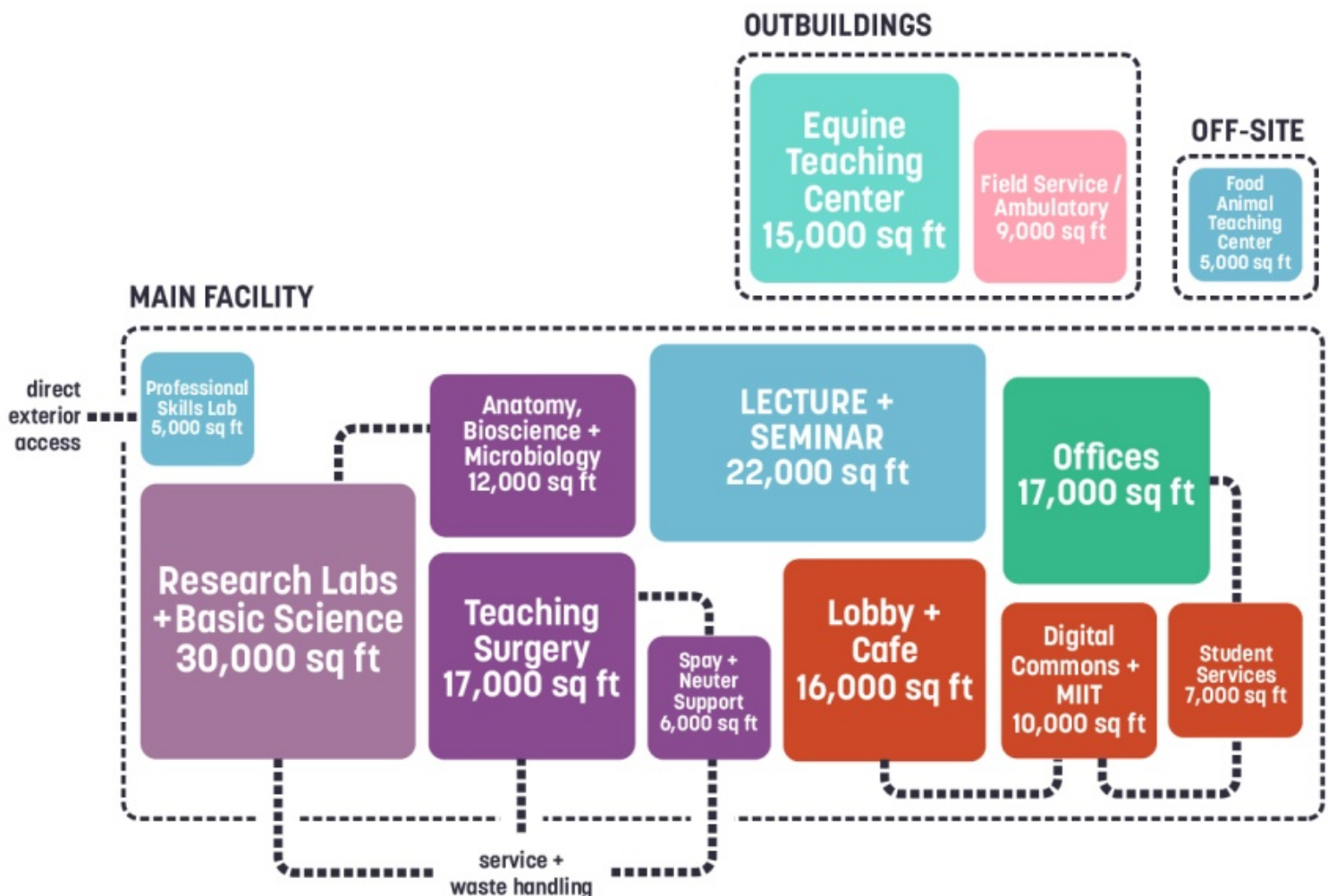


SPACE PROGRAM

In a distributed model, the Clemson CVM project does not need to construct extensive live animal facilities or a teaching hospital. Instead, CVM students will supplement on-site lecture and laboratory-based instruction with visits to off-site animal research stations. In their final year, they will visit partner institutions for clinical immersion. Two new animal care facilities are proposed for the program: 1) an equine teaching center which will hold a small number of horses for instructional purposes. Opportunities should be explored to co-locate this center with the existing Clemson Equine Center; 2) a food animal teaching center which will be co-located with the existing Lamaster Dairy Center.

The distributed model means the Clemson CVM's core facility can have a small building footprint relative to other veterinary medicine programs of similar enrollment. The program of the facility will be focused on lecture halls, skills labs, research labs, and student amenity and support spaces. The following diagram illustrates the relative size of the program areas based on information provided by Foil Wyatt Architects.



