Agriculture Program Relocation Report – April 5, 2011



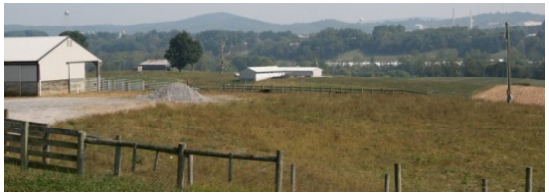

VirginiaTech

HANBURY EVANS WRIGHT VLATTAS + COMPANY
ARCHITECTURE PLANNING

in association with

Curry-Wille & Associates

Draper Aden Associates



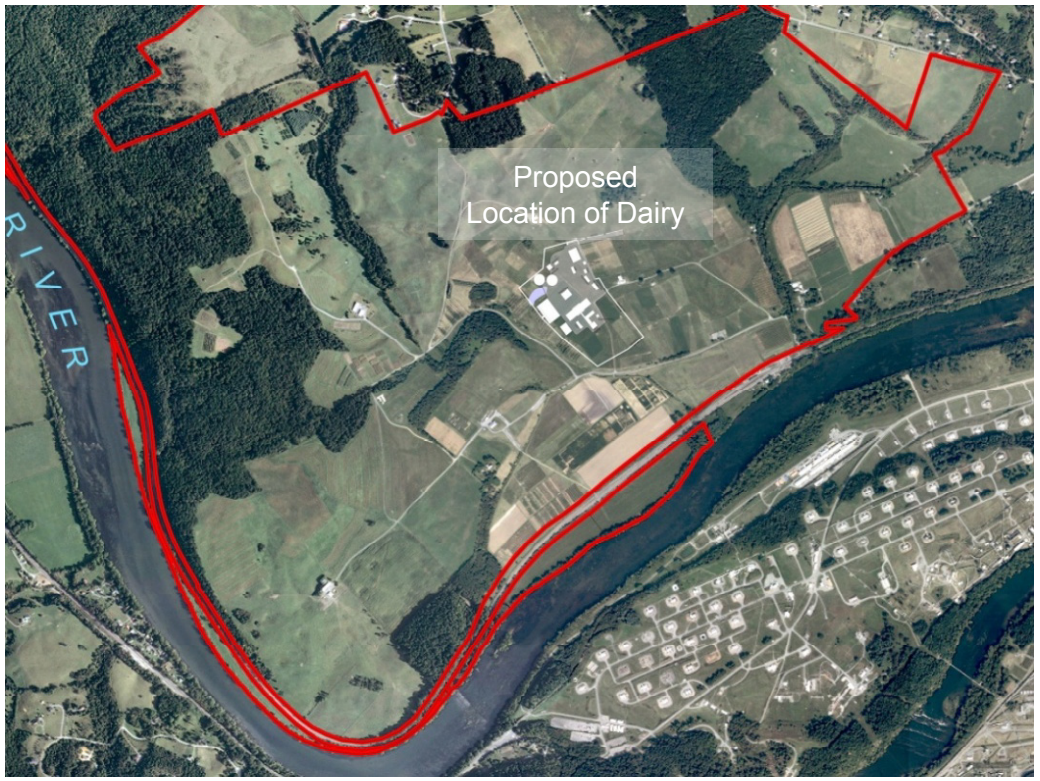
Executive Summary

This 2010 Agriculture Program Relocation study was developed to support the 2008 Master Plan Amendment. The 2008 Master Plan Amendment contains specific goals for enhancing the University's physical environment by considering all factors of current and future growth goals. This study addresses the goals pertaining to the College of Agriculture and Life Sciences (CALS). Specifically, the study addresses the need for the Department of Dairy Sciences to relocate their current program to another location.

Summary of Key Points:

- Planned relocation of the dairy program to the Kentland property, the Moore Farm and along Plantation Road is required to make room for the extension of the airport runway, expansion of the Corporate Research Center and the new interchange with the Route 460 Bypass.
- Starting the design and construction process for the relocation of the dairy facility in the Spring of 2011 will allow the construction of the airport runway to begin in the Fall of 2013 as planned.
- The objective of relocation is to provide a one to one replacement of the program.
- Phased construction of replacement dairy facilities is not feasible because of the integrated nature of animal feeding and manure management and the continuous biological demand for feeding and milking.
- Reconstruction of modern dairy facilities will improve operational efficiency, enhance research competitiveness and promote state of the art instruction.
- Facilities with frequent student use will be located near campus (Applied Reproduction at the Moore Farm and Bovine Extension Teaching and Research (BETR) Facility at Plantation Road).
- The plan will allow animal manure to be handled in compliance with the university's comprehensive nutrient management plan.
- An Archeological Survey and Environmental Impact Review have been conducted and their findings have been taken into account in this planning effort .
- The layout of the dairy was positioned to minimize the impact on the research forage plots currently underway at Kentland.

The total estimated project cost is $21.1 million.



Aerial – Kentland Farm

VT Countywide Land Resources

Introduction

In undertaking this study, The University is furthering its understanding of the scope, budget, and schedule required to design and construct the facilities required to relocate the Dairy Program of the College of Agriculture and Life Sciences. Further, this relocation must operate within the existing and future context of the College and University with respect to its current constraints and direction for future growth. The issues of enhancing research, teaching, and service have been carefully considered as the primary criteria in coordination with regulatory, environmental, historic, and sustainable objectives. The desired outcome is to enhance the program while addressing obsolescence, cost effectiveness and the strategic growth.

The design team is grateful to all who have devoted their vision, time, ideas and energy to the creation of this plan.

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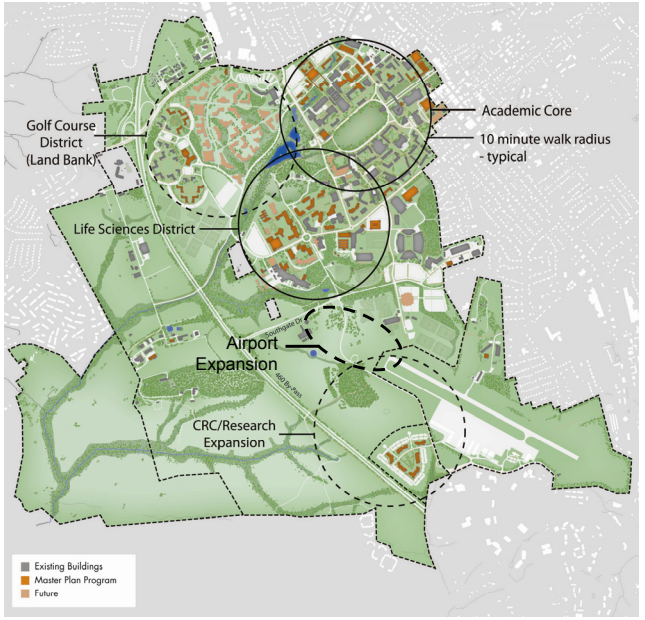
History and Need for Relocation

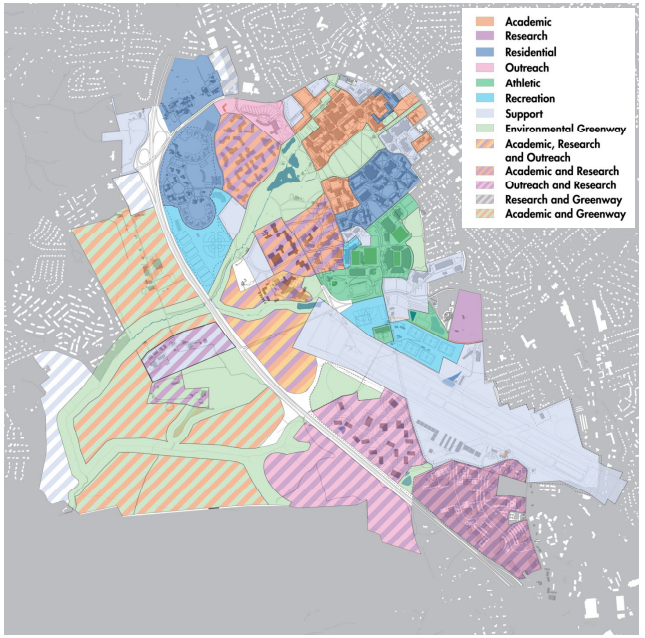
The 2006-16 Master Plan codified a land use plan that, for the first time in many planning cycles, recognized the need for substantial new land for the expansion of the campus in response to its Strategic Plan. The plan also recognized the need to expand the Corporate Research Center (CRC) and the Virginia Tech Montgomery Executive Airport. The University, thru the Foundation, also acquired a substantial tract of contiguous land to the west of the campus known as the Heth Farm. These developments lead to the decision that over time, and as opportunities arose, that Agricultural land uses would relocate to the west of the bypass and to other landholdings. New roadway alignments also seemed likely but the ongoing planning for the airport, CRC and roadways were not at a point that could be fully understood. Also, the exact timing and strategies for relocations of current land uses would need to carefully be considered and coordinated. With these understandings in place, the university approved the plan and proceeded to plan for the individual initiatives.

