



KNOXVILLE/KNOX COUNTY METROPOLITAN PLANNING COMMISSION
USE ON REVIEW REPORT

▶ **FILE #:** 12-A-14-UR **AGENDA ITEM #:** 29

POSTPONEMENT(S): 12/11/2014-3/12/2015 **AGENDA DATE:** 4/9/2015

▶ **APPLICANT:** UNIVERSITY OF TENNESSEE RESEARCH FOUNDATION

OWNER(S): The University of Tennessee Research Foundation

TAX ID NUMBER: 108 001 [View map on KGIS](#)

JURISDICTION: City Council District 1

STREET ADDRESS: 1717 Alcoa Hwy

▶ **LOCATION:** West side of Alcoa Hwy., north of Cherokee Trail.

▶ **APPX. SIZE OF TRACT:** 166.93 acres

SECTOR PLAN: South County

GROWTH POLICY PLAN: Urban Growth Area (Inside City Limits)

ACCESSIBILITY: Access is via Alcoa Hwy., an expressway facility with a six lane divided median section within a 175' right-of-way.

UTILITIES: Water Source: Knoxville Utilities Board

Sewer Source: Knoxville Utilities Board

WATERSHED: Tennessee River

▶ **ZONING:** BP-1 (Business and Technology Park)

▶ **EXISTING LAND USE:** Vacant land, research park under development

▶ **PROPOSED USE:** Proposed Cherokee Farm Innovation Campus Master Plan and Development Guidelines

HISTORY OF ZONING: Property was rezoned to BP-1 (Business and Technology Park) by Knoxville City Council on April 2, 2013.

SURROUNDING LAND USE AND ZONING: North: Tennessee River / F-1 (Floodway)
South: Golf training facility / BP-1 (Business and Technology Park) and A-1 (General Agricultural)
East: Alcoa Hwy. and the University of Tennessee Medical Center / A-1 (General Agricultural) and O-2 (Civic and Institutional)
West: Tennessee River / F-1 (Floodway)

NEIGHBORHOOD CONTEXT: Research Business Park under development and the University of Tennessee Medical Center.

STAFF RECOMMENDATION:

▶ **APPROVE the Master Plan for the Cherokee Farm Innovation Campus subject to 13 conditions:**

1. Connection to sanitary sewer and meeting any other relevant requirements of the Knox County Health Department.
2. Obtaining a variance from the Knoxville Board of Zoning Appeals for a reduction in the required parking to a proposed parking standard of 2.5 spaces per 1000 square feet for the entire development.
3. Installation of the recommended improvements and changes to Alcoa Hwy as outlined in the letter to W.

Hollis Loveday from Tarren Barrett, dated March 18, 2015 (copy enclosed), subject to approval from the Planning Commission, Knoxville Department of Engineering and the Tennessee Department of Transportation Staff. The feasibility study identified in item 5, shall be submitted to Staff for review prior any development applications being submitted for review under the approved Master Plan. The Planning Commission, Knoxville Department of Engineering and the Tennessee Department of Transportation Staff shall make the determination on whether an acceleration lane will be required and if required when it will have to be installed.

4. A revised Traffic Impact Study (TIS) will be required for any proposed development application for BP-1 staff review that would exceed that development threshold of 600,000 sq. ft. if TDOT has not completed the interchange project at Alcoa Highway and Cherokee Trail/UT Medical Center exit. In the applicants TIS update letter of November 3, 2014, 600,000 sq. ft. of development was identified as the threshold for an undesirable LOS (Level of Service) for the existing access to Alcoa Highway. The development plan for any future applications for development shall include the proposed development square footage and total approved development square footage for the campus (approved projects) to determine if the 600,000 sq. ft. threshold will be met or exceeded.

5. The development plans submitted for staff review shall provide running totals for building square footage and approved parking to verify that adequate parking will be available on the campus.

6. Providing the design plans for the water quality system for the entire subdivision to the Knoxville Department of Engineering for their review and approval prior to obtaining a building permit for this site.

7. The minimum front yard building setback approved for the Master Plan is three (3) feet from the right-of-way of the interior private streets and fifty (50) feet from the right-of-way of Alcoa Hwy.

8. The final plat(s) that will create the lots for the campus need to identify any variances that may be required from the standard utility and drainage easement requirements of the Subdivision Regulations, based on the approved minimum building setbacks.

9. Meeting all applicable requirements of the Knoxville Department of Engineering.

10. Meeting all applicable requirements of the Tennessee Scenic Highway Act.

11. Proposed signage for the development is subject to the approval of Planning Commission staff and Knoxville's Sign Inspector.

12. Meeting all applicable requirements of the Knoxville Zoning Ordinance.

13. Any request to deviate from the approved Master Plan would require a use on review approval from the Planning Commission.

With the conditions noted, the Master Plan meets the requirements for approval of a use on review in the BP-1 district.

COMMENTS:

The applicant is requesting approval of an overall development plan for the Cherokee Farm Innovation Campus which is located on the west side of Alcoa Hwy., north of Cherokee Trail. This site was rezoned to BP-1 (Business and Technology Park) by Knoxville City Council on April 2, 2013. The BP-1 zoning district allows the Planning Commission to approve an overall development plan or master plan for the district. Once approved, administrative review and approval can be granted for development of individual sites by the Planning Commission Staff instead of each development site having to go before the Planning Commission for a use on review approval.

The street infrastructure for the development, which is in place, was begun prior to the rezoning of the property. All streets within the development are private streets. A concept plan for a 29 lot subdivision was approved by the Planning Commission on January 9, 2014. A use on review approval was granted by the Planning Commission on June 12, 2014 for an office building of approximately 55,300 square feet. That was the second building within the campus. The first building, a 142,000 square research building, was also started prior to the rezoning to BP-1.

Access to and from the campus is currently off of Alcoa Hwy with one southbound location and two northbound locations. The applicant has been working with the Tennessee Department of Transportation (TDOT) and the University of Tennessee Medical Center on the redesign of the interchange serving this area. The applicant submitted a Traffic Impact Analysis to Staff for review with this application. Based on the analysis, it has been determined that the existing street network will continue to function at acceptable levels of service with this proposed development. Some minor improvements and changes along Alcoa Hwy. are identified in condition #3. Condition #4 identifies when an updated Traffic Impact Analysis would be required.

A copy of the overall Master Development Plan is included in the packet. That plan identifies campus build out with the future Alcoa Hwy. improvements. A second plan is included that shows phase one development based on the existing Alcoa Hwy road configuration. The proposed buildings are grouped in complexes around three

main quads/ open space areas. The buildings are designed to front on the quads instead of being oriented to the streets. There will also be extensive open space areas with the preservation of the "archaeological zones" and the "preserve". In addition to the Master Development Plan is a set of Development Guidelines. A few of the pages from the Development Guidelines are included in the packet. The full document is available for review. In addition to the Knoxville Zoning Ordinance, the Guidelines will be used by Staff in review of all applications.

EFFECT OF THE PROPOSAL ON THE SUBJECT PROPERTY, SURROUNDING PROPERTIES AND THE COMMUNITY AS A WHOLE

1. Public water and sewer utilities are available to serve the site.
2. The proposed development is consistent with other development in the area.

CONFORMITY OF THE PROPOSAL TO CRITERIA ESTABLISHED BY THE KNOX COUNTY ZONING ORDINANCE

1. With the recommended conditions, the proposal meets all requirements of the BP-1 zoning as well as the general criteria for approval of a use on review.
2. The proposed master plan is consistent with the following general standards for uses permitted on review: The proposal is consistent with the adopted plans and policies of the General Plan and Sector Plan. The use is in harmony with the general purpose and intent of the Zoning Ordinance. The use is compatible with the character of the neighborhood where it is proposed. The use will not significantly injure the value of adjacent property. The use will not draw substantial additional traffic through residential areas since the development is located along a major arterial street. No surrounding land uses will pose a hazard or create an unsuitable environment for the proposed use.

