The Eastern Kentucky University Steering Committee provided invaluable assistance and insight throughout the process of developing the Campus Master Plan update. In addition, James Street served as project shepherd, providing day to day guidance to the Perkins+Will Planning Team. The contributions of the Committee and James are truly appreciated.

BACKGROUND

Eastern Kentucky University completed a Campus Master Plan in 2003 that was used to guide the University’s physical growth over the last five years. The 2003 Plan also provided the University with a framework for its long-range planning effort. Strategic Initiatives:

- Civic Responsibility and Civility
- Dignity and Diversity
- Excellence and Innovation
- Opportunity and Access
- Shared Governance and Collaboration
- Student Success

In 2007, the Kentucky Council on Postsecondary Education reaffirmed its commitment to increasing the educational attainment of Kentuckians to the national level by 2020 with the Double the Numbers Plan. Outlined in the plan is the goal to increase bachelor’s degrees produced annually at EKU from 1,979 in 2007 to 3,397 in 2020. The overall student population is proposed to increase from the current level of approximately 15,000 FTE students to more than 19,000 under the same plan.

Since the 2003 Master Plan predates all of these planning benchmarks, it does not directly account for key university and system initiatives. Perkins+Will was retained in June 2007 to update the 2003 Plan based on the outcomes required to meet the strategic goals of the institution and the state.

The updated Campus Master Plan documents existing campus conditions, the planning process, campus planning concepts that meet university and state objectives, the preferred campus master plan design, implementation strategies, and detailed design guidelines in both a narrative and graphic format. Related studies, reports and graphics are included in the appendix as supporting information and should be used by future designers to enhance their understanding of the Campus Master Plan and its recommendations.
GUIDING PURPOSES

The purpose of the Campus Master Plan update is to guide the physical evolution of the campus, enable Eastern Kentucky to manage growth and change in an orderly fashion, conserve and enhance functional effectiveness, and enhance environmental quality and the ambiance of the campus. It is a living document that provides a framework for developing and managing Eastern Kentucky’s buildings, grounds, infrastructure, and related facilities. It will assist the University in maintaining, improving and expanding these physical elements, and ensuring the viability of an attractive and stimulating campus. These physical attributes coupled with the educational opportunities available at Eastern Kentucky will continue to attract the best and brightest students, faculty, and support staff available - keeping Eastern Kentucky at the leading edge of education in Kentucky and the region.

The Plan has been developed based on the following guiding principles and themes:

- The Campus Master Plan must build a viable scenario for campus growth.
- The plan must integrate double FTE in Richmond and branch campuses.
- Accommodate on and off campus learning.
- Enhance the experience for campus arrival and way finding.
- Enhance the pedestrian experience and campus connections.
- Enhance the experience for resident students.
- Create identifiable and functional campus districts.
- Enhance the sense of place and campus edges.
- Identify major development opportunities that can be shaped.

The Campus Master Plan supports the Eastern Kentucky Strategic Plan initiatives to:

- Enhance a climate that supports diversity.
- Enhance technology to ensure access to appropriate and secure technology for all faculty, students and staff.
- Continue a model to improve institutional effectiveness by utilizing shared governance and stakeholder participation.
- Implement a comprehensive and systematic enrollment planning process to balance student enrollment with campus physical and academic capacities, including members of faculty and staff.
- Improve compensation, working conditions, and support for research to attract and retain high quality faculty and staff.
- Identify and implement a combination of academic programs to meet the current and future workforce needs of EKU students.
Executive Summary

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- Enhance facilities, resources, and opportunities for faculty, staff and students to pursue creative endeavors and research.
- Enhance partnerships with business, community and educational entities.
- Enhance EKU’s sense of stewardship of place by increasing its commitment to Southeaster Kentucky.

Finally, the Campus Master Plan was undertaken with an ever-present eye on these objectives:

- Define the campus as a cultural center of Southeastern Kentucky and Madison County.
- Clarify the relationship and create links between the South Campus and Main Campus.
- Define development zones within South Campus.
- Define future building sites and their surrounding open spaces to maintain the best qualities and community of the EKU campus.
- Ensure that future development is consistent with the scale of the campus and preserves important connections for visitors, students, staff and faculty.
- Ensure that the campus is negotiable, enjoyable and memorable to guests and alumni.
- Create links between variegated activities and facilitate synergies between buildings and institutions.
- Strengthen the arboreal qualities of the main campus and bring those qualities to the South Campus.
- Strengthen the definition of open space and quads while maintaining connectedness among them.
- Propose effective parking and traffic solutions that preserve the integrity of the campus, maintain good relationships with neighbors and are convenient for the University community.
- Establish and maintain an inclusive decision-making process.
- Encourage interaction among buildings.
- Encourage interaction among users.
- Unite architectural disparities of the campus with robust, well-defined green space.
- Develop South Campus as a model and amenity for South Richmond.
- Support Connectedness between EKU campus and historic Richmond.

THE PLANNING PROCESS

The process used for the Campus Master Plan update is composed of five individual phases. Each phase is designed to build on information learned in the previous phase while moving the process to a logical conclusion. The five planning phases are:
Discovery

In the Discovery phase, the Planning Team learned about the University, its students and faculty, the campus and the special features that create Eastern Kentucky’s distinct identity. This was accomplished through meetings with various stakeholders, interviews, extensive walks on campus and through its buildings, researching Eastern Kentucky’s heritage, and reviewing all available reports, papers and studies. Once assimilated, this information led the team into the Analysis phase.

Analysis

An understanding of the current issues and future requirements facing the University was developed during the Analysis phase. Space needs for academic and support facilities, student housing, parking, sports fields, and utilities on the Richmond campus were determined for 14,510 FTE as well as a resident undergraduate population of 30%. These campus development issues were studied and the resulting ramifications were evaluated by Eastern Kentucky who confirmed future university needs.

Concepts

Issues and opportunities warranting additional consideration were further developed during the Concepts phase. The various planning issues were integrated in three separate approaches to organizing the campus: Colonel Walk, Campus Parkway and Nodes and Neighborhoods. Colonel Walk creates a pedestrian main street connecting the Ravine to the south campus. Secondary circulation corridors provide for east west connections from new residential sites along Kit Carson and an enhanced link to downtown Richmond. Campus Parkway strengthens Kit Carson to create a shared bicycle, pedestrian and vehicular parkway. The parkway and bridge over the bypass connect the North and South campuses. Nodes and Neighborhoods refine campus zones by organizing building sites around signature open space – reminiscent of the University’s beginning clustered around the ravine. The proposed grounds ensured that pedestrian corridors and useable gathering space were accessible to all major buildings – and that every major gateway to
the campus had a memorable image and identity. The concepts were then evaluated by the P+W Planning Team.

In addition, the Steering Committee and the Planning Team hosted a series of focus group meetings that included representatives from academics, student life, physical plant, athletics and auxiliary services. These groups were asked to review the Campus Master Plan concepts in the light of current campus needs and future requirements. The participants were asked to reflect on the concepts being presented by the Planning Team to ensure they were valid and represented the best solutions to the issues facing Eastern Kentucky in the next 10 years and beyond. The process not only validated the evaluation of the Planning Team, but also provided quality input that allowed several projects to move forward concurrently with completion of the Campus Master Plan.

Important features of the focus groups were:

- Meetings took place over two days
- Planning Team made presentations to each group
- Presentations helped the groups understand the problems, issues and possible solutions that had been identified
- Allowed fresh input from campus stakeholders who were unfamiliar with the work being done by others
- Focus group participants were encouraged to reach out to their peers for additional review and comment
- After a month-long review period, final comments and concerns were collected by the Steering Committee

Synthesis

In this phase the strategies for the Preferred Campus Master Plan were studied in detail. Outline recommendations were developed for landing and building use, renovations, additions and new construction sites, open space improvements, parking, roadway and transit improvements, and utility infrastructure improvements. A graphic of these recommendations was created for each type of project and is part of the final Master Plan.

Implementation

The Campus Master Plan is structured to be implemented over time. However, the Plan cannot and does not anticipate every contingency. It does establish a framework identifying certain prerequisites that must be addressed to allow campus development to progress in an orderly manner. It also identifies projects that are first in the minds of Eastern Kentucky leaders and stakeholders. To this end, a recommended short-term and long-term schedule is included as part
of the Plan. Scheduling considers renovations, additions, new facilities, open space, and infrastructure so they will be coordinated with the various Campus Master Plan objectives. Priority is given to projects that can be undertaken within the existing Capital Improvement Plan.

A new Science Building, Model School and Performing Arts Center, take precedence as short-term projects, identified in the Capital Improvement Plan. Renovation and additions to the Alumni Coliseum, Baseball facility, Whalen Complex and Crabbe Library are also included in the short-term phase. Student housing needs will be met with the completion of 400 new beds in three buildings along Madison Drive.

A ten year view to 14,510 FTE students includes additional facilities to enhance student life with additions and renovations to Powell and an expanded University Activity Center. Future housing facilities will accommodate an additional 575 students living on campus. Renovations to Commonwealth, Combs, Moore and Weaver ensure maximum utilization of EKU’s existing space.

In order to ensure flexibility in future campus development, additional building sites are identified for the extended term. Proposed sites include two new buildings along the Eastern Bypass and further development of the campus south of the bypass. Sites along Lancaster begin to develop a front lawn to the south campus in the spirit of the campus historic core.

As incremental master plan recommendations and phasing were developed, the potential costs of master plan projects were developed on a unit basis.

CONCLUSION

The Campus Master Plan Update supports and integrates objectives developed by the Eastern Kentucky University steering committee.

It is a living document that must be reviewed and revised as conditions require. The Planning Team recommends it be updated every five years. Additionally, yearly project programming by the University is essential for identifying changing University and stakeholder needs that should be reflected in the Plan. To that end the Campus Master Plan exists as a living document. Its digital format ensures that Physical Plant staff can integrate projects as they are implemented. The inclusion of multiple options ensures that the best thoughts of university stakeholders are immediately accessible to future planners.
The success of a master plan is determined by its practicality and its ability to be implemented, while simultaneously having the flexibility to evolve with changing needs and conditions. The Campus Master Plan’s success cannot be determined when the document is completed, but years later, when the various elements are in place and working in concert to establish the desired Eastern Kentucky experience.

By this measure, Eastern Kentucky University’s Campus Master Plan Update will prove itself a success.
Eastern Kentucky University
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1. Executive Summary
   a. Planning Goals and Objectives
   b. Development Issues and Constraints
   c. Space Projections
   d. Master Plan for Buildings, Grounds and Infrastructure
   e. Phasing and Implementation
2. Precedent and Place
   a. Facility Condition Assessment
   b. Planned Capital Improvements
   c. Current Building Use
   d. Utility Condition and Capacity
   e. Open Space and Pedestrian Circulation
   f. Vehicular Circulation, Parking and Transit
   g. University Approaches
   h. Urban Design Context
   i. Development Opportunities
   j. Infill Opportunities
3. Future Campus Program
   a. Academic Space Needs
   b. Student Housing Needs
   c. Parking Requirements
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   a. Alternative Concepts
      i. Colonel Walk
      ii. Campus Parkway
      iii. Nodes and Neighborhoods
5. Preferred Master Plan
   a. Campus Plan
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   c. Dynamic Modeling UC
      i. Water Tower Square
      ii. Precinct 2
      iii. Precinct 3
6. Implementation
   a. Phasing
   b. Funding
7. Design Guidelines
   a. Buildings
   b. Open Space
8. Appendix
   a. Existing Site Vocabulary
   b. Sanitary Sewer Phasing
   c. Storm Sewer Phasing
   d. Water Phasing
   e. Campus Bus Route Phasing
Figure 2.e.i
Green Space Figure Ground Study
Eastern Kentucky University
Campus Master Plan
Aug 8, 2008
Figure 2.e.ii
Green Space Figure Ground Study
Eastern Kentucky University
Campus Master Plan
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Figure 2.e.iii
Open Space Inventory Map

Eastern Kentucky University
Campus Master Plan
Figure 2.e.iv
Open Space Inventory Map

LEGEND
- Casual Gathering / Entry Court
- Group Gathering / Significant Plaza
- Significant Lawn Areas/Green Edge
- Recreation Space
- Natural Open Space
- Refer to Spacial Characteristics Matrix

Eastern Kentucky University
Campus Master Plan

Aug 8, 2008
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**Figure 2.e.v**

Spatial Characteristics Matrix

Eastern Kentucky University
Campus Master Plan

Aug 8, 2008
Figure 2.e.vi
Pedestrian Circulation Inventory Map
Eastern Kentucky University
Campus Master Plan
Aug 8, 2008
Figure 2.f.i
Parking Map

Eastern Kentucky University
Campus Master Plan

January 27, 2009
Figure 2.f.ii
Monday Parking Lot Occupancy

Eastern Kentucky University
Campus Master Plan

January 27, 2009
Figure 2.f.iv
Bus 1 Shuttle Route

Eastern Kentucky University
Campus Master Plan

PERKINS + WILL

January 27, 2009
Figure 2.f.vi
Express Shuttle Route

Eastern Kentucky University
Campus Master Plan
PERKINS + WILL

January 27, 2009
Exit 90 Route

Big Hill/Irvine to Main

West bound approach along Eastern Bypass

Exit 87, east bound approach along Eastern Bypass

Figure 2.g

Campus Approaches

Eastern Kentucky University
Campus Master Plan

Revised June 13, 2008
Figure 2.h
Urban Design Context Map

Eastern Kentucky University
Campus Master Plan

Revised June 24, 2008
Figure 2.1
Development Opportunities Map

Legend
- SHORT-TERM OPPORTUNITIES
- MID TO LONG-TERM OPPORTUNITIES
- CURRENT CAMPUS BOUNDARY
- CURRENTLY OWNED PROPERTY

Eastern Kentucky University
Campus Master Plan

Revised June 24, 2008
Facility Conditions

In 2006, Vanderweil Facility Advisors, Inc began a facility condition assessment and space needs study under contract with the Kentucky Council on Postsecondary Education. Completed in 2007, the study addressed select buildings on nine Kentucky higher education campuses. VFA, Inc. performed a facility condition assessment of 55 buildings or 61 percent of Eastern Kentucky University's gross square feet of building space. VFA, Inc. partnered with Paulien and Associates to examine the space adequacy of ten select buildings on the Richmond Campus. The study also included the National Center for Higher Education Management Systems who were responsible for providing recommendations for financing the necessary improvements.

Facility conditions were measured according to the Facility Condition Index (FCI). This index is the ratio of aggregate five year renewal costs for major building components to the replacement value of the building. Renewal costs were determined based on each particular systems' anticipated lifespan. Those systems which had exceeded or were projected to exceed their lifespan within the five year period were deemed to be in need of replacement. The Facility Condition Index does not reflect observed building system performance.

The 55 Eastern Kentucky University buildings studied have a composite five year FCI of 35 percent, nearly double the national benchmark of 18 percent. Nine buildings were found to have no renewal costs and another eight rank below 25 percent. The majority of buildings have a FCI in the range of 25 to 50 percent. Each of the eight remaining buildings were determined to have an FCI between 50 and 75 percent. Buildings with a renewal cost exceeding 75 percent of asset value would be recommended for demolition and replacement. According to the facility condition assessment, no buildings demand this course of action. Figure 2.a reflects these findings. For buildings not identified by the VFA study, conditions shown in Figure 2.a represent those found in the 2003 Campus Master Plan.

Findings of the space study evaluation of adequacy and fit for continued use as conducted by Paulien and Associates are not reflected in Figure 2.a. Utilizing criteria of educational adequacy, Paulien and Assoc. found demolition and replacement to be the appropriate course of action for the Donovan Model School. Among the nine other buildings studied, three were determined to need minor renovations, four are in need of major renovations while two, Cammack and Wallace, were recommended for no action due to recent renovations.
The buildings in poorest condition are found near the historic core of Eastern Kentucky University around the ravine. This pattern reflects the study measure of renewal cost according to the age of building systems. Those buildings with the highest percentage cost of renewal include the Donovan Complex housing the model school and the physical plant at the Rowlett Building.

Much of the new construction in recent years has occurred South of Eastern By-Pass. As a result, many of the buildings in this area of campus require little to no investment. Furthermore, a number of new facilities are scheduled for future development. Planned projects identified in diagram 2.a include the Performing Arts Center, an indoor tennis facility expansion at Adams Building and an addition to Ashland Building. North of Eastern By-Pass, the new Science Building is under development.
Planned Capital Improvements

Eastern Kentucky University reviews and updates the Six Year Capital Plan on a biannual basis. The current capital plan identifies campus improvement and funding sources for the period of 2008 to 2014. Projects are divided into three bienniums with the most immediate needs scheduled to be addressed between 2008 and 2010. The most recent update to the Capital Plan reflects funding of the New Science Building phase 1, the VFA, Inc. facility condition assessment and new enrollment goals as outlined in the Double the Numbers plan.

The 2008-2014 Capital Plan identifies three projects of high priority. The New Science Building phase 2 is the top priority for the current planning cycle. Upon completion, academic programs currently located in the Moore and Memorial Science buildings will be shifted to New Science. Thus creating a need to repurpose these buildings. Second priority of the capital plan is to replace the College of Education complex and model school. This project substitutes for previous plans to renovate and reuse the existing College of Education and model school facilities. The capital plan’s third priority is an addition to and renovation of the student center housed in the Powell Building.

A total of 52 projects divided among all EKU campuses are outlined in the capital plan. Of these, 28 projects are related to renovation or new construction of building facilities on the Richmond Campus. These 28 projects are represented on Figure 2.b. This campus planning effort regards these projects as soon to be existing conditions. Renovation and new construction specific to a particular site are shown at their anticipated location at the best approximate scale. Figure 2.b reveals a concentration of planned renovations located to the north of Easter Bypass, which will begin to address the pattern of poor building conditions shown in Figure 2.a. New construction projects take advantage of the ample open space south of the Eastern Bypass. Projects not attached to a specific site are represented for reference in the diagram legend.
Current Building Use

The Facilities Inventory and Classification Manual, published by the US Department of Education provides a standard for classification of space use. Data provided to the planning team by EKU is organized according to this standard. The FICM space use classification system recognizes 10 major assignable space use categories and 3 major non-assignable categories. Utilizing the data provided by EKU and nine major assignable space categories, campus facilities were identified according to their primary use. These categories include: classroom, laboratory, office, study, special use, general use, support, health care and residential (Table 2.c). A more detailed analysis of current and project space needs is provided in Section 3 of the master plan.

Table 2.c Building Use Classification System

<table>
<thead>
<tr>
<th>Use</th>
<th>Description</th>
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<tbody>
<tr>
<td>Classroom</td>
<td>General purpose classrooms, lecture halls, recitation rooms, seminar rooms</td>
</tr>
<tr>
<td>Laboratory</td>
<td>Rooms containing specialized equipment or a configuration tied to instructional and research activities.</td>
</tr>
<tr>
<td>Office</td>
<td>Offices and conference rooms for various academic, administrative, and service functions</td>
</tr>
<tr>
<td>Study</td>
<td>Study rooms, stacks, reading rooms, library</td>
</tr>
<tr>
<td>Special Use</td>
<td>Military training, athletic and physical education, media production, clinics, demonstration areas, field buildings, animal quarters, greenhouses, rooms serving other unique activities</td>
</tr>
<tr>
<td>General Use</td>
<td>Assembly, exhibition, food facilities, lounges, merchandising, recreation, meeting rooms, child care</td>
</tr>
<tr>
<td>Support</td>
<td>Computing facilities, shops, central storage areas, vehicle storage areas, central services</td>
</tr>
<tr>
<td>Health Care</td>
<td>Facilities used to provide patient care</td>
</tr>
<tr>
<td>Residential</td>
<td>Student, faculty, staff and visitor housing</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Education, Postsecondary Education Facilities Inventory and Classification Manual

Potential development zones represent the type of infill development that is anticipated to occur based on current patterns of building use. Analysis of building use revealed three zones for residential development, three academic zones and a single athletic use zone.

Each residential zone provides for differing demands for undergraduate, graduate or student family housing. The cluster East of Kit Carson, allows for student housing with convenient access to campus facilities and Downtown Richmond. Residential development along Lancaster reinforces and connects current housing facilities on
either side of the Bypass. The final residential zone allows for a new neighborhood to grow on the South Campus.

Academic development zones support classrooms, laboratories, offices and general use facilities. The three areas promote sensitive redevelopment and infill around the ravine, a more intensive development of the south campus and potential campus growth around the Patti Clay Medical Center.

The single athletic zone occupies the remaining campus area. This zone provides for development of recreational uses, sports facilities and outdoor club sports fields. Occupying both sides of Eastern Bypass, the athletic development zone produces an attractive gateway into the campus community.
Cooling:

We would recommend that the building’s cooling load continue to be handled on an individual basis. This will allow the building designers the flexibility to select the best cooling system for each individual project.

Heating:

The North Campus (north of the Eastern Bypass 876) currently has a heating plant that provides steam heating during the cold months. This plant consists of two 47,000 lbs/hr coal boilers, one 60,000 lbs/hr coal boiler and one 30,000 lbs/hr gas boiler. This equates to a total plant capacity of 184,000 lbs/hr of steam generation. Because of the age of the equipment it would not be wise to assume that everything will be able to run at 100%. Therefore, we recommend evaluating the plant’s total output based on its “Firm Capacity”. Firm Capacity is defined as the plant’s total installed capacity minus the largest piece of equipment. For this plant the firm capacity would be 124,000 lbs/hr. The current diversified campus steam load (including the New Science Building due to come on-line in 2011) is 112,897 lbs/hr. This leaves 11,000 lbs/hr of growth in the existing plant.

At the current utility rates it is approximately 3-4 times cheaper to produce steam with coal than gas. This ratio should continue for the foreseeable future. What is unknown at this time is what taxes will be applied to coal (or carbon) that will impact these cost in the future. For the purposes of this study we will assume that the taxes remain as-is.

For the North Campus we would recommend connecting back to the central plant. The 2012 new construction steam load for the North Campus would be 6,615 lbs/hr. We would not exceed the existing plant capacity for the North Campus until we get half way through with the 2017 buildings. The complete master plan new construction steam load for the North Campus would leave us 12,000 lbs/hr short on steam.

