



CAMPUS MASTER PLAN

UNIVERSITY OF ARKANSAS AT PINE BLUFF

HANBURY EVANS WRIGHT VLATTAS + COMPANY • JULY 22, 2015

acknowledgements

The planning team is grateful to all the dedicated people at the University of Arkansas at Pine Bluff who have devoted their vision, time, ideas and energy to the creation of this plan. A special thanks to the following individuals:

UAPB Executive Cabinet

- ▶ Dr. Laurence B. Alexander, Chancellor
- ▶ Dr. Jacquelyn McCray, Interim Vice Chancellor, Academic Affairs
- ▶ Elbert Bennett, Vice Chancellor, Student Affairs
- ▶ Carla Martin, Interim Vice Chancellor, Finance and Administration
- ▶ Dr. Mary E. Benjamin, Vice Chancellor, Research and Innovation
- ▶ James Tyson, Vice Chancellor, Development/Institutional Advancement
- ▶ Janet Broiles, Chief of Staff

UAPB Steering Committee & Participants

- ▶ Robert Wall, Director of Facilities Management
- ▶ Ralph Owens, Dean of Student Life
- ▶ Willette Totten, Director of Technical Services
- ▶ Lonza Hardy Jr., Director of Athletics
- ▶ Antonie Rice, Asso. Dean, School of Arts and Sciences
- ▶ Linda Okiror, Asso. Vice Chancellor, Enrollment Management
- ▶ Dr. Edmund Buckner, Asso. Dean for Agriculture Research and Ext.
- ▶ Kara Brown, Asso. Dean of Student Activities / Student Involvement
- ▶ Kay Turner, Director of Procurement

Master Plan Design Team

Hanbury Evans Wright Vlattas + Company

- ▶ Scott Miller, Lead Planner
- ▶ Reid Sabin, Campus Planner
- ▶ John Dreiling, Project Manager
- ▶ Yvonne M. Thibodeau, Space Planner
- ▶ James Negri, Digital Artist
- ▶ Elizabeth Morgan, Graphic Designer

Consultant Team

SCM Architects

EDSA, Inc., Landscape Design

McClelland Consulting Engineers, Inc., Civil Engineering

Cromwell Consulting Architects and Engineers, Inc., Infrastructure

The Sextant Group, Inc., Information Technology and Security

Dear UAPB Community and Friends:

It gives me great pleasure to present to you the Comprehensive Campus Master Plan for the University of Arkansas at Pine Bluff. Campus environments are constantly evolving as new buildings, varied architectural styles, and new landscape are incorporated. Quality facilities, spacious grounds and well-designed pathways can have a significant positive effect on the success of a higher educational institution in the 21st century.

The University of Arkansas at Pine Bluff is perfectly positioned to support innovation on our campus and contribute to the transformation of our region as we advance in the future. The new master plan provides an ambitious framework for the development of the university's physical campus in the coming decades. Our physical campus is one of our most unique and valuable assets. This plan ensures that we continue to be responsible stewards of our 142 year-old institution. In keeping with the priorities established in our 2015 – 2020 strategic plan, the master plan envisions support for continued academic innovation and integration, focuses on the student experience and connects on a deeper level with the larger community.

The Master Plan for this campus is an inspiring look into the future, boldly establishing the direction for what the University of Arkansas at Pine Bluff will become. The formulation of this plan has been a highly inclusive process to ensure that the plan reflects our best collective thinking and shared vision. I would like to express my sincere appreciate to the leadership and members of the planning committee who have worked tirelessly on the development of this plan as well as our partners with the architecture and planning firm Hanbury Evans Wright Vlattas + Company. Our master plan aligns with our values, our principles, and our goals for the future. I look forward to our continued work together realize the goals of the plan.

