



# East Tennessee State University

Johnson City, Tennessee

## Campus master plan update

---

Prepared for:

**East Tennessee State university and  
The Tennessee board of regents  
Sbc project no. 166/005-06-02**

March 2003

Master plan update by:

**McCarty Holsaple McCarty architects, inc.  
Fisher and associates**



**Previous Contributors to ETSU Master Plan:**

David Leonard Associates, pc  
architecture and related design

West, Welch, Reed  
Mechanical and Electrical Engineers  
Dated April 1999

**Original Master Plan by:**

Sasaki Associates, Inc.  
Anthony Blackett  
Barge, Waggoner, Sumner & Cannon  
Dated September 1992

Introduction to 2003  
East Tennessee State University Master Plan Update

The following update to the East Tennessee State University campus Master Plan includes (or refers to) a number of significant changes to the 1999 plan. Specifically, this update refers to several recent projects and acquisitions for ETSU since the 1999 review.

These include:

Athletics and Physical Education Master Plan  
University Innovation Park (Middle Anchor Med-Tech Corridor) Master Plan  
Comprehensive Plan for Housing and Residence Life  
Thomasville Property  
Gray Fossil Site  
Other pertinent acquisitions and property dispositions

The purpose of this update is to reflect the current conditions on the campus while providing documented plans for future improvements to the total campus environment.

Key documents referred to in the plan (but not included in total) are:

Athletics and Physical Education Master Plan – 2003  
University Innovation Park Master Plan/Implementation Plan – 2003  
Comprehensive Plan for Housing and Residence Life - 2002

The words, phrases, paragraphs, etc. printed in italics are specific updates (April 1999) to the Master Plan prepared by Sasaki Associates in September 1993).

**TABLE OF CONTENTS**

	<b>Page</b>
<b>Foreword .....</b>	<b>i</b>
<b>Executive Summary.....</b>	<b>1</b>
• Intent	
• The Campus Today	
• Study Area	
• Future Campus Development	
• Summary of Master Plan Recommendations	
<b>Revised Executive Summary.....</b>	<b>11</b>
<b>I. Existing Conditions.....</b>	<b>I-1</b>
• Land Resources	
• Physiography	
• Drainage	
• Soils	
• Zoning	
• Campus Form and Organization	
• Land Use	
• Building Use	
• Building Form	
• Campus Structure	
• Landscape Character	
• Edges and Entrances	
• Circulation	



	<b>Page</b>
<b>IV. Design Guidelines .....</b>	<b>IV-1</b>
• Architecture	
• Unity Between Old and New	
• Building Location	
• Building Size	
• Facade Proportion	
• Building Shape, Color and Texture	
• Parking Garages	
• Site Design	
• Plantings	
• Roads and Walkway	
• Lighting	
• Gateways	
• Sculpture and Fountains	
• Signage	
<b>V. Appendix .....</b>	<b>V-1</b>
A. <i>Buildings Occupied by the College of Medicine and Planned Changes in the Future</i>	
B. <i>College of Nursing Consideration for Space Projections</i>	
C. <i>College of Public and Allied Health</i>	
D. <i>Student Housing Goals / Comprehensive Plan for Housing</i>	
E. <i>ETSU Technology Infrastructure</i>	
F. <i>Performing Arts Program</i>	
G. Acquisition, Disposition and current Campus Map	
H. Athletics and Physical Education Master Plan	
I. Not Used	
J. University Innovation Park Master Plan	
K. Thomasville Property	
L. Fossil Site at Gray	

- M. Clinical Education Building II - (See University Innovation Park Master Plan.)
- N. Innovation Laboratory - (See University Innovation Park Master Plan.)

**LIST OF GRAPHICS**

*Figure No.*

**Executive Summary**

- 1. *Location in Region* 1
- 2. *Campus Locations* 2
- 3. *Study Area* 3
- 4. *Study Area Site Plan* 4

**Existing Conditions**

- 5. *Existing Land Use* 5
- 6. *Existing Building Use* 6
- 7. *Existing Campus Structure* 7
- 8. *Existing Landscape Character* 8
- 9. *Existing Edges and Entrances* 9
- 10. *Existing Vehicular Circulation* 10
- 10a. *Buc Shot Shuttle Routes* 10a
- 11. *Existing Pedestrian Circulation* 11
- 12. *Existing Parking Location* 12

**Master Plan**

**Main Campus**

- 13. *Illustrative Master Plan* 13
- 14. *Program Accommodation* 14
- 15. *Proposed Land Use* 15
- 16. *Proposed Campus Structure* 16

17.	<i>Proposed Edges and Entrances</i>	17
18.	<i>Proposed Vehicular Circulation</i>	18
19.	<i>Proposed Pedestrian Circulation</i>	19
20.	<i>Proposed Bike Path Locations</i>	20
21.	<i>Proposed Parking Location</i>	21
22.	<i>Proposed Land Acquisition</i>	22
23.	<i>Proposed Building Demolition</i>	23
24.	<i>Proposed Building Renovation</i>	24

**Figure No.**

**Mountain Home Campus**

25.	<i>Illustrative Master Plan</i>	25
26.	<i>Program Accommodation</i>	26
27.	<i>Proposed Land Use</i>	27
28.	<i>Proposed Parking</i>	28
29.	<i>Proposed Building Demolition</i>	29

**Design Guidelines**

30.	Building Setbacks	30
31.	Sherrod Drive Cross Section	31
32.	Centennial Mall Cross Section	32
33.	Dossett Mall Cross Section	33
34.	<i>Typical ETSU Building Proportions and Basic Elements</i>	34

**Appendixes**

35.	<b>Current Campus Map</b>	
36.	<b>Proposed Land Acquisition and Disposition</b>	
37.	Facilities Master Plan Option A	
38.	Facilities Master Plan Option B	
39.	Facilities Master Plan Option C	



- 40. Facilities Master Plan Option D
- 41. Illustrative Plan / Middle Anchor
- 42. Parcel Plan / Middle Anchor
- 43. Thomasville Property Plan
- 44. Fossil Site at Gray Plan

**LIST OF TABLES**

	<b>Page</b>
<i>1. Existing Campus Parking</i>	<i>I-12</i>
<i>2. Main Campus Program Accommodation</i>	<i>III-3</i>
<i>3. Available Space Resource for Academic Expansion</i>	<i>III-4</i>
<i>4. Long Range Parking Needs</i>	<i>III-13</i>
<i>5. Main Campus Phase I Cost Estimates</i>	<i>III-36</i>
<i>6. Mountain Home Campus Program Accommodation</i>	<i>III-37</i>

***FOREWORD***

*As East Tennessee State University approaches its centennial in the eleventh year of the upcoming millennium, defining our future by updating and reaffirming the Campus Master Plan becomes increasingly important for the orderly growth and improvement of the University's physical facilities.*

*Because the Master Plan outline and suggestion for future growth is a continuing process, implementation will be phased over a period of time and updated to respond to changing needs.*

*It is necessary for the University's physical facilities to provide quality programs of study as well as service to the public. The facilities' needs in response to student growth, changing expanding academic programs, and ETSU's image in the community are all reflected in the Campus Master Plan.*

*We accept and welcome the Campus Master Plan and its guidance in directing East Tennessee State University into the new millennium and beyond.*

*Dr. Paul E. Stanton, Jr.  
President  
East Tennessee State University*

*April 1999*

## **EXECUTIVE SUMMARY**

### **Intent**

*From September 1992 to January 2003, 556,000 square feet of additional space has been added to the East Tennessee State University Main Campus and Medical School Campus, which includes **five** projects projected in the 1992 Master Plan. These projects **which are now completed** include the New Central Library, Observatory, Buccaneer Ridge Apartment, Medical School Basic Sciences Building and the Center for Physical Activity. **The** renovation of former Sherrod Library for the College of Nursing and other University services **is still in planning**.*

*Off campus construction since 1992 includes the Family Practice Office Building (19,400 sf) in Bristol. A new **Clinical Education Building** on State of Franklin Road containing 69,700 sf, including a 550 car garage and an 83 room hotel, all connected to the Main Campus by pedestrian bridge. The **CEB** project is a cooperative partnership of ETSU and the City of Johnson City.*

Over the next 25 years, East Tennessee State University (ETSU) seeks to create a planning framework that will accommodate potential new building expansion in the order of 1.5 million gross square feet of space. Coupled with approximately 3.7 million gross square feet of building area currently located on both the Main Campus and Mountain Home Campus, which includes 569,300 GSF of building and 31 acres of land under a 35 year enhanced use lease. **The recent completion of the 183,000 square feet Basic Sciences Building marks continuous** development for the University, Johnson City and the greater Tri-City region.

As one of the principal campuses of the State University and Community College System of Tennessee (see Figure 1), ETSU is planning for the accommodation of a 50 percent increase in enrollment over the next 12 years. The projected increase is expected to include a sizable number of minority and non-traditional students (that is, individuals older than the traditional 18-21 age cohort, with a likely higher proportion of women). The University will play an increasingly pivotal role in bringing cultural and educational resources to the eastern Tennessee region. The ability of ETSU to successfully absorb future student growth and provide services to

the greater community will be determined to a large extent by how well the University plans and directs its future physical growth. The purpose of this report is to provide guidelines for development of the campus environment, so that the responsibilities of the University can be discharged within a framework conducive to academic and cultural excellence.

The Master Plan described herein accommodates the 50 percent enrollment growth and establishes an overall planning framework for building expansion beyond the 50 percent enrollment increase. The Plan will serve as a guide for the anticipated growth and improvement of the campus environment by defining future building locations, circulation systems, *technology and utilities infrastructure*, parking patterns, open spaces and landscaping approaches. It is intended to establish a coherent framework within which day-to-day siting and campus improvement decisions can be made, with assurance that such decisions will relate logically to past and future campus organization.

### **The Campus Today**

East Tennessee State University was established in 1911 as a State Normal School and has since grown to a multi-purpose University offering certificate, associate, baccalaureate, masters and doctoral degree programs in 74 major fields of study. The University employs approximately 1,500 people and maintains a headcount enrollment of approximately 11,600 students, or 9,550 full-time equivalent students.

The University is located in the southwest sector of Johnson City, Tennessee, adjacent to the State of Franklin Road (see Figure 3). Johnson City has a population of 52,500 people and is part of the Tri-City (Johnson City-Kingsport-Bristol) Metropolitan Statistical Area, which contains over 448,000 people. The city is an educational, medical, manufacturing and distribution center for the eastern Tennessee region.

## **Study Area**

The Master Plan study area is comprised of two closely related sites, the Main Campus and the College of Medicine on the Mountain Home Veterans Administration Hospital Campus (see Figures 3 and 4). The 204-acre Main Campus is generally defined by State of Franklin Road to the north, University parkway to the east, Boundary Road to the south and South Greenwood Drive to the west. The Main Campus study area also includes approximately 148 acres of outlying University-owned land to the south of Boundary Road. The University occupies a total of 64 buildings on the Main Campus which contain approximately 3.0 million gross square feet of space.

The College of Medicine is located on the 250-acre Mountain Home Campus, in a group of buildings on a site generally defined by West Main and Lamont Street to the north, the VA Administration and a new nursing home and domiciliary facilities to the east, the Southern Railroad to the south and the Johnson City Medical Center to the west. The University's Medical School *currently* occupies 5 of the buildings on the site. **The recently completed Basic Sciences Building contains 183,000 sf. This new area plus the existing 269,200 sf provides a total fo 452,200 sf.** *An enhanced use lease agreement between the Veterans Administration and ETSU Medical School increased the Medical School presence on the Mountain Home Campus with full occupancy of 31 acres and all ten (10) buildings. This lease was signed on December 17, 1998.*

The ETSU Clinical Education Facility is located on State of Franklin Road west of the Main Campus, *this facility contains 69,700 gross square feet of space.* In addition to the University complex comprised of the Main Campus and Mountain Home Campus, the University also maintains four other campuses in the Tri-Cities region: The Kingsport University Center and Kingsport Family Practice Center in Kingsport, the Marshall T. Nave Center in Elizabethton and the *new* Bristol Family Practice Center in Bristol **which was completed in 1999** (see Figure 2).

## **Main Campus**

The Main Campus is a well-defined compact and linear form, determined in part by its physical location between mountain ridge and stream vale. Development **decisions** over an 87-year period have resulted in the siting of a majority of the buildings in a rectilinear layout that generally parallels the adjacent ridge line of Buffalo Mountain. The University's character is enhanced by a series of homogeneous buildings similar in mass, height and material. The majority of buildings are designed in a Neo-Georgian style, distinguished by brick walls, gable or flat roofs and similar sized window openings. *The New Central Library carries forth the Classical format of the campus in a contemporary manner consistent with the scale and dignity of function. The University Center, Memorial Center and the Information and Security building introduced unique building forms and materials to the campus fabric.*

The campus area between Lake Street and University Drive is the most densely developed sector of the University, containing principal academic and administrative buildings as well as remnants of the original principal campus open spaces including the Great Lawn east of Gilbreath Hall. East of Lake Street, the campus is characterized by large surface parking lots and a variety of land uses. The campus area west of University Drive contains a somewhat looser arrangement of buildings, as well as large parking lots and sport fields.

Campus edges are generally defined by the street perimeters, but there is little clear distinction between the University and the community, particularly along the northeastern edge. The recent construction of State of Franklin Road has increased the number of well used entrances to the campus, reducing the significance of the existing "main entrance" on Stout Drive.

### **Mountain Home Campus**

Existing and proposed facilities for the James H. Quillen College of Medicine occupy a portion of the Mountain Home Veterans Administration Hospital. The Mountain Home site, designed by James Freedlander in 1903, is significant for several reasons. The site was an early example of well planned government funded medical facility. The home was established as one of nine facilities to serve disabled union veterans of the Civil War. The continuity of use and character from founding to present is a rare and valued asset.

The simple and well ordered plan located hospital, patient and staff residences and support facilities on a broad southeast oriented plateau providing views over Brush Creek to the valley enclosing Buffalo Mountain ridge. The natural amenities of stream and mountain were complemented with extensive plantings and gardens. These amenities remain today as memorable qualities, readily recognized by visitors and residents as the Mountain Home park-like setting.

The consistent building style of French Renaissance-inspired ornamentation, uniform massing and rectilinear layout were significant factors contributing to the Mountain Home Campus character. Buildings are sited on extensive lawns at a consistent distance from the principal streets.