Since the lowest line pressures on campus are near the Bypass, it would make sense to add additional capacity to the system at that location. Base on the master plan projects, a boiler plant could be incorporated into the design of either the New Early Childhood Center (250,000 s.f.) or the University Activity Center Phase 2 (95,000 s.f.) and connected back into the central steam piping system. This plant should be designed for at least an N+1 capacity of 12,000 lbs/hr. Boilers could be added as demand increases, however, the pipe headers, under floor plumbing, water fill systems and floor space should be installed at full capacity. This would allow the maximum
use of coal (for cost savings) with minimal piping changes and infrastructure cost.

The South Campus was started with stand alone heating systems and we would recommend continuing with this approach. In order to reliably connect to the existing steam system there should be two major pipe crossings to the south side of the Bypass. Small stand alone gas fired boilers are very efficient, so the only way this would make economic sense would be if you could add new coal boilers. With the code requirements for new coal boilers and with the total additional capacity of South Campus at 40,000 lbs/hr; the payback doesn’t justify the cost.

Steam Piping:

In general the steam piping is in reasonable condition and currently sized adequate for the existing loads. There is a section of piping that is deteriorated and should be replaced near the Gibson Building. This is a major artery out of the plant and will present problems if it breaks on a design heating day.

The condensate pipe is in poor condition. Currently there is only approximately 15-20% of the condensate returning to the plant. This increases the cost of steam and increases the deterioration of the deaeration tanks, boilers and piping due to the increased oxygen levels. We ran the steam model for all three phases (2012, 2017 and Long Term). Main pipe sizes are adequate for the addition capacity. An 8” tie-in between the new steam plant on the existing mains will allow for a simple and inexpensive back feed into the piping system. This also provides increased steam pressures to the buildings on the south side of the central steam system.
NEW STEAM PIPING ON THE NORTH-EAST CAMPUS

New 8” steam piping

Much better pressures on this side of campus

LOCATION OF NEW PLANT AND STEAM PRESSURES
Gas Piping:

The campus is served from two master meters; gas meter #1 is located near the corner of South Second Street and Crabbe Street. This meter is currently being used as a backup meter. Gas meter #2 is located near the corner of Kit Carson Drive and the Eastern Bypass.

90% of the piping has been replaced with plastic pipe however; there is steel pipe between the primary meter, (gas meter #2) and the heating plant. This pipe should be scheduled for replacement. In addition, there is a piece of steel pipe crossing under the Eastern Bypass that serves south campus. This is the only feed for south campus and if it fails, the south campus will be down until it can be repaired or back fed. A permanent secondary feed should be installed at Kit Carson Drive.

We do not see any major issues with gas pipe sizing for the new construction. There may be some areas where it will need to be relocated, but no major conflicts.
Electric:

A 15KV Campus Upgrade project was completed in the last five years that removed the remaining campus 4KV cables and equipment and installed three new 15KV campus circuit loops. In the 15KV campus substation, two independent 15KV circuit breaker lineups feed the circuit loops, with each circuit loop feeding from circuit breakers in each of the two lineups. Each of the circuit loops are phased for closed transition switching, and currently either 15KV circuit breaker in the loop can accommodate the entire load of the loop. The Blue and Red circuit loops feed the north campus, and the Green circuit loop feeds the south campus. On the north campus, the Blue circuit loop has approximately 6MVA more connected transformer capacity connected to it than the Red circuit loop. The New Science Building that will have 6MVA of transformer capacity when operational in 2011, is currently designed to be connected to the Blue circuit loop. In order to balance the loading on the two loops, we recommend that the new 6MVA of transformer capacity be connected to the Red circuit loop by extending the Red circuit loop as required for this connection. Future north campus building loading appears to be fairly evenly distributed between the Blue and Red circuit loops. The Green circuit loop on the south campus is lightly loaded, and should easily accommodate the currently planned future buildings loads.

Communications:

The campus currently has five distinct communication server locations that are interconnected thru the campus communications infrastructure. The individual campus buildings are fed from one of these five server locations. The campus communication expansion should be capable of supporting the future buildings, and capable of supporting a central campus consolidated server facility. Future buildings would be designed to connect to the campus underground communications system thru existing and new conduit. Some of the existing underground conduit systems will need to be supplemented to support the additional communications cables required. New communications ductbank added will contain 4-4" conduits and 2-4" interduct conduits. New communications manholes will be a minimum of 8'X8'X7' in size.
Open Space and Pedestrian Circulation

Figure Ground:

The Figure / Ground Diagram measures and illustrates concentrations of building mass and open space areas. It depicts the relative land coverage of buildings as solid mass “figure” to open voids “ground” showing an existing pattern of mass and void relationships that should be recognized. It further shows continuity of void spaces and illustrates a sense of overall scale.

The diagram has the objective to clarify spatial structure by establishing a hierarchy of spaces. It reveals a predominant field of solids and voids that create the campus pattern. This pattern is punctuated by object buildings, spaces and major landmarks.

On the Eastern Kentucky University Campus, the major concentration of buildings is north of the Eastern By Pass (see diagram 2.e.i). This concentration of building mass and open space provides many opportunities for place making. These areas further offer rich contextual fabric providing an historic, cultural and social experience. As the campus developed south towards the By Pass the density decreases dramatically and place making opportunities decrease.

On the south campus (see diagram 2.e.ii), the building mass is less dense. The creation of outdoor spaces becomes more challenged by the decreased density and decreased contextual fabric. In these areas, utilizing additional place making strategies greatly enhances the campus experience. Water features and naturalized areas on the south campus have and will continue to help define the campus pace.

Open Space Inventory:

The Open Space Inventory Map (see figure 2.e.iii) delineates the primary pedestrian open spaces on the campus. The map distinguishes outdoor pedestrian useable spaces from parking and vehicular circulation areas and defines the variety of functional aspects of pedestrian outdoor space. The following categories have been used to define the spaces at Eastern Kentucky University:

- Casual Gathering Areas and Entry Court Spaces
- Group Gathering Areas and Significant Plazas
- Significant Lawn Areas
- Recreation Spaces
- Naturalized Areas

Casual Gathering Areas and Entry Court Spaces: These spaces are primarily found at or near building entrance areas or as connector spaces where buildings are more densely massed. They are typically used as casual seating and waiting areas for students in route to
classes. They often contain benches, seat walls, canopy tables, chairs, stairways, pedestrian level outdoor lighting, ornamental landscaping and planters. Archetypical spaces include Small Plaza, Arcade, Entry Court, Grand Stairs, Niche Spaces and Enclosed Gardens.

These types of spaces make up a large percentage of the useable pedestrian space on the Eastern Kentucky University campus. Students tend to spend the majority of their time on campus in class and therefore typically will not wander far from buildings.

Group Gathering Areas and Significant Plaza Areas: These spaces are designed for outdoor events and are suitable for large group gathering. Further, they will often accommodate outdoor musical and theatrical performances and outdoor display areas. Archetypical spaces include Quadrangle, Amphitheater, Plaza and Mall.

Eastern Kentucky University has several areas on campus where large numbers of students can gather. The two most significant include the Amphitheater in the “Ravine” and the Student Center Plaza.

Significant Lawn Areas: Significant Lawn Areas have always been a part of the university campus. The word campus comes from the Latin meaning “field.” Prior to 1775 open lawn areas at universities in North America were called “yards.” It is the campus or the lawn surrounding the buildings that comprise the largest element of “ground” on the typical college campus. Much of the open space serves as a campus edge(setback) between buildings and surrounding roadways, foreground open space (front yard) for buildings, large parade grounds, enclosed open spaces between building groups, outdoor recreation areas and significant land holdings for future expansions. Archetypical spaces include Yard, Parade Ground, Mall, Quadrangle and Commons.

Eastern Kentucky University has several significant lawn areas, however, the “Ravine” is the largest area of open space which is completely surrounded by structures and roadways and specifically set apart as a vegetated landscaped “island”. This area includes the amphitheater and is dotted with mature stands of canopy trees. The quadrangle formed by Combs, McCreary, Keith and Bechham Hall along Lancaster Boulevard is a good example of a classic quadrangle or commons area. It is the only one of it's type on campus.

Much of the open lawn area is associated with the edges of major roadways surrounding and penetrating campus. There are several significant zones of open space which greatly help enhance and
frame the campus. These areas include the lawns along Lancaster Avenue, Kit Carson, Park Drive and the Eastern By Pass.

The south campus offers ample opportunity to develop large open lawn areas due to the less dense nature of the development.

Recreation Spaces: Tennis Courts, Baseball Fields, Track Facilities and Intramural Sports Facilities make up a significant portion of the Eastern Kentucky University Campus. Many of the facilities are found integrated throughout the north campus.

Naturalized Areas: Naturalized areas on campuses include open unmowed fields, vegetated and forested areas, glens, ravines, stream corridors, lakes and ponds and meadowlands. These areas are typically found at the perimeter of campus but in many institutions, they become significant main campus features. Archetypical spaces include Meadow, Forest, Clearing, Stream and Pond.

The north campus at Eastern Kentucky University has little in the way naturalized areas. Landscapes that may have once existed on this part of campus have long since been converted to more manicured space. The south campus, has several open areas of transitional farmland remaining which have become naturalized over time.

The Spatial Characteristics Matrix:

The matrix is an inventory of 60 campus spaces. It is defining each space within the following generalized characteristics:

- Plaza
- Entry Court
- Casual Gathering Area
- Group Gathering Areas
- Lawns/ With Pedestrian Circulation
- Lawns / Without Pedestrian Circulation
- Opens Space / With Pedestrian Circulation
- Open Space / Without Pedestrian Circulation
- Naturalized Areas

The purpose of the matrix is to reveal the variety of spaces found on campus and to understand the overall distribution and relationship of these spaces.

Key Recommendations:

Eastern Kentucky University currently offers a wide variety of Open Space Opportunities for students. The north campus offers large group gathering opportunities, quaint seating areas, shaded walkways and walkway niche spaces, sitting opportunities and casual
outdoor dining opportunities. As additional outdoor spaces are created associated with new construction and existing spaces are renovated the following elements should be considered.

**Gathering Area:**

Plazas and gathering areas should be designed to provide people with a variety of places to enjoy within the space. These areas should take advantage of solar orientation, natural shade elements provided by the building or adjacent vegetation, shade structures and pockets of sunshine. They should further offer a variety of seating opportunities including benches, seat walls, canopy tables, trash receptacles and other appropriate site amenities. The gathering areas and seating arrangements should be arranged to promote contact, communication, and informal social life, while allowing for casual people watching along primary pathways.

Carefully coordinated site furnishings and landscape elements will improve creature comfort as well as the campus appearance. Plant material is a key component of outdoor space. Carefully selected canopy trees, ornamental trees, shrubs and ornamental groundcovers will greatly enhance the enjoyment of outdoor spaces. Appropriate selection of hardy deciduous and evergreen plant material, flowering and fragment materials and xeric or drought tolerant materials will greatly improve enjoyment of outdoor spaces.

Adequate and appropriate lighting should be provided in outdoor spaces to allow for evening use and to enhance safety and security for users.

Internet Capability is a key component in outdoor space usability. Plazas associated with main campus buildings should consider wireless networks.

**Open Space Areas:**

Existing open space and lawn areas should be preserved and maintained throughout the campus. These spaces serve in many cases as the foreground image of the campus buildings and greatly enhance the image of “The Campus Beautiful.”

Future Open Space areas should be developed and preserved on north and south campus.

Re-vegetation and landscape restoration for South Campus areas should be considered as a part of an overall open space management plan.

**Pedestrian Circulation Inventory:**
The Pedestrian Circulation system is organized around existing roadways and buildings. The walks serve to move students through and around the campus from adjacent housing and parking areas. The system has evolved organically over time, primarily moving pedestrians along the most direct paths to and from facilities. There is very little meandering of the campus walkways. In some areas, more formalized and geometric alignments have evolved. These areas are associated with formal arrangements of buildings and outdoor spaces.

The Pedestrian Circulation Inventory Maps (figure 2.e.vi and figure 2.e.vii) delineate the major pedestrian and vehicular routes on campus. These maps review the variety of zones found on both the north and the south campus. These zones are defined as the Walkable Campus zone the Athletics zone, the Residential zone, the Model School zone, the Agriculture Research zone, the Business and Tech zone and the Training Complex zone. Though the areas generally overlap one another, these areas precipitate pedestrian activity. The maps further consider connectivity concerns and review primary and secondary circulation paths, bicycle routes, parking areas, shuttle stops and conflict points.

The largest connectivity issue has been and will likely remain to be the physical separation between north and south campus. The Eastern By-Pass formed the southern boundary of the campus for many years. As the campus has grown, land has become available south of the four lane highway and new facilities have emerged. Residential, Agriculture, Business and Training facilities have all been developed in recent years. Access from North Campus is limited. Currently, the majority of pedestrians cross at intersection of Kit Carson Drive. This crossing point is not central to new Business and Tech facilities and most other facilities on South Campus are well beyond a half mile (10 minute) walking radius. Pedestrians tend to jay-walk the more direct route across from the Alumni Coliseum Parking Lot and central to the main campus. This is a dangerous crossing point. There is an efficient shuttle service from main campus and many faculty and students will continue to use this service.

There are several other Pedestrian and Vehicular Conflict points outlined. These exist generally adjacent to parking areas and in areas where there is a high concentration of students. Key points exist along Lancaster Avenue at the Lancaster Parking Lot. Students on route to main campus tend to disregard the long signal times and cross in the heavy traffic. This condition occurs to a lesser degree at the Alumni House Lot and the Pay Lot on College Street. Along Kit Carson Drive, there is a concentration of student parking lots associated with the Residential Campus near Madison Drive. Though crossings exist, students tend to jay walk Kit Carson on their way to...
main campus buildings. Park Drive has several conflict points. The Student Services Building, the Powell Student Center and Todd and Dupree Residential Halls each generate considerable pedestrian activity. Many students crossing Park Drive at this location are on route to remote parking areas, Alumni Coliseum and South Campus.

Upon completion of the New Science Building, there will be considerable congestion at the intersection of Park Drive and Kit Carson. This will be a two way flow as students move east from the main campus core to the building and west from remote parking areas to the main campus.

On South Campus, crossing and pedestrian conflicts exist at Keene Hall. Pedestrians crossing Lancaster Avenue from the dorm heading to the Commercial District to the west tend to jay walk Lancaster as a more direct route.

**Primary Pedestrian Circulation:**

The primary and secondary pedestrian paths have been delineated. These indicate the general movement of students throughout the campus on a typical basis. In general, students move from dorm and parking areas towards the main campus facilities in the morning and reverse the pattern in the afternoon. There are a number of primary access ways along Lancaster Drive, University Drive, Park Drive, College Street, Roy Kidd Way and Kit Carson Drive. Secondary walks occur between building masses connecting University and Park Drive and University and Kit Carson and elsewhere on campus.

Considerable Pedestrian circulation occurs along the walkways connecting the Crabbe Library to the Powell Student Center and along edge of the Wallace Building. There is a heavy concentration of student activity along Park Drive and along University Drive. Along University Drive, the walks lead towards larger plaza spaces and are fairly generous in proportion. Along Park Drive the walks tend to be fragmented and smaller scale.

**The Colonel Walk:**

The “Colonel Walk” along South Madison Avenue connects the campus to downtown. The walk is an effort to enhance the connection between the University and the City of Richmond by creating a safe, well lighted, and visually pleasing linkage. Other strong linkages exist between downtown and the campus and should be considered for future development. The University Drive / Second Street Connection and the Lancaster Avenue Connection each offer excellent potential to enhance the connection.
Pedestrian walkways connect campus buildings and outdoor spaces. These walkways generate the skeleton which gives shape and scale to the campus and provide direction and order to pedestrian movement. Walkways also unite, coordinate and orchestrate the sequence of visual experiences that impart a sense of place. The materials used to construct campus walkways should reflect their usage.

**Key Recommendations:**

The walkways on the Eastern Kentucky University campus serve as a way to move students, faculty and visitors from one building to another during daylight hours. They further provide an opportunity to experience the campus during the off season and during evening hours. Walkways on campus should serve as highways, collector roads, local roads, residential streets and wandering paths.

Major walkways intended to carry larger volumes of students during day to day class changes should be ample enough to accommodate the anticipated peak volume and lead from origin to destination without undo deviation from the route. More circuitous routes are encouraged for minor walkways where interesting terrain, spatial sequence, and leisurely traffic flow is desired.

All future walkways should be completely accessible.

Walkways should be passable in all weather, and constructed of materials that are context sensitive based on their location and sustainable.

Walkways should avoid conflicts between pedestrian traffic and vehicular traffic. Existing and unavoidable conflicts should be mitigated with traffic calming measures.

The intersection of major paths and the spaces around them, should be arranged to encourage participation in campus life.

**Bicycle Circulation:**

There are currently no dedicated bike lanes on North or South Campus. There has been discussion of Public Bikeway along Kit Carson Drive, but this has not yet been realized.
Parking & Transportation

A basic observation of the parking system on campus was performed in the spring of 2008, to understand the need for supply and demand. The following lots functioned at or close to capacity very early in the day: Alumni Coliseum, Case, Martin and the Student Services Building parking lots. Due to the cost of parking decks versus surface lot construction, and with the available real estate on campus, additional surface parking lots are a viable option, if continuous shuttle services to these lots are provided.

We noted during our site observations, that safety issues exists with traffic flow into and out of the Alumni Coliseum parking lot. A redesign of Alumni lot is recommended for better traffic flow and pedestrian safety.

Several new parking lots, new roadways and road relocations are proposed for the Master Plan. See the attached table for a list and estimated cost of these lots and roadways.

With these new lots and roadways, improving shuttle service to all permit lots will be necessary as new proposed buildings come on-line. The current shuttle service for Routes 1 and 2, indicate a delayed system. For improved service, a continuous (no delay) service is recommended starting with the first phase of the Master Plan. In addition, an extended route service is recommended for Routes 1 and 2. Routes 1 and 2 may travel the same extended route, but should do so in the opposite direction. A 15 minute service is considered optimum for continuous service, therefore, 2 buses should be considered for continuous service on each of Routes 1 and 2.

Utilities: Storm-water Management

All proposed facilities generating runoff (buildings, parking, sidewalks) are well served by existing storm sewer system throughout the campus.

Our analyses indicate a few storm water quality issues should be addressed, these include:

1. The Coal storage facility may require having containment of storm-water and possibly treatment (low pH water) prior to discharge into storm sewer or drainage system.

2. A cross-contamination of storm-water may exist from a connection of a sanitary sewer to the storm sewer system. This may occur in the area/vicinity of Burnham Hall and Clay Hall. An investigation via smoke testing or color-dye laden
water may render positive results indentifying the cross-connection.

3. Redevelopment of the property west of Lancaster Avenue (7.6 Acres) may require a close look at the detention area on the west side of the property.

Utilities: Wastewater

With the newly proposed buildings for the Campus Master Plan, utility mains for sanitary sewer will need to be constructed. These new mains are included in the presentation documents. The attached list includes the quantity/total length of pipes proposed for construction for each Phase and includes the engineering estimated costs of construction. Other concerns noted during our needs analyses, are the age of several pumping/lift stations on campus. In coordination with EKU facilities division, we have recommended upgrades be performed on at least 3 of the 9 total lift stations (8 operated by EKU and 1 by the City of Richmond). To meet the need of continued development and increasing capacity, the pumping/lift stations at Stratton Building and the City pumping/lift station at Kit Carson Drive and Lancaster Avenue, should be upgraded during Phase 1, by year 2012. For Phase 2, and by year 2017, the pumping/lift station by the Model School and the Begley Building should be upgraded.

An inventory of the lift stations provided by EKU and comments are shown in table 1 below.

Analysis of internal and external networks is beyond the current scope of work, but these too should be considered as the plans are firmed up.

Utilities: Water

Water capacity/available is well served to the campus. A very intricate network of waterline exists on campus. To serve areas of new construction, sections of water-mains are to be extended. The proposed extensions are to the new Garden Apartment Lots proposed for Phase 1 and to the new Telford Buildings proposed for Phase 2. The estimated costs associated with these water-main extensions are shown on the attached list.
Table 1. Lift Station Inventory Analysis

<table>
<thead>
<tr>
<th>NO.</th>
<th>LIFT STATION</th>
<th>SIZE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stratton Building</td>
<td>4&quot; Suction, 4&quot; Discharge</td>
<td>Overworked</td>
</tr>
<tr>
<td>2</td>
<td>Begley Building</td>
<td>6&quot; Suction, 6&quot; Discharge</td>
<td>Old, 1962, No parts</td>
</tr>
<tr>
<td>3</td>
<td>Stone (Law Enforcement) Building</td>
<td>1 ¼&quot; Discharge Submersible</td>
<td>New, 2-3 years</td>
</tr>
<tr>
<td>4</td>
<td>McKinney Skills</td>
<td></td>
<td>8 years old</td>
</tr>
<tr>
<td>5</td>
<td>Memorial Science</td>
<td>4&quot; Discharge Submersible, 3hp</td>
<td>Old, 1960’s, pump replaced</td>
</tr>
<tr>
<td>6</td>
<td>Campbell Building</td>
<td>4&quot; Discharge Submersible, 3hp</td>
<td>New pumps, Controls old, 1960’s</td>
</tr>
<tr>
<td>7</td>
<td>Model School</td>
<td>2-4&quot; Discharge Submersible, 15 hp</td>
<td>Built in 1960’s, new pumps in 2001, pipe redone.</td>
</tr>
<tr>
<td>8</td>
<td>Martin Hall</td>
<td>2-4&quot; Discharge Submersible, 20 hp</td>
<td>New pumps in summer 2008, controls old.</td>
</tr>
<tr>
<td>9</td>
<td>City’s at Kit Carson Drive &amp; Lancaster Ave.</td>
<td>8-10&quot; Suction, 8&quot; Discharge</td>
<td>Old</td>
</tr>
</tbody>
</table>
Arrival

The photographic record of campus approaches provides the visual context of each major route to campus from Interstate 75 and the surrounding area. Four routes were assessed; the blue route traces the approach to campus from Exit 90. The red route follows Big Hill/Irvine from the east to Main Street. The green route illustrates the campus approach from the west along the Eastern Bypass. The yellow route details the entrance to campus from I-75 Exit 87 along the Eastern Bypass.

For each approach, four images depict the character and imagery of the surrounding roadway path. The transition from commercial uses to the EKU campus from along the Eastern Bypass, from both the east and westbound directions, lacks a sense of arrival. The campus approaches also lack clear signage directing motorists to the campus. In most cases where signs are present, they are small and hard to spot.

