

LARGE ANIMAL TEACHING COMPLEX (LATC)

SITE DEVELOPMENT GUIDELINES

Cornell University
PPD Campus Planning Office

Approved by
CF&PC April 28, 2009

For approval by
B & P May 22, 2009

LARGE ANIMAL TEACHING COMPLEX (LATC)

LOCATION AND BOUNDARIES

Campus location, context and boundary constraints applicable on site.

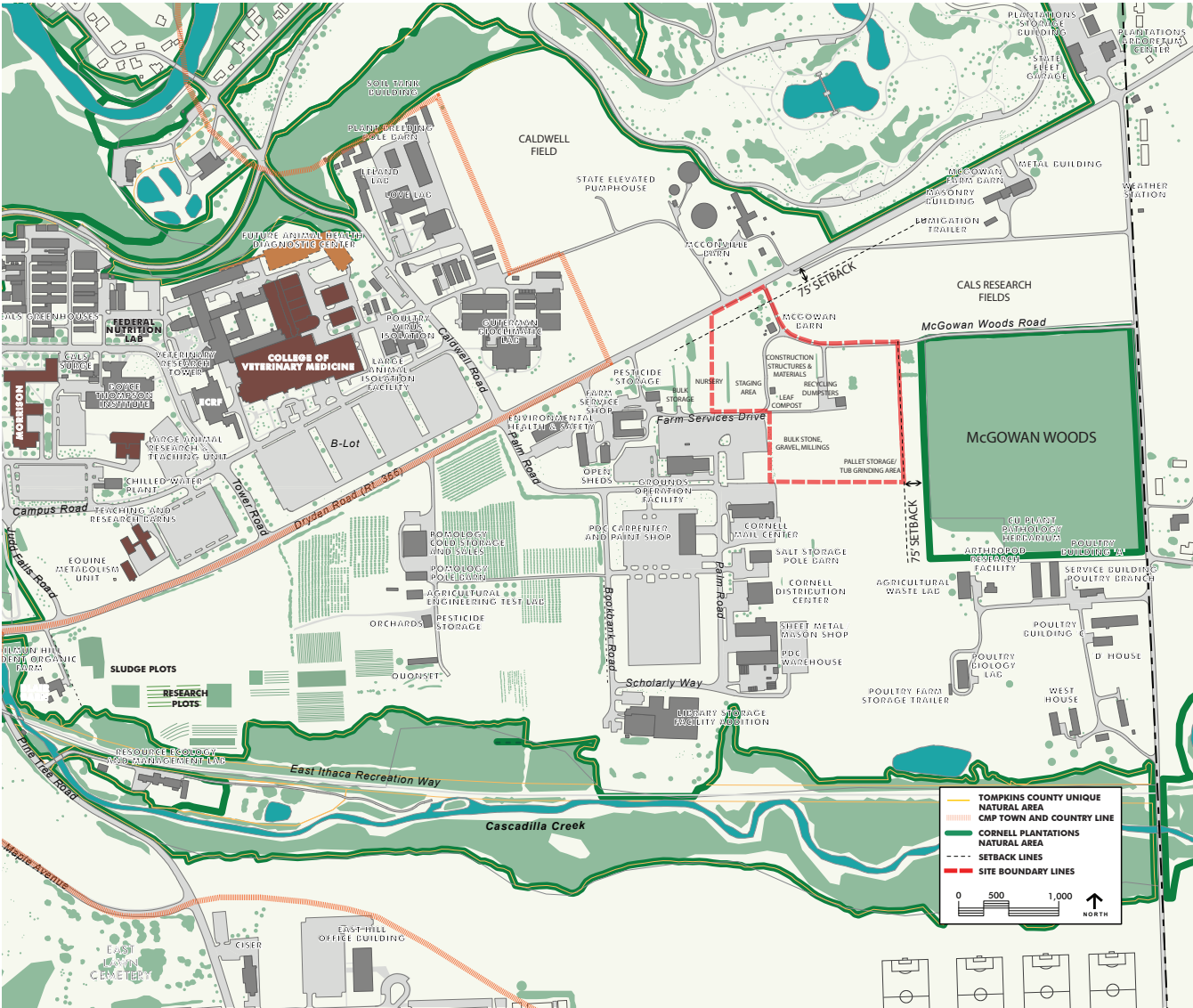


Figure 1 - Site Location and Boundaries.