Food Animal
Teaching
Center
4,696 sq ft

**ANIMAL
CENTERS**

**Equine
Teaching
Center
14,960 sq ft**

STUDENT SUPPORT + GATHERING SPACE

Lobby
16,000 sq ft

Digital Commons
7,854 sq ft

Student Services Center
4,696 sq ft

MIT - Media, Instructional + Informational Technology 1712 sq ft

Cafe + Catering 1320 sq ft

Engagement Offices 1368 sq ft

Student Success Center 780 sq ft

Entry 520 sq ft

CLASSROOM INSTRUCTION

Lecture One
6,000 sq ft

Lecture Two
6,000 sq ft

Lecture Three
6,000 sq ft

Professional Skills Lab
5,000 sq ft

Testing Rooms 400 sq ft

Small Lecture Rooms 2,400 sq ft

Seminar Rooms 2,000 sq ft

**LABS +
SURGERY**

SA Junior Surgery
6,720 sq ft

Surgery Support
6,358 sq ft

Spay + Neuter Support
5,825 sq ft

Lab Support
5,520 sq ft

SA Procedures Lab
3,608 sq ft

Small Animal Isolation 650 sq ft

Parasitology + Microbiology 1,408 sq ft

Microscopy + Histology 2,560 sq ft

Research Labs
22,360 sq ft

Research Animals
7,215 sq ft

Anatomy Lab 3,000 sq ft

OFFICES

Field Service / Ambulatory
9,141 sq ft

Faculty, Researcher and Intern Offices
10,284 sq ft

Dean's Office
3,798 sq ft

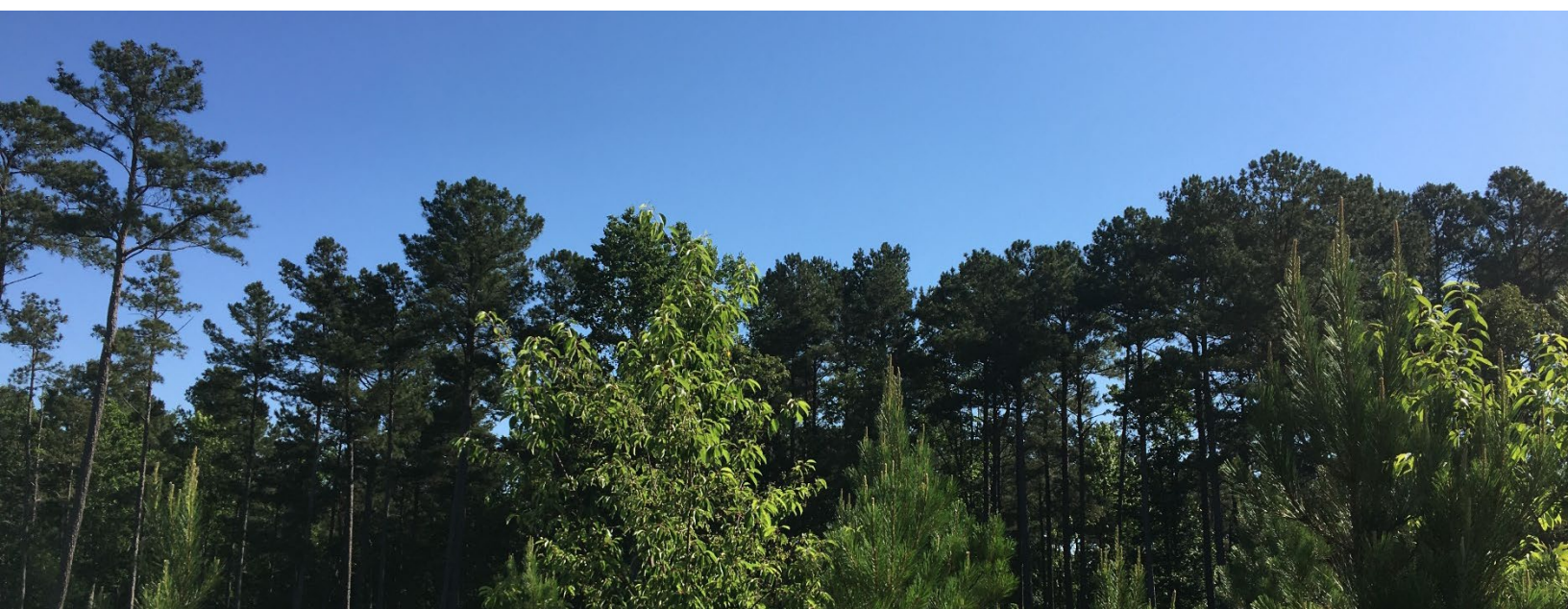
Business Offices 1,522 sq ft

SITE SELECTION

The proposed location for the Clemson CVM facility was selected based on nine criteria assessed by a team of Clemson faculty and staff:

1. Capacity - The site should have an initial capacity for development of about 20 acres with the potential for growth up to 50 acres.
2. Terrain - The site must be large and flat enough to allow easy development of horizontal buildings, large parking areas and circulation by service vehicles and animal trailers.
3. Hydrology - The site should have minimal exposure to flood risks.
4. Environmental Impacts - Development of the site should have minimal deleterious impacts to ecological function, forest health and water systems.
5. Planning Coordination - The site should be available for use by Clemson University. Use should not interrupt or adversely change other long-term plans of the institution or community.
6. Community Impacts - Development of the site should not interrupt community recreation, vehicular circulation or historical heritage. The site should be sufficiently far from residential areas to avoid olfactory, noise and construction impacts.
7. Infrastructure - The site should be capable of connecting to existing infrastructure systems with a minimal infrastructure burden on the CVM project.
8. Connectivity - The site should be within a 10-minute drive of Clemson's main campus and a short drive to agricultural field stations.
9. Presence - The site should be visible and accessible to the public and contribute positively to Clemson's presence in the community and region.