There are significant opportunities, however, to improve and clarify major approaches to Campus. For instance, from the westbound approach along the Eastern Bypass the overhead railway forms a literal front door to the campus. With improved lighting, signage, and/or architectural imagery the bridge could be made into an iconic gateway to enhance the approach to campus. Other approaches may be improved through gateway signage and monuments, enhanced landscaping, roadway treatments, and/or campus oriented development with campus-consistent architectural styles and elements.
The Urban Design Context Map outlines campus and neighborhood character areas, illustrates potential issues, and identifies iconic campus features that serve as points of orientation on the EKU Campus.

The EKU Campus includes three main components (or character areas): North Campus, the Athletics Area and South Campus. The Eastern Bypass separates Main Campus from South Campus presenting significant connectivity and walkability issues. The campus is surrounded by residential areas to the west and north, commercial and industrial uses to the east, and largely undeveloped rural land to the south. Several roadways connect Main Campus to Downtown Richmond. The Colonel Path has been created to provide a direct link to the central business district. However, additional walkways may be necessary to further enhance connectivity from EKU to Downtown Richmond. An understanding of land uses surrounding the campus is key to creating comfortable transitions between campus and community and considering future facility development projects and expansion areas.

Blue rings on the Urban Design map indicate important gateways to and from the EKU Campus. These gateways are areas that could create a sense of arrival and identity for the campus. Campus iconic features, from water towers to overhead railways, should be seen as opportunities to organize campus spaces and precincts and enhance the stature of and sense of arrival to the campus.
DEVELOPMENT OPPORTUNITIES

The Development Opportunities map illustrates concentrations of land that may be considered for short term and long term development or re-development. Short term development opportunities tend to be vacant or “available” land while long term opportunities may presently be occupied, but redeveloped over time to replace aging facilities, enhance the campus environment, and address campus needs. Areas within the blue boundary line indicate development opportunities on property currently owned by EKU. Yellow shading indicates short term opportunities while red shading indicates longer term opportunities.

The opportunities map illustrates the abundance of available land and, thus, short term development opportunities to expand the EKU Campus south of the Eastern Bypass. What is likely less apparent to those who use and visit the campus often is the number of long term redevelopment opportunities on North Campus. Areas that currently serve as surface parking lots, are occupied by scattered, low-density buildings, and some athletic areas in north campus locations may be considered as potential sites for longer term campus infill projects that could enhance the character and efficiency of the Campus. Several small infill sites between campus and Downtown Richmond are also open for redevelopment.

Other important redevelopment opportunities that could enhance campus entries and campus life lie within the commercial areas on the east and west side of campus along the Eastern Bypass. New commercial development in these areas has the potential to provide campus-supporting retail goods and services. A potential “University Village” along the Eastern Bypass could create a new anchor near south campus, improve entries to the EKU Campus and offset a lack of major retail services north of campus.

Residential development is taking place around EKU’s campus. Off campus housing opportunities are being built such as, Colonel’s Ridge a 12 building development just east of South Campus off of Cycle Drive.

DEVELOPMENT PARTNERSHIPS

This urban design assessment has referred to potential development opportunities and improvements that fall outside of the current EKU campus boundary. While not currently under the control of the University, these properties have a significant impact on the appearance and perception of the EKU Campus and impact the types of goods and services available to the campus community within a close, walkable distance. Undoubtedly, relationships between
college campuses and the surrounding community are complicated. However, the University may have several tools to impact development and redevelopment surrounding campus.

**University Foundation** - University Foundations over the last decade have become increasingly more active in acquiring and developing land surrounding college campuses in a manner that extends the University’s reach and campus appearance. Many University Foundations have become active partners to improve campus entryways and edges through the establishment of Alumni Centers, Conference Centers, Athletics Facilities and other similar facilities that support the campus community, but may be developed by a Foundation as a private entity supporting campus needs.

**Public/Private Development** - Often colleges and universities have available property, donated property or the ability to acquire property surrounding their current campuses, but lack the capital funding to construct new facilities. A new wave of private development firms have begun to partner with colleges and universities to provide campus or campus-serving facilities including student and/or facility housing, campus bookstores and retail, dining services, student wellness and recreation centers, etc. The goal of these public/private development opportunities is to lower the initial development cost (for the private developer and the University) while providing facilities that will enhance the campus environment.

**Private Development with Campus Participation** - Similar to public/private development arrangements, partnerships (formal or informal) between the University and private development entities can result in new campus-oriented facilities that can improve the area outside of the traditional college campus. Most often this type of development is undertaken financially by a private developer, but the development is made possible by an agreement from the University to lease space within the development for a specified period of time. In return for agreeing to occupy space, the University is given the opportunity to influence the design and development of the project. Similar arrangements have been successful for housing developments where a local college or university agrees to lease (or encourage their students to lease and/or provide for any financial shortfall) a specified number of units for a given number of years and for office/service buildings where the institutional leases a specified number of square feet for a given period at a specified lease rate.

**Campus Area Design Guidelines/Public Administration** - Colleges and Universities have also been successful in impacting development surrounding their campuses by working with the local municipality to create design guidelines, overlays, or specialized zoning codes for campus impact areas. While the university may need to provide
funding for the development of a specialized ordinance, the local municipality administers the ordinance as new development and/or redevelopment occur. Public regulations have the potential to impact the uses, character, appearance and height of developments surround the University campus.
Figure 3
Future Campus Program

Eastern Kentucky University
Campus Master Plan

Construction to Meet Space Needs

- Offices
  3 Levels
  195,154 GSF
- Study/Library
  3 Levels
  52,306 GSF
- Physical Education & Recreation
  2 Levels
  43,026 GSF
- Clinic
  6,818 GSF
- Student Center
  3 Levels
  238,994 GSF
- Work/Storage
  21,510 GSF
- Hazardous Materials
  3,164 GSF
- Health Care
  819 GSF

Additional Construction

- State Police Academy
  3 Levels
  90,000 GSF
- Model School
  2 Levels
  280,000 SF
  24 Acre Site
- Housing 10 Year Projection
  - Future Housing 1: Semi-Suites
    4 Levels
    200 Beds / 200 Parking
  - Future Housing 2: Suites
    4 Levels
    200 Beds / 200 Parking
  - Future Housing 3: Suites
    4 Levels
    200 Beds / 200 Parking
- Arena Addition
- Baseball Stadium
- Softball Stadium
- Indoor Tennis Facility Expansion
  17,000 SF
- Recreational Sports Fields
- Additional Parking
  (To Be Determined According to Campus Improvements)

Funded Capital Improvements: Includes projects indicated on plan

- Student Housing
  Suites Phase 1
  4 Levels
  300 Beds / 300 Parking
- Garden Apartments
  2 Levels
  400 Beds / 200 Parking
- Suites Phase 2
  4 Levels
  100 Beds / 100 Parking

January 27, 2009
Richmond Campus Detail Comments

Existing Conditions
Existing Assignable Square Feet (ASF) categorized by FICM were provided by EKU per document ‘Room Assignment’ workbook.
Weekly Student Contact Hours (WSCH) were provided via an EKU Spring 2008 Class Schedule and space categories were then sorted by P+W.
Assumed Richmond existing population = 10,807 FTE

Methods for Calculating Space Needs
Projections include two windows, and were based on: a) ‘Ten Years Deans’ Projections’ and b) CPE Target.
Various standards and methods were used for comparisons. They include the following:
- State of Kentucky CPE Standards
- Paulien 2004 Study
- Benchmark data from a variety of colleges and universities (collected by P+W)
- CEFPI standards (‘Council for Educational Facilities Planner International’, used by many states and academic planners)
### Cat 110/115 Classrooms

Existing per P+W 2008 = 197,069 ASF  
Paulien Existing 2004 = 206,614 ASF

#### Need

- **Method 1:** CEFPI WSCH $\times$ Spƒ yields 121,411 (CEFPI)
- **Method 2:** Kentucky CPE benchmark of 12 ASF/FTE yields 129,684 ASF (also P+W Benchmark)
- **Method 3:** Paulien 2004 yields 155,496 (10.0 ASF/FTE per Kentucky CPE)

#### Benchmarks

- **KCPE Comprehensive Universities (2004)**
- KCPE Average = 16 ASF/FTE
- KCPE range = 10-21 ASF/FTE
- EKU = 18.12 ASF/FTE

**Conclusion:** Surplus capacity = 67,385 ASF.

At 18.12 ASF, EKU is slightly above the KCPE average, yet significantly higher than other university benchmark observed by P+W.

**Observation:** If Student Center Learning was to be firmly established, then 16 ASF/FTE should be the target ASF. This, however, conflicts with Kentucky CPE which lists 10 ASF. If SCL allocation is set at 16.0 ASF/FTE, then need is 194,944 ASF (very close to P+W Existing ASF)

**Note:** Classroom usage data was supplied by EKU. It appears that there are some anomalies in the data that suggest reviewing reporting methods to ensure accuracy.

---

**Classroom Capacity vs. Class Size**

Classroom capacity indicates a shortage of classrooms in the 21-40 seat range. Classrooms capacity of 10-20 indicates an adequate number. Classrooms of less than 10 seats are in excess, and potentially if combined into larger classrooms, could help the shortage of classrooms sized 21-40.
EKU’s pattern of classroom use by day and by hour is fairly typical, in that Monday through Wednesday has the highest use and the hours from 9:00 a.m. through 3:00 p.m. are fairly well used. However, there are some time periods where classroom use is well below the target of 70%. As well, Friday is well below the desired utilization rate. This pattern is reflected in the overall ASF/FTE level for classrooms being above the Kentucky CPE average.

Due to some anomalies reflected below date (ex: Thursday at 10:00 a.m.), there appears to be some discrepancies in the recording of classroom use data. Review of the classroom use data may give a more accurate perspective.
Weekly Room Use
+ Station
Occupancy Rate

Weekly room use hours by capacity indicates that classrooms in the 10-25 and 200+ meet the targeted rate of 30 hours per week. With better use of classrooms of all sizes (either through scheduling or reconfiguring classrooms to sizes more in demand), then EKU’s rate of ASF/FTE would be more in line with the Kentucky CPE average.

### Cat 210/215 Instructional Lab

Existing per P+W 2008 = 84,261 ASF  
Paulien Existing 2004 = 76,769 ASF

**Need**
- Method 1: CEFPI WSCH x Sp yields 86,846 ASF (CEFPI)
- Method 2: Paulien 2004 ASF/FTE yields 129,580 ASF
- Method 3: Kentucky CPE benchmark 10.0 ASF/FTE yields 108,070 ASF

**Benchmarks**
- KCPE Average = 12 ASF/FTE
- KCPE range = 6-25 ASF/FTE
- EKU = 7.80 ASF/FTE

**Conclusion:** Shortage of 23,809 ASF per CPE standards. EKU is at low end of CPE benchmark range.

### Cat 220/225 Open Lab

Existing per P+W 2008 = 179,848 ASF  
Paulien Existing 2004 = 191,526 ASF

**Need**
- Method 1: ASF/FTE yields 45,126 ASF (CEFPI 3.7 ASF/FTE)
- Method 2: Paulien 2004 ASF/FTE yields 103,664 ASF (8 ASF/FTE)
- Method 3: Kentucky CPE benchmark 8 ASF/FTE yields 86,456 ASF

**Benchmarks**
- KCPE Average = 9 ASF/FTE
- KCPE range = 4-15 ASF/FTE
- EKU = 16.64 ASF/FTE

**Conclusion:** Surplus capacity = 93,392 ASF

**Question...** is some space surplus due to: a) self-guided instruction, b) "ownership" of lab by departments, c) other
Consideration per James Street: EKU student’s limited financial capability indicates additional need for computer station access.

### Cat 250/255 Research Lab

<table>
<thead>
<tr>
<th>Existing per P+W 2008</th>
<th>Paulien Existing 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,726 ASF</td>
<td>6,090 ASF</td>
</tr>
</tbody>
</table>

**Need**
- Method 1: Kentucky CPE benchmark 700 ASF/$100,000 of research expenses (data not available)
- Method 2: CEFPI 40 ASF/FTE yields 26,520 ASF
- Method 3: Paulien 2004 yields 10,775 ASF

**Benchmarks**
- KCPE Average = 3 ASF/FTE
- KCPE range = 0.29-8 ASF/FTE
- EKU = 0.992 ASF/FTE

Conclusion: shortage of 15,794 ASF (per CEFPI), as well as below KCPE average.

### Cat 300 Offices (incl Conf)

<table>
<thead>
<tr>
<th>Existing per P+W 2008</th>
<th>Paulien Existing 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>430,620 ASF</td>
<td>436,312 ASF</td>
</tr>
</tbody>
</table>

**Need**
- Method 1: CEFPI FTE staff yields 403,845 ASF
- Method 3: Kentucky CPE benchmark 195 ASF/Staff x 155 ASF yields 435,638 ASF
- Method 2: Paulien 2004 Staff FTE of 2,326 yields 453,570 ASF

**Benchmarks**
- KCPE Average = 35 ASF/FTE
- KCPE range = 23-61 ASF/FTE
- EKU = 39.84 ASF/FTE

Conclusion: EKU is close to KCPE average
Also, % of total ASF = 24.07% which is within P+W benchmark range

### Cat 400 Study (Library)

<table>
<thead>
<tr>
<th>Existing per P+W 2008</th>
<th>Paulien Existing 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>123,930 ASF</td>
<td>125,244 ASF</td>
</tr>
</tbody>
</table>

**Need**
- Method 1: CEFPI yields 120,434 ASF
- Method 2: Paulien 2004 yields 125,244 ASF
- Method 3: Benchmark 12 ASF/FTE yields 120,434 (P+W benchmark)

**Benchmarks**
- KCPE Average = 11 ASF/FTE
- KCPE range = 7-20 ASF/FTE
- EKU = 11.46 ASF/FTE

Conclusion: Within range
**Cat 500**

**Armory**  
Existing per P+W 2008 = 7,836 ASF  
Paulien Existing 2004 = N/A  

**Conclusion:** No standard…. per individual institution. Existing is serving need adequately.

---

**Cat 520**

**Physical Education**  
Existing per P+W 2008 = 161,387 ASF  
Paulien Existing 2004 = 164,044 ASF  

**Need**  
Method 1: CEFPI core of 50,000 + 10 ASF > 3,000 FTE yields 143,070 ASF.  
Method 2: Paulien yields 150,350 ASF (per Kentucky CPE)  
Method 3: Kentucky CPE at 12,184 FTE yields 140,670  
(12.10 ASF per 100% UG, 25% Grad + 15% staffing)  

**Benchmarks**  
KCPE Average = 20 ASF/FTE  
KCPE range = 4-59 ASF/FTE  
EKU = 13.24 ASF/FTE  

**Conclusion:** If seating area of 76,867 ASF is removed from category, then ASF is within range.

---

**Comparison**

<table>
<thead>
<tr>
<th>Total of Cats</th>
<th>P+W</th>
<th>Paulien Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>530 – 590 +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>473,486</td>
<td>330,350</td>
</tr>
<tr>
<td>Need</td>
<td>293,313</td>
<td>233,244</td>
</tr>
<tr>
<td>600 (excludes Phy Ed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Pauline study used 18 ASF/FTE  

**Benchmarks**  
KCPE Average = 19 ASF/FTE  
KCPE range = 7-32 ASF/FTE  
EKU = 51.80 ASF/FTE  

**Conclusion:** we suspect that the 473,486 figure is too high (category issue?), since VFA report stated 25 ASF.

---

**Cat 530**

**Media**  
Existing per P+W 2008 = 20,250 ASF  

**Need**  
Method 1: CEFPI rate of 0.5 ASF/FTE yields 6,092 ASF; 10,000 ASF minimum  

**Conclusion:** Existing space is twice the target.  
**Note:** could be due to KTLN broadcast, extended campuses.

---

**Cat 540**

**Clinic**  
Existing per P+W 2008 = 936 ASF  

**Need**  
Method 1: CEFPI rate of 0.4 ASF/FTE yields 4,323 ASF  

**Conclusion:** Actual ASF area may be underreported.  
**Note:** James Street to investigate (Speech & Hearing, Psychology, others not included?)
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Existing per P+W 2008</th>
<th>Need</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat 550 Demonstration</td>
<td></td>
<td>600 ASF</td>
<td>Method 1: CEFPI rate of 0.1 ASF/FTE yields 1,081 ASF (or ad hoc)</td>
<td>No need for adjustment if existing is serving need adequately.</td>
</tr>
<tr>
<td>Cat 560 Animal Quarters</td>
<td></td>
<td>1,577 ASF</td>
<td>Method 1: CEFPI rate of 0.2 ASF/FTE yields 2,161 ASF</td>
<td>No need for adjustment if existing is serving need adequately.</td>
</tr>
<tr>
<td>Cat 580 Greenhouse</td>
<td></td>
<td>27,130 ASF</td>
<td>Method 1: CEFPI rate of 0.5 ASF/FTE yields 5,404 ASF</td>
<td>Existing space is four times the target.</td>
</tr>
<tr>
<td>Cat 590 Other</td>
<td></td>
<td>2,499 ASF</td>
<td></td>
<td>No comment.</td>
</tr>
<tr>
<td>Cat 610 Assembly</td>
<td></td>
<td>56,546 ASF</td>
<td>Method 1: CEFPI core of 14,000 + 2 ASF &gt; 5,000 FTE yields 38,614 ASF (includes adjustment for Music and Theatre ed programs)</td>
<td>Exceeds target by 17,000 ASF.</td>
</tr>
<tr>
<td>Cat 620 Exhibition</td>
<td></td>
<td>16,993 ASF</td>
<td>Method 1: CEFPI rate of 0.5 ASF/FTE yields 5,404 ASF</td>
<td>Exceeds target by 11,589 ASF.</td>
</tr>
</tbody>
</table>

Notes:
- Cat 550: Model School ASF of 82,989 ASF separated from totals.
- Cat 580: James Street to investigate actual use (instructional, production, other?).
- Cat 610: Factors include theatre, Business + Technology Building, EKU Regional Center for Performance.
### Cat 630 Food Service

**Existing per P+W 2008 = 139,249 ASF**

**Need**
- Method 1: CEFPI per P+W method yields 95,844 ASF
- Method 2: Birchfield Jacobs Food Systems (P+W Consultant) yields 91,344 ASF
- Method 3: CEFPI ‘Modified’ yields 93,741 ASF
- Method 4: CEFPI per EKU Stats yields 146,898 ASF
- Method 5: General Benchmark 9 ASF/FTE yields 109,656 ASF

**Conclusion:** Deficit of 7,649 ASF. Although the deficit is relatively small, it was discussed that there are certain locations on campus that appear crowded at selective times. Could be anecdotal or could be ‘spot peaks’ per locations on campus.

### 640 Day Care

**Existing per P+W 2008 = 0 ASF**

**Need**
- Any future needs discussed?

### Cat 650 Lounge

**Existing per P+W 2008 = 83,809 ASF**

**Need**
- Method 1: CEFPI rate of 2 ASF/FTE yields 21,614 ASF
- Method 2: Alternative method using P+W Benchmark at 2% of total ASF yields 35,767 ASF

**Conclusion:** Existing exceeds CEFPI target by 59,000 ASF.

### Cat 660 Retail

**Existing per P+W 2008 = 16,456 ASF**

**Need**
- Method 1: CEFPI rate of 2 ASF/FTE yields 21,614 ASF

**Conclusion:** Space category is 33% short of target.

### Cat 670 Recreation

**Existing per P+W 2008 = 95,666 ASF**

**Need**
- Method 1: CEFPI rate of 1.5 ASF/FTE yields 16,211 ASF

**Conclusion:** Space surplus is 5 times target.

**Note:** James Street to investigate actual use.

**Note:** 36,000 ASF in Resident Halls, 20,000 ASF in Powell Student Center.

### Cat 680 Meeting

**Existing per P+W 2008 = 11,775 ASF**

**Need**
- Method 1: CEFPI minimum yields 20,000 (1.0 ASF/FTE > 10,000 FTE)

**Conclusion:** Is there a need indicated on campus for more Meeting space?
**Question:** minimal off-campus outreach?
### Comparison Table

<table>
<thead>
<tr>
<th>Total of Cats</th>
<th>Existing</th>
<th>Need</th>
<th>PW</th>
<th>Paulien Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>710 – 760</td>
<td>113,559</td>
<td>89,269</td>
<td>93,272</td>
<td>103,664</td>
</tr>
</tbody>
</table>

Note: Pauline study used 8 ASF/FTE

**Benchmarks**
- KCPE Average = 10 ASF/FTE
- KCPE range = 3-18 ASF/FTE
- EKU = 10.50 ASF/FTE

Conclusion: very close to KCPE average.

### Cat 710 Data

**Existing per P+W 2008 = 17,408 ASF**

**Need**
- Method 1: CEFPI core of 4,000 + 0.75 ASF/FTE > 5,000 FTE yields 8,355 ASF

Conclusion: Existing ASF is roughly twice the target. Should the CEFPI standard be increased due to more recent equipment needs?

### Cat 720/730/740 Work/Storage

**Existing per P+W 2008 = 76,264 ASF**

**Need**
- Method 1: CEFPI 5% of all ASF yields 68,232 ASF (excludes 720 – 745)

Conclusion: Existing ASF exceeds need by 8,000 ASF, however, James Street stated that this space category is considerably short of area needed per current operations.

### Cat 750 Central Service

**Existing per P+W 2008 = 19,160 ASF**

**Need**
- Method 1: CEFPI rate of 1.0 ASF/FTE yields 10,807 ASF

Conclusion: Unclear at this time. (review whether some excess capacity in Cat 750 should actually be categorized as Cat 720/730/740?)

### Cat 760 Hazardous Materials

**Existing per P+W 2008 = 727 ASF**

**Need**
- Method 1: CEFPI rate of 2% Cats 720-745 + 3% Cat 250 yields 2,235 ASF

Conclusion: Considerably undersized per calcs and discussion.
### Cat 800
**Health Care**

Existing per P+W 2008 = 5,648 ASF

**Need**
Method 1: CEFPI yields 4,642

**Conclusion:** Within ASF range, but quality of space is issue.

---

### GRAND
**TOTAL of all ASF**

Existing per P+W 2008 = 1,788,370 ASF yields 165.48 ASF/FTE
Paulien Existing 2004 = 1,634,906 ASF yields 126.2 ASF/FTE

**Benchmarks**
- KCPE Average = 134 ASF/FTE
- KCPE range = 83-255 ASF/FTE
- EKU = 165.488 ASF/FTE
- Range observed by P+W for comparable state institutions: 60-145 ASF

**Similar institutions:** 96 ASF/FTE
- Bowling Green
- Indiana State
- Northern Kentucky
- UNC Greensboro
- Western Kentucky
- Wright State
Summary Comments

- Richmond Campus

From a campus wide perspective, the Richmond campus current ASF/FTE is somewhat above the Kentucky CPE average of 134 ASF/FTE. The 10 Year Target puts EKU right at the average.