The significant factors of historic purpose, natural setting, and campus environment are the basic values which guide the proposed expansion of Medical School facilities from the current 269,200 gross square feet to *the Basic Sciences Building* providing 183,000 square feet of academic and research space, *and an enhanced lease agreement that has provided for ten buildings and 31 acres under the administration of the Medical School.*

## Future Campus Development

There are several developments planned for the ETSU campus. The most immediate project which has been registered with the State is the renovation of the former Sherrod Library for the College of Nursing, Student Health Clinic, Center for Appalachian Studies and Services, Computer and Information Sciences, Information Resources and Computer Services.

In addition to the new Library and the recently completed Basic Medical Science relocation and expansion, the University is endeavoring to provide suitable space for general academic expansion to serve enrollment growth. Other facilities contemplated include a new Performing Arts Center east of Lake Street within five to ten years; a new parking garage within five to ten years located south of the New Central Library; residential expansion over the next 25 years capable of housing a potential 50 percent increase in students. Other projects on the horizon include the development of the Marine Corps project as part of the University Innovation Park, a museum on the Fossil Site at Gray and parking expansion and/or future athletic, campus or academic expansion on the Thomasville Property.

Major improvements and construction for athletic facilities are outlined for the Athletic Department and Physical Education in a separate master plan document. (See appendix H)

The Master Plan proposal for the future development of the College of Medicine on the Mountain Home Campus is a key strategy that will have two significant effects. First, it will foster the consolidation of the College of Medicine within an organized setting that reinforces the historical qualities of the site and buildings on the Mountain Home Campus. Secondly, nearly 400,000 assignable square feet (approximately 536,000 gross square feet) of space in the academic core area of the Main Campus are now available as the College of Medicine is consolidated at Mountain Home. Also on the Mountain Home Campus is a wonderfully ornate, intimate and small theatre that is currently under negotiations for long term use by the ETSU Arts and Sciences Department. This space offers unique opportunities for performing arts and musical presentations which are not currently possible on the Main Campus or programmed for the Performing Arts Center.



On the Main Campus there is a potential capacity of approximately one million gross square feet of additional building area within the re-organized campus layout envisioned in the Master Plan. The additional building capacity is broken down as follow:

- *Center for Physical Activity*                      *100,000 gross square feet*
- *Performing Arts Center*                              *135,000 gross square feet*
- *Parking Garages*                                      *1,032,000 gross square feet (3,035 sp.)*
- *Academic infill expansion sites*              *101,000 gross square feet*
- *Future residential development sites*      *613,000 gross square feet (1020 beds)*

There are also a number of sites on the Main Campus **and off site** that are suitable for future redevelopment for special needs. The area east of Lake Street and north of Stout Drive will lend itself for redevelopment to uses with public orientation, such as a Performing Arts Center. The campus area west of University Drive should be reserved for long-term academic/research needs. **Refer to Appendix G for more details.**

The expansion and redevelopment opportunities described above are based on two important premises of the Master Plan - **the reinforcement of the existing campus land use pattern**; and **the structuring of the campus open space and circulation system**.

#### Land Use

The Main Campus is relatively compact, offering reasonable walking distances within the core area of instructional and academic support uses and between that core area and adjacent residential and athletic facilities. Indeed, the existing pattern of land uses on the campus is logically organized to take advantage of the compactness. Virtually all of the instructional and common (library, union, administrative) uses fall within the traditional 10-minute class-change walking area, with the residential and athletic/recreational uses occupying the immediate periphery to the east and west.

The Master Plan espouses the retention of the existing distribution of academic, residential and athletic/recreation uses, accommodation new and future uses by infilling selected sites in a way that reinforces the campus order and land use pattern.

The notable new land uses envisioned in the plan include the near-term development of a *new parking garage southeast of the New Central Library*; the development of the “northeast quadrant” framed by Lake Street, State of Franklin Road, and University Parkway as an area of facilities common to the University and the general public; the development of the southeast outlying parcel in the vicinity of the existing water tower and the area southwest of the campus near Seminole Drive for *athletic* use; and the long-range development of the campus area west of University Drive for future unspecified academic/research needs. **Refer to Appendix H for more details on conceptual alternatives.**

#### Open Space and Circulation Structure

The Master Plan retains the essential spatial order of the existing campus, but anticipates two major modifications to the future campus open space and circulation system. The first modification consists of substantial reduction or removal of general vehicular movements and parking within the heart of the campus, restoring the central open spaces to pedestrian zones. Notable areas where the restoration would occur include the lawn area between Dossett and Gilbreath, along Sherrod Drive, and the quadrangle north of Sam Wilson Hall. The broad intent is to substantially upgrade the campus from an aesthetic and environmental standpoint, and to eliminate the large number of pedestrian-vehicle conflicts and inefficiencies that currently mark the campus. The proposed building sites are conceived to strengthen the spatial order by shaping the spaces more clearly.

The second modification of the overall open space/circulation structure of the campus is clarify the various entry points, and to establish a symbolic and functional main gateway from University Parkway. The plan envisions the creation of a formal tree-lined mall on axis with Dossett Hall, flanked by a boulevard-type entry road *that parts around the new security building which acts as a gate house for the University*

*from University Parkway.* Improved and expanded surface parking areas will be located north and south of the new entry mall, with the area to the north subject to long range development of University facilities that would require accessibility to the general public.

The consequence of the restructuring of the open space and circulation network would be the gradual shifting and consolidation of campus parking in surface lots and structures at the immediate periphery of the campus core and in outlying lots served by shuttle vehicles. **Additionally, plans are being developed for the recently acquired Thomasville property which will be used for parking expansion and/or future athletic, campus or academic purposes.** Currently, there are *approximately 6,500* parking spaces at the University. A conservative estimate of increased parking capacity necessary to serve an enrollment growth of 50 percent would be about *2,700* additional spaces. Parking displaced by open space and safety improvements in the heart of the campus will be reallocated to lots and structures in the immediate periphery to the core area. Parking to serve enrollment growth will necessitate a gradual expansion to outlying shuttle lots and structures near the core area.

### **Summary of Master Plan Recommendations**

The East Tennessee State University Campus Master Plan contains the following recommendations:

- The Main Campus and Mountain Home Campus should be developed as an integrated academic complex. The objective is to link the two campuses by improving vehicular and pedestrian connections between the two areas, by upgrading the State of Franklin “seam” between the two areas with landscape improvements, and by fostering high quality, compatible land uses in the outholdings between the two campuses.
- A significant factor in the linkage of the two campuses relates to the *current construction of the Basic Sciences Building on the Mountain Home Campus*

*and the enhanced use lease agreement which has added six (6) additional buildings to the 31 acre site. The focus of the University's medical teaching and research at the Mountain Home Campus will be enhanced by its relationship to adjacent clinical facilities at the Veterans Administration Hospital, Johnson City Medical Center Hospital, Woodridge Psychiatric Hospital and ETSU's Clinical Education Facility. See Appendices A, B, and C.*

- College of Medicine expansion at the Mountain Home Campus should improve the visual and physical links between the Main Campus and the Mountain Home Campus, respect the existing historic Mountain Home Campus plan, and enhance the College position within the greater Med Tech Corridor. *See Appendices A, B, and C.*
- Space release on the Main Campus by the construction of *the New Central Library* and relocation of the College of Medicine should be renovated as backfill space for academic and administrative use and expansion, including consolidated space for the *College of Nursing*. *See Appendices A, B, and C.*
- Expansion of housing should respond to the existing well-defined west campus residential group along Dossett Drive and the need to provide residential support activities. New village and neighborhood residential communities are proposed as an alternative to the traditional dormitory units. *Flexible housing that meets the needs of various student interest groups, such as fraternities and sororities, and fulfill the expectations of students and parents should be located on the Lyle Knoll near the site of the Center for Physical Activity. Another site that should be reserved for housing or future athletic expansion is the hill south of the University. Existing dorms should be renovated if cost effective to meet demands of today's students or razed if impractical to renovate. Refer to Appendix D for more details.*
- Public use facilities such as a Performing Arts Center *will* be located on principal roads and contain sufficient parking in order to create more visible and readily accessible facilities.

- A new entrance mall off University Parkway will provide a readily recognized entrance to the campus.
- Parking should be removed from the campus core in order to create a vehicle free, pedestrian oriented environment at the heart of the University. Existing and new parking should be consolidated into parking “precincts” readily served by an expanded shuttle service program. *Parking garages should be constructed at the perimeter or public access zone strategically located to serve commuter students during regular day hours, night students, and public for off-hour campus activities. The first floor of centrally located garages should house offices whose function serves student and or public needs.*
- Dossett Mall roads and parking should be reorganized to create more safe vehicular movement, increase parking near the campus and provide an attractive entrance to the western part of the campus.
- Alexander, Sherrod and Field Drives should be limited access drives, providing service and emergency vehicle access only to reduce daily traffic movement in the heart of the campus.
- *To further reduce vehicular traffic, and in conjunction with the City of Johnson City, develop a safe bikeway from east and west sides of the campus and internally within the campus.*
- *Athletic fields expansions are necessary to provide for women’s athletics and upgrading and maintenance of existing facilities should be undertaken to preserve the investment made by TBR and the University. Provisions should be made to retain and meter the flow of water from the S.W. side of the railroad to further protect the current playing fields. Refer to Appendix H for more details on conceptual alternatives.*

- *The site of the Center of Physical Activity at the S.E. corner of the athletic and intramural play field will further enhance the western residential group along Dossett Drive and will further promote community and create an environment on Lyle Knoll around and adjoining Lucille Clement dorm.*  
**Refer to Appendix H for more details on conceptual alternatives.**

## **I. EXISTING CONDITIONS**

### **Land Resources**

#### **Physiography**

Johnson City is located within the valley and ridge province of the Appalachian Highlands. This province is distinguished by fold mountains, a series of more or less parallel ridges and valleys with a northeast - southwest orientation. The Master Plan study area is located in the Holston River Valley, defined by Clinch Mountain to the north and Holston and Buffalo Mountains to the south. Brush Creek Vale lies between the Mountain Home site on the north and the Main Campus on the south.

The ETSU Main Campus is located at the north base of Cherokee Mountain, a lesser fold mountain in the Buffalo Mountain range (elevation 2620 feet). The campus parallels the mountain orientation and ranges in elevation from the southeast knoll at an elevation of 1830 feet to the athletic fields at an approximate elevation of 1660 feet. The campus has three distinct topographic orientations. A north-south oriented knoll (elevation 1710 feet), a high point within Brush Creek Vale, is the campus center creating a divide between the northeast and southwest oriented academic core. A majority of the residential halls occupy the northwest facing slopes of Cherokee Mountain.

The Mountain Home Campus occupies a ridge between Brush Creek to the south and its tributaries to the north. The principal campus occupies ground which slopes from the northwest residential homes at 1780 feet to the southeast hospital site at elevation 1670 feet. A majority of the buildings are sited between elevations 1700 feet and 1730 feet.

In comparison of the two sites, Mountain Home occupies a one directional, more gentle sloping site with a principal orientation to the south. The Main Campus contains three principal orientations, northeast, southwest and northwest.

## **Drainage**

Brush Creek is the principal drainage system for the Main Campus and Mountain Home Campus. The creek flows in a northeast direction to Watauga River and Boone Lake which in turn form the Holston River. Two tributaries of the creek join in the low lying vale between the two campus sites and flow in a stream bed which has been altered by the railroad and building site construction.

The Main Campus contains two tributaries to Brush Creek; the first enters the campus at the west end of the athletic fields and the second enters east of University Center. Both streams have been placed underground for a majority of their passage through campus.

The 100 year floodplain zone does not significantly affect either campus; the principal floodway is within the low lying land between the railroad and State of Franklin Road.

## **Soils**

Soils throughout most of the Main Campus area have been extensively altered to suit the present uses. Soils are not expected to limit future development within the core and east end of the Main Campus. The west side of the campus contains Dunmore silty clay loam and Pace silt loam. Dunmore soil is difficult to pack and has low strength to support roadways, thick gravel bases can correct this limitation. Pace soils also have low to moderate strength, which may affect roadways. The condition could require special drainage measures to correct wetness resulting from a perched water table.

The southeast outlying parcel contains Dunmore and Litz soils. In addition to the constraints identified above for Dunmore soils, development in this area may be limited by steep slopes and shallow bedrock. Developable portions of the southwest outlying parcel predominantly contain Dunmore soils. The other soils of the parcel, Greendale and Lindsides, are subject to seasonal high water tables and frequent flooding. Though not hydric, they may support wetlands vegetation.



Areas designated for future expansion at the Mountain Home Campus primarily contain Dunmore silty clay loam, with constraints as described above.

### **Zoning**

Existing zoning for the Main Campus and Mountain Home Campus permits University uses. A majority of the properties abutting both campuses are currently designated low and medium density residential. However, there are several non-residential designations for land north of the Main Campus paralleling State of Franklin Road. Designations include B-3 and B-4 Business Districts, I-2 Industrial, and SC Shopping Center. These properties offer the greatest potential for changing land uses as undeveloped tracts and abandoned industrial sites are transformed to new uses along a principal arterial road. Zoning for the property would allow for uses typically characterized as “highway strip commercial”, with its attendant expanses of surface parking and diverse signage and building forms.

The Med-Tech Corridor, a special district within the City, has been established to promote medical and service centers related to existing hospitals and the ETSU Medical School.

### **Campus Form and Organization**

#### **Land Use**

The present organization of land use follows a logical pattern. The “campus core” is defined by the centrally located academic functions and administration services. Principal residential units are located east and west of the core and sports facilities are located to the northwest, near athletic fields and courts (see *Figure 5*). The relatively compact scale of the campus reinforces the efficiency of the land use pattern. **Refer to Appendix H for more details on conceptual alternatives of athletic locations.**

There are, however, several less satisfactory relationships within the general land use pattern. First, while a majority of parking lots are appropriately located at campus edges adjacent to principal roads, parking areas between Dossett and Gilbreath Halls

and within the Wilson-Memorial quadrangle introduce vehicles into heavily used pedestrian spaces in the heart of the campus.

A second concern is the physical presence and visual character of physical plant facilities in the central campus. These facilities were once located at the west edge of the campus. However, development of academic and residential buildings during the past twenty years has enclosed the power plant, substation and chiller facilities.

Third, while campus housing is well situated in proximity to the academic core and common facilities, there are few outdoor recreation areas for residents in the dormitory complexes themselves. Areas adjacent to dormitories are most often used for parking.

