tasks, responsibilities, schedule and deliverables (jointly referred to herein as “Services”) set forth in Attachment 1, a copy of which is attached hereto and fully incorporated herein. Contractor will use reasonable efforts to provide these services during the term of this Agreement.

2. Term of the Agreement
This Agreement is effective as of the Effective Date and terminates upon acceptance by Client of the final report or service to be performed as set forth in Section 1 of this Agreement (“Final Service”). Contractor will notify client in writing that it is providing the Final Service pursuant to the Services section of this Agreement. Client must promptly inspect the Services provided by Contractor and must notify Contractor within thirty (30) days of the receipt of the Final Service of any claim that the Services provided by Contractor fail to meet the specifications set forth in this Agreement. Client must state any claim of failure to meet specifications with adequate specificity for Contractor to identify both the Services that Client alleges have been unsatisfactorily provided and the section of the Agreement pursuant to which those Services were to be provided, as well as a description of how the Services provided materially fail to meet the obligations of the referenced Agreement section. Upon such notification, Contractor may either correct the alleged problem within thirty (30) days or dispute the allegation pursuant to Section 10. Unless Client provides the notification required by this Section, the Services will be deemed accepted by Client and payment pursuant to Sections 3 and 4 will be required.

This Agreement may also be terminated at will by either party by providing thirty (30) days prior written notice; provided, however, that terminating the Agreement will not relieve Client of any obligations accrued prior to, or payments owed at, the time of termination. The following sections of this Agreement survive termination: Sections 4, 5, 10, 11, 12, 15, 17, 19, and 20.

3. Fees
The amount to be paid by the Client for the Services to be provided pursuant to this Agreement (“Fee”)
is set forth in Attachment 2, a copy of which is attached hereto and fully incorporated herein.

4. Payment
Client must pay Contractor according to the Payment Schedule in Attachment 2 or within thirty (30) days of the date of invoice from Contractor to Client. Any payments of Client required hereunder bear interest from the time due until paid at the maximum rate permitted by law.

5. State and Federal Taxes
Client must pay all applicable taxes related to the performance of services under this Agreement. Such taxes will either be included in the Fee pursuant to Section 3 above, or be itemized on an invoice pursuant to Section 4 above, depending upon the Fee structure as agreed upon by the parties.

6. Requirements
Client agrees that the requirements and specifications for the Services are complete and fully set forth in Attachment 1. Changes to any specifications of the Services will necessitate a change order and may result in additional charges.

7. Contractor Rights to Determine Methods
Contractor has the right to control and determine the methods and means of performing the Services.

8. Other Clients
Contractor retains the right to perform services for other clients and nothing set forth in this Agreement will be deemed a limitation of such right.

9. Use of Names and Trademarks
No party may use the other’s name or marks for publicity or advertising, and neither party may disseminate to the public a reference to the other party without the prior written consent of said party.

10. Disputes
If a dispute arises, the disputing party must notify the other of such dispute in writing and with sufficient particularity to fully identify the dispute. If the dispute has resulted from a breach of this Agreement by the other party, such notification must state the alleged breach and the provision of this Agreement which is allegedly breached. The other party will then have thirty (30) days from the date of the notification to correct the breach or the cause of the dispute.

If a dispute arises and is not resolved in the manner above, the parties will try in good faith to resolve the dispute by mediation conducted by a mediator to be mutually selected. The parties will share the costs of the mediator equally. Each party will cooperate fully, fairly and in good faith with the mediator and with each other and will attempt to reach a compromise to the dispute.

11. Disclaimer of Warranties and Limitation of Liability
CLIENT ACKNOWLEDGES THAT THE SERVICES RENDERED BY CONTRACTOR AND ANY INTELLECTUAL PROPERTY GENERATED BY THIS AGREEMENT ARE NOT WARRANTED FOR ANY APPLICATION OR END PRODUCT PERFORMANCE. CLIENT WILL NOT SOLELY RELY ON THE SERVICES PERFORMED BY CONTRACTOR. FURTHER, CLIENT AGREES THAT IT WILL NOTIFY ANY OTHER INDIVIDUAL OR ENTITY THAT THE SERVICES PERFORMED, RESULTS OBTAINED, AND ANY INTELLECTUAL PROPERTY GENERATED BY THE AGREEMENT ARE NOT EXPRESSLY WARRANTED AND THE CONTRACTOR
DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CLIENT SHOULD DETERMINE INDEPENDENTLY WHETHER RESULTS OBTAINED HEREUNDER AND ANY INTELLECTUAL PROPERTY GENERATED BY THE AGREEMENT IS SUITABLE FOR THE PARTICULAR USE INTENDED BY CLIENT. CLIENT AGREES THAT CONTRACTOR'S LIABILITY WILL BE LIMITED TO AN AMOUNT NOT TO EXCEED THE FEES ACTUALLY PAID BY CLIENT UNDER THIS AGREEMENT, REGARDLESS OF WHETHER SUCH CLAIM FOR PAYMENT BY CLIENT IS MADE UNDER A THEORY OF CONTRACT OR TORT.

12. Publications
Contractor has the right to publish any of the results of the Services performed. Contractor may not publish, without Client’s written approval, Client’s proprietary information so long as such information (a) is marked by Client as “Confidential” or “Proprietary” at the time that it is first provided to Contractor, (b) is received by Contractor solely as a result of this Agreement, and (c) is not otherwise available to Contractor.

13. No Agency
Each party to this Agreement is an independent contractor and may not act as the agent, employee, or servant of the other party. Accordingly, Contractor’s personnel (including employees, students, or agents) will not be considered the employees or agents of Client, and Client’s personnel (including employees or agents) will not be considered the employees or agents of Contractor.

This Agreement is not assignable in whole or in part.

15. Right to Intellectual Property
Rights to any and all intellectual property created under this Agreement are the sole property of the Contractor.

16. Notices
All notices herein provided to be given, or which may be given, by either party to the other, will be deemed to have been fully given when made in writing and deposited in the United States mail, certified and postage prepaid, and addressed as follows, or by hand delivery, or by fax to the fax number below, or by email to the address also indicated below:

To Contractor at:

The University of North Carolina at Charlotte
9201 University City Blvd
Charlotte, North Carolina 28223-0001

To Client at:


University of North Carolina at Charlotte Standard Services Agreement
Page 3 of 4

Page 000241
17. Jurisdiction, Venue and Choice of Law.
Any action based upon or arising out of this Agreement must be before a North Carolina court of competent jurisdiction in either the County of Mecklenburg or the County of Wake. This Agreement will be interpreted and governed by the internal laws of the State of North Carolina.

18. Counterparts
The parties may sign several identical counterparts of this Agreement. Any fully signed counterpart will be treated as an original.

19. Waiver
The failure of either party to assert a right under this Agreement or to insist upon compliance with any term or condition of this Agreement does not constitute a waiver of that right. Any failure of a party to comply with any condition of this Agreement may only be waived in writing by the other party.

20. Severability
If any court determines that any provision of this Agreement is invalid or unenforceable, any invalidity or unenforceability will affect only that provision and will not make any other provision of this Agreement invalid or unenforceable and such provision will be modified, amended or limited only to the extent necessary to render it valid and enforceable.

21. Merger
This Agreement, along with the applicable Attachments, is the entire agreement and understanding between the parties hereto as to the subject matter hereof and supersedes all other prior, contemporaneous or subsequent written or oral communications, including terms and conditions of any purchase order or other documents. This Agreement will not be subject to any change or modifications except by execution of a written instrument signed by the parties hereto or by express written intent to modify the terms in an Attachment for a particular project.

Both parties to this Agreement demonstrate their concurrence to this Agreement by signing below.

CLIENT:

______________________________
By: 
Title: 

CONTRACTOR:

______________________________
By: Elizabeth A. Hardin
Title: Vice Chancellor for Business Affairs
The University of North Carolina at Charlotte
Research Project Agreement Number _________

This Agreement, made and entered into this ______ day of ___, 20__, between The University of North Carolina at Charlotte (hereinafter called CONTRACTOR) and __________________________________ (hereinafter called SPONSOR), witnesseth that:

Whereas, each party desires to enter into this Agreement for the benefits reasonably expected to be gained therefrom;

The parties hereto mutually agree as follows:

1. Scope of Work

CONTRACTOR will use reasonable efforts to perform research as described in its proposal entitled ________________________________ which is attached hereto as Attachment "A" and incorporated herein by reference.

2. Term of Service

The term of the Agreement will begin on ____________, 20__, and end on ____________, 20__, unless extended by the mutual agreement of the parties.

3. Project Cost

SPONSOR agrees to pay to CONTRACTOR its actual fully burdened costs incurred in the performance of the efforts set forth in paragraph 1 above, provided, SPONSOR will not be obligated to pay CONTRACTOR any sums in excess of $______________ nor will CONTRACTOR be obligated to incur costs in excess of said sum without the written consent of SPONSOR. SPONSOR agrees to make a total advance payment of _________________ Dollars ($_____________).

CONTRACTOR will render invoices monthly for work performed during the preceding month. SPONSOR agrees to pay said invoices within 15 days of the invoice date. CONTRACTOR reserves the right to discontinue work if SPONSOR fails to pay invoices rendered by CONTRACTOR within the time herein specified.

4. Use of Names in Publicity

SPONSOR agrees that no advertising or publicity matter having or containing reference to CONTRACTOR will be disseminated without the prior written consent of CONTRACTOR.

5. Confidentiality

It is agreed that CONTRACTOR or SPONSOR may, from time to time, make available to the other party's employees or students confidential information. The term “Confidential Information” includes and is limited to information disclosed by one party’s personnel to the other party’s personnel in writing conspicuously marked as confidential or, if disclosed other than in writing, is designated as being confidential at the time of
initial disclosure and is subsequently reduced to writing marked confidential and delivered to the receiving party within thirty (30) days of initial disclosure. It is further agreed that Confidential Information will be treated as confidential and that the receiving party's personnel will not at any time directly or indirectly, without the prior written consent of the disclosing party, develop, disclose, offer to divulge, furnish, or make known or accessible to anyone whatsoever for the use or benefit of anyone other than the disclosing party any such information. The parties shall make reasonable efforts to maintain confidentiality of the Confidential Information. All records, in whatsoever form disclosed, containing Confidential Information or copies thereof shall be and remain the property of the disclosing party and shall be returned to that party upon request or at the termination of the Agreement for any reason. This confidentiality obligation shall survive termination of the Agreement for a period of five (5) years. The obligations of confidentiality and nondisclosure shall not apply to:

a. Information which is or becomes public knowledge through no fault of the party to whom it was disclosed as confidential.

b. Information disclosed to the recipient party by a third party entitled to disclose.

c. Information already known to the recipient party or information independently developed by the second party without the assistance of the disclosing party's confidential information as evidenced by written records of the second party's personnel.

d. Information which is required by law to be disclosed; provided that the recipient party shall give the disclosing party as much advance notice as possible of any such request as permitted by law.

6. Patents and Copyrights

Title to all inventions, discoveries, computer software or other copyrightable material or data, conceived or resulting from the performance of work hereunder, shall reside in CONTRACTOR. CONTRACTOR shall and does grant to SPONSOR a nonexclusive, nontransferable, noncommercial, royalty-free license to utilize for internal purposes only any such inventions, discoveries, computer software or other copyrightable material or data.

7. Publications

CONTRACTOR shall have the right to publish any of the results of this research program after first providing SPONSOR with a copy of the proposed publication with a notice of intent to submit for publication. If, within a period of no more than 90 days from the date of such notice, SPONSOR fails to request a delay, CONTRACTOR shall be free to proceed immediately with the publication. However, if SPONSOR notifies CONTRACTOR that a delay is desired, the submission of the manuscript to the publisher shall be withheld for the period requested, but in no event shall the total period of delay be longer than one year from the date of the notice of intent to submit for publication mentioned above. CONTRACTOR agrees not to publish under any circumstances SPONSOR'S proprietary information received solely as a result of this Agreement and not otherwise available to Contractor.

8. Warranties; Liability, Indemnification

CONTRACTOR makes no warranties, express or implied, as to any matter whatsoever including, without limitation, the condition of the work or any product or deliverable, tangible or intangible, developed under
this Agreement, or the ownership or fitness for a particular purpose of any such product or deliverable. CONTRACTOR shall not be liable for any direct consequential, or other damages suffered by SPONSOR or by any third party resulting from the use of the work produced by CONTRACTOR under this Agreement, and SPONSOR agrees to hold harmless and indemnify CONTRACTOR for all demands, expenses, and losses arising out of the use by SPONSOR or any third party using or relying on the work produced by CONTRACTOR under this Agreement.

9. Termination

Performance under this agreement may be terminated by the SPONSOR upon thirty (30) days' written notice. Performance may be terminated by CONTRACTOR if circumstances beyond its control preclude continuation of the program. Upon termination by either party, CONTRACTOR will be reimbursed for all costs and noncancellable commitments incurred in performance of the program prior to the date of termination in an amount not to exceed the total research commitment set forth in the above paragraph.

10. Entire Agreement

This agreement constitutes the entire understanding between the parties. No other terms and conditions, be they consistent, inconsistent, or additional to those contained herein, shall be binding upon the CONTRACTOR, unless and until such terms and conditions have been specifically accepted in writing by both parties. Any purchase order issued in connection with the contract shall be a fiscal control document only. The terms and conditions appearing in this Project Agreement contract shall supersede and replace any and all terms and conditions contained in such purchase order.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by these duly authorized officers this day and year first written above.

__________________________________________
SPONSOR

__________________________________________
Authorized Signing Official

By_______________________________________
Title_____________________________________
Date_____________________________________

THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

__________________________________________
CONTRACTOR

__________________________________________
Authorized Signing Official

By_______________________________________
Title_____________________________________
Date_____________________________________

Page 000245
UNC Charlotte Charlotte Research Institute

Signature Routing Slip

The attached document is for the Vice Chancellor's signature.

Document: 

Return to: ____________________________________________________________
            (Name)

Choose One:

1. Return by campus mail: _____________________________________________
        Department/Unit Name

        ________________________________
        Campus Address (Room Number/Building)

2. Call for Pickup: ____________________________________________________
        Phone extension

I certify that this agreement follows the standard agency agreement template prepared for the
Charlotte Research Institute and approved by the Office of Legal Affairs and that no substantive
deviation from that template has been made.

