May 29, 2012

The Honorable Hugh K. Leatherman, Sr., Chairman
Joint Bond Review Committee
111 Gressette Senate Office Building
Columbia, SC 29201

Dear Senator Leatherman:

The State Budget Division submits the following items for review at the June 6, 2012 meeting of the Joint Bond Review Committee.

From the General Services Division:

1) State Board for Technical and Comprehensive Education Lease at 111 Executive Center Drive in Columbia.

From the State Budget Division:

1) University of South Carolina Research University Infrastructure Project.

2) Summary 8-2012, including 20 permanent improvement project requests.

If you have any questions or need additional information on these items, please do not hesitate to call me at 803-737-0699.

Sincerely,

Carol P. Routh
Manager, Capital Budgeting

Enclosures

cc: George Dorn, Tim Rogers, Ted Pitts, Bill Leidinger, Rick Harmon, Jim Holly, John White, Patricia Dennis, Courtney Blake, Les Boles, Charles Shawver, Stephen Gardner, John McEntire, Monica Scott, Derek Gruner, Jim Berry, Scott Speares, Rhonda Walker, Linda O’Bryon, Martha Roof, David Simms, Suzette Johnson, Mandy Kibler
1. Submitted by:
   (a) Agency: Division of General Services
   (b) Authorized Official Signature: Carla Griffin, Deputy Director

2. Subject: State Board for Technical and Comprehensive Education Lease at 111 Executive Center Drive in Columbia

3. Summary Background Information:

The South Carolina State Board for Technical and Comprehensive Education (Board) requests approval to lease from GPT Properties Trust, a Maryland real estate investment trust (Landlord), 23,831 square feet, comprising a portion of the 1st floor at its current location at the Enoree Building in Synergy Business Park located at 111 Executive Center Drive in Columbia.

Presently, the Board leases 28,697 square feet at the Enoree Building at an annual cost of $387,409.50 ($13.50 per square foot) under a lease expiring June 30, 2012. Additionally, the lease is subject to annual increases in operating expenses, which amount was approximately $10,617.50 last year. The total annual cost of the Board’s current lease, including operating expense escalations, is $398,027.00 ($13.87 per square foot). Under the new lease, the space will be reduced by 4,866 square feet, which is being realized due to the Board’s efforts to consolidate space.

The new lease was negotiated after vacant state space options were considered, state agencies were contacted to verify no adequate state space was available, and a commercial lease solicitation was issued. The proposed lease is the most cost efficient of the ten commercial lease proposals received. The lease term will be ten years commencing July 1, 2012 and ending June 30, 2022, with one optional renewal term of five years. The optional renewal term will be subject to staff review and approval by the Division of General Services. Rent will be $19,362.69 per month or $232,352.28 per year ($9.75 per square foot rounded) for the first year of the lease; thereafter, rent increases two percent (2%) a year through the remainder of the term to $12.86 per square foot (rounded) in the last year of the term. Rent for the first year of the optional five year renewal term will be $11.89 per square foot (rounded) and will continue to increase two percent (2%) a year to $12.86 per square foot rounded in the last year of the renewal term. All operating costs are included with rent and the Board is not responsible for any increases of such expenses.

The proposed lease further avoids moving, network wiring and other costs associated with relocating to a new location.
The rent over the initial term and optional renewal term of the lease is as follows:

**Initial Term Rates**

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Rate/SF (Rounded)</th>
<th>Annual Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7-1-12 to 6-30-13</td>
<td>$9.75</td>
<td>$232,352.28</td>
</tr>
<tr>
<td>2</td>
<td>7-1-13 to 6-30-14</td>
<td>$9.95</td>
<td>$236,999.28</td>
</tr>
<tr>
<td>3</td>
<td>7-1-14 to 6-30-15</td>
<td>$10.14</td>
<td>$241,739.28</td>
</tr>
<tr>
<td>4</td>
<td>7-1-15 to 6-30-16</td>
<td>$10.35</td>
<td>$246,574.08</td>
</tr>
<tr>
<td>5</td>
<td>7-1-16 to 6-30-17</td>
<td>$10.55</td>
<td>$251,505.60</td>
</tr>
<tr>
<td>6</td>
<td>7-1-17 to 6-30-18</td>
<td>$10.76</td>
<td>$256,535.64</td>
</tr>
<tr>
<td>7</td>
<td>7-1-18 to 6-30-19</td>
<td>$10.98</td>
<td>$261,666.36</td>
</tr>
<tr>
<td>8</td>
<td>7-1-19 to 6-30-20</td>
<td>$11.20</td>
<td>$266,899.68</td>
</tr>
<tr>
<td>9</td>
<td>7-1-20 to 6-30-21</td>
<td>$11.42</td>
<td>$272,237.64</td>
</tr>
<tr>
<td>10</td>
<td>7-1-21 to 6-30-22</td>
<td>$11.65</td>
<td>$277,682.40</td>
</tr>
<tr>
<td></td>
<td><strong>Total for 10 years</strong></td>
<td></td>
<td><strong>$2,544,192.24</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Average for 10 years</strong></td>
<td></td>
<td><strong>$10.64</strong></td>
</tr>
</tbody>
</table>

**Renewal Term Rates**

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Rate/SF (Rounded)</th>
<th>Annual Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>7-1-22 to 6-30-23</td>
<td>$11.89</td>
<td>$283,236.12</td>
</tr>
<tr>
<td>12</td>
<td>7-1-23 to 6-30-24</td>
<td>$12.12</td>
<td>$288,900.84</td>
</tr>
<tr>
<td>13</td>
<td>7-1-24 to 6-30-25</td>
<td>$12.37</td>
<td>$294,678.84</td>
</tr>
<tr>
<td>14</td>
<td>7-1-25 to 6-30-26</td>
<td>$12.61</td>
<td>$300,572.40</td>
</tr>
<tr>
<td>15</td>
<td>7-1-26 to 6-30-27</td>
<td>$12.86</td>
<td>$306,583.80</td>
</tr>
<tr>
<td></td>
<td><strong>Total for 15 years</strong></td>
<td></td>
<td><strong>$4,018,164.24</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Average for 15 years</strong></td>
<td></td>
<td><strong>$11.24</strong></td>
</tr>
</tbody>
</table>

Market reports indicate that the average asking lease rate in the St. Andrews area of Columbia for similar office buildings is $14.28 per square foot annually. Comparables of similar state agency office space leased in the St. Andrews area of Columbia are as follows:

<table>
<thead>
<tr>
<th>Lease Date</th>
<th>Agency/Location</th>
<th>Rate/SF (All comparables are subject to operating cost escalations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/08</td>
<td>Public Service Commission, 101 Executive Center Drive</td>
<td>$14.69</td>
</tr>
<tr>
<td>7/07</td>
<td>State Accident Fund, 800 Dutch Square Blvd.</td>
<td>$13.10</td>
</tr>
<tr>
<td>11/09</td>
<td>Housing Authority, 300 Outlet Pointe Boulevard</td>
<td>$11.19 (Does not include electricity)</td>
</tr>
</tbody>
</table>

The Board has adequate funds for the lease according to a Budget Approval Form dated May 24, 2012, which also includes a multi-year plan. Lease payments will be made from state appropriations. The space allocation of the new lease is 356 square feet for each of the 67 employees to be housed at the Enoree Building. This includes all office space for employees as well as conference rooms, reception areas, copy/fax areas, storage/file rooms, work areas, break rooms/kitchenette areas, computer server room and common areas.
No option to purchase the property is included in the lease. The Enoree Building was constructed in 1982. An environmental assessment dated April 21, 2006 recommends no further assessment is necessary. The lease was approved by Mandy M. Kibler, Vice President for Finance for the South Carolina State Board for Technical and Comprehensive Education and by David M. Lepore, Senior Vice President for GPT Properties Trust.

4. **What is JBRC asked to do?** Approve the proposed ten year lease and optional renewal term of five years subject to the review and approval by the Division of General Services for the State Board for Technical and Comprehensive Education at 111 Executive Center Drive in Columbia.

5. **What is recommendation of the Division of General Services?** Approval of the proposed ten year lease and optional renewal term of five years subject to the review and approval by the Division of General Services for the State Board for Technical and Comprehensive Education at 111 Executive Center Drive in Columbia.