In 2008 the Airport Master Plan and an expansion plan for the CRC were sufficiently developed to understand that land uses related to the College of Agriculture and Life Sciences were potentially impacted and that a relocation plan needed to be considered. Road planning had also been advanced. All of these factors needed to be coordinated and addressed thru additional University Master Planning and an amendment needed to be considered.

A group of stakeholders were identified including CALS, CVM, CNRE, Division of Student Affairs and Athletics to work with HEWV to determine an appropriate programmatic strategy. HEWV worked to integrate this strategy, along with the before mentioned plans and the Universities larger county wide land holdings to form the recommendations of the 2008 Master Plan Amendment.



2006 Master Plan District Diagram



2008 Master Plan Amendment
Revised Land Use Diagram

The major relevant components of the amendment were to:

1. Relocate the heifer facilities to the Kentland Farm as a first phase relocation to allow for CRC Expansion. The heifer herd has been temporarily relocated to the Western Lands until facilities have been implemented at Kentland.
2. Relocate the lactating herd and dairy facilities to the Kentland Farm as soon as funding, planning and construction of replacement facilities where in place.
3. Develop a strategy and facilities for a small teaching herd of non lactating animals on the western lands.

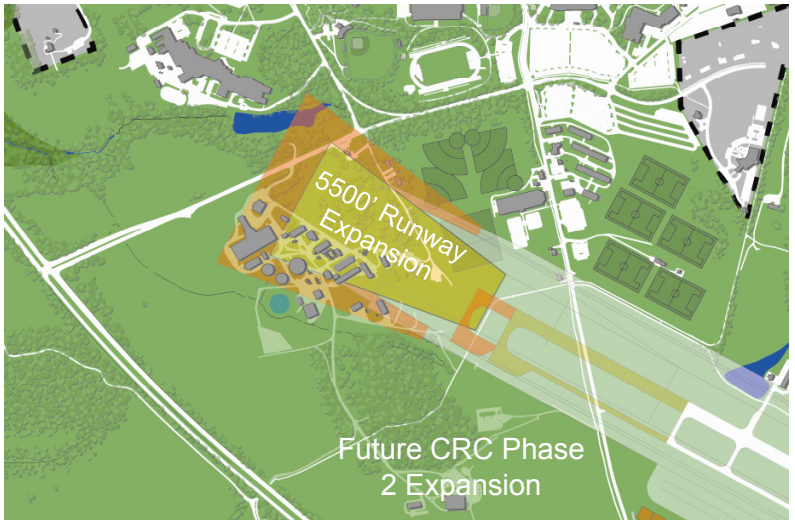
In addition to these components a number of additional recommendations where made with respect to capacities of the land, adjacencies and relocation of other programs, animals, and nutrient management strategies that over time would need to be considered. These three components were time sensitive due to the need for the Airport and CRC expansions to be realized.

In 2010 HEWV was selected to implement the primary recommendations mentioned above, as this 2010 Agriculture Program Relocation Plan. As part of this effort enhanced data and information has become available and/or was developed as part of the study to include:

- New animal numbers,
- A nutrient management plan,
- A historic resources survey, and
- Enhanced survey information for detailed siting understanding.

This study has benefited from a more thorough dialog, a new visionary Dean and input from an evolving College.

2008 Master Plan Amendment
Transportation Diagram



5500' Airport Runway Extension and
Existing Dairy Layout at Central Campus

Three program elements must be relocated to existing university owned land:

- The milking program and intensive research program will be relocated to Kentland Farm to take advantage of the proximity of feed production and liquid manure application.
- The Applied Reproduction (APR) program used by Colleges of Veterinary Medicine and Agriculture and Life Sciences will be moved to the Moore farm to take advantage of available pasture and proximity to the student body.
- The Bovine Extension, Teaching and Research (BETR) programs, which require frequent student access, will be located at Plantation Road to take advantage of the proximity to students and integration with other large animal programs, over short periods of time.

Program Location Map on VT Owned Lands

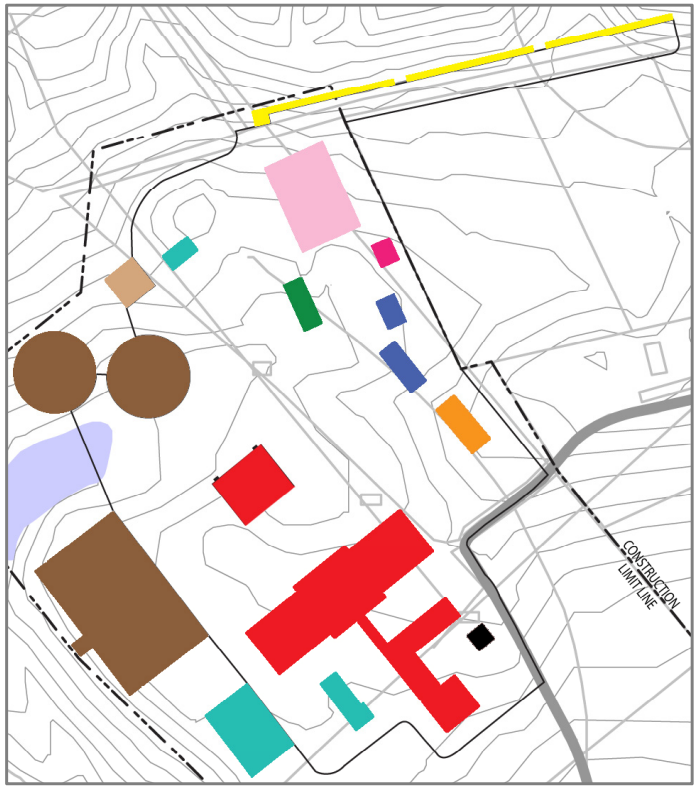
Basic Programming Assumptions

Comparison Between Existing and Proposed Dairy Program Components

The intent of the Agriculture Relocation study is to provide a programmatic replacement of current VT Dairy facilities to be located at Kentland, the Moore Farm and along Plantation Road. The below diagram depicts the associated relationships between the various structures both existing and future.

- BETR Facility located at the Moore Farm
- APR Facility located at Plantation Road

- Administrative
- Liquid Manure Storage, Manure Treatment
- Dry Manure Storage
- Intensive Research Building
- Intensive Care, Freestall Barn, Milking Parlor, Transition Barn / Dry Cow
- BETR facility
- Bulk Commodity Storage
- Equipment Storage, Feed Center
- Calf Barn, Young Heifers
- Hay Storage
- APR Facility
- Replacement Heifers
- Silage