Remarks:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Signature: ___________________________________________________________

Date: _____________________________
Application for New 49er ID Number
University Business Partners

Date: ___________________________

Requesting Department Information:
Requesting Department ___________________________
Requestor's Name ___________________________
Requestor's Title ___________________________ Phone # ___________________________
Requestor's UNCC ID# ___________________________ Requestor's email ___________________________

Relevant information of Individual for Whom an ID is being requested:
Last name ___________________________ First name ___________________________ MI ___________________________
Date of Birth ___________________________ Gender ___________________________
ID Verification: ID type ___________________________ ID# ___________________________

Provide a full explanation of the need for the requested ID Card:
_____________________________________________________________________________________
_____________________________________________________________________________________

Expiration Date (ID Card will expire in one year unless requested otherwise) ___________________

☐ Checking this box indicates that the requestor assumes responsibility for the campus Activity of the person for whom the ID is requested.

For questions regarding this form, please contact the 49er Card Office at 704-687-2754.

49er Card Office Use Only:
ID# Assigned ___________________________
Classification:
Date assigned ___________________________
Affected by ___________________________
Card Expiration Date ___________________________
Entered as cardholder: ☐ Yes ☐ No
Date

NAME
TITLE
COMPANY
STREET ADDRESS
CITY STATE ZIP

Dear:

It is our pleasure to welcome you as a new business partners at The University of North Carolina at Charlotte. We think UNC Charlotte is a great place to conduct business and we are pleased to welcome you to the campus and to our ________ Building.

We hope you will find the amenities available to University Business partners helpful and if you need additional information, please contact Barry Burks (704-687-8283) or Gail Keene (704-687-8286) in my office.

Thank you again for selecting UNC Charlotte as your business satellite office and we trust you find the space accommodating.

Sincerely,

Robert G. WilhelIm, Ph.D.
Vice Chancellor for Research & Economic Development
Executive Director, Charlotte Research Institute
Professor of Mechanical Engineering &
Engineering Science
Parking Permit Request

Date: ___________________________

Business Partner: ___________________________ Building: ___________________________
Room(s): ___________________________

Address: _______________________________________________________________________

Phone: ___________________________ E-mail: ___________________________

Requestor/s Name

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<th>#</th>
<th>Name</th>
<th>UNC Charlotte Id #</th>
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CRI Contact
Name: ___________________________
Phone: ___________________________
E-mail: ___________________________
COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY 2011

Prepared by
Southwestern North Carolina Economic Development District
September 2011
1. BACKGROUND OF THE ECONOMIC DEVELOPMENT SITUATION OF THE DISTRICT

A. Economy

Beginning with the industrial revolution and through the 1950s, economic development in western North Carolina was based on natural resources: timber, agriculture, mining, pulp and paper. In the 1950s the District’s economic growth shifted to low-wage, low-skill factory operators. Cut-and-sew textiles and furniture became dominant. Also, electronic products assembly gained a respectable percentage of the District’s gross product.

The middle of the last century also brought the first waves of middle class tourists and destination entertainment facilities such as Ghost Town, gem mining businesses and tourism related to the Eastern Band Cherokee Reservation. The end of the last century saw the growth of water, nature and heritage-based recreation businesses such as whitewater sports, mountain biking, and crafts promoted by Handmade in America and other professional craft organizations. At that same time there was a growth of high-end cast and machined metal products (e.g. shop tools and transmission gears).

This new century has ushered in changes. Harrah’s Casino in Cherokee is now the top entertainment draw in NC, and its establishment has resulted in the creation of more than 2,000 new jobs. The Casino’s ongoing $633 Million expansion has opened a 3000+ seat music venue and a Ruth’s Chris Steak House, with a noodle bar and a Tuscan Grille to be completed in the spring of 2012. Other expected amenities in 2012 include a 15,000 square foot Mandara Spa and a refurbished casino floor with 4,500 to 5,000 slot machines. Travel and tourism are the major drivers in the growth of the retail/services sector in the District, as well as in the state. Travel and tourism generate over $14 billion statewide and continue to grow albeit more slowly than before 2007. It is the largest industry in western North Carolina and is expected to be the largest state industry early in the 21st century. According to a joint study by Appalachian State University, Western Carolina University, and the Blue Ridge National Heritage Area, tourism has created over 46,000 tourism-related jobs in Western North Carolina since 1990. In the Smoky Mountain Host region (the EDD), tourism has generated over 7,400 jobs in the same period.

The most popular tourist destination in North Carolina is the Blue Ridge Parkway which travels through Jackson and Haywood Counties in the District. The eleventh most
visited destination in the state is Harrah’s Casino in Cherokee and the thirteenth most popular
destination is The Great Smoky Mountains National Park. The Great Smoky Mountain
National Park’s visitation numbers for 2010 were around 9.5 million visitors, slightly down
from 2009.

Aside from concerns regarding social impacts and possible transfer of tourism dollars,
the greater worry for the District is that a retail/services based economy means generally low
wages and seasonal employment. The Casino is one of the few tourist industries to offer year
round employment. The average weekly tourism related job in the District pays just over
$16,000, significantly lower than manufacturing job wages. With the shrinking number of
manufacturing jobs and an increasing number of service industry jobs, the average weekly
wage is falling even more.

Green infrastructure in the form of greenways, working farms and forests, and wild
and scenic waterways is now an element of all local and regional economic development
strategies. Efforts to preserve watersheds and environmentally sensitive areas are rapidly
gaining support. Local food and buy local movements continue to enhance and support the
existing agricultural sector.

The pulp and paper industry remains viable but fragile in western North Carolina. In
Haywood County, a former Champion International mill that was purchased 16 years ago by
its employees was sold in August, 2007 to New Zealand-based Rank Group. With the new
name “Evergreen Packaging Group” and approximately 2,000 employees at two Haywood
County mills, this mill was until recently the largest employee-owned paper mill in the world.

Technical knowledge-based jobs are witnessing the highest growth rate of any sector.
Drake Enterprises with over 600 employees in Macon, Jackson and Clay Counties pioneered
electronic tax filing software and still provides the nation’s leading electronic tax filing
service. In a partnership between the Eastern Band of Cherokee Indians and Drake
Enterprises, over fourteen million dollars have been invested toward creating a 300+ mile
fiber optic ring in the District. BalsamWest FiberNet LLC provides broadband connectivity at
urban prices and capacity. Coupled with several public sector investments obtained by the
District’s congressman and from private foundations, the District is poised to become a
location for additional software and knowledge-based employers.

Drake’s tax preparation software service has expanded within the region by adding
another telephone call center in Clay County, creating 25 new jobs, to complement the
existing customer service call centers in Franklin and Sylva. The BalsamWest fiber optic internet ring allows seamless service and coordination among the three call centers.

In the District's far west, a cluster of metal machining industries that together employ over 700 people has created a common training complex with assistance from Tri-County Community College. A new $1 Billion Volkswagen manufacturing plant began operations in Chattanooga, TN in May 2011. The plant is expected to utilize manufacturing companies in the far western part of the region as sub-contractors. A July 2011 press release indicated that the plant has hired its 2000th employee.

Across the region the second home market which had remained immune to recessions and economic dips for the past 25 years is now beginning to grow again after suffering a considerable slowdown in 2008 and 2009. The downturn may have had an unpredicted positive effect in that during the slow building period, counties and municipalities were able to plan for better management of development. For example, several counties in western North Carolina have put steep slope ordinances in place.

There is growing support for smart growth in the area. Although the area has a history of opposing zoning and planning, the past explosion in second home construction and the growing number of RV and mobile home communities and small-lot housing developments generated great concern. Among the primary issues are ridge top construction, construction on steep slopes with landslide potential, water resource protection, old growth forest preservation and erosion control. Communities in the District now question the benefits of a rapidly growing second home construction industry without adequate planning. Rapid construction of pre-fabricated buildings which have little architectural appeal along business corridors results in poor planning for traffic patterns and careless excavation. Earth removal at construction sites is also a growing concern as more mountainous terrain is leveled.

A workshop for regional leaders was hosted in 2007 by the EDD and partner Western Carolina University where issues regarding steep slope development, adequate soil evaluation for construction, wells, septic systems, residential water safety and water availability were discussed. The two priorities of the attendees were development on unstable slopes and the protection of rivers and streams. As a result of the workshop the Mountain Landscapes Initiative was created. The Initiative was used to develop a Toolbox of best models and strategies for local leaders to use in managing growth, educating the public and developing ordinances and regulations. This innovative project received a Trailblazer Award from the
National Association of Development Organizations in August, 2010. The implementation of best practices now has funding available in the form of mini-grants.

The Institute for the Economy and the Future at Western Carolina conducted a study in 2006 to determine the economic and environmental effects of the second home construction industry in Haywood County. The perception was that this segment of the construction industry is the primary economic driver in several counties. The study indicated that the construction industry was one of the largest employer groups in the region but that the industry did not provide career employment and supplies few employee benefits such as insurance or retirement assistance. Land and subdivision developers and real estate professionals benefited most from the industry, but it did little to provide career employment for a large number of people.

B. Population

Evaluation of recently released 2010 Census data indicates that two Southwestern NC EDD counties outpaced the state in population growth for the period between 2000 and 2010. North Carolina experienced an 18.5% growth rate for this time period. The table below shows actual growth rates using the 2000 and 2010 Census Data for the counties within the EDD.

<table>
<thead>
<tr>
<th>County</th>
<th>Cherokee</th>
<th>Clay</th>
<th>Graham</th>
<th>Haywood</th>
<th>Jackson</th>
<th>Macon</th>
<th>Swain</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Growth</td>
<td>12.9</td>
<td>20.6</td>
<td>10.9</td>
<td>9.3</td>
<td>21.6</td>
<td>13.8</td>
<td>7.8</td>
</tr>
</tbody>
</table>

During the period between 2010 and 2020, the counties within the District forecasted population growth rates vary widely. April 2011 projections expect the State to grow at a rate of 15.8% for this time period. The following table lists the expected growth rates by individual counties within the district.

<table>
<thead>
<tr>
<th>County</th>
<th>Cherokee</th>
<th>Clay</th>
<th>Graham</th>
<th>Haywood</th>
<th>Jackson</th>
<th>Macon</th>
<th>Swain</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Growth</td>
<td>12.9</td>
<td>15.0</td>
<td>13.5</td>
<td>8.8</td>
<td>16.5</td>
<td>3.3</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Further analysis shows that the age group of 18 and younger will further decline during the same period by 6% (the State will increase 8%) while the age group of 55+ will continue its growth at a rate of 39%. This means that by 2020 nearly 43% of the District's population will be “gray.” The data show that growth of female and minority residents has remained steady over the last twenty years, with accelerated growth in the Hispanic population. Analysis of current Census data indicates that the Hispanic population growth in
the District has tracked state and national trends. Locally, the Hispanic population is growing rapidly while the Black population is declining. Traditionally, the Hispanic population is undercounted. The Native American (primarily Cherokee) population has remained constant at 5%. Socioeconomic data from the 2000 Census indicate that the District is becoming relatively more affluent. Poverty rates for the District show an overall decrease of .8%, while the state poverty rate increased by 2%. Only two counties, Haywood (+1.1%) and Jackson (+0.6%), showed an increase. However, per capita income, while increasing for each county, still remains at 56% to 76% of the state’s per capita income.

Region: Southwestern Economic Development District.

County Areas: Cherokee, North Carolina (37039), Clay, North Carolina (37043), Graham, North Carolina (37075), Haywood, North Carolina (37087), Jackson, North Carolina (37099), Macon, North Carolina (37113), Swain, North Carolina (37173)

Industry Statistics

Interestingly, the following data charts show that job growth rates in the region are exceeding the state and national growth rates.

### Basic Information

<table>
<thead>
<tr>
<th>2010 Industry Jobs</th>
<th>86,418</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Industry Jobs</td>
<td>87,203</td>
</tr>
<tr>
<td>Total Change</td>
<td>785</td>
</tr>
<tr>
<td>Total % Change</td>
<td>0.81%</td>
</tr>
<tr>
<td>2011 Average Earnings per Worker</td>
<td>$32,966</td>
</tr>
</tbody>
</table>

### Industry Change Summary

![Graph showing industry change summary](image)

<table>
<thead>
<tr>
<th>Description</th>
<th>2010 Jobs</th>
<th>2011 Jobs</th>
<th>Change</th>
<th>% Change</th>
<th>2011 EPW</th>
<th>2010 Establishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Total</td>
<td>86,418</td>
<td>87,203</td>
<td>785</td>
<td>1%</td>
<td>$32,966</td>
<td>5,429</td>
</tr>
<tr>
<td>State Total</td>
<td>4,826,522</td>
<td>4,892,917</td>
<td>6,486</td>
<td>1%</td>
<td>$44,943</td>
<td>223,738</td>
</tr>
<tr>
<td>National Total</td>
<td>160,318,258</td>
<td>161,405,041</td>
<td>1,086,783</td>
<td>1%</td>
<td>$51,572</td>
<td>8,274,796</td>
</tr>
</tbody>
</table>

Source: EMSI Complete Employment - 2011.3
### Industry Change Summary

![Industry Change Summary Chart](chart-image)

<table>
<thead>
<tr>
<th>SOC Code</th>
<th>Name</th>
<th>2010 Jobs</th>
<th>2011 Jobs</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-2031</td>
<td>Retail salespersons</td>
<td>2,644</td>
<td>2,733</td>
<td>89</td>
<td>3%</td>
</tr>
<tr>
<td>36-3021</td>
<td>Combined food preparation and serving workers, including fast food</td>
<td>2,063</td>
<td>2,100</td>
<td>37</td>
<td>2%</td>
</tr>
<tr>
<td>41-2011</td>
<td>Cashiers, except gaming</td>
<td>1,936</td>
<td>2,019</td>
<td>85</td>
<td>4%</td>
</tr>
<tr>
<td>41-1011</td>
<td>First-line supervisors/managers of retail sales workers</td>
<td>1,929</td>
<td>2,019</td>
<td>43</td>
<td>2%</td>
</tr>
<tr>
<td>35-3021</td>
<td>Carpenters</td>
<td>1,821</td>
<td>1,775</td>
<td>46</td>
<td>3%</td>
</tr>
<tr>
<td>35-3031</td>
<td>Waiters and waitressess</td>
<td>1,503</td>
<td>1,509</td>
<td>6</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Source: EMSI Complete Employment - 2011.3*
## Industry Breakdown