Sincerely,



Laurence B. Alexander, J.D., Ph.D.
Chancellor



contents

■	1.0 EXECUTIVE SUMMARY.	5
	1.1 Purpose.	6
	1.2 Alignment with UAPB’s Strategic Plan	7
	1.3 Plan Drivers	8
	1.4 Plan Principles	8
	1.5 Enrollment Projections and Space Needs Analysis	9
	1.6 Master Plan Vision.	11
	1.7 Long Term Vision Plan	12
■	2.0 MASTER PLAN ELEMENTS.	16
	2.1 The Planning Process	17
	2.2 Analysis and Concept Development.	18
	2.3 Program Accommodation	23
■	3.0 PROPOSED ACTIONS.	24
	3.0 Focus Areas	25
	3.1 Campus Core	26
	3.2 Residential Village	30
	3.3 North Campus.	32
	3.4 University Drive.	34
■	4.0 ADDITIONAL RECOMMENDATIONS	37
	4.1 Landscape and Open Space	38
	4.2 Infrastructure and Technology.	54
	4.3 Campus Circulation and Transportation	64
	4.4 Providing a Safe Environment	68
	4.5 Engaging the Community	77
	4.6 Creating a Sustainable Campus	78
■	5.0 IMPLEMENTATION	79
	5.1 Programmed Accommodation.	80
	5.2 Programmed Needs.	83
	5.3 Funding Mechanisms.	86
■	Appendices	
	Appendix A: Space Utilization and Space Needs Report (not included with this draft)	