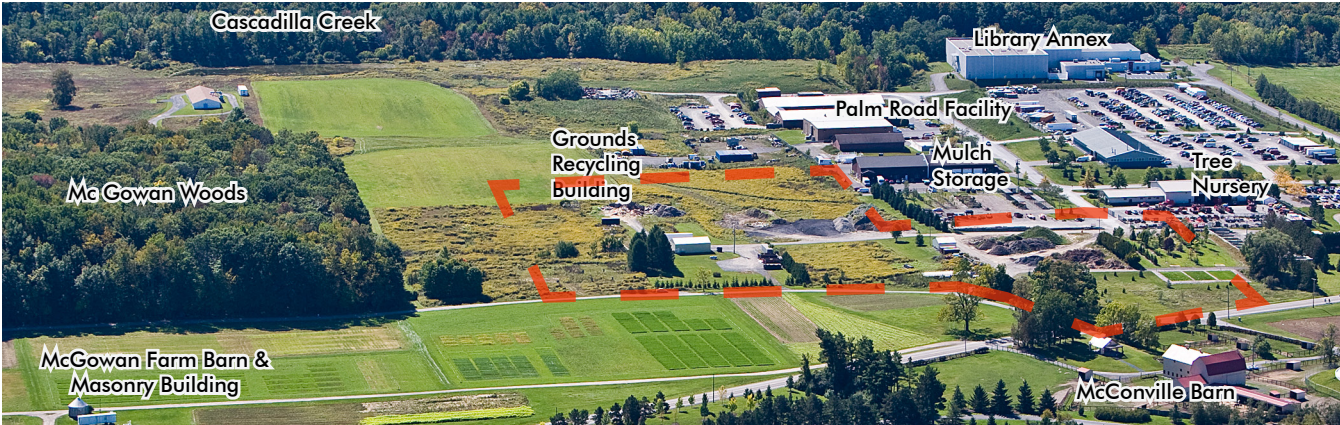


Figure 2 - An aerial photograph showing the site location along Route 366 (Dryden Road).

LARGE ANIMAL TEACHING COMPLEX (LATC)

SECTION I - SUMMARY

This section provides an overview of the project background and description. It presents the site development guidelines and recommendations for the project design and site design.

PURPOSE OF THE SITE DEVELOPMENT GUIDELINES

To gain approval from the University and Trustees, as well as to inform senior administration, the SUCF, the project team and consultants about significant contextual and campus-wide considerations that impact the site and the project. The Large Animal Teaching Complex (LATC) includes the College of Veterinary Medicine (CVM) Teaching Dairy Barn (TDB) and the College of Agriculture and Life Sciences (CALs) Livestock Pavilion, Large Animal Research & Teaching Unit (LARTU), Equine Metabolism Unit, and Teaching and Research Barns. The CALs Livestock Pavilion and Teaching and Research Barns will be combined into a single Multipurpose Livestock Teaching Arena.

BACKGROUND AND PLANNING CONTEXT

The CVM's former teaching dairy and support barns (demolished in 2007 for the construction of the Animal Health Diagnostic Center), need to be relocated and expanded with easy access to the CVM. The proposed LATC siting and synergies between CVM and CALs are both consistent with the Campus Master Plan (CMP) vision for the overall campus and specifically regarding development in Zones CS20 and CS21 of the Countryside precinct. Key issues related to this site and crucial to the success of the project are: (i) sizing and organizing the LATC, structures and operations to fit the overall scale of the precinct and land uses; (ii) maintaining the ecological and visual integrity of McGowan Woods, the fields to the east and north, the Plantations Arboretum, and Cascadilla Creek; (iii) strong site and landscape design integrating storm water and waste management, safe and convenient circulation between the LATC and Core Campus and; (iv) creating an attractive complex at a campus gateway while accommodating the functional requirements for the LATC.

PURPOSE AND NEED

The project scope includes developing a site master plan for the entire LATC, and design and construction of the TDB. The LATC is expected to establish a clear identity and location for large animal teaching facilities proximate to the Core Campus for the efficiency and convenience of students, faculty and staff as well as enhancing the current and future synergies between CALs and CVM. There is an urgent need to replace and upgrade the demolished teaching facility used by the CVM (approximately 37,000 sq. ft), as well as to plan proactively for the optimal placement of approximately 44,150 sq. ft. for the CALs facilities. Infrastructure needed to support this development will be planned for and shared by both Colleges. The proposed CALs Multipurpose Livestock Teaching Arena, Equine Metabolism Unit and LARTU are expected to be relocated over a longer timeframe.



Figure 3 - Aerial orthophoto of site. Note proximity to CVM, CALs, and Large Animal Teaching Facilities on the Core Campus.

LARGE ANIMAL TEACHING COMPLEX (LATC)

SITE DEVELOPMENT GUIDELINES

Important planning considerations that the University expects the project to meet.

- The density, site organization and total area of developed land (buildings, parking and pathways) should be consistent with other uses in the zone and CMP recommendations, with an effort to share parking with adjacent uses where possible.
- Buildings should be one to two stories in height. Their scale, massing and character should be consistent with other CALS and CVM barns and agricultural structures in the vicinity, while maximizing the program and operational synergies between CALS and CVM.
- The gateway location and visibility from Route 366 and the Core Campus necessitate that the placement on the site highlight the design and views of the primary buildings and their relationship to the adjacent CALS research fields and barn, the McConville Barns, McGowan Woods and the Plantations Arboretum.
- Building location and orientation on the site will need to consider optimal ventilation, odor management, lighting and maneuvering of large equipment and trucks through the site as well as controlling access and wayfinding around the site. Waste management must be discreet yet convenient for the LATC users.
- The site, building and landscape design should aim to reduce storm water runoff into Cascadilla Creek and McGowan Woods, both environmentally sensitive areas. On-site retention strategies within the landscape should be actively considered.
- Safe pedestrian and bike connections across Route 366 need to be incorporated into the site master plan. Future connections to the East Ithaca Recreation Way should also be considered in the design of the site circulation.
- Building entrances, sidewalks and parking facilities should incorporate universal design principles. Circulation and accessibility should be optimized for people, animals, farm equipment and vehicles.
- The primary vehicular entrance to the site should be from Route 366, with adequate sightlines towards both east and west for safety. An effort should also be made to consolidate curb cuts and access to the area from Route 366.
- Existing buildings and uses on the Grounds site displaced by the LATC must be replaced or relocated by the project in a manner that permits uninterrupted operations and access.
- Sustainable planning and design principles should be integrated into the site layout, landscape, buildings and infrastructure.