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2010 Jobs</th>
<th>2011 Jobs</th>
<th>2011 EPW</th>
<th>2010 Establishments</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Utilities</td>
<td>192</td>
<td>191</td>
<td>$101,671</td>
<td>11</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
<td>4,634</td>
<td>3,415</td>
<td>$43,204</td>
<td>226</td>
</tr>
<tr>
<td>31-33</td>
<td>Manufacturing</td>
<td>5,116</td>
<td>5,062</td>
<td>$51,772</td>
<td>178</td>
</tr>
<tr>
<td>44-45</td>
<td>Retail Trade</td>
<td>10,645</td>
<td>10,920</td>
<td>$26,034</td>
<td>543</td>
</tr>
<tr>
<td>48-49</td>
<td>Transportation and Warehousing</td>
<td>1,271</td>
<td>1,287</td>
<td>$43,620</td>
<td>115</td>
</tr>
<tr>
<td>51</td>
<td>Information</td>
<td>699</td>
<td>742</td>
<td>$44,813</td>
<td>85</td>
</tr>
<tr>
<td>52</td>
<td>Finance and Insurance</td>
<td>2,435</td>
<td>2,435</td>
<td>$48,831</td>
<td>224</td>
</tr>
<tr>
<td>53</td>
<td>Real Estate and Rental and Leasing</td>
<td>4,364</td>
<td>4,107</td>
<td>$43,344</td>
<td>228</td>
</tr>
<tr>
<td>54</td>
<td>Professional, Scientific, and Technical Services</td>
<td>4,362</td>
<td>4,515</td>
<td>$37,153</td>
<td>443</td>
</tr>
<tr>
<td>55</td>
<td>Management of Companies and Enterprises</td>
<td>150</td>
<td>151</td>
<td>$44,882</td>
<td>79</td>
</tr>
<tr>
<td>56</td>
<td>Administrative and Support and Waste</td>
<td>4,366</td>
<td>4,650</td>
<td>$16,718</td>
<td>273</td>
</tr>
<tr>
<td>60</td>
<td>Education and Training Services</td>
<td>1,094</td>
<td>1,967</td>
<td>$29,929</td>
<td>342</td>
</tr>
<tr>
<td>61</td>
<td>Health Care and Social Assistance</td>
<td>9,293</td>
<td>9,124</td>
<td>$39,034</td>
<td>439</td>
</tr>
<tr>
<td>71</td>
<td>Arts, Entertainment, and Recreation</td>
<td>2,442</td>
<td>2,422</td>
<td>$20,681</td>
<td>90</td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
<td>7,977</td>
<td>8,088</td>
<td>$17,755</td>
<td>561</td>
</tr>
<tr>
<td>80</td>
<td>Other Services (except Public Administration)</td>
<td>4,788</td>
<td>5,002</td>
<td>$20,868</td>
<td>289</td>
</tr>
<tr>
<td>99</td>
<td>Government</td>
<td>17,128</td>
<td>17,135</td>
<td>$48,520</td>
<td>287</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>95,418</td>
<td>97,203</td>
<td>$32,956</td>
<td>5,425</td>
</tr>
</tbody>
</table>

Source: ESMI Complete Employment - 2011.3
Industry Distribution

Data Sources and Calculations

Industry Data
In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data from Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in state-wide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

Occupation Data
Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

State Data Sources
This report uses state data from the following agencies: North Carolina Employment Security Commission, Labor Market Information Division.

Source: EMSI Complete Employment - 2011.3

<table>
<thead>
<tr>
<th>County</th>
<th>2010 Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haywood, NC (37087)</td>
<td>24,713</td>
</tr>
<tr>
<td>Jackson, NC (37099)</td>
<td>19,703</td>
</tr>
<tr>
<td>Macon, NC (37113)</td>
<td>15,720</td>
</tr>
<tr>
<td>Cherokee, NC (37088)</td>
<td>14,926</td>
</tr>
<tr>
<td>Swain, NC (37173)</td>
<td>7,537</td>
</tr>
<tr>
<td>Graham, NC (37043)</td>
<td>3,485</td>
</tr>
<tr>
<td>Clay, NC (37043)</td>
<td>3,364</td>
</tr>
</tbody>
</table>

CEDS 2011
C. Geography

The Southwestern Commission is a local development district (LDD) comprised of seven counties (Cherokee, Clay, Graham, Haywood, Jackson, Macon, Swain) in the westernmost portion of North Carolina. The majority of the region is rural and forested, with a total land area of 3098 square miles and a 2010 population of 194,102. More than 70% of the region is public land, which is substantial relative to other areas in the eastern US. This public land includes two National Parks (The Great Smokies and the Blue Ridge Parkway), two National Forests (Nantahala and Pisgah), four TVA lakes (Appalachia, Chatuge, Fontana and Hiwassee) and the Eastern Band of Cherokee Indians.

The Blue Ridge Mountain Range on the east and the Unaka Mountains on the west form the north-south boundaries of the Southern Highlands with various ranges, including the Balsam, Snowbird, Nantahala, and Cowee ranges forming the cross bars. Between these transverse ranges are valleys of varying length and width, each with its own river system. The more mature valleys have fairly broad floors and gently rolling to hilly slopes. Steep slopes and rapid streams characterize the more youthful areas with little or no flat land for development. The gently sloping river plains have supported the majority of the District's population in the past, and they can be expected to do so in the future. Although all but the most severe of topographic limitations can be overcome, the expense of overcoming them can be prohibitive. The problems of development on slopes in excess of 30% severely limit any major construction. Approximately 66% of the District's land (both the public and the privately held) have slopes over 30%.

Cherokee County has the most developable land (less than 16 % slope). Much of this land is located in the broad Valley River valley. The county with the least developable land, Graham, is northeast of Cherokee County. Over 90% of the county has slope in excess of 30%.

With more than 70% of land in public ownership, there is a lower than usual local property tax base. This forces development pressure to the remaining private property and raises the price of the relatively “scarce” private land.

D. Workforce Development

Statistics from the US Department of Labor from June, 2011 show that there are 90,457 people in the District's workforce, up from 90,114 people in June, 2010. The largest numbers of workers in the District are employed by the federal, state, or local governments.
followed by retail businesses and construction. The unemployment rates per individual counties are listed on the following graphic:

**June 2011 Unemployment Rates**

<table>
<thead>
<tr>
<th>County</th>
<th>Jun '10</th>
<th>Jun '11</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherokee</td>
<td>13.6%</td>
<td>13.2%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Clay</td>
<td>10.7%</td>
<td>9.9%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Graham</td>
<td>12.8%</td>
<td>14.3%</td>
<td>+1.5%</td>
</tr>
<tr>
<td>Haywood</td>
<td>9.1%</td>
<td>9.3%</td>
<td>+0.2%</td>
</tr>
<tr>
<td>Jackson</td>
<td>9.0%</td>
<td>9.1%</td>
<td>+0.1%</td>
</tr>
<tr>
<td>Macon</td>
<td>10.0%</td>
<td>10.2%</td>
<td>+0.2%</td>
</tr>
<tr>
<td>Swain</td>
<td>10.4%</td>
<td>11.5%</td>
<td>+1.1%</td>
</tr>
</tbody>
</table>

A multi-regional workforce development summit was held on April 8, 2007 in Asheville with more than three hundred people in attendance and 11 counties represented. The summit was created by a partnership of the Southwestern Workforce Development Board (totally within the EDD), the Mountain Area Workforce Development Board, AdvantageWest, the Asheville Chamber of Commerce and partners in education. Sponsors included AT&T, Mission Hospitals, Progress Energy, and Western Carolina Industries. The three areas of focus were: Healthcare, Hospitality and Tourism, and Advanced Manufacturing. Top priorities for the eleven-county region were identified as follows:

- Career education for K-12 students
- Attracting an aging workforce
- Cost of Living – Housing, energy, childcare, transportation, health & wellness
- Public Relations
- Soft Skills and Life Skills
E. Educational Issues

The Southwestern Workforce Development Consortium, a division of the EDD, has been working with local community colleges and school boards to improve the soft skills and work ethics of the workforce and to reduce the dropout rate and foster GED achievement.

The EDD is served by three community colleges and one university that provide degree and vocational certificate programs and continuing education to the workforce. Tri-County Community College is in partnership with area manufacturers to train machinists for three local companies. Haywood Community College has one of the few programs in the country that provide training in crafts production and entrepreneurial skills for marketing these products.

In 2010 the EDD received a grant of $300,000 from the Appalachian Regional Commission matched by $494,000 in local funding to assist the three community colleges in the region in developing “green workforce” training programs.

Efforts to improve the high school dropout rate appear to be working as indicated by the chart below.

<table>
<thead>
<tr>
<th>School System</th>
<th>2008-09</th>
<th>2009-10</th>
<th>% Change</th>
<th>2008-09</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherokee County Schools</td>
<td>38</td>
<td>25</td>
<td>-34%</td>
<td>3.18</td>
<td>2.15</td>
</tr>
<tr>
<td>Clay County Schools</td>
<td>7</td>
<td>12</td>
<td>71.4%</td>
<td>1.75</td>
<td>2.97</td>
</tr>
<tr>
<td>Graham County Schools</td>
<td>9</td>
<td>10</td>
<td>11%</td>
<td>2.61</td>
<td>2.70</td>
</tr>
<tr>
<td>Haywood County Schools</td>
<td>98</td>
<td>81</td>
<td>-17.3%</td>
<td>3.96</td>
<td>3.26</td>
</tr>
<tr>
<td>Jackson County Schools</td>
<td>73</td>
<td>32</td>
<td>-56.2%</td>
<td>6.56</td>
<td>3.04</td>
</tr>
<tr>
<td>Macon County Schools</td>
<td>64</td>
<td>47</td>
<td>-26.6%</td>
<td>4.56</td>
<td>3.41</td>
</tr>
<tr>
<td>Swain County Schools</td>
<td>42</td>
<td>41</td>
<td>-2.4%</td>
<td>6.33</td>
<td>6.11</td>
</tr>
</tbody>
</table>

Source: NCDPI Consolidation Report

With national estimates of new computer networking-related jobs ranging between 190,000 to 350,000 annually and the shift to the internet economy already underway in the District, it becomes apparent that the District must develop and maintain an internet savvy workforce to remain competitive. All three community colleges in the District and Western Carolina University are working to increase information technology and internet skills training. However, significant funding and resources will be needed to maintain these training efforts.
As in most rural areas the workforce is dependent on personal transportation to travel long distances for work. A large number of workers in the District commute over twenty miles to work or to educational institutions. Reasonably good highways in all but the extreme western part of the District have had a positive effect on workers having greater choices in locating job opportunities.

In 2009, The Workforce Development Consortium used funding from an Incumbent Worker Program under the Workforce Investment Act to assist employers in developing employee skills and increasing productivity.

The following enterprises were awarded grants for incumbent worker training in October 2009:

Angel Medical Center - Macon County - awarded $25,000 to train 40 employees in Lean Implementation Culture and Development.

Haywood Vocational Opportunities - Haywood County - awarded $7,350 to train 17 employees in Integrator Electronic Data Interchange (EDI) for Key IBS Users.

Con-Met - Swain County - awarded $14,445 to train 25 employees in Applied Industrial Ergonomics.

F. Transportation

The District is located within 500 miles of most major eastern cities and over half the U.S. population. Highway access eastward toward Asheville/Charlotte and eastern seaboard markets is via I-40 that runs through Haywood County. In 2009 and 2010, rock slides blocked this artery for longer than 6 months, negatively affecting the transport of goods into and out of the area. There was also a negative impact on tourism. I-40 is the western route to Knoxville/Nashville, Tennessee and the Ohio Valley. Chattanooga, Tennessee and the Mississippi Valley are accessed via U.S. Highway 64 from Murphy in Cherokee County. Rock slides on this route multiplied the negative effect of the slides on I-40 cutting off the region from eastern Tennessee.

Atlanta and the cities to the south are accessed via U.S. Highway 441 that runs south from Franklin in Macon County. Two of these routes are part of the nearly complete Appalachian
Corridor system. Corridor K (which includes portions of U.S. 23, 64, 74, 129, and 441) is complete from I-40 near Waynesville west to the Tennessee state line near Murphy, except for the two-lane road through the Nantahala Gorge. Construction to bypass the Gorge and provide access to Graham County is now underway. Corridor A (which includes portions of U.S. 23, 64, and 441) breaks south from Corridor K near Sylva and goes to Atlanta. It is complete to the Georgia state line.

Improvements in the highway system have reduced transportation costs, opened scenic routes to tourists, and increased the mobility of the residents. However, highway transportation improvements continue to be critical to the District because several major "bottlenecks" still exist. Cherokee, Clay and Graham Counties are not accessible in any direction via a four-lane road. Cherokee and Clay, however, are within close proximity to four-lane access south toward Atlanta. Graham County can only be accessed from any direction via curvy two-lane highways although another section of Corridor K has been four-laned from Highway 19 in Swain County to Stecoah Gap in Graham County. The southern portions of Jackson and Macon Counties (Glenville-Cashiers and Highlands) have only narrow, curvy two-lane access. The opening of the Cherohala Skyway between Robbinsville in Graham County and Townsend, Tennessee is funneling an increased amount of tourist traffic into Graham County. This has increased the demand for local amenities to serve this traffic. In short, efforts need to be continued toward the completion of Appalachian Corridor K in North Carolina and in Tennessee to Chattanooga.

Norfolk-Southern Railway and the Great Smoky Mountain Railroad (GSMR) provide rail transportation that together bisects the District from Asheville west to Andrews. Norfolk-Southern Railroad freight stops are located at Canton, Clyde, Waynesville, and Sylva. The GSMR has stops at Sylva, Dillsboro, Bryson City, Nantahala Gorge, and Andrews. This route is primarily an excursion route for tourism provided by the GSMR. It should be noted that these rail lines are aging and will need major repairs to meet basic standards of safety.