6. **List of Supporting Documents:**
   (a) Letter from the State Board for Technical and Comprehensive Education dated May 24, 2012
   (b) SC Code of Laws Sections 1-11-55 and 1-11-56
May 24, 2012

Ms. Lisa H. Catalanotto, Esq.
South Carolina Budget and Control Board
Division of General Services
Real Property Services
Wade Hampton Building
1200 Senate Street, Suite 460
Columbia, SC 29201

Dear Ms. Catalanotto:

The South Carolina State Board for Technical and Comprehensive Education currently is located at 111 Executive Center Drive in the Synergy Complex at I-20 at Bush River Road. This has been our home location for the State Board and the System Office for over 15 years. Our current lease with Synergy is set to expire on June 30, 2012 and we are requesting approval from the Budget and Control Board for a new lease with Synergy.

We request the approval of this lease for three reasons: 1) Costs Savings, 2) Reduction of Space and 3) Costs Avoidance. This lease has been negotiated to ensure cost savings in both the per square feet rate and the operational costs. Our current rate is $13.50 per square feet and the new negotiated rate is $9.75 per square feet in Year 1 escalating to $11.65 per square feet by Year 10. In addition to the 27.7% decrease in rate per square feet, the new negotiated rate includes all operating costs. Our current lease allowed for additional operating costs to be billed annually. Total costs savings with this new lease is anticipated to be $1,436,000 savings over 10 years. The second reason for approval is the reduction in total square footage. We are reducing our overall total square footage by 16.9% or 4,866 square feet. This reduction of space will result in annual costs savings which is a part of the total costs as stated above. The last reason is the cost avoidance of moving locations. Due to the large technology infrastructure system that is in place for our Technical Colleges and the System Office, we anticipate that we would avoid over $250,000 in moving costs by remaining at our current location.

We request an approval for this proposed lease from the Budget and Control Board at its June meeting.

Thank you for your consideration of this matter.

Sincerely,

Mandy M. Kibler
Vice President for Finance
SC Technical College System
SECTION 1-11-55. Leasing of real property for governmental bodies.

(1) "Governmental body" means a state government department, commission, council, board, bureau, committee, institution, college, university, technical school, legislative body, agency, government corporation, or other establishment or official of the executive, judicial, or legislative branches of this State. Governmental body excludes the General Assembly, Legislative Council, the Office of Legislative Printing, Information and Technology Systems, and all local political subdivisions such as counties, municipalities, school districts, or public service or special purpose districts.

(2) The Budget and Control Board is hereby designated as the single central broker for the leasing of real property for governmental bodies. No governmental body shall enter into any lease agreement or renew any existing lease except in accordance with the provisions of this section. However, a technical college, with the approval by the State Board for Technical and Comprehensive Education, and a public institution of higher learning, may enter into any lease agreement or renew any lease agreement up to one hundred thousand dollars annually for each property or facility.

(3) When any governmental body needs to acquire real property for its operations or any part thereof and state-owned property is not available, it shall notify the Office of General Services of its requirement on rental request forms prepared by the office. Such forms shall indicate the amount and location of space desired, the purpose for which it shall be used, the proposed date of occupancy and such other information as General Services may require. Upon receipt of any such request, General Services shall conduct an investigation of available rental space which would adequately meet the governmental body's requirements, including specific locations which may be suggested and preferred by the governmental body concerned. When suitable space has been located which the governmental body and the office agree meets necessary requirements and standards for state leasing as prescribed in procedures of the board as provided for in subsection (5) of this section, General Services shall give its written approval to the governmental body to enter into a lease agreement. All proposed lease renewals shall be submitted to General Services by the time specified by General Services.

(4) The board shall adopt procedures to be used for governmental bodies to apply for rental space, for acquiring leased space, and for leasing state-owned space to nonstate lessees.

(5) Any participant in a property transaction proposed to be entered who maintains that a procedure provided for in this section has not been properly followed, may request review of the transaction by the Director of the Office of General Services or his designee.

SECTION 1-11-56. Program to manage leasing; procedures.

The State Budget and Control Board, in an effort to ensure that funds authorized and appropriated for rent are used in the most efficient manner, is directed to develop a program to manage the leasing of all public and private space of state agencies. The board's regulations, upon General Assembly approval, shall include procedures for:

(1) assessing and evaluating agency needs, including the authority to require agency justification for any request to lease public or private space;

(2) establishing standards for the quality and quantity of space to be leased by a requesting agency;

(3) devising and requiring the use of a standard lease form (approved by the Attorney General) with provisions which assert and protect the state's prerogatives including, but not limited to, a right of cancellation in the event of:
   (a) a nonappropriation for the renting agency,
   (b) a dissolution of the agency, and
   (c) the availability of public space in substitution for private space being leased by the agency;

(4) rejecting an agency's request for additional space or space at a specific location, or both;

(5) directing agencies to be located in public space, when available, before private space can be leased;

(6) requiring the agency to submit a multi-year financial plan for review by the board's budget office with copies sent to Ways and Means Committee and Senate Finance Committee, before any new lease for space is entered into; and requiring prior review by the Joint Bond Review Committee and the requirement of Budget and Control Board approval before the adoption of any new lease that commits more than one million dollars in a five-year period; and

(7) requiring prior review by the Joint Bond Review Committee and the requirement of Budget and Control Board approval before the adoption of any new lease that commits more than one million dollars in a five-year period.
1. Submitted By:
   (a) Agency: State Budget Division
   (b) Authorized Official Signature: Carol Routh, Capital Budget Manager

2. Subject: University of South Carolina Research University Infrastructure Project

3. Summary Background Information:

   The South Carolina SmartState Review Board has certified the University of South Carolina for $13,333,334 in general obligation debt to be issued under the South Carolina Research University Infrastructure Act (RUIA) for Innovista Phase II. The Act requires the Review Board to certify to the Joint Bond Review Committee and the Budget and Control Board that at least 50% of the cost of each research infrastructure project is being provided by private, federal, municipal, county or other local government sources.

   The USC research infrastructure project consists of the following aspects that were certified by the Review Board:

   1) The RUIA projects consists of the upfit of 47,024 square feet on the ground and fourth floors of the Horizon Building to provide laboratory space, support areas and offices to house research for the two nuclear science SmartState Centers of Economic Excellence, as well as the Hydrogen Economy SmartState Center of Economic Excellence, the Renewable Fuel Cells SmartState Center of Economic Excellence, and the USC Aerospace Program, in the amount of $13.4 million of which $13,333,334 will be funded with general obligation debt to be issued.

   2) The total cost of the Research Infrastructure Project is approximately $26,840,386.

   3) The completed schedule and projected construction period during which the proceeds of the requested general obligation will be executed is from February 2012 to June 2014.

   4) The RUIA project, for which $13,333,334 in general obligation debt is requested to be issued, was approved by the SmartState Review Board on February 27, 2012.

   5) At least 50% of the cost of the USC RUIA Project is matched by private, federal, municipal, county or other local government sources. This match totaling $13,440,386 conforms to RUIA Cost Share Accounting Policy.

   6) The provisions of Code Section 11-51-70 have been met, the source and validity of the match have been verified, and the USC RUIA Project complies with the provisions of Title 11, Chapter 51 of the Code, subject to confirmation of financing to be provided by the State Treasurer’s Office.

   7) The Review Board has determined that the USC RUIA Project conforms to the purposes and goals of the Research University Infrastructure Act. The Review Board has approved the USC RUIA Project in accordance with the Act and the Board’s implementation guidelines.

   The Joint Bond Review Committee is asked to do the following: 1) approve the USC Innovista Phase II Research University Infrastructure Project and 2) approve an increase to USC’s permanent improvement project H27-6081, Horizon I Ground and Fourth Floors Upfit, of $13,295,000 from the general obligation debt to be issued.
4. What is JBRC asked to do?

Approve the USC Innovista Phase II Research University Infrastructure Project and approve an increase to USC's permanent improvement project H27-6081, Horizon I Ground and Fourth Floors Upfit, of $13,295,000 from the general obligation debt to be issued.

5. What is the recommendation of the State Budget Division?

Approve the USC Innovista Phase II Research University Infrastructure Project and approve an increase to USC's permanent improvement project H27-6081, Horizon I Ground and Fourth Floors Upfit, of $13,295,000 from the general obligation debt to be issued.

6. List of Supporting Documents:

1. SmartState Review Board Letter dated February 27, 2012
2. Certification and Statement of the SmartState Review Board
3. Match Summary Sheet with Match Exhibits
4. Pro Forma Schedules on Research University Infrastructure Bonds
5. Additional Annual Operating Costs
6. LEED Cost Benefit Analysis
February 27, 2012

RE: Certification of Research University Infrastructure Act (RUlA) Project for University of South Carolina: Innovista Phase II

Dear Senator Leatherman:

On behalf of the SmartState Review Board (Review Board), I am pleased to transmit to you certification of $13,333,333 in general obligation debt to be issued under the South Carolina Research University Infrastructure Act for the Innovista Phase II project on the University of South Carolina-Columbia campus.