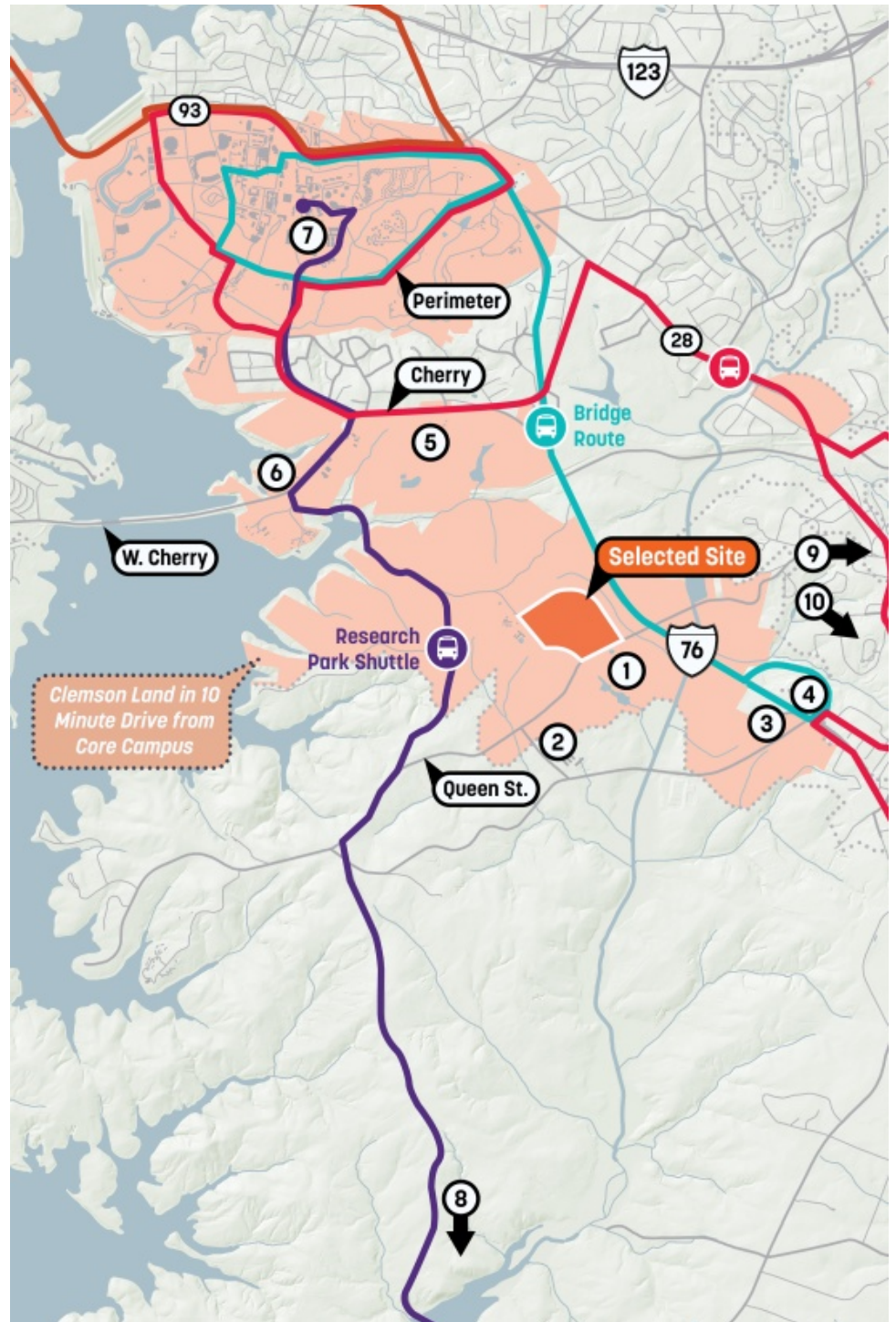
The site selection process was conducted in the summer of 2022. The site selected is located on Clemson Experimental Forest land north of the intersection of Starkey Road and Queen Street and west of Highway 76.