In general, the Richmond Campus has sufficient space to operate its educational endeavors in most space categories. Major space type categories that indicated a deficit include: Teaching Labs and Research Labs. Major space type categories that indicate a surplus include: Classrooms, Open Laboratories, Greenhouses, Lounge, and Recreation. This consultant believes that coding of existing space for Lounge and Recreation may be skewing the space model.

Classroom space shows a square footage surplus, which is also indicated in hourly room use reports. Tighter scheduling within the next few years would start to absorb the surplus space. However, if ‘Student Center Learning’ is to be widely adopted, the Kentucky CPE standard of 12 ASF/FTE should be increased to 15-16 ASF/FTE. Doing so would bring the space demand very close to the existing square footage.

Teaching Laboratory space shows a deficit of almost 24,000 ASF. From a benchmark perspective, the Kentucky CPE average for teaching lab space is 12 ASF/FTE, while EKU is 7.80 ASF/FTE. Also, EKU is at the low end of Kentucky’s CPE range of 6-25 ASF/FTE.

Open Laboratory space shows a significant excess. This point was discussed with administrators quite early in the discovery phase of the planning work. It was discussed that with EKU’s service region including a high rate of economically depressed communities, students are unable to provide personal computers, and that the Open Lab space supplants that inability by providing computers via Open Labs.

Research Lab space indicates a deficit of almost 16,000 ASF. EKU shows 0.992 ASF/FTE while the Kentucky CPE lists a range of 0.29-8 ASF/FTE with an average of 3 ASF/FTE. During the planning process, it was stated that a goal of EKU was significantly increase the amount of research being performed on campus. This increase will obviously create a demand for more research lab space to be constructed.

Greenhouse space is approximately four times the predicted target. The types of Greenhouse were questioned, whether instructional, production, other, etc. Based on discussions with administration, the
existing space indicated was assumed to be necessary in meeting EKU’s needs.

_Lounge and Recreation_ space categories indicate significant excesses. However, there were major questions as to how space in Categories 500 and 600 have been classified on campus, and that incorrect coding of space types can significantly skew these categories. Miscoding of Categories 500 and 600 is seen on many campuses this consultant has worked with, and EKU has indicated that they will be reviewing in detail to make sure that space analysis is not skewed in future work.

**Note on Satellite Campuses**

Detailed space analysis was not performed on the following campuses, however, campus-wide space analysis was performed on a benchmark basis so that administrators could better manage space need targets in the future.

- **Extended Campuses**

  Based on the ‘Ten Years Deans’ Projections’, it was acknowledged that the extended campuses (Corbin, Danville, Manchester and Hazard) will all be ultimately functioning as an extended, full service campus. As a full service campus, a benchmarked target of 75 ASF/FTE has been assigned to the extended campuses.

- **Corbin Extended Campus**

  Corbin’s current square footage is 23,932 ASF, which equates to 38 ASF/FTE. This figure is understandable for an extended campus, however, with the growth in programs expected to occur, the 10 Year Target brings the space model up to 75 ASF/FTE. The 75 ASF/FTE target has been benchmarked against other institutions with similar satellite campuses.

- **Danville Extended Campus**

  Currently, the Danville Campus indicates 11,864 ASF, which equates to 35 ASF/FTE students. This figure is understandable for an extended campus, however, with the growth in programs expected to occur, the 10 Year Target brings the space model up to 75 ASF/FTE. The 75 ASF/FTE target has been benchmarked against other institutions with similar satellite campuses.

- **Manchester Extended Campus**

  The Manchester consists of 9,556 ASF, which equates to 71 ASF/FTE. The Manchester has grown more recently under different
circumstances than Corbin or Danville, and is thus at a higher ASF/FTE rate. The 10 Year Target for Manchester Campus is also 75 ASF/FTE.

- **Hazard Extended Campus**

Existing ASF data was not available. As an ‘Extended’ campus, and based on the discussions with EKU administration for anticipated growth, Hazard would also be predicted for the 10 Year Target to be in the neighborhood of 75 ASF/FTE.

- **Centers**

Fort Knox, Lancaster and Somerset Centers did not have existing ASF available. As Centers, and not full service extended campuses, the 40 ASF/FTE target was benchmarked against similar institutions with satellite Centers.

Potential development zones represent the type of infill development that is anticipated to occur based on current patterns of building use. Analysis of building use revealed three zones for residential development, three academic zones and a single athletic use zone.

Each residential zone provides for differing demands for undergraduate, graduate or student family housing. The cluster East of Kit Carson, allows for student housing with convenient access to campus facilities and Downtown Richmond. Residential development along Lancaster reinforces and connects current housing facilities on either side of the Bypass. The final residential zone allows for a new neighborhood to grow on the South Campus.

Academic development zones support classrooms, laboratories, offices and general use facilities. The three areas promote sensitive redevelopment and infill around the ravine, a more intensive development of the south campus and potential campus growth around the Patti Clay Medical Center.

The single athletic zone occupies the remaining campus area. This zone provides for development of recreational uses, sports facilities and outdoor club sports fields. Occupying both sides of Eastern Bypass, the athletic development zone produces an attractive gateway into the campus community.
Summary Table of Existing ASF/FTE versus Target ASF/FTE

NOTE: Ten Year target is based on the ‘Ten Years Deans’ Projections’.

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<th>Existing</th>
<th>10 Year Target</th>
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<td>Somerset Center</td>
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Figure 4.a.i.

Concept A: Colonel Path

Development Framework

Eastern Kentucky University
Campus Master Plan

September 14, 2008
Figure 4.a.ii:
Concept B: Campus Parkway
Building Use

Eastern Kentucky University
Campus Master Plan

September 14, 2008
Figure 4.a.iii
Concept C: Nodes & Neighborhoods
Development Framework

Eastern Kentucky University
Campus Master Plan

September 14, 2008
Figure 4.a.iii
Concept C: Nodes & Neighborhoods
Building Use

Eastern Kentucky University
Campus Master Plan

September 14, 2008
Concept Evaluation

The planning team studies three alternative development concepts for the Campus utilizing the campus program as presented in Figure 3. The three concepts presented to the steering committee and key stakeholders were debated based on the Concept Evaluation Matrix, included in the appendix of the Master Plan. Topics given primary importance for comparison purposes include: satisfaction of the guiding directives of the planning process, ability to meet planning principles, provision for circulation, safety and security, campus sustainability and economics.

Each concept provides an individual image, identity and use pattern. The three concepts are: Colonel Walk, Campus Parkway and Nodes and Neighborhoods. Each is described by a pair of drawings (Figure 4 series). The first drawing describes the development framework of the concept. Existing and new buildings are shown for the future campus along with new surface parking areas, organizing open spaces, model landscape restoration zones and circulation corridors through campus. The second drawing in each concept pair describes proposed building use according to categories described for Figure 2.c - Current Building Use. Also shown is a proposed bus route through the campus.

Colonel Walk

The Colonel Walk creates a pedestrian main street connecting the Ravine to the south campus. Secondary circulation corridors provide for east west connections from new residential sites along Kit Carson and an enhanced link to downtown Richmond. The concept guidelines highlight key components of the Colonel Walk.

Concept Guidelines:
• Creates pedestrian “Main Street”
• Strengthens connections from Ravine to South Campus building sites – parallel to Lancaster
• New north quad of housing concentrated along realigned Madison corridor
• Secondary vehicular / mixed use path along Kit Carson
• Brockton area redeveloped for housing and rec
• Powell expanded between signature open spaces
• Academic expansion focused on renovation/addition/ redevelopment
• COE and New Student Center anchor South Campus gateway & pedestrian bridge
• Apartments and community fields anchor south end
• Visitors oriented to new Lancaster Commons
Campus Parkway

Kit Carson is improved to create a shared bicycle, pedestrian and vehicular parkway. Following the existing current road alignment on the north campus, safety is enhanced with traffic calming measures. The parkway is extend on the South Campus, connecting to new garden apartments.

Concept Guidelines:
• Creates shared vehicular/ pedestrian parkway
• Strengthens building sites along secondary “side streets”
• Academic expansion and “front door” programs clustered on Kit Carson and Bypass
• Crossroads frame major facilities
• Northern housing lines parkway
• Powell expansion focuses on streetscape
• New Student Center links special use zone of BT to Kit Carson
• COE anchors campus crossroads at BT
• Stadium, Model School fields and Community park reinforce sports image of Bypass
• Justice and Safety brought forward to reinforce wayfinding and campus connections
• South housing links to community and model

Nodes and Neighborhoods

Nodes and Neighborhoods are developed through the campus in the spirit of the historic core around the ravine. Primary circulation occurs at the edge with secondary paths through the core connecting the unique nodes.

Concept Guidelines:
• Creates program/ open space clusters
• Groups expanded facilities around developed nodes
• Colleges can have distinct identities
• Each node Frames open space/ learning commons
• Housing developed at distinct north, west and east gateways
• Powell expansion shifts to Lancaster
• Library expansion makes use of Moore
• Academic expansion shifts primarily to South Campus
• COE anchors South Lancaster gateway / Model School links to model landscapes
• Rec sports located on “Wellness Corridor”
• Visitors oriented to new Bypass Commons
Figure 5.2
Enlarged Campus Plan North

Eastern Kentucky University
Campus Master Plan

PERKINS + WILL

July 17, 2009

Legend
Existing
Renovation
New Construction
Future Construction
Open Space Improvements
Parking Lot Improvements

Recommendations

1. New student housing. Approximately 400 beds in (3) three to four story buildings with a 10,000 sf student retail adjacent to Telford.
2. Future student housing at intersection of Madison Drive and Summit Street. Approximately 150 beds in a three story building.
3. Future student housing along Kit Carson Drive. Three buildings of four stories with approximately 140 beds per building.
4. Renovation of Moore into office facilities.
5. Whalen Complex renovation and 10,000 sf addition.
6. Renovation of Comba.
7. New Studio for Academic Creativity and renovation of Crabbe Library.
10. Renovation of Weaver and Powell for 40,000 sf library, expanded student center and circulation link.
12. New four story, 100,000 sf Health Science Building.
13. Renovation and repurpose of Commonwealth Hall (118,762 sf) into office facilities.
14. 152,762 sf renovation of Alumni Coliseum and 40,000 sf addition.
15. 250,000 new model school and classroom / office facility
17. 95,000 sf University Activity Center phase 2.
19. Future, 1.9 acre, redevelopment of Alumni House area.
20. Future, 5.1 acre, redevelopment of Brockton area.
21. Two future four story, 112,000 sf buildings along Eastern Bypass.
22. Surface parking improvements to include 12" planted median and green islands.
23. Front lawn extension along Lancaster and short term parking.
24. Pedestrian and bicycle bridge over Eastern Bypass

*See Figure 5.2 for Open Space improvements
Recommendations

1. New four story, 60,000 sf, University Information Technology Center and library.
2. New Performing Arts Center, phase 2 of Business / Technology Center.
4. 17,000 sf indoor tennis facility expansion providing two additional courts.
5. New two three story conference center. Accommodates 42,000 sf for meeting and office facilities relocated from Business / Technology Center phase 2 facility.
6. 12,500 sf addition to Ashland Building for fire and safety offices, classrooms and labs.
7. Three story, 60,000 sf addition to Stratton Building.
8. New, 30,000 sf State Police Academy building.
10. Future three story buildings along Lancaster. One 67,500 building and two 48,000 sf buildings perpendicular to Lancaster.
11. Future three story buildings along Kit Carson Drive. One of 36,000 sf and one of 48,000 sf.
12. Relocated driving course.
13. Future 15 acre development area, east of Pattie A. Clay Hospital for Health Science campus.

*See Figure 5.a.ii for Open Space Improvements

Legend
- Existing Renovation
- New Construction
- Future Construction
- Open Space Improvements
- Parking Lot Improvements

Figure 5.a.ii
Enlarged Campus Plan South

Eastern Kentucky University
Campus Master Plan

July 17, 2009
RECOMMENDATIONS:

1. Strengthen Colonel Wall and Pedestrian Connection to downtown Richmond along Second Street. Provide canopies and flowering trees, ornamental landscaping, plants, lighting and barriers to pedestrian walkway to reinforce the pedestrian walkway.

2. Provide shade trees and ornamental plantings to proposed parking lot along Crabbie Street and Second Street. Consideration should be given to the development of Rain Garden Detention Island where feasible in order to reduce storm water run-off.

3. Develop campus gateway landscape feature at intersection of Crabbie Street and Lancaster Avenue. The gateway should include new signs, lighting, barriers and landscape elements.

4. Maintain existing vegetation and mature tree canopy in "The Ravine".

5. Create landscape feature (place in proposed roundabout at University Drive.

6. Develop campus lawn and green space along the Powell Student Center Addition at the Weaver Building. Reinforce space with canopy trees, trees, lighting and seating.

7. Create campus entrance at University Drive along Lancaster Avenue. Provide new signs, lighting, barriers and landscape elements.

8. Limit access along Park Drive and develop pedestrian oriented space. Provide shade and ornamental tree plantings, site furnishings, lighting and planters.

9. Create campus entrance at Park Drive along Lancaster Avenue. Provide new signs, lighting, barriers and landscape elements.

10. Create outdoor pedestrian area at Water Tower adjacent to Alumni Coliseum. Provide large growing shade tree varieties and area to strengthen pedestrian link to south campus.

11. Provide shade and flowering trees to create pedestrian "Avee" along Coliseum parking lot.

12. Enhance vehicular and pedestrian circulation from the Eastern By-Pass to the Coliseum Entrance. Remove large elaborating tree-shaded walk and create outdoor landscape feature and plaza at Coliseum. Enhance parking circulations and pedestrian walkway to Coliseum. Provide new canopy trees, flowering trees and ornamental plantings to strengthen defined experience.

13. Develop main campus gateway along Eastern By-Pass at Lancaster Avenue. This gateway element should include major canopy shrubs and other features such as walls, columns and ornamental fencing, shade and flowering trees, ornamental landscaping, lighting, barriers and other site improvements.

14. Enhance the Boulevard along Eastern By-Pass. Include shade and flowering tree plantings, ornamental shrubs and low level landscape elements, barriers, lights, signs and other site improvements.

15. Develop campus entrance node for north and south campus at intersection of Eastern By-Pass and Kit Carson Drive. This area should include signage and entrance features such as walls, columns and ornamental fencing, shade and flowering trees, ornamental landscaping, lighting, barriers and auxiliary signs.

16. Enhance Kit Carson corridor and roundabout landscape features. Include shade and flowering tree planting, ornamental plantings, lighting, barriers, signs and other site improvements.

17. Develop landscaped medians along Kit Carson Drive. Enhance existing mature tree canopy and provide additional shade and flowering trees along corridor. Consider the implementation of rain gardens within medians to reduce storm water runoff.

Figure 5.b.i   EKU Landscape Master Plan North

Eastern Kentucky University
Campus Master Plan

Perkins + Will
Dec 3, 2008
RECOMMENDATIONS:

10. Develop pedestrian bridge across By-Pass. Provide lighting, barriers, signage and other site improvements. Continue development of Colonel Walls on south campus. Reinforce walk with shading from buildings, site improvements and signs.

11. Develop 3rd Canopy Circle corridor on south campus. Provide canopy trees, flowering trees, ornamental landscaping, lighting, barriers, site improvements and signs.

12. Develop south campus entrance roundabout landscape feature and plaza from the Eastern By-Pass.

13. Develop garden area and outdoor space around the existing water feature. This area should be similar in size and scale to north campus "Garden.

14. Enhance proposed parking areas. Provide shade trees for heat island control. Provide rain garden median for storm water runoff control.

15. Enhance proposed parking areas. Provide shade trees for heat island control. Provide rain garden median for storm water runoff control.

16. Develop south campus entrance along By-Pass. Include site improvements, lighting, barriers, street and decorative plantings.

17. Develop playground, outdoor recreation and outdoor athletic areas for proposed family housing development. Open space areas should include shade trees, flowering trees, green screen, ornamental plantings and open lawn areas. Special outdoor garden areas should be included within each building cluster.

18. Riparian Zone: This area would be suitable for the development of riparian plant communities, artificial wetland areas, aquatic plant species and environmental education demonstrators associated with wetland species and water quality.

19. Hillside Zones: These areas would be suitable for the establishment of forest and woodland communities and would increase the development of a bluegum forest habitat. This area could include interpretive trails and demonstration areas.

20. Ridge Zone: The ridge areas would be suitable for the development of a native and prairie plant community. These would support the development of an adaptive Biosphere Reserve landscape. The arboretum structure, access, parking facilities, trails and other facilities would be best suited to these natural and native species along the ridge areas of the campus.

Figure 5.b.ii EKU Landscape Master Plan South

Eastern Kentucky University
Campus Master Plan

Dec 3, 2008
The following section describes the preferred development scenario for the Campus Master Plan. Drawings of the fully developed plan show recommended building locations, future site improvements, landscape features, walks, parking and other infrastructure in appropriate detail for a strategic, “birds-eye-view”.

The overall campus plan describes future building use and the colonel walk. Enlarged north and south campus building plans identify new construction, renovation and proposed future building sites. Landscape plans describe new plantings and model landscape development on the south campus.

To provide additional information - and aid stakeholders envisioning campus growth – dynamic models are included to show vignettes of three specific areas, each with its individual image, identity, and use patterns. These zones are: the coliseum area, the south campus lake area, the Kit Carson/Madison student housing community.

North Campus:

The north campus continues to function as the heart of the Eastern Kentucky University campus. Renovation of Crabbe, Combs, Weaver and Powell are a few of the improvements that will ensure EKU facilities meet future demands for learning. New undergraduate housing is concentrated in the north campus along Kit Carson and Madison Drive. The proposed housing will add enough beds to house 35 percent of the projected student population. Landscaping and traffic calming measures planned for Kit Carson will link students to Downtown Richmond in the north and across the Easter By-Pass to the south.

Key development opportunities include:

- Front door orientation to Lancaster
- Pedestrian “Main Street” along Second - parallel parkway along Kit Carson/Madison
- Establish Kit Carson as campus / community connector
- Strengthen undergraduate core around the Ravine
- North housing quad linked to Telford and Walters
- New Science Science/ Research neighborhood panned for flexibility and expansion
- Powell expanded between heritage buildings and signature open spaces anchored by student life and services
- Strong pedestrian connection between Alumni Coliseum and the future Performing Arts Center
- Redevelopment of the Donovan site with new model school and showcase College of Education building at Lancaster and Eastern By-Pass
South Campus:

Recent capital improvements have taken hold in the south campus. Future phases of the Business and Technology center will begin to establish a cluster of future facilities around the water. Open lands owned by the University will be enhanced as model landscapes for wetland, forest and savannah plan communities. New student family housing will be developed to take advantage of a relocated city park and the natural setting.