The Act requires that the Review Board “certify to the state board that at least fifty percent of the cost of each research infrastructure project is being provided by private, federal, municipal, county, or other local government sources.” The Act further stipulates that “[t]his portion of the cost, in the discretion of the [Board], may be in the form of cash; cash equivalent; buildings including sale-lease back; gifts in kind including, but not limited to, land, roads, water, and sewer, and maintenance of infrastructure; facilities and administration costs; equipment; or furnishings.”

University of South Carolina submitted supporting information to Commission on Higher Education staff on February 12, 2012, and presented this information to the Review Board on February 27, 2012. With the stipulation that all of the universities use the services and talents of South Carolinians to the maximum extent possible in conducting such infrastructure projects, the Review Board voted to certify the request from University of South Carolina on February 27, 2012.

Please find enclosed a Certification that summarizes the information required from the Review Board pursuant to the South Carolina Research University Infrastructure Act. This information has also been presented to the Budget and Control Board (State Board). If the Joint Bond Review Committee or the State Board requires additional supporting information, the Review Board welcomes the opportunity to provide additional information supporting this certification.
The Review Board believes that this project represents an exciting opportunity for University of South Carolina and the State. Please do not hesitate to contact me should you have any questions or if I can provide any additional assistance in this matter.

Sincerely,

T. Michael Raley, Ph.D.
CHE Director of Academic Affairs & Licensing

cc: Ms. Carol Routh, S.C. Budget & Control Board
    Mr. George Dorn, Joint Bond Review Committee
    Mr. Rick Harmon, State Treasurer’s Office

Enclosure: USC Innovista Phase II Certification
CERTIFICATION AND STATEMENT
OF THE SMARTSTATE REVIEW BOARD

This Certification and Statement is made by the SmartState Review Board to the South Carolina Joint Bond Review Committee and the South Carolina State Budget & Control Board in accordance with Sections 11-51-70 and 11-51-80 of the Code of Laws of South Carolina (1976), as amended (the "Code"). This Certification and Statement concerns the proposed Research University Infrastructure Act (RUIA) Project, as defined in S.C. Code Section 11-51-30(4), to be developed on and near the University of South Carolina (USC) campus in Columbia, South Carolina.

The RUIA Project consists of the following original building components:

- **47,024 square footage up-fit of Ground and Fourth Floors of Horizon Building** (known formerly as Beta Research Facility), located at the corner of Assembly Street and Blossom Street on the USC Columbia campus. The entire facility is occupied by faculty drawn from the following USC colleges and departments: the College of Arts and Sciences’ Department of Chemistry and the College of Engineering and Computing’s Departments of Chemical Engineering and Mechanical Engineering. Significant programmatic space is dedicated to a number of SmartState Program research centers and SmartState Endowed Chairs. The impacted floors (Ground and Fourth Floors) will provide laboratory space, support areas and offices to house research for the two nuclear science SmartState Centers of Economic Excellence, as well as the Hydrogen Economy SmartState Center of Economic Excellence, the Renewable Fuel Cells SmartState Center of Economic Excellence, and the USC Aerospace Program. Cost: $13,400,000. [See Exhibits A, B & E.]

**Total Component Cost:** $13,400,000

The SmartState Review Board hereby certifies and states to the Joint Bond Review Committee and the Budget and Control Board the following:

(1) The total cost of the Research Infrastructure Project is approximately $26,840,386.

(2) The completed schedule (projected construction period) during which the proceeds of the requested general obligation will be executed is as follows:

   February 2012 to June 2014

(3) The USC RUIA Project, for which $13,333,334 in general obligation debt is requested to be issued, is described in the February 17, 2012, letter and project summary [Exhibit A] from USC. The USC RUIA Project was presented and approved by the SmartState Review Board on February 27, 2012.
(4) Pursuant to S.C. 11-51-70, at least 50 percent of the cost of the USC RUIA Project is matched by private, federal, municipal, county or other local government sources. This match, totaling $13,440,386, conforms to the S.C. Research University Infrastructure Act Cost Share Accounting Policy. [See Exhibit E for match details.]

(5) Therefore, the provisions of S.C. 11-51-70 of the Code have been met, the source and validity of the match have been verified, and the USC RUIA Project, as described in the Revised USC Proposal, complies with the provisions of Title 11, Chapter 51 of the Code, subject to confirmation of financing to be provided to the State Treasurer’s Office.

(6) The Board has determined that the USC RUIA Project conforms to the purposes and goals of the South Carolina Research University Infrastructure Act. The Board has approved the USC RUIA Project in accordance with the Act and the Board’s implementation guidelines.

This Certificate and Statement is made this 27th day of February, 2012, by the Board:

Regan Voit
Chair, SmartState Review Board
Research University Infrastructure Act

University of South Carolina Phase II Project Certification

Match Summary Sheet

I. Project Components:

1. Horizon Building Up-fit.......................................................... $13,400,000
   [Non-match funding source is $13,333,333 in RUIA bonds
   and $66,666 from grant indirect costs.]

II. Matching Components:

1. IBM Computer Software and Equipment Gift........................... $12,782,682^1
   [See Exhibits C-1 & C-2.]

2. Department of the Air Force Grant........................................... $657,704
   [See Exhibit D.]

   TOTAL MATCH......................................................................... $13,440,386

   TOTAL PROJECT COST............................................................ $26,840,386

Pursuant to S.C. 11-51-70, at least 50 percent of the cost of each RUIA Project must be matched
by private, federal, municipal, county, or other local government sources. Based on the total
project cost of $26,840,386, the match for the USC RUIA Project must be at least $13,420,193.

USC has obtained $20,193 in overmatch of non-state funds (as permitted by the Research
University Infrastructure Act Cost Share Accounting Policy, Item III).

---

^1 USC claimed as a non-state match $38 million of the Years I and II IBM gift ($50,782,682 total) in
its January 2012 Phase I RUIA Project Recertification. Here USC claims the remainder total of the
Year II IBM gift.
January 10, 2012

Ms. Michelle D. Dodenhoff
Vice President Development and Alumni Affairs
University of South Carolina
101 Osborne Administration Building
Columbia, SC 29208

Dear Ms. Dodenhoff:

It gives me great pleasure to offer the University of South Carolina software and a System z9 mainframe to help enhance the excellent mainframe curriculum currently offered by the College of Hospitality, Retail and Sports management. It is exciting that this software will also be used to support ITology, which IBM wholeheartedly supports. This software is for use by the University of South Carolina for both teaching and non-commercial research. It may not be used for any institutional administrative application.

The total values (Education Allowance of 15%) of the mainframe, software and subscription support services for Fiscal Years 2011 and 2012 are $32,201,101, and $18,581,581, respectively, for a combined two-year gift of $50,782,682.

The College Hospitality, Retail and Sports Management is free to use as many products from each of our software brands, Rational, Data Management, Tivoli, Lotus and WebSphere, as required by your curriculum. All faculty teaching or doing research requiring these technologies and students enrolled in appropriate classes are granted full access to all software listed on the Academic Initiative web site www.ibm.com/university/academicinitiative.

We are also committed to ITology's mission to develop a highly qualified information technology workforce in open standards and open source software offerings that will be well prepared to meet the needs of the technology industry today and in the future. IBM makes this hardware and software available to you for the foreseeable future through the academic Initiative for your use in instruction and non-commercial research. IBM recognizes your many contributions to the future leaders in Business and Industry and is proud to be associated with your continued success.

While IBM is pleased to support ITology and USC, we will not comment publically on the value of this software and hardware.