### **Building Use**

Building uses, for the most part, follow the logical pattern of land use allocation. The campus core is formed by the Schools of Arts and Sciences, Medicine and Business, as well as Administration and Common Facilities such as the Student Union, Library and Museum. The Schools of Applied Science and Technology and Public and Allied Health are located west of the core. The School of Education is located northwest of the core. Four of the sixteen centrally located academic buildings are used by more than one School (see *Figure 6*).

*The College of Medicine occupies six buildings at the Mountain Home Campus of the Veterans Administration Hospital, located approximately one-quarter mile north of the Main Campus, across State of Franklin Road and the Southern Railroad.*

### **Building Form**

The campus character is enhanced by a generally homogenous buildings vocabulary. Similarities in the mass, height, material and facade openings help to give the campus a unified atmosphere. *The University Center, Memorial Center and the Information and Security building introduce unique building forms and materials to the campus fabric.*

The simple formality of the campus is created by the arrangement of similar proportion buildings in a rectilinear system. The majority of buildings range from three to five stories in height and 200 to 250 feet in length. Most buildings are designed in a Neo-Georgian style, distinguished by brick walls, gable or flat roofs, similar sized window openings, and ornamentation limited to white concrete door entrances and, on occasion, building corners and cornices.

Exceptions to this buildings system introduce new proportions and materials. In comparison to adjacent buildings, the Culp Center is significantly greater in length and height, and the bold concrete exterior contains a variety of surface furnishes. In spite of its size and form, the buildings is not a major visual disruption to the greater campus because it is sited within the central campus and surrounded by other buildings. The nearby wooded hillside serves as a backdrop to the buildings, and the large facade areas are divided into smaller scaled wall and window treatments.

Memorial Center intrudes visually into both the campus and the surrounding community. The “Dome” occupies a prominent campus edge, and consists of a single large curvilinear form which is out of scale to all other structures in the region in both ground area and height. The monolithic metal roof exacerbates the visual intrusiveness of the structure.

The Information and Security Center introduces a new material (wood) and a new building form (pitched shed roofs) at a major entrance to the campus. The small scale and ambiguous building entrance contribute to the overall sense of incompatibility.

### **Campus Structure**

Campus structure refers to the overall spatial arrangement of buildings and open space. A coherent campus structure can help create a setting that is pleasant and memorable for its users. A clearly defined campus also provides a framework for future growth.

ETSU’s well-defined compact, linear form is determined in part by its physical location between mountain and stream vale and by consistent decisions over the

eighty year history of the campus to site buildings in a rectilinear relationship to one another. Improvement and expansion of the campus can strengthen the existing structure by sensitive infill within existing building clusters and by extension of principal open spaces.

The built campus structure is composed of the following seven elements (see *Figure 7*):

- Campus Core - principal open space and buildings at the heart of the campus
- Malls - buildings sited along principal pedestrian and vehicular axes
- Quadrangle - buildings sited to form a contained open space
- Courtyard - an enclosed space created by a continuous interconnected building or buildings
- Passage - major public way through a building
- Cluster - grouping of buildings similar in scale and orientation
- Freestanding - buildings on individual sites.

#### Campus Core

The campus core is the central portion of the campus containing its principal buildings and remnants of the open spaces in which the original Normal School was laid out. The site located between Gilbreath, Dossett, Alexander and Reece Museum forms the largest defined open space on campus. This open space was once the Great Lawn that was the principal entrance feature to the University. The construction of Dossett Hall and the parking lots west of Dossett Hall has reduced the original lawn to an area fronting the entrances to Gilbreath and Alexander Halls. The most visible reminders of past campus landscape character remain in the side-courts north and south of Gilbreath Hall. These spaces contain mature canopy trees at the high point of the central campus.

Prior to the mid-1970's, a stream vale and amphitheatre formed a garden-like setting in the heart of the campus, south and east of Sherrod Library. Library expansion, parking lots, and construction of the Culp Center have isolated the amphitheatre and the stream, *which now only flows in rainy weather.*

### Sherrod Mall

The north-south oriented Sherrod Drive constitutes a mall-like space that adjoins the principal open spaces of Brown Hall courtyard, Memorial/Wilson quadrangle, Gilbreath Hall, the Amphitheatre and Dossett Mall. Sherrod Mall has the potential to be a unifying spine of the entire campus by linking the principal open spaces and buildings of the academic and residential zones. Challenges related to the upgrading of the Mall include extension of the present pedestrian-way to State of Franklin Road, resolution of the junction of Sherrod and Dossett Malls at Culp Center, and integration of spaces adjacent to the Mall.

The existing pedestrian mall has been created by removing vehicles from the southern portion of Sherrod Drive, between Gilbreath Hall and the Culp Center. The existing visual and physical extension of the mall includes the building "row" of Mathes, Burluson and Carson Halls, and the west face of Brown Hall. Distant views to the Mountain Home Campus and surrounding region are provided from the highest point at the juncture of Sherrod and Alexander Drives.

### Dossett Mall

Dossett Mall, the east-west portion of Dossett Drive, is defined to the north and south by academic and residential buildings, and at its east and west visual terminal points, respectively, by Culp Center and Lyle Knoll. The north and south sides of the broad axial open space vary in character. The south side is defined by similar sized residential buildings sited on a ridge with a uniform setback, relatively close to the mall centerline. North side buildings vary greatly in size and use, and are set at uniform but greater distance from the mall centerline. Therefore, the cross section character of the mall is dissimilar and does not reinforce the strong axial orientation of the mall.

The poorly defined juncture of Dossett and Sherrod Drives at the Culp Center does not express the importance of the confluence of these two principal campus open spaces. The large parking lot to the west separates Lyle Knoll, the existing visual and potential physical terminus of the Mall, from the existing drive.

### Quadrangle

A campus quadrangle is formed by Memorial Gym, Sam Wilson Hall, Ball Hall, Gilbreath Hall and the School of Medicine building. This similar rectilinear space has the potential to be the principal formal campus space. Options for consideration include removal of automobiles from this central space and reinforcement of the built edges of the quadrangle by extending Ball Hall west to screen the Mini-Dome.

### Courtyard

Brown Hall courtyard is an enclosed public space formed by additions to Brown Hall. The space is significant to the campus structure for its location at a terminus of Sherrod Mall and as an opportunity for east-west pedestrian connections from the Mall to Alexander Hall. The arched walkways are a unique and memorable campus image.

### *Central Library Node*

*The site of the recently completed Central Library is at the junction of student traffic from east to west campus, Rogers Stout and Culp Center traffic and north to south traffic crossing the Great Lawn. Rotated approximately 45° to the major rectilinear pattern, turned to face the Great Lawn and Gilbreath Hall, the massive yet humanly scaled structure forms four major distinct court yards. These courts are Entry Plaza, Stream Vale and Landscape Screen, Service Court and Lake Street Court.*

### Passage

Lamb Hall passage is formed by the arched walkway through the building core. The forecourts and walkway are an important feature located between the residential buildings on Dossett Drive and the academic core.

The existing parking on Campus Drive and Ross Drive limits pedestrian connections to Sherrod and Dossett Drive and is visually, a negative feature to the overall character of the east forecourt to the passage.

## Freestanding

A number of freestanding buildings are located on the edges of campus. The Mini-Dome is the most significant freestanding building, unique for both its massive size and non-axial orientation. Additional freestanding campus buildings include Warf-Pickel Hall and the Bond Maintenance Building. The most significant issue affecting the freestanding buildings is integration to the adjacent building groupings and greater campus.

## Landscape Character

The landscape, lawn, trees and shrubs can be both a space defining campus feature and a foil to extensive buildings and expansive parking lots. The Main Campus contains five distinct landscape zones which vary in the amount of plant cover and resultant visual character (see *Figure 8*).

Zone 1, the most open and sparsely vegetated zone, extends from University Parkway to Lake Street. The area is characterized by large parking lots and changing land uses with significant tree clusters limited to the remaining homes on the north and the dormitory clusters to the south. The barren nature of this zone is accentuated by its location at the principal entrance to the campus and its role as a “fore court” to Dossett Hall. Opportunities to incorporate new street tree and parking lot plantings can create a new long-term structure for this zone.

Zone 2, containing the greatest tree canopy at the heart of the campus, extends from Lake Street to University Drive. The area contains the largest collection of mature trees including remnants of historic plantings for the Gilbreath Hall and amphitheater sites. Major concerns for this zone are the age and status of significant mature trees such as silver maples which will require replacement in the future, and loss of significant lawn areas to buildings and parking lots.

Zone 3, containing some mature trees as well as a mixture of open buildings and parking lot sites, extends from University Drive to Dossett Drive. The dormitories

along a majority of Dossett Drive contain large trees in a lawn setting, however a majority of the site to the north is sparsely planted. Extensive parking and tennis court facilities west of Warf-Pickel Hall creates a barren zone at a principal entrance to the campus from State of Franklin Road. Infill planting of the knoll around Clement Hall and the north parking lots can build upon the existing Dossett Drive plantings and visually join this more recently constructed zone to the heart of the campus.

Zone 4, the least occupied, greatest vegetated zone on the Main Campus, extends from Dossett Drive to the South Greenwood Drive campus limits. The open flat recreation field is contrasted by the mature trees of Lyle Knoll. Plantings in the large parking areas north of physical plant could better integrate the pavement zones with both Dossett Drive and the recreation field.

Zone 5, primarily woodland and field, includes all parcels not contiguous to the Main Campus.

### **Edges and Entrances**

Campus edges are generally defined by the street perimeters, but there is little clear distinction between the University and the community, particularly along the northeastern edge of the Main Campus. The construction of State of Franklin Road has increased the number of well used entrances to the campus, reducing the significance of the existing main entrance on Stout Drive.

Poorly defined campus edges include the entire northeast corner of walnut, Lynn, Maple and Lake Street, where both non-University owned roads and property combine with extensive University parking lots to create a large undefined tract of pavement in an area that is seen by a significant number of people arriving at the University (see *Figure 9*). The parcels north of Greenwood Drive which abut commercial development on State of Franklin Road can benefit from improved distinction between University and private land holdings.



## **Circulation**

The basic means of movement exist on campus: vehicular (including cars, motorcycles, *bicycles*, buses and service) and pedestrian (including foot and wheelchair).

### **Vehicle Circulation**

Within the central campus, north-south vehicular through-movement is limited to University Drive and Lake Street (see *Figure 10*). The principal campus access point on Stout Drive (from either West Locust Street or West Pine Street) affords east-west access to/from the center of campus, but otherwise, efficient east-west access routes are limited to the northern and southern edges of the central campus (i.e., West Walnut Street and Boundary Road, respectively).

The central campus is otherwise provided with an array of one and two-directional roadways whose principal functions are to provide access to parking areas. Their directional orientations prove inefficient from cross-campus vehicle movement, and disrupt to some degree on-campus pedestrian circulation. Sherrod Drive has in part been closed to vehicle movement in order to address its pedestrian impacts. The resulting "pedestrian mall" of approximately 800 feet in length has effectively created a vehicle-free linear zone in the core of the campus. During the last decade portions of other on-campus roads such as Field Drive and Ross Drive have been closed as well.

The University *maintains* a shuttle service from several on-campus parking lots to the academic core (see *graphics drawing 10a Buc Shot Shuttle Routes*). Three (3) 15-passenger vans travel on a prescribed route on week days between the hours of 8:30 AM and 2:00 PM, with one van continuing in service until 10:00 PM.. The service is free to all members of the campus population, and the eight-stop route (which begins and ends at the 715-space parking lot near Greenwood Drive) provides for five to six minute headways.

In addition to the intra-campus shuttle services, on-campus transit services are also provided by the Johnson City Transit System, which operates five extensive routes from downtown Johnson City. The most extensive route serves the ETSU campus, providing service between the campus and the downtown and other points in the

vicinity of Johnson City. *ETSU's contract with the Johnson City Transit Authority provides for student to travel without fee.*

### **Service**

Buildings are serviced from a variety of internal roadways and service lanes. Boundary Road services a majority of the facilities in Culp Center and *the Central Library*. Stout Drive is a service access to the Culp Center Auditorium, the *former* library, *Reece* museum and a portion of Dossett Hall. Alexander Drive, a one-way street, provides the principal student drop-off and pick-up point for Alexander Hall School and provides similar access to Gilbreath Hall. Brown and Alexander Halls are served from adjacent parking lots as is the Johnson City Family Medicine Center.

Sherrod Drive is the service access for the building row composed of Ball, Mathes, Burleson, Carson and Gilbreath Halls, and Memorial Center east. Ross and Campus Drive serve Wilson, Carter, and Lamb Halls, and the College of Medicine building. University Drive is the service access for Memorial Center, Memorial Hall, the Power Plant and a portion of Warf-Pickel Hall.

Dossett Drive north and south serves the remaining buildings by providing either direct access to Hutcheson Hall and Bond Building or forming service lanes for all the dormitories and Warf-Pickel, Clark, Wilson-Wallis, Earnest Home and Clement Hall.

### **Pedestrian Circulation**

The campus-wide system of sidewalks is for the most part, a comprehensive and effective linkage of buildings, parking and activity sites (see *Figure 11*). Primary pedestrian zones on campus include the existing pedestrian mall on Sherrod Drive which extends from Dossett Drive to Gilbreath Hall, the amphitheatre, the area north and south of Gilbreath Hall and the existing pedestrian way which connects Gilbreath and Dossett Hall.

Pedestrian circulation issues which have been observed include expansion of the existing pedestrian mall into Dossett Mall and Memorial/Wilson quadrangle, improvement of walks from the east and northwest parking lots to central campus, and construction of crosswalks and sidewalks for the future increase in pedestrian movements across State of Franklin Road.

## **Parking**

Parking is currently accommodated throughout the campus in surface lots. According to space information compiled by ETSU, the campus is presently provided with a total of *approximately 6,462* spaces in over 65 separate locations, including a new 423-space lot which opened in the *Spring, 1996* for general (i.e. open or unreserved) use. These spaces are segregated by use, as displayed in Table 1.

---

**Table 1: Existing Campus Parking**

<b>Category</b>	<b>Number of Spaces</b>	<b>Percent of Total</b>
Staff	<i>1068</i>	<i>16</i>
Reserve	<i>22</i>	<i>1</i>
Student	<i>3646</i>	<i>56</i>
Handicapped	<i>122</i>	<i>2</i>
Timed	<i>23</i>	<i>1</i>
Load Zone	<i>33</i>	<i>1</i>
Undesignated	<u><i>1548</i></u>	<u><i>23</i></u>
Total	<i>6,462</i>	<i>100</i>

As shown in Figure 12, the campus is divided into nine generalized parking zones. Approximately 54 percent of total space provision is in Zones 1 through 4, and 8 representing the central core of the academic campus. A total of 1,051 parking spaces, or 16 percent of all spaces, are provided at the curb of interior campus roadways. Again, the bulk of these curbside spaces (73 percent) are provided in Parking Zones 1 through 4. All other on-campus parking spaces are provided in off-street parking lots varying in size from less than ten spaces to in excess of 500 spaces.