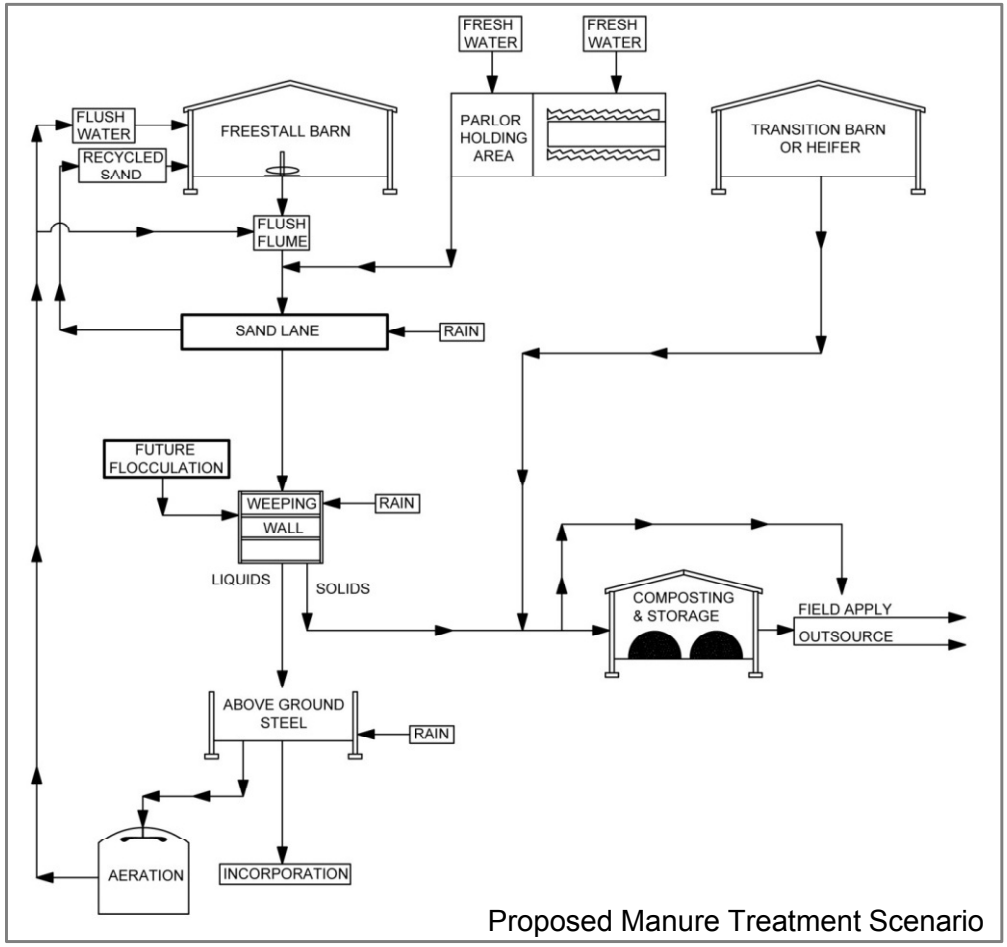
Existing Dairy Layout at Central Campus
Not to Scale

Proposed Dairy Layout at Kentland
Not to Scale

Basic Programming Assumptions

The primary manure system at the Kentland dairy will be a hydraulically flushing system to easily remove the manure. This system provides the lowest operating cost while being good stewards in terms of odor and nutrient run off from the land application. This system will integrate into Virginia Tech's current state mandated Comprehensive Nutrient Management Plan. The following key points and the diagram shown highlight the attributes of the dairy manure system:

- Removal → Sand Separation → Solid Separation → Storage → Recycle
- Non-mechanical gravity manure handling and storage system
- Allows utilization of sand bedding for maximum cow comfort and recycling opportunities
- Allows hydraulic manure handling primarily with recycled water
- Basic, proven, low operating cost, highly reliable liquid manure system that has opportunities for new technology research and system modifications
- Flexibility for future flocculation to remove nutrients with composting and maintain land nutrient management balance
- Scraped solids for incidental barns can be incorporated into the system



Proposed Manure Treatment Scenario

Programming

Because of acreage requirements, the volume of feed requirements and nutrient output of the existing dairy herd, Kentland is the only location that can support the dairy program. Consequently :

- The majority of the existing dairy program will be moved to Kentland leaving room for 130 beef cows and calves as well the dairy population.
- The beef program which can be split more easily will be separated to other locations such as the Moore Farm and Western lands.
- The remaining dairy program which does not house the basic cattle population will be located closer to campus, making it more accessible to students and faculty.
- The Applied Reproduction Facility, which will provide the opportunity for students to have palpation experience with bovine reproduction, will be located at the Moore Farm.
- The Bovine Extension Teaching and Research (BETR) Facility will be located on Plantation Road and provide the opportunity for a few animals to be transported to campus for short term use by Colleges of Veterinary Medicine and Agriculture and Life Sciences.

Animal Number Distribution on VT Owned Lands

In order to facilitate meaningful research and real life teaching experiences, the dairy buildings need to look and function like normal production units. These production units also need to be compatible with large groups of visitors, students who are receiving hands on experience and researchers with specialized requirements. This is further challenged by buildings that are integral with the function as opposed to buildings that house the function. Generally these production like facilities can be described as 'General Agricultural Construction':

- Pre-engineered steel or post-frame building with painted metal siding and concrete floors.
- No ceiling except painted steel panels under the purlins. The roof will be insulated to minimize condensation.
- Naturally ventilated with adjustable curtains for ventilation and temperature requirements.
- Unless identified otherwise, structures classified as an agricultural use facility that will meet the University requirements for Animal Care, ADA and life safety.

Programmed Buildings

- Administrative
- Freestall Barn
- Milking Center
- Intensive Research
- Special Needs Facility
- Manure Handling and Storage Facilities
- Feed Center
- Young Heifers
- Older Heifers
- Transition Barn
- Calf Barn
- Calf Hutches
- Support Facilities

Code Analysis

The following areas, because of their educational purpose and human use, are proposed to be classified as Business ("B") occupancies at the Kentland location:

- Administrative Building
- Milking Parlor support areas in the Milking Center
- Intensive Research building
- BETR building

All other areas including Applied Reproduction are proposed to be classified as Utility and Miscellaneous "U" "Agricultural" occupancies based on UVSBC Appendix C "Group U Agriculture Buildings".

"B" Business occupancies are proposed to be:

- Type III B construction
- One story except the 2 story Intensive Research building
- Non-sprinkled
- Limited to 19,000 sq. ft. and 3 stories (Table 503 with no area or height increase)
- Structural Occupancy Category II

"U Agricultural" occupancies are proposed to be:

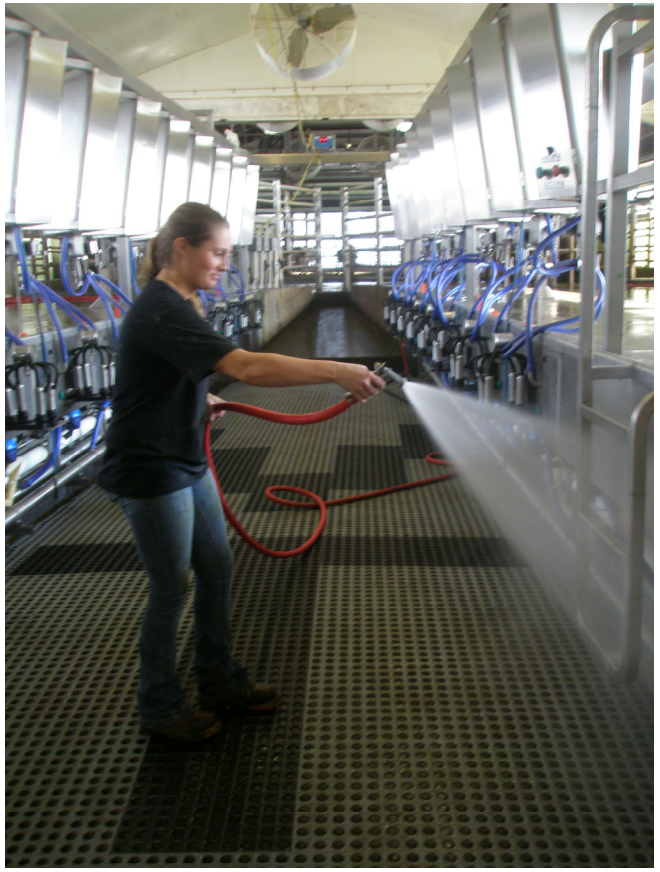
- Type V B construction
- Single story
- Non-sprinkled
- Unlimited area (paragraph C102.2)
- Structural Occupancy Category II

Code requirements have been integrated into the design of the dairy and its buildings to limit costs.