Best regards,

[Signature]

Andy Bernardin
Client Director
IBM
1441 Main Street - Suite 850
Columbia, SC 29201
<table>
<thead>
<tr>
<th>Total Value Over Five Years</th>
<th>COST</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>YEAR 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>z9 Machine Mainframe</td>
<td>$300,000</td>
<td>$300,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software (One Time Charge)</td>
<td>$13,319,520</td>
<td>$13,319,520</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Software Cost</td>
<td>$1,262,975</td>
<td>$1,635,700</td>
<td>$1,635,700</td>
<td>$1,635,700</td>
<td>$1,635,700</td>
<td>$1,635,700</td>
</tr>
<tr>
<td>Software Subscription Bundle and Support / Year</td>
<td>$2,225,881</td>
<td>$2,225,881</td>
<td>$2,225,881</td>
<td>$2,225,881</td>
<td>$2,225,881</td>
<td>$2,225,881</td>
</tr>
<tr>
<td>Hardware Maintenance and Support / Year</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$32,201,101</td>
<td>$18,581,581</td>
<td>$18,581,581</td>
<td>$18,581,581</td>
<td>$18,581,581</td>
</tr>
<tr>
<td>Five Year Total</td>
<td></td>
<td>$106,527,425</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of Software Previously Shown as Pledge</td>
<td>-$20,383,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$86,144,425</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This software can only be licensed on a monthly basis.
Air Force Office of Scientific Research
ATTN: Mary Moore - PKC
875 North Randolph Street
Suite 325, Room 3112
Arlington, Virginia 22203-1768

University of South Carolina
Office of Sponsored Research
Administration Bldg
Columbia, SC 29208-0001

Dear Ms Nicole Cavin

1. Two copies of the grant document FA9550-10-1-0246, DEF are forwarded for your retention. The extra copy of the document should be forwarded to the Principal Investigator.

2. Any questions may be directed to the PK Contracting Officer monitoring this grant. Our FAX number is (703) 696-9733.

Mary A. Moore
Policy and Support Division
Directorate of Contracts

Attachment
FA9550-10-1-0246, DEF
**Grant/Cooperative Agreement Award**

<table>
<thead>
<tr>
<th>1. AWARD NO.</th>
<th>FA9550-10-1-0246</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. EFFECTIVE DATE</td>
<td>01 JUN 2010</td>
</tr>
<tr>
<td>3. FUNDING AGENCY</td>
<td>AFOSR/FA9550</td>
</tr>
<tr>
<td>4. OFA NO</td>
<td>12,800</td>
</tr>
<tr>
<td>5. AWARD ID</td>
<td>FA9550</td>
</tr>
<tr>
<td>6. AWARD CODE</td>
<td>DE525</td>
</tr>
<tr>
<td>7. AUTHORITY</td>
<td>10 U.S.C. 2358</td>
</tr>
<tr>
<td>8. PERIOD OF PERFORMANCE</td>
<td>01-Jun-10 to 31-May-11</td>
</tr>
</tbody>
</table>

**Scope of Agreement Terms**


(continued on Page 2)

**Recipient Principal Investigator**

DR KENNETH REIFSNIDER

**Other Sponsor(Agency)S**

N/A

**Administrative Office**

OFC OF NAVAL RSCH (ONRRO) ATLANTA

**Paying Office**

DFAS LI (800) 758-4571 OPT2 OPT3
27 ARKANSAS RD LIMESTONE ME 04751-8216

**OAF**

ONR_ATLANTA@ONR.NAVY.MIL

**Allocated Funding**

The following lines with associated Accounting Distribution Statement symbols (ACRN) are stated in this agreement.

<table>
<thead>
<tr>
<th>ACRN</th>
<th>FUND CITATION(s)</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions:**

PAYMENT WILL BE MADE BY ELECTRONIC FUNDS TRANSFER.

**Paying Office Instructions:**

PAYMENT SCHEDULE (if applicable): $657,704 on or after 1 Jun 2010

**Options**

- Total Funds Obligated
- Government Share
- Recipient Share
- Total

**For the Recipient**

Joyce A. Burch

**For the United States of America**

Joyce A. Burch

Created 25 May 2010 3:35 PM

ConWri Version 6.12.0
ALLOCATED FUNDING

<table>
<thead>
<tr>
<th>ACRN</th>
<th>FUND CITATION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>57 03600 250 47B1 815094 6TROPE 56800 61103F 567100 F67100 PR/MIPR: F1ATA00118B011 JON: 50B4NAPM Descriptive Data: CSN: J0N105 FSR: 029667 PSR: 180870 DSR: 512513</td>
<td>$657,704.00</td>
</tr>
</tbody>
</table>

Block 9 - Scope/Agreement Terms (continued):
Awardee signature is not required on this agreement; however, the recipient agrees to the conditions specified in this award unless notice of disagreement is furnished to the awarding officer within 15 days after the signature date. In case of disagreement, the recipient shall not incur any costs until the disagreement is resolved.

Indirect Cost Limitation for Basic Research Awards:
This grant is funded with basic research appropriations, 6.1 funding and, as such, is subject to limits on F&A and indirect costs as included in the current Appropriation Act. This limit is applicable to awards made on or after 14 Nov 2007. Unless this grant is modified to reflect otherwise, funds obligated under this grant may not be used for payment of F&A or indirect costs in excess of 35% of the total amount of funds obligated on or after 14 Nov 2007.

"Total costs", "F&A costs" and "indirect costs", for purposes of this clause are defined in 2 CFR 220 (OMB Circular A-21) for Educational institutions.

Reporting Requirements:
The following reports shall be submitted and will become due on the dates as shown below.

<table>
<thead>
<tr>
<th>BASIC AWARD</th>
<th>TYPE OF REPORT</th>
<th>DUE DATE</th>
<th>SUBMIT TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Final Performance Report</td>
<td>31 AUG 2011</td>
<td>Pgm Mgr** &amp; <a href="mailto:technicalreports@afosr.af.mil">technicalreports@afosr.af.mil</a></td>
</tr>
<tr>
<td></td>
<td>Final Federal Financial Report (SF425), Including Line Item 11</td>
<td>31 AUG 2011</td>
<td>Grant Admin Office &amp; <a href="mailto:pkcontracting@afosr.af.mil">pkcontracting@afosr.af.mil</a></td>
</tr>
<tr>
<td></td>
<td>(SF425)</td>
<td>4 See below</td>
<td>Grant Admin Office</td>
</tr>
</tbody>
</table>

* For payments made by advances or a predetermined payment schedule, the recipient shall submit the Federal Financial Report (SF 425). The following reporting period and dates shall be used for reports, 31 Mar, 30 Jun, 30 Sep and 31 Dec each year the award is active. Report will be submitted 30 days after the end of each reporting period.

** See Block 15 on page 1 of the basic grant award for e-mail address of Program Manager. AFOSR prefers Performance Reports be submitted electronically, however, if the awardee does not have access to electronic means, send paper copies of Performance Reports to the appropriate Program Manager and office symbol listed in Block 15 of page 1 of the basic grant award at the following address 875 N. Randolph Street Room 3112, Arlington VA 22203-1954.

The formats for the Performance Reports may be viewed at http://www.wpafb.af.mil/shared/media/document/AFD-070913-096.pdf
### Award Budgeted Line Item Detail

#### Award Details
- **Account Number**: 15540-FQ02
- **Principal Investigator**: Dr. Kenneth L. Reifsnider
- **Award Title**: DoD FY 2010 Defense University Research Instrumentation Proposal (DURIP 10) - 3D Visualization of Material State Changes using X-ray Computed Tomography (XCT) for Prognosis of Heterogeneous

#### Budgeted Line Items

<table>
<thead>
<tr>
<th>Report Date</th>
<th>Report Type</th>
<th>USC Ind %</th>
<th>SCRF Ind %</th>
<th>Facilities Fund %</th>
<th>Total Ind %</th>
<th>Off-Campus IDC Rate?</th>
<th>Code</th>
<th>Class</th>
<th>USC Cost</th>
<th>Sponsor Cost</th>
<th>Total Cost</th>
<th>Indigible For %</th>
<th>Indirect Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/28/2010</td>
<td>New Funds</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>No</td>
<td>56000</td>
<td></td>
<td></td>
<td>$0</td>
<td>$657,704</td>
<td>$657,704</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Total Direct Costs**
- USC: $657,704
- Total: $657,704

**Indirect Costs**
- USC: $0
- Award Subtotal: $0
- SCRF: $0
- Facilities Fund: $0
- Total Award: $0

**Notes**
05/28/10KM: Per attached Award.
**RESEARCH & RELATED BUDGET - SECTION C, D, & E, BUDGET PERIOD 1**

* ORGANIZATIONAL DUNS: **1139245222**

* Budget Type: **Project**  
**Subaward/Consortium**

Enter name of Organization: **South Carolina Research Institute**

* Start Date: **06/15/2010**  
**End Date: 06/15/2011**  
**Budget Period 1**

C. Equipment Description

List items and dollar amount for each item exceeding $5,000

<table>
<thead>
<tr>
<th>Equipment Item</th>
<th>Funds Requested ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Micro XCT High-Resolution 3D X-ray Tomography Microscope System</td>
<td>667,764.00</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
</tr>
<tr>
<td>11. Total funds requested for all equipment listed in the attached file</td>
<td></td>
</tr>
</tbody>
</table>

