Joint Open Session with the Finance and Resource Management Committee
The Buildings and Grounds Committee and the Finance and Resource Management Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Monday, March 20, 2023 at 8:37 a.m. in joint open session in Latham Ballroom C, D, E, F of the Inn at Virginia Tech and Skelton Conference Center (901 Prices Fork Rd, Blacksburg, VA 24061). A quorum of the joint Committee was present.

Board of Visitors Members Present:
Tish Long (Rector)
Ed Baine (Vice Rector and Committee Chair)
Shelly Butler Barlow (Committee Chair)
Sandy Cupp Davis
Carrie Chenery
Greta Harris (Committee Member)
C.T. Hill (Committee Member)
Brad Hobbs (Committee Member)
Anna James (Committee Member)
Chris Petersen (Committee Member)
Jeff Veatch

Constituent Representative(s) Present:
Robert Weiss (Faculty Representative)
Serena Young (Staff Representative)

Also present were the following Virginia Tech staff members and guests:
President Tim Sands, Callan Bartel, Lynsay Belshe, Bob Broyden, Brock Burroughs, Cyril Clarke, Al Cooper, David Crotts, Corey Earles, Jeff Earley, Alisha Ebert, Ted Faulkner, Mark Gess, Emily Gibson, Suzanne Griffin, Kay Heidbreder, Tim Hodge, Elizabeth Hooper, Travis Hundley, Frances Keene, Chris Kiel, Chris Kiwus, Sharon Kurek, Jack Leff, Lauren Malhotra, Rob Mann, Meghan Marsh, Elizabeth McClanahan, Nancy Meacham, Scott Midkiff, Jeff Mitchell, Liza Morris, Justin Noble, Kim O’Rourke, Mark Owczarski, James Perkins, Charlie Phlegar, Zo Qazi, Amy Sebring, Brennan Shepard, Oliver Shuey, Ken Smith, John Tarter, Dwyn Taylor, Jon Clark Teglas, Rob Viers, Tracy Vosburgh, Michael Walsh, Melinda West, Chris Wise, and Nick Woods

1. Approval of the 2024-2030 Capital Outlay Plan: In November, the Board of Visitors approved an update to the 2047 Campus Master Plan which made adjustments to its long-term land use plans. Today, the Committees reviewed for approval the Six-Year Capital Outlay Plan.

Capital Outlay Plans identify the university’s top priorities for future facility improvements and ensure debt capacity would be sufficient for the plan, but do not authorize action or spending for individual projects listed on the plan.
The university prepares an updated Six-Year Capital Outlay Plan every two years as part of its normal planning and budgeting cycle. The Plan is a critical component of positioning the university for state support of major Educational and General projects and for advancing high priority projects that may be funded entirely with nongeneral fund resources. Thus, in the future, we may expect separate requests for planning and construction of projects for consideration, and we will make those decisions when the time is appropriate. The next state capital outlay plan will be for 2024-2030 and will be established in the 2024 budget development process. Traditionally, the state requires each institution to submit a capital plan in June of the year before a new biennium begins. Based on that timetable, a plan from the university for 2024-2030 will be due to the state in June of 2023.

The university will provide an update to the status of the 2024-2030 Plan at a future Board of Visitors meeting.

The Committees recommended the 2024-2030 Capital Outlay Plan to the full Board for approval.

There being no further business, the meeting adjourned at 8:46 a.m.

Open Session Meeting
The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Monday, March 20, 2023 at 9:01 a.m. in open session in the Smithfield Room of the Inn at Virginia Tech and Skelton Conference Center to depart for a campus tour (901 Prices Fork Rd, Blacksburg, VA 24061). A quorum of the Committee was present.

Board of Visitors Members Present:
Tish Long (Rector)
Shelly Butler Barlow (Committee Chair)
Greta Harris (Committee Member)
C.T. Hill (Committee Member)
Chris Petersen (Committee Member)

Constituent Representative(s) Present:
None

Also present were the following Virginia Tech staff members and guests:
President Tim Sands, Bob Broyden, Corey Earles, Alisha Ebert, Ted Faulkner, Mark Gess, Emily Gibson, Alan Grant, Patrick Hilt, Mary-Ann Ibeziako, Chris Kiel, Chris Kiwus, Kayla Lambert, Jack Leff, Meghan Marsh, Daniella Miller, Jeff Mitchell, Liza Morris, Saied
Agenda Item

1. Consent Agenda: The Committee approved the items listed on the Consent Agenda.

   a. Approval of the Minutes from the November 2022 Meeting: The Committee approved the minutes from the November 14, 2022 meeting.

   b. Resolution to Approve a Corrected Deed Easement for Town of Blacksburg Water Line: The Committee reviewed for approval a resolution to approve a corrected deed easement for Town of Blacksburg water line. As part of a residential housing project that is in support of the Virginia Tech Corporate Research Center, a water line easement to the Town of Blacksburg to connect with a main water line on Virginia Tech’s property in the area of the Wood Processing Lab has been requested to be corrected.

      The Committee recommended the Resolution to Approve a Corrected Deed Easement for Town of Blacksburg Water Line to the full Board for approval.

   c. Acceptance of the Quarterly Capital Project Status Report: The Committee accepted the quarterly capital project status report.

2. Approval of a Resolution for Conveyance of Easements: The Committee reviewed for approval a resolution for conveyance of easements. The university on occasion has the need to convey easements to outside entities to support its mission. The university is requesting that the Executive Vice President and Chief Operating Officer or her/his designee be authorized to approve the conveyance of easements.

      The university will provide a recurring update of easements conveyed at future Board of Visitors meetings.

      The Committee recommended the Resolution for Conveyance of Easements to the full Board for approval.

3. Update on Agricultural Facilities and Partnerships: The Committee received an update from Alan Grant, dean of the College of Agriculture and Life Sciences, and Paul Winistorfer, dean of the College of Natural Resources and Environment, on agricultural facilities planning and construction.

4. Update on the Utilities Master Plan: The Committee received an update on the Utilities Master Plan from Mary-Ann Ibeziako, assistant vice president for
infrastructure and chief sustainability officer. In 2018, Virginia Tech completed its most recent master planning effort resulting in ‘Beyond Boundaries 2047: The Campus Plan.’ In 2020, Virginia Tech revised its Climate Action Commitment, setting sustainability goals and milestones thru 2050. The Utilities Master Plan will provide a comprehensive framework to ensure that future programmatic needs are met and that the university remains a leader in the field of higher education infrastructure. The project is underway and expected to be completed in late 2024.

5. **Future Agenda Items and Closing Remarks:** The Committee discussed potential topics for inclusion on future meeting agendas.

There being no further business, the meeting adjourned at 10:02 a.m.

**************************************************************************

**Open Session Dedication Ceremony**

The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University reconvened on Monday, March 20, 2022 at 10:15 a.m. in open session in the Lobby of the Inn at Virginia Tech and Skelton Conference Center (901 Prices Fork Rd, Blacksburg, VA 24061) to depart for a dedication ceremony at the Merryman Center. A quorum of the Committee was present.

**Board of Visitors Members Present:**
- Ed Baine (Vice Rector)
- Sharon Brickhouse Martin
- Shelly Butler Barlow (Committee Chair)
- Greta Harris (Committee Member)
- C.T. Hill (Committee Member)
- Chris Petersen (Committee Member)

**Constituent Representative(s) Present:**
None

Also present were the following Virginia Tech staff members and guests:
Whit Babcock, Joseph Barlow, Jr., Dave Cianelli, John Dooley, Jerry Gaines, Reyna Gilbert-Lowry, Matt Goff, Angela Hayes, Chris Helms, Chris Kiwus, Charlie Phlegar, Sue Rowdon, Jon Clark Teglas, Paul Winistorfer, Danny White, and additional invited guests

**Agenda Item**

* Requires Full Board Approval
# Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)
6. **Dedication Ceremony:** The Committee attended the dedication of the track and field/cross country head coach’s office in Cassell Coliseum for Dr. Jerry Gaines, ’71.

The Committee returned to the Inn at Virginia Tech and Skelton Conference Center at 11:25 a.m.

*******************************************************************************
Open Session Agenda

BUILDINGS AND GROUNDS COMMITTEE

Monday, March 20, 2023

Open session meeting resumes at 9:00 a.m.
in the Smithfield Room of the Inn at Virginia Tech and Skelton Conference Center.

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Reporting Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consent Agenda</td>
<td>Committee Chair</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Approval of the Minutes from the November 2022 Meeting</td>
<td></td>
</tr>
<tr>
<td>b. Resolution to Approve a Corrected Deed Easement for Town of Blacksburg Water Line</td>
<td></td>
</tr>
<tr>
<td>c. Acceptance of the Quarterly Capital Project Status Report</td>
<td></td>
</tr>
</tbody>
</table>

| # * 2. Approval of a Resolution for Conveyance of Easements | Bob Broyden                  |
| # * 3. Update on Agricultural Facilities and Partnerships | Alan Grant                   |
| College of Agriculture and Life Sciences                | Paul Winistorfer             |
| College of Natural Resources and Environment            |                               |

| # * 4. Update on the Utilities Master Plan             | Mary-Ann Ibeziako             |

| 5. Future Agenda Items and Closing Remarks            | Committee Chair               |

Bus departs for ceremony at 10:15 a.m.
from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.

<table>
<thead>
<tr>
<th>Agenda Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>6. Dedication Ceremony</td>
<td>Committee Chair</td>
</tr>
</tbody>
</table>

* Requires Full Board Approval
# Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)
Consent Agenda

BUILDINGS AND GROUNDS COMMITTEE

Monday, March 20, 2023

The Committee will consider for approval and acceptance the items listed on the Consent Agenda.