Disabled Accessibility

While accessible facilities will be provided, due to inherent risks areas where animals are or will move through will not be considered as accessible. Generally, the following areas will not be designed for accessibility:

- Cow platform in the milking parlor
- Holding pen and cow lanes to it
- Special treatment area for cows
- Freestall area except the center feed lane
- Transition barn except the center feed lane
- Calf area except the center lane and feed mixing in the calf barn
- Animal rooms and feed mixing in the Intensive Research building
- Heifer and handling area
- Young heifer area except the feed lane
- Feed center
- Silage storage
- Manure storage
- All areas of Applied Reproduction
- Animal handling in BETR
- Animal holding in BETR
- The arena floor of BETR



Applied Reproduction (APR) Facility at Moore Farm

As part of the Dairy program, the APR Facility provides the students with the opportunity to have hands-on experience with the bovine reproduction tract. Docile un-utilized mature cows will be brought into the APR program and kept on low operating cost pasture. These cows will be easily restrained with lockup feed bunks so that the students can do palpations and other hands on activities. The building is generally described as:

- Pre-engineered post-frame building with painted metal siding and concrete floors.
- No ceiling except painted steel panels under the purlins. The roof will be insulated to minimize condensation.
- Naturally ventilated with adjustable curtains for ventilation and temperature requirements.
- Classified as an agricultural use facility that will meet the University requirements for Animal Care, ADA and life safety.
- 6,240 SF open front mono-sloped building.
- Curtain sided along feed alley
- Concrete slab with scrape and haul manure handling
- Drive through feeding
- 50 self-locking manger fronts
- 1,440 SF at the end of the building for animal handling and loading

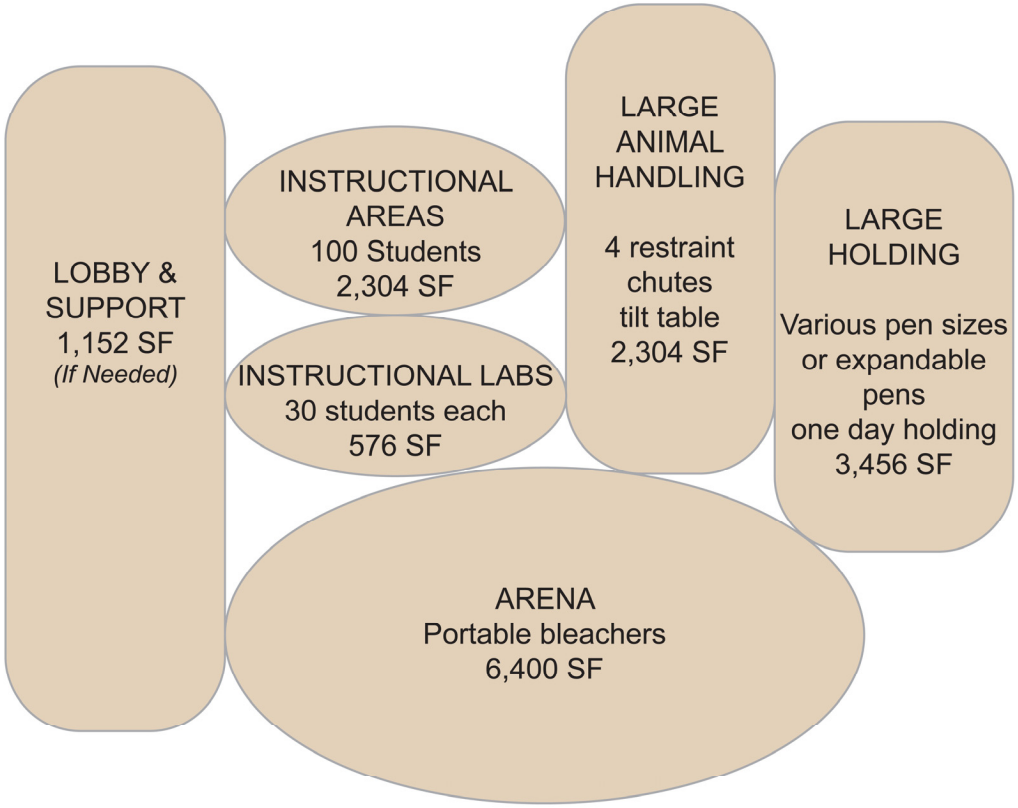
PASTURE & ANIMAL SHELTER
Open front, drive through feeding w/ lockups for 50

ANIMAL LOADING
&
HANDLING

Bovine Extension Teaching and Research (BETR)

The BETR facility is a program relocation of the current dairy pavilion and laboratory spaces. This facility provides the opportunity to bring the animals to the people without locating them off of the desirable open agricultural lands for housing. Students and faculty will have a high degree of hands-on accessibility without the time consuming and expense of transportation. Conceptually this facility would have 6 primary areas as shown and described below:

- Located near campus on Plantation Road.
- Possibility of utilizing existing beef arena
- Possibility of utilizing existing beef barn for animal holding.
- Classrooms and laboratories utilized in connection with hands-on education
- Arena utilized for large animal show ring and cattle judging.
- Masonry construction with fire separation areas.
- Naturally ventilated animal spaces with supplemental heat. All other spaces with human supplemental heat and air-conditioning.
- Unless identified otherwise, structures classified as providing educational space will meet the University requirements for Animal Care, ADA and life safety.

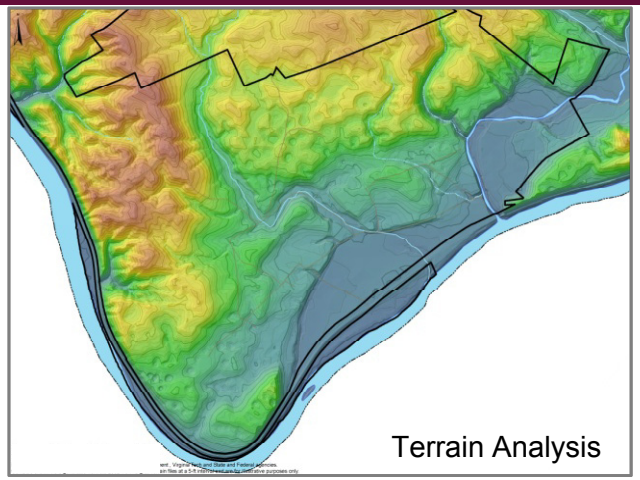


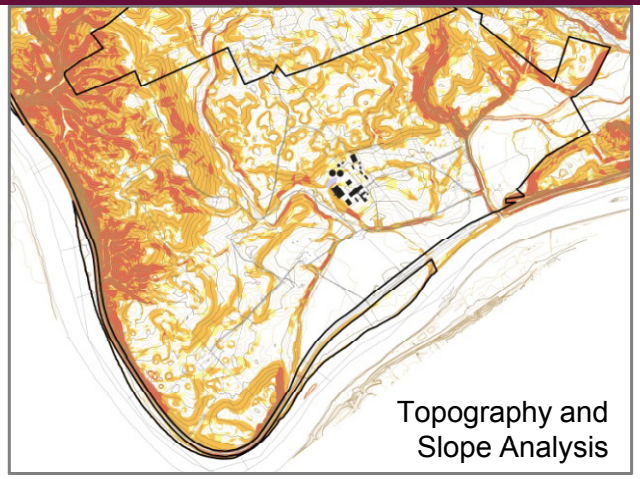
Conceptual Designs

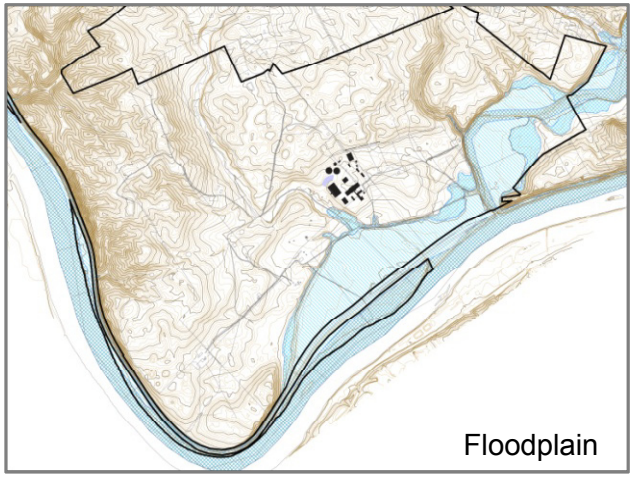
As the development of the dairy program began to move forward, a thorough site analysis known as the Environmental Overlay process (McHargian Methodology) was performed to identify the opportunities and constraints of the Kentland Farm. Site landscape variables were mapped and overlaid in GIS in order to identify sites suitable for the proposed dairy facilities. The compiled data supported the site selection process as the design team investigated the ideal location for the dairy program facilities.

