UNIVERSITY OF VIRGINIA
BOARD OF VISITORS
MEETING OF THE
BUILDINGS AND GROUNDS COMMITTEE
SEPTEMBER 11, 2014
BUILDINGS AND GROUNDS COMMITTEE
Thursday September 11, 2014
1:45 - 3:00 p.m.
Auditorium of the Albert & Shirley Small
Special Collections Library, Harrison Institute

Committee Members
Kevin J. Fay, Co-Chair
Barbara J. Fried, Co-Chair
Frank M. Conner III
William H. Goodwin Jr.

John G. Macfarlane III
Edward D. Miller, M.D.
George Keith Martin, Ex-officio
Iñaki N. Alday, Faculty
Consulting Member

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   C. 2013-14 University Building Official Annual Report
I. EASEMENT ACQUISITION, RUGBY ROAD OFFICE BUILDING:

In September 2013, the Board of Visitors approved a project to repurpose the Rugby Road Faculty Apartment Building from apartments to office space. Construction work began in mid-December of 2013.

The building was originally constructed in 1922, and the sanitary sewer lateral that serves the facility is composed of terracotta pipe and should be upgraded to P.V.C. pipe. The lateral drains to a City of Charlottesville manhole located on adjacent property owned by Theta Delta Chi Renovation Associates located at 1811 Lambeth Lane. There is no easement or license agreement providing the University with rights to construct and maintain permanent sewer facilities across Theta Delta Chi’s property to access the manhole. An alternative solution is a second manhole which is farther away and located on property owned by the City of Charlottesville. The action item will allow the administration to pursue the option that will ensure long-term access to the manhole and be in the best interest of the University.

ACTION REQUIRED: Approval by the Buildings and Grounds Committee and by the Board of Visitors

ACQUISITION OF AN EASEMENT FROM THETA DELTA CHI RENOVATION ASSOCIATES OR THE CITY OF CHARLOTTESVILLE

WHEREAS, there is a need to upgrade the sanitary sewer lateral serving the Rugby Road Office Building; and

WHEREAS, the lateral drains to a City of Charlottesville manhole on property owned by Theta Delta Chi Renovation Associates located at 1811 Lambeth Lane; and

WHEREAS, a second manhole located on property owned by the City of Charlottesville is an alternate solution; and

WHEREAS, the Board of Visitors finds it to be in the best interest of the University to procure an easement from either Theta Delta Chi or the City of Charlottesville in order to ensure long-term access to a sanitary sewer manhole;
RESOLVED, the acquisition of a permanent easement from Theta Delta Chi Associates or from the City of Charlottesville to facilitate the installation and maintenance of a sanitary sewer lateral benefitting the University is approved; and

RESOLVED FURTHER, the Executive Vice President and Chief Operating Officer is authorized, on behalf of the University, to approve and execute a deed of easement and related documents, to approve revisions to the plat including, without limitation, revisions to change the location of the permanent easement, to incur reasonable and customary expenses, and to take such other actions as deemed necessary and appropriate to acquire and maintain such permanent easement; and

RESOLVED FURTHER, all prior acts performed by the Executive Vice President and Chief Operating Officer and other officers and agents of the University in connection with the acquisition of such permanent easement are in all respects approved, ratified, and confirmed.
BACKGROUND: The Board of Visitors approves major capital projects every two years with the update of the Major Capital Projects Program. This plan was last approved in April 2013. When the University identifies new projects outside the biennial update cycle, approval by the Finance and Buildings and Grounds Committees is required. The Finance Committee will review the financial plans and the Buildings and Grounds Committee will review the proposed projects for inclusion in the University’s Major Capital Projects Program.

DISCUSSION: The University recommends two additions to the multi-year capital program:

Gooch Dillard Residence Hall Renovation

| Housing Cash | $9.4 - $12.0 million |
| Debt         | $15.6 - $20.0 million |
|             | $25.0 - $32.0 million |

The Gooch-Dillard Residential area, originally constructed in 1984, comprises 67,500 gross square feet which currently houses 658 first year residents and resident advisors with 626 single and 16 double sleeping rooms. The renovation allows for the replacement of building systems that are past their useful life, installation/enhancement of fire detection and suppression life safety systems, repair to the building’s exterior envelope, and replacement of bathroom fixtures and finishes. The project also provides conversion of the single sleeping rooms to doubles by removing a wall and joining two rooms together.

The project will be funded using housing reserves and university debt.

Outpatient Surgery Center Renovation

| Hospital Operating Cash | $10.0 - $13.0 million |

The project provides for a renovation and upgrade of the 33,000 gross square feet in the Outpatient Surgery Center, including renovating the first floor, replacing life safety systems.
systems and HVAC units, and repairing the exterior of the structure. The renovation will increase the life span of the building by 15 to 20 years, will provide additional medical procedural and clinical space, and will make available much needed space in the Hospital and Fontaine Research Park where these services are currently housed.

The project will be funded with hospital operating funds.

ACTION REQUIRED: Approval by the Finance Committee, the Buildings and Grounds Committee, and by the Board of Visitors

REVISION TO THE MAJOR CAPITAL PROJECTS PROGRAM – GOOCH DILLARD RESIDENCE HALL RENOVATION AND THE OUTPATIENT SURGERY CENTER RENOVATION

WHEREAS, the University proposes the addition of the Gooch Dillard Residence Hall Renovation and the Outpatient Surgery Center Renovation to the Major Capital Projects Program;

RESOLVED, the Board of Visitors approves the addition to the University’s Major Capital Projects Program of the Gooch Dillard Residence Hall Renovation at an estimated cost between $25.0 million and $32.0 million and the Outpatient Surgery Center Renovation at an estimated cost between $10 million and $13 million.
BACKGROUND: The Health System, in preparation for the Emergency Department Expansion, has identified several enabling projects including the Helipad relocation (completed in 2012) and the outpatient radiology relocation currently planned for the Education Resource Center (construction starts in late 2014). In addition, the existing MRI Pavilion will need to be removed from the actual site of the Emergency Department Expansion. The MRI relocation facilities project will provide a temporary home for the inpatient and outpatient services currently housed in the MRI Pavilion. The final location for the inpatient MRI services will be incorporated with the design of the Emergency Department expansion project and the final location for the outpatient MRI and associated radiology services will be in the Education Resource Center.

CONCEPT AND SITES: The MRI Relocation Facilities are envisioned in two phases. The initial phase consists of a new mobile MRI trailer and one-story modular building that will connect directly to the existing hospital. This facility will provide support facilities for the medical staff including a new reading room with workstations for the radiologists. In addition, the building will act as a reception and waiting area and link to a temporary mobile MRI. This will be removed and the area replanted with the completion of the Emergency Department Expansion project. A second small addition to the Hospital for inpatient MRI support will be built adjoining the service drive next to the Emergency Department Expansion site along Crispell Drive. This will remain after completion of the Emergency Department Expansion project.

DISCUSSION: The Office of the Architect has prepared the concept, site, and design guidelines. Mr. Neuman will review the sites and design guidelines with the Committee.
ACTION REQUIRED: Approval by the Buildings and Grounds Committee

CONCEPT, SITE, AND DESIGN GUIDELINES FOR HOSPITAL MRI RELOCATION FACILITIES

RESOLVED, the concept, site, and design guidelines, dated September 11, 2014, prepared by the Architect for the University, for the Hospital MRI Relocation Facilities project are approved

SITE PLANS
MODULAR STRUCTURE AND MOBILE MRI ON LANE ROAD (SITE #1)

ADDITION TO HOSPITAL ON CRISPELL DRIVE (SITE #2)
A) Proposed Project Concept
The Health System, in preparation for the Emergency Department Expansion, has identified several enabling projects including the Helipad relocation (completed in 2012) and the outpatient radiology relocation currently planned for the Education Resource Center (construction starts in late 2014). In addition, the existing MRI Pavilion will need to be removed to allow for construction to begin for the Emergency Department Expansion. The MRI relocation facilities provide an interim home for the inpatient and outpatient services currently housed in the MRI Pavilion. The final location for the inpatient MRI services will be incorporated with the design of the Emergency Department expansion project and the final location for the outpatient radiology services will be in the Education Resource Center in 2016.

The MRI Relocation Facilities are envisioned in two phases. The initial phase consists of a new mobile MRI trailer and one-story modular building. The modular structure will connect directly to the existing hospital. The modular building will provide support facilities for the medical staff including a new reading room with workstations for the radiologists. In addition, the building will act as a reception and waiting area and link to a temporary mobile MRI. A second small addition for an inpatient MRI will be built adjoining the service drive next to the Emergency Department Expansion site along Crispell Drive.
B) Siting Criteria

The University of Virginia general siting criteria for all new facilities include the following components. Those highlighted are the most pertinent in determining the siting recommendation for the MRI Relocation project.

- Conforms with overall land use plan and district/area plans.
- Reinforces functional relationships with other components of the same department or program, and is compatible with other neighboring uses.
- Satisfies access requirements - pedestrian, bicycle, vehicular and service.
- Maximizes infill opportunities to utilize land resources and existing infrastructure.
- Minimizes site development costs, including extension of utilities, access, loss of parking, mass grading, etc.
- Minimizes opportunity cost, (i.e., value of this use and size versus other alternatives).
- Provides a size that is adequate, but not excessive, for initial program, future expansion, and ancillary uses.
- Allows for incorporating sustainability principles in terms of solar orientation, reuse of historic structures, stormwater management, etc.
- Avoids unnecessary environmental impacts, including significant tree removal or filling of existing stream valleys.
• Allows site visibility and aesthetic character as appropriate for the intended use and for the neighborhood.

• Minimizes time for implementation of project.

C) Proposed Sites:
The proposed location for the temporary MRI facility (Site #1) is near the intersection of Lane Road and Crispell Drive adjacent to the Hospital on Lane Road. Currently this site is used as a landscape buffer between the street and the Hospital and includes lighting and street trees. The landscape buffer including all trees and lights removed by the project will need to be replaced when the MRI facility is moved to its permanent location within the Hospital with the completion of the Emergency Department Expansion project in 2018. There is also a required exit for the Hospital in the proposed site that will need to be maintained. The proximity to the Department of Radiology and the Emergency Department was essential in the site selection. The second proposed addition to the Hospital (Site #2) will be next to an adjacent service drive along Crispell Drive. It will house inpatient MRI support.
D) Design Guidelines

Site Planning
- Preserve existing Hospital exit with direct access to sidewalk (Site #1).
- Maintain existing sidewalk. (Sites #1 and #2)
- Replace existing landscape buffer when MRI trailer and modular facilities are removed. (Site #1)

Stormwater
- Adhere to the approved UVa Stormwater Master Plan
- Address stormwater quality and quantity requirements onsite to the extent possible.

Circulation and Parking
- Reconfigure sidewalks (as necessary) to connect appropriately to the surrounding pedestrian system.

Architecture
- Building to be a pre-fabricated structure similar to the Primary Care Annex.
- Building mass not to exceed one floor in height.
- Develop fenestration and architectural details to establish a compatible relationship to nearby facilities, especially the main Hospital.
- Utilize materials, primarily brick and white metal panels, and colors consistent with the existing palette of the Hospital its addition.
- Entry to be designed to provide a safe ADA accessible and attractive pedestrian experience.

Landscape
- Provide appropriate and safe levels of pedestrian lighting in accordance with UVa standards.
- Screen all trash/recycling areas, above-grade utilities and HVAC equipment.
- All site signage will comply with University sign standards.
**Review and Compliance**

The Office of the Architect for the University is responsible for the review and approval of project compliance with these design guidelines.

**Note:** No LEED certification will be attained as a small (less than 5000 GSF) temporary structure.
A. Report on the McCormick Road Residence Hall Renovation Project (see Appendix A)

At the June 2014 meeting, the Buildings and Grounds Committee approved the addition of the McCormick Road Residence Hall Renovation Project to the University’s Major Capital Projects Program, but requested that the administration provide information about the alternatives considered before arriving at the recommendation to renovate the existing buildings, including the option to demolish and reconstruct new facilities. Ms. Sheehy will review with the Committee a report summarizing the study that evaluated the constructability, cost, and density of the site; and the significance of the current residential complex in terms of the Historic Preservation Framework Plan, sustainability, and residence life programming objectives. It remains the recommendation of the administration to renovate the current McCormick Road Residential complex as presented to and approved by the Committee in June. The written report is included as Appendix A.

B. Report on Committee Goals (see Appendix B)

Ms. Sheehy will report on the progress made in advancing the Committee’s goals during fiscal year 2013-14. The Committee discussed the following three goals and associated metrics at the November 2013 and February 2014 meetings during which the Committee agreed that the goals would extend through fiscal year 2014-15:

1. The approach to space planning and real estate management supports efficient, effective use and stewardship of physical assets, anticipates future space needs, and responds to University priorities.
Metrics
• Conduct a benchmarking study of space inventory management best practices at peer institutions and in the industry. (Complete)
• Implement space management strategies, policies, and practices to best accomplish the stated goal.