Consent Agenda
   a. Approval of the Minutes from the November 2022 Meeting
   * b. Resolution to Approve a Corrected Deed Easement for Town of Blacksburg Water Line
   c. Acceptance of the Quarterly Capital Project Status Report

* Requires full Board approval.
Joint Open Session with the Finance and Resource Management Committee
The Buildings and Grounds Committee and the Finance and Resource Management Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Sunday, November 13, 2022 at 9:15 a.m. in joint open session in Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center (901 Prices Fork Rd, Blacksburg, VA 24061). A quorum of the joint Committee was present.

Board of Visitors Members
Present:  
Tish Long (Rector)  
Ed Baine (Committee Co-Chair)  
Sharon Brickhouse Martin  
Shelly Butler Barlow (Committee Co-Chair)  
David Calhoun  
Sandy Cupp Davis  
Carrie Chenery  
Greta Harris (Committee Member)  
Brad Hobbs (Committee Member)  
Anna James (Committee Member)  
Melissa Nelson  
Chris Petersen (Committee Member)  
Jeff Veatch  

Absent:  
C.T. Hill (Committee Member)

Constituent Representative(s) Present:  
Robert Weiss (Faculty Representative)  
Holli Drewry (Administrative and Professional Faculty Representative)  
Serena Young (Staff Representative)  
Jamal Ross (Undergraduate Student Representative)  
Anna Buhle (Graduate Student Representative)

Also present were the following Virginia Tech staff members and guests:  
President Tim Sands, Mac Babb, Callan Bartel, Laura Belmonte, Lysay Belshe, James Bridgeforth, Bob Broyden, Brock Burroughs, Cyril Clarke, Al Cooper, David Crotts, John Cusimano, Jeff Earley, Alisha Ebert, Kari Evans, Mark Gess, Emily Gibson, Suzanne Griffin, Rebecca Halsey, Kay Heidbreder, Mary Helmick, Tim Hodge, Travis Hundley, Frances Keene, Chris Kiwus, Sharon Kurek, Jack Leff, Evans Lusuli, Rob Mann, Meghan Marsh, Elizabeth McClanahan, Nancy Meacham, Jeff Mitchell, Kimberly Moore, Liza Morris, Margaret Nagai-Singer, Justin Noble, Kim O'Rourke, Mark Owczarski, James Perkins, Charlie Phlegar, Kevin Pitts, Menah Pratt, Julia Ross, Amy Sebring, Lexi Simmers, Dan Sui, Dwyn Taylor, Don Taylor, Jon Clark Teglas, Harmony Tripp, Rob Viers, Tracy Vosburgh, Michael Walsh, Lisa Wilkes

* Requires Full Board Approval  
# Discusses Enterprise Risk Management Topic(s)  
+ Discusses Strategic Investment Priorities Topic(s)
1. **Review and Acceptance of the Annual Report on University Debt Ratio and Debt Capacity:** The joint Committee received a report on the university's debt ratio and debt capacity. At the conclusion of fiscal year 2021-22, outstanding long-term debt of the university totaled $547.6 million with a debt ratio of 3.45 percent of operating expenditures. The university proposes the continuation of the six percent cap on the debt ratio for future years.

   The joint Committee accepted the report.

2. **Resolution to Adopt the Student Life Village Master Plan as a Supplement to the Campus Master Plan:** The Committee reviewed a resolution to adopt the 2022 Student Life Village Master Plan. The university has prepared the Student Life Village master plan to guide the physical development of a new residential district in supplement to the 2018 Campus Master Plan, Beyond Boundaries 2047: The Campus Plan. The plan for the Student Life Village sets forth a long-range vision that builds off the goals, objectives, and aspirations of the master plan and the university's strategic plan, The Virginia Tech Difference: Advancing Beyond Boundaries. The planning process for the Student Life Village included engagement with campus executive leadership, a broad range of constituents including students, and was shaped by the technical expertise of campus stakeholders. The plan incorporates analysis of residential program needs, land use, landscape, building massing, scale, and siting. Additionally, the plan evaluated and incorporated layers of infrastructure including mobility and accessibility, utilities and stormwater, technology, and safety. The supplemental plan includes the flexibility to implement the Student Life Village beds in three sequenced phases, separately and independently, as needed to address demand for on-campus beds over time. The action of adopting the 2022 Student Life Village Master Plan as a supplement to the Campus Master Plan would not grant authority beyond the land use designation and would not authorize action and/or expenditures for design or construction services. The implementation of any element of a master plan, including the 2022 Student Life Village Master Plan Supplement, shall follow the university's review and approval processes including the Six-Year Capital Outlay Plan, capital project authorizations, debt authorizations, capital project design preview authorizations, and capital project design review authorizations. The resolution seeks adoption of the plan as a supplement to the previously adopted 2018 Campus Master Plan.

   The joint Committee recommended the resolution to the full Board for approval.

   There being no further business, the meeting adjourned at 10:30 a.m.
Open Session Tour
The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University convened on Monday, November 14, 2022 at 8:30 a.m. in open session in the Lobby of the Inn at Virginia Tech and Skelton Conference Center (901 Prices Fork Rd, Blacksburg, VA 24061) to depart for a campus tour. A quorum of the Committee was present.

Board of Visitors Members
Present:  
Shelly Butler Barlow (Committee Chair)  
Greta Harris (Committee Member)  
Chris Petersen (Committee Member)  

Absent:  
Tish Long (Rector)  
Ed Baine  
Sharon Brickhouse Martin  
David Calhoun  
Sandy Cupp Davis  
Carrie Chenery  
C.T. Hill (Committee Member)  
Brad Hobbs  
Anna James  
Melissa Nelson  
Jeff Veatch

Constituent Representative(s) Present:  
None

Also present were the following Virginia Tech staff members and guests:  
Rosie Cicmanec, Aaron Curfiss, Katrina Estep, Randal Fullhart, Chris Kiel, Chris Kiwus, Meghan Marsh, Liza Morris, Jeff Orzolek, Dwyn Taylor, Jon Clark Teglas


The tour concluded as the Committee returned to the Inn at 9:57 a.m.

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Open Session Meeting
The Buildings and Grounds Committee of the Board of Visitors of Virginia Polytechnic Institute and State University reconvened on Monday, November 14, 2022 at 10:05 a.m. in open session in the Smithfield Room of the Inn at Virginia Tech and Skelton Conference Center (901 Prices Fork Rd, Blacksburg, VA 24061). A quorum of the Committee was present.

Board of Visitors Members

Present:
- Tish Long (Rector)
- Shelly Butler Barlow (Committee Chair)
- Sandy Cupp Davis
- Greta Harris (Committee Member)
- Melissa Nelson
- Chris Petersen (Committee Member)

Absent:
- Ed Baine
- Sharon Brickhouse Martin
- Carrie Chenery
- C.T. Hill (Committee Member)
- Melissa Nelson
- Jeff Veatch

Constituent Representative(s) Present:
None

Also present were the following Virginia Tech staff members and guests:
President Tim Sands, Rosie Cicmanec, Van Coble, Alisha Ebert, Mark Gess, Emily Gibson, Dan Givens, Wendy Halsey, Lindsey Haugh, Patrick Hilt, Mary-Ann Ibeziako, Pete Jobst, Chris Kiel, Nathan King, Chris Kiwus, Kayla Lambert, Jack Leff, Meghan Marsh, Jeff Mitchell, Kimberly Moore, Liza Morris, Saied Mostaghimi, Heidi Myers, Ed Nelson, Kim O'Rourke, Mark Owczarski, James Perkins, Matt Spencer, Dan Sui, Dwyn Taylor, Jon Clark Teglas, Harmony Tripp, Emily Vollmer, Tracy Vosburgh,

2. Consent Agenda: The Committee approved the items listed on the Consent Agenda.

   a. Approval of the Minutes from the August 22, 2022 Meeting: The Committee approved the minutes from the August 22, 2022 meeting.

   b. Resolution to Approve a Utility Easement at the Northern Piedmont Agricultural Research and Extension Center: The Committee reviewed for approval a resolution authorizing the Executive Vice President and Chief Operating Officer to execute an easement, or an amendment to an existing easement as may be appropriate, to FiberLync. FiberLync, a Fiber Optic Internet Service Provider owned and operated by The Orange County Broadband Authority has requested the university grant an easement in the area of Route 15 James Madison Highway on the Virginia Tech owned parcel in Orange County, Virginia, in support of the FiberLync Broadband Service Project.

   The Committee recommended the resolution to the full Board for approval.

* Requires Full Board Approval
# Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)
c. Acceptance of the Quarterly Capital Project Status Report: The Committee accepted the quarterly capital project status report.

** 3. Update on Agricultural Facilities and Partnerships:** The Committee received an update from Saied Mostaghimi of the College of Agriculture and Life Sciences, and Dan Givens, dean of the Virginia-Maryland College of Veterinary Medicine, on agricultural facilities planning and construction.

** 4. Annual Report on Sustainability:** The Committee received the annual report on sustainability from Mary-Ann Ibeziako, assistant vice president for infrastructure and chief sustainability officer. Virginia Tech serves as a model community for a sustainable society and is committed to advancing sustainability in academics (curriculum & research), engagement, operations, planning, and administration. The university maintains a gold rating from the Association for Advancement of Sustainability in Higher Education (AASHE) using the Sustainability Tracking, Assessment, and Rating System (STARS).

** 5. Update on Research Facilities:** The Committee received an update from Dan Sui, senior vice president and chief innovation officer, on research facilities.

** 6. Design Preview for Mitchell Hall:** The Committee approved the design preview for Mitchell Hall as presented by Liza Morris, assistant vice president for planning and university architect. Virginia Tech’s top ranked College of Engineering has grown 53 percent since the fall of 2006 and represents 54 percent of total degree production at the institution. To address this growth and aging facilities, as well as accommodate evolving instructional methodologies, a new Mitchell Hall facility will replace undersized and outdated Randolph Hall with a state-of-the-art engineering hub. The facility will house Aerospace and Ocean Engineering, Mechanical Engineering, and Engineering Education programs. It will provide project space for student teams, supporting national team-based research and development competitions. The project also provides student collaboration and general assignment classroom spaces, and is intended to serve the entire campus community. The project received $11 million of nongeneral fund authorization for design funding in the 2020 Acts of Assembly and is in the preliminary design phase. Construction activities are anticipated to begin in the winter of 2023 with substantial completion anticipated the summer of 2027.