Additional Equipment:  

D. Travel

1. Domestic Travel Costs (incl. Canada, Mexico and U.S. Possessions)  
2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

1. Tuition/Feef/Health Insurance  
2. Stipends  
3. Travel  
4. Subsistence  
5. Other

<table>
<thead>
<tr>
<th>Number of Participants/Trainees</th>
<th>Total Participant/Trainee Support Costs</th>
</tr>
</thead>
</table>

RESEARCH & RELATED Budget (C-E) (Funds Requested)
**Pro Forma Schedule Showing Principal and Interest Requirements On $13,335,000 State General Obligation Research University Infrastructure Bonds At an Average Annual Interest Rate of Two and One Hundredths Percent (2.01%)**

<table>
<thead>
<tr>
<th>Fiscal Year Ending</th>
<th>Principal</th>
<th>Interest</th>
<th>Debt Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2013</td>
<td>$ 790,000.00</td>
<td>$ 216,682.32</td>
<td>$ 1,006,682.32</td>
</tr>
<tr>
<td>June 30, 2014</td>
<td>825,000.00</td>
<td>213,630.30</td>
<td>1,038,630.30</td>
</tr>
<tr>
<td>June 30, 2015</td>
<td>830,000.00</td>
<td>209,323.80</td>
<td>1,039,323.80</td>
</tr>
<tr>
<td>June 30, 2016</td>
<td>835,000.00</td>
<td>203,865.16</td>
<td>1,038,865.16</td>
</tr>
<tr>
<td>June 30, 2017</td>
<td>840,000.00</td>
<td>197,240.84</td>
<td>1,037,240.84</td>
</tr>
<tr>
<td>June 30, 2018</td>
<td>850,000.00</td>
<td>189,437.24</td>
<td>1,039,437.24</td>
</tr>
<tr>
<td>June 30, 2019</td>
<td>860,000.00</td>
<td>179,283.98</td>
<td>1,038,283.98</td>
</tr>
<tr>
<td>June 30, 2020</td>
<td>875,000.00</td>
<td>166,727.98</td>
<td>1,041,727.98</td>
</tr>
<tr>
<td>June 30, 2021</td>
<td>885,000.00</td>
<td>152,062.98</td>
<td>1,037,062.98</td>
</tr>
<tr>
<td>June 30, 2022</td>
<td>905,000.00</td>
<td>135,318.78</td>
<td>1,040,318.78</td>
</tr>
<tr>
<td>June 30, 2023</td>
<td>925,000.00</td>
<td>116,241.38</td>
<td>1,041,241.38</td>
</tr>
<tr>
<td>June 30, 2024</td>
<td>945,000.00</td>
<td>95,850.68</td>
<td>1,040,850.68</td>
</tr>
<tr>
<td>June 30, 2025</td>
<td>965,000.00</td>
<td>74,108.12</td>
<td>1,039,108.12</td>
</tr>
<tr>
<td>June 30, 2026</td>
<td>990,000.00</td>
<td>50,975.14</td>
<td>1,040,975.14</td>
</tr>
<tr>
<td>June 30, 2027</td>
<td>1,015,000.00</td>
<td>26,288.50</td>
<td>1,041,288.50</td>
</tr>
</tbody>
</table>

**Total**
- **$13,335,000.00**
- **$2,227,037.20**
- **$15,562,037.20**
SCHEDULE SHOWING PRINCIPAL AND INTEREST REQUIREMENTS FOR ALL SERIES OF
STATE GENERAL OBLIGATION RESEARCH UNIVERSITY INFRASTRUCTURE BONDS
ISSUED PURSUANT TO THE PROVISIONS OF TITLE 11, CHAPTER 51,
CODE OF LAWS OF SOUTH CAROLINA 1976, AS AMENDED

<table>
<thead>
<tr>
<th>Fiscal Year Ending</th>
<th>Principal</th>
<th>Interest</th>
<th>Debt Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2012</td>
<td>$13,860,000</td>
<td>$6,959,925</td>
<td>$20,819,925</td>
</tr>
<tr>
<td>June 30, 2013</td>
<td>14,305,000</td>
<td>6,318,818.75</td>
<td>20,623,818.75</td>
</tr>
<tr>
<td>June 30, 2014</td>
<td>14,790,000</td>
<td>5,662,093.75</td>
<td>20,452,093.75</td>
</tr>
<tr>
<td>June 30, 2015</td>
<td>15,335,000</td>
<td>4,965,862.50</td>
<td>20,300,862.50</td>
</tr>
<tr>
<td>June 30, 2016</td>
<td>15,935,000</td>
<td>4,227,356.25</td>
<td>20,162,356.25</td>
</tr>
<tr>
<td>June 30, 2017</td>
<td>15,485,000</td>
<td>3,489,212.50</td>
<td>18,974,212.50</td>
</tr>
<tr>
<td>June 30, 2018</td>
<td>16,105,000</td>
<td>2,788,375.00</td>
<td>18,893,375.00</td>
</tr>
<tr>
<td>June 30, 2019</td>
<td>16,785,000</td>
<td>2,130,000.00</td>
<td>18,915,000.00</td>
</tr>
<tr>
<td>June 30, 2020</td>
<td>17,520,000</td>
<td>1,490,000.00</td>
<td>19,010,000.00</td>
</tr>
<tr>
<td>June 30, 2021</td>
<td>16,010,000</td>
<td>891,950.00</td>
<td>16,901,950.00</td>
</tr>
<tr>
<td>June 30, 2022</td>
<td>3,875,000</td>
<td>537,000.00</td>
<td>4,412,000.00</td>
</tr>
<tr>
<td>June 30, 2023</td>
<td>4,025,000</td>
<td>379,000.00</td>
<td>4,404,000.00</td>
</tr>
<tr>
<td>June 30, 2024</td>
<td>4,185,000</td>
<td>214,800.00</td>
<td>4,399,800.00</td>
</tr>
<tr>
<td>June 30, 2025</td>
<td>4,370,000</td>
<td>65,550.00</td>
<td>4,435,550.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$172,585,000.00</strong></td>
<td><strong>$40,119,943.75</strong></td>
<td><strong>$212,704,943.75</strong></td>
</tr>
</tbody>
</table>
**Schedule Showing Principal and Interest Requirements For All Series Of State General Obligation Bonds Issued Pursuant to the Provisions of Title 11, Chapter 51, Code of Laws of South Carolina 1976, as Amended, Including the Proposed Not Exceeding $13,335,000 Principal Amount State General Obligation Research University Infrastructure Bonds At An Average Annual Interest Rate of Two And One Hundredths Percent (2.01%)**

<table>
<thead>
<tr>
<th>Fiscal Year Ending</th>
<th>Principal</th>
<th>Interest</th>
<th>Debt Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2012</td>
<td>$13,860,000.00</td>
<td>$6,959,925.00</td>
<td>$20,819,925.00</td>
</tr>
<tr>
<td>June 30, 2013</td>
<td>15,095,000.00</td>
<td>6,536,467.99</td>
<td>21,631,467.99</td>
</tr>
<tr>
<td>June 30, 2014</td>
<td>15,620,000.00</td>
<td>5,876,690.95</td>
<td>21,496,690.95</td>
</tr>
<tr>
<td>June 30, 2015</td>
<td>16,170,000.00</td>
<td>5,176,127.10</td>
<td>21,346,127.10</td>
</tr>
<tr>
<td>June 30, 2016</td>
<td>16,775,000.00</td>
<td>4,432,129.33</td>
<td>21,207,129.33</td>
</tr>
<tr>
<td>June 30, 2017</td>
<td>16,330,000.00</td>
<td>3,687,321.58</td>
<td>20,017,321.58</td>
</tr>
<tr>
<td>June 30, 2018</td>
<td>16,960,000.00</td>
<td>2,978,634.04</td>
<td>19,938,634.04</td>
</tr>
<tr>
<td>June 30, 2019</td>
<td>17,650,000.00</td>
<td>2,310,046.06</td>
<td>19,960,046.06</td>
</tr>
<tr>
<td>June 30, 2020</td>
<td>18,355,000.00</td>
<td>1,657,417.06</td>
<td>20,052,417.06</td>
</tr>
<tr>
<td>June 30, 2021</td>
<td>16,900,000.00</td>
<td>1,044,702.06</td>
<td>17,944,702.06</td>
</tr>
<tr>
<td>June 30, 2022</td>
<td>4,785,000.00</td>
<td>672,913.26</td>
<td>5,457,913.26</td>
</tr>
<tr>
<td>June 30, 2023</td>
<td>4,955,000.00</td>
<td>495,730.46</td>
<td>5,445,730.46</td>
</tr>
<tr>
<td>June 30, 2024</td>
<td>5,135,000.00</td>
<td>311,139.76</td>
<td>5,446,139.76</td>
</tr>
<tr>
<td>June 30, 2025</td>
<td>5,340,000.00</td>
<td>140,032.16</td>
<td>5,480,032.16</td>
</tr>
<tr>
<td>June 30, 2026</td>
<td>995,000.00</td>
<td>51,229.32</td>
<td>1,046,229.32</td>
</tr>
<tr>
<td>June 30, 2027</td>
<td>1,020,000.00</td>
<td>26,418.00</td>
<td>1,046,418.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$185,980,000.00</td>
<td>$42,356,924.13</td>
<td>$228,336,924.13</td>
</tr>
</tbody>
</table>
ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS
RESULTING FROM PERMANENT IMPROVEMENT PROJECT