2. Continue efforts related to the Sustainability Resolution that the Board approved in June 2011 and amended in September 2013 to include a nitrogen reduction goal.

Metrics
• Promote the use of sustainable practices and obtain LEED certification in the design and construction of new buildings and major renovations.
• Make progress toward the Board approved carbon and nitrogen footprint reduction goals.
• Measure accomplishments in the other resource areas that are incorporated in the resolution.

3. Advance the Jeffersonian Grounds Initiative (JGI) to preserve and restore the Academical Village. First priority is the renovation of the Rotunda.

Metrics:
• Launch a new Jeffersonian Grounds Initiative newsletter and website by January 2014. (Complete)
• Complete new interpretive facilities prior to the start of Phase II of the Rotunda renovations in June 2014.
• Complete renovation of the Rotunda by Summer 2016.
• Plan, design, and execute elements of the Jeffersonian Grounds Initiative as funding is available and in alignment with priorities identified in the multi-year plan.

C. 2013-2014 University Building Official Annual Report (see Appendix C)

Under the University's Management Agreement with the Commonwealth, the University has delegated authority to employ a University Building Official whose responsibility it is to ensure that buildings are code compliant. The University Building Official reports to the Board although operationally she works through the Vice President for Management and Budget. Annually the Building Official provides a report summarizing the
activities of the office during the previous fiscal year. Elaine Gall, the University Building Official, will attend the committee meeting in case there are questions about the report which is included as Appendix C.
DISCUSSION: The University/Emmet/Ivy District (U/E/I) Planning Study is focused on the main entry corridors and entry points to the U.Va. Central and North Grounds, as well as on the broader context of these areas, assessing existing and potential future conditions. Surrounding the well-traveled intersection of Emmet Street and Ivy Road/University Avenue are five other important entry points to be considered: Athletics/North Grounds (Alderman/Copeley Roads), Arts Grounds (Culbreth Road), Bookstore/Central Grounds Garage, John Paul Jones Arena/North Grounds (Massie Road), and the Academical Village/World Heritage Site (McCormick Road). The study diagram shows the relationship of these entries/corridors to the Grounds at-large.

The work products related to this planning study are:

1. **Suitability Analysis** (Complete: presented at the June 2014 meeting)
   Develop GIS analysis of the study area to establish an opportunities/constraints diagram that illustrates developable and non-developable zones.

2. **Land Use Analysis** (To be presented at November 2014)
   Review Land use patterns for the district and propose relevant changes to the Redevelopment Zones in the 2008 Grounds Plan.

3. **Circulation Analysis** (Complete: presented at the June 2014 meeting)
   Develop an overview of the primary issues related to circulation in the district and recommend transit, pedestrian, bicycle, and vehicular improvements.

4. **Landscape Design** (To be presented at this meeting)
   Inventory existing landscape conditions, review previous landscape studies developed for the district, develop
design guidelines for corridor and entry treatment, and complete a conceptual design for the University/Emmet/Ivy entry point.
Circulation Study Goal/Principle:
Improve pedestrian, bicycle, and transit accommodations without degrading vehicular traffic

Process
• Performed on-site observations and data review
• Established zones based on transportation characteristics

Concept Development
Zone Themes
• Landscape and Utilities
• Street Cross Sections
• Pedestrian Facilities
• Bicycle Paths and Lanes
• Transit Facilities

Circulation Zones
Key Recommendations

Zone 1
- Create shared-use path on east side of Emmet Street and buffer sidewalk from street edge on west side

Zone 2
- Pursue speed limit reduction on Emmet Street
- Expand and enhance curb island to reduce right turn lane width and speeds and improve sidewalk at Emmet/Ivy/University intersection
- Consider options tunnel under railroad and continue shared use path along east side of Emmet, consistent with Zone 1

Zone 3
- Pedestrian crossing/entrance at visitor garage requires more detailed study
- Improve bike lanes and clearly mark on-street bicycle accommodations

Zone 4
- Modify roadway striping and/or curb limits to enhance sidewalk and reduce utility pole obstructions on south side of Ivy

Zone 5
- Transition to eliminate on-street parking to enhance bicycle and transit accommodations
- Implement intersection modifications and access control at McCormick Road to enhance circulation and pedestrian safety
MISCELLANEOUS REPORTS
Buildings and Grounds Committee
University of Virginia

September 11, 2014
### University of Virginia
#### Major Projects Status Report, Future Design Actions and Planning Studies
##### August 2014

<table>
<thead>
<tr>
<th>University of Virginia, 207 – Academic Division</th>
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<tr>
<td><strong>Authorized Academic Division Projects Under Construction</strong></td>
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<td><strong>Project</strong></td>
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<tr>
<td>Alderman Road Phase IV, Building G</td>
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<td>East Chiller Plant &amp; Lee Street Realignment</td>
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<td>Gross Anatomy Lab Renovation</td>
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<td>McCue Center Renovations</td>
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<td>New Cobell Hall Renovation</td>
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<td>North Grounds Mechanical Plant</td>
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<td>Rugby Road Office Building</td>
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<td>Radio Hall Renovation</td>
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*Future budget, scope, and design approval actions by the Board of Visitors highlighted in blue (TBD until contract awarded).*
## MAJOR PROJECTS STATUS REPORT, FUTURE DESIGN ACTIONS AND PLANNING STUDIES
### AUGUST 2014

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Project Approval</th>
<th>Concept/ Site/Design Guidelines</th>
<th>Architect/ Engineer Selection</th>
<th>Architect/ Address</th>
<th>Schematic Design</th>
<th>Contractor/ Address/ Contract Start/ Complete</th>
<th>Construction Status</th>
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**Subtotal Authorized Projects Under Construction** $ 234,858,854

### Authorized Academic Division Projects in Planning

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<td>Affiliated Engineers, Inc. Chapel Hill, NC</td>
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<td>Interior renewal of 29,000 GSF</td>
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<td>McCormick Rd Residence Hall</td>
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<td>Renovate 10 buildings, 30,000 GSF</td>
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**Subtotal Authorized Projects in Planning** $ 163,273,062
## MAJOR PROJECTS STATUS REPORT, FUTURE DESIGN ACTIONS AND PLANNING STUDIES
### AUGUST 2014

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<td>Other Authorized Academic Division Projects, Long Term (July 1, 2016 - June 30, 2024)</td>
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<td>Science/Engineering Plant Expansion: AFC Chiller 95</td>
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<td>North grounds to Old Ivy Dunbar</td>
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<td>Fisher Kirshall Res Arch Library</td>
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<td>Upper School Renovation</td>
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<td>Expanded Cookman Substation</td>
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<tr>
<td>Replace Belford College Chiller Expansion</td>
<td>2,200,000</td>
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<tr>
<td>Retire Copeland Substation</td>
<td>5,900,000</td>
<td>Apr-13</td>
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</table>
# MAJOR PROJECTS STATUS REPORT, FUTURE DESIGN ACTIONS AND PLANNING STUDIES

**AUGUST 2014**

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<tr>
<th>Last Update August 2014</th>
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<td><strong>Project</strong></td>
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<td>Memorial Operations Renovation</td>
<td>21,260,000</td>
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<td>New South Lawn Academic Building - Phase II</td>
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<td>Thornton Hall E-Wing and E-Wing renovation</td>
<td>27,340,000</td>
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<td>Central Grounds: Replace Bryan Hall Chiller #1</td>
<td>6,150,000</td>
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<td>2014 Cabell Hall Renewal</td>
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<td>Science/Engineering Plant: Replace Chemistry</td>
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<td>Subtotal Other Authorized Projects, Long Form</td>
<td>$ 723,300,000</td>
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<tr>
<td>Academic Major Capital Projects program</td>
<td>$ 1,579,721,410</td>
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### University of Virginia, 209 - Medical Center

#### Authorized Medical Center Projects Under Construction

<table>
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<tr>
<th>Project</th>
<th>Total</th>
<th>Working Budget</th>
<th>Project Approval</th>
<th>Scope</th>
<th>Concept/ Site/ Design Guidelines</th>
<th>Architect/ Engineer Selection</th>
<th>Architect/ Address</th>
<th>Schematic Design</th>
<th>Contractor/ Address/ Contract Date</th>
<th>Construction Start</th>
<th>Comments/Update on Progress</th>
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</thead>
<tbody>
<tr>
<td>Katz Building at the UVA Children's Hospital</td>
<td>$ 141,630,000</td>
<td>Apr 09</td>
<td>200,000 gsf new</td>
<td>m/a, UVA Foundation</td>
<td>Oddi/ Stanley Berman Sears; Richmond</td>
<td>n/a, UVA Foundation</td>
<td>Katz/ Berman Sears; Richmond</td>
<td>May-07</td>
<td>Gidrans &amp; Berman Sears, Richmond</td>
<td>Jun-11</td>
<td>Final inspection complete. Building sold to UVA in May 2014. TCO obtained in June 2014. Working on plan revision. Approval &amp; post-TCO related items.</td>
</tr>
<tr>
<td>Lee Street Entry and Connecting Elements</td>
<td>30,005,500</td>
<td>Jun-06</td>
<td>Hospital plaza and substructure</td>
<td>May-07</td>
<td>May-07</td>
<td>May-07</td>
<td>May-07</td>
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<tr>
<td>Deferred Maintenance Umbrella: Hospital HVAC Phase II</td>
<td>28,000,000</td>
<td>Apr-09</td>
<td>N/A</td>
<td>Leach Wallace Elbridge MD</td>
<td>N/A</td>
<td>Replacement with no cost increase</td>
<td>May-12</td>
<td>Donley/ McCarthy, Richmond, VA</td>
<td>Jul-10</td>
<td>Final inspection complete. Package 1 complete. Package 1B (AHUs and RAUs) is 0%.</td>
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<td>Subtotal Authorized Projects Under Construction</td>
<td>$ 199,935,500</td>
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### Authorized Medical Center Projects in Planning

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<th>Project Approval</th>
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<th>Concept/ Site/ Design Guidelines</th>
<th>Architect/ Engineer Selection</th>
<th>Architect/ Address</th>
<th>Schematic Design</th>
<th>Contractor/ Address/ Contract Date</th>
<th>Construction Start</th>
<th>Comments/Update on Progress</th>
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<tr>
<td>Deferred Maintenance 10 Year Plan Master - Lee Hospital Roof, HVAC, Power, Vegetation Roof</td>
<td>82,290,000</td>
<td>Apr 09</td>
<td>Umbrella</td>
<td>Umbrella</td>
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<tr>
<td>Deferred Maintenance Umbrella: Hospital Emergency Power Phase III</td>
<td>5,000,000</td>
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<td>University Hospital Renovations / Levels 7 &amp; 8 (Umbrella Authorization)</td>
<td>20,000,000</td>
<td>Apr 13</td>
<td>N/A</td>
<td>KBS, Richmond, VA</td>
<td>N/A</td>
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<td>Education Resource Center</td>
<td>29,000,000</td>
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<td>CO Architects, Los Angeles, CA</td>
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<td>Project</td>
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<td>Working Budget</td>
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<td>Scope</td>
<td>Concept/ Methodology/ Outcomes</td>
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<td>Architect/ Address</td>
<td>Schematic/ Design</td>
<td>Constructor/ Address/ Contract Date</td>
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<td>MRE relocation, GR expansion, Adult beds 100-150 (TRD)</td>
<td>Jun-14 Nov-13 Perdua + Will, Washington DC</td>
<td>review: Nov-14</td>
<td>Shands USA Building, Inc. Durham, NC 07/1/15</td>
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<tr>
<td>New Library</td>
<td>250,000</td>
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<td>67,000 gsf</td>
<td>Sep-09 June-11</td>
<td>Carman Design</td>
<td>Arlington VA</td>
<td>quanbury Big Stone Caf VA</td>
<td>Jun-13</td>
<td>Jun-13</td>
<td>Foundation walls are 95% complete. Structural steel is now in progress. Proj in 20% complete.</td>
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<td>Health &amp; Wellness Center and Ohioan Outpatient Renovations</td>
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<td>8,200,000 gsf</td>
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<td>Tranz</td>
<td>Charlottesville, VA</td>
<td>Beaulieu Construction Bristol, TN</td>
<td>Aug-12</td>
<td>Jun-14</td>
<td>Groove construction complete. Health &amp; Wellness substantial completion August 2014.</td>
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<td>Apr-11 Apr-09</td>
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<td>Other Authorized College at Wise Projects, Near Term (through June 30, 2016)</td>
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<td>2014-15 Maintenance Reserve</td>
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<td>Willys Library Conversion</td>
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<td>Other Authorized College At Wise Projects, Long Term (July 1, 2016 - June 30, 2024)</td>
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<td>UVA Golf Indoor Driving Facility/Coaches Offices</td>
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<td>Studying Options</td>
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<td>Darden Program Planning</td>
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<td>McIntire Program Planning</td>
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<td>A/E Selected</td>
<td>Description</td>
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<td>Historic Preservation Architectural</td>
<td>July 9, 2014</td>
<td>John G. Waite, Associates, Architects</td>
<td>5 year term contract $500,000/year</td>
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<td>Albany, NY</td>
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</table>
Professional Services and Construction-Related Non-Professional Services Contracts
Quarter Ended June 30, 2014