## **Infrastructure**

### ***Steam Distribution***

*The steam plant is located near the center of the university campus at the intersection of University Drive and Ross Drive. It is located close to several of the large campus loads including the memorial Hall and the Memorial Center. The plant is in a good location being near the center of the campus. Steam is distributed from the plant through an underground tunnel and then to underground steam piping installed in a split tile enclosure. From the tunnel there are numerous underground lines which route throughout the campus to serve most of the buildings on the main campus. While it has been impossible to determine the exact age of the steam piping system, it appears that the systems vary from a minimum of two years old to possibly as old as sixty years. The campus is continuing to experience leaks and problems with the steam system. Numerous repairs have been made to the lines feeding some of the dorms on the southeast side of Dossett Drive. Over the past years the campus has experienced several failures, particularly in the condensate return system. Due to the age of the piping and the problems the campus has been experiencing, the entire campus steam system needs to be replaced. We recommend that this replacement take place in three phases. **Phase one is complete and phase two is currently under design.** The steam main sizes need to be increased to accommodate future campus expansion.*

### ***Existing Chiller Plant***

*The existing central chiller plant was constructed in 1974. Phase one of the chiller plant included two 1000 ton centrifugal chillers known as Chiller-1 and Chiller-2. Phase two of the chiller plant included the addition of an 1800 ton centrifugal chiller. Phase three of the chiller plant included the addition of a 900 ton chiller in 1997. The current chilled water pumping capacity of the plant is 6720 GPM. The completion of the original Phase three planned to upgrade the total chilled water pumping capacity to 9120 GPM. Each chiller has a dedicated cooling tower and a condenser water pump except the 900 ton which shares an existing tower. Chilled water supply and return pumping is accomplished with four chilled water supply pumps working in parallel to each other and three chilled water return pumps in parallel.*

*Chillers No. 1 & 2 have been replaced.*

*Chiller No. 3 has been in service 15 years and is currently under design for replacement. This chiller operates on R-114 refrigerant which has also been phased out. ETSU reports that Chiller No. 3 has been fairly reliable. The cooling towers are the same age as their respective chillers and are in good repair.*

*The chilled water and condenser water pumps are all operational and in fair condition except for occasional leaking shaft seals on some of the vertical shaft split case pumps while the leaking seals are reported to be a continuing maintenance problem, they are currently under design for repairs.*

#### **Chilled Water Plant Renovations**

*The chilled water plant has been modified to operate year round with modifications made during the new library project. The condenser water systems for Chiller 4 have been set up with bypass controls and the tower pump heaters have been replaced during the library project; therefore, this tower can be operated during low outdoor temperature conditions.*

*In addition to the central plant, the campus has five independent chillers located in buildings throughout the campus. All of these chillers have been replaced as part of the CFC replacement project.*

*Currently the central plant has two secondary distribution pumps totaling 210 horsepower. When the central plant is operated year round and serves the current buildings on the central plant plus replaces the four chillers in buildings with independent systems, the secondary pumping horsepower will be approximately 500 total. The operating costs will be approximately \$189,000 per year. The final phase for installing a variable speed pumping system is currently underway. This improvement can reduce operating costs.*

### ***Boiler Plant***

*The boiler plant consists of three coal fired boilers and one gas/oil boiler. Each of the coal boilers has a steam capacity of 30,000 LB/HR. The coal boilers are approximately thirty-five years old. The steam system currently operates at a pressure of 100 psig. Two of the coal boilers are used during the winter for providing the campus needs for steam as well as building heating. The third coal boiler is generally used as a backup boiler. The two main coal boilers are connected to an automatic ash conveyor system, but the back-up coal boiler is not.*

*Approximately three years ago, two new bag houses were added to the boiler plant. Each bag house was sized to handle one 30,000 LB/HR boiler. The past two winters the campus has experienced problems with the bag houses overheating when each boiler was operated over approximately 22,000 LB/HR of steam capacity. It is our understanding that the campus is currently only permitted with the EPA to operate a maximum of two coal boilers at any time during the winter.*

*Based on steams flow charts obtained at the boiler plant for previous winters, the anticipated maximum steam load for the boiler plant including the new library is approximately 70,000 LB/HR. The next five years of short term campus growth will increase the loading to 73,000 LB/HR. The ten year intermediate term growth will require 76,000 LB/HR, and the fifteen year long term growth will increase the required plant capacity to approximately 90,000 LB/HR.*

*The boiler feedwater system has recently been updated to provide a maximum capacity of 100,000 LB/HR. A new gas/oil boiler with a capacity of 27,000 LB/HR was brought on line in May 1998. However, it is currently permitted to be operated for a maximum number of hours per year. If permitting for year round operation can be obtained for the gas/oil boiler, the boiler plant will have capacity to serve the campus needs for the next three to five years. However, back-up capability is very*

*minimal and not very dependable due to age, length of time required to connect to bag house, and lack of automatic ash removal system. A new boiler system of approximately 60,000 LB/HR capacity has been added to provide the campus with an adequate and dependable source of steam.*

### **Sanitary Sewer**

The sanitary sewer system dates back to the start of the University in 1911. As the University has grown over the years, the system has been added on to, some old lines replaced, and other lines upgraded. All sewers are gravity mains and all ties into the City of Johnson City sewer system. The bulk of the system empties into the Johnson City system at a manhole on Lake Street. A number of smaller connections exist around the athletic fields, the Mini-Dome, West Walnut Street and West Maple Street. The condition of the system varies greatly and generally becomes worse in the older portions of the system. Overall, the system is in fair condition, requires very regular maintenance and periodic upgrading or replacement of lines. The system has no capacity problems at the present; however, the section from the Sherrod Library to Lake Street will soon require upgrading if growth and expansion upstream of this section of line occurs. *An engineering study should be commissioned to assess the adequacy of the current system to meet the demands that the Master Plan envisions.*

### **Electrical**

*The 4,160-volt electrical system on the campus has reached the end of its usable life. The Master Plan for the electrical system is to replace the 4,160-volt system with a new campus primary loop using the 13.2-kv electrical system. The new system will be installed in phases.*

*The first phase is to install the primary loop around the campus. This will allow easier access to the 13.2-kv system. Also, a second service from Johnson City Power Board will be installed to allow for a source of redundant power. The existing service point will be upgraded to add a means of disconnect for the campus and additional protection to the campus primary system. High-voltage switches that will allow better segmenting of the system during scheduled power outages and to increase safety are currently under design.*

*After the loop is in place, the buildings currently served by the 4,160-volt system can be gradually changed over to the 13.2-kv system. Ultimately, the last phase will be to remove the 4,160-volt substation.*

*Until the primary loop is installed, any new transformers installed on the 4,160 should be selected to allow for a dual voltage primary. The transformer should operate on the 4,160-volt system until 13.2-kv is available. By changing the tap settings, the transformer can then operate on the 13.2-kv system without having to replace the transformer.*

### **Storm Water**

The drainage system for storm water consists of a primarily underground system with some natural stream channels still present in open courtyard areas. The underground system dates back to the beginning of the University in 1911. As the University has grown over the years, many new lines have been added, and old lines replaced and rerouted around buildings. The drainage pattern is from the south and west ends of the campus to the north and the east, with all drainage emptying into Brush Creek. The system is in fair to good condition. A significant drainage problem currently exists on the western end of campus because the system under the athletic fields is undersized causing flooding of the lower sections of the fields during and after heavy rains. Other than this, the system has adequate capacity, although some sections are nearing their capacity. The open stream east of the Sherrod Library is near capacity and has resulted in minor flooding twice in the last ten years after very heavy rains. As expansion continues, and the percentage of impervious area (roofs, concrete, asphalt, etc.) increases, the storm drainage system could reach capacity in other areas requiring complete replacement or, at least, a major overhaul. *An engineering study should be commissioned to assess the adequacy of the current system to meet the demands that the Master Plan envisions.*



## **Domestic Water**

The water system dates back to the start of the University in 1911. As the University has grown over the years, the system has been added on to, some old lines replaced, other lines upgraded, and a reservoir added. The system is connected to the City of Johnson City water system near Southwest Avenue, and from there an 8-inch line runs to a reservoir between Southwest Avenue and the campus. From the reservoir, a 10-inch line feeds the campus. The system is in fair to good condition, experiences from 1 to 4 breaks per year, and requires a normal amount of maintenance. The system does not have any capacity problems at this time, and has not had any since a new 8-inch line was installed from Stone Hall to the Science Building in 1989. The existing system can handle some expansion in any area except the Married Student Housing section, which is near capacity at this time. Any expansion or growth in this area will require upgrading the part of the system that serves that area. *An engineering study should be commissioned to assess the adequacy of the current system to meet the demands that the Master Plan envisions.*

## **Comparison with Other Institutions**

Compared to other Universities with Medical Schools, ETSU has less space: 150 ASF/FTE<sup>1</sup> as compared to the range of 170-190 ASF/FTE for schools such as Tufts, Rochester, Columbia and Syracuse. *However, with the completion of the Basic Sciences Building and the recently signed enhanced use lease agreement, the assignable square footage per FTE will increase dramatically.* Some, if not all of the *current* discrepancies are because the comparison schools are major research universities in every department, whereas ETSU only carries out major research in the Biomedical areas.

Compared to other five state universities within the Tennessee system<sup>2</sup>, ETSU is right in the middle of the ASF/FTE for the system. Classrooms and administrative offices are above the average and class laboratories and physical plant are below. *However, ETSU has older inefficient classroom/lecture room and laboratory spaces that are too small and ill-equipped to meet the technology demands of modern society.*

## **Space Analysis**

The space analyses were carried out by evaluating the Tennessee Higher Education Commission (THEC) standards and the Tennessee Board of Regents (TBR) application of these standards to ETSU against national normative standards. In many cases the THEC and normative standards are the same. But this process provides a check on the THEC standards and their application.

Some classrooms are not well used, and classrooms are eight times more heavily used in the morning than in the afternoon. Restructuring classroom scheduling and sub-dividing some of the larger classrooms would greatly increase the utilization of classrooms on campus.

Class laboratory utilization is below standard. Tighter scheduling and the greater use of technical staff to rotate different experimental setups in a single lab could increase the efficiency of class lab use (although in practice there can be many difficulties to this "rotation" approach).

Office space on campus appears to be quite generous. Why this is so would require further analysis, since a visual impression of the campus is not one of *an abundance* of office space. The reasons may be bad data or interpretation of data. The THEC formula seems to be outmoded, assigning too much office area to faculty and too little to administration.

*Application of the THEC standards shows a shortfall of physical plant space and, in fact, the administration does recognize the need for additional space, particularly storage space. This space becomes acute as furniture and equipment accumulate prior to legal disposal.*

## **II. PROGRAM**

This section of the East Tennessee State University Master Plan establishes the space needed for projected enrollment growths, the space program for all proposed new facilities (both required and tentative), and an evaluation of and strategy for the 'backfill' space on the Main Campus which will be released by the construction of new facilities. In specific, the following items are addressed:

### **A. Enrollment Projections**

- Overall Space Program for a Range of Enrollment Growths.

### **B. Major New Space Programs**

- Residential Space Program for a Range of Enrollment Growths  
*(See Appendix D)*
- Space Program for *the Division of Health Sciences (College of Medicine, College of Nursing and College of Public and Allied Health. See Appendices A, B, and C)*
- Space Program for a Performing Arts Center *(See Appendix D)*
- *Student Health Clinic (Currently under consideration for inclusion in the former Sherrod Library)*
- *Center for Appalachian Studies and Services (Currently under consideration for inclusion in the former Sherrod Library)*
- *Computer and Information Sciences (Currently under consideration for inclusion in the former Sherrod Library)*
- *Information Resources and Computer Services (Currently under consideration for inclusion in the former Sherrod Library)*
- *College of Nursing (Currently under consideration for inclusion in the former Sherrod Library)*

- *Office of Continuing Education (to be relocated upon construction of the Performing Arts Center, possibly on the ground floor of a new parking garage)*
- *Graduate School and Office of Research/Office of Sponsored Programs (to be relocated upon construction of the Performing Arts Center, possibly on the ground floor of a new parking garage)*
- *Campus Security and Information Center (to be relocated when new campus entrance mall is constructed)*
- *Student Affairs Health Clinic currently under consideration for inclusion in the former Sherrod Library*

C. Released Space Program

- Space Released on Main Campus by Relocation of College of Medicine Basic Sciences.
- *Space released in former Sherrod Library and Warf Pickel by construction of the New Central Library completed in 1998.*
- Proposed Space Disposition Plan for Released Space. *(To be determined by administration).*
- Space Requests for Released Space. *(To be determined by administration).*

**RELEASED SPACE PROGRAM:**

The whole question of how to match the needs to the released space will require study and analysis beyond the scope of this report. What is shown here is the basic equation only: the space requests and the space available to accommodate the requests.

*The current steps being taken are to:*

- 1) Evaluate, modify and adjust as necessary, and provide justification for each of the requests.
- 2) Generate a specific space program for each of the requests.
- 3) Generate a series of alternative space plans to match the specific space programs to the space available (this might also entail the reorganization of some departments in space beyond the specific 'backfill' space, in order to result in a rational and efficient facilities space plan for the campus).
- 4) Select preferred plan and develop a campus wide facilities space plan.

### **III. MASTER PLAN**

#### **Master Plan Objectives**

The ETSU Master Plan conceives of both the Main Campus and Mountain Home Campus as an integrated academic complex, reflecting the University's increasingly pivotal role in bringing cultural and educational resources to the eastern Tennessee region. The overall objective is to link the two campuses by consolidating academic programs, by improving vehicular and pedestrian connections, by upgrading the State of Franklin "seam" with landscape improvements, and by fostering high quality, compatible land uses in the outbuildings between the two campuses.

A significant factor in the linkage of the two campuses relates to the *current building construction of the Basic Sciences building and the enhanced use lease agreement, which permits this program to be relocated to the Mountain Home Campus*. The focus of the University's medical teaching and research program at the Mountain Home Campus will be enhanced by its relationship to adjacent clinical facilities. The relocation of the Basic Sciences program will relinquish approximately 49,500 net square feet of space on the Main Campus for general academic expansion.