Figure 4 - Panoramic view of site looking west.

LARGE ANIMAL TEACHING COMPLEX (LATC)

SECTION II - RATIONALE

This section contains detailed analyses of the site and conditions that produce the site development guidelines presented in the first section. The analyses are broadly divided into the following categories: planning, landscape, transportation, and utilities.



Figure 5 - Looking east along Route 366. The downward slope to the west is approximately 10 feet.



Figure 6 - View looking northwest. Route 366 is at a higher elevation than the back of the site.

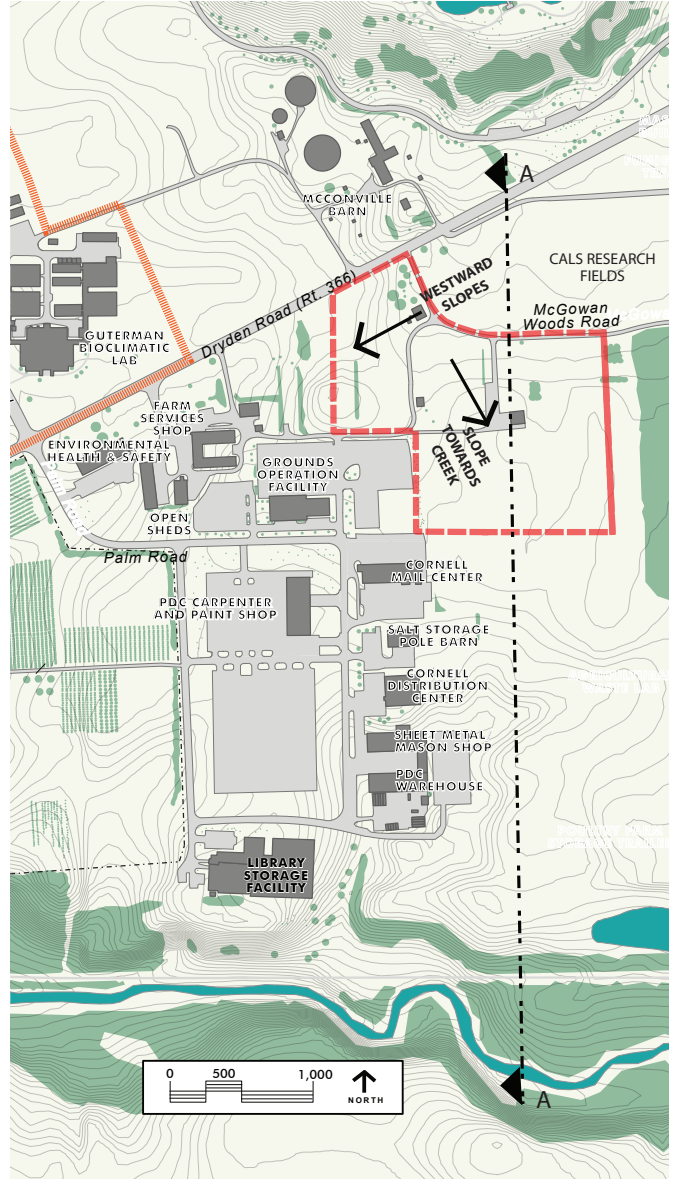


Figure 7 - Site location & topography. Note slopes towards west and south.

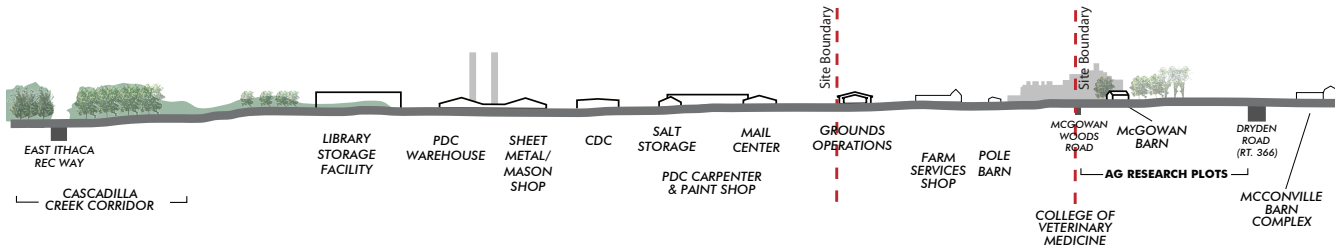


Figure 8 - Section A-A, North-South section through site looking west. The site slopes down towards Cascadilla Creek with an approximate change in elevation of 20 feet.