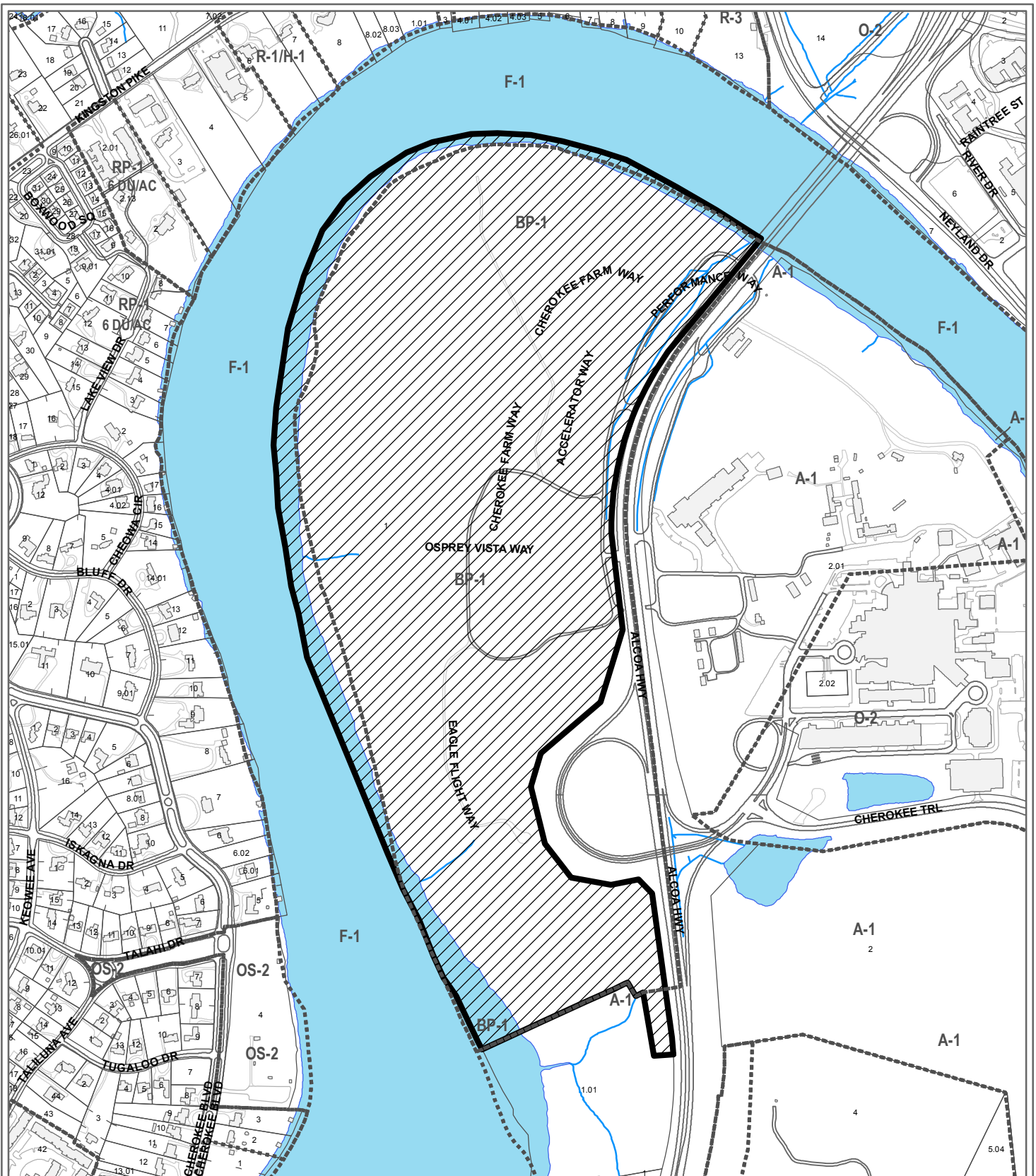
CONFORMITY OF THE PROPOSAL TO ADOPTED MPC PLANS

1. The South County Sector Plan and the One Year Plan propose civic/institutional uses for the site.
2. The site is located within the Urban Growth Area on the Knoxville-Knox County-Farragut Growth Policy Plan map.

ESTIMATED TRAFFIC IMPACT: Not required.

ESTIMATED STUDENT YIELD: Not applicable.

MPC's approval or denial of this request is final, unless the action is appealed to the Knoxville City Council. The date of the Knoxville City Council hearing will depend on when the appeal application is filed. Appellants have 15 days to appeal an MPC decision in the City.



**12-A-14-UR
USE ON REVIEW**



Proposed Cherokee Farm Innovation Campus Master Plan and Development Guidelines in BP-1 (Business and Technology Park)

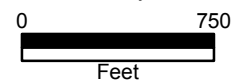
Original Print Date: 11/24/2014
Metropolitan Planning Commission * City / County Building * Knoxville, TN 37902

Revised:
Metropolitan Planning Commission * City / County Building * Knoxville, TN 37902

Petitioner: University of Tennessee
Research Foundation

Map No: 108

Jurisdiction: City



Cherokee Farm Innovation Campus MASTER DEVELOPMENT PLAN

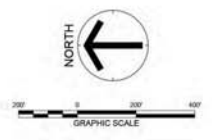
Reference February, 2015
Cherokee Farm Master Plan
and Development Guidelines



LEGEND

- A: Proposed Partial Interchange
- B: Improved Full Interchange
- C: Building or Surface Parking or Garage
- D: Hotel Conference Center
- E: Quad or Parking
- F: Preserve
- G: Interpretive Center
- H: Greenway Connections