7. **Future Agenda Items and Closing Remarks:** The Committee discussed potential topics for inclusion on future meeting agendas.

There being no further business, the meeting adjourned at 11:37 a.m.

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Joint Open Session Agenda

FINANCE AND RESOURCE MANAGEMENT COMMITTEE
AND BUILDINGS AND GROUNDS COMMITTEE

Sunday, November 13, 2022
9:00 a.m.
Latham Ballroom A/B of the Inn at Virginia Tech and Skelton Conference Center

<table>
<thead>
<tr>
<th>Agenda Item</th>
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</tr>
</thead>
<tbody>
<tr>
<td>+ # 1. Review and Acceptance of the Annual Report on University Debt Ratio and Debt Capacity</td>
<td>Ken Miller</td>
</tr>
<tr>
<td></td>
<td>Bob Broyden</td>
</tr>
<tr>
<td>* + 2. Resolution to Adopt the Student Life Village Master Plan as a Supplement to the Campus Master Plan</td>
<td>Bob Broyden</td>
</tr>
<tr>
<td></td>
<td>Frances Keene</td>
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</tbody>
</table>

* Requires Full Board Approval
# Discusses Enterprise Risk Management Topic(s)
+ Discusses Strategic Investment Priorities Topic(s)
Open Session Agenda

BUILDINGS AND GROUNDS COMMITTEE

Monday, November 14, 2022

*Bus departs for tour at 8:30 a.m.
from the Lobby of the Inn at Virginia Tech and Skelton Conference Center.*

**Agenda Item**
1. Tour of Capital Construction Projects
   a. Corps Leadership and Military Science Building
   b. Upper Quad Residence Hall

**Reporting Responsibility**
Chris Kiwus
Liza Morris
Dwyn Taylor

*Open session meeting resumes at 10:00 a.m.*
in the Smithfield Room of the Inn at Virginia Tech and Skelton Conference Center.

**Agenda Item**
2. Consent Agenda
   a. Approval of the Minutes from the August 2022 Meeting
   b. Resolution to Approve a Utility Easement at the Northern Piedmont Agricultural Research and Extension Center
   c. Acceptance of the Quarterly Capital Project Status Report

**Reporting Responsibility**
Committee Chair

**Agenda Item**
3. Update on Agricultural Facilities and Partnerships
   College of Agriculture and Life Sciences -- College of Veterinary Medicine

**Reporting Responsibility**
Alan Grant
Dan Givens

**Agenda Item**
4. Annual Report on Sustainability

**Reporting Responsibility**
Mary-Ann Ibeziako

**Agenda Item**
5. Update on Research Facilities

**Reporting Responsibility**
Dan Sui

**Agenda Item**
6. Design Preview for Mitchell Hall

**Reporting Responsibility**
Liza Morris

7. Future Agenda Items and Closing Remarks

**Reporting Responsibility**
Committee Chair

*Requires Full Board Approval

# Discusses Enterprise Risk Management Topic(s)

+ Discusses Strategic Investment Priorities Topic(s)
CAPITAL PROJECTS UPDATE

PREPARED FOR THE BUILDINGS AND GROUNDS COMMITTEE OF THE BOARD OF VISITORS

MARCH 20, 2023
Project Portfolio

- 18 authorized projects -- active and complete (w/in 1-year warranty phase)
- Total value of ~$1.3B
- Adds ~1.6M gross square feet (GSF) of new construction
- Renovates nearly 300K GSF of existing space
# Progressive Capital Construction Executive Summary

**Date Prepared:** 20 FEB 2023

**LEGEND:**
- **SD** = Schematic Design
- **PD** = Preliminary Design
- **WD** = Working Drawings

## Project Title

<table>
<thead>
<tr>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improve Kentland Facilities (Phase II) -- Various Locations</strong></td>
<td>$12.5</td>
<td>$10.1</td>
<td>28,403</td>
</tr>
<tr>
<td><strong>Creativity &amp; Innovation District Living Learning Community</strong></td>
<td>$105.5</td>
<td>$85.3</td>
<td>232,000</td>
</tr>
<tr>
<td><strong>Gas-Fired Boiler at Central Steam Plant</strong></td>
<td>$8.2</td>
<td>$3.8</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Holden Hall Renovations</strong></td>
<td>$74.9</td>
<td>$58.5</td>
<td>82,905</td>
</tr>
<tr>
<td><strong>Chiller Plant Phase II</strong></td>
<td>$42.9</td>
<td>$32.7</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Livestock &amp; Poultry Research Facilities (Ph I) -- Various Locations</strong></td>
<td>$25.3</td>
<td>$18.2</td>
<td>129,100</td>
</tr>
<tr>
<td><strong>Dietrick Renovation</strong></td>
<td>$9.1</td>
<td>$6.8</td>
<td>6,298</td>
</tr>
<tr>
<td><strong>Data &amp; Decision Sciences Building (D&amp;DS)</strong></td>
<td>$79.0</td>
<td>$58.9</td>
<td>120,000</td>
</tr>
<tr>
<td><strong>Corps Leadership &amp; Military Science Building</strong></td>
<td>$52.0</td>
<td>$37.9</td>
<td>65,428</td>
</tr>
<tr>
<td><strong>Multi-Modal Transit Facility</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>13,606</td>
</tr>
<tr>
<td><strong>New Upper Quad Residence Hall</strong></td>
<td>$42.0</td>
<td>$32.0</td>
<td>56,650</td>
</tr>
<tr>
<td><strong>INNOVATION CAMPUS - ACADEMIC BUILDING</strong></td>
<td>$302.1</td>
<td>$226.3</td>
<td>299,733</td>
</tr>
<tr>
<td><strong>Undergraduate Science Laboratory Building</strong></td>
<td>$90.4</td>
<td>$69.5</td>
<td>102,746</td>
</tr>
<tr>
<td><strong>Student Wellness Improvements</strong></td>
<td>$70.0</td>
<td>$56.3</td>
<td>217,708</td>
</tr>
<tr>
<td><strong>Life, Health, Safety, Accessibility and Code Compliance</strong></td>
<td>$10.4</td>
<td>$3.9</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Building Envelope Improvements</strong></td>
<td>$47.2</td>
<td>$41.9</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Mitchell Hall (Replace Randolph Hall)</strong></td>
<td>$248.0</td>
<td>$186.0</td>
<td>284,000</td>
</tr>
<tr>
<td><strong>Planning: New Business Building -- Design Only</strong></td>
<td>$8.0</td>
<td>$60.6M</td>
<td>104,000</td>
</tr>
</tbody>
</table>

**TOTALS:**
- **FY22:** $1,312.5
- **FY23:** $1,625,869
- **FY24:** $258,357

### Notes:
- **Note 1:** Non-VT project
- **Note 2:** Multiple GMPs results in design/construction overlap (fast track)
- **Note 3:** Project will be executed in prioritized sub-projects
Prior BOV (NOV 2022)
Current BOV (MAR 2023)
Changes since last report
Pre-Planning/Feasibility Design Construction Warranty/Close-Out

Legend:
- Prior BOV (NOV 2022)
- Current BOV (MAR 2023)
- Changes since last report

Supported/Non-VT Projects

BoV Authorized Projects

Gilbert St Project
Multi-Modal Trans Fac
Multi-Modal Trans Fac
Gilbert St Project
Capital Project Portfolio

Legend

= In Design
= Under Construction
= Warranty/Complete
* = Design only
In Design
Projects In Design

New Business Building

Mitchell Hall
**Mitchell Hall**
*(Replace Randolph Hall)*

**Status:**
- Project fully authorized for construction by General Assembly
- Preliminary Design cost estimates under development
- CMaR pre-construction services contract is underway

**Next Actions:**
- Transition to Working Drawings design phase

### Design Construction

**LEGEND:**
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>FY22 Q3</th>
<th>FY22 Q4</th>
<th>FY23 Q1</th>
<th>FY23 Q2</th>
<th>FY23 Q3</th>
<th>FY23 Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitchell Hall (Replace Randolph Hall)</td>
<td>$248.0</td>
<td>$186.0</td>
<td>284,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Designer:** Perkins & Will

**Builder:** Skanska

**CMaR**
*State Authorized*
Status:
- Schematic Design underway
- Negotiating CMaR contract

Next Actions:
- Execute CMaR contract
- Targeting BOV Construction Authorization in summer 2023

Designer: Moseley
Builder: TBD
Under Construction
Active Construction Projects

- Corps Leadership & Military Science Building
- New Upper Quad Residence Hall
- Life, Health, Safety, Accessibility
- Dietrick Renovation
- Innovation Campus Academic Building (Alexandria, VA)
- Livestock & Poultry Research Facilities (Various locations)

- Multi-Modal Transit Facility (ToB project)
- Data & Decisions Science Building
- Undergraduate Science Laboratory Building
- HITT Hall
- Student Wellness Improvements

12
### Innovation Campus - Academic Building

**Status:**
- Project on track (55% complete)
- Structural steel topped out on 7 FEB 2023

**Next Actions:**
- Anticipated completion in spring/summer 2024

**LEGEND:**
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

---

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Campus - Academic Building (Note 2)</td>
<td>$302.1</td>
<td>$226.3</td>
<td>299,733</td>
<td></td>
</tr>
</tbody>
</table>

**Construction Budget ($M)**

<table>
<thead>
<tr>
<th>CY 2022</th>
<th>CY 2023</th>
<th>CY 2024</th>
<th>CY 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-MAR</td>
<td>APR-JUN</td>
<td>JUL-SEP</td>
<td>OCT-DEC</td>
</tr>
<tr>
<td>FY22 Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>FY23 Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>FY24 Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>FY25 Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>FY26 Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
</tr>
</tbody>
</table>