1. AGENCY
   Code H27 Name USC Columbia

2. PROJECT
   Project # 6081 Name Horizon I Ground and Fourth Floors Upfit

3. ADDITIONAL ANNUAL OPERATING COSTS/SAVINGS. (Check whether reporting costs or savings.)
   ☑ COSTS ☐ SAVINGS ☐ NO CHANGE

4. TOTAL ADDITIONAL OPERATING COSTS/SAVINGS
   Projected Financing Sources

<table>
<thead>
<tr>
<th>(1) Fiscal Year</th>
<th>(2) General Funds</th>
<th>(3) Federal</th>
<th>(4) Other</th>
<th>(5) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 2013/14</td>
<td>$190,309.50</td>
<td>$</td>
<td>$</td>
<td>$190,309.50</td>
</tr>
<tr>
<td>(partial year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) 2014/15</td>
<td>$380,619.00</td>
<td>$</td>
<td>$</td>
<td>$380,619.00</td>
</tr>
<tr>
<td>3) 2015/16</td>
<td>$380,619.00</td>
<td>$</td>
<td>$</td>
<td>$380,619.00</td>
</tr>
</tbody>
</table>

5. If "Other" sources are reported in Column 4 above, itemize and specify what the other sources are (revenues, fees, etc.).

6. Will the additional costs be absorbed into your existing budget? ☑ YES ☐ NO
   If no, how will additional funds be provided?

7. Itemize below the cost factors that contribute to the total costs or savings reported above in Column 5 for the first fiscal year.

<table>
<thead>
<tr>
<th>COST FACTORS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Custodial</td>
<td>43,307.00</td>
</tr>
<tr>
<td>2. Maintenance</td>
<td>43,307.00</td>
</tr>
<tr>
<td>3. Waste Management</td>
<td>1,202.50</td>
</tr>
<tr>
<td>4. Utilities</td>
<td>102,493.00</td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>190,309.50</td>
</tr>
</tbody>
</table>

8. If personal services costs or savings are reported in 7 above, please indicate the number of additional positions required or positions saved. 3

9. Submitted By: [Signature] Associate VP, Facilities [Signature of Authorized Official and Title] 2/14/12 Date

ADDITIONAL TO FORM 3-8.49-0.69

REVISED 11/2007
Cost Benefit Analysis
University of South Carolina- Horizon Ground and Fourth Floors

In accordance with the Energy Independence and Sustainable Energy Construction Act of 2007, the construction of the Horizon Ground and Fourth Floor will meet, at a minimum, Silver Level LEED CI Criteria. All costs are estimated as energy modeling was not a part of the Phase I Scope for this project. Below is a preliminary Cost Benefit Analysis as a produced at the conclusion of the Phase I Design Process. Baseline energy costs are provided below.

### Estimated Cost Associated with LEED Silver Level Certification and Improved Energy Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic and Enhanced Commissioning Fees</td>
<td>$40,000</td>
</tr>
<tr>
<td>Energy Modeling and LEED Management Fees</td>
<td>$10,000</td>
</tr>
<tr>
<td>LEED Administration</td>
<td>$12,000</td>
</tr>
<tr>
<td>Additional Design cost and LEED administration support</td>
<td>$25,000</td>
</tr>
<tr>
<td>Measurement and Verification</td>
<td>$10,000</td>
</tr>
<tr>
<td>Renewable Energy Credit Purchase</td>
<td>$4,000</td>
</tr>
<tr>
<td>Misc increase of construction costs for items such as HVAC controls, energy star appliances, certified wood and rapidly renewable materials and general contractor overhead</td>
<td>$25,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$126,000</td>
</tr>
</tbody>
</table>

### Estimated Annual Operating Costs of Horizon Ground and Fourth Floors

<table>
<thead>
<tr>
<th>Year</th>
<th>square footage</th>
<th>cost per sq. ft.</th>
<th>annual cost</th>
<th>30 year cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>47,024</td>
<td>$ 1.72</td>
<td>$ 80,881</td>
<td>$ 2,426,438</td>
</tr>
<tr>
<td>Water</td>
<td>47,024</td>
<td>$ 0.19</td>
<td>$ 8,935</td>
<td>$ 268,037</td>
</tr>
<tr>
<td>Maintenance</td>
<td>47,024</td>
<td>$ 1.50</td>
<td>$ 70,536</td>
<td>$ 2,116,090</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$160,352</td>
<td></td>
<td>$ 4,810,555</td>
<td></td>
</tr>
</tbody>
</table>

### Estimated Annual Operating Costs of Horizon Ground and Fourth Floors

<table>
<thead>
<tr>
<th>Year</th>
<th>square footage</th>
<th>cost per sq. ft.</th>
<th>annual cost</th>
<th>30 year cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power (goal 20% reduction)</td>
<td>47,024</td>
<td>$ 1.38</td>
<td>$ 64,893</td>
<td>$ 1,946,794</td>
</tr>
<tr>
<td>Water (goal 35% reduction)</td>
<td>47,024</td>
<td>$ 0.12</td>
<td>$ 5,843</td>
<td>$ 169,285</td>
</tr>
<tr>
<td>Maintenance (assumed 10% reduction)</td>
<td>47,024</td>
<td>$ 1.35</td>
<td>$ 63,482</td>
<td>$ 1,904,472</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$134,016</td>
<td></td>
<td>$ 4,020,592</td>
<td></td>
</tr>
</tbody>
</table>

SAVING OVER 30 YEAR LIFE CYCLE: $28,333 $790,003
Item 1. Agency: H12  Clemson University  Project: 9901, Memorial Stadium West End Zone Component III Construction

Action Proposed: Establish Project for A&E Design

Total budget $225,000.00
[9] Other, Private $225,000.00

Purpose: To begin design work to construct the third and final phase of updates to the west end zone of Clemson’s Memorial Stadium. The final phase will include the addition of the One Clemson Museum and a build out of the entrance to the WestZone Complex, known as the Oculus. The two components will total approximately 6,000 square feet and consist of the construction of a four-level structure and the expansion of the adjacent existing plaza. The One Clemson Museum will include a lobby, interactive exhibits and displays, a rooftop terrace for special events, a theater for seating 75-100, and gallery space to showcase the university’s athletic, academic and military heritage in one location. The facility addition will complete the overall buildout of the WestZone Complex and the overall vision for improvements to the football facility.

Ref: Supporting document pages 1-6

Item 2. Agency: H12  Clemson University  Project: 9902, Kingsmore Stadium Addition

Action Proposed: Establish Project for A&E Design

Total budget $161,250.00
[9] Other, Private $161,250.00

Purpose: To construct an approximately 20,000 square foot addition to Doug Kingsmore Baseball Stadium at Clemson. The work will include demolishing existing player facilities and constructing new player amenities behind the first base stands. The new facility will include locker rooms, team areas, meeting space, a gallery and lobby, a player’s lounge, coaches’ offices, a laundry room and related spaces. The existing baseball player facility is small and outdated. The new facility is needed to provide modern player facilities that are comparable to those in the ACC and at other institutions with whom Clemson must compete. The facility will allow Clemson to meet today’s needs to be competitive and will also serve in future recruitment.