SITE CONTEXT

The selected site for the Clemson CVM is an 8-minute drive from the Clemson Ag-Quad and centrally located relative to field stations and research institutions with which the CVM will be affiliated:

1. Equine Center (1-minute drive)
2. T. Ed Garrison Arena (1-minute drive)
3. Small Ruminant Arena (3-minute drive)
4. Halbert Hall of Veterinary Technology at Tri-County Technical College (4-minute drive)
5. Lamaster Dairy Center and new Food Animal Teaching Center (6-minute drive)
6. Morgan Poultry Center (7-minute drive)
7. Clemson Ag-Quad
8. Clemson Research Park (9-minute drive)
9. Clemson Beef Cattle Farm (11-minute drive)
10. Simpson Small Ruminant Research and Education Center (11-minute drive)

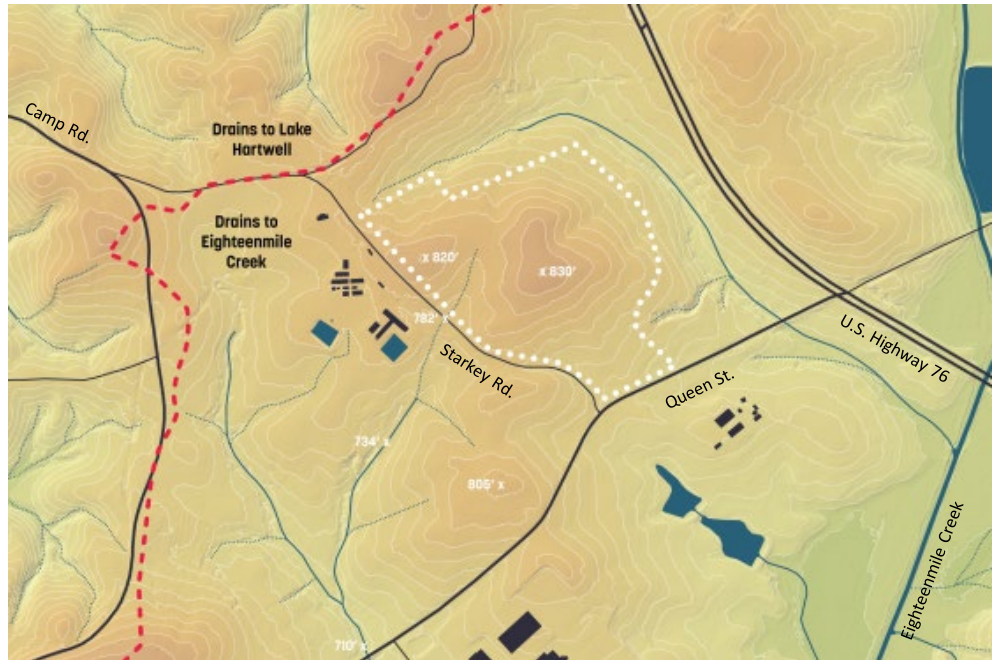


The site's location away from the core campus places the CVM closer to these partner facilities and provides sufficient land for long-term growth opportunities. The CVM site is close enough to the core campus for partnerships with other graduate and undergraduate programs. The site has potential for new transit connections that adapt the existing Research Park Shuttle or Bridge Route.

SITE ANALYSIS - TERRAIN

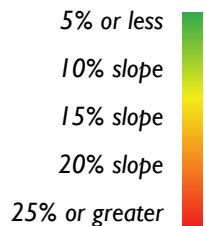
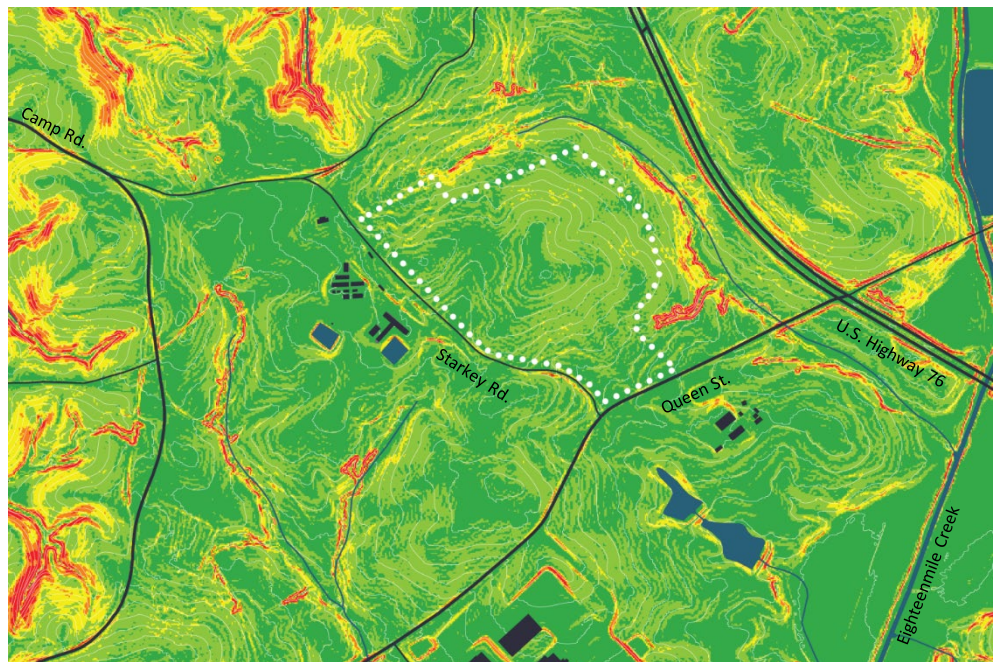
TOPOGRAPHY

The selected site includes a large hill at the corner of Queen Street and Starkey Road and a smaller hill adjacent to Starkey Road. At 830 feet above sea level, the larger hill is a local peak in the surrounding area. A saddle between the two hills drains to a creek south of Starkey Road. The entire site drains to Eighteenmile Creek. The two hills drop down to a steep ravine north and east of the site.