12-A-14-UR
Revised: 3/31/2015



Cherokee Farm Innovation Campus

MASTER DEVELOPMENT PLAN: PHASE ONE

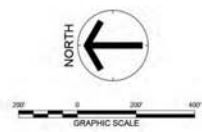
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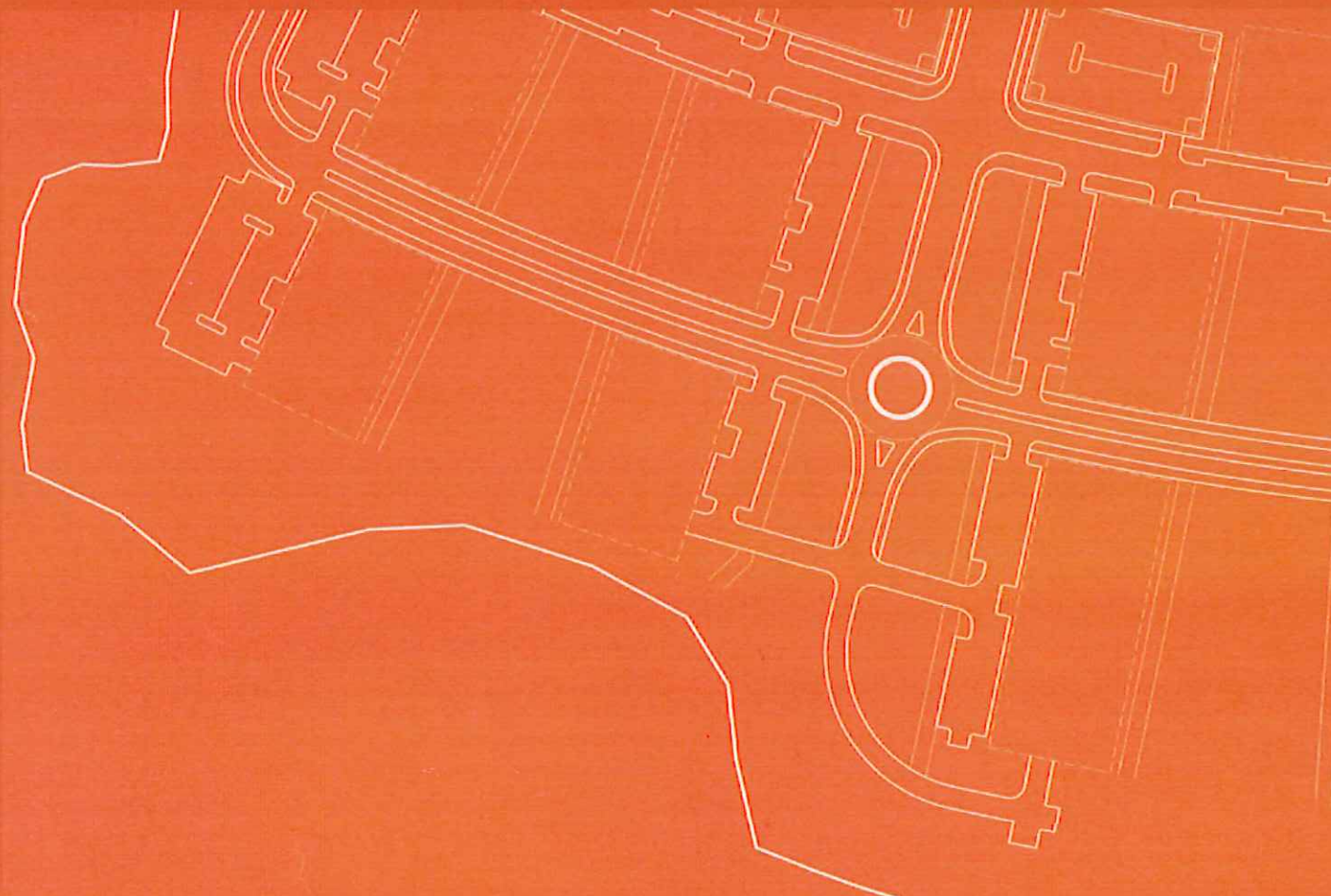
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The University of Tennessee

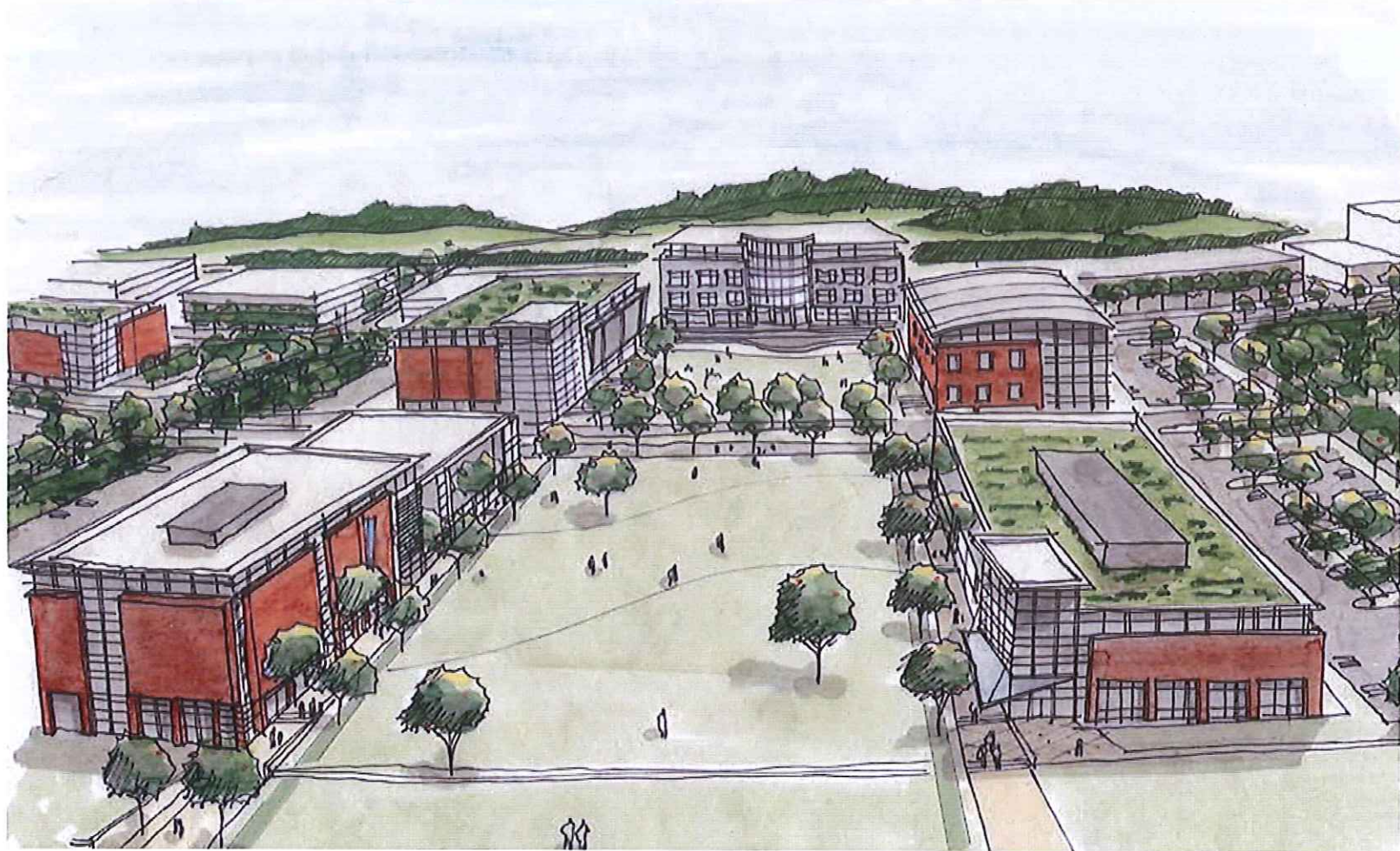
Cherokee Farm

Master Plan and Development Guidelines



the innovation campus

February 2015



Conceptual Perspective of The University of Tennessee **Cherokee Farm Campus**

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1.0 INTRODUCTION

1.1 BACKGROUND

The University of Tennessee is developing the 200-acre Cherokee Farm property as a state-of-the-art science and technology research campus focused on solving problems of national significance. Located in Knoxville, Tennessee, the Cherokee Farm Campus lies immediately southwest of and across the Tennessee River from the University system's flagship campus in downtown Knoxville. Accordingly, the development of the Cherokee Farm Campus presents two compelling and interrelated opportunities: establishing a unique place for world class research while becoming a dynamic new asset in the city of Knoxville.

The Cherokee Farm Campus will serve the entire University of Tennessee as well as other public and private partners, and will also be home to privately developed commercial office buildings. The research program for Cherokee Farm will emphasize interdisciplinary research in computing, computational science, biomedical, material and nanoscience, climate and atmospheric, environmental, energy, and emerging scientific opportunities. An important goal for Cherokee Farm is to become an international center for innovation where graduate and undergraduate education are featured in the context of cutting-edge research by organizations such as the Oak Ridge National Laboratory.

The University of Tennessee's stated mission for the Cherokee Farm Campus is to enhance the University's ability to promote economic development, maximize unique resources and partnerships, and take a national leadership position in innovative research.



1.2 MASTER PLAN

The Cherokee Farm Campus sits on a bend in the Tennessee River a mile-and-a-half southwest of downtown Knoxville. The University of Tennessee acquired the property in 1916, and since 1935, Cherokee Farm has provided a setting for dairy farm research and education. Significantly, because of its favorable location along the river and its rolling topography, the Archaeological Research Laboratory (ARL) at the University of Tennessee has also documented rich archaeological deposits at Cherokee Farm, identifying the site as the location of major Native American settlements dating from over ten thousand years ago until 1600 AD.