# Contracts by Fiscal Year

Fiscal Year
07/01/13 - 06/30/14 (FYEnd)
2012 - 2013
2011 - 2012
2010 - 2011
2009 - 2010
2008 - 2009
2007 - 2008

# of Contracts
350
300
250
200
150
100
50
0

Total Virginia Contracts
Total Out-of-State Contracts
Professional Services and Construction-Related Non-Professional Services Contracts
Quarter Ended June 30, 2014

Contract Fees by Fiscal Year

<table>
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<tr>
<th>Fiscal Year</th>
<th>Total Virginia Contracts (M)</th>
<th>Total Out-of-State Contracts (M)</th>
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<td>2010-2011</td>
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<td>(FYEnd)</td>
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<td>Pavilion</td>
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<td>I</td>
<td>Robert Pianta</td>
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<td>II</td>
<td>Vacant</td>
<td>Winter 2010</td>
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<tr>
<td>III</td>
<td>Harry Harding</td>
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<td>Larry J. Sabato</td>
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<td>V &amp; Annex</td>
<td>Patricia Lampkin</td>
<td>Spring 2008</td>
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<td>VI</td>
<td>Robert D. Sweeney</td>
<td>Fall 2012</td>
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<td>VII</td>
<td>Colonnade Club</td>
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<td>VIII</td>
<td>John Colley</td>
<td>April 2011</td>
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<td>VIII</td>
<td>Gerald Warburg</td>
<td>March 2012</td>
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<td>IX</td>
<td>Dorrie Fontaine</td>
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<td>X</td>
<td>Nancy E. Dunlap, M.D.</td>
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<td>Montebello</td>
<td>James H. Aylor</td>
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<td>Sunnyside</td>
<td>Artificial Pancreas Project</td>
<td>April 2013</td>
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<tr>
<td>Weedon House</td>
<td>Carl P. Zeithaml</td>
<td>July 2011</td>
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UNIVERSITY OF VIRGINIA
POST OCCUPANCY EVALUATION
Rice Hall
Executive Summary
August 1, 2014

I. Background
As a part of its oversight of the University’s Capital Program, the Executive Review Committee for Capital Development stipulated in April 2004 that Post Occupancy Evaluations (POE) be completed for capital projects.

II. Purpose
The Post-Occupancy Evaluation (POE) process is a “lessons learned” exercise to improve the design, construction, operation, and user satisfaction of future buildings by providing an assessment of completed projects. The POE process evaluates architectural, engineering, interior design, safety and other building criteria and programmatic decision to assess overall effectiveness. The process also supports the University’s Leadership in Energy and Environmental Design (LEED) program by addressing the LEED credit requiring a survey of occupant satisfaction with thermal comfort.

III. Methodology
Information was gathered through 1) a web-based survey distributed to faculty, staff, and students, 2) an assessment by the maintenance staff, and 3) a post-survey meeting. The survey was led by a team consisting of the Chief Technology Officer for the School of Engineering and Applied Science (SEAS), Senior Facility Planner from the Office of the Architect for the University, Associate Dean for Management and Finance for the School of Engineering and Applied Science, Associate Director of Automation Services for Facilities Management, Facilities Management Project Director, Associate Professor Dept. of Electrical and Computer Engineering, Customer Relations Manager in Facilities Management, and Programmer Analyst in Facilities Management.

IV. Project Description
Rice Hall Information Technology Engineering Building is a 100,000 gross square foot, 6-story structure, located at the corner of Whitehead Road and Stadium Road, across from Scott Stadium. It is situated amongst Olsson Hall, Mechanical Engineering, and the Albert H. Small Building. Rice Hall provides administrative, faculty, and staff offices, research laboratories, and flexible teaching spaces. Construction began in April 2009 and was completed in November 2011. The project received LEED Silver certification.

V. Survey Response Rate
The survey was distributed to 983 people: 60 faculty, 30 staff, 114 graduate students and 779 undergraduate students. There were 142 respondents for a 15% response rate. Respondents included 29 faculty, 22 staff, 44 graduate students and 47 undergraduate students.

VI. Overall Building Assessment
The SEAS has been very pleased with the building. It has enabled the School to form a nexus of information technology engineering on Grounds, and has given the School spaces that facilitate research in computer visualization, energy conservation, telemedicine, and distance learning, among others.

88% of respondents have a positive impression of the building. Only 7% do not and 5% are neutral. Staff are the most satisfied; students the least.

Faculty, staff, and students provide positive comments about the building’s appearance and design. One faculty member notes, “The building is a showcase for SEAS, and a key tour stop for prospective students, potential sponsors and visitors. The building provides needed space and features previously unavailable in other SEAS facilities. After the Rotunda and the Lawn (Academical Village), Rice Hall is the next ‘must-see’ architectural destination while touring the UVA Grounds. Rice Hall is a state-of-the-art Living Lab for advanced technologies in
heating, cooling, energy recovery, electrical distribution and lighting.” Though all faculty, students and staff responded positively to the design of the building, all note difficulty with technical systems within the building. This includes the automatic blinds, alarmed doors, and automated temperature systems.

49% of respondents were dissatisfied with the automated temperature within the building. 47% of respondents maintained that the automated temperature in the building impacts their work in some form. 59% of respondents had a negative assessment of the use of outdoor space around the building.

VII. Summary of Evaluation Findings

Levels of dissatisfaction are centered on the following areas: temperature, lighting, AV issues, and safety systems.

1. Safety: Rice Hall has been exceptionally well received with 88% of survey respondents having a positive overall assessment of the building. This level of satisfaction continues through the sense of safety. 88% of survey respondents feel safe within the building and 80% feel safe in areas surrounding the building.

2. Thermal Comfort: 51% of respondents are satisfied with the temperature in the building while 49% are not. Faculty members who spend lots of time in their offices are most concerned. One faculty explains, “It seems like that air conditioning is on full blast at all times and I have no control of it. It is SO cold in here that I wear my jacket. Additionally, I have no control over this temperature. In particular, it seems this issue lessens the "Eco-friendliness" of the building overall. AC takes a lot of energy and several people here are opening windows and/or using space heaters in the summer to regulate the temperature which clearly exacerbates the issue.” Staff members have the most negative response with 53% dissatisfied with temperatures. One staff member states, “The temperature is always too cold in the morning, especially in the summer. The only way to be comfortable is to open the window but that blows paper around the room.”

3. Collaboration Areas: Collaboration areas were defined in the survey as Davis Commons as well as reservable conference rooms. Respondents had a generally positive outlook on these spaces with 82% responding that Davis commons supports student study and student interaction well. The reservable conference rooms also received positive feedback with 71% responding that the rooms support group and capstone work well.

4. Specialty Instructional Space: This category included the Innovation Garage, UVASCE Visualization Lab, Media Development Lab, Lacy Engineering Design Lab, Olsson Auditorium, Computer Architecture Lab, and research labs. The Innovation Garage was less well received with a dissatisfaction rate of 37%. The UVASCE Visualization lab received a largely neutral response rate with 28% responding positively and 28% responding negatively. Both the Media Development Lab and Lacy Engineering Design Lab received positive satisfaction rates of 48% and 78% respectively. Respondents were highly satisfied with the research labs with an 88% positive response rate.

   a. Olsson Auditorium: Respondents were largely satisfied with Olsson Auditorium with an 80% positive response rate and 11% negative response rate. However respondents commented numerous times about the acoustics and AV equipment deficiencies in the auditorium. The main issues included poor audio towards the back of the auditorium and a lack of available support for all AV issues.

5. Site: Approximately 41% of respondents use the outdoor space surrounding the building while 59% do not. Faculty, staff and students noted the lack of furniture available for use outside. One staff member stated, “It would be nice if there was somewhere to eat lunch. Perhaps a picnic table outside. It was odd that there is nowhere for staff who do not have their own office can go for lunch or break. Usually in kitchens there is a table and chairs for employees to go when not working.” Others noted that adding more electrical outlets to the outside patio and providing more seating would improve the use of outdoor space. While respondents feel the outdoor space is underutilized, they do feel that bike parking is adequate. 81% of respondents are satisfied with the amount of bike parking while 19% are not.
6. **Einstein’s Bagels:** The addition of Einstein Brothers Bagels was in an effort to address the request for hot food. 80% of respondents felt this objective had been met while 10% were neutral and 10% did not. Faculty, staff, and students suggest improvements could be made to the hours of operation for the restaurant. Respondents suggested the hours extend into the evening to accommodate students. In addition respondents requested the restaurant be open during the summer. Faculty, staff, and students were also concerned with the price of the food at the restaurant.

7. **Lobby Kiosk:** The kiosk located in the lobby was created to provide directory information and 55% of respondents thought the kiosk served that objective well. 23% thought this objective was not met. One staff member suggests, "Kiosks in the lobby are often ignored by visitors trying to find someone--they don't realize what they are for." One undergraduate student similarly stated, “The purpose of the kiosk at the front of the building isn't terribly clear; I have rarely (if ever) seen people using it.”

**VIII. LEED Questions:**

The survey included five questions about LEED certification and green building features. They are listed below in order of the level of satisfaction and importance.

1. Satisfaction with the air quality in the building (air flow, stuff, stale air, odors) 70%
2. LEED certification is important 60%
3. The building’s heating and cooling systems are effectively designed as a learning laboratory 52%
4. The temperatures enhance one’s use of the building 51%
5. The main lobby’s Energy Dashboard effectively serves as a portal and tells the story of the Rice Hall Living Lab 49%

**IX. Building Temperatures:**

Rice Hall does not currently meet the thermal comfort verification credit for the U.S. Green Building Council (USGBC) LEED certification program. To maintain this credit no more than 20% of a building’s occupants can be dissatisfied with its thermal comfort. The negative thermal comfort responses for Rice Hall are 49%. However, since significant action has been taken the comfort verification credit can be achieved.

The survey team was aware of building temperature complaints and has taken follow-up action even prior to the survey. Both the survey responses and a maintenance assessment by Facilities Management indicate complaints about the frigid temperatures inside the building. For more information regarding current actions, please see the “Actions and Recommendations” section.

**X. Energy Cost Analysis**

As a part of the Post Occupancy Evaluation process, a cost-per-square-foot energy analysis was conducted comparing Rice Hall to other University buildings. There are no recently constructed dry lab buildings that can offer an “apples-to-apples” comparison with Rice Hall. In theory, a dry lab building is expected to be more intensive than classroom/office buildings, less intensive than wet lab buildings, and similar to a clinical building. Based on the energy costs below, this pattern holds in the case of Rice Hall. Notably, medium-temperature hot water (MTHW) use on a per-square-foot basis in Rice Hall was below all of the other comparison buildings.

The analysis was conducted comparing Rice Hall to Bavaro Hall (LEED Gold), Physical and Life Sciences Building (LEED Silver), Claude Moore Medical Education Building (LEED Silver), and Emily Couric Clinical Cancer Center (LEED Gold). The analysis covered the period from November 1, 2012 through October 31, 2013, and included chilled water, electricity, and medium temperature hot water/steam. Total energy costs for Rice Hall were $4.26 per GSF/per year. Energy costs for two of the buildings were lower: Bavaro Hall ($3.22/GSF/year) and Claude Moore Medical Education Building ($3.61/GSF/year). Energy costs for the other buildings were higher: the Emily Couric Clinical Cancer Center ($5.45/GSF/year) and the Physical and Life Sciences Building ($7.73/GSF/year). These differences can be attributed to the type of building as academic buildings, dry lab buildings, wet lab buildings, and clinical buildings have varying costs.
XI. Actions and Recommendations

A. Thermal Comfort: Of the survey questions, temperature in the building had the highest negative response rate (49%). One respondent notes, “The temperature control is appalling! I know of several faculty who can't spend time in their offices because it is either freezing or boiling, and I have to keep extra warm clothes in my office to avoid freezing there. It is ridiculous that we have decoy thermostats in our offices that do nothing, and that the temperature is set to be too cold in summer and too hot in winter. I'm all for being environmentally sound, but when faculty are getting sick and refusing to go to their offices as a result, this is not serving our university well.”

Action (Corrective): Via UVA Facilities Management Energy and Utilities Dept. significant actions have been taken to remedy the thermal comfort complaints of Rice Hall both in lecture spaces and faculty/staff offices.

Programming alterations to the air-handling system in Olsson Auditorium have been made. Other suggestions such as tweaking the fan speed or adding additional equipment are under review should Olsson Auditorium need future attention.