SLOPE

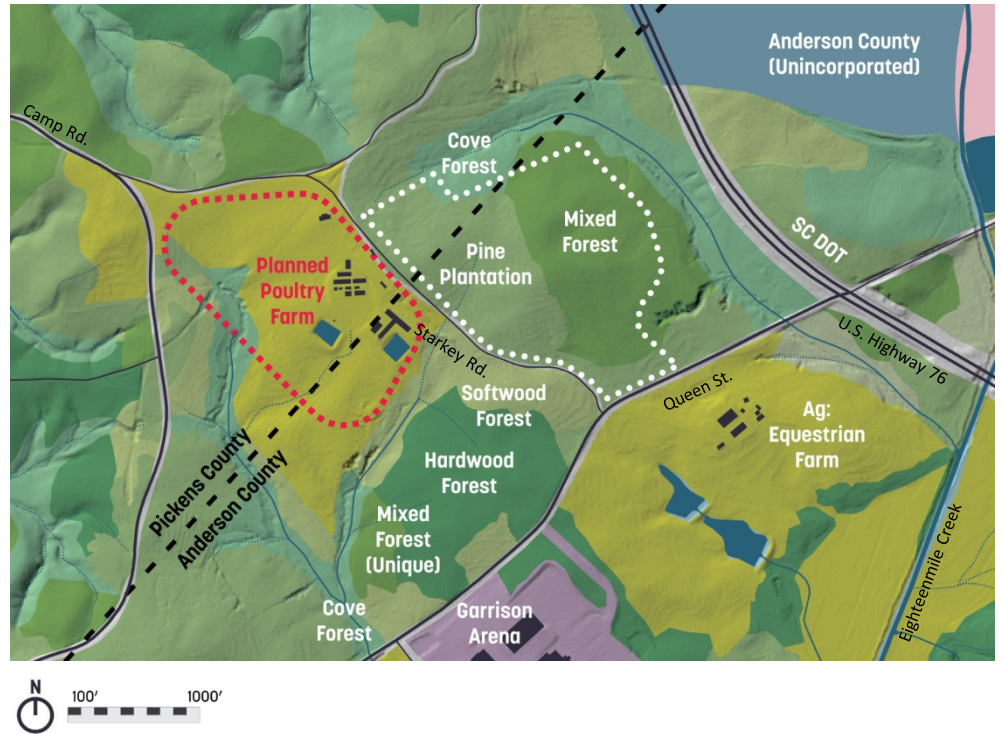
The selected site gently slopes towards the peaks of each hill. The north and east sides of the site are steep as they descend into the ravine.



SITE ANALYSIS – LAND USE

PLANNING COORDINATION

The selected site is managed by the Clemson Experimental Forest. It is predominantly pine plantation intended for periodic logging. The land west of Starkey Road is a former swine farm and has been set aside for a planned poultry farm. The land east of Queen Street is an active equestrian farm and includes the Clemson Equine Center. The site occupies two counties, Pickens and Anderson.



ECOLOGY AND RECREATION

The ravine that surrounds the selected site has medium ecological value* due to its cove hardwood forest and the presence of water. There are no wetlands on this site but the stream in this ravine feeds a small wetland at its confluence with Eighteenmile Creek. Recreational trails run through the site, including equestrian trails. Not all trails have been documented.



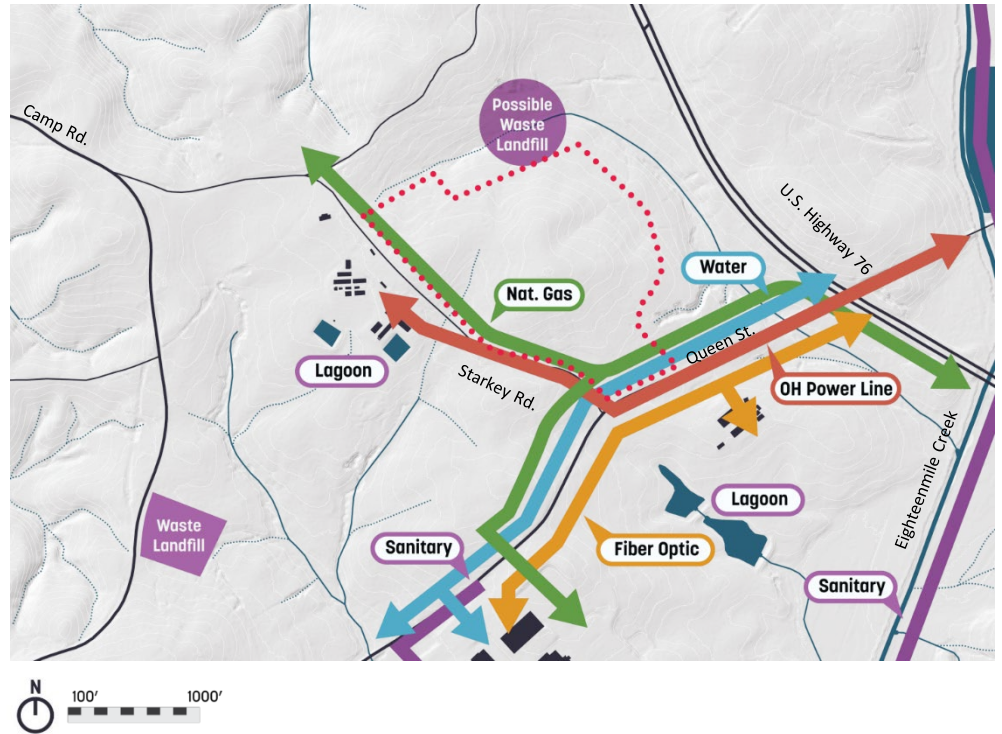
* According to the model developed for the 2014 Clemson Land Assessment. Measures include factors like vegetation maturity, forest structure, unique flora/fauna and presence of wetlands and surface waters.