Key development opportunities include:

- Business & Technology, Continuing Education and Justice & Safety frame South Campus Gateways
- Student family Housing developed near the planned community park and takes advantage of South campus Model Landscapes
- Partnership opportunities with campus perimeter development South Campus facilities cluster around bowl-like topography and water creating a new home-base for activities
- Improved campus entry at Kit Carson and Lancaster.
- Strengthened pedestrian access to the north campus
- Create a home base for student families on the South Campus
- Establish model landscapes across South Campus
Figure 5.c.i
Water Tower Site Existing Condition

Figure 5.c.ii
Water Tower Plaza
Figure 5.c.v
Colonel Walk and Bypass Study 1
Figure 5.c.vii
Colonel Walk and Bypass Study 3
Figure 5.c.iii
Kit Carson Housing Study 1
Figure 5.c.iv
Kit Carson Housing Study 2
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<p>| <strong>Open Space:</strong>       |              |                     |      |                |          |
| S1                    | Colonel Path |                     |      |                |          |
| S2                    | New Roundabout at University Drive and Crabbe Street |                     |      |                |          |
| S3                    | University Drive Cul-de-sac |                     |      |                |          |
| S4                    | Watertower Plaza |                     |      |                |          |
| S5                    | Kit Carson Parkway |                     |      |                |          |
| S6                    | New Roundabout at Kit Carson and Van Hoose Drive |                     |      |                |          |
| S7                    | South Campus Improvements with Arena Drive |                     |      |                |          |
| S8                    | South Campus Lakeside Improvements |                     |      |                |          |
| S9                    | City Park |                     |      |                |          |</p>
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<td>R11</td>
<td>Ashland Lot Expansion</td>
<td>$69,293</td>
<td>11,800 sf</td>
<td>34 Stalls short term parking &amp; Drop-off</td>
</tr>
<tr>
<td>not shown</td>
<td>Water Supply</td>
<td>$293,328</td>
<td>3,400 lf</td>
<td>New 6-inch lines for proposed buildings</td>
</tr>
<tr>
<td>not shown</td>
<td>Sanitary Sewers</td>
<td>$377,000</td>
<td></td>
<td>$800 LF (8&quot; lines); 2,000 L f (12&quot; lines); Upgrade/Replace 2 Pump Stations - City and at Stratton Bldg</td>
</tr>
<tr>
<td>Location / Legend Key</td>
<td>Project Type</td>
<td>Unit Costs (2008 $)</td>
<td>Area</td>
<td>Funding Source</td>
</tr>
<tr>
<td>-----------------------</td>
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</tr>
<tr>
<td><strong>Buildings:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Future Kit Carson Residential Buildings</td>
<td>$200</td>
<td>$250</td>
<td>50,000 gsf</td>
</tr>
<tr>
<td>B2</td>
<td>Future Residential Building 4</td>
<td>$200</td>
<td>$250</td>
<td>54,000 gsf</td>
</tr>
<tr>
<td>B3</td>
<td>New Health Sciences Building</td>
<td>$300</td>
<td>$325</td>
<td>100,000 gsf</td>
</tr>
<tr>
<td>B4</td>
<td>not used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B5</td>
<td>Case Renovation</td>
<td>$100</td>
<td>$150</td>
<td>114,566 gsf</td>
</tr>
<tr>
<td>B6</td>
<td>Combs Building Renovation</td>
<td>$75</td>
<td>$100</td>
<td>132,164 gsf</td>
</tr>
<tr>
<td>B7</td>
<td>Powell Renovation and Expansion</td>
<td>$200</td>
<td>$225</td>
<td>154,000 gsf</td>
</tr>
<tr>
<td>B8</td>
<td>Weaver Renovation</td>
<td>$100</td>
<td>$150</td>
<td>62,094 gsf</td>
</tr>
<tr>
<td>B9</td>
<td>University Activity Center Phase 2</td>
<td>$225</td>
<td>$250</td>
<td>95,000 gsf</td>
</tr>
<tr>
<td>B10</td>
<td>Begley Building Renovation</td>
<td>$75</td>
<td>$100</td>
<td>123,595 gsf</td>
</tr>
<tr>
<td>B11</td>
<td>Moore Renovation</td>
<td>$75</td>
<td>$100</td>
<td>123,595 gsf</td>
</tr>
<tr>
<td>B12</td>
<td>Softball Stadium Renovation</td>
<td>$200</td>
<td>$225</td>
<td>OT-P</td>
</tr>
<tr>
<td>B13</td>
<td>New University Information Technology Center</td>
<td>$225</td>
<td>$250</td>
<td>30,000 gsf</td>
</tr>
<tr>
<td>B14</td>
<td>New Conference Center</td>
<td>$225</td>
<td>$250</td>
<td>40,000 gsf</td>
</tr>
<tr>
<td>B15</td>
<td>New State Police Academy</td>
<td>$200</td>
<td>$225</td>
<td>90,000 gsf</td>
</tr>
<tr>
<td>S1</td>
<td>Club Sports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>West Powell Quad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>MMBc Park</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td>Park Drive Pedestrian Corridor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S5</td>
<td>Vickers Drive Improvements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S6</td>
<td>Lancaster Ave Campus Gateway</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>Heat Plant Upgrade and Renovations</td>
<td></td>
<td>7,257 gsf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R2</td>
<td>New Residential and Telford Lots</td>
<td>$860,662</td>
<td>221,250 sf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R3</td>
<td>New Jones Lot</td>
<td>$121,562</td>
<td>46,250 sf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R4</td>
<td>New South Second Street Lot (City Park site)</td>
<td>$867,958</td>
<td>223,125 sf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R5</td>
<td>Kit Carson Lot South of By-Pass</td>
<td>$413,312</td>
<td>196,250 sf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R6</td>
<td>State Police Lot Expansion</td>
<td>$389,000</td>
<td>100,000 sf</td>
<td>General Fund</td>
</tr>
<tr>
<td>R7</td>
<td>By-Pass Pedestrian Bridge East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R8</td>
<td>Lancaster Lot Improvements</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>not shown</td>
<td>Sanitary Sewers</td>
<td>$276,208</td>
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<tr>
<td>not shown</td>
<td>Water Supply</td>
<td>$138,880</td>
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<tr>
<td>Location / Legend Key</td>
<td>Project Type</td>
<td>Unit Costs (2008 $)</td>
<td>Area</td>
<td>Funding Source</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------</td>
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<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Demolition:</td>
<td>Model School</td>
<td>119,752 gsf</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mattox</td>
<td>37,648 gsf</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>McGregor</td>
<td>122,577 gsf</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miller</td>
<td>11,477 gsf</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beckham</td>
<td>14,685 gsf</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>McCreary</td>
<td>11,113 gsf</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Memorial Science</td>
<td>40,426 gsf</td>
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<tr>
<td></td>
<td>Brockton Duplex Housing</td>
<td>27,904 gsf</td>
<td></td>
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<tr>
<td>Location / Legend Key</td>
<td>Project Type</td>
<td>Unit Costs (2008 $)</td>
<td>Area</td>
<td>Funding Source</td>
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<tr>
<td>----------------------</td>
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</tr>
<tr>
<td><strong>Buildings:</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Future Science Building Addition</td>
<td>$300</td>
<td>$325</td>
<td>108,000 gsf</td>
</tr>
<tr>
<td>B2</td>
<td>Future Eastern Bypass Development</td>
<td>$200</td>
<td>$250</td>
<td>224,000 gsf</td>
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<tr>
<td>B3</td>
<td>Future Lancaster Avenue Development 2</td>
<td>$200</td>
<td>$250</td>
<td>96,000 gsf</td>
</tr>
<tr>
<td>B4</td>
<td>Future Lancaster Avenue Development 1</td>
<td>$200</td>
<td>$250</td>
<td>67,500 gsf</td>
</tr>
<tr>
<td>B5</td>
<td>Future Perkins Area Development 1</td>
<td>$200</td>
<td>$250</td>
<td>36,000 gsf</td>
</tr>
<tr>
<td>B6</td>
<td>Future Perkins Area Development 2</td>
<td>$200</td>
<td>$250</td>
<td>45,000 gsf</td>
</tr>
<tr>
<td>B7</td>
<td>Health Science Campus Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B8</td>
<td>Alumni House Area Redevelopment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B9</td>
<td>Brockton Area Redevelopment</td>
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</tr>
<tr>
<td>B10</td>
<td>West of Lancaster Redevelopment</td>
<td></td>
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<tr>
<td><strong>Open Space:</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S1</td>
<td>Colonel Path</td>
<td></td>
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<tr>
<td><strong>Infrastructure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>South Campus Loop Road</td>
<td>$1,118,600</td>
<td>5,000 ft</td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>New Lancaster Parking Lot</td>
<td>$473,138</td>
<td>116,250 sf</td>
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</tr>
<tr>
<td>R3</td>
<td>New Kit Carson Parking Lot</td>
<td>$138,000</td>
<td>41,780 sf</td>
<td></td>
</tr>
<tr>
<td>not shown</td>
<td>Sanitary Sewer</td>
<td></td>
<td>4,200 ft</td>
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</tr>
</tbody>
</table>
The following implementation summary and cost analysis is based on the Preferred Campus Plan as outlined in section 5. Development phasing is divided according to short term building projects - Phase 1 2012, long term building projects - Phase 2 2017 and extended term building projects - Phase 3 Future. Phasing has been proposed based on space needs, current allocation of funds and proper sequencing to ensure the balance of useable space, parking and access. Generally, projects identified by the 2008 - 2014 Six Year Capital Improvement Plan are included in first phase. Phase 2 implements additional projects to meet requirements for the Deans’ 2017 Vision. Phase 3 provides guidance and flexibility for extended term campus growth.

Demolition

Demolition of existing facilities is necessary in limited instances to ensure the best use of the Eastern Kentucky University Campus.

Through the initial phase of the Campus Master Plan, demolition is limited to non-academic facilities. Six residential structures, located along Summit Street, are proposed for demolition during phase 1. The removal of these buildings will allow for the development of new, multi-story student housing facilities and the realignment of Madison Drive.

Relocation of existing programs to facilities building in phase one of the master plan allows for further demolition to occur in subsequent stages. The second phase of the master plan proposes demolition of six facilities which will no longer adequately serve the purposes of Eastern Kentucky University. These include Donovan, Mattox, Miller, Beckham, McCreary and Memorial Science. The tower structure of
Miller hall will be preserved, anchoring an expanded campus lawn along Lancaster Avenue.

No further demolition is proposed for the final phase of the campus master plan as remaining development opportunities are achieved.

New Construction

New construction includes both additions and free standing facilities. As many as nine additions to existing facilities have been identified including Whalen Complex, Alumni Coliseum, Adams Building, Ashland Lab, Powell and later stages of the New Science Building. New infill building sites across campus provide for seven residence halls and ten academic, administrative and student support facilities. An additional twelve buildings are planned for a student family residential community on the south campus. For future flexibility, eight extended term building sites and four development areas have been identified.

New construction cost per square foot as shown in the cost matrix is based on building space type with some regard to economy of scale for larger projects.

Renovation

Projects in this category include both large and small scale improvements to existing facilities. Fifteen projects have been identified in total. Small scale projects include the accessibility improvements and exterior repairs to Begley. Renovation projects also ensure the most efficient use of existing space. The Case Annex, for example, will be repurposed from office space into student housing to compliment housing in Case Hall. In conjunction, office space will be supplemented with renovations to Commonwealth.

Other renovation projects include the Alumni Coliseum, Presnell, Whalen, Begley, Combs and Moore and the installation of the Studio for Academic Creativity at Crabbe Library. Improvements will also be made to the existing baseball and softball complexes.

A building assessment was not performed as part of this master plan update. As reported by Facility Condition Assessment completed in 2007, most of the buildings on campus were built over 30 years ago and many building systems are nearing their end of useful life. Given the general good state of the existing buildings, the assumption for short term building renovation projects is that at baseline only minor system repairs and finish upgrades are included. For buildings that will change use - such as from housing to office space - an increased cost was assumed over the baseline to accommodate the new use.
This would include new partitions and more extensive systems upgrades.

For long term renovation projects the baseline renovation was assumed to be more extensive and include more extensive systems repair or replacement and finish upgrades. Again for renovation projects where the building will change use, an increase in cost was assumed for more extensive systems retrofit and finish upgrades.

**Renovation Assumptions**

Short Term – baseline renovations will include:

- Repairs and upgrades to HVAC, electrical, lighting, and fire alarm systems
- Upgrades in AV/IT infrastructure as required
- ADA compliance for toilet rooms, elevator controls and building entries, etc.
- New finishes: paint, new carpet, and repair or of ceilings
- Selective interior demolition to accommodate work

Long Term – baseline renovations will include:

- New or extensive upgrade of HVAC, electrical, lighting, fire alarm, AV/IT, and plumbing
- ADA compliance for toilet rooms, elevator controls, complete accessibility throughout the building including new hardware and signage.
- New finishes: paint, wall treatments, flooring, ceilings and millwork
- New window systems
- New partitions and doors
- Full interior demolition to accommodate new work

**Site Improvements**

New construction cost per square foot is based on open space type with some regard to economy of scale for larger projects. Converting campus streets to limited access routes – as well as construction of the Colonel Walk – will require a significant budget for landscape development on par with the quality of Eastern Kentucky University buildings.

**Infrastructure**

Infrastructure projects have been identified to address utility demands as well enhanced campus parking and circulation. Each phase includes costs to repair and expand the sanitary sewers and water lines that serve EKU. An upgrade of the heat plant is scheduled for
phase 2. Increased demands for parking and plans to improve campus circulation require the construction of 3,316 surface parking stalls. An additional 306 stalls have been identified for future expansion.

**Land Acquisition**

There are no acquisition costs associated with the Campus Master Plan. All components of the university academic, student life, circulation and utility needs can be accomplished on land currently owned by Eastern Kentucky University.
Campus Standards
Design Guidelines
Building Form

1. Scale and massing
2. Building character
3. Materiality
4. Loggias and entrances
5. Outdoor gathering areas
6. Vistas and visual corridors
Design Guidelines

The purpose of the Design Guidelines is to encourage new construction and renovation that supports the ideals of the Campus Beautiful and forms a coherent identity for the campus as a whole. Historically, the EKU campus has included a diverse family of buildings. The best of them reflect their own place and time and are bound together with similar composition and complementary material palettes. Although much of future campus develop will likely occur south of the Bypass away from the historic core, the Design Guidelines especially apply here. These guidelines are intended to be a living document that supports innovation, safety, flexibility and evolving uses, while enhancing the visual and civic integrity of the campus fabric. Some of the key issues that informed this work include:

• Reinforce the campus as a memorable, historic destination.
• Ensure that campus facilities utilize best practices in regards to sustainability and adopt LEED guidelines.
• Support campus community, student retention and alumni bonds.
• Strengthen connections between the north and south campuses.
• Ongoing assessment and innovation is vital to continuing excellence.
• Reinforce links to the university and Richmond communities.
• Create safe and healthy work and study environments for students, staff and faculty.
Scale and Massing
Campus buildings must plan for flexibility. Future development must respect the scale and massing of the historic campus fabric.

• New buildings shall have a floor-to-floor height of at least 15 feet 4 inches, to allow adequate space for infrastructure and accommodate future technology requirements. Roof top equipment shall be concealed by an enclosure designed as an integral element of the architecture.

• Shape building massing to provide building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views. New construction shall be designed to maximize interior day lighting. In service to providing views and adequate natural light, 75’-80’ is the recommended maximum building width. Along Lancaster Avenue, new buildings shall present their main façade to Lancaster.

• Classroom buildings shall have no more than four occupied floors above grade.

• Respect and utilize the existing topography when siting new buildings.

• Minimize the development footprint and maximize open space to promote biodiversity.

• Consider existing shuttle routes and bicycle paths when identifying new building sites.
**Building Character**

The predominate style of the historic core is Georgian Revival, characterized by simple volumes, symmetrical facades and pavilion entrances.

- Future EKU building shall be sensitive to the predominate character of the campus architecture.
- EKU buildings shall be characterized by predominately rectangular plan elements, upright facades and vertically articulated elevations. Designers should interpret campus design precedents without mimicking the Georgian architectural language.
- Elevations should be organized into regular, vertically oriented bays. Rooflines are to have a predominately horizontal orientation. Entry pavilions shall not extend above the height of the main building volume. Parapets that mask low slope or ‘flat’ roofs are the campus standard.
- Coordinate light fixture selections with existing campus lighting. Exterior lighting should be integrated with architecture, match campus standards and meet night sky standards (ASHRAE/IESNA Standard 90.1-2004). Wallpack lighting is not acceptable.
Materiality

New buildings are to use materials that respect the predominate finish palette of the campus. Select durable materials that express firmness and quality.

• The historic core of the EKU campus is a simple, elegant material palette, generally comprised of red brick and light stone.

• New construction should respect and reinforce the qualities of the existing buildings and adhere to this material palette. Specify local, durable, low maintenance building materials.

• Building systems and architectural details are to be simple, highly buildable and effective, utilizing proven, economical technologies. In general, precast concrete is not an acceptable substitute for stone cladding. No synthetic stucco products are permitted. Lesser amounts of metal and wood may be used may be used in conjunction with glass, brick and stone.

• Wherever possible, specify recycled, reclaimed and/or rapidly renewable materials for new construction and remodels.

• The well-being and comfort of building occupants is to be ensured through the adoption of ASHRAE Standard 62.1-2004: Ventilation For Acceptable Indoor Air Quality.

• Roofs: low slope with a Solar Reflectance Index of 78 or greater

• Walls: light stone, red brick with some zinc, copper or bronze

• Windows: clear or lightly tinted glass in white frames. Dark or reflective glass is prohibited.
Loggias and Entrances
These sheltered access zones are important opportunities to connect building occupants to open space.

- Locate open space, buildings and entrances with regard to solar orientation and the Richmond climate (South and East exposures are preferred). New buildings are to include a plaza at the main entrance to support informal gathering. Plaza should include appropriate paving materials, lighting and furnishings.

- New construction shall include double vestibules and permanent entryway systems at least six feet long to capture dirt and particulates.

- Provide loggias and porches to offer protection from the elements and serve as informal gathering areas.

- Orient service entries and loading docks away from entries. All building equipment shall be concealed within enclosures designed as integral elements of the architecture. Accommodate trash collection with easily accessible interior trash/recycling/receiving rooms, sized to accommodate collection and storage of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals. Exposed dumpsters are not acceptable.
Outdoor Gathering Areas

Informal gathering spaces encourage productive collisions between members of the campus community. In pleasant weather they can act as outdoor rooms for learning.

- Locate outdoor gathering areas adjacent to building entrances.
- Include informal seating in both sunny and shaded locations.
- Use building faces and massing to reinforce visual axes and protect open spaces.
- Position gathering areas to maximize visibility and form safe spaces.
- Include appropriate site furnishings and lighting.
- Provide various sizes and forms to accommodate class meetings and one-one conversation.
Vistas and visual corridors
Maintain existing vistas and visual corridors.

- Orient building faces to reinforce visual corridors and open spaces.
- Use building massing to enhance entries to campus.
- Preserve views across campus and frame visual landmarks.
- Plan for building expansion that will not compromise significant vistas and visual corridors.
- Minimize development footprint and maximize open space to protect visual corridors.
Outdoor spaces and gathering areas should be designed to provide people with a variety of places to enjoy within the space. These areas should take advantage of solar orientation, natural shade elements provided by the building or adjacent vegetation, shade structures and pockets of sunshine. They should further offer a variety of seating opportunities including benches, seat walls, canopy tables, trash receptacles and other appropriate site amenities.

The gathering areas and seating arrangements should be arranged to promote contact, communication, and informal social life, while allowing for casual people watching along primary pathways. Carefully coordinated site furnishings and landscape elements will improve creature comfort as well as the campus appearance.

Plant material is a key component of outdoor space. Carefully selected canopy trees, ornamental trees, shrubs and ornamental groundcovers will greatly enhance the enjoyment of outdoor spaces. Appropriate selection of hardy deciduous and evergreen plant material, flowering and fragment materials and xeric or drought tolerant materials will greatly improve enjoyment of outdoor spaces.

Adequate and appropriate lighting should be provided in outdoor spaces to allow for evening use and to enhance safety and security for users.

Internet Capability is a key component in outdoor space usability. Plazas associated with main campus buildings should consider wireless networks.

Open Space Areas:

Existing open space and lawn areas should be preserved and maintained throughout the campus. These spaces serve in many cases as the foreground image of the campus buildings and greatly enhance the image of “The Campus Beautiful.”

Future Open Space areas should be developed and preserved on north and south campus. Re-vegetation and landscape restoration for South Campus areas should be considered as a part of an overall open space management plan.
Recommendations:

Exterior spaces should be able to serve a number of purposes; while their primary function may vary from gathering spaces for large groups and/or performances, to small groups or individuals, they should be flexible enough to accommodate many uses.

Exterior spaces may be either very formal with specific programmatic uses (i.e. outdoor café space, amphitheaters, etc.) or informal and open to interpretation of their use.

Generally speaking, most exterior spaces should provide seating primarily on the periphery, areas of both sun and shade, a focal point, and good traffic patterns. Large spaces should be broken up with smaller areas to prevent plaza spaces from appearing to be too vast and uninviting.

For the purpose of discussing design criteria for exterior spaces, they are categorized by primary function below.

Building Entrances
Pedestrian Nodes
Special Use Spaces
Performance/Outdoor Classroom
Dining
Gateways
Niches

Building Entrances:

At primary building entrances, the exterior spaces should be developed from materials and forms that compliment the building architecture, but do not compete with the façade.

Entrance spaces should provide for informal seating in the form of seatwalls. Both walls and paving materials should reference the building materials.

Entrance spaces should be sized and with adequate seating tailored to each individual building’s needs.

Amenities should be provided at all primary building entrance spaces including waste receptacles and bicycle racks; these should be located in a non-obtrusive way, but be visible and convenient.
Pedestrian Nodes:

Nodes should be sized according to the number of paths, which lead into the space and the amount of pedestrian traffic.

The plaza areas should not interrupt traffic flow; seating etc. should usually occur at the edges/perimeter of the space as this is also typically where people like to sit. Seating should be informal; seatwalls are preferred when possible.

Changes in pavement material and detailing should be utilized; materials should be compatible with other campus materials in general and specifically buildings, walks and spaces in close proximity.

Nodes should include amenities like seating, waste receptacles and may also serve as good locations for directional and/or interpretive signage.

Special Use Spaces:

All special use spaces should utilize materials compatible with the campus that are also durable and easy to maintain.

Special use spaces should contain ample amenities such that they can be used for many purposes and should be flexible enough to be functional at all times.

Performance spaces such as amphitheater and educational/outdoor classroom spaces should be designed to provide good acoustics, include a stage area and incorporate a large amount of seating, preferably in the form of seat walls or curbing. Amenities including waste receptacles and bicycle racks should be considered depending on the location of such spaces and anticipated use.

Exterior dining spaces should incorporate tables and chairs; these should be useable for casual gathering as well as dining. In order to make the dining space useable throughout more of the year, umbrellas or shade structures are recommended.
Gateways:

The term gateway can encompass many types of entry; in this case, it is meant for those exterior spaces, which serve not only as a visual entry or edge marker for the campus, but also an important place marker for campus.

Changes in material are suggested to help indicate pedestrian gateways as entry portals to campus; these should have a similar vocabulary throughout the campus for the sake of unity and ease in interpretation.

Seating should occur primarily along the edges in the form of seatwalls. Other amenities should include waste receptacles and bicycle racks as these areas may be used as transition zones for those that bike to campus.

Directional signage to indicate important campus destinations should be included at gateways; interpretive signage that provides additional context to the campus and the area is also well located at gateway areas, where they will receive a lot of pedestrian traffic.

Niches

Seating niches should be small, informal spaces designed for individuals or small groups, scattered throughout the campus. Typically they would include seating and may also include a waste receptacle, depending on location and proximity to other site amenities. These should be located off of walkways or trails as places for one or two people to sit and talk, study or rest.

Landscape/planting design in all cases should be simple; masses are preferred for impact and to minimize maintenance, native materials should be utilized whenever feasible, and plantings should incorporate shade and provide emphasis to exterior spaces without being cluttered or visually distracting. Niche spaces should be provided that offer both areas of sun and shady locations.
Iconic Campus Identity Features:

These elements include bridges, building facades, water towers, large campus buildings, pedestrian bridges, and other super scale elements.

Recommendations:

The University should look for opportunities to create visual campus markers. These feature enhance:

- The Image of The University
- The Arrival Experience
- Edge Marking
- University Branding Opportunities
- The Development Of A Sense of Place
- The Overall Wayfinding Experience For The Campus

Signs And Wayfinding:

A uniform vocabulary of signage is suggested for the campus that would include:

- Main Entrance Signs
- Building Identification Signs
- Map Kiosks
- Parking and Regulatory Signs
- Street Signs

Graphic Standard:

- Consistent Use Of Logo And Color
- Consistent Font / Letter Height And Spacing
- Consistent Size And Location Standards

A complete sign and wayfinding study should be considered for the campus. This study would include an inventory of all campus signs and recommendations for the improvement of the campus sign system.