The EDD is readily accessible by air. A major commercial airport is located in nearby Asheville. The District's three lighted and paved airports which can accommodate general aviation aircraft are: Western Carolina Regional Airport in Cherokee County with a 5,500 foot runway; Macon County, with a 5000 foot runway; and Jackson County, with a 3,000 foot runway. Local officials have recently expanded and upgraded both the Western Carolina Regional Airport and the Franklin airports. The Western Carolina Regional Airport has recently been upgraded to handle commercial jets, thus opening up the western part of the District to
activities requiring this capacity. At the Asheville Regional Airport commercial airlines provide connecting service to major cities.

Regionally, a concerted effort toward developing pedestrian friendly and bicycle friendly communities has begun. In Jackson County NC Highway 107 near Western Carolina University now has bike lanes as does US Highway 441 in the business district of Cherokee. Old sidewalks in Franklin are being repaired and new sidewalks are being constructed to connect existing sidewalks to the greenway. The North Carolina Department of Transportation is now including pedestrian and bicycle components in new road plans where feasible throughout the area.

In December 2001, the EDD was designated by the Secretary of the N.C. Department of Transportation (NCDOT) as The Rural Transportation Planning Organization (RPO). The RPO now has active committees in every county and facilitates monthly meetings through coordinated efforts of the regional Department of Transportation engineer. The RPOs in North Carolina are now responsible for prioritizing projects in their respected regions as part of the State’s prioritization effort. As of September 2011 the current list in draft format and expected to be adopted by the RPO policy committee late in September. The region’s draft top 25 highway projects are as follows:

<table>
<thead>
<tr>
<th>Rank</th>
<th>County</th>
<th>Route</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jackson</td>
<td>NC 107 (Sylva)</td>
<td>Improve from 5 lane to divided 4 lane boulevard</td>
</tr>
<tr>
<td>2</td>
<td>Graham</td>
<td>Corr. K</td>
<td>4 lane divided new location</td>
</tr>
<tr>
<td>3</td>
<td>Swain</td>
<td>US 19 (Bryson City)</td>
<td>Upgrade Roadway - 9 miles</td>
</tr>
<tr>
<td>4</td>
<td>Graham</td>
<td>Corr. K</td>
<td>4 lane divided new location</td>
</tr>
<tr>
<td>5</td>
<td>Macon</td>
<td>Iotia Church Rd (SR 1372)</td>
<td>Upgrade roadway</td>
</tr>
<tr>
<td>6</td>
<td>Clay</td>
<td>NC 69</td>
<td>Widen to 4 lanes - 4.5 miles</td>
</tr>
<tr>
<td>7</td>
<td>Jackson</td>
<td>US 74 and US 23-Bus</td>
<td>Reconfigure intersection to allow US-23 Bus traffic to go W on US 74</td>
</tr>
<tr>
<td>8</td>
<td>Jackson</td>
<td>US 23 (AVL Highway)</td>
<td>Widen to 4-lane with median</td>
</tr>
<tr>
<td>9</td>
<td>Cherokee</td>
<td>Joe Brown Highway - SR 1326</td>
<td>Widening and Paving</td>
</tr>
<tr>
<td>10</td>
<td>Macon</td>
<td>US 441 Bus (Franklin)</td>
<td>3 intersection improvements (Womack, Maple, Porter)</td>
</tr>
<tr>
<td>11</td>
<td>Macon</td>
<td>US 23-441 (Georgia Road – Franklin)</td>
<td>Remove center turn lane, replace signals with superstreet design</td>
</tr>
<tr>
<td>12</td>
<td>Swain</td>
<td>New connector</td>
<td>New location parallel to 74</td>
</tr>
<tr>
<td>13</td>
<td>Clay</td>
<td>SR 1307 Tusquittee Road</td>
<td>Safety improvements</td>
</tr>
<tr>
<td>14</td>
<td>Cherokee</td>
<td>Davis Creek Road-SR 1337</td>
<td>Widening and Paving</td>
</tr>
<tr>
<td>15</td>
<td>Macon</td>
<td>Buck Creek Rd (SR 1538)</td>
<td>Upgrade roadway 18.1 miles</td>
</tr>
<tr>
<td>16</td>
<td>Graham</td>
<td>New location</td>
<td>Similar to a thoroughfare plan project not adopted</td>
</tr>
<tr>
<td>17</td>
<td>Jackson</td>
<td>Old Settlement Rd (SR 1340)</td>
<td>Upgrade to minimum 22' cross-section</td>
</tr>
<tr>
<td>18</td>
<td>Clay</td>
<td>SR 1135</td>
<td>Safety Improvements</td>
</tr>
<tr>
<td>No.</td>
<td>County</td>
<td>Road Name</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>19</td>
<td>Swain</td>
<td>Depot Street – Bryson City</td>
<td>Intersection safety improvements</td>
</tr>
<tr>
<td>20</td>
<td>Cherokee</td>
<td>Shuler Creek Rd-SR1322</td>
<td>Widening and Paving</td>
</tr>
<tr>
<td>21</td>
<td>Cherokee</td>
<td>NC 294</td>
<td>Upgrade existing roadway</td>
</tr>
<tr>
<td>22</td>
<td>Jackson</td>
<td>US64- Cashiers</td>
<td>Widen US64 to 3 lanes, add roundabout at 107 intersection</td>
</tr>
<tr>
<td>23</td>
<td>Swain</td>
<td>Alarka Rd (Lower)</td>
<td>Upgrade, Drainage and safety improvements, trestle</td>
</tr>
<tr>
<td>24</td>
<td>Clay</td>
<td>SR 1305</td>
<td>Safety Improvements</td>
</tr>
<tr>
<td>25</td>
<td>Macon</td>
<td>Depot Street (SR1729)</td>
<td>Widen to 3-lane, adding center turn lane</td>
</tr>
</tbody>
</table>

A complete GIS database of western North Carolina has been updated and made available to counties, municipalities, universities and nonprofit agencies. A new Main Street Initiative has begun in Franklin which will improve traffic flow and pedestrian safety.

G. Resources

Natural and Cultural Environments

Tourism continues to be a strong growth factor in the District economy. Between the years 2009-2012, the highest increase in jobs is projected to be in retail with significant increases in arts, entertainment and recreation.

Approved in November of 2003, the Blue Ridge National Heritage Area was created and includes 24 North Carolina counties in the Blue Ridge Mountains and every county in the District. The rich natural and cultural heritage in this area has contributed significantly to the history and development of the United States. The Blue Ridge National Heritage Area works to preserve and interpret traditional instrumental and vocal folk music, folk life traditions, traditional arts, the heritage and influences of the Cherokee Indians, and various historic sites and collections of artifacts.

The Appalachian Regional Commission and The National Geographic Society produced a map of Appalachia designed to stimulate economic development by showcasing the incredible diversity of the District’s natural, cultural and heritage assets. At least 11 of the 356 sites selected for inclusion on the map are in the EDD. The map, which covers an area from New York to Mississippi, was featured in the April, 2005 issue of National Geographic’s Traveler Magazine.
The following graph from a study produced by Appalachian State University and Western Carolina University indicates the economic impact of visitors in the District which is part of The Blue Ridge National Heritage Area. Although tourism slowed significantly in 2007 and 2008 it has rebounded to some degree in 2009.

The work of The Land Trust for the Little Tennessee (LTLT) has had a positive impact on eco-tourism, recreation, as well as in the protection of water quality and the best farmland in the region. LTLT has led in conserving 20,000 acres in the Region A attracting $35,000,000 of conservation capital to the region since that 1999.

With a mission to conserve the waters, forests, farms and heritage of the upper Little Tennessee and Hiwassee River Valleys, LTLT has helped to conserve watershed lands of the
municipalities of Waynesville, Sylva, Bryson City, Murphy and Andrews. It has conserved some 40 miles of river frontage and hundreds of acres of prime farmland.

LTLT has worked with the Cherokee to conserve ancient settlement sites, it is working to revitalize the largest National Register Historic District in Region A in northern Macon County, and it is partnering with multiple organizations to expand the local food network in the region. It also is actively involved in the promotion of sustainable forest management and wildlife habitat restoration.

**Industrial Parks**

There is available industrial park space in most parts of the District, and only Graham County has no vacant available industrial property under public control. Swain County is planning a speculative Information Technology building to take advantage of new high-speed broadband internet in the county.

**Social Enterprises**

The district contains 3 social enterprises. They are Industrial Opportunities Inc. (IOI) in Cherokee County, Haywood Vocational Opportunities in Haywood County and Webster Enterprises in Jackson County. These companies are creating jobs and serving adults with disabilities in our region. The combined payrolls, fringe benefits and economic impacts are significant. IOI's current annual economic impact is $17,666,667 and tax impact of $1,569,300 with a total workforce of 376. 100 of these employees are adults with disabilities in their vocational training programs. HVO has a larger economic impact which was unavailable at the time of this update.

**Health Services**

Excellent health care is available in the District and regional hospitals and medical centers have undergone some transformations in the past year. Haywood Medical Center, Swain County Hospital and Harris Memorial Hospital have formed a partnership to provide care, reduce costs, and share resources. Cherokee Hospital, Angel Medical Center, Highlands-Cashiers Hospital and Murphy Medical Center work cooperatively with the new partnership and with regional hospitals in Asheville. In Graham County, Tallulah Health Center has announced that it is joining Mission Medical Associates of Asheville. Tallulah Health Center has been the sole provider of treatment for the past twenty years with the exception of the local health department.
which provides limited services. Over 200 active physicians, 600 registered nurses and 500 licensed practical nurses provide medical care in the District.

With the exception of Haywood and Jackson Counties, there is a noticeable shortage of dental care in the District. This is especially acute in Clay and Graham Counties. The number of people per provider in those counties is over three times the state average. Also, none of the dental care providers in the District accept Medicaid patients. Some indigent patients have had to go as far as Charlotte to get dental care. A new project was begun by volunteers in Jackson County to develop a free mobile dental clinic which will serve the District.

Electric Power

There are currently six electrical service providers operating in the District. Haywood Electrical Membership Cooperative (HEMCO) and Progress Energy serve Haywood County. The Town of Waynesville in Haywood County is an “electric city” buying electricity wholesale for resale to town customers. HEMC also serves some of southern Jackson County; however, most of Jackson County and all of Macon, Swain, and Graham Counties are served by Duke Energy. The Town of Highlands in Macon County is an “electric city” buying from Duke. Blue Ridge Electrical Membership Cooperative (BREMC) and Duke Energy serve Clay County and Cherokee County. Murphy Electric Power Board serves Murphy. Both BREMC and Murphy Electric Power Board buy wholesale from the Tennessee Valley Authority (TVA).

Interactive Technology

(Much of the following information is taken from the Connectivity Plan for North Carolina's District A.)

Demand continues to increase for high-speed telecommunications (broadband) capabilities. Fiber optic lines provide the highest bandwidth for services like video conferencing, distance learning, and the exchange of large volumes of information, including graphics. The low population density of this District makes it especially challenging to serve cost effectively because it is very expensive to run optic fiber over the long distances between towns, especially through rugged mountain terrain.

The District’s two local telecommunications providers are Frontier Communications and Bell South. Frontier covers the entire District except for Haywood County. It provides the area with fiber optic capabilities and digital switching, including ATM/SONET technology. Frontier
has in place a "fiber ring" around the District’s major towns. Frontier officials indicate that its switching infrastructure requires continual and very expensive upgrading to keep up with the higher demands of data and graphics transmission, and the increasing average time that users spend on-line. Bell South offers frame relay services, connectionless data services, and dial-up digital switched services and has also begun offering fast packet services for connecting disparate data networks.

Southwestern Community College, serving Jackson, Macon and Swain Counties, is in a partnership with the District’s largest knowledge-based industry, Drake Enterprises, and the Eastern Band of Cherokee to complete a 200 mile, 144 strand fiber ring around the District. This partnership has been incorporated as Balsam West Fibernet, LLC. Inroads have been made in all counties.

The North Carolina Information Highway (NCIH) provides facilities to perform videoconferencing, distance learning, and the exchange of information over a high-speed fiber optic network. Currently, NCIH sites are located at Haywood Community College, Southwestern Community College, and Tri-County Community College (Murphy and Robbinsville). Western Carolina University is on the North Carolina Reasearch and Information Network (NCREN). There are also sites at Macon Program for Progress’ New Horizons Child Development Center in Franklin, the Health Department in Jackson County, and Murphy High School.

From 2005 through 2009 the EDD raised over $6 million, primarily from foundations to provide broadband infrastructure for public schools in Cherokee, Clay, Graham, Jackson, Macon and Swain Counties. All public schools, colleges and libraries within the District now have high speed internet capability.

There are several internet service providers (ISPs) available in the District, including local companies and national providers, e.g. AOL, Sprint, Earthlink, and D-Net. The Mountain Area Information Network is a federal and state funded system that provides public access to internet services for public and non-profit entities located in the District.

Education

North Carolina has a centrally controlled public education system, with the state bearing most of the operations costs of schools. Local boards are charged with providing capital facilities, most maintenance and utilities, and operating supplements to enhance local education. In the area of local government expenditures for public schools, the District remains well behind the state average. In the latest available data, per capita expenditures by
counties in the District varied from $41.27 (Swain) to $146.20 (Haywood). At the same time, the state average was $151.73 per capita. These disparities in spending also track the District’s high school and college graduation rates.

College graduation rates range from 8% in Cherokee County to 20% in Jackson County where Western Carolina University (WCU) is located.

WCU is located in the physical heart of the District. It has a Regional Workforce Development Center that supports training for emerging high-tech, “new economy” industries. Programs in the new facility include integrated multimedia-based programs including digital video, digital sound recording and media production, applied engineering facilities and laboratories for technology-based manufacturing, three-dimensional epoxy laser modeling and information network design. Many of these high tech resources will be incorporated into the University’s Millennium Campus. The university offers graduate, postgraduate, and graduate certificate programs. It also brings cultural opportunities to the District through theater, music and art events which are open to the public.

Three community colleges serve all counties in the District. Haywood Community College, Southwestern Community College and Tri-County Community College offer Associate, Vocational and Continuing Education programs and coordinate efforts with the local Workforce Development Board to meet the needs of the workforce.