EXECUTIVE SUMMARY

PURPOSE

ALIGNMENT WITH UAPB'S STRATEGIC PLAN

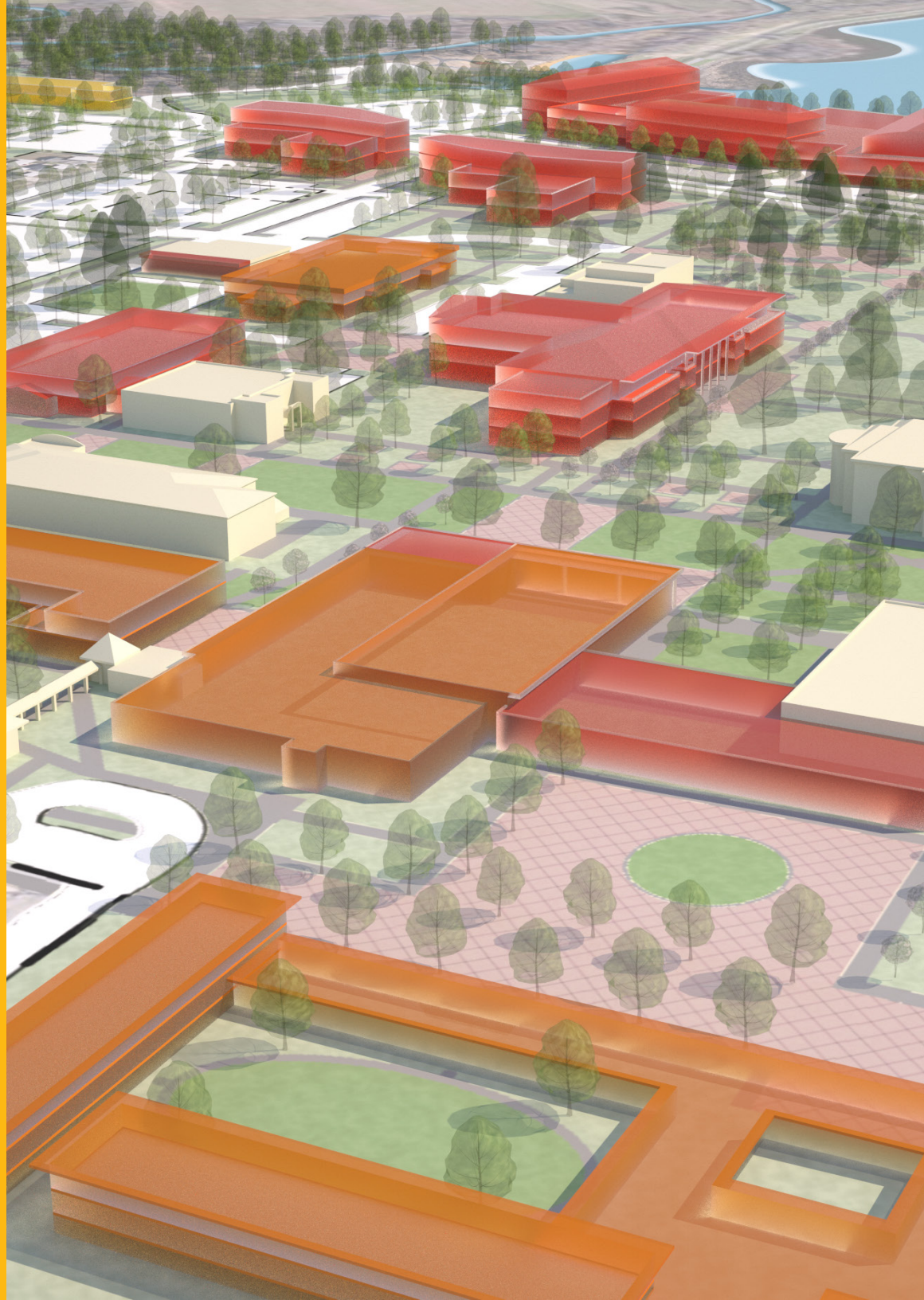
PLAN DRIVERS

PLAN PRINCIPLES

ENROLLMENT PROJECTIONS
AND SPACE NEEDS ANALYSIS

MASTER PLAN VISION

LONG TERM VISION PLAN



1.1 purpose

In the summer of 2014, the University of Arkansas at Pine Bluff (UAPB) engaged the architecture and planning firm of Hanbury Evans Wright Vlattas + Company to lead a collaborative campus master planning effort. The Campus Master Plan endeavors to create a vision for UAPB's physical resources and facilities to support the University's strategic plan and enrollment projections for the next ten years.

The plan builds on the rich heritage of the institution. By invigorating the historic campus core, old and new traditions will prosper. New campus spaces will create a more dynamic environment and enhance campus identity.

The Master Plan proposes specific facility and infrastructure recommendations for priority and near-term projects. Beyond siting these specific capital projects, the intent of the plan is to create a framework for coherent long-term growth that is both visionary in concept and flexible in implementation.



1.2 alignment with UAPB's strategic plan

The 2015 *University of Arkansas at Pine Bluff Campus Master Plan* supports the University's **Growing the Pride: 2015-2020 Strategic Plan** and responds to Chancellor Alexander's commitment made in the document:

“The strength of UAPB lies in our ability to adjust and adapt to changing needs and demands. As such, we are committed to being more student-focused and more responsive to change with the goal of increasing student success and the removal of impediments to student retention, progression, and timely graduation. This plan is our commitment to become the University of choice by optimizing resources and providing an environment in which students can study, learn, and develop through their interaction with fellow students, faculty, staff, administrators, and community leaders.”

- Excerpt from **Growing the Pride: 2015-2020 Strategic Plan**

The physical plan will address all five of the Strategic Plan Priorities as listed on this page. It will provide recommendations that will affect academic excellence and student success. It will contribute to greater effectiveness and efficiency of University operations. It will represent future projects to help attract revenue and resources. It will also play a role in enhancing UAPB's visibility and identity.

The primary function of the Campus Master Plan responds to **Priority 3: Modernize and Upgrade University Infrastructure and Facilities**. The plan recommends strategies for updating and expanding infrastructure systems to better serve the University into the future. It recommends land use strategies, building re-use opportunities and new facility locations that strengthen the overall campus framework. It also creates new places, spaces and connections that help to invigorate the living/learning environment.