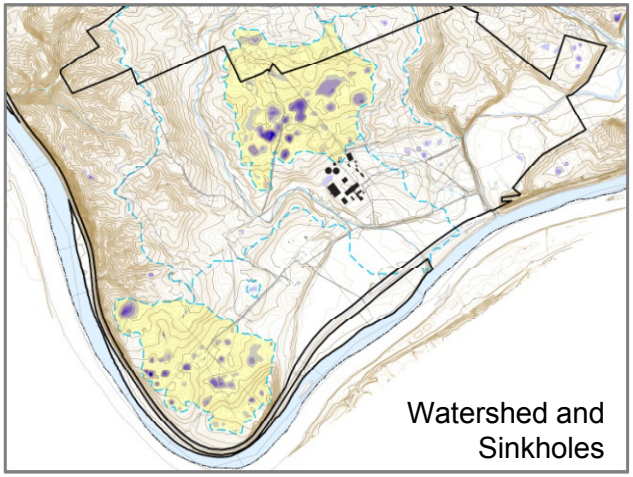
The variables utilized in this process include:

- Natural Factors:
  - Topography
  - Terrain
  - Slope
  - Surface Hydrology
  - Soils
  - Sinkholes
  - Forest
  - Prevailing Wind Direction
- Cultural Factors:
  - Landcover
  - Historic District
  - Archaeological
- Infrastructure:
  - Access
  - Power
  - Water
  - Wastewater Disposal

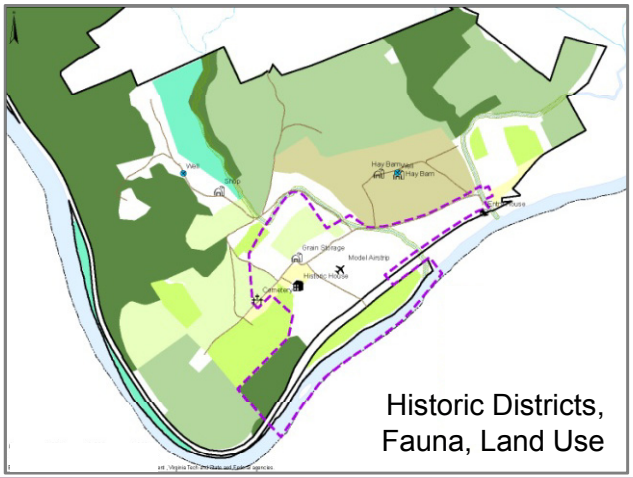

Terrain Analysis


Topography and Slope Analysis


Floodplain


Watershed and Sinkholes


Soils


Historic Districts, Fauna, Land Use

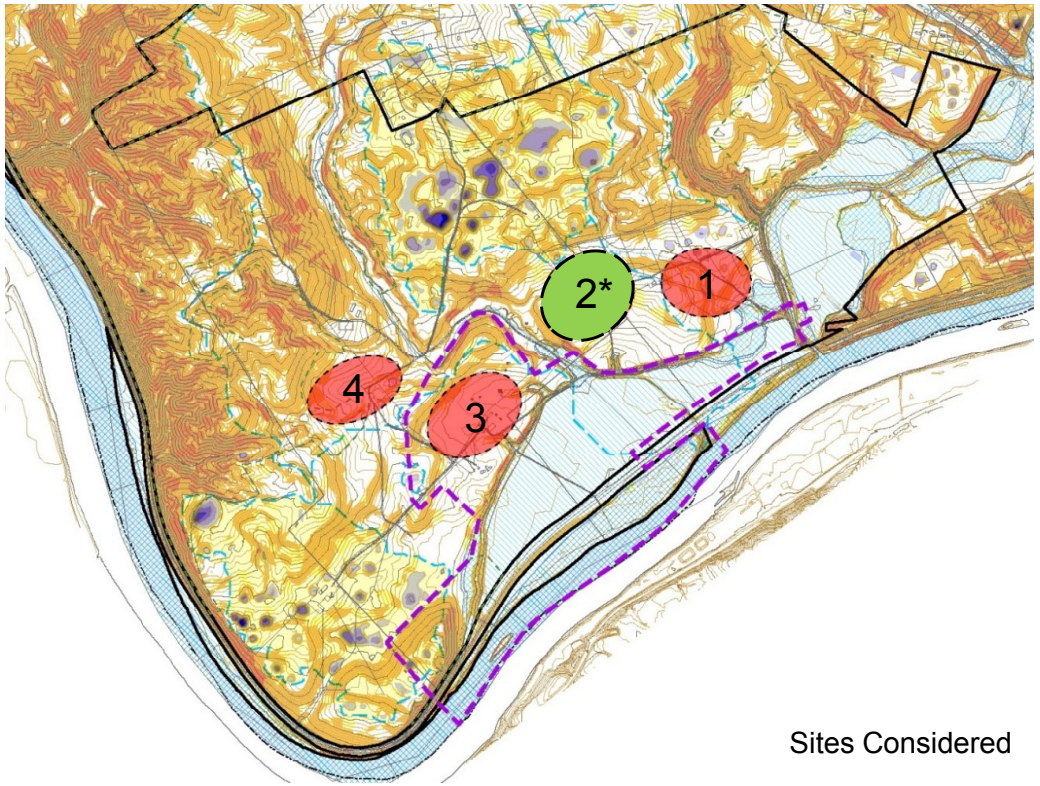
A site analysis of the combined site features yielded 4 potential sites for the location of the dairy program that met the following general criteria set:

- Moderate slopes (0% - 15%)
- Surface runoff to areas other than sinkholes
- Soils suitable for onsite domestic sanitary drainfield
- Proximity to electric service and potable water
- Access to site

Each of the four sites were evaluated based on its ability to best support a model layout of the dairy, its support features and ability to provide the necessary dairy functions while minimizing impacts (displacement) on adjacent farm research plots and farm operations.

- Site 1 – This location was considered in the 2008 Land Use Study as the potential site. A thorough site analysis eliminated this site as a option due to soil and topographic issues.
- Site 2 – The site factors considered at this location are desirable for siting the dairy facilities. Proximity to pasture and road locations are positive attributes.
- Site 3 – The existing historical and archeological overlay district eliminated this location from consideration, despite it's optimal site conditions.
- Site 4 – A thorough site analysis eliminated this site as a option due to the isolation and lack of connection to needed services.

The analysis resulted in a favorable recommendation of Site 2 which was used as the ideal location for moving forward with development options.

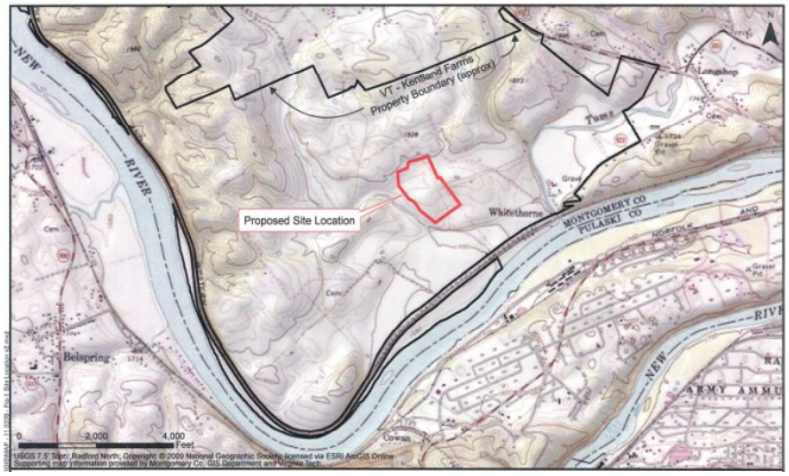


Sites Considered

To complete the Environmental Impact Review (EIR), environmental records, tribal records, and representations of physical setting including mapping of topographic, geologic, soils, wetlands, and floodplain were reviewed . A number of regulatory agencies were contacted to conduct an initial project review relative to environmental and historical resources.

Based on the review, it is not anticipated that appreciable impacts will occur to air and water quality and no significant consumption of land or water resources, or the generation of significant demands on natural resources of the immediate surrounding areas, resulting from the proposed action. Additionally, the proposed construction activities are not likely to reduce or alter the flow of water in local streams, rivers, and/or wetlands. The proposed action is considered to be consistent with surrounding land use activities and is consistent with the scope of the University's Master Plan.

An evaluation of potential impacts to historic resources is ongoing. However, the Department of Historic Resources (DHR) has concurred, based on the results of a site-specific archaeological survey requested after their initial project review, that the project area is not eligible for listing in the National Register of Historic Places (NRHP) as an archaeological site. As also requested by DHR, a site plan and elevations of proposed construction should be provided to DHR for review, when available, to aid in their evaluation of potential impact to architectural resources on the Kentland Farm property.



EIR Site Map

EIR Aerial

As part of the site analysis process the required utilities needed for operations at the Kentland Farm were identified:

Water

A review was conducted to determine potential sources of potable water for the proposed dairy facility. Three sources of water were considered.