Given the program for new building areas and the assessment of existing conditions, a series of design and development objectives were established for the Master Plan. The objectives describe the intention of the Master Plan, and are as follows:

- Establish a flexible framework for growth that allows for incremental expansion or consolidation of University uses within defined areas.
- Maintain an efficient use of land resources within the campus core.
- Support the further development of the Med-Tech Corridor.

- Respect the historical character of the Mountain Home Campus during the relocation and expansion of the Medical School program.
- Reinforce the University's setting in the Appalachian Mountain by providing vistas to the mountains and restoring forest and stream presence into the campus environment.
- Reinforce and extend the existing open space structure as exemplified by Dossett mall, Memorial/Wilson quadrangle and Brown courtyard.
- Respect the simple formality of material, limited ornamentation, and uniform building height on campus.
- Respect and reinforce principal campus open spaces through selected building infill and landscape planting.
- Restore "the Great Lawn" and Amphitheatre garden into the central campus.
- Extend the pedestrian mall concept for the entire length of Sherrod Drive.
- Mitigate the negative visual character of large parking lots at the principal east and west campus entrances.
- Establish a clear sense of entry and arrival to the campus.
- Locate community service and cultural facilities such that they are readily accessible to the community and the campus.
- Provide for easily defined campus bounds that identify the institution within the greater community.
- Develop a long-term strategy for building renovation, demolition and property acquisition.

### **The Main Campus**

The plan which evolved through the planning process to best meet the design

objectives and accommodate the program is illustrated in *Figure 13*. The Master Plan for the Main Campus seeks to establish a physical structure that is both flexible in its ability to accommodate planned and future growth and compelling in its clarity and imageability. The ways in which the plan achieves this are described below.

**Program Accommodation**

*Figure 14* and the following table summarize the potential gross square footage (GSF) or unit total which are accounted for in the Master Plan for the Main Campus.

**Table 2. Main Campus Program Accommodation**

<i>Center for Physical Activity</i>	<i>100,000 GSF</i>	
Parking Garage <i>South</i>	<i>208,000 GSF</i>	<i>(615 spaces)</i>
Performing Arts Center	<i>135,000 GSF</i>	
Academic “Infill”	<i>186,000 GSF</i>	
<i>Student Residential</i>	<i>613,000 GSF</i>	<i>(1020 beds)</i>
<i>Staff Residential</i>	<i>50,000 GSF</i>	
Total	<i>1,292,000 GSF</i>	
Long-Term Academic/Research	225,000 GSF	
Long-Term Parking Garages	<i>1,032,000 GSF</i>	<i>(3035 spaces)</i>

During the Master Plan process, it was identified that several academic units need additional space on campus to accommodate both existing programs and future expansion. Specifically, these include the following:

- College of Arts and Sciences
- School of Applied Science and Technology
- College of Business
- College of Education
- *College of Public and Allied Health*
- College of Nursing
- *Office of Continuing Education and Graduate School and Office of Research/Office of Sponsored Programs*



- Student Health Clinic
- *Communicative Disorders*
- *Center for Appalachian Studies and Services*
- *Computer and Information Sciences*
- *Information Resources and Computer Services*
- *Student Affairs Offices*
- *Intercollegiate Athletics*

Table 3 identifies the future space resource available to meet both current needs expressed by all Colleges and Schools as well as the more general space needs resulting in an overall 50 percent increase in enrollment. As this space becomes available, it is recommended that the University engage in a pre-planning study to establish priorities and determine which space is most adaptable and/or suitable to specific programs.

The potential 217,500 net square feet of available space in the Master Plan should be more than adequate to account for future academic growth needs on campus. In addition, it should be noted that Carter Hall stands out as a potentially important building for conversion to academic use, given its pivotal location within the academic core. The determination of the suitability of Carter Hall for academic use is contingent on the historic character of the building as an early residence on campus and the extent to which its use as a residential building continues to bring vitality to the heart of the campus.

**Table 3. Available Space Resource for Academic Expansion**

**Potential Vacated Space**

(Resulting from construction of New Central Library and consolidation of the College of Medicine Basic Sciences programs on the Mountain Home)

	Net Square Feet	Gross Square Feet
• C.C. Sherrod Library	72,000	
• Brown Hall	14,500	
• Lamb Hall	11,600	
• Memorial Center East	6,300	
• Memorial Center West	13,900	
• Hillrise Hall	3,200	
• Warf Pickel	5,000	
Total	126,500 nsf	180,000 gsf

**Potential Academic “Infill” Sites**

	Net Square Feet	Gross Square Feet
• Warf-Pickel Hall - North	27,780 *	37,500
Total	27,780 nsf	<u>37,500 gsf</u>

Grand Total Potential Space 217,500 Net Square Feet

**Campus Form and Organization**

Elements of campus form and organization consist of the adaptation and reinforcement of the compact qualities of the campus and reaffirmation of the existing land use relationship. The Plan seeks to restore and improve campus open

space within the academic core by removing selected vehicle and surface parking areas and framing existing open space with infill buildings. The Plan also seeks to clarify and improve the edges of the campus and establish a readily recognizable front door to the University.

### Land Use and Building Use

The proposed land use pattern affirms the logic of the existing use areas. Expansion on the Main Campus must be arranged to support important interrelationships among disciplines and foster a strong sense of unity within individual Colleges.

The future land and building use pattern has been determined by a variety of factors. These include the need to maintain adjacencies, the need for uses such as library and academic expansion to be in close proximity to the campus core and the overall availability of building sites throughout the campus. The demand for some uses to be near the campus core results in an increase in the density surrounding the core, and a growth pattern that is characterized by infill within the existing campus form. *Figure 15* illustrates the use zones in which expansion will be organized.

### Campus Core

A central idea of the plan is the affirmation of the campus core between University Drive and Lake Street as the center of academic, administrative and common use facilities. The Master Plan proposes selected infill of additional academic space to fulfill program needs and help clarify the spatial organization within the campus core. Additional unmet academic space requirements for the various Colleges on the Main Campus will be achieved from the vacation of approximately 77,000 net square feet of space currently occupied within the existing C.C. Sherrod Library and *a portion of Warf Pickel*. Among uses proposal to occupy backfill space, the *College of Nursing, Student Health Clinic, Center for Appalachian Studies and Services, Computer and Information Sciences, Information Resources and Computer Services* would be relocated to the C.C. Sherrod building.

### University-Community Use Zone

The area north of Stout Drive between Lake Street and University Parkway is envisioned to be a zone dedicated to public-related uses. The Plan

recommends that a new ceremonial entrance to the campus off University Parkway be developed on axis with Dossett Hall. A new Performing Arts Center is sited immediately south of the existing Family Practice Clinic with its front door facing Lake Street and the heart of the campus. The site immediately to the east of the proposed Performing Arts facility is envisioned as a site for a *410 car garage and first floor office building*. This entire zone between Stout Drive and West Walnut Street offers excellent accessibility via University Parkway and State of Franklin Road and contains sufficient parking which will create more visible and readily accessible public facilities.

#### Residential

The proposed areas for residential expansion respond to the existing well-defined residential groups on the east and west ends of campus as well as the desire to create an alternative to dormitory units with apartment or family type housing located on outlying University-owned land *and on west campus near the Center for Physical Activity*. The Plan reinforces the existing self-contained east and west residential complexes in close proximity to common and academic facilities. An infill residential building is proposed on the east to *partially encircle the Lucille Clement residential quadrangle*. The Plan also proposed an extension of residential buildings *or athletics facilities to Lyle Knoll* overlooking the athletic fields. *A new residential “village” is sited on the outlying southeast parcel. The “village” would offer alternative apartment style living in close proximity to the campus. In December 2002, ETSU completed a comprehensive plan for living and residence life conducted by Anderson Strickler, LLC. This study lays out a plan for an economic model of renovation, construction and demolition over a thirteen year period (ending in 2015). The result of this plan will provide 2,545 beds with improved configurations. (Refer to appendix D for more detail on residential plans.)*

#### Campus Structure

The Master Plan seeks to reclaim the pedestrian environment as a structural device

for the Main Campus (see *Figure 16*). The proposed changes can be described from the east side of campus to the west as follows:

#### University Parkway to Lake Street

The area between University Parkway and Lake Street is envisioned as the new ceremonial entry mall to the campus. The objective is to consolidate multiple access points off University Parkway and transform large areas of undifferentiated asphalt into a tree-lined front door to the campus. The new entry would follow the formal axis with Dossett Hall and be linked to further landscape improvements along Lake Street.

Additional structural changes east of Lake Street include removal of dormitory parking north of Field Drive in order to create pedestrian courtyards and informal play facilities. The area north of the new entry mall should be reserved as a future University-related public use area. Building sites which front the Mall should reinforce the campus order.

#### Lake Street to University Drive

The principal structural elements for the core area are the restoration of the lawn between Dossett and Gilbreath Hall and the extension of Sherrod Drive pedestrian mall. The Plan recommends the removal of a significant amount of parking and roadway within the core and extension of the vehicle-free zone along Sherrod, Alexander and Stout Drives.

*The newest building within this zone is the New Central Library infill which further defines campus open space and courtyards. A site southeast of the new Library should be reserved for a 615 car parking garage.*

#### West of University Drive

New buildings west of University Drive should be organized to establish courtyards and quadrangles, as opposed to the existing pattern which places buildings in isolation along the street edge. The Plan proposes an addition to the north side of Warf-Pickel Hall and a continuation of residential buildings on *Lyle Knoll* and

*partially surrounding Lucille Clement dorm.* The area north of Dossett Drive north is reserved for long term research/academic expansion. **Refer to Appendix H for more details on conceptual alternatives concerning Lyle Knoll and the West side of University Drive.**

#### Outlying Parcels

*The athletic and recreational fields should be extended southwest of the railroad with a tunnel under both to connect an 18-acre site containing softball, soccer, tennis and parking facilities at the corner of Seminole Drive and Ashley Road.*

*On a six (6) acre site west of Greenwood Drive, cut off from the Main Campus, zoned R-3, is a site suitable and appropriate for faculty condominium apartments. Approximately 42 units could be built on this site, within walking distance of the campus core and with easy access to shopping and residential services. Refer to Appendix H for more details on conceptual alternatives concerning outlying Parcels.*

#### Landscape Character

Principal Master Plan landscape features evolve as a response to significant existing deficiencies and to proposed circulation and open space order. The campus landscape has zones or locales, each locale distinguished by a distinctive landscape character.

East campus, between University Parkway and Lake Street, will be transformed from an area of expansive tree less parking lots to a locale recognized as the tree lined east entrance to the University. The broad lawn of the ceremonial entrance will be framed by a double row of large trees, north and south of the roads. A species of oak or maple, considered appropriate for the entrance, will be continued east and west of Lake Street to create a formal entranceway for the principal roads. Parking areas will be enclosed by a second species of trees; the identical tree will line the secondary roads of Walnut Street and the interior road joining the entranceway to Walnut Street. The east residential quadrangle will be improved from a parking lot filled interior court to a recreation area containing an informal planting of shade trees.

The second locale is the campus core located between Lake Street and University Drive. This area, the heart of the campus, contains the greatest amount of mature

trees on the University, however, the construction of Dossett Hall and the Culp Center in conjunction with the attendant large parking lots of Dossett, and the *former Sherrod Library* have removed much of the woodland and garden character. An additional concern, is the apparent decline of many mature large trees such as the silver maple which create much of the central campus tree canopy and character.

The Master Plan proposes to restore the Great Lawn between Gilbreath and Dossett Halls and reinforce the existing informal park-like planting of this area by replacement of existing trees in decline and infill with new trees. Species should include variety of canopy and ornamental tree planting within the lawn and adjoining stream vale. The extension of Sherrod Drive pedestrian mall to State of Franklin Road will be visually reinforced with a formal planting of trees, where possible, from Carter to Brown Hall.

The Memorial Quadrangle and Culp Place will be more open public gathering places within the campus core. Significant tree plantings will occur at the edges of these spaces to reinforce the open space created by the enclosing buildings and to provide shaded seating areas adjacent to public spaces. Ornamental planting will be introduced adjacent to these seating areas. The final significant planting proposed in this locale is the replanting of the amphitheater with evergreen and deciduous species to create a well-defined edge for this historical and well used ceremonial center of campus.

West Campus, the third locale, will be transformed by the realignment of principal roadways and the extension of residential buildings to form new quadrangles and open space. The realignment of University Drive will create significant planting areas to screen the power plant and substation with evergreen and deciduous trees. The relocation will also create a planted forecourt to the extensive ramps and expansive facade of the Memorial Center. Dossett Mall circulation and parking will be reorganized to improve traffic safety and increase parking. The principal planting proposal for the Mall is the extension of a row of trees from the campus core to Lyle Knoll, joining the academic, residential and recreation areas of the campus with one tree lined walk. Infill of existing mature canopy trees is proposed for the south side of the wall. Two types of planting are proposed for the residential quadrangles. Formal plantings in the quadrangle west of Clement Hall will join the east-west quadrangle created by new residential buildings along Dossett Drive north.

The interior court created by the Clement Hall extension will be planted in an informal style with both canopy and ornamental trees. Street trees will line both sides of Dossett Drive north, parking lot access road north to State of Franklin Road and the new west entrance originating at Boundary Road, between the Bond Building and Luntsford Apartments.

The fourth locale is Lyle Knoll and the athletic field complex. Canopy tree plantings will line the principal east-west oriented walkways which join the fields and knoll to the campus core. These canopy trees will be supplemented with additional shade tree plantings defining the playing field perimeters to create large tree-shaded lawn areas. Lyle Knoll plantings can include some informal plantings on the hillside parking lots overlooking the playing fields. Greenwood Drive street tree plantings will define the northern edge of the athletic fields.

Perimeter plantings are proposed for the campus edges. Large canopy trees such as the plane tree are proposed to parallel the State of Franklin Road, between University Parkway and South Greenwood Drive. These large trees appropriate for “bottom land” stream side plantings will create a tree-lined boulevard effect, in scale with the expansive highway pavement. Additional street tree plantings with a large canopy tree include the University Parkway and married student housing access road.

A planting easement is proposed to extend north, from Sherrod Drive, through the State of Franklin Road development parcel, ending at Brush Creek recreation way. Two double rows of medium sized canopy trees are proposed to line both sides of the walkway.