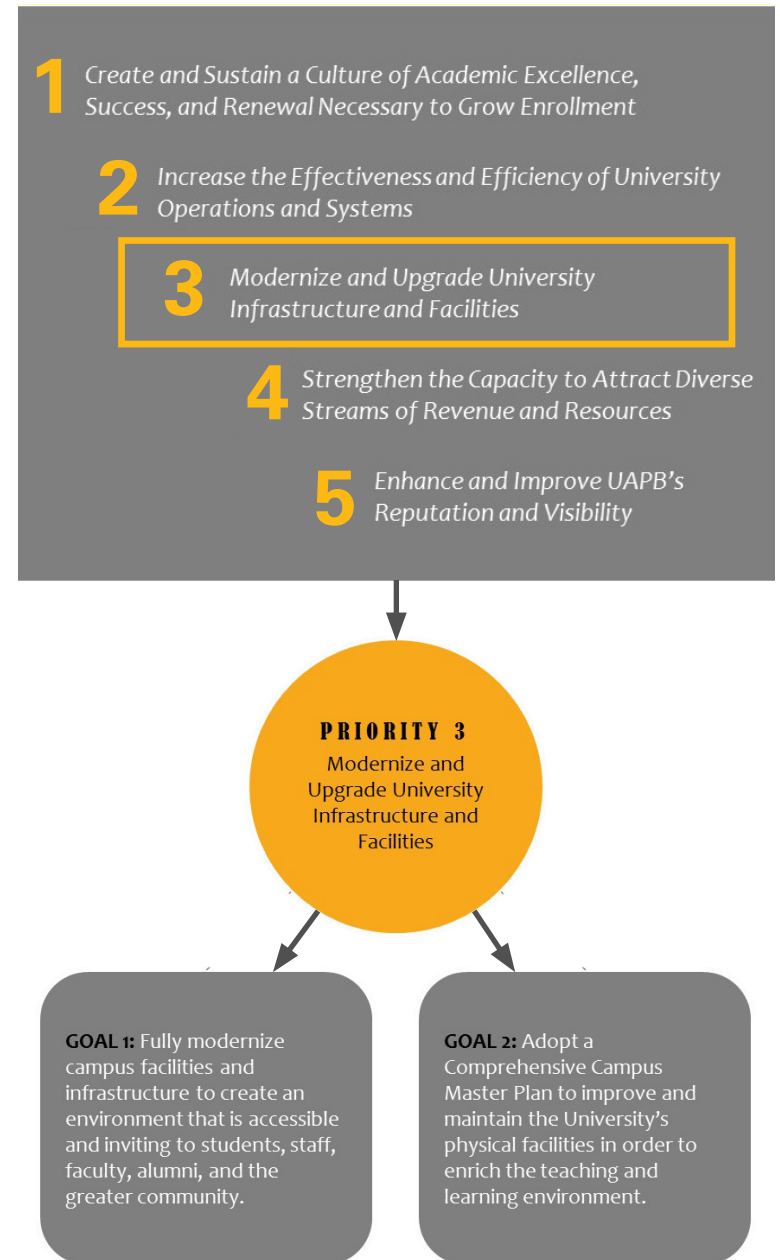


Figure 1.2-1, *Growing the Pride - 2015-2020 Strategic Plan Priorities*

1.3 plan drivers

Plan Drivers are the primary catalysts for the Campus Master Plan recommendations. They are the result of the analysis of data collected and an overall understanding of institutional direction of UAPB.



The **Strategic Plan** illustrates institutional vision for the future and forms the backdrop for the entire planning process.

Space Needs are developed through analysis of classroom inventory, utilization, benchmarking and departmental aspirations. Evidence-based space needs form the majority of projects to be accommodated in the Campus Master Plan.

Physical Opportunities are found through the analysis of current campus systems and use patterns. Identified opportunity sites provide locations for the accommodation of planned projects.