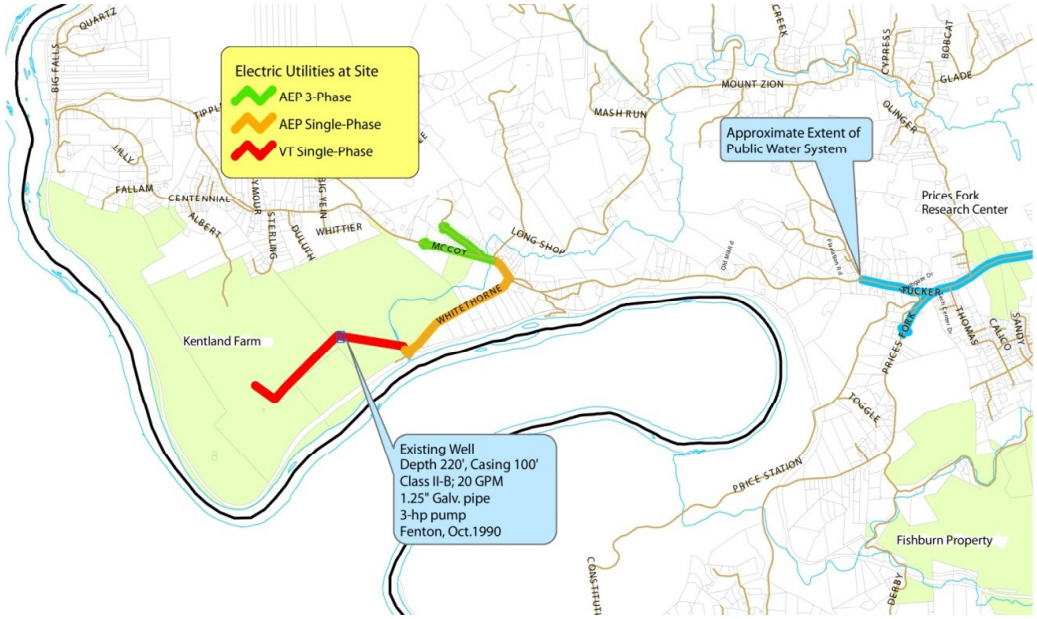
- The Montgomery County Public Service Authority provides service to the Prices Fork area; this was eliminated due to the distance and cost (approximately 5-miles) to extend the water main.
- Radford Army Ammunitions Plant across the New River was eliminated due to the impracticality of extending a water main across the New River.
- An existing on-site well in the vicinity of the proposed site yields 20 gpm. The existing well, along with the development of a new well to derive a total yield of 55 gpm and the installation of a hydropneumatic tank is the most practical solution. Though not detail on-site investigation was conducted, a desktop review of topography and fault tracing suggests reasonable prospects for development of a Class II-B well.

Domestic Sanitary Drainfield

A review on the Montgomery County Soil Survey indicated there are soils suitable for development of a sanitary drainfield for on-site domestic disposal. No onsite soil survey was conducted in the course of this study.

Electric Service

Electric service provider to Kentland, Virginia Tech Electric Service, was consulted to determine availability and routing of three-phase to the site. VTES advised that there is an existing Single-phase line on site that can be upgraded to three-phase service without replacing existing onsite power poles. In order for VTES to provide this service, Appalachian Power will need to upgrade its single-phase line along Whitethorn Road to the Kentland property line.



Available Utilities at Kentland

Key Points

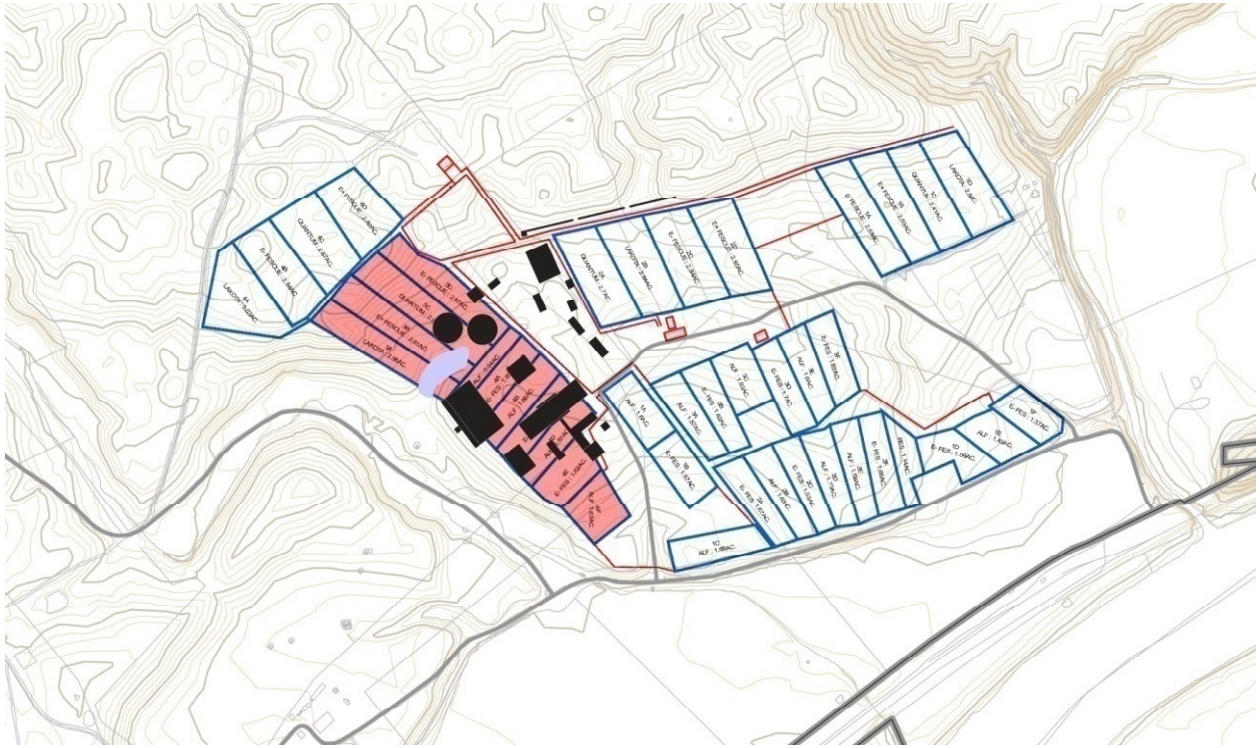
- Develop Onsite Well for Potable Water Needs
- Montgomery Count Soil Survey Indicates areas on soil suitable for a domestic septic field
- Three-phase Electric Service is Available to the site with upgrades to the onsite and offsite system

Site Considerations

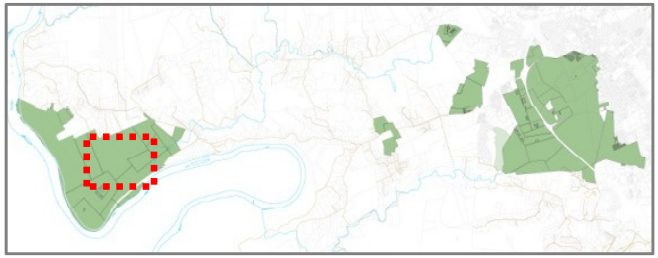
In planning for the dairy facility, the faculty and design team worked together to minimize the impact of the dairy facilities on the CSES research plot groups currently under way at Kentland Farm. The conceptual design of the required programmatic buildings were sited with this goal in mind. The affected research forage plots were identified and approved by the faculty for relocation to happen no later than March of 2012 to allow construction to begin.

Research Plots Impacts

- 3 A – 2.58 Ac.
- 3 B – 2.61 Ac.
- 3 C – 2.88 Ac.
- 3 D – 2.57 Ac.
- Alf. – 0.94 Ac.
- 4 A – 1.63 Ac.
- 4 B – 1.68 Ac.
- 4 C – 1.66 Ac.
- 4 D – 1.57 Ac.
- 4 E – 1.62 Ac.
- 4 F – 1.63 Ac.