Today, Alcoa Highway, a state scenic highway that forms the east property boundary, links Cherokee Farm to the greater Knoxville region. With the University of Tennessee Medical Center located immediately across Alcoa Highway, Cherokee Farm assumes an important role as a gateway into the city from the south and the airport. Plans are already underway for improvements to Alcoa Highway, including a reconfigured interchange, and these improvements will figure prominently in the long-term development of Cherokee Farm.

Underpinning the Cherokee Farm Campus Master Plan is a series of planning principles that reinforce the University's vision for the campus. The principles are:

Principles:

- Emphasize design excellence and innovation throughout the campus
- Establish a campus framework that supports flexible development options

- Integrate sustainable design strategies in all aspects of campus development
- Foster a spirit of collaboration and collegiality across the campus through a well defined, pedestrian friendly and comfortable public realm
- Maximize the site's rich history, context and potential as a cultural resource, neighbor and gateway
- Connect the campus to the city and region through shared public spaces and multiple modes of transportation

The Master Plan builds on the site's timeless characteristics and enduring strengths, its relationship to the river, the rolling topography and the mature shade trees. Accordingly, the campus buildings and public spaces, first and foremost, open to the river, maintaining a direct visual and physical connection to the region's environment and surrounding city. The development concept extends the relationship to the site further by preserving the area of mature trees and steepest slopes. This area becomes another significant organizing element, arrayed across the site in conjunction with the three quads.

The archaeological site identified by the ARL along the river is the final major organizing element in the Master Plan. Approximately 46 acres of the Cherokee Farm Campus, the archaeological area provides a wide buffer on the river's edge and a strong complement to the grove of mature trees. Since the development concept concentrates all buildings outside the archaeological zone, the area offers a range of passive educational and recreational opportunities. Chief among these are ARL proposals to conduct field exercises for students and the general public and the City of Knoxville's planned greenway. The archaeological zone has been identified as eligible for listing on the National Register of Historic Places.

The Cherokee Farm Campus Master Plan, then, includes a total of 17 potential building sites and approximately 1.6 million square feet of development on 77 acres. Proposed building heights range from three to five stories, with the taller buildings adjacent to Alcoa Highway. Building heights step down toward the river, with three and four-story buildings framing the quads.

At build-out, the concept calls for shared parking structures, approximately 1,500 parking spaces, in addition to parking provided on individual building lots for a total of 4,000 spaces or approximately 2.5 spaces/1,000 square feet. For privately developed commercial office buildings, off-site campus parking will complement on-site building parking to meet the overall campus parking ratio standard. **Lots will be used for surface and structured parking, as needed.** In the early phases of campus development, the parking structure sites will provide surface parking for the first buildings.

Development Table

Development	Yield
Research Labs/Office (15)	1,400,000 sf.
Hotel/Conference Center (1)	160,000 sf.
Nature/Interpretive Center (1)	40,000 sf.
Total	1,600,000 sf.

Development	Yield
Parking	4,000 parking spaces
Total	4,000 parking spaces

1.3 SUSTAINABLE DESIGN

Before turning to the development guidelines, it is important to highlight The University of Tennessee's commitment to developing the Cherokee Farm Campus in a long-term, sustainable manner. The definition and technology of sustainable design will change over the course of the campus' development, and consequently, it will present different challenges to each new partner and designer. Nevertheless, sustainable design will always require a comprehensive integrated approach that evaluates the local, regional and global impact of every design decision.

As a minimum standard, the University will follow the State of Tennessee Sustainable Design Guidelines (SDG) to direct sustainable design at Cherokee Farm. The SDG may be found as an appendix in The University of Tennessee Designers' Manual available from the University's Division of Facilities Planning and on the University's website. Many of the campus development guidelines described later in this document incorporate directly the guidelines from the SDG manual and are identified in italics. Following are the six broad categories addressed in the SDG and key sustainability concepts associated with them.

Another important source for sustainable design strategies is the Leadership in Energy and Environmental Design (LEED) certification program from the U.S. Green Building Council. As the Tennessee SDG recommends, all construction projects should strive to meet or exceed minimum standards established in the most current and applicable LEED rating system for campus and research buildings. While achieving LEED certification is not a requirement, these guidelines do recommend LEED Silver Certification or higher as a goal for new construction at the Cherokee Farm Campus.

1.4 RELATIONSHIP TO OTHER DOCUMENTS

The development guidelines complement the Standard Ground Lease for the Cherokee Farm Campus, including the Common Area Maintenance clause of the lease agreement. Where these development guidelines conflict with other requirements or standards, the more restrictive standard shall apply. All campus planning and design projects should reference those documents during the development process.

The University of Tennessee Designers' Manual guides the design and development process for University capital projects. All designers need to review and familiarize themselves with

the Designers' Manual. The University of Tennessee's Division of Facilities Planning is the contacting agency for any questions regarding the Designers' Manual.

In addition to coordinating with The University of Tennessee's Division of Facilities Planning, privately developed commercial buildings must meet all requirements contained in Knoxville-Knox County development codes and regulations.

Six Categories:

Tennessee Sustainable Design Guidelines

1. Land Management:

Minimize erosion impacts during construction; use native plants; reduce irrigation; mimic natural stormwater patterns; reduce heat island effects; limit light pollution; and promote public transit, walking and bicycling.

2. Water Efficiency:

Decrease the demand for potable water; manage water quality and quantity at the site.

3. Energy Efficiency and Atmosphere Protection:

Evaluate on-site renewable energy sources such as solar, wind, and geothermal; evaluate building systems for most efficient use.

4. Material and Resource Use:

Recycle all possible construction and demolition materials; use recycled and rapidly renewable materials where applicable; use locally manufactured products and materials to the extent possible.

5. Indoor Environmental Quality:

Reduce airborne contaminants in ventilation and mechanical systems; limit volatile organic compounds in building materials; allow natural daylight and external views.