1.4 plan principles

Master Plan Principles were derived directly from Strategic Plan Values. The principles have been helpful in translating abstract characteristics of the values into concrete physical opportunities to improve campus facilities and grounds in alignment with the future vision of UAPB.

UAPB STRATEGIC PLAN VALUES	MASTER PLAN PRINCIPLES
STUDENT FOCUSED	1 Enhance the living/learning community by focusing on student life needs
EXCELLENCE	2 Maximize synergistic relationships and shared resources to spur innovative academic and research collaboration
INTEGRITY	3 Extend the framework of the historic campus core to create a coherent, connected, and safe campus
ENGAGEMENT	4 Partner with the city of Pine Bluff to expand opportunities for social and economic development
QUALITY CUSTOMER SERVICE	5 Expand and enhance campus infrastructure to better serve academic needs and quality of life issues
DIVERSITY	6 Create multiple activity centers to build community through engaged participation in varied campus activities
GLOBALIZATION	7 Design classrooms, labs, and blended learning modalities to teach 21st century learners
ACCOUNTABILITY	8 Honor the unique UAPB campus heritage and provide stewardship for natural, human, and fiscal resources

1.5 enrollment projections and space needs analysis

As part of the Master Plan, the planning team assessed the facilities needs by providing a detailed Space Utilization and Needs Analysis. In order to undertake the space needs analysis, the University provided data on enrollment, courses, staffing, and facilities. The space needs analysis assists in determining the magnitude of space needed for the current level of campus enrollment and activity. The analysis also includes a projection of space needs for the future planning horizon. To calculate the space needs, the consultant applied the space guidelines commonly used in the space analysis industry. These guidelines were adapted and augmented as appropriate during the analysis. Where guidelines did not exist for categories such as the non-Educational and General spaces, the consultant applied commonly used standards.

Current Space Needs Analysis

The space needs analysis calculated the space requirements looking at the findings both for the campus as a whole and at a school level for each of the academic schools and major administrative divisions. Results of the campus-wide space needs analysis generated a space need of 17,000 ASF (assignable square feet) using data from the Fall 2013, with an enrollment of 2,615 students.

The space category with the greatest space need at the current time is Residential Facilities space. The Research & Service and Athletics and Recreation categories also show a significant need for additional space, as does the Library category. Categories of space that are shown to have sufficient space include Classrooms and Class Laboratories.

Projected Space Needs Analysis

Using projections into the future, the space need increases to nearly 244,000 ASF when enrollment reaches 4,000 students. Over 109,000 ASF of the calculated future year space need is in the Residential Facilities category. The Research & Service, Athletics and Study & Library space categories show significant need for additional space in the future, (Figure 1.5-2). The Student Center space also shows a projected future need.

CURRENT SPACE NEEDS ANALYSIS, *Figure 1.5-1*

Space Use Category	Current ASF	Calculated Space Requirement	ASF Difference	Percent Difference
Classrooms & Service	66,884	33,325	33,559	50%
Class Laboratories & Service	66,515	45,565	20,950	31%
Open Laboratories & Service	24,254	19,570	4,684	19%
Research & Service	43,537	70,850	(27,313)	(63%)
Office & Service	168,306	122,700	45,606	27%
Study/Library	36,858	47,555	(10,697)	(29%)
Physical Education	57,316	35,442	21,874	38%
Recreation	17,237	35,300	(18,063)	(105%)
Athletics	65,914	100,000	(34,086)	(52%)
Special Use	36,447	36,430	17	0%
Assembly & Exhibit	28,836	21,000	7,836	27%
Student Center	35,609	28,765	6,844	19%
General Use	20,805	24,175	(3,370)	(16%)
Support	43,075	40,740	2,335	5%
Residential Facilities	231,791	301,260	(69,469)	(30%)
Health Care	5,005	2,615	2,390	48%
TOTAL	948,389	965,292	(16,903)	(2%)

