

## Capital Budget Request

### Construct Animal Production and Livestock Facilities Phase I

#### Overview

Agency	Virginia Cooperative Extension and Agricultural Experiment Station (229)
Project Code	none
Project Type	New Construction
Biennium	2014-2016
Budget Round	Amended Bill
Request Origin	Previously Submitted
Building Name	
Project Location	Roanoke Area
Facility/Campus	Other
Source of Request	Agency Request
Building Function	Higher Education E&G Programs of the Cooperative Extension and Agricultural Experiment Station - 100% E&G
Infrastructure Element	Laboratory / Classroom
Contains significant technology costs? No	
Contains significant energy costs? No	

#### Agency Narrative

##### Agency Description

This project has been on the university's plan since 2011, formerly titled Animal Production Facility and is included in the first biennium as a high priority to upgrade and replace deteriorated facilities in five of the College of Agriculture and Life Sciences animal and livestock programs. The project will provide a combination of new replacement facilities and renovated facilities at the Blacksburg campus and three nearby university production and research farms. The full extent of new and renovated facilities needed in the five animal and livestock programs have been separated in two phases (Phase One and Phase Two) in order to efficiently plan, stage, and carry into operation the transition of animal research and production from existing facilities into new or renovated facilities. Temporary and permanent relocation of animals will be best managed in a two phase university project.

Based on analysis of the Animal and Land Use Study undertaken by the College of Agriculture and Life Sciences, the Department of Animal and Poultry Science's Sheep, Poultry, Swine, Equine and Beef/Cattle animal programs each identified buildings and facilities that are deteriorated and are beyond repair; facilities that cannot continue to efficiently serve animal program production, animal housing, on-going instruction and scientific research. Several other facilities require comprehensive renovation to efficiently serve animal program production, animal housing, on-going instruction and scientific research.

##### Justification

###### Facility Description by Program description:

These animal production and livestock buildings included in Phase One of the Capital request will support the Department of Animal and Poultry Science and its instructional and research programs. In total, the proposed Phase One renovation and new facilities total 152,265 gross square feet (GSF) across the six major areas described below.

- Phase One Multi-use Facilities serving multiple animal programs will include major renovations to the 5,350 GSF Large Animal Pavilion (Judging Pavilion), two new 12,750 GSF each Hay and Equipment Storage buildings, and major-level comprehensive renovations to the 21,540 GSF Beef Barn at Plantation Rd. These facilities total 52,390 GSF.
- Phase One Beef/Cattle program: Facilities will include mid-level comprehensive renovations to the 2,875 GSF Central Working Facility, a new 8,000 GSF Grow Safe Facility, and two new Hay Storage Facilities at 8,500 GSF each, a new 3,200 GSF Manure Composting Structure at Kentland Farm. These facilities total 31,075 GSF.
- Phase One Equine program: Facilities will include a new 11,250 GSF Equine Barn and minor-level comprehensive renovations to 3,450 GSF within Campbell Arena. These facilities total 14,700 GSF.
- Phase One Poultry Program - Broiler Layer Research: Facilities will include two new 10,000 GSF Grow-out Facilities, a new 10,000 GSF Breeder and Laying House, a new 10,000 GSF Battery Cage and Isolation facility, a new 3,000 GSF Hatchery facility, a new 1,000 GSF Processing facility. These facilities total 44,000 GSF.
- Phase One Poultry Program - Breeding/Genetics: The facilities at Chicken Hill on central campus are to be demolished. The replacement Poultry program- Breeding/Genetics facilities will be constructed on pastureland at the Turkey Run Farm in Montgomery County, requiring a new access farm road, extension of water service, sanitary line and electric service from connections at Glade Road.

- Swine program: Facilities will include a new 1,600 GSF Gestation Barn, a new 7,500 GSF Farrowing house, and a new 1,000 GSF Boar stud facility. These facilities total 10,100 GSF.