CSES Research Plots Overlay



The Kentland Dairy layout considered the following criteria for design:

- 35 Acres of contiguous land for the required program pieces
- Proximity to road
- Proximity to pastures
- Use of gravel for vehicle base
- 50-60’ between major buildings for air circulation
- Siting of primary buildings to optimize vistas

Dairy Layout

A. Freestall Barn
B. Intensive Care
C. Milking Parlor
D. Administrative
E. Calf Barn
F. Calf Hutches
G. Manure Treatment
H. Sand Lanes
I. Liquid Manure Storage
J. Dry Manure Storage
K. Young Heifers
L. Handling & Replacement Heifers
M. Silage
N. Hay Storage
O. Bulk Commodity Storage
P. Feed Center
Q. Equipment Storage
R. Intensive Research building
S. Transition Barn/Dry Cow

Dairy Layout at Kentland

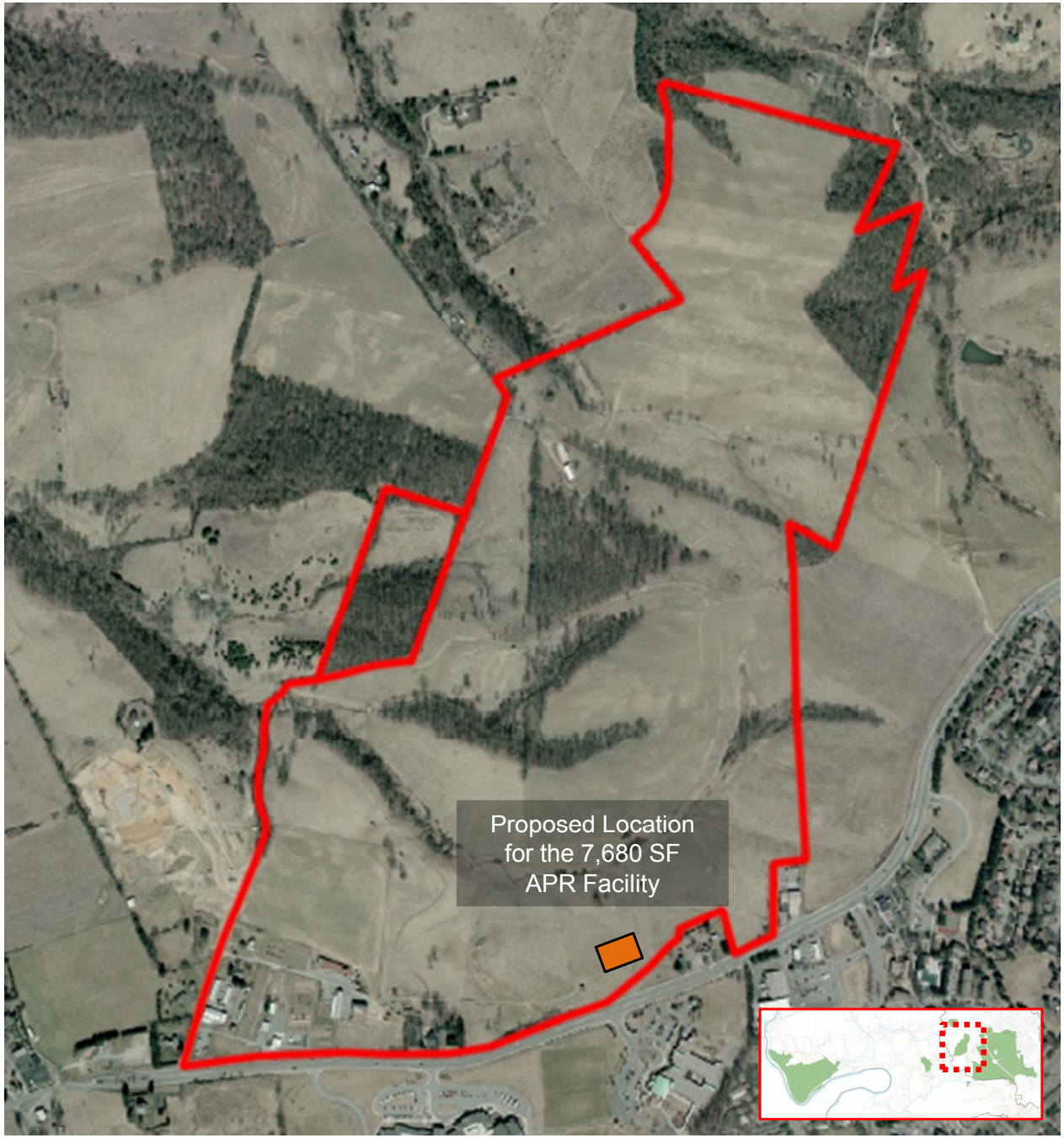
Applied Reproduction Facility at Moore Farm (APR Facility)

The study identified the Moore Farm as an ideal location for this programmatic function of the Dairy program. Further investigation will be needed to make a determination of the exact location of facilities. Water and Electrical utility services will be required.

The following criteria were considered to identify the Moore farm location:

- Proximity to Campus
- Access to parking
- Access to existing support functions and Pasture

A preliminary location for the facility is shown. While the site constraints are seen as minimal, further investigation is needed before a final location is determined.



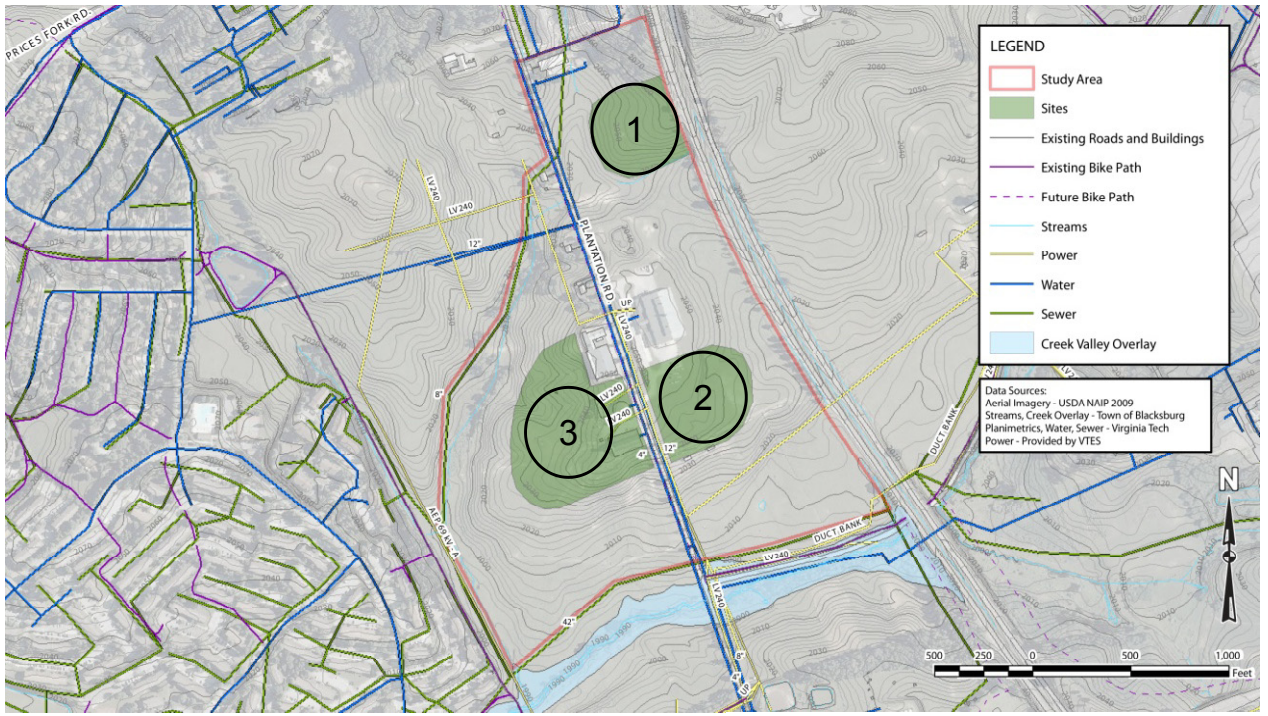
Applied Reproduction Facility Potential Sites at Moore Farm

BETR building along Plantation Road

A review was conducted in the Plantation Road area to assess the area's general viability as a location for certain activities that are currently being carried out the existing dairy. These functions are described in the BETR Building section of this report. To this end, a desktop review and field reconnaissance were conducted to identify utility infrastructure in the area and observe its relationship to available land-base and topography.

In summary, the desktop and field reviews indicate that both public water and electricity are available. Capacity was not assessed. Public sewer is somewhat more limited, but can be made available by gravity line extension to the potential site that is topographically suitable to for a potential BETR Building facility.