G. Environment

The Southwestern Economic Development District is located in the epicenter of the Southern Appalachian & Blue Ridge Provinces, a landscape that has been described by various writers as the “back of beyond.” As mentioned previously, the environment is a major draw for tourism in the District. National Forests, National Recreation Areas and Wildlife Preserves are numerous in the area. Combined with state parks in the area and the Great Smoky Mountains National Park, the large number of square miles of public land contributes to the District’s natural beauty as well as its economy. Efforts have been made to preserve the quality of the natural environment not in public hands; however, there are significant pressures from land developers who take advantage of the area’s loose restrictions on building and site preparation. Careful management of these natural resources is critical to balance the growth of tourist spending in the area with preservation of water and soil quality.
In 2007 the EDD staff facilitated a regional meeting with elected officials, planning committees, developers, contractors, energy providers, engineers and media representatives to discuss concerns about unsuitable and unsafe building practices. Historically, the region has had an aversion to planning and zoning and a strong voice for personal freedom with regard to land use. New concerns were brought to view after some homes in the area were destroyed as a result of their being built on unstable or steep slopes. Another concern was poor road construction into new developments where fire and rescue vehicles are unable to travel. The roads were either too curvy, too steep or both. Following the 2007 meeting, several charrettes were held throughout the EDD to address concerns and to develop a Toolbox for use by local municipalities. The Toolbox includes examples of best practices for development in regard to safety and land use. Other tools address farm preservation, ridge top preservation, affordable housing transportation, water quality, erosion control and watershed protection. The Toolbox has provided a model for wise use of land and water in the area. As previously mentioned, this project received a Trailblazer Award from the National Association of Development Organizations in August, 2010.

The Toolbox principles are being applied throughout the region in the development of comprehensive plans, transportation plans and other land-use initiatives. Matching mini-grants, managed by the Southwestern Commission and the Appalachian Regional Commission, are available to local governments and nonprofits to implement best management strategies as identified in the Toolbox.

2. ANALYSIS OF ECONOMIC AND COMMUNITY DEVELOPMENT PROBLEMS AND OPPORTUNITIES

The following are assets and liabilities relating to economic development in the District.

Assets:
1) High quality of life, including beautiful surroundings, ample outdoor recreational opportunities, low crime, and good health care

2) Strong retail/service/government base
3) Excellent community colleges, providing 2-year degree programs, certificate programs, distance learning to university programs, industry training, and small business assistance and a regional university

4) Leadership from a number of state and local agencies in identifying and capitalizing on opportunities for local job creation and investment, including assisting existing industry

5) Public school systems that are increasingly using technology in course delivery and teaching technology-related skills that articulate well with community college programs

6) Moderate labor costs and taxes, especially considering available tax credits from the state

7) Competitive water/sewer and electricity rates and expanding natural gas system

8) Local airports, with major upgrades in progress; and, two hour access to regional and international airports

9) Proximity to Atlanta, Knoxville, Chattanooga, Asheville and Charlotte and other metropolitan areas on the eastern interstate corridors

**Liabilities:**
1) Low educational attainment and skill levels of a large number of adults; many younger adults lack responsible work values and ethics

2) Lack of infrastructure, including water/sewer, natural gas lines, telecommunications, broadband and four-lane highways

3) Distance of up to two hours from nearest interstate highways and related services

4) Lack of access to venture and other capital

5) Lack of multimodal transportation systems

6) Undercapitalization of local cultural and entertainment options, e.g. heritage tourism, greenways, and interconnected trail systems

7) Lack of available high speed internet capability in some areas

8) Little support for land use management and zoning

9) Shortage of affordable housing

10) Vulnerability of I-40 and US highway 64 to rock slides

**A. Other government plans and workforce strategies**

AdvantageWest
AdvantageWest is western North Carolina's regional economic development organization. The District's seven counties are all in the AdvantageWest 23-county service area. Chartered by the North Carolina General Assembly in 1994, AdvantageWest is a non-profit public-private partnership whose primary focus is marketing the North Carolina mountains to business and corporations seeking to relocate or open a new facility or expand an existing business; and to those who might otherwise improve the quality of life for citizens through activities such as filmmaking and tourism.

AdvantageWest covers nearly 10,000 square miles, an area larger than eight U.S. states. Publications such as Money, Kiplinger's, Outside, American Style, Modern Maturity and Forbes have ranked western North Carolina as a top destination for living, working, recreation, arts, technology, and retirement.

The following goals are identified as priorities in the AdvantageWest five year plan:

**Goal 1:** Grow and support several "clusters of innovation" in regional niches with education, infrastructure, services, and technology transfer

**Goal 2:** Institutionalize capacity for strategic thinking, research, policy development, collaboration and leadership on the regional economy

**Goal 3:** Change the culture of educational institutions (K-1), community colleges, and universities) and the expectations and skills of workers to meet the needs of growing companies in clusters of innovation

**Goal 4:** Establish "tier 2" level of broadband internet service for the entire service area

**Appalachian Regional Commission Goals and Objectives and NC Strategies**

The entire EDD is within the 26 counties of North Carolina served by the Appalachian Regional Commission. ARC's overall plan, together with North Carolina's ARC strategies are summarized as follows.

**ARC Goal #1: Increase Job Opportunities and Per Capita Income in Appalachia**

**to Reach Parity with the Nation**

Strategic Objective 1.1: Foster Civic Entrepreneurship

Strategic Objective 1.2: Diversify the Economic Base

Strategic Objective 1.3: Enhance Entrepreneurial Activity in the Region
Strategic Objective 1.4: Develop and Market Strategic Assets for Local Economies
Strategic Objective 1.5: Increase the Domestic and Global Competitiveness of the Existing Economic Base
Strategic Objective 1.6: Foster the Development and Use of Innovative Technologies
Strategic Objective 1.7: Capitalize on the Economic Potential of the Appalachian Development Highway System

**ARC Goal #2: Strengthen the Capacity of the People of Appalachia to Compete in the Global Economy**
Strategic Objective 2.1: Foster Civic Entrepreneurship
Strategic Objective 2.2: Enhance Workforce Skills through Training
Strategic Objective 2.3: Increase Access to Quality Child Care and Early Childhood Education
Strategic Objective 2.4: Increase Educational Attainment and Achievement
Strategic Objective 2.5: Provide Access to Health-Care Professionals
Strategic Objective 2.6: Promote Health through Wellness and Prevention

**ARC Goal 3: Develop and Improve Appalachia’s Infrastructure to Make the**
Strategic Objective 3.1: Foster Civic Entrepreneurship
Strategic Objective 3.2: Build and Enhance Basic Infrastructure
Strategic Objective 3.3: Increase the Accessibility and Use of Telecommunications Technology
Strategic Objective 3.4: Build and Enhance Environmental Assets
Strategic Objective 3.5: Promote the Development of an Intermodal Transportation System

**ARC Goal 4: Build the Appalachian Development Highway System to Reduce Appalachia’s Isolation**
Strategic Objective 4.1: Foster Civic Entrepreneurship
Strategic Objective 4.2: Promote On-Schedule Completion of the ADHS

The ARC’s Area Development Program seeks to augment the US Department of Transportation Highway Program and bring more of Appalachia's people into America's economic mainstream. At least half of ARC's area development grant funding is directed to...
projects that benefit counties and areas in the Appalachian region designated by ARC as "economically distressed". ARC identifies Clay, Graham and Cherokee counties as counties that are at risk of becoming distressed.

State of North Carolina Economic Development Plan

Governor Perdue’s economic development plan is driven by the principal of innovation. The governor is striving to create an innovation-based economic development portfolio that includes a diversified business climate, a green economy, a supportive entrepreneurial environment, thriving Main Street communities and a well educated workforce. Federal and state funding will be accessed to help develop infrastructure systems that are critical to the decision-making process for companies to locate and expand in western North Carolina communities. Having quality roads, water and sewer systems and access to broadband are essential components in attracting and retaining businesses in communities. Federal and state funding will also be used to strengthen the entrepreneurship network in Western North Carolina. Small businesses are a critical component of the economic development landscape.

_The Governor’s plan has seven principal goals:_

**Goal 1:** Develop an outstanding education system and a highly qualified workforce.

**Goal 2:** Invest in science, technology and university outreach.

**Goal 3:** Ensure a competitive environment for the recruitment and retention of business, capital investment, and jobs creation.

**Goal 4:** Create strong metropolitan growth centers that generate regional business development, shared prosperity, and a high quality of life, in partnership with surrounding areas.

**Goal 5:** Develop thriving rural areas that maintain a high quality of life; mobilize the state’s resources to create strong regional partnerships and programs that foster broader economic development opportunities in rural North Carolina.

**Goal 6:** Develop a competitive infrastructure and promote sustainable economic development.

**Goal 7:** Maintain and strengthen tourism, film, and sports industries; preserve protect, and promote out state’s cultural, natural, and heritage assets.
Governor Perdue announced in August of 2010 that North Carolina has received $115 million in five federal recovery grants to extend broadband connectivity in North Carolina. These funds will create jobs and help spur economic development through expanded access to high-speed Internet in underserved areas. Through two rounds of recovery funding, North Carolina has received over $255 million for broadband. One of these grants will assist the EDD via funding for BalsamWest FiberNet and the WNC Education and Research Consortium.

Local Governments Economic Development Strategies

Cherokee County:

a. Completion of Comprehensive Master Plan including a transportation component
b. Focus on retaining and expanding existing industry
c. Retrain and retain high quality workers; increase high school and college graduation rates; encourage students to obtain Career Readiness Certificates
d. Develop and expand multimodal transportation system including:
   i. Better inter-county/interstate connections
   ii. Davis Creek Road Upgrades
   iii. Bike path from Murphy to Andrews
   iv. Joe Brown Highway Upgrades
   v. Shuler’s Creek Road Upgrades
e. Secure natural gas service
f. Develop interconnected greenway and/or trail systems
g. Improve information technology capacity across county
h. Extend runway extension and market Western Carolina Regional Airport (formerly Andrews-Murphy Airport), build terminal building, connect to Andrews’ public water and sewer systems
i. Build more recreation facilities in the western portion of the county
j. Increase affordable housing availability
k. Set aside new land for industrial development
l. Develop and implement smart growth management tools
m. Improve solid waste management and recycling systems
n. Implement Murphy and Andrews components of Blue Ridge National Heritage Area Tourism
o. Interconnect Andrews and Murphy sewer systems along US 74-19-129

Town of Andrews:

a. Investigate/replace aging/leaking water and sewer lines
b. Develop an alternative wastewater treatment with water recovery
c. Extend water and sewer service beyond town limits to pick up new customers
d. Develop an alternative raw water source to meet future demand
e. Develop industrial park and alternative industrial sites
f. Downtown beautification and revitalization
g. Greenway and trail system
h. Improve solid waste management and recycling systems
i. Participate in western cluster of NC STEP (Small Town Economic Prosperity) program via NC Rural Center
j. Complete and “close” permanent conservation easement (transfer of development rights) on town’s active Beaver Creek Watershed to State of NC in exchange for $1.67M Clean Water Management grant.

Town of Murphy:
   a. Replace aging/leaking water and sewer lines
   b. Extend water and sewer to areas that need service
   c. Renovate Police Department
   d. Improve solid waste management and recycling systems
   e. Upgrade water treatment plant
   f. Develop park at old L&N Depot and restore railroad service to Murphy (via GSMR)
   g. Increase parking downtown
   h. Downtown beautification, pedestrian improvements, and revitalization
   i. Greenway and trail system
   j. Complete (in cooperation with Cherokee County) renovation of existing sewer system in vicinity of Valley River and new extensions to areas of Pleasant Valley-Regal Street

Clay County:
   a. Develop surface water source on TVA Lake Chatuge (to replace groundwater wells), including surface water treatment system / plant
   b. Extend water and sewer services to un-served areas and growth corridors
   c. Develop and implement smart growth management tools
   d. Develop greenways and trail systems in cooperation with the US Forest Service and Towns County, Georgia
   e. Increase affordable housing availability
   f. Develop and expand inter-modal transportation system including inter-county/interstate connections
   g. Implement components of Blue Ridge National Heritage Area Tourism Plan
   h. Renovate / expand county’s wastewater treatment plant
   i. Participate (with Hayesville) in western cluster of NC STEP (Small Town Economic Prosperity) program
   j. Secure natural gas service
   k. Improve broadband internet and information technology service across county

Town of Hayesville:
   a. Annex growth areas
   b. Provide municipal services to growth areas
   c. Downtown beautification, pedestrian improvements, and revitalization
   d. Improve and extend sidewalk system
   e. Participate in western cluster of NC STEP (Small Town Economic Prosperity) program
Graham County:
   a. Construct new county administration building, social services department and jail
   b. Create an effective strategy for promotion of entrepreneurship among residents
   c. Design and implement a marketing model to attract and retain businesses
   d. Develop and implement smart growth management tools (Re: Mountain Landscapes Initiative)
   e. Provide infrastructure to aid in the development of tourism amenities, especially motel, restaurant, camping and other small businesses
   f. Increase information technology infrastructure and availability through cooperative efforts with private providers and local governments
   g. Increase broadband internet/information technology at Robbinsville Campus of TCCC
   h. Expand “green energy” workforce training opportunities at Robbinsville Campus of TCCC
   i. Increase affordable housing availability
   j. Develop and expand intermodal transportation system including inter-county/interstate connections (e.g. completion of Appalachian Corridor K).
   k. Implement components of Blue Ridge National Heritage Area Tourism Plan
   l. Develop greenway and trail systems that focus on eco-tourism
   m. Secure natural gas service

Town of Robbinsville:
   a. Replace aging & leaking water/sewer lines
   b. Extend water/sewer to un-served areas and growth
   c. Downtown revitalization, pedestrian improvements, and beautification
   d. Construct new sewer treatment plant on Sand Hole Road
   e. Construct new water storage tank
   f. Implement NC STEP (Small Town Economic Prosperity) program

Town of Lake Santeetlah:
   a. Upgrade existing water system
   b. Develop sewer system through public/ private partnerships
   c. Develop transportation plan focusing on walking and biking
   d. Repair existing roads in need of resurfacing