6. Innovation:

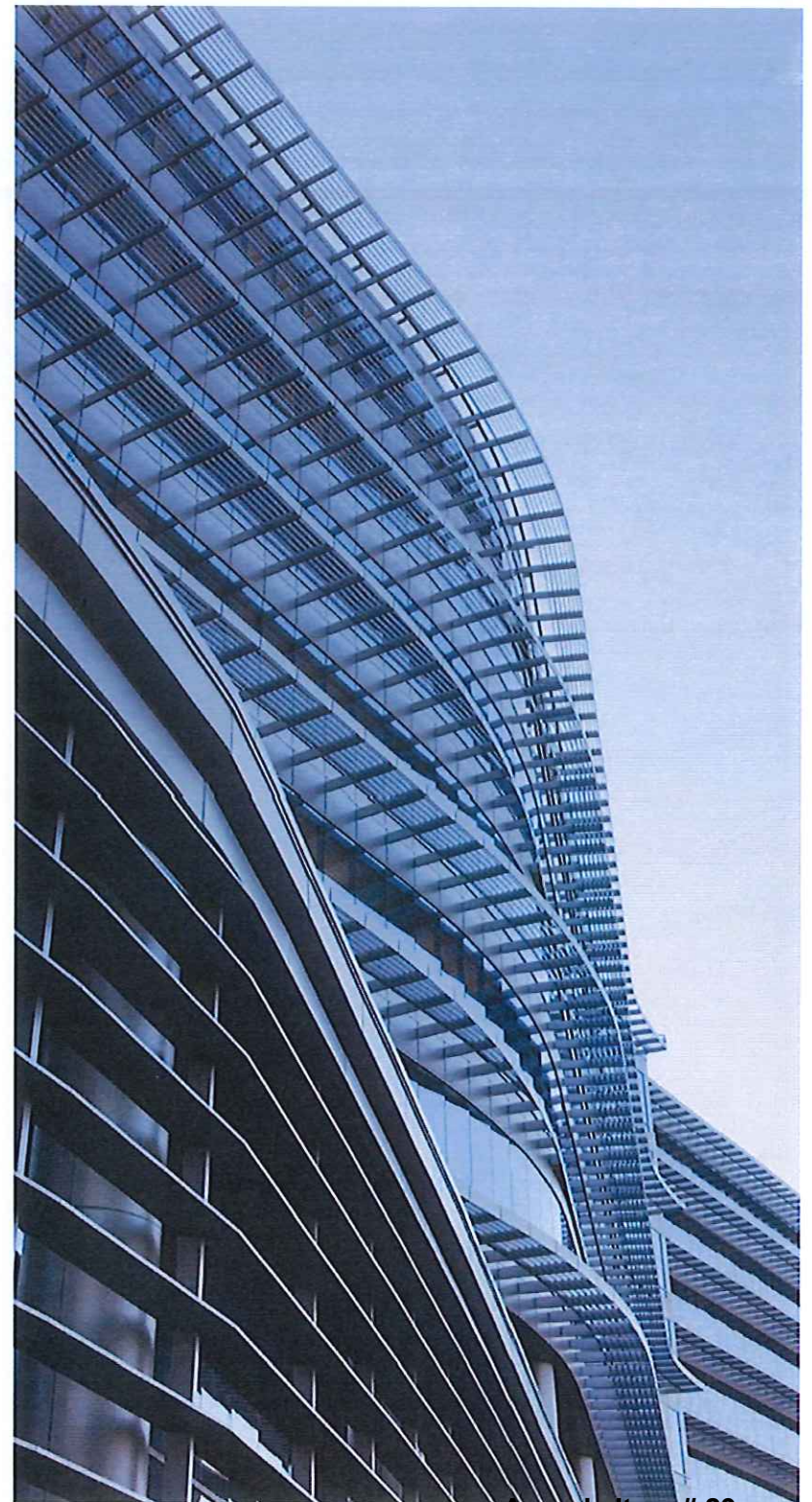
Pursue innovative ideas and standards that surpass the minimum requirements.



Development Guidelines Architecture

2.0

- 2.1 Architecture
 - 2.1.1 Goals
 - 2.1.2 Building Heights
 - 2.1.3 Building Location and Orientation
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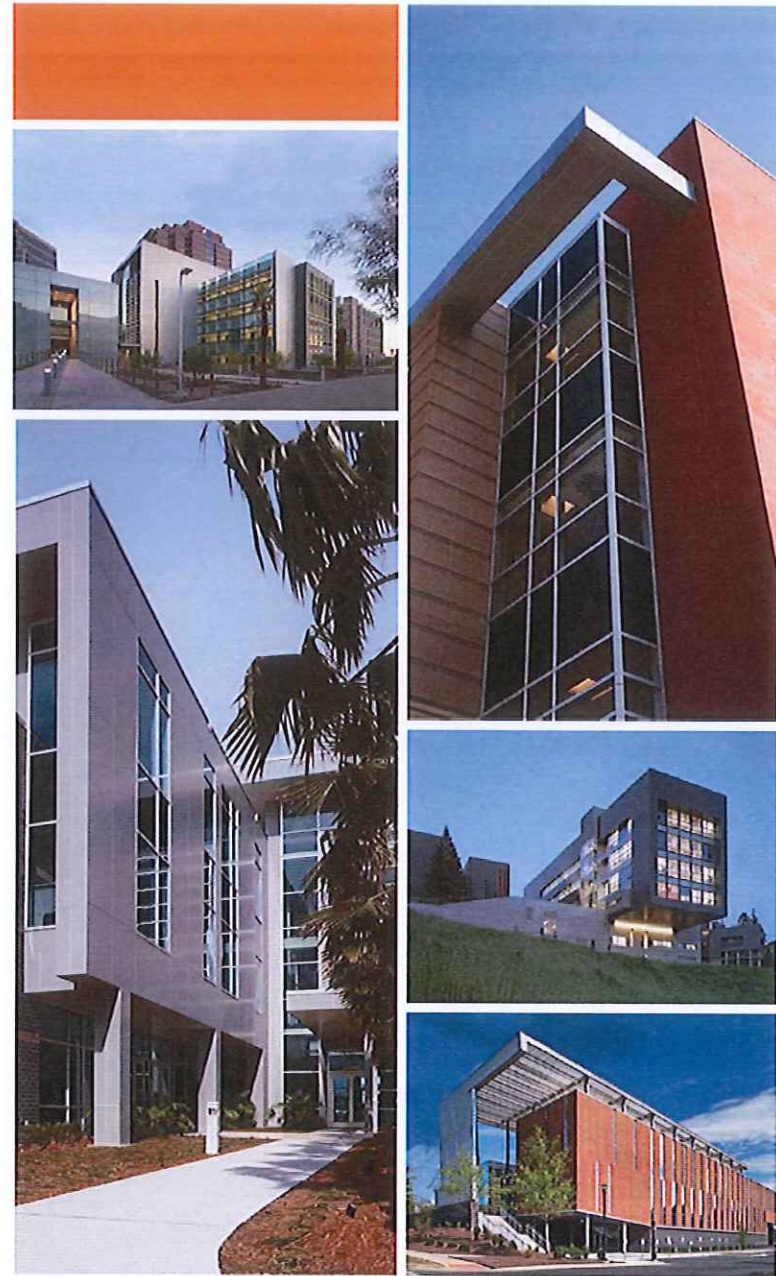
2.0 DEVELOPMENT GUIDELINES

The purpose of the development guidelines is to supplement the Master Plan and achieve the vision and principles set forth therein. The guidelines are the basis for review of all planning and design projects at the Cherokee Farm Campus. Flexibility is a hallmark of the campus plan, and the development guidelines extend that principle to individual projects as they pursue excellence and innovation. Over time, each building and site improvement should advance the master plan, producing a unified and cohesive campus. Designers must demonstrate compliance with the guidelines through the University's development review process (See Section 3.0).

2.1 ARCHITECTURE

2.1.1 Goals

- Provide high quality buildings that demonstrate sustainable principles and are contemporary, functional, well designed, visually interesting and compatible with their surroundings.
- Express the innovative and creative spirit of the campus through variation in building massing, fenestration, materials, details and systems.
- Incorporate flexible design principles, recognizing that research programs change over time.
- Encourage human-scaled buildings that provide a sense of enclosure and support pedestrian-oriented public spaces.
- Promote interaction among faculty, students and visiting researchers in an open, inviting and creative environment.



2.1.2 Building Heights

The Master Plan calls for buildings that respond to the topography and historical context of the site.