The majority of temperature complaints were associated with faculty and staff office temperatures. The perimeter cooling on the third floor was the main cause. To remedy this, the discharge temperature of the system has been increased and the airflow will be decreased. This effort is to address the thermal comfort issue without compromising the original intent of the design. Ideally occupants will be surveyed about temperature improvements within the next year.

Faculty and staff were also concerned about the responsiveness of the thermostats. In addressing this concern it was found that these setpoints were not adjustable via the Systems Control Center. Any changes maintenance staff was making were not in fact permanent. Responding to these concerns will involve re-configuring the building automation system so the current solution is on an as-needed basis.

Recommendations (For Future Buildings): To avoid costly post-installation corrective actions, time should be set-aside during the design phase to focus on typical solutions to airflow and volume concerns. This would allow a review of the heating and cooling sequences for typical office, classroom, and lab spaces. Projects with technologically advanced heating and cooling systems should engage the engineer and commissioning agent for thermal systems after the project is completed as well. A trial run of the systems would allow corrective action to be taken immediately, prior to occupancy.

B. AV: Though not directly surveyed, complaints about the AV systems were frequent. Olsson Auditorium (Room 130) received the most complaints. Faculty, staff and students mentioned issues with the acoustics of the room including difficulty hearing lectures/speakers while seated towards the back of the auditorium. Respondents also cited difficulty working the projection systems and audio equipment. Similarly respondents noted the lack of AV support available should issues arise.

Action (Corrective): In an effort to eliminate AV issues in the Olsson Auditorium, a retrofit has been planned to improve the audio distribution. To remedy the lack of support services for all AV issues in Rice Hall, technical staff members are currently being recruited as of June 2014. No staff members were originally hired to operate or troubleshoot the AV systems in the building. However the new staff members are intended to alleviate frustration with operating and managing the systems.

Recommendations (For Future Buildings): Future projects should take into account heterogenous occupancy and hours of use (i.e., shared by multiple departments, instruction and research, specialized equipment, collaborative and meeting spaces). The complexity of the building’s systems should also be considered. In addition to the systems themselves, adequate support for systems operation and maintenance should be considered. A brief training should be provided to educate all building occupants on the building systems including operating the windows and shades, lighting controls, and AV systems. Education on the University’s energy guidelines and sustainability initiatives should also be integrated into the training.
C. Automated Window Shades: Though not directly polled in the survey, complaints about the automated window shades in Rice Hall were prevalent in the respondent comments. One faculty member states, “Also, the automated blinds in the office are annoying. On selected days, I have to repeatedly get up from my desk to reopen the blinds. It is not evident why they are closing, given that the sun is already around on the other side of the building.”

**Action** (Corrective): Manual overrides allow the occupant to raise or lower the window shades to his or her liking. However the override only lasts until the photo sensor reorients the shade. One corrective action would be to adjust the sensitivity and delay settings on the time controller. Another potential corrective action is to bring the installer back to hear the issues and make adjustments. In addition, a post-construction retrofit has been approved to install a Lutron Hyperion control system with a goal of more easily managing shade adjustments. A Facilities Management Project Manager and the Chief Technology Officer of SEAS are currently spearheading this effort to install a Lutron control system upgrade.

**Recommendations** (for Future Buildings): Future building engineers should analyze the motion of the window shades and ensure the system is capable of overrides. Building 6-month or 12-month adjustments into the installation contract for these technologically advanced mechanical systems should also be considered. However these systems are not typical to most buildings and were built into Rice Hall for the potential research value of the “living lab” initiative.

D. Alarmed Doors: Comments were made that the alarmed doors in Rice Hall were irritating and burdensome to occupants. One respondent states, “The locked and alarmed doors are annoying. During the day, it is too difficult to enter various spaces. This is especially frustrating when entertaining visitors.”

**Action** (Corrective): Issues with the alarmed doors in Rice Hall stem from a lack of experience with that particular type of door. According to the Chief Technology Officer and others, the doors have been alarmed due to the fact that Einstein Brothers Bagels brings in people who do not normally occupy Rice Hall. Action has been taken and alarms have been turned off for normal business hours from 8am-5pm every weekday. In addition there are no alarms on offices within Rice Hall. It is recommended that all faculty and staff go through a brief training of how and why the doors are alarmed to give everyone a better understanding. This would ideally lessen irritation and concern about the doors.

**Recommendations** (For Future Buildings): In future buildings that do not need restricted access 24/7, it is recommended that alarms be silenced during business hours. This will lessen occupant complaints while allowing others to access the amenities of the building such as food and beverage options.

F. Outdoor Space: Approximately 41% of respondents currently use the outdoor space surrounding Rice Hall while 59% do not. Respondents cite a lack of furniture and comfortable seating for the limited use. One student states, “Add more outdoor benches and chairs,” while a faculty member explains there is “not enough outdoor space to be very useful.”

**Action** (Corrective): Much of the outdoor space lacks furniture for ease of access for maintenance vehicles. However moveable tables and chairs are a recommendation that has been brought to the attention of the Senior Facility Planner, Facilities Management Project Director, and others.

**Recommendations** (For Future Buildings): The design of future projects should account for the necessary service vehicle access but should also encourage use of the outdoors by building occupants. The landscaping package should be thoroughly reviewed to ensure ease of use by building occupants, maintenance teams, and others.
UNIVERSITY OF VIRGINIA
POST OCCUPANCY EVALUATION
McLeod Hall Renovation Projects - First, Third, Fourth and Fifth Floors

Executive Summary
August 13, 2014

I. Background
As a part of its oversight of the University’s Capital Program, the Executive Review Committee for Capital Development stipulated in April 2004 that Post Occupancy Evaluations (POE) be completed for capital projects approximately one year after occupancy.

II. Purpose
The Post-Occupancy Evaluation (POE) process is a “lessons learned” exercise to improve the design, construction, operation, and user satisfaction of future buildings by providing an assessment of completed projects. It identifies architectural, engineering, interior, and other functional components that work well and those that are problematic. The process supports the University’s Leadership in Energy and Environmental Design (LEED) program by addressing the LEED credit requiring a survey of occupant satisfaction with thermal comfort.

III. Methodology
Information was gathered through a web-based survey distributed to faculty, staff, and students, a maintenance staff assessment of thermal comfort, and a post-survey meeting with the evaluation team. The team consisted of the Senior Program Manager from the Office of the Architect for the University, the Assistant University Architect, the Administrative Dean from the School of Nursing, the Senior Academic Facility Planner from the Office of the Executive Vice President and Provost, the Associate Provost for Academic Support and Classroom Management, the Project Manager for the project, an in-house LEED expert, the Associate Director for Work Management for Facilities Management, and the Director of HSPP. Review was provided by these same people as well as the Architect for the University, the Chief Facilities Officer, and the University Building Official.

IV. Project Description
McLeod Hall is a five-story structure encompassing 54,000 gross square feet (GSF). It is located adjacent to the University of Virginia Hospital and Medical Center off of Jefferson Park Avenue. It sits behind the Claude Moore Medical Education Building, the French House, and the Spanish House. The building houses around 500 undergraduate and graduate nursing students. Its principal spaces include a large two-story lecture hall and multipurpose performance area, several classrooms, and faculty offices. The phased renovation project began in Fall 2010. The project received a LEED Silver certification.

V. Survey Response Rate
The survey was distributed to 302 faculty, staff, and students. There were 84 respondents for a 28% response rate. Respondents included 19 faculty, 11 staff, and 54 students.

VI. Overall Assessment
89% of respondents have an overall positive impression of the building. 81% of the survey’s questions have majority positive response rates (over 50%) ranging from 66% to 89%. Only 25% have majority neutral or negative response rates that exceed 30%. The following is a summary of the response rates:

Positive Response Rates:
- 100% 0 questions (0%)
- 90% to 99% Range 0 questions (0%)
- 80% to 89% Range 6 questions (38%)
- 70% to 79% Range 5 questions (31%)
- 60% to 69% Range 2 questions (13%)
Negative Response Rates:  
- 1% to 10% Range: 10 questions (63%)
- 11% to 20% Range: 3 questions (19%)
- 21% to 30% Range: 2 questions (13%)
- 31% to 40% Range: 1 question (6%)

Generally the survey addressed safety within and outside of the building, sound privacy, air quality and thermal comfort, lighting, AV equipment, and durability of wall and floor finishes. Faculty members were most satisfied with the overall building, while students were least satisfied. The newly renovated clinical lab spaces were highly praised, while the lack of seating and condition of the internal and external structure received some criticism.

VII. Summary of Evaluation Findings

1. **Safety:** Overall, the majority of occupants felt safe within and outside of the building in surrounding areas. Only 7.6% of those surveyed indicated that they felt “somewhat unsafe” within the building, while 9.1% indicated that they felt “somewhat unsafe” in the areas surrounding the building.

2. **Sound Privacy:** Faculty surveyed were most dissatisfied with sound privacy in their workspace as opposed to their teaching space. 26.4% of faculty members were dissatisfied with the sound privacy in their workspace, while none surveyed were dissatisfied with the sound privacy in teaching spaces. One individual commented, “privacy—without a closed or ajar door—is unlikely.” However, most of those surveyed reacted positively to the level of privacy offered by the renovations.

3. **AV Systems:** 16.7% of faculty surveyed were dissatisfied with the audiovisual equipment in the teaching spaces, while overall 22.6% of respondents were dissatisfied with the AV system. In response to technology access in general, many respondents commented that more electrical outlets are needed, especially in classrooms in which students use computers for extended periods of time.

4. **Lighting:** 14.2% of all respondents were dissatisfied with both interior and natural lighting. Some respondents indicated a concern with the darkness of the space due to the high window placement, as well as inability to control blinds.

5. **Finishes:** 49.4% of respondents are “satisfied” with the durability of the finishes, and only 3.9% indicated any dissatisfaction with the finishes in the renovated space. However, some comments addressed the slipperiness of floors, poorly finished stairwells, and damage to wall paint due to movement of carts and materials.

6. **Outdoor Space:** Although 81.6% of respondents agreed that the goal to increase use of the outdoor space was met well, several comments indicated that there is still room for improvement in the terrace area. One individual commented that there are plenty of new seats at tables and benches outside, but not enough room inside when weather disallows outside seating. Another respondent commented: “The entrance from Jeannette Lancaster Way looks DIRTY. The white stone above the doors in particular makes the whole building look uncared for and unattractive. No matter how lovely the inside is the dark streaks/stains at the entrance create the impression that this is an ignored space.”

In all, most respondents indicated that the renovations have improved the quality of the building and its spaces. The research space and small conference rooms are “conducive to collaborative research projects” while the third floor labs provide a place to practice “that looks like the hospital we’ll be working in.”

VII. LEED Certification

The survey included five questions about LEED certification and air quality/temperature standards. They are listed below in order of the level of satisfaction and importance.

1. LEED certification is important: 82%
2. Satisfaction with humidity level: 73%
3. Satisfaction with the air flow in the building: 72%
4. Satisfaction with the temperature within the building  71%
5. Temperature enhances one’s use of the building  21%

VIII. Building Temperatures

The thermal comfort verification credit for the U.S. Green Building Council’s LEED certification program stipulates that a corrective action plan be developed if more than 20% of the occupants are dissatisfied with the building’s thermal comfort. Of the McLeod Renovation Project survey respondents, 20% indicate that they are dissatisfied with the temperatures. Dissatisfaction with temperature variability is shown by comments in which both temperature extremes are mentioned. One respondent commented, “temperature regulation has to be managed throughout the day by opening and closing the blind because it heats up so much in the afternoon.” Some faculty mentioned issues have arisen due to a lack of thermostats in some offices. One faculty member commented: “It is almost always too cold for me. Since UVA would like to minimize operating costs, it seems illogical and wasteful to overcool in the warm months.”

The level of occupant dissatisfaction appears to be moderate. Approximately 12.5% of all respondents indicate that their workspace is too hot, 56.3% say that it is too cold, and 31.3% believe the temperature is not consistent throughout the day. 32% indicate that the temperature interferes with their work, while only 21.4% indicate that the temperature enhances their work. One individual commented: “My hands get stiff and I am often shivering. Individual temperature controls that are independent and adaptable for each person would be a tremendous improvement.”

According to those surveyed, the thermostats and blinds do not control temperature significantly well. 44.1% of respondents indicate that the thermostats control room temperatures well. 48.5% of respondents indicate that window blinds effectively control solar heat gain. Inability to open windows was cited by one individual as contributing to ventilation and heating issues.

Humidity and airflow are lesser concerns compared to overall temperature control. 9.3% of respondents are dissatisfied with airflow in their workspaces. Of those dissatisfied, 80% indicate that there is not enough air movement, while 20% indicate that there is too much air movement.