- High Ecological Value* ●
- Medium Ecological Value* ●
- Wetland ●
- Trails and Dirt Roads - - - -

SITE ANALYSIS – INFRASTRUCTURE

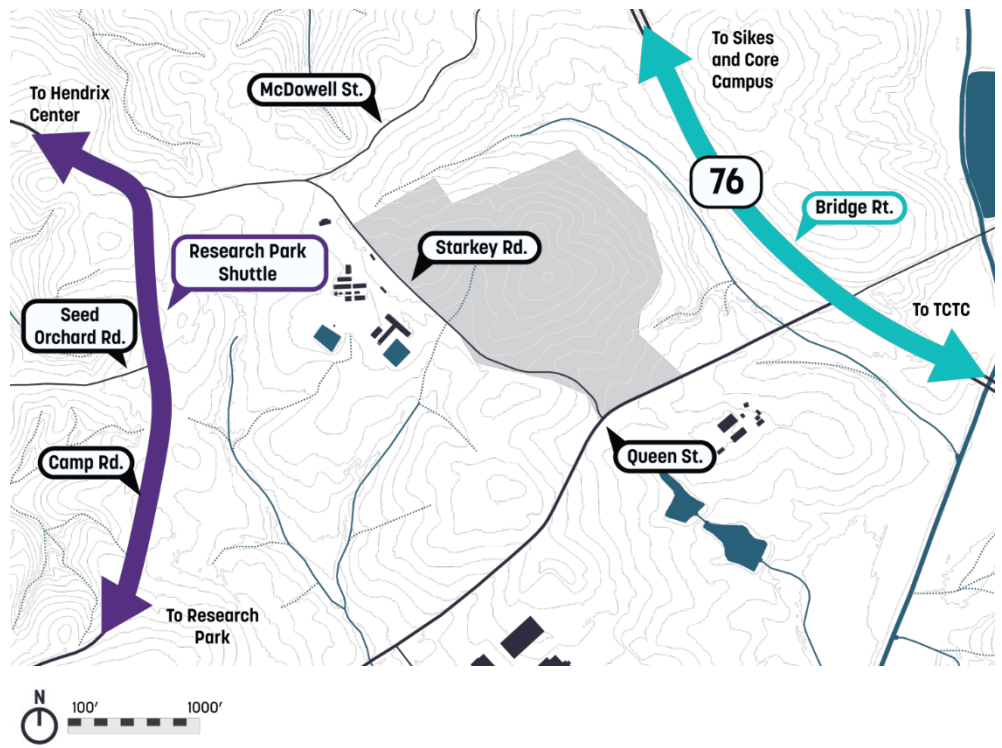
EXISTING UTILITIES

The selected site is adjacent to several existing agricultural facilities which are served by utilities. The site has access to natural gas, domestic water, power and fiber optic lines running along Queen Street. The site is currently not served by sanitary sewers. A new forced sewer main will need to be constructed from the site to existing sewers at Woodburn Road. A pump station will be required.



MOBILITY INFRASTRUCTURE

The selected site is near U.S. Highway 76, a major connective road for the region that will provide convenient vehicular access to the core campus, Tri-County Technical College, and other partner facilities. Two transit services currently pass near the site but there are no transit stops in the vicinity. The Research Park Shuttle runs from Cooper Library to the Clemson Research Park every 60 minutes. It is currently a non-stop service. The Bridge Route loops around Clemson’s Core Campus and runs to Tri-County Technical College every 40 minutes.



SITE PLANNING

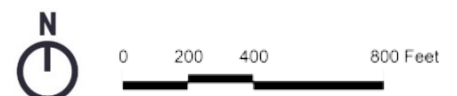
The selected site is located on Clemson Experimental Forest land. While the area surrounding this land is already disturbed by highways, agricultural facilities and an arena, it is important that new development mitigates additional disturbance to forest and stream ecology. The concept for the siting of the CVM facility celebrates and works with the land.