Town of Fontana:
   a. Replace water treatment system and new water storage tank
   b. Street resurfacing and lighting
   c. Funding and construction of a welcome center
   d. Repair sewer treatment plant and the aging service lines within the town
   e. Pedestrian and enhancement improvements
   f. Solid waste collection and disposal

Haywood County:
   a. Extend (in cooperation with the county’s four towns) water/sewer infrastructure to unserved areas and growth corridors
   b. Develop interlocal system of water/sewer system operations
c. Expand recreation opportunities
d. Develop and implement smart growth management tools
e. Develop greenways and trails system
f. Increase affordable housing availability
g. Improve solid waste management and recycling systems
h. Develop and expand multimodal transportation system including inter-county/interstate connections
i. Implement components of Blue Ridge National Heritage Area Tourism Plan
j. Market ten acre "shovel ready" site at Beaverdam Industrial Park in Canton
k. Complete amenities at the new Western NC Regional Livestock Market near Canton
l. Continue redevelopment of Imperial Hotel in Canton
m. Continue work with the Town of Waynesville on Land Use Plan and Industrial Buildings

Town of Canton:

  a. Extend water/sewer service to un-served areas and growth corridors
  b. Enhance recreation infrastructure, equipment and opportunities
  c. Additional downtown revitalization, pedestrian improvements, and beautification
  d. Upgrade and extend Champion Drive sewer system to better serve intersection with I-40, including MedWest’s new urgent care center
  e. Implement NC STEP (Small Town Economic Prosperity) program

Town of Clyde:

  a. Enhance recreation opportunities, primarily recreation infrastructure and equipment
  b. Downtown revitalization, pedestrian improvements, and beautification
  c. Greenway development
  d. Develop a wastewater system master plan and a Preliminary Engineering Report to resolve severe wastewater collection problems. The town has excessive inflow and infiltration and has been assessed civil penalties for sanitary sewer overflows.
  e. Cooperate with Junaluska Sanitary District (JSD) to construct increased water transfer capacity from Canton through Clyde to JSD
Town of Maggie Valley:
  a. Replace aging/leaking sewer lines and extend the sewer system (the Town owns/operates the public sewer system)
  b. Replace aging water lines and extend water system in cooperation with the Maggie Valley Sanitary District (which owns and operates the water system and predates the formation/charter of the Town of Maggie Valley)
  c. Expand water/sewer service to un-served areas and growth corridors
  d. Upgrade water treatment plant (Maggie Valley Sanitary District)
  e. Work with Maggie Valley Sanitary District and State of NC to secure permanent conservation easement for Campbell Creek Watershed
  f. Develop public transportation system
  g. Enhance recreation opportunities including Parham Park
  h. Downtown revitalization, pedestrian improvements, and beautification
  i. Greenway development

Town of Waynesville:
  a. Concentrate commercial development in existing commercial areas and prevent urban sprawl
  b. Continue downtown revitalization and expand efforts to adjacent areas
  c. Continue to enhance, implement and enforce unified land use plan and development guidelines
  d. Protect/restrict development on steep grades
  e. Incorporate smart growth principles in planning efforts
  f. Increase emphasis on pedestrian friendly planning
  g. Greenway development
  h. Improve multimodal transportation systems to interconnect neighborhoods
  i. Increase tourist attractions and amenities
  j. Continue improvement of water and sewer system (interconnections with Maggie Valley and JSD)

Jackson County:
  a. Extend Tuckaseegee Water and Sewer Authority’s (TWSA) water/sewer distribution and collection systems to unserved areas and growth corridors
  b. Complete TWSA’s current $15M project to expand and upgrade Wastewater Treatment Plant #1
  c. Continue work with TWSA and Cashiers Community to improve and expand public water and sewer services in the Cashiers area
  d. Continue work on Cashiers Recreation Center Complex
  e. Continue development of greenways and trails systems
  f. Continue/complete Phase II Jackson County Services Park-Webster Complex
  g. Increase affordable housing availability
  h. Develop and expand multimodal transportation system including inter-county/interstate connections
  i. Assist Western Carolina University in development of Millennial Campus
  j. Improve traffic patterns on Highway 107
  k. Implement components of Blue Ridge National Heritage Tourism Plan

CEDS 2011
Page 000280
l. Complete East Carolina University Dental Services Training Facility at Southwestern Community College
m. Continue enhancements of county subdivision ordinance, growth management plan and slope development ordinance
n. Continue support of 441 Small Area Growth Management Plan and Ordinance
o. Support new Homtex industry/jobs in former Stonewall Building

Town of Dillsboro:
   a. Annex and extend services to growth corridors
   b. Continue development of recreation opportunities
   c. Greenway trail development
   d. Develop alternative parking
   e. Improve affordable housing availability
   f. Replace old water and sewer lines in cooperation with Tuckaseigee Water and Sewer Authority
   g. Complete development of Monteith Park
   h. Reinstate train service to Dillsboro (GSMR)

Village of Forest Hills:
   a. Plan for town growth and expansion of city limits, including protection provided by extra-territorial jurisdiction
   b. Work with Tuckaseigee Water and Sewer Authority to provide and extend water/sewer service in town
   c. Develop additional municipal services
   d. Continue greenway development

Town of Sylva:
   a. In cooperation with Tuckasigee Water and Sewer Authority, extend services to growth corridors and unserved areas
   b. Develop/enhance further recreation opportunities
   c. Downtown revitalization, pedestrian improvements, and beautification
   d. Continue greenway development
   e. Continue revitalization of Mill Street commercial area
   f. Improve traffic patterns on Highway 107
   g. Complete Park Pavilion area adjacent to downtown
   h. Continue work with the Land Trust for the Little Tennessee on Pinnacle Park management

Town of Webster:
   a. Manage growth to keep non-commercial, residential life style
   b. Greenway development

Macon County:
   a. In cooperation with Towns of Franklin and Highlands, extend water/sewer to unserved areas and growth corridors
   b. Expand the new campus of Southwestern Community College on Siler Road
e. Upgrade and maintain state of the art information technology and high technology training facilities at Macon County Center of Southwestern Community College
f. Develop and implement smart growth management tools consistent with the Mountain Landscapes Initiative
g. Continue to improve greenways and trails systems
h. Increase affordable housing availability
i. Improve solid waste management and recycling systems
j. Develop and expand multimodal transportation system including inter-county/interstate connections
k. Manage development of commercial areas along Hwy 441 South
l. Implement components of Blue Ridge National Heritage Tourism Plan

Town of Highlands:

a. Continue with implementation of managed growth strategies
b. Provide quality recreational and cultural activities for residents
c. Protect town water supplies, including storm water management
d. Provide water and sewer to unserved areas
e. Improve parking and traffic circulation
f. Participate in NC Dept of Commerce “Small Towns” Main Street program
g. Prepare a Capital Improvement Plan, an asset management plan, and a Preliminary Engineering Report to determine the feasibility and costs of sewer areas of Highlands that are not on the town’s system. Only 25% of the town currently has public sewer service and there are numerous failing septic tanks. Nearly 85% of septic permits are issued under provisionally suitable conditions. Even with the current service area, the town’s wastewater treatment plant has exceeded 80% of capacity during rain events.

Town of Franklin:

a. Upgrade and expand water and wastewater treatment plants, to include new sludge digester at wastewater treatment plant
b. Extend water/sewer service to designated growth corridors.
c. Downtown revitalization, pedestrian improvements, and beautification
d. Continue greenway development
e. Implement Main Street plan
f. Increase affordable housing availability
g. Implement NC STEP (Small Town Economic Prosperity) program

Swain County:

a. Implement components of Swain Heritage Tourism Plan as also identified in Blue Ridge National Heritage Area Tourism Plan
b. Develop a heritage museum at the Old Courthouse in cooperation with the National Park Service
c. Further develop recreation facilities and programs
d. Upgrade and maintain state of the art information technology and high technology training facilities at Swain County Center of Southwestern Community College
e. Continue efforts to relocate Swain Center of Southwestern Community College to new, better located and more useable facility closer to Bryson City
f. Develop and implement smart growth management tools Consistent with the Mountain Landscapes Initiative

g. Develop greenways and trails systems

h. Build, develop and market IT spec building to take advantage of new high-speed internet in the county

i. Increase affordable housing availability

j. Develop additional public parking

k. In cooperation with the Town of Bryson City, extend water and sewer lines into growth areas outside town limits

l. Participate (with Bryson City) in western cluster of NC STEP (Small Town Economic Prosperity) program

m. Improve downtown parking options

Town of Bryson City:

a. Improve infrastructure within city limits

b. Downtown revitalization, pedestrian improvements, and beautification

c. Greenway development

d. Develop additional public parking

e. Participate (with Swain County) in western cluster of NC STEP (Small Town Economic Prosperity) program

f. Conduct a water system audit, and develop a water system map. The project also will develop a water system model. The town cannot account for approximately 47% of water loss and does not have a map of its water system.

Regional:

a. Mountain Landscapes Planning Initiative Toolbox Implementation Fund – matching mini-grants to implement objectives

b. Community Partnership for Older Adults

c. Blue Ridge Natural Heritage Area development

d. Extension of internet fiber optic ring: region-wide build-out of “last mile” broadband capacity

e. Develop additional industrial product within Southwestern EDD, including certified sites

g. Support MARC (Marketing Association for Rehabilitation Facilities, Inc.). MARC is a consortium of “vocational workshop” organizations which together employ approx. 1,500 WNC citizens, 90% of whom are physically and/or mentally challenged individuals. MARC serves 17 WNC counties

h. Facilitate, moderate and/or mediate between and among various local governments, community leaders and non-profits toward implementation of cooperative local projects and programs (new jails, water and sewer, growth management)

i. Promote growth in “Green Economy” and Clean Energy

j. Community Colleges “Green” Equipment Project

k. Develop an asset mapping framework of the region’s infrastructure assets
3. GOALS AND OBJECTIVES NECESSARY TO SOLVE ECONOMIC DEVELOPMENT PROBLEMS

Economic development problems within the District are a result of plant closures, unskilled workforce, paucity of affordable housing, growing waste management problems and development without planning. Early on, the District’s economic development plan focused on recruiting industry and exploiting the natural resources of the area including agriculture and mining. Now the focus is on preservation and wiser use of resources. Industrial development has slowed as the recruitment efforts around the country have become more competitive. The District’s weak infrastructure, distance to populated markets and unskilled labor force make the area less desirable for industrial development. The District’s local economic development strategy now puts the emphasis on retention and expansion of existing employers and training a skilled workforce.

The EDD’s advisory committee created the following goals in 2007 based on discussions facilitated by the Southwestern Commission and input from regional economic development professionals. Since 2007 the committee has annually reviewed and measured the goals for current validity. Current year comments from the committee are in italics following each goal.

**Goal 1:** Partner with the NC Department of Commerce, AdvantageWest, The Appalachian Regional Commission and local governments to consciously treat existing companies with the same care and enthusiasm as new prospects, including tax advantages and incentives.

*The advisory committee members consider this goal as important as it was in 2010. It is rated the second most important goal.*

**Goal 2:** Nurture existing business incubators and create new ones to support entrepreneurs.

*The advisory committee members indicated that this goal is ranked fifth in importance but still valid.*
Goal 3: Ongoing recruitment of businesses and investment capital from outside the District using reasonable practices and incentives.

The advisory committee members stated that this goal has the same importance as in 2010 and is ranked third in importance.

Goal 4: Capitalize on opportunities related to ecotourism, including heritage and culture businesses and also capitalize on water, land and forest recreation businesses.

The advisory committee members indicated that this goal ranks last in importance to the local strategy. It is ranked seventh.

Goal 5: Better management of the second home construction industry so that subdivision and building standards will protect and respect the local environment and protect the consumer against unsafe building practices and locations.

The advisory committee members ranked this goal sixth in criticality due to the slowdown in construction and second home development.

Goal 6: Continue to improve infrastructure, affordable housing, and public transportation.

The advisory committee members rank this goal as tied with goal #3 as third most critical.

Goal 7: Meet the demands of changing technology and increase vocational skills and the work ethic through workforce development.

The advisory committee members ranked this goal as the most important goal in economic development in the region for the past two years. This is due to the rapidly changing landscape of technology and streamlining of manufacturing. Another contributing factor is the use of internet resources by entrepreneurial workers and businesses.

4. COMMUNITY AND PRIVATE SECTOR PARTICIPATION IN THE CEDS EFFORT

When the Public Works and Economic Development Act of 1965 (PWEDA) became law four decades ago, Southwestern North Carolina was, quite literally, a District that would now be considered third world. All seven counties of the EDD were initially designated RA
(Redevelopment Areas) by EDA because of very low personal incomes, high unemployment and high out-migration rates. The Appalachian Redevelopment Act (also of 1965) similarly defined all seven counties as "distressed," with four of the seven being "severely distressed."

The written record of the District's early history (1965-1975) indicates that local elected officials, community leaders and private sector representatives were united in their responses to the opportunities provided by PWEDA. Between 1965 and 1975 each of the seven counties produced an annually updated an OEDP (Overall Economic Development Program) which was prerequisite to any EDA investments. During this decade most of the District's jurisdictions received EDA grants. In 1975 all seven counties came together to create the Southwestern NC Economic Development District, concurrently forming a regional OEDP Committee and developing a District OEDP. Between 1975 and 2000 each of the seven county governments, together with the District's municipal officials, community leaders and private sector representatives worked with staff to keep the OEDP current, dynamic and valid. During this entire period the District maintained 100% participation of its member governments, including full payment of membership dues.

In 2000, the EDD developed its first CEDS (Comprehensive Economic Development Strategy) in response to amendments to PWEDA which, among other changes, required a transition from the OEDP to the CEDS. Stakeholders within the EDD responded positively to CEDS. The requisite CEDS Committee structure has been maintained and participation has been commendable during each annual update process.