IX. Survey Response Tabulations

A summary table of the survey responses is on the following pages. Questions for each of the program areas are listed in order from the highest to lowest positive response rates. Because of rounding, the percentages may not always total 100%.
Response Tabulation

All Respondents

November 26, 2013

<table>
<thead>
<tr>
<th>General Building Questions</th>
<th>Positive Responses</th>
<th>Neutral</th>
<th>Negative Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>+3</td>
<td>+2</td>
</tr>
<tr>
<td>Overall Assessment of the Renovated Floors</td>
<td>89%</td>
<td>28%</td>
<td>52%</td>
</tr>
<tr>
<td>Satisfaction with the Lighting</td>
<td>82%</td>
<td>23%</td>
<td>45%</td>
</tr>
<tr>
<td>Satisfaction with the Audio/Visual Equipment</td>
<td>66%</td>
<td>16%</td>
<td>34%</td>
</tr>
<tr>
<td>Satisfaction with Sound Privacy in Teaching Spaces</td>
<td>84%</td>
<td>25%</td>
<td>41%</td>
</tr>
<tr>
<td>Satisfaction with Sound Privacy in Workspaces</td>
<td>67%</td>
<td>13%</td>
<td>36%</td>
</tr>
<tr>
<td>Satisfaction with Durability of Finishes</td>
<td>79%</td>
<td>22%</td>
<td>49%</td>
</tr>
<tr>
<td>Success of Terrace Landscaping Project</td>
<td>82%</td>
<td>25%</td>
<td>30%</td>
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</table>

<table>
<thead>
<tr>
<th>Sense of Safety Questions</th>
<th>Positive Responses</th>
<th>Neutral</th>
<th>Negative Responses</th>
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<tr>
<td></td>
<td>Total</td>
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<tr>
<td>Sense of Safety Inside the Building</td>
<td>85%</td>
<td>27%</td>
<td>42%</td>
</tr>
<tr>
<td>Sense of Safety in Areas Adjacent to the Building</td>
<td>77%</td>
<td>13%</td>
<td>39%</td>
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</table>

<table>
<thead>
<tr>
<th>Thermal Comfort Questions</th>
<th>Positive Responses</th>
<th>Neutral</th>
<th>Negative Responses</th>
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<tbody>
<tr>
<td></td>
<td>Total</td>
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<td>+2</td>
</tr>
<tr>
<td>Satisfaction with Workspace Temperatures</td>
<td>72%</td>
<td>9%</td>
<td>45%</td>
</tr>
<tr>
<td>Too Cold</td>
<td>56%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluctuates</td>
<td>31%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too Hot</td>
<td>13%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of Temperature on Work</td>
<td>21%</td>
<td>3%</td>
<td>12%</td>
</tr>
<tr>
<td>Satisfaction with Humidity</td>
<td>73%</td>
<td>21%</td>
<td>44%</td>
</tr>
<tr>
<td>Satisfaction with Air Flow</td>
<td>72%</td>
<td>15%</td>
<td>43%</td>
</tr>
<tr>
<td>Not Enough</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Too Much</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Thermostats</td>
<td>44%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Effectiveness of Shades for Solar Heat Gain Control</td>
<td>49%</td>
<td>9%</td>
<td>30%</td>
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<table>
<thead>
<tr>
<th>LEED Certification Question</th>
<th>Positive Responses</th>
<th>Neutral</th>
<th>Negative Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>+3</td>
<td>+2</td>
</tr>
<tr>
<td>Importance of LEED Certification</td>
<td>82%</td>
<td>30%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Note: Because of rounding percentages may not total 100.
X. Energy Cost Analysis

The chart above tracks energy use in McLeod Hall before, during, and after the renovation. The line indicates the total adjusted cost of energy – chilled water, electricity, and steam – used by the building in the trailing 12-months. The cost is adjusted to remove the effect of changing energy prices that are outside the control of the building and its occupants. There is a strong trend indicated above, showing that total energy costs are down approximately 28% in late 2013 and 2014 as compared to the period in late 2009 and early 2010.

XI. Maintenance Assessment

Overall
- Thermal comfort is the primary maintenance assessment being evaluated currently.

Thermal Comfort
- The maintenance assessment revealed several issues and remedies related to temperature control. Occupants were concerned about the cold temperatures within the space. To remedy this, the louver position was adjusted so air does not blow directly on the occupant. Another complaint was that occupants have little control over the temperature. As a remedy, several thermostats were relocated to better maintain the temperature based on the occupant’s location within the space. In a few special cases, occupants were significantly sensitive to temperature changes and these issues are currently being taken care of through system overrides.

- The maintenance assessment also revealed that the negative responses to temperature might be due to the labeling of the thermostats themselves. The thermostats are labeled with a 30-degree span but only allow the occupant to add or subtract 2 degrees from the base setpoint. Regardless of what the occupants set the temperature to, it will only heat or cool the space to between the setpoints of 70 and 74 degrees Fahrenheit. This likely leads to confusion and/or the assumption that the thermostats do not function. An educational outreach initiative to explain the setpoints and thermostat controls could remedy this situation.
XII. Actions and Recommendations

1. **Safety:** Though most respondents did feel safe in the building one respondent noted a concern that occupants “can’t see who/what is coming around corners in the 1st floor, an area with lots of traffic -- frequent collisions result.”

   **Action (Corrective):** Safety improvements may include the installation of corner mirrors so occupants are more aware of who is around them. Convex dome mirrors are one example of a potential fix. The goal is to eliminate blind corners in all hallways.

   **Recommendation (For Future Buildings):** Blind corners often occur in L-shaped hallways, T-intersections, and 4-way intersections in buildings. Should the consulting firm and contractors choose to design a renovation in this way, special attention should be placed on patterns of movement within the building. In highly trafficked areas, mirrors could be considered to avoid collisions.

2. **Sound Privacy:** Most of the occupants were satisfied with sound privacy but one respondent noted that sound travels from common areas and elevators. Another respondent stated: “the lounge areas on 4th and 5th floors are placed well for students, however, it can be distracting with a lot of noise when there’s a large group!”

   **Action (Corrective):** A short-term, inexpensive fix for soundproofing is to add white noise machines to faculty offices and instructional areas. Should the sound become a larger issue, soundproofing walls or panels could be considered. Though a time intensive and more costly option, soundproofed walls would alleviate the noise traveling from common spaces into quiet spaces.

   **Recommendation (For Future Buildings):** Future renovations should include a post-construction noise assessment of the space and corrective action taken immediately should the response from occupants be negative. In addition, during the design and planning process the location of common areas should be specifically considered in relation to the faculty offices, instructional spaces, and other quiet areas.

3. **AV Systems:** Complaints about the AV systems mainly revolved around teaching spaces. One respondent stated: “Sometimes the audio visual equipment can be finicky.” In addition faculty and students have complained about the lack of accessible electrical outlets.

   **Action (Corrective):** Initiatives to educate occupants on the proper ways to use the AV equipment would be a relatively inexpensive and simple fix. In addition, allocating someone to work on AV issues for the entire building may also be beneficial. Adding additional outlets to the building is a longer-term fix and will need to be assessed by a contractor and the building official.

   **Recommendation (For Future Buildings):** Increased access to outlets is essential in all buildings as technology becomes more mobile. More outlets in classrooms and lecture halls in which long seminar classes are held are necessary. Future buildings should take into account the rapidly increasing mobility of technology and include increased numbers of outlets in academic, lab, and clinical buildings.

4. **Lighting:** Lighting improvements in the auditorium and areas surrounding the building terraces will likely improve positive feelings of safety both within and outside the building. One respondent notes: “I think the natural lighting could be improved in the first floor lobby area. It always feels very dark to me, by nature of the window placements and high ceilings.”

   **Action (Corrective):** The addition of manually adjustable blinds is one way to correct negative issues about lighting within the building. However, there has been significant positive response to the natural lighting throughout the building.
**Recommendation (For Future Buildings):** In future buildings, larger windows placed below ceiling height with manually adjustable blinds will help with both temperature control and effective utilization of natural lighting. Furthermore, harnessing natural lighting with larger windows can cut down on energy expenses during daylight hours. Operable windows in offices can also increase air flow and moderation of temperatures.

5. **Finishes:** In the survey, respondents expressed dissatisfaction with finishes of the floor, stairwells, and walls. Floors were slippery in many locations, while walls sustained damage in narrower hallways. Furthermore, the outside façade of the building shows wear and discoloration that does not reflect the quality of the building inside.

   **Action (Corrective):** Power washing of the outside façade may improve the overall impression of the building from the outside. Adding alternate paint colors that do not show wear-and-tear as much is also a potential fix for the white walls that have sustained damage.

   **Recommendation (For Future Buildings):** Future renovation projects can assess how paint colors and wall materials will show wear, while also promoting brightness in rooms. Improvements to stairwell finishing can give occupants an increasingly positive view of the building.

6. **Outdoor Space:** Occupants responded well to the increased seating options on the new terrace. Many of those surveyed indicated that there is not enough lounge space for students, especially nursing students who spend most of their time in McLeod and the Claude Moore Nursing Education Building.

   **Action (Corrective):** Adding seating options in the outdoor spaces would facilitate increased faculty, student, and staff interaction. Adding more lounge seating options in the interior common spaces would also allow more students to use the spaces for studying and social interaction.

   **Recommendation (For Future Buildings):** Future projects should include outdoor space conducive to individual and group work, such as when large classes use outdoor space to break up into groups. Creating more accessible study spaces for students outside of classroom areas should be a priority for the School of Nursing, which does not have a specific library.
Appendices
With Phase IV of the Alderman Road Residence Hall Replacement project coming to a close in 2015, the University turned its attention to the renovation of Gooch/Dillard and McCormick Road Residence Halls. In 2013, the University contracted with Clark/Nexsen to develop a feasibility study for the renewal of the McCormick Road Houses. At the June 2014 meeting, the Buildings and Grounds Committee approved the addition of the McCormick Road Residence Hall Renovation Project to the University’s Major Capital Projects Program. During the discussion, the Committee also requested that the administration re-examine and report on the feasibility of alternatives to the renovation and renewal of the existing buildings.

The report that follows summarizes the study providing background on the area; assessments of the exterior and interior of the buildings; comparisons of the options considered including an analysis of the constructability, cost, and density of the site; and the significance of the current residential complex in terms of the Historic Framework Plan, sustainability, and residence life programming objectives.

I. BACKGROUND

The McCormick Road Residence Hall complex is comprised of six four-story residence hall buildings (10 houses), totaling approximately 400,000 gross square feet (GSF). The current structures were designed by Eggers and Higgins (designers of New Cabell Hall, the Physics Building, and Newcomb Hall), constructed between 1946 and 1951, and opened to students in 1955. The complex currently houses 1,330 first-year residents and resident advisors, is not air-conditioned, and is heated through hot water radiators. In addition, there is limited fire detection and no fire suppression systems, and the buildings do not have elevators and, therefore, do not meet modern accessibility requirements.

II. ASSESSMENTS OF EXISTING BUILDINGS

The Facility Condition Index (FCI) of the McCormick Road Residence Halls is very good overall. Maintenance backlog issues remain, however, including minor exterior repairs to aged exterior window conditions, deteriorated plumbing piping, aged restroom conditions, and antiquated heating systems.

Exterior

Overall, the exterior of the buildings remain in good condition and are in need of minimal repair and renovation over the next several years. The exterior walls, which are comprised of brick veneer with cast stone trim, and the roofs, which had recent repairs including masonry work on the chimneys, have been well-maintained over the years and are in good condition. To increase the energy efficiency of the buildings and reduce future maintenance costs, the existing wood windows need to be replaced with extruded aluminum frames and double pane glazing. The solid wood entry doors and architecturally significant, arch-top wood windows above the
entrances to the buildings need to be restored and repaired (i.e., lead paint abated, repaired as necessary, and repainted).

*Interior*

The remaining original building systems are serviceable, but outdated and less efficient than modern systems. Approaching 70 years old, they are beyond their typical useful service life. Proposed modifications include the replacement of existing mechanical, plumbing, and electrical systems with new heating and cooling; domestic hot water; electrical upgrades; installation of new automatic fire sprinkler systems; and the addition of elevators in each building. Existing bathrooms need to be modernized and redesigned to increase capacity and bring up to current code standards including ADA accessibility requirements.

**III. COMPARISON OF OPTIONS/ALTERNATIVES**

Using the data from the feasibility study conducted by Clark/Nexsen, the University evaluated a number of options for the McCormick Road Residential Area, including an in-depth analysis of the following six options:

1. Renovation of the existing buildings
2. Small additions to four buildings (Lefevre, Metcalf, Dabney, Kent)
3. Infills between Hancock and Bonncastle and between Metcalf and Dabney
4. Renovation of eight existing buildings and replacement of two (Hancock and Bonncastle) with new five-story buildings similar to the Alderman Road structures
5. Demolition and replacement of all existing structures with five-story buildings
6. Renovation of the existing buildings with the addition of a fifth floor on each

Throughout the process, the administration focused on several points of comparison including, but not limited to, the number of additional beds gained, construction and project costs, impact on the existing structures, and the student perspective. Renovation of the existing buildings (option 1) has an estimated total project cost of $95 million, resulting in a $315 cost per square foot and a $68,300 cost per bed. In comparison, the estimated project cost of demolishing the existing structures and building new five-story buildings (option 5) is $198 million, resulting in a $525 cost per square foot and a $158,900 cost per bed.