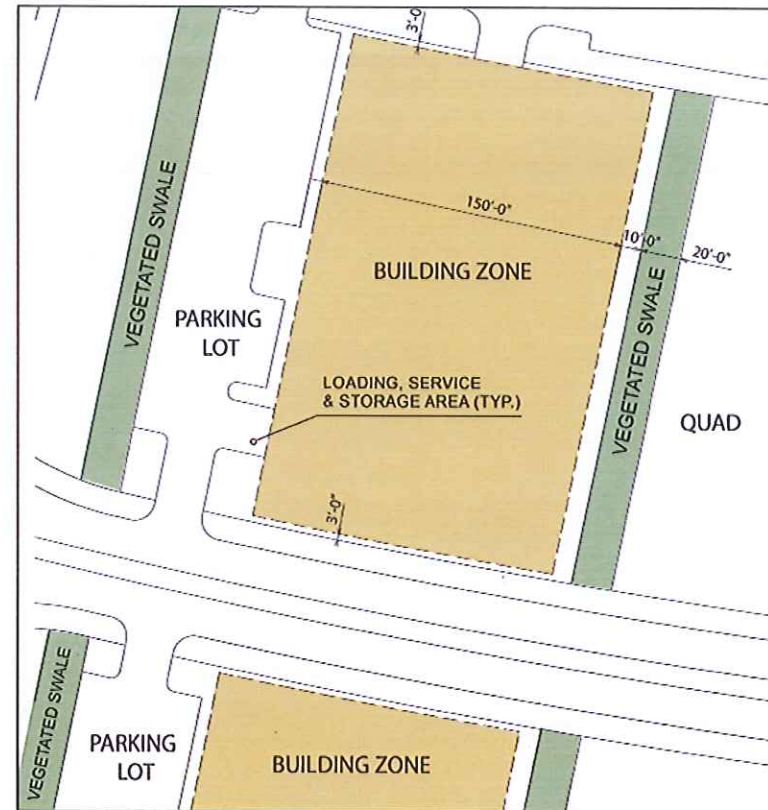
- The maximum building height in all development zones is 5 stories. The actual height may vary depending on floor-to-floor heights, but should not exceed 75 feet above average grade, defined as the average of the existing highest and lowest grade **on a lot.**
- Above 3 stories or 45 feet, building façades fronting a quad or street should step back a minimum of 10 feet.
- Building heights should correspond with adjacent buildings to achieve an overall compatible scale.
- Building heights should respond to changes in grade across the site, maintaining views of the river from the upper portions of the campus.

2.1.3 Building Location and Orientation

For buildings, including garages, facing the quads, the building zone shall have a maximum depth of 150 feet as measured from the front setback. The building zone front setback shall be 10 feet from the vegetated swale in the quad and the building zone rear setback will vary by lot. The building zone side setbacks shall be 3 feet from the street right-of-way line, or where applicable, 10 feet from the archaeological boundary.

For buildings, including garages, east of Accelerator Way, the building zone shall have a maximum depth of 200 feet as measured from the front setback. The building zone front setback shall be 3 feet from the street right-of-way line and the building zone rear setback will vary by lot. The building zone side setbacks shall be 5 feet from the side yard lot line.

- While following the design intent expressed in the Master Plan, buildings may occupy any location within the building zones identified in the Master Plan.
- Buildings should orient active uses to adjacent public spaces, streets and sidewalks, parks and plazas.



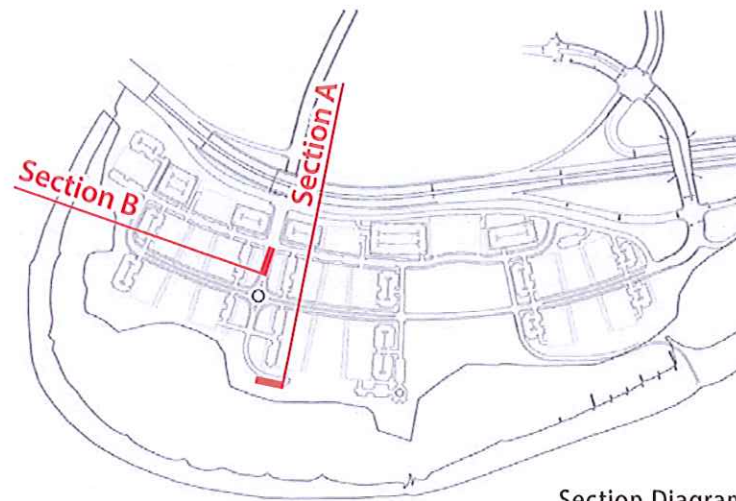
Quad Building Zone Diagram

- Buildings should respond to the natural topography of the site to minimize site disturbance.

Sustainable Design:

- *Select the building orientation (north, south, east, west) that best suits the site's solar attributes (solar energy, heat gain and daylighting) and topography.*

Reference: State of Tennessee Sustainable Design Guidelines, section 1.02; C: Energy Efficiency and Atmosphere Protection, (2.b.iii.), Energy Efficiency of Building Systems.

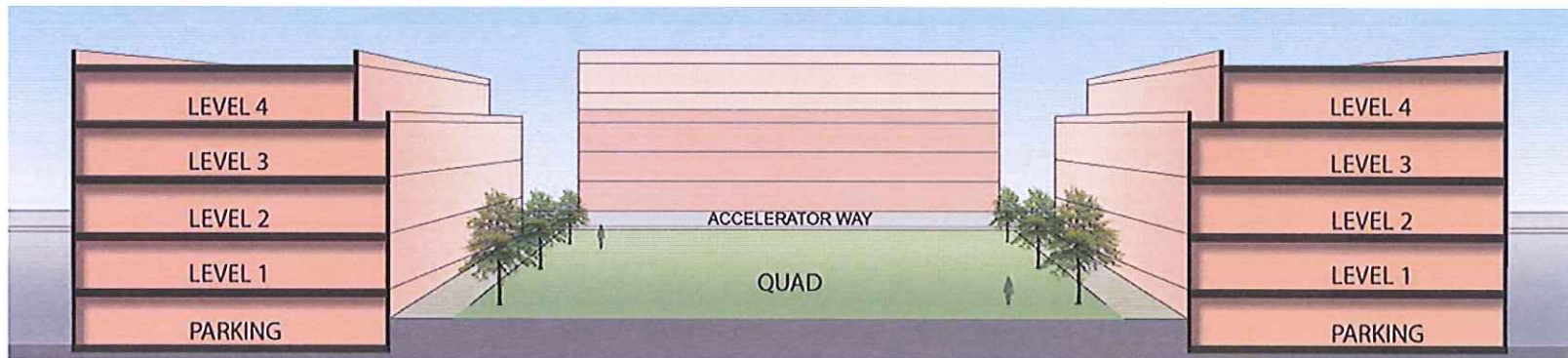


Section Diagram

Building Location and Orientation



Section A: View from South



Section B: View East From Cherokee Farm Way

2.1.6 *Materials and Colors*

Materials and colors unify buildings in a campus setting and link the development to the natural landscape.