The university strategic plan includes principal strategies that this important project will serve to accomplish including:

- Creating meaningful partnerships with businesses and government entities to address complex problems by co-locating researchers and practitioners in "living labs"
- Increasing undergraduate involvement in meaningful research experiences and experiential learning (hands on minds on).
- Emphasizing translational research and scholarship
- Maintaining growth in research expenditures toward a target of \$680 million by 2018.

Existing facilities:

Many of the current Department of Animal and Poultry Science facilities are deteriorated beyond repair and do not offer practical renovation or upgrade possibilities. Other facilities require major renovation to continue in operation. Without these facilities animal production, animal sciences instruction and applied research cannot continue progress.

Included in both Phase One and Phase Two of the Capital request, the following totals by program gross square feet in existing facilities to either be replaced by the new proposed animal production and livestock facilities or animal production and livestock buildings planned for significant renovation:

- Multi-use Facilities: totaling 31,113 GSF.
- Beef/Cattle program: totaling 40,390 GSF.
- Equine program: totaling 19,800 GSF.
- Sheep program: totaling 11,500 GSF.
- Poultry program: Broiler Layer Research and Breeding/Genetics: totaling 38,600 GSF.
- Swine program: totaling 14,432 GSF.

The university's strategic plan includes the following principle strategies that will be supported by completion of this project:

- Increasing the number of our programs recognized as among the best internationally
- Establishing a distinctive and globally recognized profile
- Emphasizing translational research and scholarship
- Building upon existing and emerging strengths
- Maintaining growth in research expenditures toward a target of \$680 million by 2018.
- Increasing graduate enrollment toward a target of an additional 1,000 students
- Increasing the number of post-doctoral positions in STEM-H research areas.
- Creating meaningful partnerships with businesses and government entities to address complex problems by co-locating researchers and practitioners in "living labs"
- Increasing undergraduate involvement in meaningful research experiences and experiential learning (hands on minds on)

Funding Plan:

The program for this project is 100 percent Educational and General for the Cooperative Extension/Agricultural Experiment Station; thus, the funding plan calls for 100 percent state support.

#### Alternatives Considered

Options considered include renovation of other existing animal facilities to house animals and deferral of the project. Renovation of other existing facilities would be costly as facilities would require major reconfigurations to the specified animal breed and population. Deferral of this project to a future biennium is also rejected because of the urgent need for improvements and the on-going impact on the quality of instruction and research.

#### Costing Methodology

The construction costs are based on the efforts of an external cost consultant, which analyzed the program requirements and compared to current market building comparables within university settings. Soft cost estimates developed by university staff based on historical data costing analysis and trends over the past eight years. The project is anticipated to have moderate site conditions and will use an appropriate construction delivery method for the size and complexity of the project. Project costs are estimated to the mid-point of construction using three percent escalation in accordance with the instructions for developing the Six-Year Capital Outlay Plan.

Agency Funding Request				
Phase	Year	Fund	Subobject	Requested Amount
Full Funding	2016	0100 - General Fund	2322 - Construction, Buildings	\$40,951,000
Total				\$40,951,000
Project Costs				

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Acquisition Cost	\$0	\$0	\$0
Building & Built-in Equipment	\$29,250,000	\$29,250,000	\$0
Sitework & Utility Construction	\$1,463,000	\$1,463,000	\$0
Construction Cost Total	\$30,713,000	\$30,713,000	\$0
Design & related Services from Other Costs tab	\$3,226,000	\$3,226,000	\$0
Inspection & Testing Services from Other Costs tab	\$1,347,000	\$1,347,000	\$0
Project Management & Other Costs from Other Costs tab	\$3,497,000	\$3,497,000	\$0
Furnishings & Movable Equipment	\$939,000	\$939,000	\$0
Construction Contingency	\$1,229,000	\$1,229,000	\$0
Total Project Cost	\$40,951,000	\$40,951,000	\$0