Options 2, 3, and 4 would yield more beds compared to the renovation option (112, 156, and 54, respectively), but would eliminate significant areas of green space limiting recreational and social space for residents. In addition, these types of projects do not yield cost-effective or cost-efficient construction. Adding a fifth floor on each of the existing structures (option 6) is structurally prohibitive as it would require significant structural upgrades of all buildings in order to meet current code standards. This option would yield 20 fewer beds than option 1 at a significantly higher cost.

Based on these key points, it was determined that the best option would be the renovation and renewal of the existing structures (option 1). The recommended project has an estimated cost between $85.8 and $104.7 million, will provide 61 new beds for first-year students and will add new community and support spaces to the ground floor levels of the buildings. In addition, there will be no visible changes to the exterior of the structures, thereby maintaining the architecturally
significant elements of the original design and open green space. The project will be multi-phased and sequenced to ensure that there are no decreases in available first-year beds during the construction phase of the project.

The renewal and renovation project will yield 61 new beds (assuming double configurations) for a total of 1,391 beds and extend the life of the facilities. Additional benefits include:

- expanding lounge, study, and community space to better support residential programming;
- installing air conditioning, elevators, and new building systems to enhance life safety, ADA accessibility, and resident comfort and to improve energy efficiency and reduce future maintenance expenses; and
- improving building elements to a level comparable to the recently constructed first-year residence halls in the Alderman Road area.

It was suggested by at least one board member that demolition and reconstruction of the McCormick Road Residences would allow us to create a denser use of the site and consequently, accommodate more beds, particularly if we want to house more second-year students at some point in the future. The long-term plan for student housing identifies additional expansion space in the Alderman Road area for growth in the first-year class, as well as sites in favorable locations (e.g., Brandon Avenue) to house upper-class students.

IV. HISTORIC SIGNIFICANCE

The McCormick Road Residence Halls were an integral part of the University’s response to a growing student population after World War II. They were designed by Eggers & Higgins, a prominent New York firm that was very active at the University during President Colgate Darden’s tenure. Like many of the buildings of the time, the buildings’ interiors are plain especially by today’s standards. The exteriors, however, are very well-designed in a Palladian style with symmetrical facades, handsome door surrounds and arched windows to mark the entrances, and jack arches above large window openings. The buildings are extremely well-made with excellent brickwork and robust structures. The scale of the buildings and the site plan create comfortable exterior spaces that accommodate student activities ranging from casual conversations and pick-up games to more formalized and structured activities.
V. DENSITY COMPARISON

Using floor area ratio (FAR) and ground area coverage (GAC), the Office of the Architect for the University has developed a comparison of the density of the buildings in the recently constructed Alderman Road Residence Hall Complex (.88 FAR; .20 GAC) and the McCormick Road Residence Hall Complex (.92 FAR; .23 GAC). FAR represents the total gross building area on all floors of all buildings on a parcel divided by the area of that lot. In contrast, the GAC is calculated by dividing only the footprint of a building by the area of its lot. The GAC provides a good indication of the unencumbered open space available for residents. Based on this measure, the current McCormick Road site (.23 GAC) is slightly more dense in its land use than the Alderman Road site (.20 GAC). Several of the options considered would increase the density even further and remove highly valued green space currently used by students for informal recreation and socialization.

VI. SUSTAINABILITY CONSIDERATIONS

When evaluating sustainability issues surrounding the renovation of existing structures versus the demolition of those structures and the construction of new structures, it is critical to analyze both the environmental impact of both construction and the ongoing operation of the building. Renovating an existing building preserves the energy embodied in existing materials, particularly environmentally-intensive concrete and steel. Estimates of the amount of carbon emissions avoided by reusing these materials are approximately 100 kg of carbon dioxide equivalent per SF of building space. In the case of residence halls, 100 kg CO₂ per SF is equivalent to approximately 12.5 years of emissions from the operation of the building. Although significant, it is conceivable that a new building would offer a sufficient boost in energy efficiency that would exceed the deficit in embodied energy. A comparison of recently completed University projects (renovation vs. new construction), however, found that renovated buildings are roughly as efficient as new buildings and that the renovation of existing buildings in an efficient manner is often the more sustainable option especially given the “embodied energy” in the existing buildings. One example is Garrett Hall the renovation of which was
completed in 2011; it is approximately 13% more efficient than Bavaro Hall a new facility that opened in 2010.

VII. RESIDENCE LIFE PROGRAMMING OBJECTIVES

From our students’ perspective, a renewal/renovation of the current McCormick Road Houses would be preferable to demolishing the existing facilities and building new ones. McCormick Road residents indicate a strong desire to retain the current structures not only because of the historical contribution to the University but also because of the sheer identification that former and current students have with these buildings. It will be difficult to maintain this bond and identification if the existing buildings were demolished and replaced with new structures.

The UVa residential experience is the cornerstone of the student experience. Our focus is to create welcoming environments conducive to academic achievement while at the same time balancing the developmental and social needs of our students. Making connections, exposing students to differences, and establishing relationships are key elements of the resident staff program. The University understands the importance of keeping the existing resident staff model in place, specifically the low ratio of resident advisor to resident, while simultaneously creating space that embraces and enhances the academic and social engagement of the community.

In addition, the first-year experience plays a critical role in providing the foundation by which the newest members of the University community learn the constructs of self-governance including leading their peers, making decisions, and creating new traditions. The combination of indoor and outdoor spaces in the first-year areas makes their aspirations a reality. The hall-style, double rooms with a common hall bathroom create opportunities for residents to connect with one another. The blend between what we know works well for students and the incorporation of modern technology and building features ensures that the residential experience continues to be the cornerstone of the first-year experience at the University.

In 2012, the University engaged Brailsford & Dunlavey to conduct a Student Housing Analysis Survey to assess, among other things, housing availability and preferences. The results affirmed the student perspective as it relates to the McCormick Road Residence Halls:

- Ninety percent of respondents living in McCormick Road indicated that they were moderately to very satisfied with their current living situation.
- No respondents living in McCormick Road indicated that their current living situation at McCormick Road was unsatisfactory.
- Even without air conditioning and large community spaces, 46% of McCormick Road residents who responded to the survey were very satisfied.

From the student perspective, the data confirm what makes the First-Year Experience at UVa so impactful. In addition to the academic standards and the ideals of student self-governance, the physical layout of the buildings plays a crucial role in a resident’s transition to the University, developing a strong class identity and fostering feelings of identifying and belonging to the community.
VII. CONCLUSION

From the outset, the student perspective has been a driving factor in the planning effort around the McCormick Road Residence Hall project. The data from the 2012 housing study clearly show how satisfied residents are with their current living situation and identify the important factors that are considered when selecting housing accommodations. We already have the ideal structure, the historical contribution, and the community identity in place in the existing design and layout of the McCormick Road Residence Halls that make it ideal for a successful renewal project.

We also gave significant consideration to the pros and cons of each option, as well as the financial implications. The most financially feasible option is the renovation of the existing structures. The estimated total project cost of renovating the buildings is the least of the six options analyzed, as are the cost per square foot and the cost per bed. Renovating the existing structures will allow us to meet the project’s goals - completely renovate and modernize all interior spaces, replace and upgrade building systems, add beds, and enhance student programming - with minimal disruption to our students in the most cost-efficient and cost-effective manner. Therefore, based on our review and analysis of the various options for the McCormick Road Residential complex, it remains the recommendation of the administration to proceed with the renewal and renovation of the existing structures as presented to the Buildings and Grounds Committee in June 2014.
Appendix B
Report on Goals of the Building and Grounds Committee
FY2013-14

Goal 1: The approach to space planning and real estate management supports efficient, effective use and stewardship of physical assets, anticipates future space needs, and responds to University priorities.

Metrics
  • Conduct a benchmarking study of space inventory management best practices at peer institutions and in the industry.
  • Implement space management strategies, policies, and practices to best accomplish the stated goal.

At the request of the Vice President for Management and Budget (VPMB), representatives from the Office of the Architect and Facilities Management in consultation with representatives from Real Estate and Leasing Services and the Provost Office engaged in a benchmarking study to identify key elements of space planning and management programs at other institutions of higher education that could be used to inform the development of a more comprehensive space planning and management program at UVa. The study focused on five primary aspects of space planning and management: (1) impact of responsibility center management (RCM) on space; (2) space governance procedures (i.e., administrative oversight); (3) space principles, policies, and guidelines; (4) space request procedures; and (5) space inventory systems.

The benchmarking study group conducted research and consulted with experts to identify the criteria used to select participants in the study. Institutions were selected based on the following characteristics: (1) have either implemented or are considering implementing a RCM budget model; (2) have established space planning and management systems; and/or (3) are developing new space planning and management procedures. Ultimately, eight institutions of higher education and two private sector firms were included in the study: Cornell University, Dartmouth College, Duke University, University of Michigan, University of Minnesota, University of New Hampshire, University of Southern California, University of Toronto, Jones Lang LaSalle (commercial real estate services and investment management), and Microsoft Corporation.

The major findings of the study include:
1. Space policies are used at a number of institutions to (1) create a governance structure, (2) define the extent of the space portfolio to be managed (academic, auxiliary, administrative, medical center), and (3) outline responsibilities and approval authorities.
2. Membership on space committees varies by institution/firm: Some institutions have narrow memberships representing primarily the academic units; others have broader memberships representing academic and non-academic units, such as auxiliaries, athletics, administration, and medical centers.
3. Responsibilities of space committees typically include approval of (1) space trades between the institution’s schools/colleges; (2) requests for additional space that cannot be accommodated within the space portfolio of a school/college; and (3) requests to pursue leases.
4. Space planning principles and policies are important features of space planning and management programs.

5. Space management functions are often established to fit the culture and needs of the organization, but no institution could be judged to be a best practice with the ideal model.

At the conclusion of the benchmarking study, theVPMB charged a pan-University committee to develop and implement a space governance structure/framework for UVa. Informed by the findings of the benchmarking study, the committee recommended a structure that would replace existing space committees: the Core Space Needs Committee and the Executive Review Committee. With the implementation of this structure, space planning and management at UVa would be governed by two core groups: Space Leadership Committee (SLC) and Space Working Group (SWG). Further, this framework will promote a comprehensive approach to space planning; establish a relationship between the SLC and SWG for coordination, support, and collaboration; and align with other University committees that may consider space-related matters including, but not limited to the Facilities Needs Committee and the Real Estate Working Group.

**Goal 2: Continue efforts related to the Sustainability Resolution that the Board approved in June 2011 and amended in September 2013 to include a nitrogen reduction goal.**

**Metrics**

- Promote the use of sustainable practices and obtain LEED certification in the design and construction of new buildings and major renovations.
- Make progress toward the Board approved carbon and nitrogen footprint reduction goals.
- Measure accomplishments in the other resource areas that are incorporated in the Resolution.

Over the last year, the Administration has engaged in a number of initiatives in support of the Sustainability Resolution approved by the Board in June 2011 and amended in September 2013.

**Sustainable Practices**
The Committee on Sustainability, which is comprised of 24 members from across Grounds, guides and coordinates the advancement of sustainability at UVa. In June 2014 the Committee crafted the UVa Sustainability Statement: “Sustainability at the University of Virginia calls for collaboration and ingenuity to promote the well-being of the community, solve local and global challenges through scholarship and practice, educate ethical leaders, and steward this special place.” During the 2014 Earth Week celebration, the Committee launched the sustainability slogan and logo:
To further increase awareness of and educate the community about the extensive sustainability practices and initiatives at UVa, the Office of the Architect for the University created the UVa Green Guide, accessible at http://officearchitect.virginia.edu/greenguide/index.html. The University also established an Office for Sustainability which is responsible for outreach, implementation, and monitoring a wide range of sustainability initiatives on Grounds. Additional information on sustainability-related events and activities at U.Va. is available on the Sustainability at U.Va. website. www.virginia.edu/sustainability/.

The University has 29 LEED-certified buildings representing over 1.4 million square feet, as well as 23 LEED-registered projects in process. Seven new LEED certifications were received in the past year including Newcomb Hall, McLeod Third Floor, the Hunter Smith Dining Commons at the College at Wise, the MacArthur Squash Courts at Boar’s Head, and two new Alderman Road Residence Halls (Lile-Maupin and Tuttle-Dunnington).

The League of American Bicyclists recognized the University’s efforts to promote bicycling in the areas of engineering, encouragement, education, enforcement, and evaluation by naming us a Bronze-Level Bicycle Friendly University. In addition, in the fall of 2014 the University launched UBike, a 120-bicycle, 17 station bicycle share system for students, faculty, staff, and visitors.