**Note 2:** Multiple GMPs results in design/construction overlap (fast track)

**Designer:** SmithGroup

**Builder:** Whiting-Turner

---

CM at Risk
State Authorized
**Life, Health, Safety, Accessibility & Code Compliance**

**Status:**
- Phase 1: (Derring Steps Elevators) Construction contract awarded
- Contractor mobilizing and initiating construction
- Note: Overall capital project will be executed in multiple phases

**Next Actions:**
- Anticipated completion in spring 2024

---

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>CY 2022 FY22 Q1 FY23 Q3 FY24 Q1 FY25 Q3</th>
<th>CY 2023 Q2 FY24 Q4 FY25 Q4</th>
<th>CY 2024 Q1 FY25 Q2 FY26 Q3</th>
<th>CY 2025 Q2 FY26 Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life, Health, Safety, Accessibility and Code Compliance (Note 3)</td>
<td>$10.4</td>
<td>$3.9</td>
<td></td>
<td></td>
<td>Q1 FY23 Q3 FY24 Q1 FY25 Q3</td>
<td>Q2 FY24 Q4 FY25 Q4</td>
<td>Q1 FY25 Q2 FY26 Q3</td>
<td>Q2 FY26 Q4</td>
</tr>
</tbody>
</table>

**Designer:** Quinn Evans  
**Builder:** WM Jordan
Status:
• Envelope improvements planned for four buildings
• Contract for first building awarded and underway

Next Actions:
• First building targeted for completion in completion winter/spring 2024

**Design-Bid-Build**
**BOV Authorized**

**Designer:** Quinn Evans

**Builder:** WM Jordan
### Student Wellness Improvements

**Status:**
- Interior demolition essentially complete
- Project on track (15% complete)

**Next Actions:**
- Anticipated completion in July 2024

**Legend:**
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Wellness Improvements</td>
<td>$70.0</td>
<td>$56.3</td>
<td>217,708</td>
<td></td>
</tr>
</tbody>
</table>

**Design:** Cannon Design

**Builder:** Whiting-Turner

**CM at Risk**

**BOV Authorized**
**Status:**
- Project tracking at 30% complete

**Next Actions:**
- Anticipated completion in June 2024

### Project Title: Undergraduate Science Laboratory Building

<table>
<thead>
<tr>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>FY22 Q3</th>
<th>FY22 Q4</th>
<th>FY23 Q1</th>
<th>FY23 Q2</th>
<th>FY23 Q3</th>
<th>FY23 Q4</th>
<th>FY24 Q1</th>
<th>FY24 Q2</th>
<th>FY24 Q3</th>
<th>FY24 Q4</th>
<th>FY25 Q1</th>
<th>FY25 Q2</th>
<th>FY25 Q3</th>
<th>FY25 Q4</th>
<th>FY26 Q1</th>
<th>FY26 Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$90.4</td>
<td>$69.5</td>
<td>102,746</td>
<td></td>
<td>Q3</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### LEGEND:
- **SD** = Schematic Design
- **PD** = Preliminary Design
- **WD** = Working Drawings

### Project: Dietrick Renovation

**Budget Breakdown:**
- **Construction Budget (SM)**: $9.1
- **New Const (GSF)**: 6,298
- **Renovation (GSF)**: 11,960

#### Status:
- Project on track (95% complete)
- Interior renovations complete

#### Next Actions:
- Anticipated plaza completion spring 2023

#### Designer: Hanbury

#### Builder: Branch Builds
**Next Actions:**
- Anticipated completion in March 2024

**Status:**
- Project on track (35% complete)

### Project Title: HITT Hall

<table>
<thead>
<tr>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>FY22 Q3</th>
<th>FY22 Q4</th>
<th>FY23 Q1</th>
<th>FY23 Q2</th>
<th>FY23 Q3</th>
<th>FY23 Q4</th>
<th>FY24 Q1</th>
<th>FY24 Q2</th>
<th>FY24 Q3</th>
<th>FY24 Q4</th>
<th>FY25 Q1</th>
<th>FY25 Q2</th>
<th>FY25 Q3</th>
<th>FY25 Q4</th>
<th>FY26 Q1</th>
<th>FY26 Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$85.0</td>
<td>$65.5</td>
<td>101,000</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>
Corps Leadership & Military Science Building

Status:
• Project on track (80% complete)

Next Actions:
• Anticipated completion in July 2023

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corps Leadership &amp; Military Science Building</td>
<td>$52.0</td>
<td>$37.9</td>
<td>65,428</td>
<td>8,449</td>
</tr>
</tbody>
</table>

LEGEND: SD = Schematic Design          PD = Preliminary Design          WD = Working Drawings

Corps Leadership & Military Science Building

Designer: Clark - Nexsen
Builder: Vannoy
### Legend:
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

### New Upper Quad Residence Hall

**Status:**
- Project on track (75% complete)

**Next Actions:***
- Anticipated completion in fall 2023

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Construction Budget ($M)</th>
<th>Renovation (GSF)</th>
<th>New Const (GSF)</th>
<th>Total Project Budget ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Upper Quad Residence Hall</td>
<td>$42.0</td>
<td>$6,650</td>
<td>$32.0</td>
<td>$42.0</td>
</tr>
</tbody>
</table>

**Designer:** Clark - Nexsen

**Builder:** Vannoy
Status:
• Project on track (98% complete)

Next Actions:
• Anticipated completion in April 2023

LEGEND:
SD = Schematic Design       PD = Preliminary Design       WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data &amp; Decision Sciences Building</td>
<td>$79.0</td>
<td>$58.9</td>
<td>120,000</td>
<td></td>
</tr>
</tbody>
</table>

Data & Decision Sciences Building (D&DS)
Livestock & Poultry Research Facilities (Phase I)

Status:
- Construction underway on 4 of 6 bid packages:
  - Poultry: 99% complete
  - Swine: 99% complete
  - Equine: 100% complete
  - Beef: 99% complete
  - Hay barns: 0% complete

Next Actions:
- Bids package #5 for 3 new hay barns under procurement

LEGEND:
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock &amp; Poultry Research Facilities (Ph I) - Various Locations</td>
<td>$25.3</td>
<td>$18.2</td>
<td>129,100</td>
<td></td>
</tr>
</tbody>
</table>

Designer: Spectrum Design
Builder: (Various)
**Chiller Plant (Phase II)**

**Status:**
- Project complete

**Next Actions:**
- Close out project

---

**Legend:**
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>CY 2022</th>
<th>CY 2023</th>
<th>CY 2024</th>
<th>CY 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JAN-MAR</td>
<td>APR-JUN</td>
<td>OCT-DEC</td>
<td>JAN-MAR</td>
</tr>
<tr>
<td>Chiller Plant Phase II</td>
<td>$42.9</td>
<td>$32.7</td>
<td>N/A</td>
<td></td>
<td>Q3</td>
<td>Q4</td>
<td></td>
<td>Q1</td>
</tr>
</tbody>
</table>

**WARRANTY**

---

**Design-Bid-Build**

**State Authorized**

**Designer:** AEI

---

**Builder:** Faulconer
Status:
- Project complete; full DEQ compliance

Next Actions:
- Close out project

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget (SM)</th>
<th>Construction Budget (SM) (Construction contract value)</th>
<th>New Const. (GSP)</th>
<th>Renovation (GSP)</th>
<th>CY 2022</th>
<th>CY 2023</th>
<th>CY 2024</th>
<th>CY 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas-Fired Boiler at Central Steam Plant</td>
<td>$8.2</td>
<td>$3.8</td>
<td>N/A</td>
<td></td>
<td>Q1 Q2 Q4</td>
<td>Q1 Q2 Q4</td>
<td>Q1 Q2 Q3 Q4</td>
<td>Q1 Q2 Q3 Q4</td>
</tr>
</tbody>
</table>

Legend:
- Design
- Construction
- SD - Schematic Design
- PD - Preliminary Design
- WD - Working Drawings

Designer: AEI
Builder: Southern Air
**Holden Hall Renovation**

**Status:**
- Warranty period complete

**Next Actions:**
- Close out project

**LEGEND:**
- SD = Schematic Design
- PD = Preliminary Design
- WD = Working Drawings

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
<th>Renovation (GSF)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>Total Project Budget ($M)</th>
<th>Construction Budget ($M) (Construction contract value)</th>
<th>New Const (GSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holden Hall Renovations</td>
<td>$74.9</td>
<td>$58.5</td>
<td>82,905</td>
<td>20,240</td>
<td>WARRANTY</td>
<td>$74.9</td>
<td>$58.5</td>
<td>82,905</td>
<td>20,240</td>
<td>WARRANTY</td>
<td>$74.9</td>
<td>$58.5</td>
<td>82,905</td>
</tr>
</tbody>
</table>

**Designer:** Moseley

**Builder:** WM Jordan
Status:
• Warranty period complete

Next Actions:
• Close out project

Legend:
SD = Schematic Design
PD = Preliminary Design
WD = Working Drawings

Project Title
Total Project Budget ($M)
Construction Budget ($M) (Construction contract value)
New Const (GSF)
Renovation (GSF)

Creativity & Innovation District Living Learning Community
$105.5
$85.3
232,000

Warranty

Designer: Hanbury

Builder: WM Jordan

Design-Build
BOV Authorized
Improve Kentland Facilities (Phase II)

**Status:**
- APR Building construction complete
- BETR Building construction complete
- MRL Building construction complete

**Next Actions:**
- APR Building: None -- warranty period complete)
- BETR Building: None -- warranty period complete)
- MRL Building: Resolve manure treatment issue (design/warranty issue)