### Capacity

Cost Type	Unit of Measure	Units	Cost Per Unit
Acquisition Cost		0	\$0
Construction Cost	GSF	191,771	\$160
Total Project Cost	GSF	191,771	\$214

### Other Costs

Cost Type	Total Project Costs	Requested Funding	DGS Rec
Design & Related Service Items			
A/E Basic Services	\$2,287,000	\$2,287,000	
A/E Reimbursables	\$66,000	\$66,000	
Specialty Consultants (Food Service, Acoustics, etc.)	\$215,000	\$215,000	
CM Design Phase Services	\$384,000	\$384,000	
Subsurface Investigations (Geotech, Soil Borings)	\$64,000	\$64,000	
Land Survey	\$3,000	\$3,000	
Archeological Survey	\$0	\$0	
Hazmat Survey & Design	\$18,000	\$18,000	
Value Engineering Services	\$0	\$0	
Cost Estimating Services	\$24,000	\$24,000	
Other Design & Related Services	\$165,000	\$165,000	
Design & Related Services Total	\$3,226,000	\$3,226,000	
Inspection & Testing Service Items			
Project Inspection Services (inhouse or consultant)	\$737,000	\$737,000	
Project Testing Services (conc., steel, roofing, etc.)	\$610,000	\$610,000	
Inspection & Testing Services Total	\$1,347,000	\$1,347,000	
Project Management & Other Cost Items			
Project Management (inhouse or consultant)	\$550,000	\$550,000	
Work By Owner	\$46,000	\$46,000	
BCOM Services	\$0	\$0	
Advertisements	\$0	\$0	
Printing & Reproduction	\$0	\$0	
Moving & Relocation Expenses	\$161,000	\$161,000	
Data & Voice Communications	\$1,426,000	\$1,426,000	
Signage	\$65,000	\$65,000	
Demolition	\$100,000	\$100,000	
Hazardous Material Abatement	\$50,000	\$50,000	
Utility Connection Fees	\$293,000	\$293,000	

Utility Relocations		\$0	\$0
Commissioning		\$293,000	\$293,000
Miscellaneous Other Costs		\$513,000	\$513,000
Project Management & Other Costs Total		\$3,497,000	\$3,497,000

### Operating and Maintenance Costs (Agency)

Cost Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
GF Dollars	\$0	\$1,453,002	\$1,496,592	\$1,541,489	\$1,587,734	\$1,635,366
NGF Dollars	\$0	\$0	\$0	\$0	\$0	\$0
GF Positions	0.00	9.39	9.39	9.39	9.39	9.93
NGF Positions	0.00	0.00	0.00	0.00	0.00	0.00
GF Transfer	\$0	\$0	\$0	\$0	\$0	\$0
GF Revenue	\$0	\$0	\$0	\$0	\$0	\$0
Layoffs	0	0	0	0	0	0

Planned start date of new O&M costs (if different than the beginning of the fiscal year):---

### Supporting Documents

File Name	File Size	Uploaded By	Upload Date	Comment
<a href="#">CR-3 Animal Production Phase I.xls</a>	640,000	Jennifer Hundley	6/27/2014	CR-3 Animal Production Facilities Phase I

### Workflow History

User Name	Claimed	Submitted	Step Name
Rob Mann	06/26/2014 01:55 PM	06/26/2014 01:55 PM	Enter Capital Budget Request
Rob Mann	06/26/2014 01:55 PM	06/26/2014 01:56 PM	Continue Drafting
Jennifer Hundley	06/27/2014 02:30 PM	06/27/2014 03:11 PM	Continue Drafting
Rob Mann	06/27/2014 04:07 PM	06/27/2014 04:41 PM	Agency Review Step 1
Rob Mann	06/27/2014 05:12 PM	06/27/2014 05:13 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 02:01 PM	06/30/2014 02:13 PM	Ready for DPB Submission
Bob Broyden	06/30/2014 02:16 PM	06/30/2014 02:16 PM	Ready for DPB Submission
			DPB Review