LARGE ANIMAL TEACHING COMPLEX (LATC)

LONG-TERM PLANNING AND CAMPUS CONTEXT

A consideration of the site and its relationship with the surrounding buildings, open space, users and the campus.

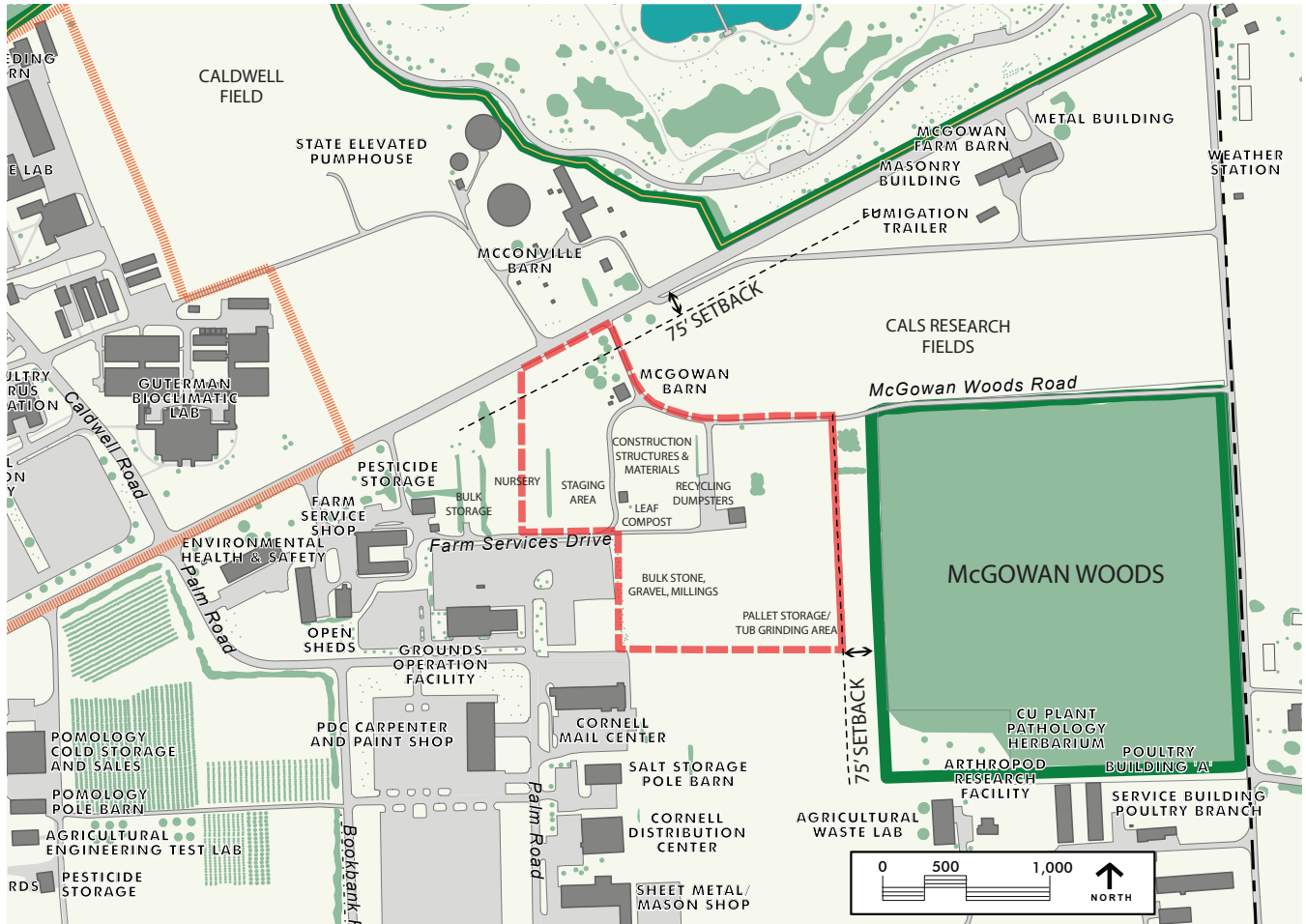


Figure 9 - Proposed site with details of current Grounds Operations



Figure 10 - View from campus gateway looking west. Note the relationship to McConville Barns

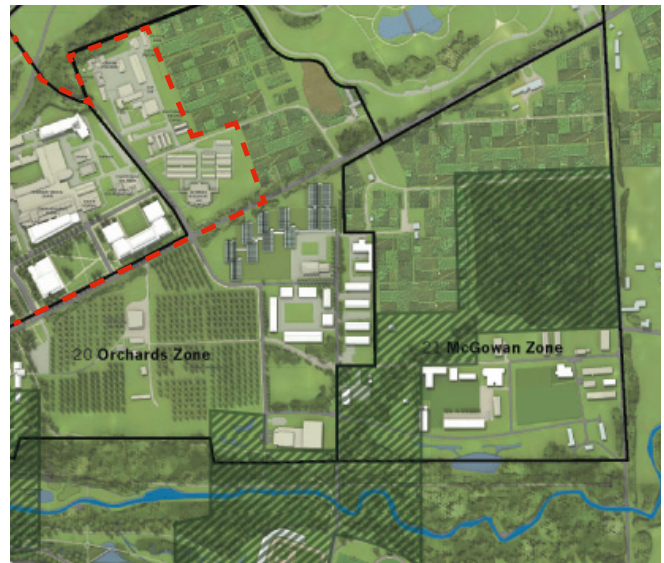


Figure 11 - Campus Master Plan Zones with overlaid greenways and Town & Country Line

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LONG-TERM PLANNING AND CAMPUS CONTEXT

A consideration of the site and its relationship with the surrounding buildings, open space, users and the campus.