The major goal of the study should be to assist overall wayfinding for the campus, clarification of campus signs and reduction of overall quantity and the improvement of the quality of campus signage.
Main Entrance Signs

Graphic Standard:
- Sign Panel: 5’ x 10’ Surface Area
- Base: Stone or Brick Masonry - 4’ Height (Variable)
- Letter Size: 8” - 12” Height - Medium Weight

Placement Standards:
- Place Main Entrance Signs At All Campus Entry Roads.
- Place Perpendicular To Perimeter Roads - Two Sided

Locations:
- Crabbe And Lancaster
- University Drive And Lancaster
- Park Drive And Lancaster
- Kit Carson And By Pass - North Campus
- Kit Carson And By Pass - South Campus
- Lancaster And Kit Carson - South Campus

Provide Ground Lighting For Panel Faces

Main Entrance Signs Can Have Stone Or Brick Veneer Bases
Main Entrance Signs

Main Entrance Signs Should Be Used At All Campus Roadway Entrances.
Building Signs And Plaques

Free Standing Building Signs:

For Larger Buildings And Where Space Permits – Use Masonry Base

For Smaller Facilities And Where Space Is Limited – Use Pole Mounting

Placement Standards: One Sign Panel For Each Major Building Entrance – Panels Can Be One or Two Sided.

Sign Panel Surface Area - 36” x 36”

Mounting Height – 56”

Letter Height 6” – 8” Medium Stroke – Vinyl Letters

Door Plaques:

Sign Panel Surface Area – 24” x 36”

Letter Height 1-1/2” – 2” Height
Vinyl Removable Letters

Placement Standards: Place At Major Building Entrances

Detailed Information Should Be At Building Doorways.

A Consistent Style Can Have A Variety Of Base Options.
**Directional Signs**

**Large Directional Signs:**

Graphic Standard: Sign Panel 48” x 72” Pole Mounted - Total Height 9’
Two Sided

Laminated Panels With Vinyl Lettering

Placement Standards: Large Directional Signs Are Vehicle Oriented And Should Be Placed Along Roadways At Major Campus Entrances

**Small Directional Signs**

Graphic Standard : 36” x 48” Pole Mounted
Total Height 7’

Laminated Panels With Vinyl Lettering

Placement Standards: Small Directional Signs Are Pedestrian Oriented And Should Be Placed Along Major Walkways, Key Intersections and Public Gathering Spaces.
Map Kiosks

Graphic Standard:
Laminated Panel With Post Mounting

Dimensions: 48” x 60” Panel Face Mounting Height 8’
Laminated Panels - Can Be Two Sided Depending On Location
Metal Post With Internal Straps

Placement Standards: Place In Pedestrian Gathering Spaces/
Safety Call Stations And At Plazas And Along Major Walkways
Parking And Regulatory Signs

Graphic Standard:

Dimensions: Varies - Mounting Height 60”
Laminated Panels - Two Sided
Metal Post With Internal Straps
Consistent Use Of Logo And Color
Consistent Font / Letter Height And Spacing
Street Signs

Graphic Standard:

7”x 30” Standard Face Panel – Minimum 4” Letter

Metal Panels With Vinyl Or Painted Lettering – Two Sided
Metal Post With Internal Straps

Placement Standards: Street Intersections
Banners and flags can be used very effectively to provide information, color and interest to plaza areas and along public and private roadways. These elements enhance the wayfinding experience by defining major campus roadways and outdoor spaces.

Recommendations:

Continue use of existing campus banners in current locations and consider additional banners along major public roadways to assist the overall campus wayfinding experience.

Provide additional banners along Lancaster Avenue toward Main Street
Provide additional banners along Southern By-Pass

Limit Flag Areas to key locations

Consider New Banners For Colonel Walk Identification

Graphic Standard For New Banners:

2’ x 8’ When Height Of Pole Allows
Lighting Fixtures

CONTEMPORARY STYLE

Pedestrian Walk Lighting
Holophane – GlassWerks II
Hallbrook Extended fixture
Hallbrook post and Base
Cast Aluminum post
12’ height
5” smooth shaft
.25” wall thickness
Cast Aluminum Clamshell base
Single Arm
Black Finish

Street Lighting
Holophane – GlassWerks II
Hallbrook Extended fixture
Hallbrook post and Base
Cast Aluminum post
18’ height,
5” smooth shaft
.25” wall thickness
Cast Aluminum Clamshell base
Black Finish
Double Arm
Lighting Fixtures

TRADITIONAL STYLE

Pedestrian Walk Lighting
Holophane – Arlington Series
Post and Base – Barrington
14’ – 6” height
Black Finish

Street Lighting
Holophane – Jefferson Series
Post and Base – Barrington
Cast Aluminum post
18’ height
Black Finish

Use of the historic fixture should be limited to the “Historic Campus Core” as defined above. The area is bounded by Lancaster to the West, University Drive on campus and Crabbe Street to the north.
Benches, Receptacles, Ash Urns

The following Benches, Trash Receptacles and Ash Urns, have been selected based on price, availability and overall design harmony with architectural elements, lighting and existing furnishings on the campus. This information should be considered a guide to the selection of appropriate styled site furnishings.

Benches
Sitescapes, City View – Backed Bench
End Frame: Cast iron
Finish: Black powder finish

Sitescapes, City View – Backless Bench
End Frame: Cast iron
Finish: Black powder finish

Amenities
Sitescapes, City View – Receptacle
Finish: Black powder finish
Height 40” (40 gallon)
Flat lids
Side door access with keyed lock

Sitescapes, City View – Ash Urn
Finish: Black powder finish
1/4” straps for maximum durability
Removable stainless steel 8” o.d. ash pan for ash collection

Sitescapes, City View – Planter
Finish: Black powder finish
Site walls should reflect the campus character when applicable and create visual continuity to campus through consistent use of materials and detailing. Walls are used for:

- Retaining earth
- Pedestrian control
- Definition of special areas
- Seating
- Screening
- Special uses

Design Recommendations:

Architectural walls should be used as extensions (symbolically or actually) of existing or future building and reflect the character and materials of that individual building.

In order to ensure cost effectiveness, it is important that walls be used (a) only where necessary, (b) where they are to be intensively used by students for seating or will be visually prominent, and (c) where they accommodate multiple functions.

Brick and stone walls are typically proposed. In high priority areas where brick walks or buildings are in close proximity, brick-faced walls with precast concrete or limestone caps are appropriate.

Brick walls as site walls are encouraged along the perimeter of campus, and key entry points to campus and buildings (where architecturally appropriate).

Brick walls as seat walls are encouraged in important exterior spaces and at key entry points with considerable pedestrian traffic. Seat walls should be approximately 16” to 18” in height.

All walls should be level, with the height of the wall varying according to grade changes. To accommodate changes in elevation, a stepped-down design may be appropriate where grade changes are extreme.

Where concrete is used, the wall should be complimentary to adjacent concrete color and finish; chamfered edges are recommended to minimize chipping and enhance seating comfort, where applicable.

When modular retaining wall units are used, it is recommended that these typically be either gray or buff in color, depending on adjacent architecture, units always be flat faced, and walls finished with a cap piece.

Where appropriate, “green wall” retaining systems may also be considered.
Arrival Courts, Plazas & Major Campus Access:
The use of natural concrete with contrasting brick or paver banding is suggested. If properly designed and installed, this material provides a durable and relatively low cost accent paving system.

Brick And Concrete Pavers should be integrated into Building Entrances, Plazas and Special Accent Areas.

All paving should be a minimum of 4” thick and a minimum of 6” where access for service and emergency vehicles will be required. Final design should be based on anticipated traffic loads.

Primary Walkways:
To be a minimum of 8’ in width to accommodate access by service and emergency vehicles and allow easy, two-way passing of large pedestrian groups.

New walks:
Natural gray concrete to maintain continuity with the existing campus walk system

Walks should be scored with a square grid sufficient to reduce the visual mass of the paving and provided with a light broom finish for slip resistance.

All primary walks should be designed to accommodate light vehicular loading.
Bike Racks

Bicycle racks should be consistent in their design, material and color as well as be consistent in the detail for their installation and design of their layout. They should be installed in numbers sufficient to serve each individual building/location (to be determined by building use and size/type of occupancy).

PI Rack
By Landscape Forms Inc.
For Use In Areas Where Space Is Limited

Cyloops Rack
By Timberform Inc.
For Use In Bike Park Areas

The surfacing below the bicycle rack should be dependent upon the surrounding pavement and should blend with and complement the adjacent paved surfaces.

Bicycle racks should be conveniently located near primary building entry/exits, major destination areas and pedestrian gateways to the campus.

Locate Bike Parking Lots at key perimeter areas of campus.
Illustrated Cross Section For Kit Carson Drive.
Design Guidelines

Typical Sections

Illustrated Cross Section For Lancaster Drive.
Illustrated Cross Section For Park Drive.
Illustrated Cross Section For The Southern By Pass And Pedestrian Bridge.
Illustrated Cross Section For The Campus
Colonel Walk At Weaver Green
Illustrated Cross Section For Colonel Walk Along Park Drive.
Illustrated Cross Section For Colonel Walk At The Pedestrian Bridge Approach.
Landscaping

As part of updating the current Master Plan, the campus landscape was analyzed to determine what landscape typified the character of the campus. Of particular note were the following landscapes: the Ravine, Schwendeman Green, the Student Center Plaza, the future Open Space and Plaza adjacent to the Powell Student Center and the South Campus Lake Area. Given the significance of these landscapes to the campus identity, it is important that landscape design, current and future, be respectful of the established character of these areas.

Recommendations:

Planting design should be sensitive and complimentary to the character of the existing landscape where it is considered to be an integral part of the campus identity.

Landscape plantings should be used to:

- Accentuate key focal points, including campus gateways, nodes, building facades and entrances and special exterior features such as artwork installations.
- Define special areas such as plazas and seating/gathering nodes.
- Screen unattractive views to service areas and dumpsters.
- Make parking areas more attractive and green.
- Control pedestrian access and circulation as needed.

Landscape plantings should be designed for maximum effect with limited maintenance, emphasizing broad sweeps of like material.

Planting design should utilize materials that are site appropriate and consider the location of adjacent walks and pedestrian spaces.

In selecting planting materials, priority should be given to the use of native plants over exotics to limit maintenance and to emphasize developing a sustainable landscape.

Where feasible, native grasses and “no mow” areas should be incorporated in naturalized areas to limit maintenance and to provide an example of sustainable landscapes and an educational tool. Naturalized areas could be utilized on South Campus in many locations in order to limit mowing.
Landscaping

Where immediate impact is important such as in parking lots and at building entry points, larger size plant material should be used. A minimum installed size of 2-1/2” caliper for shade trees, 1-1/2” caliper for smaller ornamental trees and 24” height for shrubs is suggested.

Areas of existing plant material should be examined where materials may be removed or improved as they impinge upon the character of the campus landscape.

Planting design plans should be reviewed for conformance to the design guidelines; installations should follow the approved plans and design guidelines.

Where new construction/renovation, utility work, etc. is to occur, careful consideration should be given regarding the impact of construction on existing landscape materials. This includes site specific design which avoids damage to important material by carefully routing walkways around key trees, designing parking lots to incorporate existing, specimen trees into landscape islands and preventing damage to landscape material during construction through tree protection. Further study of construction methods for maintaining the health and viability of existing landscape materials should be done to develop campus guidelines for construction and renovation work.

The established landscape pattern of canopy trees and lawn should be reinforced and maintained. In areas where shade has hindered lawn maintenance, any new tree additions or lawn replacement should be evaluated prior to installation.

Bold strokes of plant materials in special areas are encouraged. Mass plantings make a stronger statement and reduce maintenance costs over time.

An approved plant list of hardy materials has been included in this report. This plant list utilizes native plants as a reference for future planting plans. Select plant materials based on hardiness, disease resistance and maintenance requirements.

Exotic specimens should be limited. Cultural and maintenance requirements should be identified prior to their use.

Use of high maintenance floral displays should be carefully orchestrated and limited to high visibility areas where such maintenance is warranted.

Preservation of the native flora is essential in those areas of campus where mature vegetation stands remain. Native vegetation should be used where additional plant materials are needed to highlight the natural edge.

To ensure cost effectiveness, maintenance should be prioritized.
Landscaping

Planters should be of a consistent material and style, with an emphasis on durability and an attractive but simple appearance.

Final selection of campus plantings should be based upon the physical characteristics of their location (sun/shade, soils, utilities, etc.), native environment (wetland / lowland / upland), function, ease of maintenance, longevity, ornamental characteristics and form. In addition, overall selection, placement and maintenance of plantings should emphasize mass and simplicity of design. To ensure consistency with the character of the campus, emphasis should be placed on maintaining the natural character of the plantings.

Except for key accent points, clipping or shearing of individual plants should be discouraged.

Shade Trees

Willow Oak, Pin Oak, Imperial or Skyline Honeylocust, Black Gum and Ginkgo are recommended for the areas where formally organized plantings of shade trees are proposed. Species should not be mixed in formal plantings, bosques or allees. Where a open or random scattering of shade trees is envisioned or in the more loosely organized areas of the campus, trees to consider include: Southern Red, Water, Laurel, Cherrybark and Shingle Oak; Red Maple, Sugar Maple, Bald Cypress, Southern Magnolia, Ginkgo (Male Cultivars), American Holly and American Beech.

Small Flowering & Ornamental Trees

Where masses of flowering trees for accent and color are proposed and shade is not a factor, such as the arrival courts, the campus and some building entry points, “Kousa” Dogwood Japanese Flowering Crabapple, “Zumi” Crabapple, and “Saucer” Magnolia are options to be considered for these areas. Clump forms of “Autumn Brilliance” Serviceberry, Sweetbay Magnolia and Flowering Dogwood are suggested where shade is a factor. Flowering Dogwood and Eastern Redbud should be considered as the primary understory trees along the wooded edges of the College and under the taller groves of trees dotting the campus lawn. Other recommended flowering and ornamental trees for the campus include “Heritage” River Birch, “Star” Magnolia and other hybrid Magnolias. Where formal plantings are proposed, all plants should be of the same species.

Evergreen Trees

Where screening or buffering of views, softening of large structures or walls, enclosing or defining space, or simply providing a year round accent, selected use of evergreen trees should be considered. In large, open, and well drained areas, a coniferous evergreen is suggested, White Pine is recommended since it has performed well on-campus and is adaptable to shade. Large broadleaf evergreens which have done well on campus and have high value both as a lawn and ornamental tree are American Holly and Southern Magnolia. “Foster” Holly should be considered where space is more restricted or a shade tolerant evergreen is needed.
Landscaping

Shrubs

Shrubs should be selected for multi-season interest, low maintenance; function in the landscape and location. Their use should generally be restricted to high visibility areas such as building entry points, arrival courts, parking areas and campus entry points.

Suggested minimum installation size for new low shrub plantings is 12-15 inches high and for medium to large shrubs, 24-30 inches high.

Ground Covers, Flowers and Vines

The use of ground covers, perennial flowers and vines should also be limited to areas of high visual impact and to areas where turf establishment due to site conditions may be undesirable.

Vines should be considered where large expanses of building and screen wall may occur. Boston Ivy and Virginia Creeper are suggested for texture, fall color and adaptability to sun and shade situations. Climbing Hydrangea should also be considered for shade areas.

Because of the fairly high maintenance requirements and recurring investment in plants, it is suggested that the use of annual flowers be limited to selected high visibility areas.
North Campus Landscape Recommendations:

1. Strengthen Colonel Walk and Pedestrian Connection to downtown Richmond along Second Street. Provide canopy and flowering trees, ornamental landscaping, planters, lighting and banners to pedestrian walkway to reinforce the pedestrian walkway.

2. Provide shade trees and ornamental plantings to proposed parking lot along Crabbe Street and Second Street. Consideration should be given to the development of Rain Garden Detention Island where feasible in order to reduce stormwater runoff.

3. Develop campus gateway landscape feature at intersection of Crabbe Street and Lancaster Avenue. The gateway should include new signs, lighting, banners and landscape elements.

4. Maintain existing vegetation and mature tree canopy in “The Ravine”.

5. Create landscape feature/plaza in proposed roundabout at University Drive.

6. Develop campus lawn and green space along the Powell Student Center Addition at the Weaver Building. Reinforce space with canopy trees, lawns, lighting and seating.

7. Create campus entrance at University Drive along Lancaster Avenue. Provide new signs, lighting, banners and landscape elements.

8. Limit access along Park Drive and develop pedestrian oriented space. Provide shade and ornamental tree plantings, site furnishings, lighting and planters.

9. Create campus entrance at Park Drive along Lancaster Avenue. Provide new signs, lighting, banners and landscape elements.

10. Create outdoor garden and plaza area at Water Tower adjacent to Alumni Coliseum. Provide large growing shade tree varieties and area to strengthen pedestrian link to south campus.

11. Provide shade and flowering trees to create pedestrian “Allee” along Coliseum parking lot.

12. Enhance vehicular and pedestrian circulation from the Eastern By-Pass to the Coliseum Entrance. Remove large deteriorating stone retaining wall and create outdoor landscape feature and plaza at Coliseum. Enhance parking circulation and pedestrian walkways to Coliseum. Provide new canopy trees, flowering trees and ornamental plantings to strengthen arrival experience.

13. Develop main campus gateway along Eastern By-Pass at Lancaster Avenue. The gateway element should include major campus signage and entrance features such as walls, columns and ornamental fencing, shade and flowering trees, ornamental landscaping, lighting, banners and other site improvements.

14. Enhance the Boulevards along Eastern By-Pass. Include shade and flowering tree plantings, ornamental shrubs and low level landscape elements, banners, lights, signs and other site improvements.

15. Develop campus entrance node for both north and south campus at intersection of Eastern By-Pass and Kit Carson Drive. This area should include signage and entrance features such as walls, columns and ornamental fencing, shade and flowering trees, ornamental landscaping, lighting, banners and wayfinding signs.

16. Enhance Kit Carson corridor and roundabout landscape features. Include shade and flowering tree planting, ornamental plantings, lighting, banners, signs and other site improvements.

17. Develop landscaped medians along Kit Carson Drive. Enhance existing mature tree canopy and provide additional shade and flowering trees along corridor. Consider the implementation of rain gardens within medians to reduce stormwater runoff.
South Campus Landscape Recommendations:

18. Develop pedestrian bridge across By-Pass. Provide lighting, banners, signs and other site improvements. Continue development of Colonel Walk on south campus. Reinforce walk with shade and flowering trees, ornamental landscaping, site improvements and signs.

19. Develop Kit Carson Drive corridor on south campus. Provide canopy trees, flowering trees, ornamental landscaping, lighting, banners site improvements and signs.

20. Develop south campus entrance roundabout landscape feature and plaza from the Eastern By-Pass.

21. Develop garden area and outdoor space around the existing water feature. This area should be similar in size and scale to north campus “Ravine.”

22. Enhance proposed parking areas. Provide shade trees for heat island control. Provide rain garden median for storm water runoff control.

23. Enhance proposed parking areas. Provide shade trees for heat island control. Provide rain garden median for storm water runoff control.

24. Enhance proposed parking areas. Provide shade trees for heat island control. Provide rain garden median for storm water runoff control.

25. Develop south campus entrance along Kentucky Highway 52 – Lancaster Avenue South. This entrance should include signage, wall elements, columns ornamental fencing, lighting, banners, shade and flowering trees and ornamental landscaping.

26. Develop playground, outdoor recreation and outdoor picnic areas for proposes family housing development. Open space areas should include shade trees, flowering trees, evergreen screening, ornamental plantings and open lawn areas. Special courtyard garden areas should be included within each building cluster.

27. Long range development of University Arboretum and Plant Habitats.

28. Riparian Zone: This area would be suitable for the display of riparian plant communities, artificial wetland areas, aquatic plant species and environmental education demonstration associated with wetland species and water quality.

29. Hillside Zones: These areas would be suitable for the establishment of forest and woodland communities and would involve the development of a Bluegrass Forest habitat. This area could include interpretive trails and demonstration areas.

30. Ridge Zone: The ridge areas would be suitable for the development of a savannah and prairie plant community. This would support the development of an historic Bluegrass Savannah landscape. The arboretum structures, access, parking facilities, trailheads and other facilities would be best suited and cause minimal impacts along the gentle slopes of the ridges.
Plant Installation Details

The following cross-sectional details are recommended for typical landscape installation. This includes installation of plant material in normal soil and rock conditions typical for the region. Modification to the standard details should be considered for poor soil conditions, shallow depth to rock conditions, increased groundwater conditions and other deleterious material which may be encountered below grade.

These details cover the planting and staking of Shade Trees, Planting on extreme slopes, Ornamental and Flowering Trees, Evergreen Trees, Single Shrub Plantings, Mass Shrub Plantings and Groundcovers and Perennial Plantings.
Plant Installation Details

Notes:
- Prune as directed by landscape architect
- See specifications for additional requirements.

EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

ORNAMENTAL TREE PLANTING DETAIL

NOT TO SCALE

Commercial Grade
Elastomeric Tree Guying Strap (No Wires Permitted)

NOTES:
- Prune as directed by landscape architect
- See specs. Section 'Exterior Plants' for addit. requirements
  Staking Schedule:

<table>
<thead>
<tr>
<th>Caliper Number</th>
<th>1/3 Depth of Root Ball</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3&quot;</td>
<td>1 stake</td>
</tr>
</tbody>
</table>

NOT TO SCALE
Plant Installation Details

Typical Shrub Mass Planting

NOT TO SCALE

Typical Ground Cover/Perennial Planting

NOT TO SCALE

DESIGN GUIDELINES

LANDSCAPING

NOTES:

* PRUNE AS DIRECTED BY LANDSCAPE ARCHITECT
* SEE CAPS. SECTION "EXTERIOR PLANTS" FOR ADDIT. REQUIREMENTS

NOTES:

* PLANTING BED SHALL BE TILLED AND AMENDED TO A DEPTH OF 12" PRIOR TO PLANT INSTALLATION.
* SEE CAPS. SECTION "EXTERIOR PLANTS" FOR ADDIT. REQUIREMENTS
* REMOVE PLANTS FROM CONTAINERS PRIOR TO PLANTING.
## Recommended Species List

<table>
<thead>
<tr>
<th>Genus</th>
<th>Species</th>
<th>Cultivar</th>
<th>Common Name</th>
<th>Notes</th>
<th>Height</th>
<th>Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer</td>
<td>fraxinosa</td>
<td>White Fraxinosa</td>
<td>White Fraxinosa</td>
<td>conical shape, blue green foliage</td>
<td>10-15'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Acer</td>
<td>griseum</td>
<td>Paperbark Maple</td>
<td>Paperbark Maple</td>
<td>oval, rounded shape, dark green foliage, red fall color</td>
<td>20-30'</td>
<td>15-30'</td>
</tr>
<tr>
<td>Acer</td>
<td>palmatum</td>
<td>Japanese Maple</td>
<td>Japanese Maple</td>
<td>round shape, red foliage</td>
<td>15-20'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Acer</td>
<td>platanoides</td>
<td>‘Crimson King’</td>
<td>Crimson King Norway Maple</td>
<td>round shape, dark crimson foliage, bronze fall color</td>
<td>30-50'</td>
<td>25-30'</td>
</tr>
<tr>
<td>Acer</td>
<td>platanoides</td>
<td>‘Crimson Sentry’</td>
<td>Crimson Sentry Norway Maple</td>
<td>dense, pyramidal to oval shape, deep purple foliage, bronze fall color</td>
<td>25'</td>
<td>15'</td>
</tr>
<tr>
<td>Acer</td>
<td>rubrum</td>
<td>‘Armstrong’</td>
<td>Armstrong Maple</td>
<td>fastigate shape, green foliage, yellow-orange fall color</td>
<td>50-70'</td>
<td>15-15'</td>
</tr>
<tr>
<td>Acer</td>
<td>saccharum</td>
<td>‘Green Mountain’</td>
<td>Green Mountain Sugar Maple</td>
<td>broad, upright shape, gray-green foliage, red-orange fall color</td>
<td>50-75'</td>
<td>40-45'</td>
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<tr>
<td>Aesculus</td>
<td>parviflora</td>
<td>Seibersamin Bucheys</td>
<td>Seibersamin Bucheys</td>
<td>wide spreading, green foliage, white flower, lemon yellow fall color</td>
<td>8-12'</td>
<td>8-12'</td>
</tr>
<tr>
<td>Aesculus</td>
<td>x carnea</td>
<td>‘Brich?’</td>
<td>Red Horsechestnut</td>
<td>broadly rounded, green foliage, deep red flower, yellow-green fall</td>
<td>30-40'</td>
<td>20-30'</td>
</tr>
<tr>
<td>Amelanchier</td>
<td>canadensis</td>
<td>Saskatoon Serviceberry</td>
<td>Saskatoon Serviceberry</td>
<td>upright, multi-stem shape, golden red fall, white flower</td>
<td>20-25'</td>
<td>10-15'</td>
</tr>
<tr>
<td>Amelanchier</td>
<td>x grandiflora</td>
<td>Autumn Brilliance Serviceberry</td>
<td>Autumn Brilliance Serviceberry</td>
<td>upright, medium green foliage, red fall color, white flower</td>
<td>20-25'</td>
<td>10-15'</td>
</tr>
<tr>
<td>Rhododendron</td>
<td>Hybrid</td>
<td>Deciduous cultivars</td>
<td>Deciduous Azaleas</td>
<td>varies in color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
</tr>
<tr>
<td>Rhododendron</td>
<td>Hybrid</td>
<td>Evergreen cultivars</td>
<td>Evergreen Azalea</td>
<td>varies in color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
</tr>
<tr>
<td>Berberis</td>
<td>thunbergiana</td>
<td>‘Hendrik Pijl’</td>
<td>Hendrik Pijl Barberry</td>
<td>columnar shape, red berries</td>
<td>4-5'</td>
<td>2'</td>
</tr>
<tr>
<td>Berberis</td>
<td>thunbergiana</td>
<td>‘Crimson Pygmy’</td>
<td>Crimson Pygmy Barberry</td>
<td>deep red to purple color</td>
<td>2-3'</td>
<td>2-3'</td>
</tr>
<tr>
<td>Betula</td>
<td>nigra</td>
<td>River Birch</td>
<td>River Birch</td>
<td>round shape, lustrous green foliage, multi-stemmed tree</td>
<td>40-70'</td>
<td>40-60'</td>
</tr>
<tr>
<td>Betula</td>
<td>papyrifera</td>
<td>Renzii</td>
<td>Renaissance Reflection Paper Birch</td>
<td>slender pyramidal shape, glossy green foliage</td>
<td>20-35'</td>
<td>30-40'</td>
</tr>
<tr>
<td>Betula</td>
<td>pendula</td>
<td>‘Green Mountain’</td>
<td>Green Mountain Betula</td>
<td>compact, pyramidal shape, leaves turn bronze cast in winter</td>
<td>4-5'</td>
<td>2-3'</td>
</tr>
<tr>
<td>Betula</td>
<td>pendula</td>
<td>‘Green Velvet’</td>
<td>Green Velvet Betula</td>
<td>round shape, slow growing retains color throughout winter</td>
<td>3-4'</td>
<td>3-4'</td>
</tr>
<tr>
<td>Betula</td>
<td>pendula</td>
<td>‘Vanilla Valley’</td>
<td>Vanilla Valley Betula</td>
<td>compact, blue-green foliage, slow growing</td>
<td>3-4'</td>
<td>4-5'</td>
</tr>
<tr>
<td>Betula</td>
<td>pendula</td>
<td>microphylla var.</td>
<td>‘Winter Gem’</td>
<td>low, compact, ‘little leaf’, retains color throughout winter</td>
<td>3-4'</td>
<td>3-4'</td>
</tr>
<tr>
<td>Carpinus</td>
<td>carpinus</td>
<td>betuloides ‘Fastigate’</td>
<td>Pyramidal European Hornbeam</td>
<td>pyramidal shape, green foliage, yellow fall color</td>
<td>30-45'</td>
<td>25-30'</td>
</tr>
<tr>
<td>Carpinus</td>
<td>carpinus</td>
<td>betuloides ‘Frans Fontaine’</td>
<td>Frans Fontaine Hornbeam</td>
<td>columnar shape, green foliage, yellow fall color</td>
<td>30-35'</td>
<td>15-15'</td>
</tr>
<tr>
<td>Carpinus</td>
<td>carpinus</td>
<td>‘American Hornbeam’</td>
<td>American Hornbeam, ironwood</td>
<td>round spreading, dark green foliage, orange to red purple fall color</td>
<td>20-25'</td>
<td>20-30'</td>
</tr>
<tr>
<td>Cedrus</td>
<td>japonicus</td>
<td>‘Pendula’</td>
<td>Weeping Katsura Tree</td>
<td>round, blue-green foliage, apricot fall color, green flower</td>
<td>15-25'</td>
<td>20-30'</td>
</tr>
<tr>
<td>Cedrus</td>
<td>canadensis</td>
<td>‘Eastern Redbud’</td>
<td>Eastern Redbud</td>
<td>red, green, red listed foliage, yellow fall color, pink row flowers</td>
<td>20-25'</td>
<td>25-30'</td>
</tr>
<tr>
<td>Cercoc</td>
<td>canadensis</td>
<td>‘Forest Parry’</td>
<td>Forest Parry Redbud</td>
<td>broad rounded, purple to bronze green foliage, red, green &amp; orange fall</td>
<td>20-25'</td>
<td>20-35'</td>
</tr>
<tr>
<td>Chamisea</td>
<td>cerasus</td>
<td>‘Girardii Compacta’</td>
<td>Compact ‘Hinoki’ Falseypress</td>
<td>compact pyramidal, dark green foliage</td>
<td>5-8'</td>
<td>3-5'</td>
</tr>
<tr>
<td>Chamisea</td>
<td>cerasus</td>
<td>‘Girardii’</td>
<td>‘Girardii’ Falseypress</td>
<td>compact pyramidal, dark green foliage</td>
<td>5-8'</td>
<td>3-5'</td>
</tr>
<tr>
<td>Chenanthes</td>
<td>cultivars</td>
<td>retusa</td>
<td>Chinese Fringe Tree</td>
<td>feecy white flower, dark green foliage, highly polished bark</td>
<td>10-20'</td>
<td>10-20'</td>
</tr>
<tr>
<td>Cinnamomum</td>
<td>barkleyi</td>
<td>Cinnamomum barkleyi</td>
<td>Cinnamomum barkleyi</td>
<td>broadly rounded, bright green foliage, yellow fall color, white flower</td>
<td>30-50'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Chirme</td>
<td>betuloides</td>
<td>Pepperbush</td>
<td>Kousa Dogwood</td>
<td>upright, rounded shape and fall color vary by cultivar</td>
<td>20-25'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Cornus</td>
<td>florida</td>
<td>‘Cherokee’ varieties</td>
<td>Cherokee Dogwood</td>
<td>upright, habit, green foliage, common color</td>
<td>20-25'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Cornus</td>
<td>sericea</td>
<td>Redser Dogwood</td>
<td>Redser Dogwood</td>
<td>round shape, foliage and fall color vary by cultivar</td>
<td>6-10'</td>
<td>6-10'</td>
</tr>
<tr>
<td>Crataegus</td>
<td>avellaneous</td>
<td>Contorta</td>
<td>Henry’s Lauder’s Walking Stick</td>
<td>striped stem, curly &amp; twist, green foliage</td>
<td>6-10'</td>
<td>6-15'</td>
</tr>
<tr>
<td>Fraxinus</td>
<td>americana</td>
<td>American Swan</td>
<td>American Swan</td>
<td>broadly rounded, green foliage, yellow/green flower</td>
<td>50-70'</td>
<td>40-70'</td>
</tr>
<tr>
<td>Fraxinus</td>
<td>syringa</td>
<td>European Beech</td>
<td>European Beech</td>
<td>pyramidal, deep green foliage, golden bronze fall color</td>
<td>50-50'</td>
<td>35-45'</td>
</tr>
<tr>
<td>Forsythia</td>
<td>intermedia</td>
<td>‘Spectabilis’</td>
<td>Showy Border Forsythia</td>
<td>upright, green foliage, yellow purple fall color, use in naturalized areas &amp; clumps</td>
<td>6-10'</td>
<td>6-10'</td>
</tr>
<tr>
<td>Forsythia</td>
<td>intermedia</td>
<td>‘Peachy’</td>
<td>Showy Border Forsythia</td>
<td>upright, green foliage, yellow purple fall color, use in naturalized areas &amp; clumps</td>
<td>6-10'</td>
<td>6-10'</td>
</tr>
<tr>
<td>Ginko</td>
<td>biloba</td>
<td>Ginko, Masterian Tree</td>
<td>Ginko, Masterian Tree</td>
<td>upright, symmetrical, green foliage, bright yellow fall color, use only male trees</td>
<td>50-90'</td>
<td>30-40'</td>
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<tr>
<td>Gleditsch</td>
<td>betuloides</td>
<td>‘ teddybear’</td>
<td>Teddybear</td>
<td>upright, habit, green foliage, common color</td>
<td>20-25'</td>
<td>15-20'</td>
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<tr>
<td>Gymnocladus</td>
<td>dioica</td>
<td>Kentucky Coffeetree</td>
<td>Kentucky Coffeetree</td>
<td>ovulate shape, pink to red brown foliage, yellow fall color</td>
<td>46-50'</td>
<td>20-25'</td>
</tr>
<tr>
<td>Helix</td>
<td>cultivars</td>
<td>Silverbell</td>
<td>Silverbell</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
</tr>
<tr>
<td>Hamamelis</td>
<td>virginiana</td>
<td>‘Arnold Promise’</td>
<td>Hamamelis virginiana</td>
<td>broad yellow fall color, yellow/green flower, good for naturalizing, foundation &amp; borders</td>
<td>15-20'</td>
<td>12-15'</td>
</tr>
<tr>
<td>Hamamelis</td>
<td>x interm.</td>
<td>‘Arnold Promise’</td>
<td>Hamamelis virginiana</td>
<td>broad yellow fall color, yellow/green flower, good for naturalizing, foundation &amp; borders</td>
<td>15-20'</td>
<td>12-15'</td>
</tr>
<tr>
<td>Hydrangea</td>
<td>quercifolia</td>
<td>‘Alice’</td>
<td>Hydrangea quercifolia</td>
<td>triling shape, burgundy fall color, creamy white to rose flowers</td>
<td>3-12'</td>
<td>2-12'</td>
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<tr>
<td>Ilex</td>
<td>comita x penyi</td>
<td>‘Dr. Kessabi’</td>
<td>Ilex comita x penyi</td>
<td>broad pyramidal shape, glossy green foliage, white flowers</td>
<td>15-20'</td>
<td>15-20'</td>
</tr>
<tr>
<td>Ilex</td>
<td>comita x penyi</td>
<td>‘Kessabi’</td>
<td>Ilex comita x penyi</td>
<td>broad pyramidal shape, glossy green foliage, white flowers</td>
<td>15-20'</td>
<td>15-20'</td>
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<tr>
<td>Ilex</td>
<td>crenata</td>
<td>spreading cultivars</td>
<td>Spreading Japanese Holly</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
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### Recommended Species List

<table>
<thead>
<tr>
<th>Genus</th>
<th>Species</th>
<th>Cultivar</th>
<th>Common name</th>
<th>Notes</th>
<th>Height</th>
<th>Spread</th>
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<tbody>
<tr>
<td>Fex</td>
<td>opaca</td>
<td>cultivars</td>
<td>American Holly</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<tr>
<td>Fex</td>
<td>verticillata</td>
<td>cultivars</td>
<td>Wintertree Holly</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
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<tr>
<td>Fex</td>
<td>x mesnificae</td>
<td>'Blue Prince'</td>
<td>Blue Prince Hollis</td>
<td>pyramidal shape, dark blue-green foliage; hybrid clone</td>
<td>10-12”</td>
<td>1’-2”</td>
</tr>
<tr>
<td>Fex</td>
<td>x mesnificae</td>
<td>'China Girl'</td>
<td>China Girl China Boy Holly</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<td>Ilex</td>
<td>cultivars</td>
<td></td>
<td>Japanese Nana</td>
<td>varies in shape and color depending on cultivar</td>
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<tr>
<td>Juniperus</td>
<td>chinensis</td>
<td>cultivars</td>
<td>Upright Juniper</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<td>Juniperus</td>
<td>chinensis</td>
<td>cultivars</td>
<td>Upright Japanese Juniper</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<tr>
<td>Juniperus</td>
<td>communis</td>
<td>'Pendle Park'</td>
<td>Pendle Park Common Juniper</td>
<td>narrow, round shape, silver-blue foliage;</td>
<td>12-14”</td>
<td>1’-2”</td>
</tr>
<tr>
<td>Juniperus</td>
<td>scopulorum</td>
<td>'Skyrocket'</td>
<td>Skyrocket Rocky Mountain Juniper</td>
<td>upright, narrow shape, blue-green foliage;</td>
<td>19-20”</td>
<td></td>
</tr>
<tr>
<td>Juniperus</td>
<td>virginiana</td>
<td>cultivars</td>
<td>Upright Eastern Red Cedar</td>
<td>varies in shape and color depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<tr>
<td>Koelreuteria</td>
<td>paniculata</td>
<td></td>
<td>Golden Rain Tree</td>
<td>rounded shape, bright green foliage, yellow fall color; bright yellow flowers</td>
<td>30-40”</td>
<td>2’-3’</td>
</tr>
<tr>
<td>Laurustinum</td>
<td>x xalidifolium</td>
<td>'Violette'</td>
<td>Violette Old Goldbaum Tree</td>
<td>upright, round shape, bright green foliage; yellow, pendulous racemes</td>
<td>12-15”</td>
<td></td>
</tr>
<tr>
<td>Liquidambar</td>
<td>styraciflua</td>
<td>cultivars</td>
<td>Sweet Gum</td>
<td>pyramidial shape, dark green foliage, yellow, red, crimson fall color</td>
<td>60-75”</td>
<td>40”</td>
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<tr>
<td>Liquidambar</td>
<td>styraciflua</td>
<td>'Robustica'</td>
<td>Robustica Sweet Gum</td>
<td>pyramidial shape, yellow, grey foliage, needle-like form</td>
<td>40-60”</td>
<td>20-25”</td>
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<tr>
<td>Liriodendron</td>
<td>tulipifera</td>
<td>'Festingale'</td>
<td>Columnar Tulip Tree</td>
<td>upright, medium green foliage, yellow fall color; yellow, orange foliage</td>
<td>40-60”</td>
<td>12-15”</td>
</tr>
<tr>
<td>Magnolia</td>
<td>sieboldii</td>
<td>cultivars</td>
<td>Star Magnolia</td>
<td>varies in shape and color depending on cultivar</td>
<td>10-20”</td>
<td>varies</td>
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<tr>
<td>Magnolia</td>
<td>virginiana</td>
<td>'Sweetbay Magnolia'</td>
<td>Sweetbay Magnolia</td>
<td>oval, multi-season, dark green foliage, yellow fall foliage, white fragrant flower</td>
<td>10-20”</td>
<td>10-20”</td>
</tr>
<tr>
<td>Magnolia</td>
<td>x cultivars</td>
<td>Magnolia Hybrids</td>
<td>Magnolia Hybrids</td>
<td>varies in shape and color depending on cultivar</td>
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<td>varies</td>
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<tr>
<td>Malus</td>
<td>cultivars</td>
<td></td>
<td>Crabapple</td>
<td>varies in shape and color depending on cultivar</td>
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<td>varies</td>
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<tr>
<td>Malus</td>
<td>pumila</td>
<td>cultivars</td>
<td>Deerswood</td>
<td>pyramidial shape, bright green foliage, red fall color; rapid growth</td>
<td>70-100”</td>
<td>30-40”</td>
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<tr>
<td>Nandina</td>
<td>domestica</td>
<td>cultivars</td>
<td>Heavenly Bamboo</td>
<td>green foliage; capsule fruit</td>
<td>8-10”</td>
<td>varies</td>
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<tr>
<td>Philadelphus</td>
<td>pumilus</td>
<td>cultivars</td>
<td>Mockorange</td>
<td>pyramidial, dark green foliage</td>
<td>80-100”</td>
<td>30-50”</td>
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<tr>
<td>Picea</td>
<td>abies</td>
<td>cultivars</td>
<td>Montana Blue</td>
<td>pyramidial, dark green foliage</td>
<td>30-60”</td>
<td>15-20”</td>
</tr>
<tr>
<td>Picea</td>
<td>omorika</td>
<td>cultivars</td>
<td>Serpentine Blue Spruce</td>
<td>pyramidial, dark green foliage</td>
<td>20-30”</td>
<td>1’-2”</td>
</tr>
<tr>
<td>Picea</td>
<td>pungens</td>
<td>'Bakeri'</td>
<td>Baker's Colorado Spruce</td>
<td>dense, pyramidial, bright blue foliage</td>
<td>15-18”</td>
<td>varies</td>
</tr>
<tr>
<td>Picea</td>
<td>japonica</td>
<td>cultivars</td>
<td>Japanese Pieris</td>
<td>compact, upright shape</td>
<td>30-60”</td>
<td>20-30”</td>
</tr>
<tr>
<td>Picea</td>
<td>bungeana</td>
<td>cultivars</td>
<td>Lacebark Pine</td>
<td>pyramidial, green foliage</td>
<td>5-6”</td>
<td>5-8”</td>
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<tr>
<td>Pinus</td>
<td>mugo</td>
<td>'ENCI'</td>
<td>ENCI Mugo Pine</td>
<td>pyramidial, dark green foliage</td>
<td>50-60”</td>
<td>30-40”</td>
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<tr>
<td>Pinus</td>
<td>nigra</td>
<td>cultivars</td>
<td>Austrian Pine</td>
<td>pyramidial, dark green foliage</td>
<td>50-60”</td>
<td>30-40”</td>
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<tr>
<td>Pinus</td>
<td>strobus</td>
<td>cultivars</td>
<td>Eastern White Pine</td>
<td>pyramidial, dark green foliage, soft foliage</td>
<td>50-60”</td>
<td>1’-2”</td>
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<tr>
<td>Pinus</td>
<td>thunbergiana</td>
<td>cultivars</td>
<td>Japanese Black Pine</td>
<td>pyramidial shape, dark green foliage</td>
<td>20-40”</td>
<td>20-40”</td>
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<tr>
<td>Pinus</td>
<td>x alberti</td>
<td>cultivars</td>
<td>Dwarf Alberta Pine</td>
<td>pyramidial shape, hybrid clone, green foliage</td>
<td>70-100”</td>
<td>30-40”</td>
</tr>
<tr>
<td>Prunus</td>
<td>serotina</td>
<td>'Kwanzan'</td>
<td>Kwanzan Japanese Flowering Cherry</td>
<td>upright, bronze to green foliage, orange-bronze fall color</td>
<td>20-25”</td>
<td>15-2”</td>
</tr>
<tr>
<td>Prunus</td>
<td>serrulata</td>
<td>'Pendula'</td>
<td>Weeping Flowering Cherry</td>
<td>pyramidial, grey foliage, yellow fall color</td>
<td>20-25”</td>
<td>20-25”</td>
</tr>
<tr>
<td>Pseudotsuga</td>
<td>menziesii</td>
<td>'Yedoensis'</td>
<td>Yoshino Cherry</td>
<td>upright, green to medium foliage, yellow fall color</td>
<td>30-40”</td>
<td>25-30”</td>
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<tr>
<td>Quercus</td>
<td>alba</td>
<td>cultivars</td>
<td>White Oak</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>50-60”</td>
<td>30-40”</td>
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<tr>
<td>Quercus</td>
<td>bicolor</td>
<td>cultivars</td>
<td>Swamp White Oak</td>
<td>pyramidial, dark green foliage, yellow fall color</td>
<td>30-40”</td>
<td>2’-3’</td>
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<td>Quercus</td>
<td>phellos</td>
<td>cultivars</td>
<td>Willow Oak</td>
<td>pyramidial, green foliage, red fall color</td>
<td>40-60”</td>
<td>30-40”</td>
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<td>Quercus</td>
<td>rubra</td>
<td>cultivars</td>
<td>Northern Red Oak</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>80-75”</td>
<td>70-75”</td>
</tr>
<tr>
<td>Robinia</td>
<td>pseudoacacia</td>
<td>'P.J.M.'</td>
<td>P.J.M. Robinia Flowers</td>
<td>pyramidial, dark green foliage, bright lavender flowers</td>
<td>3.4”</td>
<td>5’-7”</td>
</tr>
<tr>
<td>Rhododendron</td>
<td>pseudopunctatum</td>
<td>'Compactum'</td>
<td>Compact P.J.M. Robinia Flowers</td>
<td>pyramidial, dark green foliage, bright lavender flowers</td>
<td>3.4”</td>
<td>5’-7”</td>
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<td>Rose</td>
<td>rugosa</td>
<td>cultivars</td>
<td>Russian Rose</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>3-5”</td>
<td>3-5”</td>
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<tr>
<td>Ruscus</td>
<td>xanthocarpus</td>
<td>cultivars</td>
<td>Trixtera</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>3-5”</td>
<td>3-5”</td>
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<td>Salix</td>
<td>alba</td>
<td>cultivars</td>
<td>Golden Willow</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>50-70”</td>
<td>60-65”</td>
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<td>Spirea</td>
<td>'Little Princess'</td>
<td>cultivars</td>
<td>Little Princess Spirea</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>2’-3”</td>
<td>3-4”</td>
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<tr>
<td>Spirea</td>
<td>x burtscheii</td>
<td>'Anthony Waterer'</td>
<td>Anthony Waterer Spirea</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>2’-3”</td>
<td>4-5”</td>
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<tr>
<td>Syringa</td>
<td>patula</td>
<td>'Miss Kim'</td>
<td>Miss Kim Lilac</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>6’-10”</td>
<td>4-8”</td>
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<td>Taxodium</td>
<td>distichum</td>
<td>cultivars</td>
<td>Bald cypress</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>70-75”</td>
<td>20-30”</td>
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<td>Texas</td>
<td>incana</td>
<td>cultivars</td>
<td>Dwarf English Yew</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>2-4”</td>
<td>12-15”</td>
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<tr>
<td>Thuja</td>
<td>occidentalis</td>
<td>cultivars</td>
<td>Japanese Yew</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>10-12”</td>
<td>10-12”</td>
</tr>
<tr>
<td>Thuja</td>
<td>occidentalis</td>
<td>cultivars</td>
<td>Eastern Arborvitae</td>
<td>pyramidial, dark green foliage, red fall color</td>
<td>10-12”</td>
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### Recommended Species List