The commitment to sustainability extends into teaching and research as well:

- The Global Studies major is an interdisciplinary program housed in the College of Arts and Sciences that prepares students to understand, innovate, and lead efforts to sustainably transform the physical environment.
- In May the fourth cohort of students with a Global Sustainability minor (39 students) graduated.
- The School of Architecture and the Biophilic Cities Project launched the Biophilic Cities Peer Network in October 2013 with a conference and workshop featuring innovative planning and best practices from a host of international biophilic cities.
- The inaugural Associate Vice President for Research, Sustainability and the Environment was appointed in January 2014.

The student-run Green Initiative Funding Tomorrow (GIFT) Fund was established in 2011-12 to fund sustainable projects on Grounds. To date, the GIFT has funded 23 student-led and student-involved projects. In 2013-14, the GIFT Grant Committee awarded $30,000 in grant funding to various initiatives across Grounds including Community Garden Composting, Bike Lights Distribution, Zero Waste Athletics, Retrofit Drinking Fountains, Darden’s Refreshing First Coffee, Newcomb Composting, the Hereford Rain Garden, and Redefining Transporting.

The Health System Sustainability Workgroup now sponsors a monthly sustainability event to raise awareness about the multiple benefits of sustainability both at the workplace and in the home. During National Hospital Week in May, the Health System focused on sustainability at all events. A new program to help team members recirculate office furniture was introduced to Medical Center managers in June and it will work in concert with the Reusable Office Supply Program (ROSE) to support stewardship through recycling.
**Carbon and Nitrogen Footprint Reduction Goal and Other Accomplishments**

U.Va. was the first university in the country to set a reactive nitrogen goal when the Board of Visitors amended the Sustainability Commitment to include a goal to reduce the amount of reactive nitrogen lost to the environment to levels 25% below 2009 levels by the year 2025. U.Va. is making progress towards achieving a quantifiable energy reduction goal by participating in a national effort, the Department of Energy’s Better Building Challenge, which was launched by President Obama in 2011 to support the President’s broader energy goals. U.Va. is seeking to reduce the energy use intensity of 15 million square feet of the University’s buildings 20% below 2010 levels by 2020.

Despite growth in our physical plant, we have been able to realize efficiencies and cost avoidances/savings as a result of various energy-related activities including:
- 6% reduction in greenhouse gas emissions from the peak in 2009
- $4.5 million in avoided energy costs in FY2014 ($17.3 million since FY2008)
- 29% reduction in water consumption since 1999
- 4% increase in Municipal Solid Waste recycling rate in calendar year 2013 over 2012

**Goal 3: Advance the Jeffersonian Grounds Initiative (JGI) to preserve and restore the Academical Village. First priority is the renovation of the Rotunda.**

**Metrics:**
- Complete new interpretive facilities prior to the start of Phase II of the Rotunda renovations in June 2014.
- Complete renovation of the Rotunda by Summer 2016.
- Plan, design, and execute elements of the Jeffersonian Grounds Initiative as funding is available and in alignment with priorities identified in the multi-year plan.

The Jeffersonian Grounds Initiative (JGI), a $225 million restoration and educational campaign, is a comprehensive effort to restore, renovate, and repair the Academical Village, including the Rotunda. The JGI will continue through the Bicentennial Celebration and Campaign and includes $50 million for the renovation of the Rotunda; $125 million for restoration of the Jeffersonian Grounds (the Lawn, Ranges, and landscape); and $50 million to build an endowment. To this end, the JGI team has begun efforts to advance the initiative through launching a website (http://giving.virginia.edu/jgi/), creating an online Lawn and Range directory, and distributing the JGI newsletter.

The Office of the Architect, in close collaboration with the Office of the President, Office of University Advancement, Facilities Management, and other stakeholders, will identify a prioritized list of renovation and restoration projects in the Academical Village that will be funded through the Jeffersonian Grounds Initiative. This listing and project descriptions will consider fundraising options, as well as maintenance and preservation priorities.
Interpretive Facilities
In collaboration with the Office of University Advancement and the Special Collections Library, the Office of the Architect designed and installed interpretive kiosks in the spring of 2014, coinciding with the launch of the Jefferson Grounds Initiative. These interpretive facilities provide a means to engage visitors in the Academical Village story while the Rotunda is closed for renovation. The next phase of this project will include developing expanded content for the kiosks, particularly relating to the African-American Experience, and beginning plans for the design and installation of permanent facilities in the renovated lower East Oval Room when the Rotunda reopens in 2016.

Rotunda Renovation
The JGI begins with the renovation of the Rotunda, currently in Phase II, which will last approximately two years (concluding by the Summer of 2016). This comprehensive renovation project includes:

- Complete structural and infrastructure renovation
- Increased classroom, study, lecture and ceremonial use
- Replacement of the marble column capitals
- Repair of the terraces and marble stairs
- Historic landscapes around the Rotunda
- New visitor interpretive center
- Renovation of the Dome Room
INTRODUCTORY INFORMATION

The Office of the University Building Official (OUBO) is a group of professional engineers and architects dedicated to ensuring UVa buildings are safe, accessible, and code compliant. OUBO staff reviews construction documents, issues building permits, performs inspections, and provides expert technical assistance in support of building construction and renovation. Reviews and inspections are based on state regulations governing health and safety as well as federal standards for accessibility. The office is led by University Building Official Elaine Gall.

The Office of the University Building Official was formed in 2006 as part of the management agreement between the University and the Commonwealth of Virginia under the Higher Education Restructuring Act. As such, the University Building Official reports solely and directly to the University's Board of Visitors.
The following report details work performed and goals achieved by the Office of the University Building Official from July 1, 2013 to June 30, 2014. It includes the following:

- Summary of work related to construction. Statistics for plan reviews performed, building permits issued, and projects inspected and approved for occupancy.

- Results of 2013-2014 Organizational Goals and list of current 2014-2015 Organizational Goals.

- Additional OUBO staff activities, including projects for which OUBO has shared technical expertise with other professionals within the University and throughout the state.

- Staff biographies detailing the education, certifications, and recent achievements and activities of OUBO staff.

NORTH GROUNDS RECREATION EXPANSION
The primary goal of Office of the University Building Official staff is to ensure all newly constructed buildings and renovations are safe and suitable for occupancy by UVa’s many students, patients, faculty, and visitors. We work to ensure all are built in accordance with state regulations and federal accessibility guidelines. Staff also confirms that projects are built to meet the University’s Facility Design Guidelines so that new buildings are of appropriate quality and energy efficiency. To achieve these goals, OUBO staff reviews design drawings, issues building permits, offers technical expertise, and performs onsite inspections in order to verify that designs and construction meet these standards.

OUBO performed 523 plan reviews for the year with a large spike in submittals during the last quarter. We received and reviewed 191 submittals compared to an average of 122 for the previous three quarters. The numbers of submittals for the year break down as follows:

- Academic: 226
- Athletics: 18
- Health: 170
- Housing: 28
- UVa Wise: 7
- Others: 74

Below is a chart comparing plan review data with three previous years showing a decline in submittals due to a reduced number projects and smaller projects which require fewer reviews. OUBO has also focused on reducing the number of required resubmittals by offering individualized assistance to designers and project managers when projects get beyond a certain stage without the submittal of approvable drawings.
OUBO issued a total of 229 building permits in the 2013-2014 fiscal year. Permits issued during 2013-2014 included:

Academic: 120  
Athletics: 14  
Health: 59  
Housing: 11  
UVa Wise: 1  
Others: 24

Similar to the chart above, the following chart illustrates how these numbers compare to data from the previous three years. While there is a slight reduction, the numbers are still high compared to our initial years.

All projects require numerous inspections to ensure that work is performed in accordance with the approved drawings, UVA Facility Design Guidelines, and most importantly, state codes and regulations. OUBO staff is onsite frequently confirming proper installation and operation of various engineered systems including fire suppression, accessibility features, egress components, and other issues related to health and safety for occupants.
MAJOR PROJECTS COMPLETED INCLUDE:

North Grounds Recreation Center Expansion
FM Landscape Shop
Shannon House
Ruffner Hall Renovations
New Cabell Hall Renovations – Final Phases
Baseball Hospitality Suite

Greear Gym Renovations

Lee Street Connective Elements
Hospital Lobby Expansion
Battle Building Children’s Hospital
East Chiller Plant
Old Jordan Hall 7th Floor Central Lab and Phase 1 Gross Anatomy Renovation
Neonatal Intensive Care Unit Expansion
McLeod Hall 3rd Floor Renovation
Hospital Sprinkler Zone Resolution
ADDITIONAL STAFF RESPONSIBILITIES AND ACTIVITIES

OUBO staff members have a tremendous amount of knowledge and experience related to buildings, building systems, and building codes. They enjoy sharing this technical expertise with others while also seeking opportunities for continuing their own education and experience. We do this with our colleagues throughout many departments here at UVa as well as through outreach to other communities and professional organizations.

Staff members were particularly active this year in working towards certifications from the Department of Housing and Community Development (DHCD). Bob Waite obtained certification as a Certified Building Official while several others began taking the required classes and making preparations for this challenge. Ron Herfurth also obtained two newly adopted certifications related to Energy Codes. DHCD certifications give our office additional bench strength and cross-training which assists us with continuation of services. All staff members have listed their certifications in biographies at the end of this report.

During 2013–2014, OUBO staff members were involved in a number of special University committees and projects. The most notable example this year was our involvement with the Berlin Wall display. Ben Hays provided structural guidance in helping to find a suitable location for the heavy panels. Kathy Grove then joined him in the design and construction of the shelter. Both were deeply involved in the coordination with the donor and numerous University officials.

Staff provides leadership and active engagement with a number of UVa inter-departmental technical committees related to accessibility, HVAC systems, sustainability, fire protection, and electrical safety. In addition, staff frequently provided technical assistance to fire marshals for both the Health System and Environmental Health and Safety.

OUBO staff also maintains mutually beneficial relationships with local officials. The Charlottesville Fire Department is regularly consulted to ensure that acceptable provisions are made for emergency access to UVa buildings. We also maintain good working relationships with building officials from Charlottesville, Albemarle County, Virginia Tech, and members of the local Virginia Building and Code Officials Association. We also work with professional organizations throughout the state and country, sharing expertise, ideas for improved processes, and taking part in educational opportunities. Details of these activities are provided within the individual biographical sections at the end of this report.

The State Fire Marshal’s Office continues to allow our staff to perform inspections and document compliance when they are unable to schedule us for inspections on our timeline. This benefit is utilized frequently as it allows the University to continue doing construction without delays that might be caused by awaiting scarce appointments with state inspectors.
The Office of the University Building Official successfully met its organizational goals for the 2013-2014 reporting year. Our year-end report, prepared on July 7 for internal evaluation purposes, is repeated below indicating the goals set by the OUBO team and the results of those efforts.

1) Enhance Collaboration and Governance – Complete by June 1, 2014.
   a) Utilize cross-functional partnerships to enhance overall effectiveness of the construction process on grounds.
   Results: Staff was involved in several cross-functional partnerships this year including significant contribution in the siting, design, and construction of the Berlin Wall exhibit. Staff was also involved with committees dealing with other university planning issues for accessibility, water conservation, and energy efficiency. Recently staff has been involved with the development of the proposed indoor shooting range at Milton and assisting the county in review of sprinklers for a fraternity.

   b) Seek to further develop and enhance collaboration with UVa Wise to improve service delivery.
   Results: OUBO has worked with UVa Wise staff to expedite two small project reviews. Staff has also provided assistance in working through RFI’s related to construction of the new Library and inspections of the Health and Wellness Center.

   c) Proactively seek continuous feedback related to process improvements and services offered.
   Results: Met individually with FM unit managers, project managers, directors, and staff to seek ideas and feedback related to OUBO organizational structure and priorities.
2) **Enrich Technical Expertise and Enhance Messaging** – Complete by June 1, 2014.
   a) Prepare for state’s transition from 2009 to 2012 Building Codes. Evaluate alternative resources and workload trends to minimize effect of state-mandated training on project schedules.
   
   **Results:** The state’s adoption of new codes occurred on July 14, 2014. Staff was very active in monitoring the code adoption process and attended hearings to evaluate and speak to the effect various proposals might have on UVa. Three staff members have attended training sessions offered by their respective professional organizations related to significant changes in the codes. State mandated training will occur in July and August. Staff will attend training in three separate localities to ensure office remains open during the critical summer construction season.

   OUBO staff also obtained several new certifications this year, including certifications in Fire Plans Examiner, Commercial Building Inspector, Building Plans Examiner, and the state’s newest certification for Commercial Energy Plans Examiner. Most significantly, Bob Waite obtained his CBO certification.

   b) Optimize existing methods of communications and investigate alternatives to apprise clients of potential code issues and upcoming technical changes.