Site 1 was eliminated due to its topographic separation from the existing Alphin-Stuart Arena. Site 3 was eliminated due to its location across Plantation Road from the arena and the fact that Site 2 has the advantage of immediate adjacency to the Alphin-Stuart Arena. For these reasons, Site 2 is recommended for an additional site specific study.



Available Utilities at Plantation Road

BETR building along Plantation Road

The study recommends locating the BETR building directly adjacent to the Alphin-Stuart Arena due to the potential shared use of similar functions. A retrofit of the existing Beef Pavilion was eliminated as the preferred option. Water and Electrical utility services will be required.

The following criteria were considered in the study to help identify the Plantation Road location:

- Proximity to Campus
- Access to parking
- Access to existing support functions and Pasture

The potential for the reuse of the existing Beef Arena for certain functions of the BETR building is possible.

Dry manure storage, as currently provided for by the existing dairy facilities, is needed for the Beef, Equine and Sheep programs to allow for adjacent field application of nutrients.

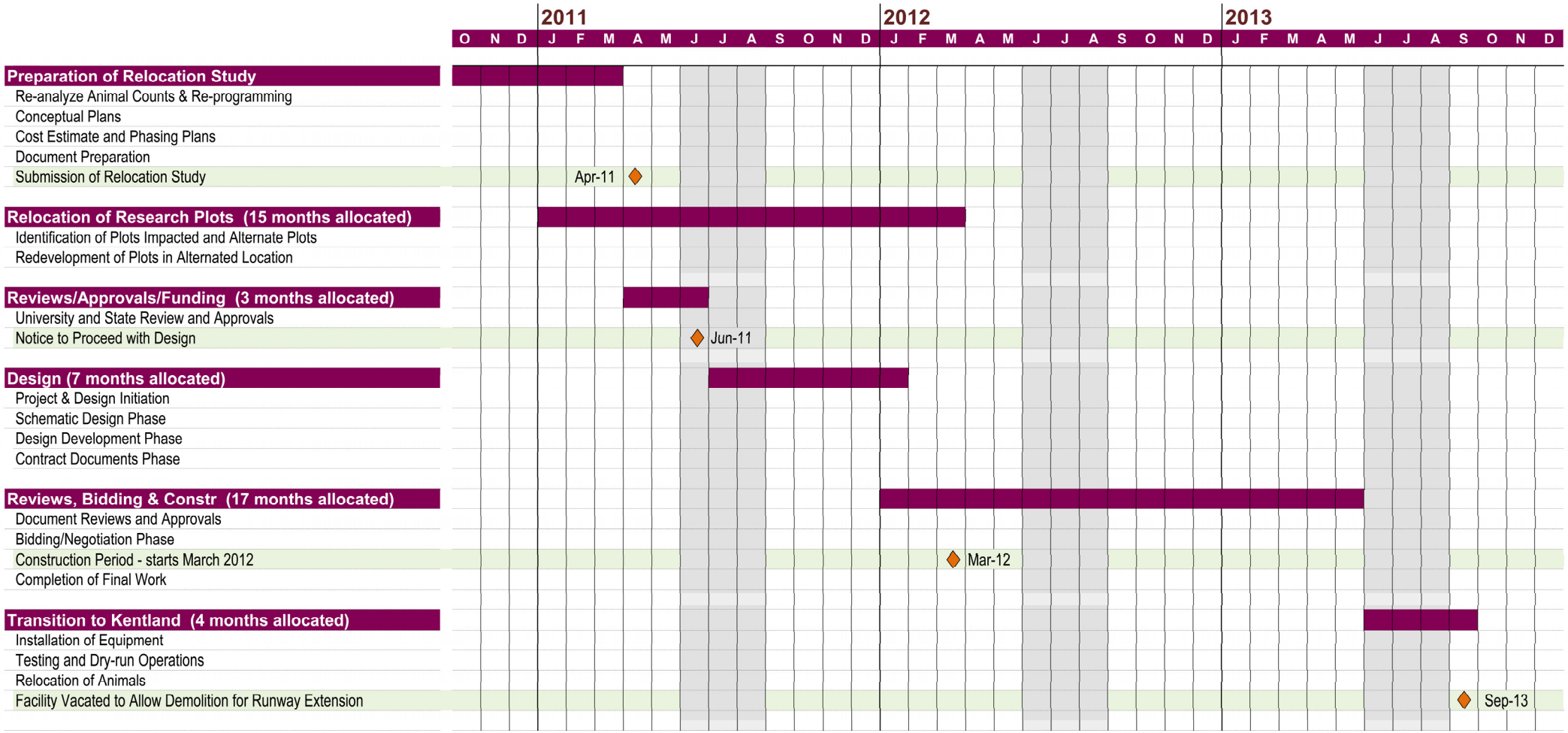
Sites considered for BETR Building at Plantation Road

Statement of Probable Costs

- The relocation process and the maintaining of the agriculture program requires that the project not be phased.
- Reuse of the existing dairy barn was considered but with the majority of the costs being in components that cannot be reused, this idea was eliminated. The exception to this is the reuse of swing gates and other similar fixtures.

	%	Dairy Program Totals	Applied Repro Totals	BETR - New Bldg Totals	TOTALS
1 CONSTRUCTION COMPONENTS		**$ 15,340,096**	**$ 233,188**	**$ 3,198,693**	**$ 18,771,977**
a. Building(s) Construction Cost		$ 12,590,570	$ 190,440	$ 3,113,556	
b. Site Preparation / Demolition		$ 3,292,780	$ 57,500	$ 287,500	
c. Electrical Services		$ 207,000	in site cost	in site cost	
d. Water Distribution System		$ 70,725	in site cost	in site cost	
e. Sanitary System System		$ 34,500	in site cost	in site cost	
f. Storm Water System		$ 115,000	in site cost	in site cost	
g. Chilled/Hot Water System		in constr. cost	in constr. cost	in constr. cost	
Construction Subtotal		**$ 16,310,575**	**$ 247,940**	**$ 3,401,056**	
Subtotal with Local Construction Factor	**0.90%**	**$ 14,679,518**	**$ 223,146**	**$ 3,060,950**	
Subtotal with Escalation to Midpoint of Construction (3% per yr, midpoint is Oct 2012)	**4.50%**	**$ 15,340,096**	**$ 233,188**	**$ 3,198,693**	
2 OTHER PROJECT COMPONENTS		**$ 1,926,658**	**$ 48,063**	**$ 412,292**	**$ 2,387,013**
a. Professional Fees					
Base Agreement %	8%	$ 1,227,208	$ 18,655	$ 255,895	
Cost Consultant	0.5%	$ 76,700	$ 1,166	$ 15,993	
b. Fire Marshall	0.06%	$ 9,588	$ 146	$ 1,999	
c. Inspection Services					
Code Administration	0.25%	$ 38,350	$ 583	$ 7,997	
d. Surveys and Tests					
Topological		$ 50,000	$ 7,500	$ 7,500	
Geotechnical		$ 55,000	$ 8,000	$ 8,000	
Concrete Test		$ 90,000	$ 2,000	$ 31,136	
HVAC System Test		by contr.	by contr.	by contr.	
e. Permit/Impact/Environmental Fees					
Permits	0.15%	$ 23,010	$ 350	$ 4,798	
f. Movable Furnishings & Equipment		$ 50,000	$ 5,000	$ 15,000	
g. Contingencies	2%	$ 306,802	$ 4,664	$ 63,974	
TOTAL PROJECT COST ESTIMATE		**$ 17,266,754**	**$ 281,251**	**$ 3,610,985**	**$ 21,158,990**

Implementation


2011
2012
2013
O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Preparation of Relocation Study
Re-analyze Animal Counts & Re-programming
Conceptual Plans
Cost Estimate and Phasing Plans
Document Preparation
Submission of Relocation Study
Apr-11
Relocation of Research Plots (15 months allocated)
Identification of Plots Impacted and Alternate Plots
Redevelopment of Plots in Alternated Location
Reviews/Approvals/Funding (3 months allocated)
University and State Review and Approvals
Notice to Proceed with Design
Jun-11
Design (7 months allocated)
Project & Design Initiation
Schematic Design Phase
Design Development Phase
Contract Documents Phase
Reviews, Bidding & Constr (17 months allocated)
Document Reviews and Approvals
Bidding/Negotiation Phase
Construction Period - starts March 2012
Mar-12
Completion of Final Work
Transition to Kentland (4 months allocated)
Installation of Equipment
Testing and Dry-run Operations
Relocation of Animals
Facility Vacated to Allow Demolition for Runway Extension
Sep-13