The final type of significant new planting is the more naturalized planting with the Hillside Villages. These residential units will be placed on sites created with the existing nature forest. The objective is to preserve forest stands close to the residences and install infill and ornamental planting.

#### Edges and Entrances

In addition to the major internal open spaces, campus edges and entrances along University Parkway and State of Franklin Road will be given clear and unified definition through new landscape treatment (see *Figure 17*). The Plan seeks to re-



establish a formal, clearly defined entry off University Parkway. A reduction in the number of existing entrances off University Parkway will improve internal circulation and help clarify the main east entrance to the campus. The existing entrance off State of Franklin Road opposite the Mountain Home entrance should be upgraded and improved to strengthen the connection to the Mountain Home Campus and provide a primary entrance to the western part of campus adjacent to large surface parking areas.

### Building Form

One of the primary attributes of the Main Campus is the overall consistency in building form, height, mass and materials. The University's generally simple Neo-Georgian buildings form a pleasant backdrop to the spaces which they help to frame. Future buildings should be designed to respect this generally homogeneous building vocabulary.

### Circulation

#### Vehicle Circulation

Within the Main Campus, automobile traffic should continue to be served by the two major north-south streets (University Drive and Lake Street) and three east-west streets (West Walnut, Dossett Drive and Boundary Road). In order to consolidate campus access points and create a more pedestrian oriented campus, several streets should be closed. These include West Maple Street, Lynn Street, Stout Drive, Bible Drive, Field Drive, Sherrod Drive, Alexander Drive, Gilbreath Drive and the cul-de-sac within Wilson-Memorial quadrangle. Certain streets such as Sherrod Drive, Alexander Drive, Gilbreath Drive and the cul-de-sac within Wilson-Memorial quadrangle should continue to provide service and emergency vehicle access (see *Figure 18*). **Refer to Appendix G for more alternatives of proposed road locations.**

Consolidation of campus access points will serve to focus, at a few specific locations, those critical turning movements which now compound operations at the multiple intersections, which currently exist within limited distances along University Parkway and State of Franklin Road. Removal of campus access point unsignalized

intersections along these two roadways will alleviate existing poor or unacceptable peak hour operations at these locations. The operations of the remaining unsignalized intersections along University Parkway and State of Franklin Road roadways will need to be monitored in order to determine whether any intersections need signalization to offset the effects of the redistribution of campus access trips to these points.

### Pedestrian Circulation

The Master Plan assigns the highest priority to pedestrian circulation as the preferred means of travel within the campus core. No major structural changes are made in the existing pedestrian system, however, several significant improvements are proposed.

Sherrod Drive is recognized as the major pedestrian corridor on campus. The Plan recommends that Sherrod Drive between Dossett Drive and the northern portion of Brown Hall be closed to all except service and emergency vehicles and redesigned as a pedestrian mall. This will extend the current pedestrian mall by an additional 700 feet and establish Lake Street and University Drive as the eastern and western vehicle edges to the campus core.

The closing of the cul-de-sac road framed by Memorial Gym, Sam Wilson Hall and Ball Hall will also create a large vehicle-free zone within the academic core. *The proposed removal of the current School of Medicine building will create a pedestrian plaza and meeting place in the core of the academic campus.* This, in conjunction with the reinforcement of its built edges by extending Ball Hall to the west, will help establish the formal campus quadrangle off of the Sherrod pedestrian mall.

A pedestrian connection linking the Main Campus to the Mountain Home Campus will be established at Sherrod Drive and State of Franklin Road *upon completion of the Continuing Education Center and the pedestrian bridge across State of Franklin Road.* Pedestrian connections from the southeast residential village should also be established on axis with Sherrod Drive. Both of these connections will require a grade separated bridge. Pedestrian crossings should also be established along State of Franklin Road at Lake Street and University Drive at desired crossing points (see *Figure 19*). The conflicts should not require expensive bridging or tunneling of the streets. Since the path of least resistance for pedestrians would remain at grade level, fencing or other means of directing movement over or under streets and railroads

would be required. Signage, pavement designations, lighting and signalization are recommended to establish the pedestrian right-of-way at designated crossings.

The Plan recommends that a pedestrian greenway be established north of State of Franklin Road between the Main Campus and Mountain Home Campus. The proposed pedestrian and bicycle trail would extend from Sherrod Drive to Brush Creek and parallel the Creek with potential links to the city's central business district and Med-Tech Corridor. *To the south the Plan indicates a link to Johnson City's bike way and feeds into the Sherrod Mall and internal campus bike paths.*

### **Parking**

With respect to parking, the long-range goal is to remove parking from the academic core to perimeter locations and minimize its effects on the visual quality of the campus. It should be noted, however, that the projected increase in enrollment is expected to include a sizeable number of non-traditional students and women who will likely remain on campus for shorter periods of time. This suggests a need to maintain some parking in close proximity to the core.

**In order to provide a near term solution for parking and move it towards perimeter locations, the University has acquired 9.1 acres along the North East edge fo the campus. The site, Thomasville property will be initially used as near by off campus parking with the possibility of the site being used in the future for athletic, campus or academic expansion arena. (Refer to appendix H alternate for more details on this plan.)**

The proposed parking plan is a function of long-term growth and displacement. New parking should be staged according to improvements within the core. As shown in *Figure 21*, the Plan accommodates a total of approximately 9,225 parking spaces in surface and structured parking. The Plan proposes an extension of the west campus surface lot to accommodate an additional 240 automobiles. Additional satellite lots include a new 324-car surface lot off Seminole Drive on the southwest outlying parcel, a 355-car lot on the southeast outlying parcel and *an additional 130 spaces at Buccaneer Ridge Apartments*. As remote parking lots are developed, it is critical that they be lighted, fenced and equipped with emergency phones. It is recommended that the existing shuttle service be extended and expanded to provide additional hours of service to students parking in these peripheral lots.

It is proposed that parking for faculty and staff continue to be located within a 5-minute walk of the academic core. The Plan recommends that surface lots on Ross and Dossett Drive adjacent to Dossett Hall, north of Alexander Hall and east of Lake Street be reserved for faculty and staff. Student parking would be accommodated in peripheral locations with resident storage parking located most distant from the campus core.

Parking garages are recommended as a land-conserving, land-use strategy necessary for University expansion. Without garages, land requirements for a 3,035 surface parking spaces would be 20-24 acres. Garages also enhance the campus image by reducing the visibility of parked cars and by increasing the amount of parking near the central campus.

*Six parking garages are proposed, one located off Southwest Avenue, south of the CXX Railroad R.O.W. near the new Central Library, and one is located off University Parkway adjoining the site of the future Performing Arts Center. Another is located off University Parkway near the men's residence halls, two are on the north side of the Main Campus at the intersection of Lake Street and State of Franklin, and one is on the west side of the Main Campus near the intersection of University Drive and State of Franklin. A parking garage near the CXX R.O.W. will provide convenient parking for the Central Library. A garage on the west side of the Main Campus offers convenient parking to Memorial Center.*

## **Utilities**

### **Steam Heating**

*As outlined in Chapter One, the entire campus steam lines and condensate return need to be replaced due to age, and steam main sizes need to be increased to accommodate future campus expansion.*

### Chilled Water Cooling

*Old chillers have been replaced and designs are underway for improving remaining systems as outlined in Chapter One and include converting buildings with independent chillers to central plant, adding additional chillers, reworking piping, adding variable speed pumps, and adding cooling towers.*

### Boiler Plant

*Within three years, A new boiler system of 60,000 lb/hour has been added, with additional capacity added for 5, 10 and 15 years to increase to 90,000 lb/hour. See Chapter One for detailed recommendations.*

### Sanitary Sewer

The sanitary sewer system dates back to the start of the University in 1911. As the University has grown over the years, the system has been added on to, some old lines replaced, and other lines upgraded. All sewers are gravity mains and all ties into the City of Johnson City sewer system. The bulk of the system empties into the Johnson City system at a manhole on Lake Street. A number of smaller connections exist around the athletic fields, the Mini-Dome, West Walnut Street and West Maple Street. The condition of the system varies greatly and generally becomes worse in the older portions of the system. Overall, the system is in fair condition, requires very regular maintenance and periodic upgrading or replacement of lines. The system has no capacity problems at the present; however, the section from the Sherrod Library to Lake Street will soon require upgrading if growth and expansion upstream of this section of line occurs. *An engineering study should be commissioned to assess the adequacy of the current system to meet the demands that the Master Plan envisions.*

## Electrical

*The 4,160-volt electrical system on the campus has reached the end of its usable life. The Master Plan for the electrical system is to replace the 4,160-volt system with a new campus primary loop using the 13.2-kv electrical system. The new system will be installed in phases.*

*The first phase is to install the primary loop around the campus. This will allow easier access to the 13.2-kv system. Also, a second service from Johnson City Power Board will be installed to allow for a source of redundant power. The existing service point will be upgraded to add a means of disconnect for the campus and additional protection to the campus primary system. High-voltage switches will be added to allow better segmenting of the system during scheduled power outages and to increase safety.*

*After the loop is in place, the buildings currently served by the 4,160-volt system can be gradually changed over to the 13.2-kv system. Ultimately, the last phase will be to remove the 4,160-volt substation.*

*Until the primary loop is installed, any new transformers installed on the 4,160 should be selected to allow for a dual voltage primary. The transformer should operate on the 4,160-volt system until 13.2-kv is available. By changing the tap settings, the transformer can then operate on the 13.2-kv system without having to replace the transformer.*

## Telecommunications

*ETSU expects that by the end of 1999, the University will have completed the upgrade of its communications network. During 1998, a 622 mbps ATM backbone was completed, with Campus Distribution Frames in Burgin Dossett Hall, Wilson Wallis Hall, the Head End Building, VA Building 1, and an extension into the computer center in Lucille Clement Hall. Fourteen campus buildings were previously wired with Category-5 copper cable certified to NORDX standards, with network access to all classrooms, offices, and laboratories. The new Library and Buccaneer Ridge apartments have network infrastructure to NORDX standards. Each of these buildings will be connected into the ATM backbone in early 1999. During 1999, ETSU will wire to NORDX standards all remaining campus buildings, including residence halls, the Clinical Education Center, ETSU occupied buildings*

*on the VA campus, and remote centers in Bristol, Kingsport, Greeneville and Elizabethton, and connect these to the backbone. When completed, the number of network ports will increase from 2,500 to 9,200. As new buildings are constructed, and the old Library renovated, ETSU will ensure all classrooms, offices, and laboratories have similar connectivity. (See Appendix E).*

#### Storm Water

*The most significant problem with the storm water disposal exists under the athletic fields where the lines are inadequately sized, causing routine flooding in the lower sections of the field during and after heavy rains. Development on the western section of the campus and to the southwest across the railroad tracks will compound the problem further unless improvements are made.*

#### Domestic Water

The water system dates back to the start of the University in 1911. As the University has grown over the years, the system has been added on to, some old lines replaced, other lines upgraded, and a reservoir added. The system is connected to the City of Johnson City water system near Southwest Avenue, and from there an 8-inch line runs to a reservoir between Southwest Avenue and the campus. From the reservoir, a 10-inch line feeds the campus. The system is in fair to good condition, experiences from 1 to 4 breaks per year, and requires a normal amount of maintenance. The system does not have any capacity problems at this time, and has not had any since a new 8-inch line was installed from Stone Hall to the Science Building in 1989. The existing system can handle some expansion in any area except the Married Student Housing section, which is near capacity at this time. Any expansion or growth in this area will require upgrading the part of the system that serves that area. *An engineering study should be commissioned to assess the adequacy of the current system to meet the demands that the Master Plan envisions.*

**Phase I**      **(Year 1 to Year 6)**

Theme:            The campus development program for Phase I consists of those elements that will enable the University to alleviate substantial near-term program needs and priorities for academic, residential and parking facilities on the Main Campus; consolidate the Medical School on the Mountain Home Campus; and transform the campus core west of Lake Street into a more unified and attractive environment with strategic site improvements.

**A.      Building Program (New construction, additions, renovations)**

- |     |                                                                                                                                                                                     |         |     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|
| 1.1 | Renovation and adaptive reuse of C.C. Sherrod Library for College of Nursing, Student Health, and various other academic and administrative uses.                                   | 103,000 | GSF |
| 1.2 | Renovation of Hutcheson Hall.*                                                                                                                                                      | 26,000  | GSF |
| 1.3 | Renovation/adaptive reuse of Lamb Hall (space released by Nursing and Student Health Clinic for use by <i>College of Public and Allied Health's programs/research expansions</i> ). | 17,000  | GSF |
| 1.4 | <i>Construction of a Performing Arts Center incorporating drama, music and speech.</i>                                                                                              | 135,000 | GSF |
| 1.5 | <i>Construct <b>CEB II</b> off State of Franklin Road.</i>                                                                                                                          | 33,000  | GSF |
| 1.6 | <i>Renovation of VA Building 6 for Forensic Pathology--COM.</i>                                                                                                                     | 60,000  | GSF |
| 1.7 | <i>Renovation and air conditioning of Reece Museum with walk under two story link to connect Center for Appalachian Studies located in former Sherrod Library.</i>                  | 30,000  | GSF |



- 1.8 Renovation of VA Building 7 for additional education and administrative spaces--COM. 39,000 GSF*
- 1.9 Renovate all four floors of VA Building 2 for HVAC and electrical upgrade--COM.*
- 1.10 Upgrade electrical service in Buildings 1, 4 and 199--COM.*
- 1.11 Renovate Yoakley Hall for Student Services and student body offices.*
- 1.12 Renovation/adaptive reuse of Memorial Center (laboratory space released by Medical School for use by academic and athletic/recreation programs). 30,000 GSF*
- 1.13 Renovate Hillrise Hall for faculty lounge. 3,000 GSF*
- 1.14 Campus Utilities Upgrade \$250,000 requested.*
- 1.15 Addition to Johnson City Family Practice Center. 8,000 GSF*
- 1.16 Construction of residential apartment-style student housing for fraternities and sororities. 75,000 GSF*
- 1.17 Construction of 615-car parking garage off south-west avenue south of new Central Library. 208,000 GSF*
- 1.18 Fossil Site at Gray*
- 1.19 Innovation Park (Middle Anchor).*

