

Capital Budget Request

Improve Kentland Facilities

Overview

Agency	Virginia Cooperative Extension and Agricultural Experiment Station (229)
Project Code	none
Project Type	Improvements-Other
Biennium	2012-2014
Budget Round	Amended Bill
Request Origin	New Project
Six-Year Plan Status	
Budget Bill Status	
Building Name	
Project Location	Roanoke Area
Facility/Campus	Other
Source of Request	Agency Request
Building Function	Educational and General Programs of the Cooperative Extension/Agricultural Experiment Station -- 100% E&G
Infrastructure Element	Multi-Purpose
Contains significant technology costs? No	
Contains significant energy costs? No	

Agency Narrative

Agency Description

Background:

This project has been on the university's plan since 2008 and is included in the first biennium as a high priority to improve land use and support agriculture programs in the Cooperative Extension/Agricultural Experiment Station. The dairy science program provides essential services to industry and government, and its existing research facilities on campus are outdated, deteriorated, and no longer support the agency's on-going investigations. This project calls for replacing several dairy science research facilities with modern agriculture facilities that meet the needs of research projects that support industry and government.

Project Description:

The project includes new construction of three buildings to replace six deteriorated buildings. The three new buildings include an 11,000 gross square foot metabolism research laboratory, a 7,700 gross square foot applied reproduction facility, and 10,200 gross square feet of arena and animal holding spaces.

The total scope of the project request is 28,900 gross square feet that will replace 27,300 gross square feet of outdated facilities. The scope of the project is based on replacing the scope of existing facilities for an established herd with equal capacity new facilities.

Justification

Program Description:

The dairy science research program includes activities like immunology work to develop novel therapies of chronic mastitis which is a serious infection of the bovine mammary gland resulting in an annual loss to the U.S. dairy industry of nearly \$2 billion and a global loss of \$10 billion.

The dairy science research operations include the bovine extension and research function, the applied reproduction program, and the metabolism research program. The complex allows for the study of the basic and applied science and technology, the interfacing of science and production agriculture, and the dissemination of new information on animal nutrition, physiology, lactation, genetics, reproduction, infectious disease, immunology, and the business of dairy enterprise management. Studies also include nutritional and management approaches to minimizing environmental impacts of dairy farm operations; and the study of mechanisms involved in control of disease, prevention of mastitis, and the improvement of milk quality.

The mission statement of Virginia Tech as a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community includes discovery and dissemination of new knowledge central to its mission. Through its focus on teaching and learning, research and discovery, and outreach and engagement, the university creates, conveys, and applies knowledge to expand personal growth and

opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.

The university's strategic plan includes three scholarship domains: Learning, Discovery, and Engagement; and three Foundational Strategies: Development of the Organization, Investment in the Campus Infrastructure, and Effective Resource Development, Allocation, and Management. This project supports several key domains and strategies of the strategic plan, and the specific goals of each area addressed by this project are listed below.

Discovery:

Strengthen research activities with a focus on energy.

Strengthen research activities with a focus on materials.

Strengthen research activities with a focus on the environment.

Establish research strengths in the study of infectious disease.

Establish research strengths in the study of health, food, and nutrition.

Achieve research strength in the areas of innovative technologies and complex systems through the strategic integration and support of critical research areas.

Engagement:

Connect the university's discovery, learning, and engagement assets through partnerships with both the public and private sectors to advance the economic vitality of the commonwealth and the quality of life of its citizens.

Engage students, at the undergraduate and graduate levels, in opportunities for service learning and experiential education that prepare them to serve a diverse and complex marketplace and society while building the capacity of communities.

Foundational Strategies:

Effectively manage the university's space and land resources for learning, living, and work.

Enhance health, safety, and security operations to support the university's discovery, learning, and engagement endeavors.

Existing Facilities:

The 27,300 gross square feet (gsf) of existing agricultural support and research assets that support the dairy science program require replacement. The facilities include calf housing pens, calf handling facilities, heifer housing structures, animal handling buildings, and support and storage buildings. These facilities will be razed and replaced in a location that is optimal for the long-term operation of the program.

The building numbers, size, and year built. Because these are agriculture-type buildings they do not have conventional names.

GSF Year Constructed

Loafing Barn #481 2,880 1962

Loafing Barn #482 5,760 1962

Arena #475 7,709 1962

Bull Barn #484 2,607 1962

Bull Barn #488-A 1,220 1983

Bull Barn #488 7,087 1983

Funding Plan:

The program is 100 percent educational and general in the Cooperative Extension/Agricultural experiment Station; thus, the funding plan calls for General Fund support for the entire \$7.6 million estimated project cost.

Alternatives Considered

The options considered and not selected include elimination of the herds, reduction in herd sizes, and deferring to a future biennium. The options that eliminate or reduce the herd size are not recommended because of the significant negative impact to the dairy science program's support to industry and government. The option of deferring the project to a future time is not recommended because the facilities are no longer in a position to adequately support the research program.