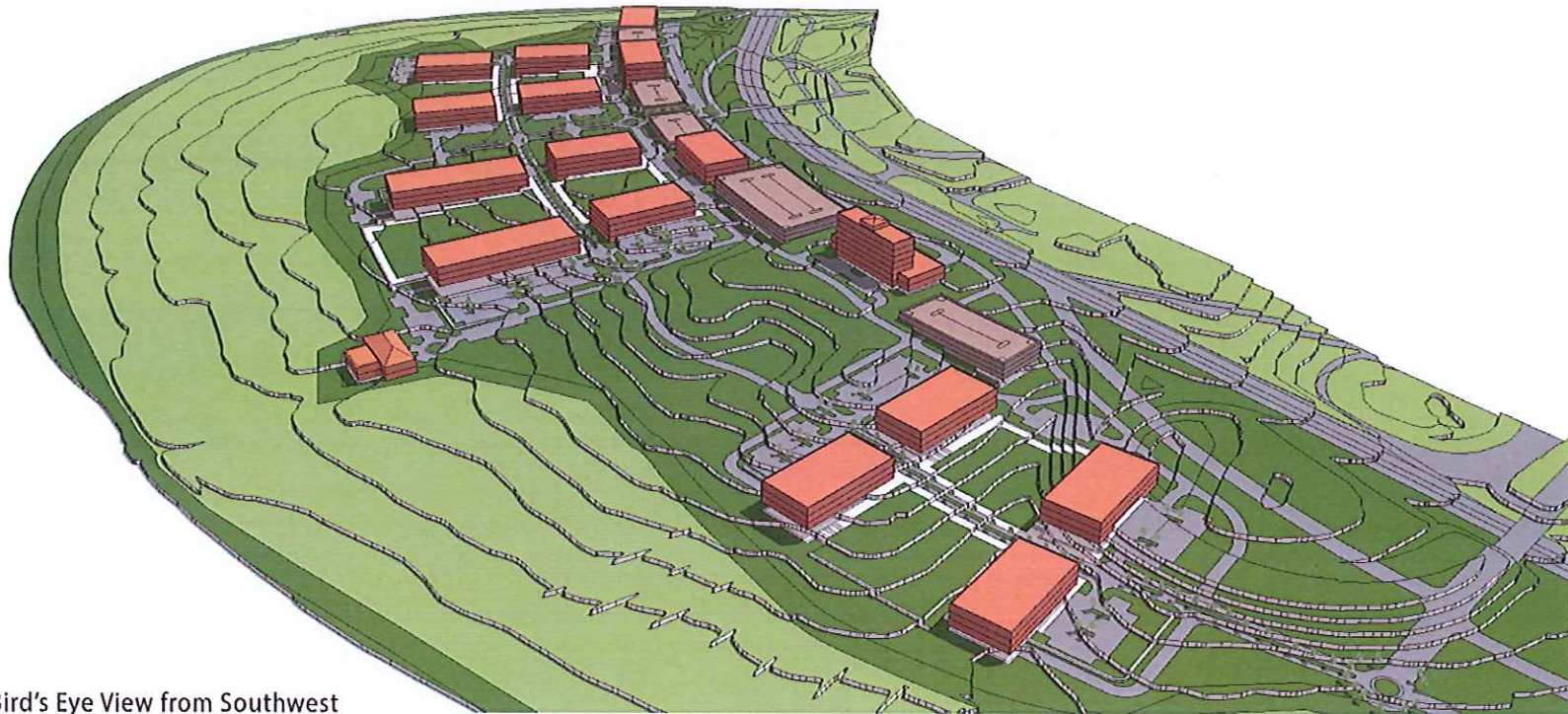
- Materials and colors should draw on regional examples and the natural environment.
- Public areas, building entrances, and ground floors should use durable, long lasting materials carefully detailed.
- Buildings should use materials such as brick, pre-cast concrete and large expanses of glass on elevations oriented toward the primary streets.
- Minimize the number of primary exterior building materials to three, with one serving as the dominant cladding.

Appropriate exterior wall materials are:

- Brick
- Natural or artificial stone
- Concrete: finish should be of architectural quality
- Metal panels: individual or systems of architectural quality
- Glass curtain wall systems

Appropriate materials for limited exterior accents are:

- Metal (galvanized, painted or ornamental)
- Concrete (pre-cast or unfinished exposed concrete)
- Tile



Bird's Eye View from Southwest

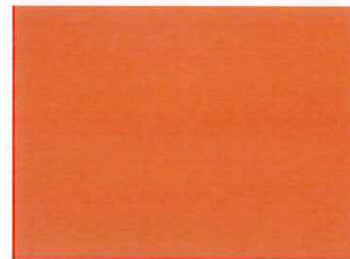
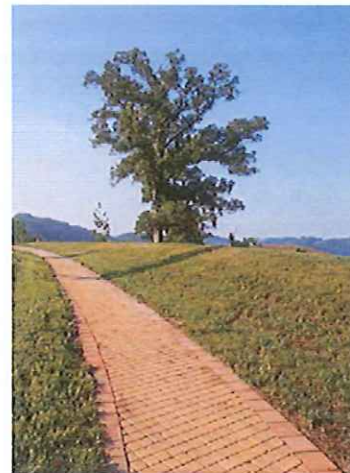
- Use light colored paving surfaces with a Solar Reflectance Index greater than 29 to limit heat island effect.

Reference: State of Tennessee Sustainable Design Guidelines.

2.2.5 Transportation

- Support transportation demand management (TDM) strategies, such as carpooling, park and ride lots, transit passes and bicycle and pedestrian facilities to minimize energy consumption associated with transportation.
- Promote pedestrian and bicycle safety within the campus, by limiting automobile traffic speed and **maintaining existing sidewalks throughout the campus, existing bicycle lanes on the two north-south streets through the campus, and existing connections to the city's greenway system.**
- **Evaluate the economic feasibility of shuttle service between the main University of Tennessee/Knoxville campus and the Cherokee Farm campus as development occurs and potential ridership warrants.**
- Use light colored paving surfaces with a Solar Reflectance Index greater than 29 to limit heat island effect. For reference, typical new white concrete has an SRI of 86; typical new grey concrete has an SRI of 36; and typical new asphalt has an SRI of zero.
- Lighting should be planned at the minimum level required for security of parking areas used only during peak hours (e.g., upper decks).
- Parking structures should be easily able to support electric plug-in vehicle receptacles and recharging services.
- The upper deck of parking structures should be planned for the installation of solar panels as a renewable energy source, following acceptable standards as they develop.
- Consider parking decks to reduce the area of asphalt contributing to heat islands.

Reference: State of Tennessee Sustainable Design Guidelines.



Cherokee Farm Innovation Campus

ALTERNATIVE TRANSPORTATION MODES



- LEGEND**
- Transit Stops
 - Bikeways
 - Greenway Connections

2.3 PARKING • ACCESS • UTILITIES

2.3.1 Goals

- Provide convenient and coordinated auto, transit, pedestrian and bicycle circulation within the campus.
- Support transportation demand management (TDM) strategies, such as carpooling, park and ride lots, transit passes and bicycle and pedestrian facilities to minimize parking demand on campus.
- Encourage comprehensive, multiple building site parking strategies that minimize redundant access and maximize public space.
- Promote pedestrian and bicycle safety within the site, by limiting automobile traffic speed and designating bicycle lane networks throughout the campus.

2.3.2 Surface Parking

Surface parking should offer convenience and access to buildings and reinforce public spaces throughout the campus.

- Individual parking lots should be part of a strategic system of campus entrances, driveways, pedestrian circulation and buildings.
- Parking lots should generally be located to the side or rear of buildings to promote the public character of streets and buildings, according to the design intent of the Master Plan.
- Accessible parking spaces shall be provided according to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) for Buildings and Facilities.
- Driveways and curb cuts should have minimum widths at the sidewalk for pedestrian safety and comfort. One-way driveway entrances should be no more than 15 feet. Two-way driveway entrances should be no more than 24 feet.



Sustainable Design:

- Consider light colored paving surfaces with a SRI greater than 29 to limit heat island effect. For reference, typical new white concrete has an SRI of 86; typical new grey concrete has an SRI of 36; and typical new asphalt has an SRI of 0.

Reference: State of Tennessee Sustainable Design Guidelines, section 1.02; (A.5.iii), Design to Reduce Heat Islands.

2.3.3 Surface Parking: Perimeter and Interior Landscaping

- Parking lots should include perimeter plantings that are consistent with adjacent public spaces and buildings.
- Interior landscaping islands should include 1 tree per every 12 parking spaces.

Sustainable Design:

- Plant tree types that will shade paved surfaces within 5 years to reduce urban heat islands.

Reference: State of Tennessee Sustainable Design Guidelines, section 1.02; (A.5.iv), Design to Reduce Heat Islands.

2.3.4 Surface Parking: Lighting

- The lighting style for parking lots should be consistent throughout the campus.
- Recommended light level guidelines and uniformity ratios established by the Illumination Engineering Society of North America (IESNA), in the IESNA Lighting Handbook (current edition), should be considered when determining appropriate lighting design solutions.
- Lighting should utilize automatic controls systems to eliminate excessive light during non-active hours of site and building operation, while maintaining safety and security.
- Full cut-off fixtures, mounting heights, and shielding should be utilized to effectively control glare and light trespass on adjacent buildings and properties.