Ref: Supporting document pages 7-12
Item 3. Agency: H12  Clemson University  

Project: 9903, Watt Innovation Center Construction

Action Proposed: Establish Project for A&E Design

Total budget .......................................................... $243,000.00
[9] Other, Private ......................................................... $243,000.00

Purpose: To begin design work to construct a cutting-edge teaching and research facility at Clemson. The Watt Innovation Center will be approximately 40,000 square feet and will include classrooms, labs, learning studios and collaboration areas for science, technology and engineering that yield collaboration, cross discipline communication, teaching and research that lead to innovation. It will provide additional academic space for the College of Engineering and Science and the College of Business and Behavioral Sciences. The facility is needed to meet key goals outlined in the University’s 2020 Road Map relating to student leadership, teaching and research and to diminish the current deficit of instructional space.

Ref: Supporting document pages 13-17

Item 4. Agency: H15  College of Charleston  

Project: 9650, Simons Center for the Arts Renovation/Expansion

Action Proposed: Establish Project for A&E Design

Total budget .......................................................... $315,000.00
[9] Other, College Fees ................................................. $315,000.00

Purpose: To begin design work to renovate and expand the Simons Center for the Arts at the College of Charleston. The work will include renovating the existing 102,325 square foot center and constructing an approximately 25,096 square foot addition. The new construction will provide a state-of-the-art black box theater and lobby areas to connect performance venues within the facility. The renovation will include expanding storage and studio space for the costume shop, renovating the Emmett Robinson Theater and support spaces for performance areas, upgrading studios, labs, and offices, and replacing the mechanical, electrical and plumbing systems. The facility was constructed in 1979 and has had no major renovations since that time. The renovation and expansion are needed to provide updated infrastructure, meet current codes, and provide space for current and future needs.

Ref: Supporting document pages 18-23
Item 5.  Agency: H27 University of South Carolina  
Project: 6096, Outdoor Football Practice Fields Construction

Action Proposed: Establish Project for A&E Design

Purpose: To begin design work to develop two outdoor football practice fields for USC. The fields will be located on the former Farmer’s Market site and the work will include grading and irrigating the site, constructing drainage, and installing turf, lighting, film towers, and goal posts. Existing practice fields are located on leased property and the university has decided to develop permanent fields on its own property rather than to invest in improvements to leased property.

Ref: Supporting document pages 24-28

Item 6.  Agency: J12 Department of Mental Health  
Project: 9724, Bryan/Morris Village Energy Plant Chiller Replacements

Action Proposed: Establish Project for A&E Design

Purpose: To begin design work to replace the two chillers at the energy plant serving Mental Health’s Bryan Hospital and Morris Village. The work will include replacing a 1,100 ton chiller, a 700 ton chiller and the associated pumps, piping and controls. The large chiller is more than 37 years old, the smaller chiller is 24 years old, and both have exceeded their life expectancy. The smaller chiller cannot meet the cooling demand in the summer months and a recent inspection of the large chiller found problems with the rotor. Replacements are needed to ensure Bryan Hospital and Morris Village have adequate cooling.

Ref: Supporting document pages 29-33
Item 7.  Agency: P24  Department of Natural Resources  Project:  9928,  Lexington - Styx Office Building Renovation and Expansion

Action Proposed: Establish Project for A&E Design

Total budget $19,500.00

Other, Boat Titling Fees $19,500.00

Purpose: To begin design work to construct an addition and renovate a portion of DNR’s Styx Office Building in Lexington County. The work will include constructing an approximately 5,000 square foot addition with an 80-seat classroom, offices, storage and common areas, replacing the existing roof, and reconfiguring approximately 1,000 square feet of existing space to provide additional offices. The work is needed to provide classroom space for hunter and boater education classes and offices for the Law Enforcement Education and Region 3 staff. Existing facilities are too small for the sizes of many classes, forcing the use of alternate facilities which are not close to shooting ranges needed for hunter education classes and do not have sufficient space for parking boats needed for boater education classes. Additional offices will also alleviate overcrowding in the agency’s Dennis Building offices.

Ref: Supporting document pages 34-41

Item 8.  Agency: D17  Governor’s Office - OEPP  Project:  9522,  M.J. Dolly Cooper Veterans Cemetery Areas I and J Expansion

Action Proposed: Increase for A&E Design from $30,000.00 to $250,524.40

(Add $220,524.40 [9] Other, Increased Enforcement Collections)

Purpose: To provide funds for full design for the expansion of the Dolly Cooper Veterans Cemetery in Anderson. The project was established in May 2011, increased for additional pre-design fees in January 2012 and pre-design is complete. In order for the Department of Veterans Affairs to apply for a federal grant to expand the cemetery, the agency must provide proof that the State has legislative authority to support the project and the resources necessary to initially fund the architectural and engineering portion of the project. This request is to demonstrate that those conditions are being met so that the department can apply for the federal funds for construction. The work will include constructing approximately 1,675 double-depth in-ground crypts in Areas I and J, providing up to 3,350 additional burial spaces, constructing an in-ground irrigation system for Areas H, I and J, and modifying storm drainage flows at columbarium walls in four areas. The existing supply of in-ground crypts will be exhausted during 2012.

Ref: Supporting document pages 42-46
Item 9. Agency: H12 Clemson University  Project: 9890, Barnett Hall HVAC and Windows Renovation

Action Proposed: Establish Construction Budget for $4,000,000.00

(Add $3,985,000.00 [9] Other, Housing Improvement Funds)

Purpose: To make certain renovations to Barnett Hall dormitory at Clemson. The project was established in June 2010 for pre-design work which is now complete. The renovation will include replacing the two-pipe HVAC system with a four-pipe system, replacing single pane windows with thermal pane windows, abating asbestos as needed to renovate the HVAC system, and replacing existing built-in furniture. Barnett Hall was built in 1964 and has not had an HVAC or window renovation since. The two-pipe HVAC system is inadequate to maintain necessary temperature and humidity levels for occupants and the windows are not energy efficient. Energy savings and conservation measures will include the installation of an energy efficient HVAC system and thermal, insulated pane windows. The agency reports the total projected cost of this project is $4 million and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is January 2013 and for completion of construction is August 2013.

Ref: Supporting document pages 47-51

Item 10. Agency: H15 College of Charleston  Project: 9640, School of Science and Mathematics Completion

Action Proposed: Establish Construction Budget for $11,000,000.00

(Add $10,820,000.00 [9] Other, Institutional Capital Project Funds)

Purpose: To complete unfinished shell space remaining in the School of Science and Math at the College of Charleston. The project was established in December 2009 for pre-design work which is now complete. The 70,100 square foot building was completed in 2009 with approximately 19,000 square feet of shell space remaining. The completion will include upfitting and completing 11 offices on the first floor and upfitting and completing classrooms, labs, offices and support spaces on the second floor to accommodate geology functions currently located in the Rita Hollings Science Center. The work will include extending piping, installing ceilings, walls and floors, and constructing laboratory casework. Energy savings and conservation measures will include the installation of energy recovery wheels, low flow plumbing fixtures, low velocity fume hoods, and chilled beam technology. The agency reports the total projected cost of this project is $11 million and additional annual operating costs of $64,500 will result in the three years following project completion. The agency also reports the projected date for execution of the construction contract is October 2012 and for completion of construction is December 2013.

Ref: Supporting document pages 52-58
Item 11.  Agency: H27  University of South Carolina  Project: 6085, Women’s Quadrangle Renovations

<table>
<thead>
<tr>
<th>Action Proposed</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Construction Budget for $27,200,000.00</td>
<td>Revenue Bonds 27,200,000.00</td>
</tr>
<tr>
<td>(Add $26,792,000.00 Revenue Bonds)</td>
<td></td>
</tr>
</tbody>
</table>

Purpose: To renovate dorms on the Women’s Quadrangle at USC to create a living and learning center. The project was established in March 2011 for pre-design work which is now complete. The renovations to the Sims, McClintock, and Wade Hampton dorms will include reconfiguring interior spaces, constructing small connecting additions to improve the flow and add 50 additional beds, creating common gathering areas and laundry facilities, installing new elevators, replacing the mechanical, electrical, plumbing and fire protection systems, and renovating the central courtyard into more functional space. The renovations are the next major upgrade priority for University Housing and are needed to keep the facilities in desirable condition and to replace building systems due to their age and condition. The facility will be renovated to LEED Silver Certification and will include sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality measures. The LEED cost benefit analysis shows a positive cost benefit of $1,088,912 over 30 years. The agency reports the total projected cost of this project is $27.2 million and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is March 2013 and for completion of construction is July 2014.