LOCATION, BOUNDARIES AND TOPOGRAPHY

The proposed LATC site is located on the south side of Dryden Road (State Route 366) within walking and biking distance of the Core Campus, allowing CALS and CVM to share teaching and program space and resources for large animal teaching and research. The approximately 15 acre site is occupied by Farm Services and Grounds operations. The Grounds area includes a tree nursery, mulch piles, a recycling building and bulk storage of materials (Fig. 9.) The CVM's McConville Barn is across Route 366, CALS research fields to the east, McGowan Woods to the south east, and Grounds operations facilities to the south. West of the site is the area identified in the CMP for future CALS research greenhouses relocated from the Core Campus. Surrounding development includes the CALS barns, as well as low one-story buildings and sheds to the west and south that are occupied by administrative departments such as EH&S, Grounds, Transportation and Mail Services and further south by the PDC Shops. Compared to the rest of the precinct, this section is relatively dense with buildings, parking and work yards that serve the Core Campus. A barn and a number of mature hardwood trees, remnants of a former farmstead, are located on the high point of the site, which has been in agricultural use for at least two hundred years. The ground slopes gently towards the west and south with seasonal runoff collecting in swales and depressions on both portions. A larger drainage system runs roughly north-south, including sub-surface tile drainage, from the CALS fields and areas west of McGowan Woods into Cascadilla Creek. A drainage ditch also runs east-west along the Route 366 edge. Gravel roads currently provide access to the site and the adjacent CALS fields. Both topography and drainage will be important considerations in the site master planning. The Town of Ithaca Zoning regulations require a 75 foot building setback from Route 366 and include the CALS research fields in a protected view shed. A 100 foot buffer also needs to be maintained between McGowan Woods and the eastern edge of the site (Fig. 9).

LONG TERM PLANNING CONSIDERATIONS

The proposed uses and location are consistent with the CMP. The site spans zones CS20 and CS21 in the Countryside precinct (Fig. 11). The CMP envisions density similar to what currently exists for the area, with low density academic uses along Route 366, coexisting with current and future administrative support uses – all in a more compact organization. The LATC is one of the first steps towards this eventual change, which needs to be considered in the organization of the site and in how it relates to the rest of the zone. Consistent with the CMP recommendations, site layout and building design should enhance the precinct's rural character and landscape, insuring adequate space and efficient functioning for the built and open space elements of the program.

The LATC project will showcase the large animal teaching and research functions along a campus gateway (Fig. 10). Views of major buildings should be highlighted, while screening functions such as service, loading, waste disposal, parking, etc. Varying levels of access also need to be considered. The Multipurpose Livestock Teaching Arena has the greatest public access and will need to be more visible and relatively closer to the road than the Teaching Dairy Barn (TDB), Equine Metabolism Unit and the Large Animal Teaching and Research Unit (LARTU). Adequate pasture for the CALS Multipurpose Livestock Arena needs to be provided, preferably towards the frontage in keeping with the overall pastoral context and consistent with the McConville Barn across Route 366. The TDB placement should consider long term flexibility for CALS use of the facilities. Spacing between buildings should allow for the necessary ventilation, separation and ease of operation between TDB and other livestock buildings for biosecurity. Service and utilitarian buildings are best located towards the south edge of site at lower elevations, where they are not visible from the road and also more compatible with the administrative support uses in the rest of the zone. Site circulation should minimize impervious surfaces; facilitate access, wayfinding and circulation around the site. The waste management strategy needs to carefully consider both placement and operations, given the location at a campus gateway and adjacencies. Facilities and access for continuous operations by Grounds (including recycling), should be maintained during site redevelopment with a phased approach built into the site master plan. This phasing will allow the coordinated relocation of Grounds operations and facilities as all LATC uses move to this site from the Core Campus; and should be coordinated closely with the area-wide master plan. The project team needs to work closely with the University Planner and University Architect as well as Grounds staff during the master planning phase.