PROJECTED SPACE NEEDS ANALYSIS, *Figure 1.5-2*

Space Use Category	Current ASF	Calculated Space Requirement	ASF Difference	Percent Difference
Classrooms & Service	66,884	51,010	15,874	24%
Class Laboratories & Service	66,515	64,628	1,887	3%
Open Laboratories & Service	24,254	28,600	(4,346)	(18%)
Research & Service	43,537	103,090	(59,553)	(137%)
Office & Service	168,306	148,945	19,361	12%
Study/Library	36,858	63,860	(27,002)	(73%)
Physical Education	57,316	46,722	10,594	18%
Recreation	17,237	46,000	(28,763)	(167%)
Athletics	65,914	100,000	(34,086)	(52%)
Special Use	36,447	54,500	(18,053)	(50%)
Assembly & Exhibit	28,836	21,000	7,836	27%
Student Center	35,609	44,000	(8,391)	(24%)
General Use	20,805	33,800	(12,995)	(62%)
Support	43,075	40,740	2,335	5%
Residential Facilities	231,791	341,260	(109,469)	(47%)
Health Care	5,005	4,000	1,005	20%
TOTAL	948,389	1,192,155	(243,766)	(26%)

The planning team used the data and information provided to document the utilization of classrooms and class laboratories. The data was used to analyze the space needed on campus at the current time and at a projected enrollment level for the future.

Classroom Utilization

In the Fall 2013, the 57 classrooms analyzed for the campus averaged 18 hours of scheduled use per week, with 56 percent of the student stations filled when classrooms were in use. The classrooms average 23 assignable square feet (ASF) per student station. The average for weekly seat hours of use was 10.1 hours.

Analysis and Projections

The consultant would expect to see the average weekly room hours to be in the range of 30 to 35 hours per week. The expectation for weekly seat hours is around 20 to 24. A common expected average for the percentage of seats filled is 65 to 70 percent. The consultant finds the average size of the student stations in classrooms on many campuses to be around 20 to 25 ASF.

The average room hours per week of scheduled use for the Fall term 2013 at UAPB is below the range that the consultant would expect to see, as are the weekly seat hours. The classroom student station occupancy is also below what might be expected. The space per student station average is within the expected range.

When the utilization findings were summarized by building, the classrooms located in Dawson-Hicks Hall showed the highest average hours per week of scheduled use. The ten classrooms in Dawson-Hicks averaged 31 hours per week of use. At the low end of utilization findings are the three classrooms in Hazzard Gym, which averaged only four hours per week of utilization.

When the utilization findings are summarized by school, the classrooms assigned to the School of Business and Management showed the highest average hours per week of scheduled use. The 10 classrooms averaged 24 hours per week of use. At the lower end classrooms assigned to Military Science averaged four hours per week of use.

Classroom utilization findings compiled by classroom capacity showed the three classrooms in the group with 120 to 230 student stations averaged 28 weekly room hours of use. The classrooms with capacities of 40 and 45 to 58 student stations averaged the lowest weekly room hours (WRH) of use at 13 hours per week.

Review of classroom use by day and time of day showed the classrooms on campus were most heavily used on Monday and Wednesday mornings when 68 percent of classrooms were in use.

CLASSROOM UTILIZATION SUMMARY, *Figure 1.5-3*

	UAPB Utilization	Industry Expectation
Average Weekly Seat Hours	10.1	24
Average Weekly Room Hours	18	35
Average Student Station Occupancy	56 %	65 %
Average Space per Student Station	23	
Number of Classrooms	57	



Space Needs Analysis Meeting

Class Laboratory Utilization

The 43 class laboratories analyzed averaged 11 weekly room hours of use. When laboratories were in use, the student station occupancy averaged 63 percent. The consultant would expect to see the average for weekly room hours to be 20 to 24 hours per week of scheduled use with 70 percent to 80 percent of the student stations filled. The expectation for average seat hours is 14 to 20 weekly seat hours. The average room hours per week of scheduled use of class laboratories, the average percentage of student station occupancy, and the average weekly seat hours are all below the range that the consultant would expect to see.