Climate: The main facility is sited with an east-to-west orientation that maximizes solar performance. Conservation of forests north of the facility will act to mitigate winter winds for improved thermal comfort. Breaking the building up into small horizontal blocks, rather than one large building, reduces the visual impact of the building and enables the use of natural light and ventilation for interior spaces.

Hydrology: The footprint of development is consolidated south of the site's central ridge to avoid introducing impervious surfaces to multiple drainage areas. Development maintains ample buffers around existing streams. The low points of the site are allocated to vegetation-enhanced stormwater facilities.

Topography: The building wraps around the site's central hill. By working with existing topography, regrading can be minimized while still achieving the long horizontal floor plates required for the facility's program. Parking and vehicular circulation also follow existing contours to minimize regrading and the use of retaining walls.

Scenery: Clemson's land is one of its greatest assets and the siting of the new CVM celebrates rather than competes with the local scenery. The building rests on the slope of the site's central hill and leaves its peak untouched. A view corridor from the peak of the hill to Queen Street creates visual interest and a clear front door and gateway to the facility.



EXISTING SITE PLAN



FORMER
SWINE
CENTER

HIGH
POINT
X

HIGHWAY 76

STARKEY RD.

QUEEN ST.

CLEMSON
EQUINE
CENTER

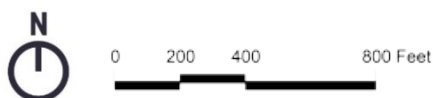
ARENA



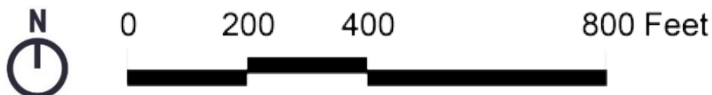
SITE PLAN

The site plan for the CVM is anchored by its main facility, to contain instructional, office, student collaboration and laboratory spaces. This facility is supplemented by two outbuildings. The ambulatory building, a utilitarian facility for storing field service vehicles and staging the CVM's field medicine practice, is tucked into the rear of the site while retaining quick access to vehicular routes. The proposed equine lab is located across the street from the existing Equine Center to allow the two facilities to share resources. The project should further explore the potential to co-locate the new equine lab with the existing Equine Center for an efficient use of resources, staffing and land.

Stormwater BMPs (best management practices) are consolidated into two facilities, one for each drainage area impacted by the development of the CVM. Parking is broken up into two areas to reduce visual impact and thermal shock from a large contiguous impervious surface. The upper parking lot is envisioned for faculty, students and staff and the lower parking lot for visitors. The lower parking lot includes a drop off area for transit vehicles. Existing recreational forest trails are preserved or woven into the site design. The project should explore the possibility of reducing parking by leveraging transit and bicycle connectivity.



PROPOSED SITE PLAN



PROPOSED SITE PLAN - DETAIL

FOOD ANIMAL TEACHING CENTER

The CVM's Food Animal Teaching Center will be a space for practical education of veterinary medicine skills applied at an agricultural production facility. This center will be co-located with the existing Lamaster Dairy Center. This will allow both the Lamaster Dairy Center and CVM to generate efficiencies in the use resources, staffing and land. Cows from the Dairy will be used as subjects in practical education at the skills lab.



FOOD ANIMAL TEACHING CENTER SITE PLAN

MASSING CONCEPT

The main CVM building steps up the slope of its hill, taking advantage of existing topography to create a deep ground level for labs and thinner upper levels for light-filled offices, collaboration and instructional spaces. The massing of the building creates a central landscaped promenade which acts as an outdoor amenity and character-defining feature. Switchback ramps allow accessible circulation from the bottom to the top of the site. Entrances from both the upper and lower levels will have direct access to accessible parking spaces and drop-off zones.



FIRST FLOOR

The main CVM building will consist of three floors. The first floor connects the individual masses of the building with a continuous base. This base allows centralized servicing and utilities for each unit of the building. Service vehicles will access the building from a discrete service yard that will connect directly to storage, refrigeration and waste handling spaces. From here there is direct horizontal circulation to laboratory spaces which will have the highest servicing needs. The first floor will include the professional skills lab, a space where DVM candidates can practice interactions with clients through the use of actors. The space is located directly adjacent to the visitor parking lot to allow actors to enter the building separately from students. The proximity of this space to the Media, Instruction and Information Technology (MIIT) Group is important as media recordings are collected during the reenactments.