LARGE ANIMAL TEACHING COMPLEX (LATC)

SITE AND LANDSCAPE

Consideration of the role of the site in the campus landscape structure and related environmental issues

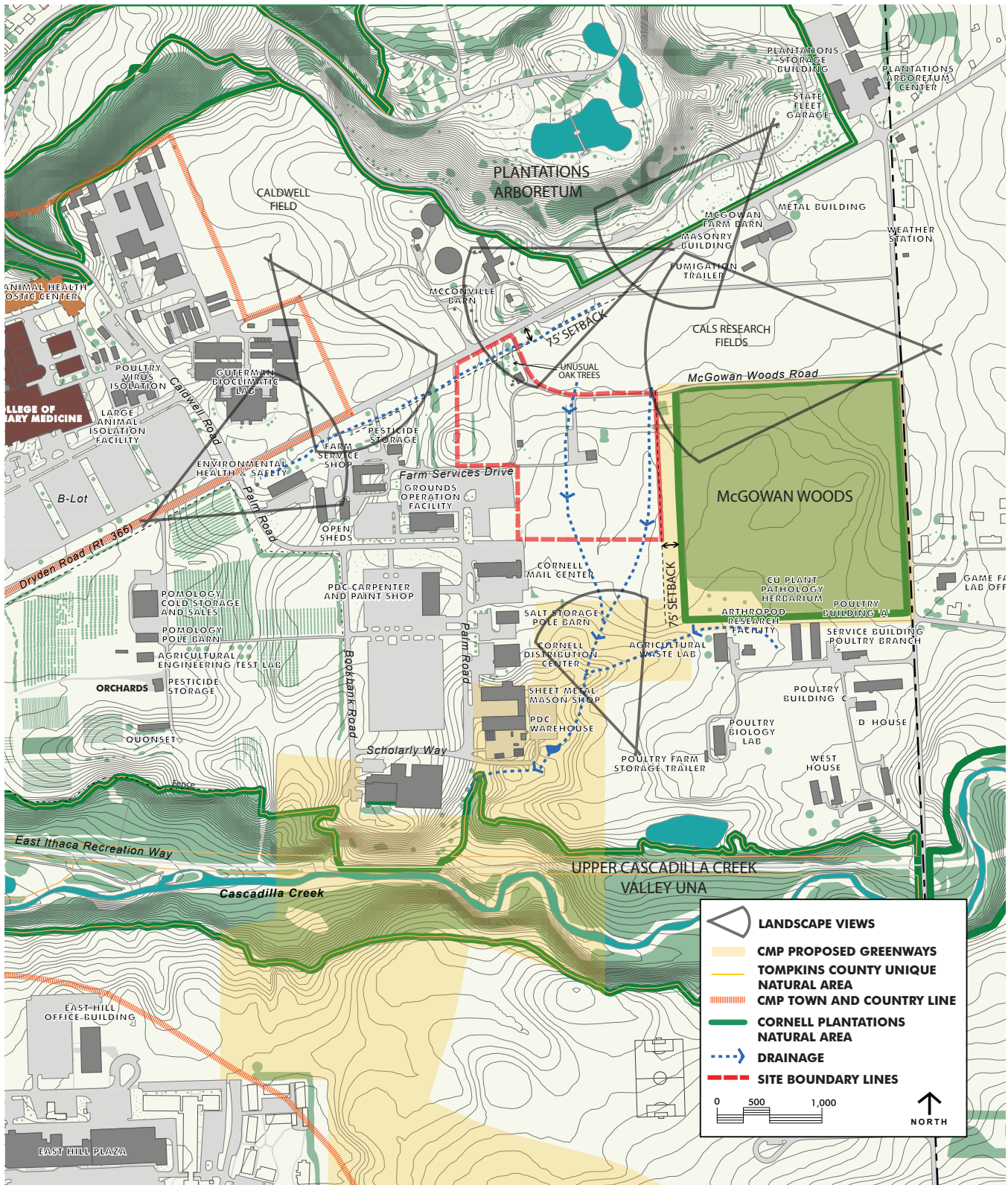


Figure 12 - Landscape Map

LARGE ANIMAL TEACHING COMPLEX (LATC)

SITE AND LANDSCAPE

Consideration of the role of the site in the campus landscape structure and related environmental issues.

LANDSCAPE AND ENVIRONMENTAL ISSUES

The LATC site is adjacent to several distinct landscapes: the Upper Cascadilla Creek valley, McGowan Woods, the agricultural research fields to the east and north, the Plantations Arboretum, and the Route 366 (Dryden Road) streetscape. The Upper Cascadilla Creek valley is managed by Cornell Plantations as a Cornell University Natural Area (CUNA) and also designated a Tompkins County Unique Natural Area (UNA). McGowan Woods is also designated a Plantations Natural Area and County UNA, but managed by the CALS Department of Natural Resources. The CMP proposes a greenway connecting McGowan Woods, the adjacent drainage corridor to Cascadilla Creek, connecting with the future Cornell Park south of the creek. The protection and enhancement of these environmentally sensitive areas is an important component of the University's stewardship effort as described in the CMP. The CALS fields and the Arboretum are both managed landscapes – in a larger category of working landscapes at Cornell that are an active part of the University's educational mission.