**B. *Other Anticipated Backfill Renovation Projects, New Construction and Upgrades to Existing Facilities.***

- 1.1 *Air conditioning and renovations to various dormitories, including Lucille Clement Hall, Nell Jennings Dossett Hall, West Hall, Ross Panhellenic Hall, Powell Hall, Stone Hall, Carter Hall, Frank Clement Hall and Ellington Hall.*
- 1.2 *Renovation of a portion of Warf-Pickel Hall vacated by move of the Instructional Material Library into the new Central Library.*
- 1.3 *Renovation of a portion of Dossett Hall vacated by Campus Communications Department.*
- 1.4 *Renovation of Mathes Hall when Performing Arts Center is completed.*
- 1.5 *Renovation of Brooks Gym when Center for Physical Activity is completed.*
- 1.6 *Renovation of a portion of Brown Hall vacated by College of Medicine upon completion of COM Basic Sciences project.*      22,000 GSF
- 1.7 *Renovation and air conditioning for Mountain Home Performing Arts Theatre.*
- 1.8 *Construction of additional student residential apartment units at Buccaneer Village.*
- 1.9 *Construction of student residential apartment units on "Water Tower Ridge."*

- 1.10 *Construction of student pedestrian bridge across railroad and Southwest Avenue.*
- 1.11 *Construction of additional student residential apartment units surrounding Lucille Clement Hall.*
- 1.12 *Construction of a 410-car parking garage at University Parkway and Southwest Avenue.*
- 1.13 *Construction of a new security and campus information facility in conjunction with the entrance wall.*
- 1.14 *Construction of a 410-car parking garage at University Parkway and West Walnut Street.*
- 1.15 *Construction of a 780-car parking garage at West Walnut and Lake Street.*
- 1.16 *Construction of an 820-car parking garage off State of Franklin, west of Memorial Center.*
- 1.17 *Construction of a three (3) hole golf practice course at the observatory site.*
- 1.18 *Construct a soccer field inside the running track west campus.*
- 1.19 *Replace seating and upgrade structure for bleachers at running track and baseball field.*
- 1.20 *Rework four (4) west campus tennis courts.*
- 1.21 *Develop site south of railroad track for softball, soccer, tennis, parking, drainage retention pond and tunnel access.*

- 1.22 *Develop site on west side of Greenwood Drive for faculty condominium units.*
- 1.23 *Provide for study of adaptive use of Memorial Center for continuing use for sports facility, which should include study of new facilities for football and/or basketball.*
- 1.24 *Provide for study of campus-wide domestic water distribution, sanitary sewage disposal and storm water management.*
- 1.25 *Construct 10,000 sf storage facility for physical plant.*
- 1.26 *Construct screened coal storage yard at intersection of Jack Vest Drive and Greenwood Drive.*

**C. Demolitions/Displacements:**

- 1.1 *Demolish former Student Union Building currently being used by the College of Medicine.*  
  
*(Upon completion of construction of Basic Sciences Building)*
- 1.2 *Demolish various residences and structures at site of Performing Arts Center after purchase and prior to construction.*
- 1.3 *Demolish wood barn on Lyle Knoll.*

- 1.4 *Demolish convenience market at State of Franklin Road and northwest campus entrance after purchase.*
- 1.5 Displace 360 parking spaces between Dossett and Gilbreath Hall.  
  
(Contingent upon restoration of Great Lawn)
- 1.6 Displace 80 parking spaces east of Sherrod Library.  
  
(Contingent upon creation of parking court)
- 1.7 Displace 20 parking spaces west of Gilbreath Hall.  
  
(Contingent upon creation of open space quad)
- 1.8 Displace 250 parking spaces along Dossett.  
  
(Contingent upon creation of "Mall")

**D. Open Space Improvements:**

- 1.1 Restore Great Lawn between Dossett and Gilbreath Hall.  
  
(Contingent upon removal of parking and creation of Library forecourt)
- 1.2 Create new open space quad west of Gilbreath Hall.  
  
(Contingent upon removal of parking)
- 1.3 Extend Sherrod Mall to State of Franklin Road.
- 1.4 Reconstruct Dossett Mall.  
  
(Contingent upon removal of parking)

- 1.5 Provide pedestrian bridge connection over railroad to link residential village to Main Campus.

(Contingent upon construction of residential village)

**E. Vehicle Circulation and Parking Improvements:**

- 1.1 Extend west campus parking lot.
- 1.2 Create parking court east of *former Sherrod Library* (60 spaces).
- 1.3 Create new parking along Dossett Mall (380 spaces).
- 1.4 Modify Boundary Road and Field Drive.

(Contingent upon construction of residential village)

**E. Acquisitions:**

- 1.1 Secure easement over railroad to provide pedestrian bridge connection between residential village and Main Campus.

(Contingent upon construction of residential village)

- 1.2 *Secure easement under railroad for access to athletic fields on south side. Refer to Appendix H for conceptual options to Athletics and Physical Education.*

- 1.3 *Secure easement over Southwest Avenue for access bridge to student housing.*

*(Contingent upon securing easement over railroad)*

- 1.4 *Acquire remaining property on Maple Street.*

- 1.5 *Acquire property at corner of West Walnut and University Drive.*

**Phase II: (Year 7 to Year 12)**

Theme: The primary thrust of Phase II development will be the improvement and redevelopment of the area east of Lake Street and accommodation of facilities of a second order of priority to the University. No renovations or re-uses are defined in Phase II, but it is recommended that a renovation appraisal be undertaken as an initial step at the outset of the Phase II development period.

**A. Building Program (new construction):**

2.1 Construction of new Performing Arts Center 75,000 GSF  
east of Lake Street.

(Contingent upon removal of four Maple Street  
houses and displacement of parking)

2.2 Construction of new Information/Security Center 3,000 GSF

(Contingent upon removal of existing Information/  
Security Center)

**B. Demolitions/Displacements:**

2.1 Demolish five houses on Maple Street (908, 914, 916, 918, 920). (9,600 GSF)  
*(After relocating occupants to various infill spaces within existing building on Main Campus).*

(Contingent upon construction of Performing Arts  
Center)



- 2.2 Displace 150 parking spaces in vicinity of site for new Performing Arts Center.

(Contingent upon construction of Performing Arts Center)

- 2.3 Demolish Information and Security Center. (2,000 GSF)

(Contingent upon construction of new Information/ Security Center)

- 2.4 Demolish remaining four non-University owned houses on Maple Street.

(Contingent upon creation of new ceremonial entrance off University Parkway)

- 2.5 Displace 970 parking spaces east of Lake Street/north of Stout Drive.

(Contingent upon creation of new ceremonial entrance off University Parkway)

**C. Open Space Improvements:**

- 2.1 Create new ceremonial entrance off University Parkway

(Contingent upon acquisition of non-University owned land, demolition of Maple Street houses, removal of Lynn and Maple Streets and displacement of parking)

**D. Vehicle Circulation and Parking Improvements:**

- 2.1 Remove Lynn and West Maple Street.  
  
(Contingent upon creation of new ceremonial entry)
- 2.2 Create new surface parking east of Performing Arts Center (280 spaces).
- 2.3 Create new surface parking lot off State of Franklin Road on former Tenetek property (290 spaces).  
  
(Contingent upon acquisition of Tenetek property)
- 2.5 Provide new realigned main entry off University Parkway.  
  
(Contingent upon acquisition of non-University owned land, demolition of Maple Street houses, removal of Lynn and Maple Streets and displacement of parking)
- 2.6 Provide new surface parking south of main entry (360 spaces).  
  
(Contingent upon creation of new ceremonial entry)
- 2.7 Provide new surface parking east of Married Student Housing (180 spaces).  
  
(Contingent upon creation of new ceremonial entry and associated displaced parking)

**E. Acquisitions and Rights of Way:**

- 2.1 Secure existing street rights-of-way on Lynn and West Maple Streets between Lake Street and University Parkway and along the eastern half of Lake Street.

(Contingent upon construction of new Performing Arts Center and ceremonial entry)

- 2.2 Acquire four parcels on West Maple Street.

(Contingent upon creation of new ceremonial entry)

- 2.3 *Acquire row from CXX for tunnel under tracks for access to athletic fields on south side of track and row over tracks for housing development on south side of track.*

*(Contingent upon feasibility studies for these two projects)*

- 2.4 *Acquire row from City of Johnson City for pedestrian bridge over tracks to provide pedestrian way for new housing development on "Water Tower Ridge," BucRidge Housing and Married Student Housing.*

*(Contingent upon feasibility study for this project)*

- 2.5 *Swap land on west side of Greenwood Drive for land adjoining Main Campus.*

- 2.6 *Acquire land adjacent to the Clinical Education building for parking to support expansion of this facility.*

- 2.7 *Acquire property adjacent to Main Campus as property becomes available.*

- 2.8 *Acquire property on south side of CXX railroad as property becomes available and safe access over or under railroad is developed.*
- \*2.1 *Acquire 1.35 plus or minus acres of land with existing 10,352 sf office building at corner of Signal Drive and North Greenwood Drive to be utilized in the University's long range goals to develop clinical sites for pediatrics, communicative disorders, speech and language, physical education, special education, reading, human development and learning, dental hygiene, psychology and nursing. Current plans are to use the facility to provide child care services to our faculty, staff and students while also providing opportunities for research, clinical site experiences and student employment.*

**Phase III: (Long-Range Development Plan)**

Theme: Phase III establishes a framework for future circulation, open space and building sites in order to unify the entire campus in a coherent way. As a test of possible building, parking, and open space needs in the future, the Long-Range Plan is laid out to accommodate a hypothetical enrollment level 50 percent higher than today. The basic structure will be the guide for reviewing future project proposals.

**A. Building Program:**

Note: Building areas in gross square feet (GSF) are indicated in the Long-Range Plan as recommended capacities for the sites, and not as defined programs.

- |     |                                                                                                                                                    |           |     |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|
| 3.1 | Addition to west end of Ball Hall.                                                                                                                 | ± 27,500  | GSF |
| 3.2 | Construction of new academic building north of Burleson Hall.                                                                                      | ± 36,000  | GSF |
| 3.3 | Addition to north end of Warf-Pickel Hall.                                                                                                         | ± 37,500  | GSF |
| 3.4 | Construction of residential dormitories to accommodate up to 735 units<br><br>(Contingent upon removal of parking and demolition of Earnest House) | ± 221,000 | GSF |
| 3.5 | Addition to east end of Johnson City Family Medicine Center.                                                                                       | ± 7,000   | GSF |
| 3.6 | Construction of academic/research buildings west of existing tennis courts.                                                                        | ± 225,000 | GSF |

**B. Demolitions/Displacements:**

- 3.1 Demolish Earnest House (7,000 GSF)

(Contingent upon construction of residential dormitory)

- 3.2 Displace 210 parking spaces within east campus residential complex.

(Contingent upon construction of residential dormitory and creation of courtyard)

- 3.3 Displace 60 parking spaces in vicinity of Earnest House and Hillrise Hall.

(Contingent upon construction of residential dormitory)

**C. Vehicle Circulation and Parking Improvements:**

- 3.1 Reconfiguration of Dossett Drive north, University Drive, Ross Drive and Campus Drive.

(Contingent upon construction of west campus residences)

- 3.2 Reconfiguration/expansion of parking lot north of Physical Plant (370 spaces).

- 3.3 Reconfiguration/expansion of parking lot north of tennis courts (310 spaces).

- 3.4 Reconfiguration/expansion of parking lot west of tennis courts (530 spaces).

- 3.5 Provide additional surface parking north of Married Student Housing as needed.
- 3.6 Provide additional parking on west campus off Seminole Drive as needed.

### **The Mountain Home Campus**

The Plan selected through the planning process which best meets the design objectives for the Mountain Home Campus and accommodates the College of Medicine program is illustrated in *Figure 28*. The following is a description of the various elements of the Plan.

#### **Program Accommodation**

Program studies by the College of Medicine (see Appendix C) indicate a total need for up to 343,000 gross square feet of academic space, which can be accommodated at the Mountain Home site.

#### **Land Use**

The Medical School is the centerpiece of a larger academic health complex which includes the 418-bed Veterans Administration Medical Center to the east, the 389-bed Johnson City Medical Center Hospital to the west and the 75-bed private *Woodridge* Psychiatric Hospital, University's Clinical Education Facility on State of Franklin Road (see *Figure 27*). The entire complex is located within the Med-Tech Corridor and development district reserved for future medical and medical support facilities.

Facilities for the College of Medicine's Basic Sciences program would generally occupy the western portion of the Mountain Home Campus defined by Fourth Street to the east, Dogwood Avenue to the south, Fifth Street to the west and Memorial Avenue to the north. The College of Medicine currently occupies **five** buildings within this area totaling approximately 186,000 gross square feet of space. *The recently signed enhanced use lease agreement has given the College of Medicine a 31 acre campus containing 10 buildings and 569,300 gross square feet.* The area between the Johnson City Medical Center Hospital and Fifth Street would be reserved for future parking and circulation improvements.

## **Campus Structure**

The Mountain Home College of Medicine Master Plan respects the existing historical buildings and grounds and accommodates the incremental growth of teaching and research facilities. The existing open space and circulation is the basis for future campus development with new access roads and extensive parking zones located on the western bounds of the VA Hospital property adjacent to *Johnson City Medical Center* Hospital. Nearly fifty percent of the projected long term development program will be located in existing, renovated buildings. The future demand for additional space will be accommodated by new buildings which are joined to the renovated buildings north of the formal lawn to preserve the existing campus character. New buildings are proposed in scale with the existing structure to form a new enclosed quadrangle accessible from Memorial Avenue. Maple Avenue will be maintained as a limited access ceremonial and service drive.

The main entrance to the College of Medicine will be from the south via Lake Drive. As the Medical Campus expands, the demand will increase for more direct access to State of Franklin Road and facilities west of the VA Hospital. A proposed west access road joins the present south entrance to *Johnson City Medical Center* Hospital clinics and extends a new tree-lined road joining the VA Hospital, College of Medicine, *Johnson City Medical Center* Hospital, and affiliated clinics in a circumferential drive. The road will join the principal of the Medical Campus facilities east of State of Franklin Road. Large parking areas for each facility will be located adjacent to the new access road. Additional improvements to the VA Hospital include sidewalks joining the Main Campus and Mountain Home Campus and signage.

## **Parking**

Future surface parking lots in designated areas will accommodate the 670 cars required to serve a population of a Medical School occupying 320,000 gross square feet of space. The space will be located in lots laid out north and west of Fifth Street as shown in *Figure 28*.



### **Building Renovation, Demolition and Expansion**

Several existing buildings will be proposed for demolition or renovation to achieve the long range Master Plan (see *Figure 29*). The buildings proposed for renovation are listed in *Appendix A*.