Costing Methodology

The costs were developed by an independent cost estimating firm based on a conceptual level study prepared by a professional consulting service. The total project costs, inclusive of design, construction, and equipment are \$7.6 million. The 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. On a total project cost basis, inclusive of design, construction, and equipment, the unit costs are \$262 per gross square foot. The unit construction costs of the project are \$205 per gross square foot. The building types in this request are not reflected in the Bureau of Capital Outlay Management's Construction Costs Database. The performance expectations for these agriculture research buildings are closest to the Maintenance Building category, which are \$207 per gross square foot.

Agency Funding Request				
Phase	Year	Fund	Subject	Requested Amount
Detail Planning	2014	0100 - General Fund	2322 - Construction, Buildings	\$532,000
Construction	2015	0100 - General Fund	2322 - Construction, Buildings	\$6,978,000
Equipment Purchase	2015	0100 - General Fund	2295 - Undistributed Equipment	\$90,000
Total				\$7,600,000
Project Costs				
Cost Type	Total Project Costs	Requested Funding	DGS Rec	DPB Rec
Acquisition Cost	\$0	\$0	\$0	\$0
Building & Built-in Equipment	\$5,970,000	\$5,970,000	\$0	\$0
Sitework & Utility Construction	\$0	\$0	\$0	\$0
Construction Cost Total	\$5,970,000	\$5,970,000	\$0	\$0
Design & related Services from Other Costs tab	\$771,000	\$771,000	\$0	\$0
Inspection & Testing Services from Other Costs tab	\$142,000	\$142,000	\$0	\$0
Project Management & Other Costs from Other Costs tab	\$388,000	\$388,000	\$0	\$0
Furnishings & Movable Equipment	\$90,000	\$90,000	\$0	\$0
Construction Contingency	\$239,000	\$239,000	\$0	\$0
Total Project Cost	\$7,600,000	\$7,600,000	\$0	\$0
Capacity				
Cost Type	Unit of Measure	Units	Cost Per Unit	
Acquisition Cost		0	\$0	
Construction Cost	square feet	28,900	\$0	
Total Project Cost		0	\$0	
Other Costs				
Cost Type	Total Project Costs	Requested Funding	DGS Rec	DPB Rec
Design & Related Service Items				
A/E Basic Services	\$597,000	\$597,000		
A/E Reimbursables	\$21,000	\$21,000		
Specialty Consultants (Food Service, Acoustics, etc.)	\$38,000	\$38,000		
CM Design Phase Services	\$29,000	\$29,000		
Subsurface Investigations (Geotech, Soil Borings)	\$12,000	\$12,000		
Land Survey	\$18,000	\$18,000		
Archeological Survey	\$0	\$0		
Hazmat Survey & Design	\$0	\$0		
Value Engineering Services	\$0	\$0		
Cost Estimating Services	\$3,000	\$3,000		
Other Design & Related Services	\$53,000	\$53,000		
Design & Related Services Total	\$771,000	\$771,000		
Inspection & Testing Service Items				
Project Inspection Services (inhouse or consultant)	\$90,000	\$90,000		
Project Testing Services (conc., steel, roofing, etc.)	\$52,000	\$52,000		
Inspection & Testing Services Total	\$142,000	\$142,000		
Project Management & Other Cost Items				
Project Management (inhouse or consultant)	\$69,000	\$69,000		
Work By Owner	\$9,000	\$9,000		

BCOM Services	\$0	\$0		
Advertisements	\$0	\$0		
Printing & Reproduction	\$0	\$0		
Moving & Relocation Expenses	\$17,000	\$17,000		
Data & Voice Communications	\$87,000	\$87,000		
Signage	\$11,000	\$11,000		
Demolition	\$0	\$0		
Hazardous Material Abatement	\$0	\$0		
Utility Connection Fees	\$123,000	\$123,000		
Utility Relocations	\$0	\$0		
Commissioning	\$0	\$0		
Miscellaneous Other Costs	\$72,000	\$72,000		
Project Management & Other Costs Total	\$388,000	\$388,000		

Operating and Maintenance Costs (Agency)

Cost Type	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
GF Dollars	\$37,200	\$37,200	\$38,000	\$39,500	\$40,600	\$42,000
NGF Dollars	\$0	\$0	\$0	\$0	\$0	\$0
GF Positions	0.50	0.50	0.50	0.50	0.50	0.50
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

No supporting documents for this adjustment

Workflow History

Step Name	User Name	Claimed	Submitted
Enter Capital Budget Request	Rob Mann	09/21/2012 01:54 PM	09/21/2012 01:54 PM
Continue Drafting	Rob Mann	09/21/2012 01:54 PM	09/21/2012 04:25 PM
Agency Review Step 1	Bob Broyden	09/21/2012 04:43 PM	09/21/2012 04:54 PM
Ready for DPB Submission	Bob Broyden	09/21/2012 04:54 PM	09/21/2012 04:54 PM
DPB Review			