The site plan should integrate its landscape and infrastructure design into the broader area's rural image, natural and working landscapes, storm water management, and circulation strategy. An early tree inventory should identify the hardwood trees to be preserved, including fine specimens of unusual oak species on the site. Planting plans, in keeping with the pastoral nature of this area, should emphasize the use of native species, elements such as traditional hedgerows, informal plantings and additional orchard trees, and avoid invasive plants. The sense of a rural landscape needs to be visible and continuous including the CALS pasture and naturalized areas along Route 366. The immediate views of the site to consider are from Dryden Road at the intersection from Caldwell Road and looking east, views looking west approaching the campus from Game Farm Road and the immediate visual relationship with McConville Barn (Fig. 13). Secondary views from the CALS research fields to the east and south should also be considered as well as the relationship of the LATC facilities to the Grounds and other administrative support facilities in the Palm Road area. It will also be important to consider views of and from the site in winter, and design the landscape and plantings appropriately (Fig. 12). Perimeter fencing design should relate to the McConville Barn across Route 366. The site should be connected to the area's recreation/open space network where possible and maintain a buffer between McGowan Woods and the research fields.

Particular attention needs to be given to storm water management in order to minimize the impact to McGowan Woods and the Cascadilla Creek system. The capacities of the existing system along with new storm water mitigation required for the new facilities should be analyzed and coordinated with a stormwater management plan for the larger area and with the appropriate agricultural departments, to ensure that impacts to the subsurface drainage systems are mitigated. Impervious surfaces should be minimized with the use of pervious pavements, gravel and onsite catchment systems and retention of storm water. Parking should be near the entrance, minimizing impervious surfaces, and to reduce vehicle/pedestrian/livestock conflicts. The previous history and use of the site needs to be investigated for soil contamination. The project team should work closely with the University Landscape Architect for overall guidance on site and landscape planning as well as with the Grounds Department, Department of Natural Resources, Cornell Plantations and others as appropriate regarding specific aspects of the site, plantings, or environmental issues.



Figure 13 - Panoramic view of proposed site with a stand of unusual oak trees adjacent to Route 366 on the left.

LARGE ANIMAL TEACHING COMPLEX (LATC)

TRANSPORTATION

Issues of access to, through and around the site.



Figure 14 - Transportation and circulation around the site.

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TRANSPORTATION

Issues of access to, through and around the site.

TRANSPORTATION, CIRCULATION AND PARKING

The primary access to the site needs to be from Route 366 (Dryden Road) - a state highway, a gateway and primary road to and from the campus and a major route for larger delivery vehicles. Currently there are five entrances on and around the site (Fig. 14). Palm Road, to the west of the site, is the main paved road, three other un-paved access roads are also in the vicinity of the site, and McGowan Woods Road is at the east end of the property. Safety and good sight lines are important for the primary entrance. Along with existing entrances to the area, options such as realigning McGowan Woods Road with the east entrance to McConville Barn should be examined. In general, fewer access roads onto Route 366 would be beneficial, and in particular, eliminating the existing access road immediately to the west of McGowan Woods Road would improve safety and visibility. The CMP envisions Dryden Road as the seam between the Countryside Campus precinct and Core Campus rather than the current barrier to pedestrians. As the road is State owned, the University and project team will need to coordinate its plans with the applicable agencies to implement any new entrances to the site, and to introduce new roadway crossings and landscape strategies.

Internal roads should be designed and managed in a manner consistent with their agricultural use and surrounding context, and constructed to minimize runoff. While providing for internal circulation, emergency vehicle access, waste removal, as well as connections to the Core Campus, through traffic should be discouraged. Service circulation should be managed to minimize trucks/tractors on Route 366. McGowan Woods Road may also be considered as an alternative route for waste removal. Road widths should be kept to a minimum according to the type of trucks accessing the area and include consideration of shared pedestrian use. Roadway section design and vehicle movement should ensure safe, clear access, discourage speeding and the exposure of sensitive environmental and research areas. Currently, the shoulder on Dryden Road is used by pedestrians and bikes. Pedestrian and bicycle traffic to and from the proposed site and potential improvements – either on or off the road (Fig. 14) should be considered to enhance safe access. Bicycle racks should also be installed on the site.



Fig. 15 - View looking east towards existing entry to the site. Note the rise in the road and the lower visibility for pedestrians at the site entry.

There should be clear, safe circulation patterns for vehicles, pedestrians and animals, separation from vehicle staging areas, loading dock facilities, mechanical equipment and machinery storage areas, which should be clustered or consolidated to the extent possible. There should be clear access to animals in the pastures and barns for students, faculty, and the public, while maintaining a separation in circulation systems that will prevent bio-contamination. On-site parking should address the needs of the employees and some visitors. However, students and visitors should be encouraged to use the B lot across Dryden Road after a safe pedestrian crossing is established. The CMP recommends that any new parking be designed and located to minimize its visual prominence. Shared parking options with other users of the area should be explored. The area is moderately served by transit with bus stops along Campus, Tower, and Dryden roads. Access to the site may be improved in the near future with the development of the Campus Circulator proposed in the CMP. Pull off areas and stops in and around the site should be identified and constructed early, to serve the highest number of users. The project team should work closely with Transportation and Mail Services (TMS) and the PPD - Campus Planning Office to determine the number of allowable parking spaces, establish circulation patterns, and potential transit stops.

LARGE ANIMAL TEACHING COMPLEX (LATC)

UTILITIES

Consideration of campus utility infrastructure in the vicinity of the site.