   **Results:** Staff evaluated the 2012 codes to understand the possible effects changes would have on design and construction. Training sessions for clients are noted in our ’14-'15 goals. An informational announcement was distributed to clients to alert them to the adoption of new codes and procedures for determining whether to stay under the previous codes or convert to the new ones.

   c) Increase staff involvement in other state and local professional organizations as a means to benchmark procedures and performance against others.

   **Results:** The office has become actively involved with the local chapter of the Virginia Building Code Officials Association as a means to share ideas and solutions for common code enforcement issues. One staff member was also active with the Virginia Chapter of the Society for Fire Protection Engineers and one serves as 2nd VP of the Virginia Fire Prevention Association.

3) **Optimize OUBO Resources** - Complete by June 1, 2014
   a) Optimize workspace environment to improve personnel efficiencies and to project a professional impression to clients. Seek alternative sites to provide a more cohesive setting for all employees.

   **Results:** Entry space into the OUBO office area was converted into a small conference room that has become a central and frequently used space. Staff members no longer need to accommodate visitors within their individual cubicles with the availability of this small conference area. The area was updated with new
paint and historical photos of construction sites for several UVa structures. A space to post pertinent and important announcements was also provided.

b) Seek methods to reduce paper storage through improved technologies such as evaluation of using larger monitors for review of digital plans and providing electronic codes to all reviewers. Evaluate alternative locations for long-term storage.

Results: Two reviewers transitioned to performing at least 80% of their reviews electronically on large computer monitors. This has resulted in less paper storage and a more professional and pleasing workspace. In addition, the individual OUBO printer was donated to Facilities Management administrative personnel and is no longer stored within the space.

c) Upgrade current electronic filing system to improve consistency and accelerate access to currently applicable files while archiving and/or purging outdated materials.

Results: All building permit forms were updated in December to reflect up-to-date information as well as a more uniform and professional appearance.

4) Monitor Organizational Performance - Complete by June 1, 2014.
   a) Monitor organizational performance utilizing quarterly data. Continuously evaluate to ensure appropriate performance measures are used.

Results: Quarterly reports are prepared, distributed, and discussed at OUBO staff meetings.

b) Analyze data and trends to inform decisions related to priorities and allocation of resources.

Results: OUBO now has two years’ worth of data related to performance measures. This data shows trends in workload related to certain quarters and allows for better planning and scheduling of special projects during appropriate times of the year.
CURRENT ORGANIZATIONAL GOALS: JULY 2014 - JUNE 2015

Strategic goals for the current year were prepared in early 2014 during FY2014-15 budget preparations and were slightly adjusted in early July to account for staff changes. Formatting of this document, which follows, was changed to improve ongoing tracking for OUBO staff.

- **Goal 1: Proactively Seek Customer Feedback Through New Outreach Surveys**
  The Office of University Building Official (OUBO) received high marks during the formal customer service survey in 2012. However, customer feedback also resulted in the implementation of two highly effective changes in procedures. We believe that proactively seeking out formal feedback will spark ideas and inform decisions as we continuously seek organizational excellence.

- **Goal 2: Extend Technical Outreach**
  OUBO will complete its transition from a reactive focus (providing assistance when requested) to a proactive focus of continuously providing clients with knowledge and resources.

- **Goal 3: Provide Specialized Technical Services**
  Highly trained and uniquely experienced architects and engineers make up the staff at OUBO. We seek ways to more fully serve the University utilizing our specialized expertise. We believe we can serve in providing good stewardship of the University’s heritage and resources by sharing our skills to solve unique problems. We also believe we can expand our services to offer proactive project handling and scheduling assistance to first time clients, clients with highly compressed schedules, and clients needing individualized assistance. It is believed that an additional staff person is required to expand our services into this new direction.

- **Goal 4: Strive for Continued Process Simplification and Organizational Excellence**
  Continue our tradition of seeking new efficiencies. OUBO has noted several areas with opportunities for process simplification.

- **Goal 5: Improve Professional Work Environment**
  In 2013, OUBO’s public office area was converted to a now frequently utilized conference area. Our goal this year is to update the reviewers areas to improve working conditions and to present a more professional image.
Elaine Gall, PE, CBO, CFO
University Building Official
B.S. in Mechanical Engineering, Virginia Tech
M.E. in Fire Protection Engineering, University of Maryland

Elaine was appointed University Building Official in 2009. She joined the University of Virginia in 2006, serving first as Senior Fire Protection Engineer. Prior to joining UVa, Elaine served in the Virginia State Fire Marshal’s Office as Regional Engineer for a 20 county area in Western and Central Virginia. She also served as Building Commissioner for Roanoke County. Elaine has 29 years of professional experience in construction, code enforcement, and fire protection engineering. She has been actively involved in code development on both the state and national levels throughout her career.

Elaine’s current role involves the administration of Office of the University Building Official, including the code compliance program for all construction projects at UVa. This includes UVa College at Wise, Blandy Farm, and UVa’s various other properties throughout the state. She is also actively involved in inspections and provides technical guidance to staff and clients.

Elaine is a registered Professional Engineer and is a Certified Building Official. She is also a Certified Fire Official and holds certifications in Mechanical, Building, and Fire Code Plan Review and Inspections. She is a member of the Virginia Building and Code Officials Association and the Virginia Fire Prevention Association where she serves as Second Vice-
President and Chair of the newly created Budget and Contracts Committee. Elaine also served as a Governor-appointed member of the Virginia Fire Services Board for four years and represented that Board as a member of the Virginia Board of Housing and Community Development for the last two years. Most recently, she has been asked to represent Virginia at the International Code Council hearings to be held in October.

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**Robert Waite, AIA, CBO**  
*Review Unit Managing Architect*  
*B.S. in Architecture, University of Virginia*

Bob joined OUBO as Senior Review Architect in December 2008. He has over 25 years of professional experience in architectural design, project management and code compliance inspections. He has experience in all types of building uses including health care facilities, residential and dining facilities, athletic facilities and classroom and laboratory facilities.

At OUBO, Bob manages and distributes the reviews for all projects that the office reviews. He coordinates with Project Managers and helps them schedule the reviews for their projects. He assigns the processing of all building permits. He provides ADA compliance inspections and expertise when needed and assists in reviews for architectural code compliance, constructability, ADA compliance, and compliance with UVa’s Facility Design Guidelines. He also assists the University Building Official on an as-needed basis.

Since serving with the US Army as a 1st Lieutenant with the 101st Airborne Division in the Republic of Vietnam, Bob has become a registered Professional Architect in Virginia and is a member of the American Institute of Architects. He also holds certifications with the Virginia Department of Housing and Community Development as a Residential Building Inspector and a Combination Building Plans Examiner. Bob completed the requirements for Certified Building Official and obtained certification in May of this year.

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**Ronald Herfurth, PE**  
*Senior Mechanical Engineer*  
*B.S. in Mechanical Engineering, Virginia Tech*

Ron joined OUBO as Senior Mechanical Engineer in 1991. He joined the University of Virginia in 1988. At OUBO he reviews mechanical and plumbing plans and specifications and participates in inspections of mechanical and plumbing systems. He also serves as in-house consultation for mechanical systems and value management studies. He is a standing member and chairman of an interdepartmental Facilities Management HVAC Committee.

Ron is a registered Professional Engineer in Virginia and holds DHCD certification as mechanical plans examiner, plumbing plans examiner, commercial energy plans examiner commercial mechanical inspector, commercial plumbing inspector, and commercial energy inspector. Ron obtained both energy certifications within the last year and is one of the first in Virginia to have done so as the program is newly adopted in our state.
Also in the past year, Ron has attended the DHCD Advanced Official course in preparation for obtaining CBO certification. Ron is a member of American Society of Heating Refrigeration and Air-Conditioning Engineers.

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**Ben Hays, PE, SE, LEED AP**
**Senior Civil/Structural Engineer**
*B.S. in Civil Engineering, Virginia Tech*
*M.S. in Civil Engineering, Virginia Tech*
*M.A. in Theology, Fuller Seminary*
*M.A. in Architectural History, University of Virginia*

Ben joined OUBO as the Senior Civil / Structural Engineer in November 2011. At OUBO he reviews plans and specifications and conducts inspections related to civil and structural engineering. Additionally, he provides in-house consultation for structural engineering related projects and participates in large-project value management studies. In the spring of 2014, Ben acted as the project manager and structural engineer on the Berlin Wall display pavilion, located in front of Special Collections Library. He is currently helping direct an overhaul of the 300+ page University *Facility Design Guidelines*.

Ben has 12 years of professional design, management, and review experience and has worked as a civil and structural engineer in California and Virginia. He holds licenses in both Virginia and California and is also an ICC certified Commercial Plans Examiner, an ICC certified Commercial Building Inspector, and a LEED Accredited Professional. He recently completed coursework needed to take the Certified Building Official examination, which he plans to complete during the next academic year.

Ben is a member of several professional organizations, including an Associate Member of the American Society of Civil Engineers (ASCE), a member of the National Trust for Historic Preservation, a member of the Construction History Society of America (CHSA) and a member of the Southeast Chapter of the Society of Architectural Historians (SESAH).

Starting in January 2014, Ben taught a new course in the School of Architecture, titled *History of American Building Technology*. The course integrated material on the history of building technology with the development of design methods within the United States and used the University's buildings as a series of case studies.

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**Katherine Grove, AIA, LEED AP**
**Senior Review Architect**
*B.S. in Architecture with Minor in Architectural History, University of Virginia*
*M.A. in Architecture, Syracuse University*

Kathy joined OUBO as Senior Review Architect in April 2012. She provides review, in-house consultation and value-management input for architectural projects with regard to code and ADA compliance, constructability, and compliance with UVa’s Facilities Design Guidelines. She also conducts building inspections for code, ADA compliance, and occupancy. Kathy is a member of UVa’s Environmental Impact Subcommittee where she co-
chairs the Water Working Group. This year, she was the architect on the 3 person design team for the recently constructed Berlin Wall display pavilion on Grounds.

Kathy has 24 years of professional experience in architectural design including 15 years as a Director/Project Manager specializing in sustainable design/consulting and construction of institutional, mixed-use and residential projects. She was Project Manager for multiple LEED certified Gold and Platinum projects, has presented at the national AIA and Greenbuild conventions, and maintains a licensed architectural practice specializing in sustainable residential design.

Kathy is a registered Professional Architect in Virginia and holds Virginia DHCD and ICC certified Commercial Building Inspector and Commercial Building Plans Examiner licenses. Kathy is a member of the American Institute of Architects (AIA) and is a Leadership in Energy and Environmental Design (LEED) Accredited Professional.

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**Scott Clough, PE, LEED AP**  
**Senior Electrical Engineer**  
*B.S. in Electrical Engineering, Purdue University*

Scott joined OUBO as Senior Electrical Engineer in January 2014. Prior to joining UVa, he worked as a Senior Project Manager in Ohio. He has 15 years of engineering experience including consulting, peer review, standards, and electrical design for education, healthcare, hospitality, and utility projects. At OUBO, he reviews plans and specifications and participates in inspections for electrical and fire alarm systems. He also serves as in-house consultant for electrical systems, lighting, fire alarm, and value management studies.

Scott is a member of UVa’s Electrical Safety Committee. He is also a Leadership in Energy and Environmental Design (LEED) Accredited Professional and a member of the Institute of Electrical and Electronics Engineers (IEEE).

Scott is a registered Professional Engineer in Virginia and 17 other states. He has completed the Virginia Code Academy Training Sessions towards achieving certification as an Electrical Plans Examiner and Commercial Electrical Inspector.

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**David Cooper, CBO**  
**Senior Fire Protection Engineer**

David joined OUBO as a Fire Protection Engineer in June 2014 bringing with him a broad range of valuable code enforcement experience in all areas of expertise. Prior to joining UVA he spent 10 years as the Building Official for Fauquier County. He has 27 years of experience in the construction field as a field inspector, plan reviewer and general code compliance reviewer. His experience includes field inspections for all building trades, plan review and oversight of all processes of a County Building Department. Additionally he has spent several years with The State Fire Marshal’s Office where he performed construction and general fire safety inspections for existing and new construction of State owned universities.
and hospitals. At OUBO his primary responsibility is plan review and consultation related to fire safety provisions including fire suppression, egress and fire resistance rated construction.

David provides valuable proficiency in many areas of code enforcement and holds an astounding 14 certifications from Virginia Department of Housing and Community Development including: Certified Building Official, Fire Protection Plans Examiner, Commercial Plans Examiner, Commercial Electrical Plans Examiner, Combination Commercial Inspector; which includes Commercial Building, Electrical, Plumbing, and Mechanical Inspector Certifications; Combination Residential Inspector; which includes Residential Building, Electrical, Plumbing and Mechanical Inspector Certifications, Fire Protection Inspector, Elevator Inspector, and Amusement Device Inspector.

David is a member of the Virginia Building and Code Officials Association.