**Designer:** Spectrum Design

**Builder(s):** APR = Snyder; MRL & BETR = CPPI
Status:
• Construction underway (approx 60% complete)

Next Actions:
• Anticipated completion in fall 2023

Project Title: Multi-Modal Transit Facility

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Total Project Budget (SM)</th>
<th>Construction Budget (SM)</th>
<th>New Const (GFSF)</th>
<th>Renovation (GFSF)</th>
<th>CY 2022</th>
<th>CY 2023</th>
<th>CY 2024</th>
<th>CY 2025</th>
</tr>
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<tbody>
<tr>
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<td></td>
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<td></td>
<td>FY22</td>
<td>FY23</td>
<td>FY24</td>
<td>FY25</td>
</tr>
<tr>
<td>Multi-Modal Transit Facility</td>
<td>(Note 1: N/A)</td>
<td>N/A</td>
<td>13,406</td>
<td>Q3</td>
<td>Q4</td>
<td>Q2</td>
<td>Q1</td>
<td>Q2</td>
</tr>
</tbody>
</table>

Note 1: Non-VT project

Designer: Wendel (ToB contract)

Builder: WM Schlosser (ToB contract)
Definitions

- **State Authorized:** Authorized and funded (whole or in part) by the Virginia General Assembly
- **BOV Authorized:** Authorized and funded by the Virginia Tech Board of Visitors

- **Schematic Design Phase** = 0% to approx 20% design complete
- **Preliminary Design Phase** = Approx 20% to approx 50% design complete
- **Working Drawing Phase** = Approx 50% to 100% design complete

- **GMP** = Guaranteed Maximum Price
Construction Methods

Design-Bid-Build (DBB):
• A/E completes full design
• Invitation For Bid (IFB) issued...contract awarded to lowest bidder

Construction Manager at Risk (CMaR):
• A/E completes full design
• Prospective CMaR’s compete for project during early stage of design
• CMaR selected based upon “best value” during Schematic Design phase
• When final designs are complete, CMaR develops Guaranteed Maximum Price (GMP)

Design-Build (D/B):
• A/E completes partial design (“criteria docs”)
• D/B teams (builder + A/E) compete for project and propose full price for project delivery
• Selection based upon “best value”
• D/B team completes design and executes construction
UPDATE ON AGRICULTURAL FACILITIES AND PARTNERSHIPS

Alan L. Grant, Ph.D.
Dean of the College of Agriculture and Life Sciences

Paul M. Winistorfer, Ph.D.
Dean of the College of Natural Resources and Environment

March 20, 2023
Completed projects:

- Eastern Shore AREC Exterior Building Repairs
- Quarantine Lab Room 8 Renovation at Prices Fork Research Center
- 2\textsuperscript{nd} feed mixer at Kentland Dairy Center
- 7 minor projects
NON-CAPITAL PROJECT PROGRESS

Active projects
- 10 projects in construction
- 19 projects in design
- 9 new unit-funded projects in planning or design
- Working with the Division of Campus Planning, Infrastructure, and Facilities on new Dam Safety program for ponds at ARECs
- Collaborating with the university’s Zero Waste Consultant for updates to Compost Facility planning
LIVESTOCK AND POULTRY RESEARCH FACILITIES, Phase 1, Bid Package Updates:

- BP 1 Swine: 99% complete. Target Substantial Completion: March 2023
- BP 2 Beef Nutrition and Kentland Hay Shed: 99% complete. Target Substantial Completion: April 2023
- BP 3 Turkey and Broiler Grow-out Facilities: 99% Complete (buildings). Target Substantial Completion: March 2023
- BP 4 Equine and Equipment Storage: 100% complete. Substantial Completion: February 2023
- BP 5 Three Hay Sheds: Bidding to begin March 2023
- BP 6 Final Demolition: Drawings being finalized for bidding.
Hampton Roads AREC Relocation Study:
- Complete and delivered to General Assembly December 2022.
- Three sites reviewed; $102M-$116M building and land development cost (2022 dollars)
- Six-year timeline to design, build, and move.

- Agency 229 Six-year Capital Outlay Plan development
  - Center Woods Complex Improvements
  - System-wide AREC Improvements, Phase 1
  - Glade Road Research Center Replacement
  - HABB-II Plant and Environmental Sciences Research Facility
  - Livestock and Poultry Research Facilities, Phase 2
Technology and Connectivity

- Kentland Dark Fiber project complete; upgraded bandwidth from 200MB to 10GB and lowered monthly charges
- Network Equipment Upgrade and Expansion Project:
  - All equipment has arrived except for the wireless access antennas
  - Staff is now installing, configuring, and testing the backend equipment needed to get some of the equipment onto the network
  - Installations have started and will continue for much of the year
Technology and Connectivity

- AREC Bandwidth Upgrade Project complete; significant upgrades in fiber connectivity to most of the locations
- AREC Audio Visual upgrades:
  - Phase I complete
  - A new phase is in project initiation to look at upgrading some of the smaller AREC offices
VIRGINIA’S AGENCY 229
AGRICULTURAL EXPERIMENT STATION
COOPERATIVE EXTENSION

VIRGINIA-MARYLAND
COLLEGE OF
VETERINARY
MEDICINE

COLLEGE OF
AGRICULTURE
AND LIFE
SCIENCES

COLLEGE OF
NATURAL
RESOURCES AND
ENVIRONMENT
CNRE Locations on Blacksburg Campus

- Cheatham Hall
- Wallace Hall
- Steger Hall
- Torgersen Hall
- Latham Hall
- Center Woods
- Integrated Life Sciences Building
- Brooks Center
Leased space in University City Blvd Mall for the Conservation Management Institute –
• $2.5 million research expenditures per year; since Year 2000 $40 million in expenditures
• $40,000 annual lease

VT Research Center Arlington – The Center for Leadership In Global Sustainability; The Center for Environmental Security
• 175 master students enrolled
• $80,947 annual lease for four offices and two cubicles
The classroom rentals for the XMNR are additional
**CNRE Locations in Blacksburg - Fishburn Forest**

- 1200 acres located on Price Mountain
- 8 miles West of Campus
- Access via Prices Fork Road (north side)
- Access via State Hwy 114 (South Side)
- Used weekly for forestry teaching, research, outreach
- Cell tower lease income
- All management, road, improvement costs born by the college
- Critical for our forestry program long term
Reynolds Homestead Forestry Field Station - Critz, Virginia - 70 miles from Blacksburg

Reynolds Homestead
Cheatham Hall is fully occupied; college investment of $2 million over a decade to upgrade labs, offices, classrooms, advising center, student lounge, hallways,
Cheatham Hall - Dedicated 1973 - at capacity

Recently completed renovation:
- Classroom 317 – ceiling, lights, paint, projection, glass boards, seating - $75,000
- Biomaterials chemistry lab – hoods, benches, cabinets, floor, lights - $300,000
- Major renovation project each year since 2010
Wallace Hall - CNRE Department of Geography - Home to Meteorology Program

Wallace Hall; relocated Department of Geography to Wallace Hall in 2019 at a cost of $400,000 to the college; offices, GIS labs, classrooms
Thomas M. Brooks Forest Products Center

- Home to the Department of Sustainable Biomaterials
- The first building in what is now the Corporate Research Center
- 40,000 sq. ft. of offices, classrooms, high bay engineering labs – 3 separate building projects/additions
- Home to Center for Packaging and Unit Load Design – Ikea and Amazon certified test labs
- Student instruction in labs and classrooms; travel back-and-forth to campus is an obstacle

The very first endowed professorship at Virginia Tech was the Brooks Professorship
Wood Engineering Lab is a high-bay lab with fork truck access, large test frames for testing wood assemblies, and conditioning chambers.

Innovation Lab Renovated to become a clean, well-equipped lab for student instruction in packaging
Thomas M. Brooks Forest Products Center

- Additional lab and classroom space is needed
- Flat roof, plywood siding is a maintenance issue continually
- Electrical, HVAC, windows are end of life
- Additional parking is needed
- Cosmetic upgrade throughout is needed
- A shipping container was purchased to provide secure external storage
Student access from bus stop is challenging – sidewalk is needed from Kraft Drive to the Brooks Center. Covered bus stop is needed. It can take students up to 30 minutes to travel from campus to the Brooks Center.
Center Woods - 39 Acre Forest and Infrastructure
Adjacent to Campus and Route 460

- Aviary constructed at a cost of $700,000 with college resources
- Faculty purchase storage sheds for field equipment – sheds on skids from Lowes/Home Depot
- Fleet of boats need indoor storage – some theft in the past (more than 20 boats and trucks)
- Road maintenance is an issue
- Well water
Center Woods - 39 Acre Forest and Infrastructure
Adjacent to Campus and Route 460

- Free-standing metal building
  Being retrofitted for lab use ~$100,000
- Freshwater Aquaculture Lab
- Boat Storage
- Boat and Truck Storage
- Sheds on Skids
- Aviary
- Mussel Propagation Lab

- Agency 229 Capital Priority is to construct a 28,000 sq. ft. metal building with labs, offices, maintenance facility, indoor storage
- Relocate Conservation Management Institute from Univ. City Mall and eliminate lease payment
- Provide needed space for researchers, post doctoral researchers, staff
- Long term preservation and use of Center Woods by college faculty, staff, and students
College of Natural Resources and Environment

- CNRE facilities are at capacity, in every building, every space.
- College continues to make internal investments in renovations.
- Facilities and Infrastructure are not nationally competitive at a time of significant faculty retirements and recruitment.
- Center Woods is priority #1; Brooks Center is priority #2.

- Advocate for multiple smaller capital projects/renovations at the state level rather than one large capital request. $20-25 million addition to Cheatham Hall would prepare us for the decades ahead and be a good return on investment.
College of Natural Resources and Environment

Thank You!