Ref: Supporting document pages 59-66
Item 12. Agency: H34 USC - Upstate  
Project: 9541, Administration Building Repairs and Renovation

Action Proposed: Establish Construction Budget for $4,000,000.00

(Add $3,800,000.00 [2] Institution Bonds)
(Add $140,000.00 [9] Other, Institutional Capital Project Funds)

Purpose: To renovate building systems in the Administration Building at USC - Upstate. The project was established in March 2011 for pre-design work which is now complete. The work will include replacing the HVAC, plumbing, lighting and fire alarm systems, replacing ceilings and attic insulation, and upgrading interior finishes in public restrooms. The work is needed to correct major deficiencies with the building systems in the 44 year-old building and to meet code requirements. Portable cooling and supplemental mechanical units have been installed to enable building operations. The electrical systems are undersized, plumbing systems are outdated, and the fire alarm system does not meet code requirements. The work will significantly reduce the deferred maintenance in this building. Energy savings and conservation measures will include the installation of energy efficient HVAC and lighting, sprayed foam insulation, a building control system, light occupancy sensors, and low flow plumbing fixtures. The agency reports the total projected cost of this project is $4 million and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is February 2013 and for completion of construction is December 2013.

Ref: Supporting document pages 67-72
Item 13. Agency: H67   Educational Television Commission  

Project: 9514, Telecommunications Center Renovation  

Action Proposed: Establish Construction Budget for $6,919,987.27  

(Add $5,275,000.00 [9] Other, Sale Proceeds)  

Purpose: To renovate the Telecommunications Center for ETV. The project was established in November 2000 for multi-phase renovations to the center to consolidate all Columbia staff in this building and pre-design for this phase is now complete. This phase will include renovating 21,294 square feet of unfinished and finished space, doing some HVAC, electrical and structural work, replacing the facility’s roof, and constructing a 6,430 square foot addition. The renovation and addition will provide new office and storage space for staff and assets currently housed in the Administration Building, which is being sold to USC. Energy savings and conservation measures will include the installation of energy efficient lighting and heat pumps, occupancy sensors, multi-level switching, and concrete block walls and an exterior insulation finish system on the addition. The agency reports the total projected cost of this renovation is $5,275,000 and of the multi-phase project is $6,919,987 and annual operating cost savings ranging from $100,000 to $200,000 will result in the three years following project completion. The agency also reports the projected date for execution of the construction contract is November 2012 and for completion of construction is December 2013.  

Ref: Supporting document pages 73-80  

Item 14. Agency: N04   Department of Corrections  

Project: 9702, Kirkland Correctional Institution Chiller Replacement  

Action Proposed: Establish Construction Budget for $1,030,000.00  

(Add $1,017,500.00 [0] Capital Improvement Bonds)  

Purpose: To replace the chiller system at Kirkland Correctional Institution. The project was established in November 2011 for pre-design work which is now complete. The work will include replacing the chiller, cooling tower, pumps and piping serving the Administration Building, kitchen, infirmary, reception and evaluation building, education building and special needs dorm. The HVAC system is 21 years old, is not energy efficient, and does not provide the capacity for the infirmary to meet DHEC requirements. Parts for repairs are obsolete, so repairs are expensive. Energy savings and conservation measures will include the installation of an energy efficient chiller and building control systems. The agency reports the total projected cost of this project is $1,030,000 and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is January 2013 and for completion of construction is October 2013.  

Ref: Supporting document pages 81-86
Item 15. Agency: P20   Clemson PSA  Project: 9545, Farm Animal Research Center Construction/Renovation

Action Proposed: Establish Construction Budget for $3,600,000.00

(Add $2,680,000.00  [6]  Appropriated State)

Purpose: To do the next phase of renovations at the Clemson Farm Animal Research Center. The project was established in December 2009 for pre-design work and increased in December 2010 to begin renovations to small animal facilities. This phase will include renovating the milking parlor, the calving barn corral sheds, and the Douthit House and constructing a new dairy freestall barn and Jones Road corral. It will also include installing a new irrigation system, improving the waterer system, replacing fencing, and repairing the existing dairy. The existing animal facilities are more than 30 years old and require costly maintenance to ensure continued accreditation by the American Association of Laboratory Animal Care and continued compliance with state and federal biosecurity regulations and DHEC waste management regulations. Energy savings and conservation measures will include the installation of energy efficient equipment and renovations to minimize energy use during operations. The agency reports the total projected cost of this project is $3,600,000 and additional annual operating costs ranging from $20,800 to $22,067 will result in the three years following project completion. The agency also reports the projected date for execution of the construction contract is January 2013 and for completion of construction is January 2016.

Ref: Supporting document page 87-95

---

Item 16. Agency: P28   Department of Parks, Recreation and Tourism  Project: 9722, Hamilton Branch State Park Roads and Parking Improvements

Action Proposed: Establish Construction Budget for $2,537,500.00

(Add $2,500,000.00  [7]  Federal)

Purpose: To make road and parking improvements at PRT’s Hamilton Branch State Park in McCormick County. The project was established in March 2012 for pre-design work which is now complete. The work will include repairing and resurfacing 9.8 miles of roadways and parking areas and paving campsites. The roads are 40 years old and have had only minimal repairs. They have potholes and vehicles must maneuver outside their lanes of traffic to avoid bad areas which presents a safety hazard to pedestrians and bicyclists. Most parking areas and campsites are not currently paved. Energy savings and conservation measures will include milling up and reusing base material augmented with concrete and stone, resulting in savings on hauling and mining base material. The agency reports the total projected cost of this project is $2,537,500 and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is October 2012 and for completion of construction is July 2013.

Ref: Supporting document pages 96-100
Item 17. Agency: U12  Department of Transportation  Project: 9720, Greenville District 3 Office Building Elevator Upgrade

Action Proposed: Establish Construction Budget for $301,000.00

(Add $295,600.00 Other, State Highway Fund)

Purpose: To upgrade the elevators in DOT’s District 3 Office Building in Greenville. The project was established in August 2011 for pre-design work which is now complete. The work will include replacing the elevator controls, installing new drive units, door operators and light fixtures, and modifying the hoistway and machine room. The elevator equipment is 51 years old, original to the building, and does not meet current codes. Repair parts are becoming increasingly difficult to find to keep the elevators operational. Energy savings and conservation measures will include the installation of LED cab lighting fixtures and energy-saving electrical equipment. The agency reports the total projected cost of this project is $301,000 and no additional annual operating costs will result from the project. The agency also reports the projected date for execution of the construction contract is September 2012 and for completion of construction is June 2013.

Ref: Supporting document pages 101-106


Action Proposed: Increase Budget from $3,752,000.00 to $4,452,000.00

(Add $700,000.00 Other, Institutional Capital Project Funds)

Purpose: To provide sufficient funds to complete Highway 93 pedestrian safety improvements at Clemson. The project was established for pre-design in December 2010 and increased to establish the construction budget in December 2011. Construction bids were received in March 2012 and exceeded the approved budget. Additional funds are needed to include pedestrian connections to adjacent areas, to provide for increased costs to meet federal wage and other requirements, and to provide a contingency to rebid the project. The improvements, which include constructing retaining walls, landings, walkways, and a pedestrian bridge, are needed because of the dangers present for pedestrians walking along Highway 93 due to narrow sidewalks and vehicular lanes. Energy savings and conservation measures will include the installation of energy efficient site lighting. The agency reports the total projected cost of this project is $4,452,000 and additional annual operating costs of $20,000 will result in the three years following project completion. The agency also reports the projected date for execution of the construction contract is December 2012 and for completion of construction is August 2013.

Ref: Supporting document pages 107-112
Item 19.  Agency: H27  University of South Carolina  
Project: 6097, Williams Street Acquisition

Action Proposed: Establish Project for Preliminary Studies

Total budget $25,000.00
[8] Athletic Operating $25,000.00

Purpose: To procure the investigative studies required to adequately evaluate property prior to purchase. USC is considering the purchase of approximately one acre of land adjacent to Carolina Stadium. The property is located between the baseball stadium parking lot and Catawba Street. This acquisition will consolidate ownership of property in the block where Carolina Stadium is located, providing control for future development.

Ref: Supporting document pages 113-117

Project: 6054, Central Carolina - Broad Street Land/Building Acquisition

Action Proposed: Establish Project for Preliminary Studies

Total budget $25,000.00
[9] Other, College Capital Project Fund $25,000.00

Purpose: To procure the investigative studies required to adequately evaluate property prior to purchase. Central Carolina Tech is considering the purchase of 8.67 acres of land with a 103,686 square foot facility and 415 parking spaces on Broad Street in Sumter. The property will be used to provide training related to Continental Tire and to accommodate existing and additional industrial training programs for current and future industries. The college’s existing industrial training facility is at capacity with no room to expand.

Ref: Supporting document pages 118-123