Members of the 2011 CEDS committee are as follows:

Jack Chapman, Retired, Blue Ridge Paper, Canton, NC

Gene Farley, Owner, Farley Insurance, Robbinsville, NC

Vickey Wade, Program Director, Local Government Training Program, Western Carolina University, Cullowhee, NC

Tom O'Brien, President and CEO, Industrial Opportunities, Inc., Murphy, NC

Vicki Greene, Director of Economic Development, Southwestern NC, Sylva, NC

Mike Chapman, Product Development, Dnet Internet Services, Drake Enterprises, Franklin, NC

Rose Johnson, President, Haywood Community College, Hayesville, NC
Virginia Gribble, Manager, Employment Security Commission, Waynesville, NC

Jane Kimsey, Chairman, Employer Advisory Committee, ESC Franklin, NC

Russ Paine, HR Director, Murphy Medical Center, Murphy, NC

Nelse Bates, Owner, B&B Concrete Products, Franklin, NC

Demographics of CEDS committee:
5 -women 7 -private sector representatives
6 -men 4-public service

The EDD staff and CEDS Committee members reviewed the goals from 2010 and final group meeting on August 26, 2011. Input was provided by local government economic development directors and committee members, the regional Director of Workforce and Economic Development, Workforce Development Board members and EDD staff. State and regional plans were reviewed as part of the process as were local government priorities for economic development.

5. STRATEGIC PROJECTS AND PROJECTED NUMBERS OF JOBS TO BE CREATED

<table>
<thead>
<tr>
<th>Project</th>
<th>County</th>
<th>Jobs Created in 2010</th>
<th>Jobs 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evergreen Paper</td>
<td>Haywood</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>Western Carolina University</td>
<td>Jackson</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Millennium Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harrah’s Casino Employment Expansion</td>
<td>Jackson</td>
<td>250</td>
<td>200</td>
</tr>
</tbody>
</table>

CEDS 2011

Page 000287
Cherokee County Machined
Product Cluster  Cherokee, Graham 75 50
& Clay
Stanley Furniture Graham 100 100
Great Smoky Mountain Railroad Swain 5 6
Drake Enterprises Expansion Macon 50 75
Knowledge-Based Internet Entrepreneur Development All Counties 20 20
Homtex Jackson 0 75

ECONOMIC CLUSTERS

Growth clusters

The following are national industry clusters that have been growing in the District relative to
the United States as identified by US Bureau of Labor Statistics National Industry Specific
Occupational Employment and Wage Estimates Industry Output and Employment Projections
for the Year 2010.

Business Clusters with the strongest growth and having high or growing concentration relative
to the US:

- Pharmaceuticals and Medical Technologies
- Information Technology and Instruments
- Communication Services and Software
- Recreation and Tourism

Other Business Clusters important to the District:

- Hospitals, labs and specialized medical services
- Business support services
- Arts, crafts and design-related
- Retirement-related
## Largest Industries

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2010 Jobs</th>
<th>2012 Jobs</th>
<th>Change</th>
<th>% Change</th>
<th>2011 EPW</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>Government</td>
<td>17,128</td>
<td>17,522</td>
<td>394</td>
<td>2%</td>
<td>$46,520</td>
</tr>
<tr>
<td>44-45</td>
<td>Retail Trade</td>
<td>10,645</td>
<td>11,013</td>
<td>368</td>
<td>3%</td>
<td>$22,094</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
<td>6,634</td>
<td>9,506</td>
<td>288</td>
<td>0%</td>
<td>$33,200</td>
</tr>
<tr>
<td>62</td>
<td>Health Care and Social Assistance</td>
<td>6,294</td>
<td>9,369</td>
<td>301</td>
<td>4%</td>
<td>$39,033</td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
<td>7,977</td>
<td>8,301</td>
<td>324</td>
<td>4%</td>
<td>$17,755</td>
</tr>
<tr>
<td>31-33</td>
<td>Manufacturing</td>
<td>5,115</td>
<td>4,672</td>
<td>-443</td>
<td>-5%</td>
<td>$51,772</td>
</tr>
<tr>
<td>81</td>
<td>Other Services (except Public Administration)</td>
<td>4,888</td>
<td>5,079</td>
<td>191</td>
<td>4%</td>
<td>$20,566</td>
</tr>
<tr>
<td>53-55</td>
<td>Real Estate and Rental and Leasing</td>
<td>4,794</td>
<td>5,247</td>
<td>453</td>
<td>10%</td>
<td>$32,534</td>
</tr>
<tr>
<td>56</td>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>4,368</td>
<td>4,832</td>
<td>464</td>
<td>11%</td>
<td>$16,718</td>
</tr>
<tr>
<td>56</td>
<td>Professional, Scientific, and Technical Services</td>
<td>4,362</td>
<td>4,755</td>
<td>393</td>
<td>9%</td>
<td>$27,159</td>
</tr>
</tbody>
</table>

Source: EMSI Complete Employment - 2011.3
### Highest Paying Industries

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2010 Jobs</th>
<th>2012 Jobs</th>
<th>Change</th>
<th>% Change</th>
<th>2011 EPW</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Utilities</td>
<td>192</td>
<td>200</td>
<td>8</td>
<td>4%</td>
<td>$101,571</td>
</tr>
<tr>
<td>31-33</td>
<td>Manufacturing</td>
<td>5,115</td>
<td>4,875</td>
<td>-340</td>
<td>-6%</td>
<td>$41,772</td>
</tr>
<tr>
<td>52</td>
<td>Finance and Insurance</td>
<td>2,435</td>
<td>2,521</td>
<td>86</td>
<td>4%</td>
<td>$46,831</td>
</tr>
<tr>
<td>55-59</td>
<td>Government</td>
<td>17,128</td>
<td>17,222</td>
<td>94</td>
<td>0%</td>
<td>$46,626</td>
</tr>
<tr>
<td>21</td>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
<td>335</td>
<td>406</td>
<td>71</td>
<td>21%</td>
<td>$45,035</td>
</tr>
<tr>
<td>50-51</td>
<td>Management of Companies and Enterprises</td>
<td>156</td>
<td>150</td>
<td>-6</td>
<td>0%</td>
<td>$44,992</td>
</tr>
<tr>
<td>51</td>
<td>Information</td>
<td>699</td>
<td>746</td>
<td>47</td>
<td>7%</td>
<td>$44,813</td>
</tr>
<tr>
<td>42</td>
<td>Wholesale Trade</td>
<td>1,255</td>
<td>1,328</td>
<td>73</td>
<td>6%</td>
<td>$42,404</td>
</tr>
<tr>
<td>92</td>
<td>Health Care and Social Assistance</td>
<td>9,283</td>
<td>9,394</td>
<td>110</td>
<td>1%</td>
<td>$39,024</td>
</tr>
</tbody>
</table>

*Note: Industries with fewer than 10 employees are not shown.*

Source: EMSI Complete Employment - 2011.3
### Fastest Growing Industries

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Description</th>
<th>2010 Jobs</th>
<th>2012 Jobs</th>
<th>Change</th>
<th>% Change</th>
<th>2011 EPW</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>4,388</td>
<td>4,832</td>
<td>464</td>
<td>11%</td>
<td>$16,718</td>
</tr>
<tr>
<td>53</td>
<td>Real Estate and Rental and Leasing</td>
<td>4,784</td>
<td>5,247</td>
<td>463</td>
<td>10%</td>
<td>$32,334</td>
</tr>
<tr>
<td>93</td>
<td>Government</td>
<td>17,128</td>
<td>17,522</td>
<td>394</td>
<td>2%</td>
<td>$46,520</td>
</tr>
<tr>
<td>44-45</td>
<td>Professional, Scientific, and Technical Services</td>
<td>4,362</td>
<td>4,755</td>
<td>393</td>
<td>9%</td>
<td>$27,153</td>
</tr>
<tr>
<td>44-45</td>
<td>Retail Trade</td>
<td>10,645</td>
<td>11,013</td>
<td>368</td>
<td>3%</td>
<td>$26,094</td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
<td>7,917</td>
<td>8,361</td>
<td>444</td>
<td>4%</td>
<td>$27,755</td>
</tr>
<tr>
<td>81</td>
<td>Other Services (except Public Administration)</td>
<td>4,885</td>
<td>5,079</td>
<td>191</td>
<td>4%</td>
<td>$20,566</td>
</tr>
<tr>
<td>81</td>
<td>Educational Services</td>
<td>1,094</td>
<td>1,148</td>
<td>54</td>
<td>5%</td>
<td>$28,925</td>
</tr>
<tr>
<td>62</td>
<td>Health Care and Social Assistance</td>
<td>9,293</td>
<td>9,394</td>
<td>101</td>
<td>1%</td>
<td>$39,034</td>
</tr>
<tr>
<td>71</td>
<td>Arts, Entertainment, and Recreation</td>
<td>2,442</td>
<td>2,531</td>
<td>89</td>
<td>4%</td>
<td>$45,881</td>
</tr>
</tbody>
</table>

### Data Sources and Calculations

#### Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) substate area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.
Promoting economic development

♦ Continue meeting with local economic development directors to combine resources and
  find funding for projects
  EDD staff has regular meetings with state and local economic development directors
  and committees.

♦ Encourage business development with revolving loan fund and other non-traditional
  financing
  In 2011 the revolving loan fund will be combined in partnership with the Sequoyah
  Fund

♦ Seek funding sources for infrastructure projects
  In 2010, most of the 7 counties within the region had infrastructure projects utilizing
  various funding sources.

♦ Encourage private and public partnerships for job creation

♦ Extend fiber optic internet access in the District
  The fiber optic ring for Internet access continues to be expanded as a coordinated
  effort between private businesses and public agencies.

♦ Continue to increase competency of workforce
  Workforce development continues as a combined effort with the workforce
  development board, local businesses, economic development agencies, community
  colleges and chambers of commerce.

♦ Coordinate efforts with Advantage West, Blue Ridge National Heritage Area, Hand
  Made in America, and NC Department of Commerce to create and support new small
  businesses

♦ Provide assistance to local governments for planning and zoning activities, growth
  management and education
  The Mountain Landscapes Initiative, sponsored by the EDD created a Toolbox for
  local municipalities to use as templates for addressing planning and zoning activities.

♦ Locate sites for new business incubators, assist current incubators

♦ Assist local governments in development and promotion of Blue Ridge National
  Heritage Area businesses
As mentioned above, all counties have planning committees for participation in the Blue Ridge National Heritage Area project.

- Locate private and public resources for development of affordable housing
  The EDD continues to work with counties and municipalities to develop public and private means for building affordable housing.

**Fostering effective transportation access**

The Southwestern Economic Development District will continue to function as the Rural Transportation Planning Organization for the NC Department of Transportation. In doing so, measures will be taken to combine resources to provide transportation to citizens who have inadequate transportation access. Efforts will continue to encourage bicycle routes and pedestrian friendly streets. EDD staff will monitor the progress of train connections into the western part of the state, particularly into Asheville and will study the possibility of passenger rail line extension into the District when appropriate progress has been made. Assistance will be provided to municipalities and counties to relieve or prohibit congested traffic areas and plan highway and road access points and obtain funding for adequate planning. The EDD's Rural Transportation Planner will continue to facilitate meetings of area transportation authorities to coordinate efforts.

**Enhancing and protecting the environment**

Much of the early attempts at protection of this remote area came to the Southern Appalachians and Blue Ridge by virtue of the great environmental visionaries of the early twentieth century such as Theodore Roosevelt and Gifford Pinchot. Over 50% of the District was set aside in two National Forests (the Nantahala and the Pisgah) and a National Park (The Great Smoky Mountains National Park).

Oddly, very little additional environmental protection occurred during the next seventy years. The two notable exceptions being the Roy Taylor and Panthertown Valley additions to the Nantahala National Forest in Jackson County. This period also witnessed a substantial resistance to environmental protection. Paper mills dumped raw effluent into streams. Factory and power generation boilers were allowed to foul the air. The Great Smoky Mountains National Park has gained the distinction of having the most polluted air of any US National Park Citizens regularly spoke against environmental protection initiatives.
Environmental activists were reviled and threatened. The Governor’s proposed Mountain Area Management Act (1976) was soundly defeated by community uprisings. Local government attempts to manage growth via zoning, watershed protection and subdivision regulations met the same fate.

By 2000, a palpable shift in environmental values had crept over the District. People grew scared to swim in some streams or to breathe outside air on hazy summer afternoons. The EPA forced paper mills to close or clean up. The NC Clean Smokestacks Act became law. The NC Department of Environment and Natural Resources forced local watershed protection. Letters to the editor asking for growth management by law became the norm in local newspapers. Between 1965 and 2010 the District’s citizenry have transitioned from tacit support for environmental plunder (in the name of private property rights), to apathy, then alarm, finally to fear. Now there is widespread activism for a clean environment. District citizens are now regularly heard to voice outright anger when the geography, water and/or air of our District are recklessly deployed as commodities for private wealth enhancement.

Local elected leaders are beginning to respond. Candidates can now get elected on growth management platforms. Serious discussion and visible movement toward slope development ordinances, subdivision ordinances and land use management are underway in Haywood, Jackson, Macon and Swain Counties. High impact use ordinances are being adopted within the region.

The EDD has been successful in brokering the permanent conservation of retired municipal watersheds. The organization is partnering with local and regional land trusts to conserve prime farmland and working forests through the easement process. The District’s GIS specialist is assisting local governments with the base mapping essential to growth management plans. District staff regularly facilitates sessions for local planning boards and strategic planning retreats for local governing boards. Without fail, growth management and environmental protection are agenda topics.

With a grant funded by the Z. Reynolds Smith Foundation, a neighboring regional council (Land-of-Sky) developed the framework for a comprehensive mountain ridge protection program that includes all the mountains of western North Carolina. This EDD will continue to work cooperatively with Land-of-Sky Regional Council to identify and examine all issues related to steep slope and mountain ridge development.
Specific issues are:

- Water quality (erosion and sedimentation, storm water pollution)
- Water quantity (storm water runoff, downstream flooding)
- Fish and aquatic species and impairment of headwater streams
- Loss of natural areas and endangered species
- Public health (drinking water, wastewater, air quality)
- Aesthetics and viewsheds
- Wildlife (habitat loss, fragmentation and travel corridors)
- Economic impacts of development (positive and negative)
- Public safety regarding landslides and emergency response routes

Strategies to address these concerns will center on the following:

- Public education and awareness
- Regulation (local, state and federal)
- Tax structure changes
- Land conservation programs (natural areas and working lands)

Effective development and use of workforce

Acknowledging that a strong workforce is the prerequisite to a healthy economy, the EDD will work with area community colleges and our regional university to provide training and education that will meet the needs for successful employment. A strategy for developing a three-pronged approach to workforce development will include:

- Assisting employers in using job profiling to identify actual work skills needed for specific jobs
- Working cooperatively with community colleges, the Southwestern Workforce Development Board, and the NC Employment Security Commission to administer assessments identifying qualified employees
- Providing training for the workforce in skill areas identified by the job profiling system
In addition, the EDD will take the following actions:

- Foster the development of small businesses and Internet entrepreneurs, through the use of business incubators & technology training in cooperation with schools, colleges and universities.
- Work with local school boards to reduce the high school drop out rate and provide adult education and GED classes
- Support the development of Western Carolina University’s Millennium Campus for high technology education
- Identify and use natural assets within the District as a means for developing the workforce

Promoting technology

As previously mentioned, the local regional university is developing a high-tech campus as a resource for training and educating the workforce. A new engineering program at Western Carolina University is set to train students in progressive methods of engineering technology. In addition, high speed internet infrastructure will be expanded throughout the region. EDD staff will continue to work with local governments, high schools, and community colleges to help implement the expansion. The most likely avenue for this technology is a public-private venture involving the Eastern Band of Cherokee Indians, Drake Enterprises and Southwestern Community College.