<table>
<thead>
<tr>
<th>Genus</th>
<th>Species</th>
<th>Cultivar</th>
<th>Common name</th>
<th>Notes</th>
<th>Height</th>
<th>Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulmus</td>
<td>americana</td>
<td>'Valley Forge'</td>
<td>Valley Forge American Elm</td>
<td>Yellow fall color; foliage and shape varies depending on cultivar</td>
<td>varies</td>
<td>varies</td>
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<tr>
<td>Viburnum</td>
<td>carlesii</td>
<td></td>
<td>Korean spice Viburnum</td>
<td>Rounded, green foliage; red fall color; white fragrant flower</td>
<td>4-6'</td>
<td>4-6'</td>
</tr>
<tr>
<td>Viburnum</td>
<td>cultivars</td>
<td></td>
<td>Viburnum</td>
<td>Rounded upright; green foliage; red fall color</td>
<td>10-12'</td>
<td>10-12'</td>
</tr>
<tr>
<td>Viburnum</td>
<td>plicatum</td>
<td>cultivars</td>
<td>Doublefile Viburnum</td>
<td>Varies in shape and color depending on cultivar</td>
<td>5-10'</td>
<td>5-10'</td>
</tr>
<tr>
<td>Viburnum</td>
<td>x cultivars</td>
<td>'bankwoodii'</td>
<td>Burkwood Viburnum</td>
<td>Upright, multi-stem shape; green w/ grey underside foliage; red fall color</td>
<td>varies</td>
<td>5-6'</td>
</tr>
<tr>
<td>Viburnum</td>
<td>x cultivars</td>
<td>Judd</td>
<td>Judd Viburnum</td>
<td>Rounded; dark green foliage</td>
<td>6-9'</td>
<td>6-9'</td>
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<tr>
<td>Viburnum</td>
<td>x rhytidophyloides</td>
<td>Alleghany</td>
<td>Alleghany Lantanaphyllum Viburnum</td>
<td>Upright, rounded; leathery; green foliage; green to red fall color</td>
<td>6-10'</td>
<td>6-10'</td>
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<tr>
<td>Zelkova</td>
<td>serrata</td>
<td>'Green Vase'</td>
<td>Green Vase Japanese Zelkova</td>
<td>Rose shaped canopy; dark green foliage; bronze-red fall color</td>
<td>80-70'</td>
<td>40-50'</td>
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</table>
## Recommended Rain Garden and Bio-swale Species

<table>
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<th>Genus</th>
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<th>Common name</th>
<th>Notes</th>
<th>Height</th>
<th>Spread</th>
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<tbody>
<tr>
<td><strong>Wildflowers, Ferns, Grasses, and Sedges</strong></td>
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<tr>
<td>Ajuga</td>
<td>reptans</td>
<td>Swamp milkweed</td>
<td></td>
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<tr>
<td>Chelone</td>
<td>glabra</td>
<td>White turtlehead</td>
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<tr>
<td>Eupatorium</td>
<td>maculatum</td>
<td>Joe-pye Weed</td>
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<tr>
<td>Lobelia</td>
<td>cardinalis</td>
<td>Cardinal Flower</td>
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<tr>
<td>Lobelia</td>
<td>syrophylla</td>
<td>Blue Lobelia</td>
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<td>Oswego Tea</td>
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<td>Veronica</td>
<td>novaboracenstis</td>
<td>Common Ironweed</td>
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<td>Athyrium</td>
<td>filix-femina</td>
<td>Lady Fern</td>
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<td>Royal Fern</td>
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<td>cinnamonae</td>
<td>Cinnamon Fern</td>
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<td>Carex</td>
<td>pendula</td>
<td>Drooping sedge</td>
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<td>stipata</td>
<td>Tussock sedge</td>
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<td>Shadbush</td>
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<tr>
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<td>KoreanSpire</td>
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<td>nigra</td>
<td>River Birch</td>
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<td>gardenii</td>
<td>Dwarf Fothergilla</td>
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<td>Spicebush</td>
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<td>Cardinal Flower</td>
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<tr>
<td>Penstemon</td>
<td>tenuis</td>
<td>Gulf Coast Penstemon</td>
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<td>Rubus</td>
<td>marina</td>
<td>Giant coneflower</td>
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<td>levis</td>
<td>Stokes Aster</td>
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<td>capillus-veneris</td>
<td>Southern Maidenhair Fern</td>
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<td>Sensitive Fern</td>
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<td>latifolium</td>
<td>Inland Sea Oats</td>
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<td>Muhlenbergia</td>
<td>capellii</td>
<td>Gulf Muhly Grass</td>
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<td><strong>Trees and Shrubs</strong></td>
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<tr>
<td>Acer</td>
<td>rubrum var. occidentalis</td>
<td>Southern Swamp Maple</td>
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<td>nigra</td>
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<td>Cephalanthus</td>
<td>occidentalis</td>
<td>Buttonbush</td>
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<td>Gallsium</td>
<td>sempervirens</td>
<td>Carolina Jessamine</td>
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<td>Dalhous Holly</td>
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<td>Ilex</td>
<td>deciduus</td>
<td>Possumhanger</td>
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<tr>
<td>Ilex</td>
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<td>Whiteberry Holly</td>
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<td>virginiana</td>
<td>Sweetbay</td>
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<td>cedrena</td>
<td>Southern Wax Myrtle</td>
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<td>Sabel</td>
<td>minor</td>
<td>Dwarf Palmetto</td>
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<td>Taxodium</td>
<td>distichum</td>
<td>Bald Cypress</td>
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</table>
### Kentucky Native Trees

<table>
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<tr>
<th>Genus</th>
<th>Species</th>
<th>Cultivar</th>
<th>Common name</th>
<th>Notes</th>
<th>Height</th>
<th>Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer</td>
<td>rubrum</td>
<td></td>
<td>Red Maple</td>
<td>Bucks and young twigs are red, Great fall color</td>
<td>50-70</td>
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<tr>
<td>Amelanchier</td>
<td>arborea</td>
<td></td>
<td>Downy Serviceberry</td>
<td>Yellow - orange, red fall color, white flowers (Apr)</td>
<td>15-20</td>
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<tr>
<td>Betula</td>
<td>nigra</td>
<td></td>
<td>River Birch</td>
<td>Yellow fall color</td>
<td>40-70</td>
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<tr>
<td>Carya</td>
<td>spp</td>
<td></td>
<td>Hickory</td>
<td>Rich gold fall color. Nuts eaten by mammals and birds</td>
<td>50-60</td>
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<tr>
<td>Cercis</td>
<td>canadensis</td>
<td></td>
<td>Redbud</td>
<td>April cluster of rosy pink flowers line branches and trunk</td>
<td>20-30</td>
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<tr>
<td>Cornus</td>
<td>florida</td>
<td></td>
<td>Flowering Dogwood</td>
<td>White or pink flowers Apr-May</td>
<td>20-30</td>
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<tr>
<td>Fagus</td>
<td>grandifolia</td>
<td></td>
<td>American Beech</td>
<td>Nut in fall attracts birds, mammals, humans</td>
<td>65-90</td>
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<tr>
<td>Fagus</td>
<td>spp</td>
<td></td>
<td>American Holly</td>
<td>To insure fruit, 1 male need per 2-3 females</td>
<td>20-40</td>
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<tr>
<td>Juniperus</td>
<td>virginiana</td>
<td></td>
<td>Eastern Red Cedar</td>
<td>Offers nesting and cover to birds</td>
<td>40-50</td>
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<tr>
<td>Lonicera</td>
<td>syriaca</td>
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<td>Sweetbriar</td>
<td>Large silky-like flowers are yellow, green-orange May-June</td>
<td>70-80</td>
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<tr>
<td>Nyssa</td>
<td>sylvatica</td>
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<td>Blackgum</td>
<td>Scarlet red autumn color</td>
<td>30-40</td>
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<td>Osyra</td>
<td>virginiana</td>
<td></td>
<td>American Honeysuckle</td>
<td>Fall foliage is pale yellow</td>
<td>25-45</td>
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<tr>
<td>Quercus</td>
<td>spp</td>
<td></td>
<td>Oak</td>
<td>Humn, birds, mammals, butterflies enjoy oaks</td>
<td>35-60</td>
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<tr>
<td>Rhododendron</td>
<td>catawba</td>
<td></td>
<td>Carolina Buckthorn</td>
<td>Yellow-green flowers in May; berries eaten by birds</td>
<td>20</td>
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<tr>
<td>Viburnum</td>
<td>rufiduum</td>
<td></td>
<td>Rusty Black Viburnum</td>
<td>Creamy white clusters of flowers in May</td>
<td>20-25</td>
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### Kentucky Native Shrubs

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<th>Notes</th>
<th>Height</th>
<th>Spread</th>
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</thead>
<tbody>
<tr>
<td>Acai</td>
<td>arborea</td>
<td></td>
<td>Red Buckeye</td>
<td>Red berries on shrub eaten by mammals and birds</td>
<td>6-11</td>
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<tr>
<td>Cercidiphyllum</td>
<td>americana</td>
<td></td>
<td>Beautyberry</td>
<td>Light pink flowers, purple berries; yellow color (fall)</td>
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<tr>
<td>Cornus</td>
<td>canadensis</td>
<td></td>
<td>New Jersey Tea</td>
<td>Short spikes of tiny white flowers in June</td>
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<td>Crataegus</td>
<td>oxycantha</td>
<td></td>
<td>Buttonbush</td>
<td>Spherical white blossoms</td>
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<tr>
<td>Cistus</td>
<td>albidus</td>
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<td>Sweet Pepperbush</td>
<td>Rich, white fragrant flowers in Aug. yellow-orange (fall)</td>
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<tr>
<td>Euonymus</td>
<td>americana</td>
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<td>Strawberry Bush</td>
<td>Purple flowers (May); red seed pods attract birds</td>
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<tr>
<td>Hydrangea</td>
<td>arborescens</td>
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<td>Wild Hydrangeas</td>
<td>Clusters of green-white flowers Jun-Jul</td>
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<tr>
<td>Hydrangea</td>
<td>quercifolia</td>
<td></td>
<td>Oakleaf Hydrangea</td>
<td>Rose-orange to purplish brown color in Autumn</td>
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<tr>
<td>Hypericum</td>
<td>polydactylum</td>
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<td>Shrub St. John's Wort</td>
<td>Bright yellow flowers</td>
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<tr>
<td>Ilex</td>
<td>decidua</td>
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<td>Possumhaw Holly</td>
<td>Red berries eaten late in season by birds</td>
<td>12-20</td>
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<td>Ilex</td>
<td>verticillata</td>
<td></td>
<td>Winterberry</td>
<td>Red berries eaten early in season by birds</td>
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<tr>
<td>Olea</td>
<td>virginsis</td>
<td></td>
<td>Virginia Sweetspire</td>
<td>Fragrant white flowers; leaves red to purplish in Autumn</td>
<td>4-10</td>
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<tr>
<td>Physocarpus</td>
<td>opulifolius</td>
<td></td>
<td>Snowball</td>
<td>Tiny yellow flowers fragrant; Berries for birds</td>
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<tr>
<td>Rhododendron</td>
<td>catawba</td>
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<td>Piedmont Azalea</td>
<td>Fragrant white to pink flowers Apr-May</td>
<td>6-15</td>
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<td>Rhododendron</td>
<td>periclymenoides</td>
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<td>Pinkbloom Azalea</td>
<td>Large clusters of pink to purple flowers Apr-May</td>
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<tr>
<td>Rhus</td>
<td>aromatica</td>
<td></td>
<td>Fragrant Sumac</td>
<td>Bright scarlet, orange, purple fall color; Aromatic</td>
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<tr>
<td>Rosa</td>
<td>canina</td>
<td></td>
<td>Carolina Rose</td>
<td>Yellow-orange-red fall color, pink flowers May-Jul</td>
<td>3-4</td>
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<td>Staphylea</td>
<td>trifolia</td>
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<td>American Bladderroot</td>
<td>Drooping racemes of green-white bell-like flowers (May)</td>
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<tr>
<td>Vaccinium</td>
<td>arboreum</td>
<td></td>
<td>Fotherberry</td>
<td>Twisted branches; crimson fall color; black berries</td>
<td>20</td>
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<tr>
<td>Viburnum</td>
<td>dentatum</td>
<td></td>
<td>Arnwood Viburnum</td>
<td>Flowers May-Jun; small blue-black berries at fall</td>
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### Kentucky Native Perennials

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<thead>
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<th>Notes</th>
<th>Height</th>
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<tbody>
<tr>
<td>Amsonia</td>
<td>tabernaemontana</td>
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<td>Bluebells</td>
<td>Small pale blue flowers in May; butterflies</td>
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<tr>
<td>Asclepias</td>
<td>tuberosa</td>
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<td>Butterfly Weed</td>
<td>Clusters of brilliant orange flowers Jun-Aug</td>
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<tr>
<td>Aster</td>
<td>spp</td>
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<tr>
<td>Coreopsis</td>
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<td>Tickseed</td>
<td>Bright Yellow Flowers</td>
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<tr>
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<td>Purple Coreflower</td>
<td>Purple, long-lasting flowers summer fall</td>
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<tr>
<td>Eupatorium</td>
<td>serotinum</td>
<td></td>
<td>Joe-Pye Weed</td>
<td>Attracts butterflies</td>
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<td>Purple-Acid</td>
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## Recommended Kentucky Native Species List

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<td>Erixa</td>
<td>lpp</td>
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<td>Steeple Blair</td>
<td>Liberty set with purple flowers</td>
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<tr>
<td>Monarda</td>
<td>fistulosa</td>
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<td>Wild Bergamot</td>
<td>Pink-lavender clusters, tubular flowers</td>
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<tr>
<td>Penstemon</td>
<td>digitalis</td>
<td></td>
<td>White Beard-tongue</td>
<td>Pale lavender to white flowers</td>
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<tr>
<td>Phlox</td>
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<td>Magenta, pink, or white flower clusters</td>
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<td>Pycnanthemum</td>
<td>incanum</td>
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<td>Silverleaf Mountain Mint</td>
<td>Small purple flowers above whittened</td>
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<td>Rudbeckia</td>
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<td>Black-eyed Susan</td>
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<td>Solidago</td>
<td>rugosa</td>
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<td>Venetian leaf goldenrod</td>
<td>Do well in any well-drained soil</td>
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<th>Notes</th>
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<td>Unique red and yellow flowers</td>
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<td>trilobum</td>
<td></td>
<td>Jack-in-the-pulpit</td>
<td>Spathe in Apr-May; red berries late</td>
<td>12'-18'</td>
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<tr>
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<td>Wild Ginger</td>
<td>Dense creeping deciduous ground cover</td>
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<td>Light green foliage with bract set-in</td>
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<td>Cardinal Flower</td>
<td>Brilliant red tubular flowers</td>
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<tr>
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<td>Small white-green bell hang from leaf</td>
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<tr>
<td>Symphyotica</td>
<td>leucophyllum</td>
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<td>Solomon’s Phlox</td>
<td>Pipe of tiny daisy flowers</td>
<td>1'-2'</td>
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<tr>
<td>Solidago</td>
<td>caesia</td>
<td></td>
<td>Wreath Goldenrod</td>
<td>Tiny golden flowers on bluish-cast stem</td>
<td>2'-3'</td>
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<tr>
<td>Tiarella</td>
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<td></td>
<td>Foamflower</td>
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## Kentucky Native Shade Tolerant Perennials

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<td>Phlox</td>
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<td>Tiarella</td>
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<td>Foamflower</td>
<td>Evergreen ground cover; feathery white</td>
<td>6'-12'</td>
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## Kentucky Invasive Species List

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Eastern Kentucky University
Campus Master Plan
Appendix
Existing Site Vocabulary
Sanitary Sewer Phasing
Storm Sewer Phasing
Water Phasing
Campus Bus Route Phasing
Precedent and Place – Campus Identity and Wayfinding
Inventory and Analysis

Place Making Features

- Iconic Images
- Arrival Experience
- Edge Marking
- University Branding
- Sense of Place

Several campus elements currently provide Campus Identity and Wayfinding.

Several opportunities exist for Campus Identity.
Figure 8.b.ii
Precedent and Place - Site Furnishings
Inventory and Analysis

Flags / Banner Arms / Poles

- Banners and flags are used very effectively in many areas of the Campus Core
- These elements enhance the wayfinding experience by defining major campus roadways and outdoor spaces
- Flags provide color and interest to outdoor gathering areas

Flags and Banners are used effectively in several locations.
Figure 8.b.iii
Precedent and Place - Site Furnishings
Inventory and Analysis

Signage

- Main entrance area signs need enhancement
- Building identification signs are functional but lack consistent style
- Map signs and informational signs are generally well placed and in good condition
- Regulatory signs could use consistent style
- There is a need for overall sign and graphic consistency
- Need for comprehensive Wayfinding Plan

The Main Entrance sign along Lancaster could use some attention.
Figure 8.b.iv
Precedent and Place - Site Furnishings
Inventory and Analysis

Lighting

- A variety of historical lamp styles exist within the campus core area
- Many are associated with building entrances
- There is not a consistent lamp / post style established for the campus
Figure 8.b.v
Precedent and Place - Site Furnishings
Inventory and Analysis

Lighting

- Contemporary newer fixtures can also be found within the campus core areas
- Pole types vary considerably throughout the campus
- No consistent "Modern" fixture has been established as a standard

Several modern fixture styles can be found on Main Campus.
Ground Level Lighting

- There is a wide variety of ground level and bollard fixtures
- There is a limited use of spot lighting and landscape lighting on campus

Typical low level lighting on Main Campus.
Figure 8.b.vii
Precedent and Place - Statuary and Memorials
Inventory and Analysis

Statues and Memorials

- Several Statues and Memorials exist throughout the Main Campus
- These areas are well maintained and are aesthetically pleasing additions to the campus landscape
- These areas offer information and interest for students and visitors to campus and add to the sense of place

Statuary and Memorials add to the Campus experience.
Entrances and Walls

- There is a wide variety of walls materials and types in the Central Core of campus.
- Wall materials typically match or enhance the architecture when adjacent to a structure.
- Major wall types not associated with building styles typically include native brick and limestone.
- There are concrete wall accents in several areas.

Brick, Stone and Concrete walls are used throughout the campus.
Planters and Trash Receptacles

- A nice variety and use of large planters
- Limited number of smaller planters
- The black metal trash receptacle is the most prominent on campus

Large planters are used effectively in several locations.
Figure 8.b.x
Precedent and Place - Site Furnishings
Inventory and Analysis

Fencing And Railing
- There is a consistent use of material and color for fences and rails
- The most common fence is an ornamental iron picket painted black
- The most common rails are black metal tubing or black metal pickets

Typical Main Campus rails and fences.
Figure 8.b.xi
Precedent and Place - Site Furnishings
Inventory and Analysis

Benches
- The predominant bench types on the North Campus are wood slatted benches and concrete or limestone slab style benches
- The wood benches are aged and in several cases are in a deteriorated condition
- The stone and concrete benches are generally in good condition

Typical benches found on Main Campus.
Benches And Tables

- Newer metal benches and tables have been introduced in several areas
- In most cases these benches and tables are in good condition
- Typically these benches and tables are painted black or EKU Maroon

Near the Student Center there are several areas with metal tables and shade canopies.
In many areas exposed aggregate concretes are deteriorating. Asphalt is used as a walking surface only in the Ravine.

Concrete is the predominant pavement on campus.
Figure 8.b.xiv
Precedent and Place - Pavements
Inventory and Analysis

Pavements

- Brick and other special pavements are used effectively throughout Main Campus
- These areas accent building entries and plaza areas

Effective use of pavement accents throughout Main Campus.
Proposed/Existing Bus Stop

Legend

1. New Shuttle on N. Campus only.
2. Extend Bus #1 Route to new residence halls (B3).
3. Keep Bus #2 as is.

Phase 1: 2012
Eastern Kentucky University
Campus Master Plan

SCALE: 1" = 800'
January 27, 2009
Phase 2: 2017

Proposed/Existing Bus Stop

Legend:
- Proposed/Existing Bus Stop
- Bus 1
- Bus 2
- Bus 3

Recommendations:
1. Loop into B11 parking lot @ Lancaster Avenue.
2. Reroute Bus #2 @ Ashland Building Addition.
3. Relocate Bus Stop close to Ashland Building.

NORTH

Parking Legend
- General Parking
- Resident Parking
- Employee Parking
- Commuter Parking
- Employee/Visitor Parking
- Employee/Commuter Parking
- Brockton Resident Parking

Scale: 1" = 800'
Proposed/Existing Bus Stop
Bus 1
Bus 2
Bus 3

Legend
NORTH
Parking Legend
- Resident Parking
- Employee Parking
- Commuter Parking
- Employee/Visitor Parking
- Employee/Commuter Parking
- Brockton Resident Parking

Phase 3: Long Term
Eastern Kentucky University
Campus Master Plan

January 27, 2009

SCALE: 1" = 800'