UTILITIES

The site is on the Dryden Road utility corridor and while there are existing services in this area, new utilities connections may be needed as described. The capacity of the 6” - 8” water lines that service the Palm Road area need to be studied to ensure that they meet the needs of the proposed facilities. New 12” supply and return water lines are being constructed along Palm Road. Stubs could be installed at Dryden Road to allow for the extension of a line to the LATC site, if needed. There are no sewer lines within the project site. Sanitary service will tie into the Varna Sewer System that runs along the north edge of Route 366. An existing low voltage electric line runs along the southern edge of the precinct till Palm Road and could be extended north and east to the site, if the energy demands are not high. Additional demand for electricity to heat the barns and offices will require the existing electric line to be upgraded. A Verizon telephone line runs along the north side of Route 366 which currently supplies the Orchards complex and buildings along Palm Road, and could be used to provide service to the site. Likewise, there is a telecommunications line that extends from Caldwell Road south to Palm Road which may be tied into and provide IT connections. There are no natural gas lines on the sites. Propane is currently used on the Palm Road site and lines could be installed if propane were chosen as an option for heating. The research fields along the eastern edge of the site have subsurface low voltage electric lines that do not appear on the utilities maps.

The project team should work closely with the Cornell University Utilities Department and Campus Planning Office during the utilities planning, which should follow the University’s goals for energy reduction and sustainability.

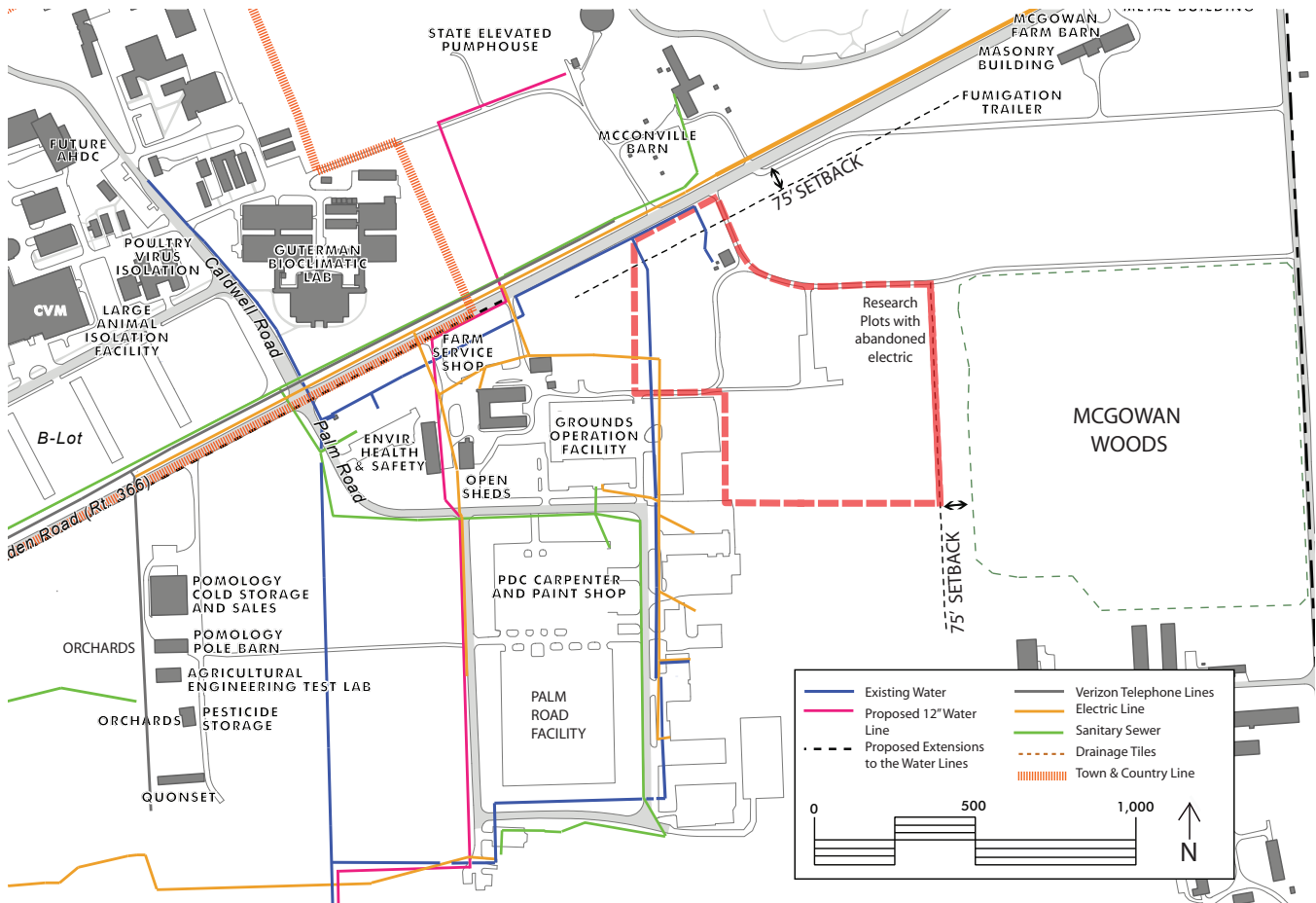


Figure 16 - Utilities surrounding site