PAUL M. WINISTORFER, DEAN
### CAPITAL PROJECTS

**PROJECT NAME**

- Improve Kentland Facilities, Phase II
- New Virginia Seaword AREC Building
- Livestock and Poultry Research Facilities, Phase I
- System-Wide AREC Improvements, Phase I
- Relocation of Hampton Roads AREC
- Human and Agricultural Biosciences Building II
- 2024-2030 6-Year Capital Outlay Plan

**PROJECT DESCRIPTION**

- **Improve Kentland Facilities, Phase II:** Applied Reproduction Facility (ARF): 4.10 SF barn at Va Med for population and breeding instruction. Bovine Diseases, Teaching and Research (BDTR) Facility: 1,500 SF classroom building and 5,100 SF demonstration area at livestock center on Plantation Road. Metabolic Research Laboratory (MRL): 1,120 SF animal laboratory at the Dairy Center at Kentland farm.

- **New Virginia Seaword AREC Building:** 2,700 SF, 1-story building to replace existing aging and structurally unsound facility in Hampton, Virginia, with state-of-the-art aquaculture research and extension facilities. Facility owned and developed by Virginia Tech Foundation.

- **Livestock and Poultry Research Facilities, Phase I:** Pig 1: New Swine Center at Kentland Farm; Pig 2: New Beef Nutrition Facility & Hay Shed at Kentland Farm; Pig 3: New Poultry Farm & Equipment Storage Building at Livestock Center (Plantation Rd.); Pig 4: New Equine Barn & Equipment Storage Building at Livestock Center (Plantation Rd.); Pig 5: New Hay Shed at Applied Reproduction Facility (ARF); Field unit of UI-96, and Vet-Med Farm; Pig 6: Final Demolition of remaining facilities.

**PROJECT COST**

- **Improve Kentland Facilities, Phase II:** $142,463,800
- **New Virginia Seaword AREC Building:** $9,260,000
- **Livestock and Poultry Research Facilities, Phase I:** $21,074,800

**FUND SOURCE**

- **Improve Kentland Facilities, Phase II:** Capital Outlay
- **New Virginia Seaword AREC Building:** Capital Outlay
- **Livestock and Poultry Research Facilities, Phase I:** Capital Outlay

**PROJECT STATUS**

- **Improve Kentland Facilities, Phase II:** Spectrum, CPPI, Snyder, CPPI - Fall 2020
- **New Virginia Seaword AREC Building:** Various - April 2022
- **Livestock and Poultry Research Facilities, Phase I:** Spectrum - Packages 1-4: Winter 2020/21

**PROJECTS IN DESIGN**

**PROJECT NAME**

- New Virginia Seaword AREC Building
- Livestock and Poultry Research Facilities, Phase I

**PROJECT DESCRIPTION**

- **New Virginia Seaword AREC Building:** 2,700 SF, 1-story building to replace existing aging and structurally unsound facility in Hampton, Virginia, with state-of-the-art aquaculture research and extension facilities. Facility owned and developed by Virginia Tech Foundation.

**PROJECT COST**

- **New Virginia Seaword AREC Building:** $9,260,000

**FUND SOURCE**

- **New Virginia Seaword AREC Building:** Various

**PROJECT STATUS**

- **New Virginia Seaword AREC Building:** E.T. Gresham, AKWAM - April 2022

**NON-CAPITAL PROJECTS**

**PROJECT NAME**

- Minor Projects (<$25,000 each):
  - Construction of new site.
  - Report to assess existing asset inventory, programmatic needs, new site requirements and possible alternatives.

**PROJECT COST**

- **Minor Projects (<$25,000 each):** TBD

**FUND SOURCE**

- **Minor Projects (<$25,000 each):** Cap ital Outlay

**PROJECT STATUS**

- **Minor Projects (<$25,000 each):** TBD - TBD

**PROJECTS COMPLETED SINCE LAST REPORT**

**PROJECT NAME**

- Minor Projects (<$25,000 each):
  - Tidewater AREC Hog Barn Electrical Repairs
  - Tidewater AREC Hog Barn Electrical Repairs
  - Minor Modifications to improve workflow and safety within Entomology Quarantine Facility at Prices Fork Research Center.

**PROJECT COST**

- **Minor Projects (<$25,000 each):** $57,800

**FUND SOURCE**

- **Minor Projects (<$25,000 each):** Capital Outlay

**PROJECT STATUS**

- **Minor Projects (<$25,000 each):** In house, Multiple - Winter 2021/2023

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**College of Agriculture Life Sciences (CAPS) Projects Status Report**

**BUILDINGS AND GROUNDS COMMITTEE**

**PROJECT TEAMs**

- **System-Wide AREC Improvements, Phase I:** Multiple, In house
- **Relocation of Hampton Roads AREC:** Spectrum, RRMM
- **Human and Agricultural Biosciences Building II:** EYP
- **2024-2030 6-Year Capital Outlay Plan:** TBD

**CONTRACT COMPLETION DATE**

- **System-Wide AREC Improvements, Phase I:** TBD
- **Relocation of Hampton Roads AREC:** TBD
- **Human and Agricultural Biosciences Building II:** TBD
- **2024-2030 6-Year Capital Outlay Plan:** TBD

**PROJECT DESCRIPTION**

- **Improve Kentland Facilities, Phase II:** System-Wide AREC Improvements - TBD
- **New Virginia Seaword AREC Building:** System-Wide AREC Improvements - TBD
- **Livestock and Poultry Research Facilities, Phase I:** System-Wide AREC Improvements - TBD

**PROJECT TEAMS**

- **System-Wide AREC Improvements, Phase I:** Multiple, In house
- **Relocation of Hampton Roads AREC:** Spectrum, RRMM
- **Human and Agricultural Biosciences Building II:** EYP
- **2024-2030 6-Year Capital Outlay Plan:** TBD

**DATE PROJECT STATUS**

- **System-Wide AREC Improvements, Phase I:** TBD - TBD
- **Relocation of Hampton Roads AREC:** TBD - TBD
- **Human and Agricultural Biosciences Building II:** TBD - TBD
- **2024-2030 6-Year Capital Outlay Plan:** TBD - TBD

**PROJECTS IN CONSTRUCTION**

**PROJECT NAME**

- Tidewater AREC Emergency Elec. Meter Replacement
- Employee House 315 Interior and Exterior Repairs
- Shenandoah Valley AREC Drainage Improvements
- Livestock and Poultry Research Facilities, Phase I
- Prices Fork Quarantine Lab Room B Renovation

**PROJECT DESCRIPTION**

- **Tidewater AREC Emergency Elec. Meter Replacement:** Emergency installation of new electric meter base after new smart meter began to overhead.
- **Employee House 315 Interior and Exterior Repairs:** Miscellaneous electrical and lighting repairs in swine area.
- **Shenandoah Valley AREC Drainage Improvements:** Additional power and data circuits in Cattle Barn for new feeding equipment.
- **Livestock and Poultry Research Facilities, Phase I:** Construction of new site.
- **Prices Fork Quarantine Lab Room B Renovation:** Minor Modifications to improve workflow and safety within Entomology Quarantine Facility at Prices Fork Research Center.

**PROJECT COST**

- **Tidewater AREC Emergency Elec. Meter Replacement:** $49,000
- **Employee House 315 Interior and Exterior Repairs:** TBD
- **Shenandoah Valley AREC Drainage Improvements:** TBD
- **Livestock and Poultry Research Facilities, Phase I:** TBD
- **Prices Fork Quarantine Lab Room B Renovation:** TBD

**FUND SOURCE**

- **Tidewater AREC Emergency Elec. Meter Replacement:** CALS / VAES
- **Employee House 315 Interior and Exterior Repairs:** TBD
- **Shenandoah Valley AREC Drainage Improvements:** TBD
- **Livestock and Poultry Research Facilities, Phase I:** TBD
- **Prices Fork Quarantine Lab Room B Renovation:** TBD

**PROJECT STATUS**

- **Tidewater AREC Emergency Elec. Meter Replacement:** TBD - Winter 2021/2023
- **Employee House 315 Interior and Exterior Repairs:** TBD - Winter 2021/2023
- **Shenandoah Valley AREC Drainage Improvements:** TBD - Winter 2021/2023
- **Livestock and Poultry Research Facilities, Phase I:** TBD - Winter 2021/2023
- **Prices Fork Quarantine Lab Room B Renovation:** TBD - Winter 2021/2023
### PROJECTS IN CONSTRUCTION