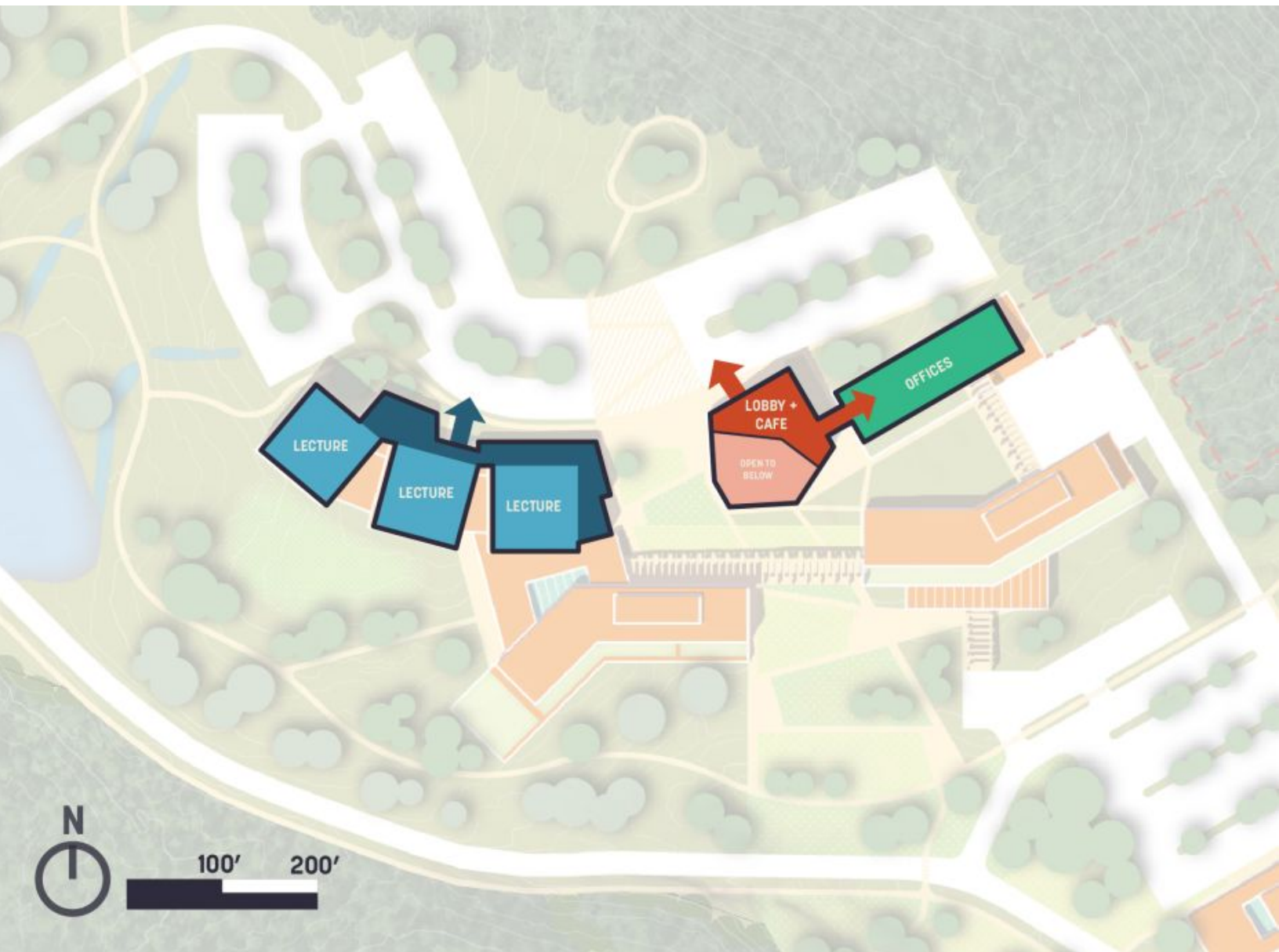
SECOND FLOOR

The second floor is the CVM's main instruction and office floor. Circulation between blocks of offices, collaboration spaces and teaching spaces is enabled by a central outdoor landscaped promenade with canopies for shade and weather protection. The digital commons, a collaborative space, acts as the heart of the facility. It will be visually connected to a lobby and cafe on a mezzanine above and open to the MIIT below. The lower level of each lecture hall is on this floor but includes sloped seating which begins on the third floor.



THIRD FLOOR

The third floor is the upper entrance to the facility. A lobby and cafe mezzanine above the digital commons opens directly onto the site's upper plaza and parking area. A loggia connects the upper level of each lecture hall and provides overflow space for events and class changes. A wing of offices adjacent to the lobby is intended for staff with high levels of student interaction and would be associated with the student services center on the second floor.



IDENTITY

A sectional view of the CVM facility demonstrates how it utilizes topography to create concealed back of house spaces. Berming into the side of the hill preserves the character of existing topography and makes it part of the experience of the CVM as a unique place reflecting Clemson's values. As one of very few new CVM programs constructed in recent years, Clemson's CVM has a unique opportunity to represent a new era of symbiotic relationships between humans and animals, both wild and domesticated. It should have a minimal impact on its surrounding environment, with sustainable site design principles and biodiversity sensitive landscaping. It should also have a minimal impact on the global environment. The CVM facility is on a greenfield site unrestricted by legacy energy systems. It has the potential to be an all-electric facility that uses ground, pond and air source heat pumps for thermal energy needs. Geothermal wells would be logically located underneath pasture areas on this site and at the Clemson Equine Center across Queen Street. With the abundance of land and Clemson's mild climate, it is possible all heating needs could be met with on-site geothermal systems. Building orientation and sitting on the south side of a hill maximizes the potential for rooftop solar PV to locally generate electricity. This same orientation also protects the building from northern wind, reducing winter heating loads.