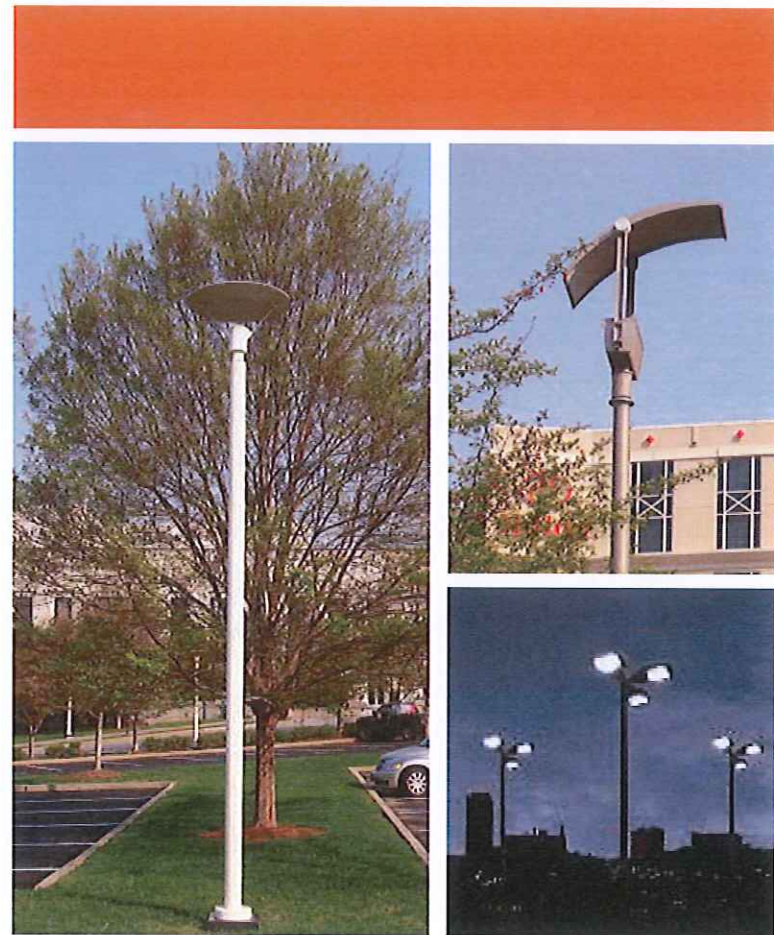
2.3.5 Structured Parking

Structured parking plays a key role in achieving the public spaces identified in the Master Plan. Limiting the presence of surface lots, structured parking allows buildings and active uses to frame public spaces.

- To minimize surface parking, each building should contain a minimum of one level of structured parking where feasible.
- Wherever parking structures front streets and public spaces, walls should be consistent with surrounding buildings in materials, colors and patterns of openings.
- Sloping floors of parking structures should not be visible to public view from outside the structure.
- Parking structures should be compatible with adjacent buildings in form, proportion, massing, and articulation.
- Stand alone parking structures may allow pedestrian friendly, ground level retail/commercial uses consistent with the

Master Plan, as well as facilities such as fitness centers and bike lockers and showering facilities for bicycle commuters.

- Pole mounted light fixtures on upper decks of parking structures shall use full cut-off fixtures, have a maximum height of 16 feet and be located between internal parking rows rather than at the structure's perimeter.



3.0 PROJECT DEVELOPMENT COMPLIANCE REVIEW PROCESS

In order to maintain compliance with the University of Tennessee Cherokee Farm Master Plan and Development Guidelines, the University administration has established a Project Review Process for private partner development proposals.

Private development partners must submit development plans to the University for review by a Project Review Committee. This Committee is composed of the President of the University of Tennessee, a member of the University of Tennessee Board of Trustees, the University of Tennessee Chief Research Officer, the Chancellor of the Knoxville Campus, and the State of Tennessee State Architect. At least three of the five members must vote in favor of a proposal for it to be approved.

The University of Tennessee Division of Facilities Planning will serve as staff for the Project Review Committee and will provide comment and recommendation to the Project Review Committee relative to a proposed project's compliance with the Development Guidelines.

Development Plans must be submitted to the University of Tennessee Division of Facilities Planning at the completion of each of the following design phases:

1. Schematic Design
2. Design Development
3. Construction Documents

The Division of Facilities Planning will timely review and provide comment and recommendations to the Project Review Committee for each of the above phases of design. The Project Review Committee will at its discretion, approve

the development plans as submitted, approve the design with stipulations, or reject the design with stipulations for revision and resubmittal.

Private partner developers should not proceed with the project beyond the approved phase. In addition to coordinating with The University of Tennessee's Division of Facilities Planning, privately developed commercial buildings must meet all requirements contained in Knoxville-Knox County development codes and regulations, including the project development review process established by the Knoxville-Knox County Planning Commission, City Engineering Department, and City Building Codes, Permits and Inspections Department.





March 18, 2015

W. Hollis Loveday, P.E.
CDM Smith
1100 Marion St
Knoxville, TN 37921

SUBJECT: Cherokee Farms Traffic Access Letter Review

Dear Mr. Loveday:

The November 3, 2014 letter submitted for the above proposed master plan development has been reviewed by staff from the City of Knoxville Department of Engineering, Tennessee Department of Transportation (TDOT) Region 1, and MPC. We have identified the following issues related to the letter and site plan that need to be further addressed.

1. In addition to the northbound exit ramp traffic sign improvement recommendations identified in the letter, please include a "No Right Turn" sign at the stop bar for the southbound frontage road approach near the northbound exit ramp termini. Please see the red dot in the diagram below for clarification.



2. Please also include two merging signs for the southbound entrance ramp movement along Alcoa Highway (where appropriate according to the MUTCD & TDOT). One for the entering development traffic to Alcoa Highway and one for the other southbound Alcoa Highway traffic.



3. Please coordinate with the site engineer to provide a site layout of all traffic sign improvements recommended for the southbound exit/entrance ramp and northbound exit ramp access points off of Alcoa Highway. All traffic sign improvements should be in place as soon as possible, not to exceed 6 months from the April 2015 MPC meeting.
4. The UT Golf Course Practice Facility entrance off of Alcoa Highway will need to be closed for any traffic to or from Alcoa Highway after completion of the construction of the remaining golf practice building. The existing street system will need to be improved on Eagle Flight Way to the entrance of the golf facility, which will then become the main entrance for the UT Golf Course Practice Facility. The Alcoa Highway underpass to UT Medical Hospital about 300 ft south of this access point, is permitted to stay open.
5. Before making recommendations on whether or not we recommend an acceleration lane for the southbound movement onto Alcoa Highway, we would like to request a feasibility study be completed to look at the safest turning and merging movement at this location. The merging mini acceleration lane to be studied would be comparable in length to the U.S. Marine Corps Detachment Center just south of this location. The feasibility study should include, but not limited to the following: core sampling of the shoulder, rough construction costs, evaluation of creating large-radius sweeping curve, available width for restriping, etc.

Please provide responses to the attached comments in a letter and site layout format, and submit an electronic copy of answers to these questions based on such by NOON on Friday, March 27, 2015 so that adequate time is available for review prior to the April MPC meeting. If you have any questions please do not hesitate to contact me at 865-215-3826.

Sincerely,

A handwritten signature in blue ink that reads "Tarren Barrett". The signature is fluid and cursive.

Tarren Barrett
Transportation Engineer

C: Tom Brechko, MPC
Jeff Branham, City of Knoxville
Chris Howley, City of Knoxville
Mike Conger, Knoxville TPO
Nathan Vatter, TDOT Region 1
Andy Padgett, TDOT Region 1