Balancing resources through sound management of physical development

"To waste, to destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed." -- Theodore Roosevelt

We have an understanding of the manmade ingredients that cause imbalances between man and the environment. Native peoples understood that their survival depended on a symbiotic relationship with the land and water. From current academic research and the applied knowledge of our soil, water and air, scientists know how to appropriately manage our natural resources that undergird our economic prosperity. Yet, we thunder on with a grudging
resistance to the environmental protection measures that we recognize as essential to our long term existence.

Growth in urban areas outside the District is now having an impact on the local environment. Most recently, the building of the Volkswagen assembly plant in Chattanooga has had an effect on Cherokee County in particular. Every community within the EDD is within three hours of the Atlanta metropolitan area which is about 120 miles in diameter. In terms of urban growth, the greater Atlanta area is said to be the fastest growing, sprawling metropolis in the country. Atlanta’s growth is impacting the EDD more than the combined influence of Asheville, NC; Charlotte, NC; Greenville-Spartanburg, SC; and Knoxville, TN. The Counties of Cherokee, Clay and Macon are now considered to be in the commuter radius of Atlanta. Every creek-side, cove, pasture and mountain slope has become prime subdivision property. All EDD counties are facing tremendous growth pressures.

The region continues to make progress with long-range planning initiatives. Clay, Haywood, Macon, Jackson and Swain Counties have recently undergone comprehensive planning efforts resulting in adopted plans. Cherokee and Graham Counties are expected to begin their long-range planning processes in late 2011. The LDD continues to strengthen its partnership with the NC Department of Transportation in the coordination of their comprehensive transportation planning (CTPs) process. Counties that have completed CTPs include Jackson and Macon. Swain and Clay are nearing completion, Cherokee just starting and Graham preparing to start. There will be an effort to consolidate all the county-wide plans into a regional plan upon completion of the remaining counties. An ongoing transportation priority for the region continues to be the completion of the Appalachian Highway Development Systems Corridor K through Graham and Cherokee County. Local elected officials are struggling with fashioning and enforcing land-use management tools before the District’s remaining, privately-owned open space disappears.

The District’s citizens have historically been good stewards of their land, yet fiercely resistant to any mandated land use controls. The current wave of uncontrolled development has weakened this traditional resistance. Evidence of this dynamic is the new willingness of locals, for the first time, to protest new roads, rock quarries, asphalt plants and subdivisions. Public office candidates have recently begun to successfully run on growth management platforms. The positive reception of the Mountain Landscapes Initiative indicates a change in the perception of land use and planning. The District has employed a Rural Transportation Planner and a GIS Specialist whose primary duties are to support the District’s member
governments as they design and deploy these measures. Looking to the next decade, the District staff will continue its long-standing focus on economic prosperity via infrastructure projects, including broadband technology. This focus will now have an equal partner in the form of substantial attention toward appropriate growth management.

**Obtaining and utilizing adequate funds and other resources**

EDD staff will assist communities to extend water and/or wastewater service to generate revenues for the system and/or tax base. Funding from the Appalachian Regional Commission, the Economic Development Administration, Community Development Block Grants, Clean Water Trust Fund, the North Carolina Department of Commerce and private sources will be identified. Assistance in grant application will be provided to local municipalities and counties.

**1. PERFORMANCE MEASURES USED TO EVALUATE IMPLEMENTATION OF CEDS**

**Number of jobs created**

In a District population of 194,102 with an employed labor force of 92,325 (2010 data), projections anticipate the creation of 425 new jobs during the 2011-2012 CEDS program year.

**Number and types of investments undertaken**

Most of the District's recently undertaken investments are in:
- Manufacturing with 2 recent investments in 2010-11.
- Services with approximately 6 investments since 2010
- Hospitality and Gaming with 1 major investment in 2010 and continuing through 2012 to the amount of $633 million

**Number of jobs retained**

In addition to the constant drive of the District's economic development professionals to secure new jobs for the region, these same professionals are concurrently increasing energy
toward holding the jobs that are here now. One excellent example is the successful efforts to nurture and grow the “machined products cluster” in Cherokee, Clay and Graham Counties. The CEDS Committee predicts that this combined effort involving local economic directors, the District’s community colleges, local elected leaders, AdvantageWest and the NC Department of Commerce will be successful in retaining 225 jobs that may have left the District, if not the nation.

Amount of private sector investment

Total new private investment in local enterprises is expected to be $640 million between 2010 and 2012. A bright spot for the westernmost counties is the recent construction of the new Volkswagen facility in Chattanooga. Volkswagen is looking to sub-contract with area production plants for parts productions. Cherokee County is the center of the machining industry in the region.

Harrah’s Casino expansion is quite considerable, which greatly impacts the total amount of investment. The hospitality and tourism jobs at the Casino pay comparatively well, are year-round and have benefits.

Changes in economic environment in District

The CEDS Committee expects that the Region’s economic environment will continue to be attractive to many types of investments. The frequently mentioned reason is that “everyone wants to live and do business in the southern Appalachian Mountains”. This mountain and valley region has always been thought of as physically attractive, but until the past 25 years it was also considered remote, backward and unfriendly to development due to a lack of infrastructure and trained labor.

The economic environment of the Region has changed significantly in the past century. The four-lane Appalachian Highway System built to interstate standards is largely complete, with the exception of a section in Graham County. Balsam West’s Fiber Net information highway is expanding, offering high-speed bandwidth at urban prices. The District’s labor force, as a whole, is much better equipped for 21st century jobs. Management of growth will be a significant as the challenge of securing new investments.
Evaluation

All of the activities described above have specific project goals and target dates. Each of these goals and dates is included either verbatim or by specific reference in several state or federal approved plans, including EDA. At the end of the EDD's fiscal year reports are prepared for the Board Directors and all funding agencies indicating whether targets and timelines have been achieved.

This District is cognizant of the Government Performance Reporting Act of 1997 and the requirements that Congress and the Administration (OMB) have placed on federal agencies to report succinct, accurate and reliable out-put and out-come measures.

The District will respond to EDA evaluation surveys and requests for specialized information in a reliable and timely manner.

The Commission will report to EDA our performance in meeting the goals and objectives of this CEDS update. This will be accomplished by assaying this document and listing actual outputs and outcomes as compared to those that were projected. Tasks which were not projected will be added to the annual performance report. However, the only real measures of success are functions of the well-being of the citizens of the District.

Are people employed? Are they making a living wage?

To this end, the District tracks and evaluates progress toward the goal of reaching or surpassing national averages for employment and income. In order to accomplish this ongoing evaluation, the District will benchmark against EDA published distress data for 24 month unemployment, and annual weighted per capita income.
2. METHODOLOGY FOR COOPERATION AND INTEGRATING CEDS WITH STATE'S PRIORITIES

This document will be sent to the North Carolina Department of Commerce, The Appalachian Regional Commission, and Advantage West and will also be available for review at the local office of the EDD. The EDD staff members are in frequent contact with the North Carolina Department of Commerce, various other regional commissions, and state and federal economic development entities. Strategies are shared and reviewed. The EDD is contacted when monies are available for state priorities within the region and also when there is new information regarding the economic status of counties within the region. EDD administrators are members of various state boards and advisory committees and staff members attend regular meetings and conferences related to economic development. The EDD has a long history of cooperation with the State of North Carolina and understands the importance of state priorities.
SOURCES

2. Blue Ridge National Heritage *Area Management Plan*
3. Blue Ridge National Heritage *Area, Sub Area Plans*
4. Center for Regional Development, Western Carolina University, *Western North Carolina Regional Outlook*
5. Eastern Band of Cherokee Indians, *Vision Qualla*
6. Handmade In America, *Twenty Year Goal and The Ten Year Report*
7. Institute for the Economy and the Future, Western Carolina University, *Millennial Initiative*
10. NC Department of Commerce, *Economic Development Plan*
11. NC Department of Labor, Labor Market Statistics
12. NC Department of Education, NC Statistics by County
14. NC Rural Economic Development Center, *Strategic Plan 2005-2009*
15. Stats America, [http://statsamerica.org](http://statsamerica.org)
17. Southwestern North Carolina Planning and Economic Development Commission, *Celebrating 41 Years of Service, 2006*
<table>
<thead>
<tr>
<th>Metrics</th>
<th>Target Year 1</th>
<th>Actual Performance</th>
<th>Target Year 2</th>
<th>Actual Performance</th>
<th>Target Year 3</th>
<th>Actual Performance</th>
<th>3-yr Target Total</th>
<th>3-yr Total Performance</th>
<th>3-yr Total % of Target</th>
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<tr>
<td>Requests Received</td>
<td>50</td>
<td>79</td>
<td>100</td>
<td>123</td>
<td>100</td>
<td>143</td>
<td>250</td>
<td>345</td>
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<td>Clients Counseled</td>
<td>35</td>
<td>57</td>
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<td>75</td>
<td>77</td>
<td>185</td>
<td>195</td>
<td>104%</td>
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<td>Projects Completed</td>
<td>30</td>
<td>51</td>
<td>45</td>
<td>47</td>
<td>45</td>
<td>44</td>
<td>150</td>
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<tr>
<td>Products Launched</td>
<td>5</td>
<td>20</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>22</td>
<td>37</td>
<td>168%</td>
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<tr>
<td>Jobs Created/Retained</td>
<td>10</td>
<td>46</td>
<td>21</td>
<td>211</td>
<td>36</td>
<td>13</td>
<td>67</td>
<td>270</td>
<td>403%</td>
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<td>New Investment</td>
<td>$300,000</td>
<td>$1,700,000</td>
<td>$650,000</td>
<td>$5,856,405</td>
<td>$1,100,000</td>
<td>$276,321</td>
<td>$2,050,000</td>
<td>$7,812,726</td>
<td>381%</td>
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### Illustrated Alignment of Core Competencies & Strategic Partnerships

<table>
<thead>
<tr>
<th>Core Competency</th>
<th>Illustrative Program</th>
<th>Regional Need</th>
<th>Industry Partner</th>
<th>Interdisciplinary Opportunities</th>
<th>Strategic Goal</th>
<th>Metric For Determination of Success</th>
</tr>
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<tbody>
<tr>
<td>Training an Educated Populace</td>
<td>Teacher Education&lt;sup&gt;1&lt;/sup&gt;</td>
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<td></td>
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<td></td>
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<tr>
<td>Training an Educated Populace</td>
<td>Forensics&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td>Governmental Law Enforcement Agencies/</td>
<td>DNA Sequencer @</td>
<td></td>
<td></td>
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<tr>
<td>Faculty &amp; Staff Committed to Knowledge Based Learning</td>
<td>Entrepreneurship&lt;sup&gt;3&lt;/sup&gt;</td>
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<td></td>
<td></td>
<td>Two Businesses Per Year</td>
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<tr>
<td>Training an Educated Populace</td>
<td>Allied Health Physical Therapy Speech Therapy</td>
<td></td>
<td>Osteopathy&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Chemistry Marketing Entrepreneurship</td>
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1. One of the core competencies mentioned during the Faculty/Staff/Student forum held 16 March 2012. (Appendix page 63, Item 3)
2. One of the core competencies mentioned during the Faculty/Staff/Student forum held 16 March 2012. (Appendix page 63, Item 3)
3. Millennial Campus events similar to Charlotte Research Institute’s “Five Ventures Business Plan Competition” should be pursued as a Millennial Initiative project. (Appendix page 179)
4. A discussion regarding the existing opportunity with Nova is contained in the committee minutes of 23 March 2012. Appendix page 78, et. seq. This type of arrangement is not unprecedented – for example, Skema, one of France’s top business schools, is located on N.C. State’s Centennial Campus. (Appendix page 162)
<table>
<thead>
<tr>
<th>Core Competency</th>
<th>Illustrative Program</th>
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<th>Strategic Goal</th>
<th>Metric For Determination of Success</th>
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<tbody>
<tr>
<td>Hospitality Tourism/Recreation⁵</td>
<td>Region As A &quot;Destination Resort&quot;</td>
<td>National Weather Data Center</td>
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<td></td>
<td>Medical Tourism⁶</td>
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<tr>
<td>Rapid Protoyping</td>
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<tr>
<td>Computer Sciences</td>
<td></td>
<td></td>
<td></td>
<td>Complementary &amp; Alternative Medicine⁷</td>
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⁵ One of the core competencies mentioned during the Faculty/Staff/Student forum held 16 March 2012. (Appendix page 63, Item 3) “The Park and Recs Management Program has a close relationship to the area and has strategic alliances with the Nantahala Outdoor Center.” (Appendix page 64, Item 7)⁶ Dr. Buck indicated that hospitality groups in the region mentioned the growing field of “medical tourism. This involves people coming here for treatment or procedures, and while they are rehabbing or in the hospital or a care center, there are things for their families to go, see and do. (Appendix, page 83)⁷ During the 23 March 2012, Tom McClure mentioned the Business School was very near releasing a study on the economic impact of complementary and alternative medicine. Once that study is released, the Committee feels it should be thoroughly reviewed by whoever is appointed as Head/Director of Millennial Initiative Development for its most certain suggestions of partnership alliances with Health and Human Services. (Appendix, page 81)