These *ten* buildings and adjacent *31 acres* will provide and contain a majority of the new teaching and research programs. Demolition of Building Number *60 - warehouse* - is proposed as a potential long range development site to accommodate additional funded research facilities.

#### **IV. DESIGN GUIDELINES**

The purpose of the design guidelines is to provide a framework for the coherent translation of the Master Plan into the envisioned physical form and architectural character for the development. Whereas the role of the Master Plan is to provide a diagrammatic framework for open space, circulation, use relationships and building placement, the role of the design guidelines is to assure that specific designs implemented within the Master Plan framework will be of a consistently high quality. The desired result is a single integrated campus design in which the parts all relate to one another, regardless of when they are built.

Application of the guidelines will achieve a balance between the rules set forth here and the judgments and decisions that must be made as each phase of development proceeds. Application of these guidelines will help ensure that the ETSU campus is developed in a consistent manner over an extended period of time. The desired result is a single integrated campus design in which the parts all relate to one another, regardless of when they are built.

Various University committees, including the Aesthetics Committee and the Health, Safety and Security Committee have established a number of standards for development. These range from broadly stated campus design traditions to specific design details. The following guidelines supplement, rather than supersede, these existing standards.

##### **Architecture**

The general location, alignment and size of proposed Main and Mountain Home Campus buildings is shown in the Illustrative Master Plan (*Figures 13 and 25*).

##### **Unity Between Old and New**

Central to the idea of achieving a unified design for both the Main Campus and Mountain Home Campus is the need to develop clear ties between new and existing buildings. These ties should be both visual and functional. Visual ties involve building form defined in six fundamental aspects: size, shape, color, texture, directionality, and location. Buildings which possess similar aspects of form will be perceived as a unified group. The more aspects that bear similarity, the greater the sense of unity there will be. The basic goal of new architecture on both campuses should be to enhance visual unity.

### **Building Size**

Building size should be controlled in order to preserve views toward the mountains and maintain a common scale relationship between existing and proposed campus buildings. Buildings should typically be three to five stories in height (40-60 feet) and 200 to 250 feet in length. Only special architectural elements in key landmark locations should vary significantly from these proportions.

The outlying southeast village and southwest neighborhood residential buildings will be developed respectively, in response to varying site conditions of a hillside location and adjacent neighborhood character.

### **Facade Proportion**

Directional aspects of campus buildings include building alignment and facade proportion and expression. All new buildings should align with the rectilinear street grid and be essentially horizontal in proportion and facade expression. The majority of campus buildings, including Dossett and Gilbreath Halls, currently subscribe to this rule. The row of buildings along Sherrod Drive consisting of Ball, Burlison and Mathes Hall is a fine example of buildings with a horizontal proportion and facade expression.

Where appropriate, passages through building courtyards and arcades should be considered at memorable places within the campus open space system.

### **Building Shape, Color and Texture**

Secondary aspects of form, such as building shape, color, and texture should also be made compatible with the traditional standards of University buildings. In general, buildings should be rectangular or square in shape. The exterior walls of all new buildings should be constructed of durable, permanent materials. Appropriate exterior wall material include brick, treated concrete or stone. Vertical roof projections such as towers, vents or stacks should be avoided.

The majority of existing campus buildings are designed in the Neo-Georgian style. The details of these buildings, including brick walls, gable or flat roofs, entrance columns, regularly spaced window openings, and ornamentation limited to light colored concrete door entrances and, on occasion, building corners and cornices, create an overall building texture and color pattern which is generally restrained but lively in character. The walls are regular and continuous, not sculpted, and the degree of transparency is relatively high, so the walls do not appear blank and impassive. While the Master Plan does not suggest that the Neo-Georgian style be strictly adhered to, it does recommend that new buildings be designed to achieve the regularity, proportion, transparency and color pattern which has been established by the existing buildings on campus.

For example, while the Culp Center is not Georgian in style, it is not a major visual disruption to the campus because the large facades are divided into smaller scaled wall and window treatments. Several less successful examples include the Mini-Dome, whose massive monumentality is overpowering and the Information and Security Center which introduces a different and visually distracting material (wood) and a building form (pitched shed roofs) at a major entrance to the campus.

### **Parking Garages**

Parking garages are a unique architectural element which should be designed to mitigate the austerity often expressed in their appearance. Large blank walls and continuous strip windows should be avoided in favor of fenestration patterns most closely resembling inhabited buildings. Devices such as louvers or screens should be used to make the facade surface more regular. Where possible, the first-floor level and building facade of parking garages should be used for human occupancy uses, such as academic, retail or service functions that will maintain activity at the ground level or the full building facade if the structure fronts significant campus public spaces.

### **Site Design**

While the basic open space network of the campus is defined by streets and buildings, its character and the way it is perceived are largely determined by the landscape treatment of open spaces. The components of the campus landscape are primarily planting and pavements but also include gateways, bridges, lighting, sculpture and fountains, furnishings and signage.

## **Plantings**

New plantings and husbandry of significant existing plantings will be an important component of the future campus landscape. Plantings should be both functional and attractive and achieve the following broad guidelines.

- Plantings should reinforce the basic structure of the Master Plan, positively shape open space areas, and be functional, rather than simply decorative in defining and unifying streets, paths and open spaces.
- Tree, shrub and hedge planting should be appropriate to the scale use and microclimate of the University setting. Broad stroke use of plants in large rows and masses is preferred to fussy, detailed plantings in principal open spaces.

In addition to these broad principles, a number of site specific guidelines concerning new plantings should be followed.

Street trees along Lake Street and the new entry mall of University Parkway should be of the same species and planted opposite one another rather than alternatively. Opposite placement creates a stronger sense of order.

The new entry mall from University Parkway should provide a visual setting for Dossett Hall and be large enough to ensure easy and economical maintenance (see *Figure 32*). The restored green space between Dossett and Gilbreath Halls should be equipped with pathways, benches and other special features in order to make it a usable destination for students and faculty.

Planting at building edges in courtyards should consist of small ornamental trees in a simple mulched or lawn “terrace” around the building, faced with a continuous shrub hedge. This treatment should apply to all building edges facing streets and campus open spaces. In high exposure areas such as building entrances, plantings should be strong in design and arrangement and include plant materials selected for year-round attractiveness.

Parking and service areas should be screened from major streets and public spaces with dense evergreen trees or shrubs. Brick walls or fences can also be used where

space will not allow the use of plantings for scenings or for desired architectural effect.

### **Walkways**

Circulation patterns for the site are built around the idea of using existing street corridors for vehicle and pedestrian pathways. Individual design and layout of these paths should emphasize pedestrian circulation as the primary means of movement. Conflicts among pedestrians and cars should be regulated by signage.

Walkway pavements vary in response to location, use and aesthetic character. Concrete walks are proposed for all principal ways in the campus core and adjacent to roadways where high levels of use and proximity to principal campus buildings justifies the installation cost.

Bituminous concrete walks are proposed for more outlying ways and for walks with irregular alignments, such as the southeast residential village. In comparison to concrete, bituminous concrete walks are less costly and more readily repaired.

Specialty pavements are proposed for unique places within the campus to identify significant public spaces and activity areas. Specialty pavements include stone and precast concrete pavers as a complement to the predominantly brick and concrete buildings. Areas suitable for these pavements include Sherrod Place, Memorial Quadrangle, Brown Hall Courtyard, Lamb Hall passage, and the Hillside Village square.

Crushed stone or gravel is appropriate for less frequently used ways and for sites unique in use or historical association. The amphitheater forecourt is an ideal location for stone dust walks.

### **Roadways**

A majority of existing campus roads incorporate both vehicular movement and parking to create expansive areas of pavement in the heart of the campus. Proposed roads are organized in three categories--new roadway, revised roadway and limited access roadway.

The two proposed new roadways are the centennial mall and west access road. The principal new access to the campus is the centennial mall from University Parkway to Lake Street. The mall is comprised of two one-way lanes, each 15' wide with curb and gutter. The road will be graded in a uniform manner; in profile from a high point on Lake Street to a low point of University Parkway and in cross-section with both lanes of equal elevation. The second new roadway is a west access road joining Boundary Road and Greenwood Drive. The road width is 24' in width with curb and gutter.

Revised roadways include Lake Street, University Drive, Dossett Drive north and south, Campus Drive, Ross Drive and Walnut Street. Lake Street is reduced in width from two one-way streets with angled parking to a two-way 24' wide street with curb and gutter. No street side parking is proposed for this principal entrance and connecting roadway. University Drive is reduced in width to remove angled parking and create planting areas adjacent to existing physical plant buildings. The road is 24' in width with curb and gutter, and a parallel parking lane 10' in width is provided on the east side of the road. Dossett Drive south is redesigned from one-way lanes to parallel and angled parking to two 64' wide parking bays and circulation lanes to improve traffic safety and increase the number of parking spaces near the campus core. Dossett Drive north is realigned and parking is removed from the road. Parking is removed from Campus and Ross Drives and pavement widths are reduced to 24' in width with curb and gutter. Walnut Street is extended to Sherrod Drive with the existing cross-section width continued in the street extension.

Limited access roadways include Alexander Drive, Gilbreath Drive, Sherrod Drive, and Field Drive. All roadways are one-way 15' wide lanes created by the reduction of existing pavement widths and relocation of curbs. Refer to Appendix G for more alternatives of proposed road locations.

### **Gateways**

The principal vehicular gateways consisting of the entry mall and the west campus entrance should be readily recognized by visitors. The opportunity to incorporate architectural walls, plantings, and signage should distinguish the primary from secondary campus entrances. Principal gateways are from University Parkway at the ceremonial entrance drive and State of Franklin Road at Lake Street and Jack Vest Drive.

At the point where east-west streets meet automobile-free pedestrian zones on the

Main Campus, there is an opportunity to enhance the sense of arrival and clarify the edge of the campus. The most important locations of this type are the northern and southern termini of Sherrod Mall for which it is recommended that pedestrian gateways be developed. The primary purpose of the gateways should be symbolic and clearly define the campus realm. Secondarily, they may be made operational to regulate access. Their scale and materials should suggest the importance of the University as an enduring public institution. Brick, stone and steel would be suitable materials.

### **Bridges**

Bridges can be significant events within the daily campus experiences, offering the opportunity to celebrate the crossing of different systems. The existing rustic stone bridge east of Culp Center should be retained with benches located at either side to provide a place to pause at the most visible remaining stream crossing on campus.

A new pedestrian bridge *linking the Continuing Education Center is currently under construction* over State of Franklin Road at Sherrod Mall, a location central to the entire campus. The bridge is comprised of two towers containing stairs and elevators and the bridge structure. The structure is significant as both a crossing of the highway and a symbolic university gate. The bridges form and material should complement the adjacent buildings with the use of brick, concrete ornament and metal structure.

A new pedestrian bridge is also proposed over the rail tracks to link the south residential village to the campus core, *and one over Southwest Avenue to the south student housing campus*. The isolated forest site and short span over the railroad cut *and Southwest Avenue* offer the opportunity to create a crossing in a variety of design forms. Appropriate materials include cast iron, steel, stone and concrete.

### **Lighting**

Campus lighting should be organized in simple patterns which reinforce the basic structure of open spaces and sidewalks. Where lights follow streets or sidewalks, they should be placed in straight rows on one or both sides, but preferably not in a staggered, alternating pattern. Walkways will ordinarily require lighting from only one side. Roadway lighting may require lighting on two sides, in which case lights should be placed opposite one another.

Existing lighting varies greatly in fixtures, luminaries, and illumination levels. The



proposed lighting system identifies types of lighting by use - roadway, walkway, parking/service, and specialty lighting.

Roadways are separated into visible and concealed source luminaries. Principal roadways are to be illuminated with a visible source luminaire to reinforce the principal campus organization during evening hours. The luminaries are installed on a traditional style fixture at a height of 15' - 18' in height.

Secondary roads, parking areas and service are illuminated by cut-off luminaries mounted on simple fixtures at a height of 15' - 30'.

Similar to roadways, walkways are illuminated by both traditional and cut-off luminaries. Primary walkways and campus core limited access service drives are illuminated by visible source luminaries installed on fixtures 12' - 15' in height. Secondary walkways and distant residential areas are illuminated by cut-off luminaries on simple fixtures, 12' - 15' in height.

Specialty lighting includes athletic fields and courts, unique activity spaces (amphitheater) and building facades. Exterior lighting of buildings should be confined to entrance points, but special buildings such as the Dossett Hall, Gilbreath Hall and the Sherrod Library porch should also be lit. Entrance lighting may use exposed or concealed source fixtures. If exposed source fixtures are used, they should be compatible with sidewalk fixtures.

Light sources for roadways and walkways should be mercury vapor or metal halide; both luminaries provide good color representation of buildings and landscape and have a relatively long life. While sodium vapor may be less expensive, it should not be used because of the unattractive yellow-brown color of the light. A light level of ½ foot candle should be maintained on all roads and walks.

### **Sculpture and Fountains**

Potential sites for sculpture and fountains are identified within the Main Campus open space. Locations for these include Wilson-Memorial Quadrangle, the stream vale, the amphitheater garden and building courtyards such as Brown Hall.

Appropriate scale and character of sculptural elements is critical to their success. They should be understood as objects which will endure over time, and should be of a classical, timeless quality rather than of a style associated with short-lived trends.

Their scale should be large enough to fit with surrounding spaces, buildings and landscaping; however, they should avoid massive monumentality which would contradict the intended “serenity” prescribed for the campus landscape.

### **Seating**

Seating on campus incorporates a variety of types in response to location, use, and character of the seating area. One bench with a raised back should be selected as the predominant seating type on campus. The bench should be located throughout the campus in appropriate locations such as the Great Lawn, Memorial-Wilson Quadrangle and Dossett Mall. The bench seat should be wood; bench supports may be metal or wood.

A second type of seating is a backless seat for use in historical settings to reinforce the traditional character of adjacent features. Appropriate sites include Gilbreath Hall, the stream vale, and amphitheater. Materials may be stone or cast stone.

A third type of seat is the use of walls and steps as informal, multi-directional seating. The topographic change within the campus core offers numerous opportunities to provide sitting height walls of 14’ to 18’ and stairways of sufficient width to accommodate both seating and passage. Appropriate locations include Sherrod Place and the stairway joining the residential village to the campus core.

### **Signage**

Campus signage should be simple and unobtrusive in design. The existing University system for building identification and vehicle designation should be used, following the same criteria currently employed on the central campus.