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Eastern Shore AREC - Exterior Building Repairs</td>
<td>Multiple buildings are in need of exterior repairs. Head house (1214) and Shop Building (1215) is in need of structural repairs to walls and reporting; Implement Shed (1216), Sweet Potato Storage (1217), Produce Grading (1218), and Inventory (1220) need exterior waterproofing, door repair, painting repairs and gutters.</td>
<td>$396,000</td>
<td>Maintenance Reserve</td>
<td>Structures Group</td>
<td>Winter 2022/2023</td>
<td>Work is complete.</td>
</tr>
<tr>
<td>Kentland Farm Dairy Center 2nd Feed Mixers Installation</td>
<td>An additional feed mixer has been purchased by the School of Animal Sciences for use at the Dairy to increase capacity and feed variability. This project is to provide necessary electrical upgrades to run the equipment.</td>
<td>$18,000</td>
<td>CALS</td>
<td>-</td>
<td>Winter 2022/2023</td>
<td>Work is complete.</td>
</tr>
<tr>
<td>Minor Projects (&lt;$25,000 each)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reynolds Homestead FRRC Exterior Repairs</td>
<td>Repair deteriorating eaves and trim on main AREC building. Installation of new working pens and open shed. Reconnection connections for two buildings. Repairs in AREC Area due to freeze pipes bursting during holiday break.</td>
<td>$40,000</td>
<td>CALS / VAES</td>
<td>-</td>
<td>Ongoing</td>
<td>In Progress.</td>
</tr>
<tr>
<td>ARB exterior signage upgrades</td>
<td>Installation of 2 new exterior signs at each ARB with refreshed design to match current branding.</td>
<td>$81,000</td>
<td>CALS / VAES</td>
<td>-</td>
<td>TBD</td>
<td>Signage installation complete at Tidewater, Southwest Virginia, Alison H. Smith Jr., Eastern Virginia, Middleburg, Southern Piedmont, and Shenandoah Valley ARECs. Final design and fabrication pending at others. Installation of 2 new exterior signs at each AREC with refreshed design to match current branding.</td>
</tr>
<tr>
<td>Beef Barn Repairs</td>
<td>Exterior and interior demolition followed by the installation of new flooring, new loft flooring, doors, windows and lighting. This work was originally included in UWRA Phase 1, but removed due to scope concerns.</td>
<td>$1,064,000</td>
<td>Maintenance Reserve</td>
<td>HDH, JEA</td>
<td>Summer 2023</td>
<td>Construction is underway.</td>
</tr>
<tr>
<td>Eastern Virginia AREC - Experiment Building Renovation</td>
<td>Renovation and upgrade of existing under-utilized office, workshop and meeting space. Building HVAC system has failed and is not working. Electrical and plumbing are outdated. Building is not ADA accessible.</td>
<td>$395,000</td>
<td>Maintenance Reserve</td>
<td>Structures Group</td>
<td>Spring 2023</td>
<td>Construction is underway. Project extended due to additional design required for mechanical and electrical repairs.</td>
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<tr>
<td>Tidewater AREC - Water system repair</td>
<td>Water line from well to main office complex is failing in multiple locations and requires frequent repairs, creating water quality concerns. Project is to connect to public water system with 2-inch water line, add backflow preventer, and re-connect non-potable water line to well for irrigation purposes.</td>
<td>$40,000</td>
<td>Maintenance Reserve</td>
<td>Lewis Construction</td>
<td>Spring 2023</td>
<td>City water line is complete to new meter. New water line from meter to building installed November 2022. Remaining work to occur Spring 2023.</td>
</tr>
<tr>
<td>Prices Fork Quarantine Lab - Emergency Generator</td>
<td>Installation of new backup generator for operational reliability at Entomology Quarantine Facility at Prices Fork Research Center.</td>
<td>$64,000</td>
<td>CALS</td>
<td>Gibson Engineering</td>
<td>Summer 2023</td>
<td>Generator has been ordered. Projected ship date is April 2023. Installation to follow.</td>
</tr>
<tr>
<td>Southern Piedmont AREC - Paddock Restroom Repairs</td>
<td>Paddock (5887) restroom is in need of plumbing repairs and upgrade to be reconfigured for ADA access. Paddock roof is leaking and needs repair.</td>
<td>$122,000</td>
<td>Maintenance Reserve</td>
<td>Thompson &amp; Little</td>
<td>Spring 2023</td>
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<td>Puckett</td>
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<td>Hughes</td>
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<tr>
<td>Virginia A&amp;E</td>
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<td>HDH</td>
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<tr>
<td>A/E Proposal development underway.</td>
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</tr>
<tr>
<td>Judging Pavilion Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In Progress</td>
</tr>
<tr>
<td>Hampton Roads AREC Chiller Replacement</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Summer 2023</td>
</tr>
<tr>
<td>Alice H. Smith Jr. AREC Chilled Water System repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Contractor quote under review.</td>
</tr>
<tr>
<td>Middleburg AREC Stable exterior repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Design work underway.</td>
</tr>
<tr>
<td>Middleburg AREC Clinic/Admin Building HVAC repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Design work underway.</td>
</tr>
<tr>
<td>Prine Fork Quarantine Lab Autoclave Installation</td>
<td>Installation of new 3-phase electric service and new autoclave for more reliable sterilization process.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Building in progress.</td>
</tr>
<tr>
<td>Tideewater AREC Main Office and Lab Roof Replacement</td>
<td>Existing roof is leaking causing damage to main lobby interior walls and classroom area.</td>
<td>$78,000</td>
<td>HDH</td>
<td></td>
<td></td>
<td>A/E Proposal development underway.</td>
</tr>
<tr>
<td>Tideewater AREC Entomology Lab Heat Pump Replacement</td>
<td>Existing heat pump is failing and must be replaced.</td>
<td>$15,000</td>
<td>-</td>
<td></td>
<td></td>
<td>Seeking contractor quotes (3-6)</td>
</tr>
<tr>
<td>Southern Piedmont AREC - Building Repairs</td>
<td>Repairs/replacement and new water/temperature equipment storage sheds attached to four tobacco curing barns (BR60A, BR60B, BR60C, BR610)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A/E Proposal development underway.</td>
</tr>
<tr>
<td>Turfgrass Research Center Equipment Shed</td>
<td>New 1,440 square foot open front shed at the Turfgrass Research Center for weather protected storage</td>
<td>$15,000</td>
<td>CALS</td>
<td></td>
<td></td>
<td>A/E Proposal development underway.</td>
</tr>
</tbody>
</table>

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**PROJECTS IN DESIGN**

- Minor Projects (<$25,000 each)
  - Tideewater AREC Peanut Storage Shed
  - Eastern Virginia AREC, RTK Tower Installation
  - Tideewater AREC RTK Tower Installation
  - Southern Piedmont AREC RTK Tower Installation
  - Southwest AREC Ram Barn Shell Extension

- Greenhouse FS Structural and Mechanical Repairs

- Heth Farm Shed and Silo Demolition

- Judging Pavilion Repairs

- Campbell Arena Repairs

- Hampton Roads AREC Chiller Replacement

- Alice H. Smith Jr. AREC Chilled Water System repairs

- Middleburg AREC Stable exterior repairs

- Middleburg AREC Clinic/Admin Building HVAC repairs

- Prine Fork Quarantine Lab Autoclave Installation

- Tideewater AREC Main Office and Lab Roof Replacement

- Tideewater AREC Entomology Lab Heat Pump Replacement

- Southern Piedmont AREC - Building Repairs

- Turfgrass Research Center Equipment Shed
<table>
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<tbody>
<tr>
<td>Alpha-Swan Park - Parking lot paving</td>
<td>Paving over existing gravel parking area to reduce annual maintenance, solve drainage problems, expand number of spaces, and provide all-weather parking surface. Heavy-duty asphalt section to be installed for possible future bus turnaround.</td>
<td>TBD</td>
<td>CALS</td>
<td>TBD</td>
<td>May 2023</td>
<td>Contractor quote in progress.</td>
</tr>
<tr>
<td>Composite Facility (to support main campus &amp; surrounding farm)</td>
<td>CALS is experiencing significant and growing land pressure to meet nutrient management plan requirements, which would be greatly eased by the proposed compost facility. This initiative also has an extremely high level of student support as well as potential partnership with Dining Services, Athletics and Facilities. Project is included in 228-2 Capital Budget Request, but is a high priority for separate, earlier funding, if possible, due to regulatory risk exposure from limited reuse storage during winter months.</td>
<td>$1,823,000</td>
<td>TSD</td>
<td>Caliber Composting &amp; Consulting, Reduction in Motion.</td>
<td>TBD</td>
<td>Zero-Waste consultant team updating plan, assessing current waste stream, and evaluating alternate composting methods.</td>
</tr>
<tr>
<td>Turkey Farm Processing Building Repair</td>
<td>Interior Demolition followed by the installation of new cold-formed steel stud interior partitions, new doors and windows, Fiberglas reinforced plastic paneling and epoxy painted floors. This work was originally included in UPF Phase 1, but removed due to scope concerns.</td>
<td>$160,000</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Moore Farm Barn 0501 Repairs</td>
<td>This hay shed was built in the 1860’s and received heavy use for that purpose. Over the years its condition has continued to worsen and now wind and snow storms have accelerated the deterioration. In order to execute research projects utilizing recently renovated fields, the Beef Unit now needs to utilize this shed as a working facility for cattle. This would involve pouring a concrete floor and moving in cattle working equipment. However, the structural condition of this facility is poor and should be addressed prior to additional use. It may be more cost effective to rebuild this facility.</td>
<td>TBD</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Moore Farm Shed 0508 Repairs</td>
<td>This highly visible and prominent barn is for many purposes such as lambing of sheep, loafing facility, hay bale storage, emergency storage for weather-affected crops, and equipment and pots storage. The condition of the roof and siding is poor, failing to provide the necessary weather protection. Without mitigation soon, the condition will deteriorate to the point of loss.</td>
<td>TBD</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Alston H. Smith AREC - Repair and paving</td>
<td>Existing asphalt parking lot and drives are deteriorating and in need of repaving.</td>
<td>$54,000</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development. Construction planned in FY 2023.</td>
</tr>
<tr>
<td>Southern Piedmont AREC - Pavement repairs</td>
<td>Existing main parking lots (1) and primary internal roadways are deteriorating and in need of repair. Approximately 1,340 square feet of rolling and 6,400 square feet of rutting and pothole damage.</td>
<td>$126,000</td>
<td>CALS / VAES</td>
<td>TBD</td>
<td>TBD</td>
<td>Contractor quote received. Funding options being evaluated.</td>
</tr>
<tr>
<td>Middleburg AREC - Exterior Repairs</td>
<td>Replacing the corn crib (0829),原来的结构已经不再适应业务需求了。在评估现有设施的状况并考虑到必须进行的更新后，我们提出了一个改进建议。该建议包括更换现有结构的屋顶，为工作人员提供更好的工作环境，以及适应业务需求的基础设施。</td>
<td>$150,000</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Shenandoah Valley AREC - Repair/Replace Sheep Barn</td>
<td>Sheep Barn (0884) has rotten posts at ground level and leaking roof. The building should be evaluated for repair or replacement.</td>
<td>$74,000</td>
<td>Maintenance Reserve</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Shenandoah Valley AREC - Renovate Carriage House</td>
<td>Renovate Carriage House to add two single user public restrooms and welcome center area for visitors to the W.C. Cramm Farm.</td>
<td>TBD</td>
<td>CALS / VAES</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development underway. Study will be necessary to address development within Historic property for Department of Historic Resources.</td>
</tr>
<tr>
<td>Smithfield Equine Complex</td>
<td>Develop new facilities for Equine Complex on Plantation Road including covering outdoor arena, add bleachers, restrooms, ammunitions room, fencing, quarantine facility.</td>
<td>TBD</td>
<td>Private</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Smithfield Equine Classroom Renovations, Phase 2</td>
<td>Completion of building envelope repairs, restroom repairs, accessibility improvements.</td>
<td>$110,000</td>
<td>Maintenance Reserve, CALS</td>
<td>TBD</td>
<td>TBD</td>
<td>Scope and budget development.</td>
</tr>
<tr>
<td>Southern Piedmont AREC - Greenhouse Controls</td>
<td>Minor project to make power connections for new Smart Greenhouse controls in two greenhouse ranges.</td>
<td>TBD</td>
<td>CALS</td>
<td>TBD</td>
<td>TBD</td>
<td>Equipment is being ordered.</td>
</tr>
<tr>
<td>PROJECT NAME</td>
<td>PROJECT DESCRIPTION</td>
<td>ESTIMATED TOTAL PROJECT COST</td>
<td>FUND SOURCE</td>
<td>PROJECT TERMS</td>
<td>CONTRACT COMPLETION DATE</td>
<td>PROJECT STATUS</td>
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</tr>
<tr>
<td>Shenandoah Valley AREC Security Camera Installation</td>
<td>Minor project to add security camera for monitoring historic property.</td>
<td>$15,000</td>
<td>CALS</td>
<td>TBD</td>
<td>Proposal under review by Security Oversight Committee and Office of University Planning.</td>
<td>TBD</td>
</tr>
<tr>
<td>Alvord H. Smith Jr. AREC Fuel Containment Pit Sealing</td>
<td>Minor project to seal concrete joints and cracks, and add a liner to secondary containment pits around two fuel tank areas.</td>
<td>$15,000</td>
<td>CALS</td>
<td>TBD</td>
<td>Contractor quote under review.</td>
<td>TBD</td>
</tr>
<tr>
<td>Kentland Farm Road Repairs</td>
<td>Pavement condition is deteriorating in areas of high traffic and poor drainage at Kentland Farm. Several sections will need spot repairs and pavement overlay. Other areas in better shape only need seal coat. Additionally, the Kentland UVK runway needs an overlay.</td>
<td>$150,000</td>
<td>CALS, ICTAS</td>
<td>TBD</td>
<td>Refining phasing plan</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**INFORMATION TECHNOLOGY (IT) PROJECTS**

Updates through February 28, 2023. New information is in bold.

### Projects Completed

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Estimated Total Project Cost</th>
<th>Fund Source</th>
<th>Project Terms</th>
<th>Contract Completion Date</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREC Audiovisual (A/V) Upgrades - Phase I</td>
<td>Installation of new audio and video equipment for ARECs to provide enhanced conferencing abilities in classrooms.</td>
<td>$70,000</td>
<td>CALS/VAES</td>
<td>CALS IT</td>
<td>Vendor: Alex Hamilton and Sam</td>
<td>December 2023</td>
</tr>
<tr>
<td>AREC Bandwidth and Internet Connectivity Updates</td>
<td>Project to significantly upgrade the bandwidth for all eleven locations. Connectivity has been limited and unable to meet emerging requirements and ongoing systems support.</td>
<td>$225,000</td>
<td>CALS/VAES</td>
<td>CALS IT</td>
<td>Vendor: Shenest and Comcast</td>
<td>December 2023</td>
</tr>
</tbody>
</table>

### Projects in Progress

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Estimated Total Project Cost</th>
<th>Fund Source</th>
<th>Project Terms</th>
<th>Contract Completion Date</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth and Internet Connectivity Improvements (Non-AREC)</td>
<td>Identify and implement bandwidth upgrade opportunities across campus locations to enhance research and address emerging requirements.</td>
<td>Various</td>
<td>CALS/VAES</td>
<td>CALS IT Division of IT</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>AREC Voice-Over Internet Protocol (VOIP) Conversion</td>
<td>Convert legacy telephone systems at all ARECs to unified Voice Over Internet Protocol (VOIP) systems to track voice service on campus.</td>
<td>$75,000</td>
<td>CALS/VAES</td>
<td>CALS IT Division of IT</td>
<td>On Hold</td>
<td>On Hold</td>
</tr>
<tr>
<td>Network Equipment Upgrades and Expansion</td>
<td>This project replaces or upgrades aging local area network (LAN) equipment as well as expand in-building wired and wireless capabilities. This effort also includes the procurement and installation of new “on-premise” equipment that will be installed on campus and managed and operated in the ARECs and other extension offices.</td>
<td>$1,140,000</td>
<td>CALS/VAES</td>
<td>CALS IT</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Real-Time Kinematic (RTK)</td>
<td>This project installs Real-Time Kinematic (RTK) systems at select ARECs. RTK enables the ARECs to implement precision agriculture research practices by increasing the precision of standard GPS from an accuracy of 2-4 meters to ~1 centimeter.</td>
<td>$213,000</td>
<td>CALS/VAES</td>
<td>CALS IT John Deere Trubble</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>PROJECT NAME</td>
<td>PROJECT DESCRIPTION</td>
<td>ESTIMATED TOTAL PROJECT COST</td>
<td>FUND SOURCE</td>
<td>PROJECT TEAM</td>
<td>CONTRACT COMMISSION DATE</td>
<td>PROJECT STATUS</td>
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<tr>
<td>Eastern Virginia AREC Field-level Wireless (SmartFarm Project)</td>
<td>Installation of new technology, similar to Wi-Fi but with better exterior coverage and security management, in fields at Eastern Virginia AREC to study the effectiveness of this equipment for supporting data-intensive agricultural, plant-based research as well as providing ready access to the internet and data networks.</td>
<td>$53,000</td>
<td>CALS / VAES</td>
<td>CALS IT, Dell, Pierson Wireless</td>
<td>TBD</td>
<td>After further analysis, this project may not provide the wireless coverage as expected. In addition, costs for new devices (current equipment is not compatible) and annual service charge questions have led to a temporary pause in the project pending clarification from the vendor.</td>
</tr>
<tr>
<td>Kentland 5G Proposal (SmartFarm Project)</td>
<td>A project has been initiated to potentially install new technology in fields that is similar to Wi-Fi but with better exterior coverage and security management. The proposal is to study the effectiveness of this equipment for supporting data-intensive agricultural, animal-based research. This initial project is to create a 5G/CBRS testbed at Kentland farms.</td>
<td>TBD</td>
<td>TBD</td>
<td>CALS IT, Division of IT, MAAP, VTNSI, 5G Consortium</td>
<td>TBD</td>
<td>5G Consortium toured Kentland Farms and learned of potential 5G agricultural applications on January 30 and 31. Continued discussions required to determine roles and responsibilities, funding, and opportunities. Previous efforts have been stymied due to the inability to get tower installation approval at Kentland.</td>
</tr>
<tr>
<td>AREC Audiovisual (A/V) Upgrades - Phase 2</td>
<td>Installation of new audio and video equipment for ARECs to provide enhanced conferencing abilities in classrooms. Much of this second phase is focused on some of the smaller AREC offices.</td>
<td>$180,000</td>
<td>CALS / VAES</td>
<td>CALS IT, Vendor: Lee Harman and Sons</td>
<td>TBD</td>
<td>This phase is reviewing the potential for adding A/V systems to Eastern Virginia, Eastern Shore, Weldonburg, Shenandoah, and Southwest Virginia AREC offices.</td>
</tr>
</tbody>
</table>
UTILITIES MASTER PLAN

Mary-Ann Ibeziako
Assistant Vice President for Infrastructure and Chief Sustainability Officer

March 20, 2023
The Utilities Master Plan will provide a comprehensive framework to ensure that future programmatic needs are met and that the university remains a leader in the field of higher education infrastructure.

**Thermal Systems**
- Steam
- Chilled Water

**Civil Utilities**
- Sanitary Sewer
- Storm Water
- Potable Water
- Domestic Hot Water

**Electrical Utilities**
- VTES Campus Distribution

**Technology Systems**
- Network Infrastructure & Services Outside Plant (Data/Telecom Infrastructure)
The Utilities Master Plan will provide a comprehensive roadmap to align campus wide utility systems with the strategies of the Campus Master Plan and the sustainability goals of the Climate Action Commitment.

In 2018, Virginia Tech completed its most recent master planning effort resulting in ‘Beyond Boundaries 2047: The Campus Plan.’

In 2020, Virginia Tech revised its Climate Action Commitment, setting sustainability goals and milestones thru 2050.
EXPECTED OUTCOMES

- Campus-wide stakeholder collaboration and alignment (academic & operational)
- Asset management centric program that is responsive to capacity, condition, performance, etc.
- Future-looking prioritization of service-level risks and opportunities
- Alignment with existing strategic facilities investment programs (facilities renewal, maintenance reserve, capital outlay, etc.)
- Sustainable, programmatic utility planning framework
STAKEHOLDER ENGAGEMENT
PHASED APPROACH

Implementation

PHASE 1: Assess existing capacity and condition of utility systems to meet current levels of service

PHASE 2: Evaluate utility needs for 2047 Plan & CAC

PHASE 3: Identify specific strategies, projects and programs for utility systems to meet the future levels of service

PHASE 4: Compilation of Final Utility Plan
# PHASES & SCHEDULE

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>2023</th>
</tr>
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</table>
| Phase 1 | Field Investigation                         | ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ www
The Utilities Master Plan will provide a comprehensive framework to ensure that:

- Future programmatic needs are met in sync with the institution’s Strategic Plan, Campus Master Plan, and Climate Action Commitment
- Virginia Tech remains a leader in the field of higher education infrastructure