CLASS LABORATORY UTILIZATION SUMMARY, *Figure 1.5-4*

	UAPB Utilization	Industry Expectation
Average Weekly Seat Hours	6.8	24
Average Weekly Room Hours	11	18
Average Student Station Occupancy	63 %	75 %
Average Space per Student Station	44	
Number of Teaching Labs	43	

1.6 master plan vision

CAMPUS ANALYSIS

The third “driver” of the Master Plan is the physical campus itself; its existing history, growth patterns, constraints and opportunities. After considerable analysis, the planning team outlined long-range land use and circulation strategies as a framework to accommodate future growth. Land use options compliment regional, city and neighborhood planning initiatives.

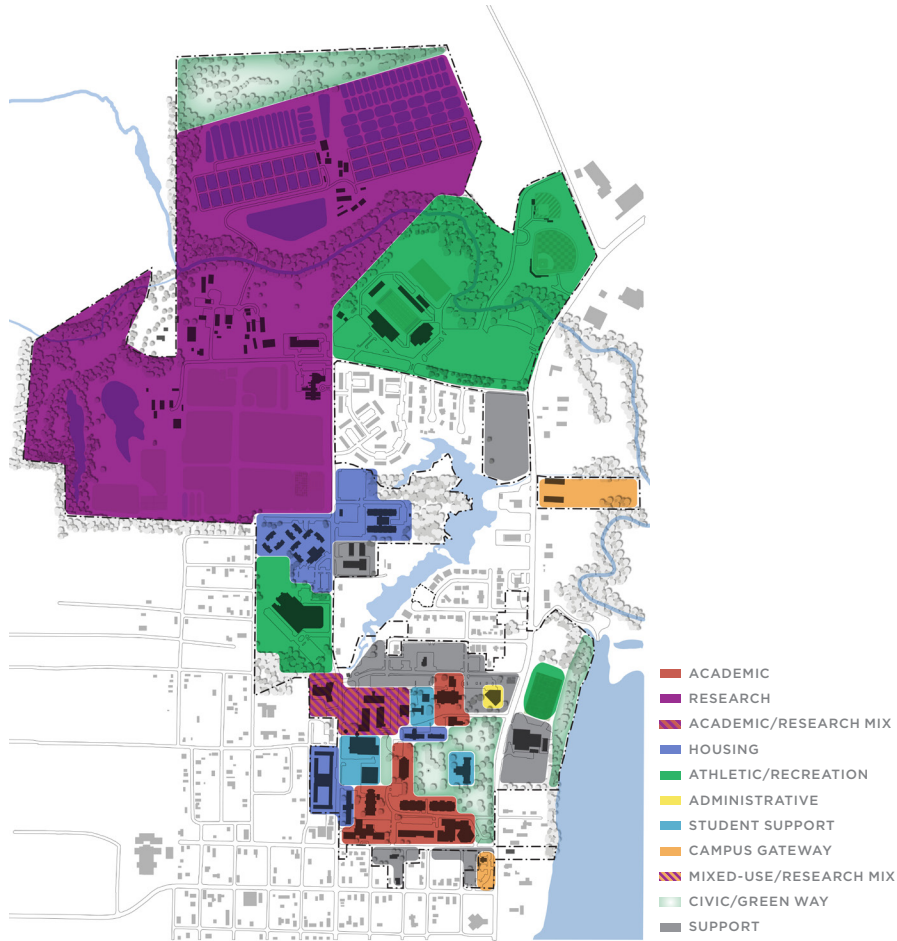


Figure 1.6-1, Existing Land Use

The recommended land use scheme builds on existing patterns to create and enhance identifiable campus districts. Most importantly, the academic district remains compact and easily navigable for pedestrians.

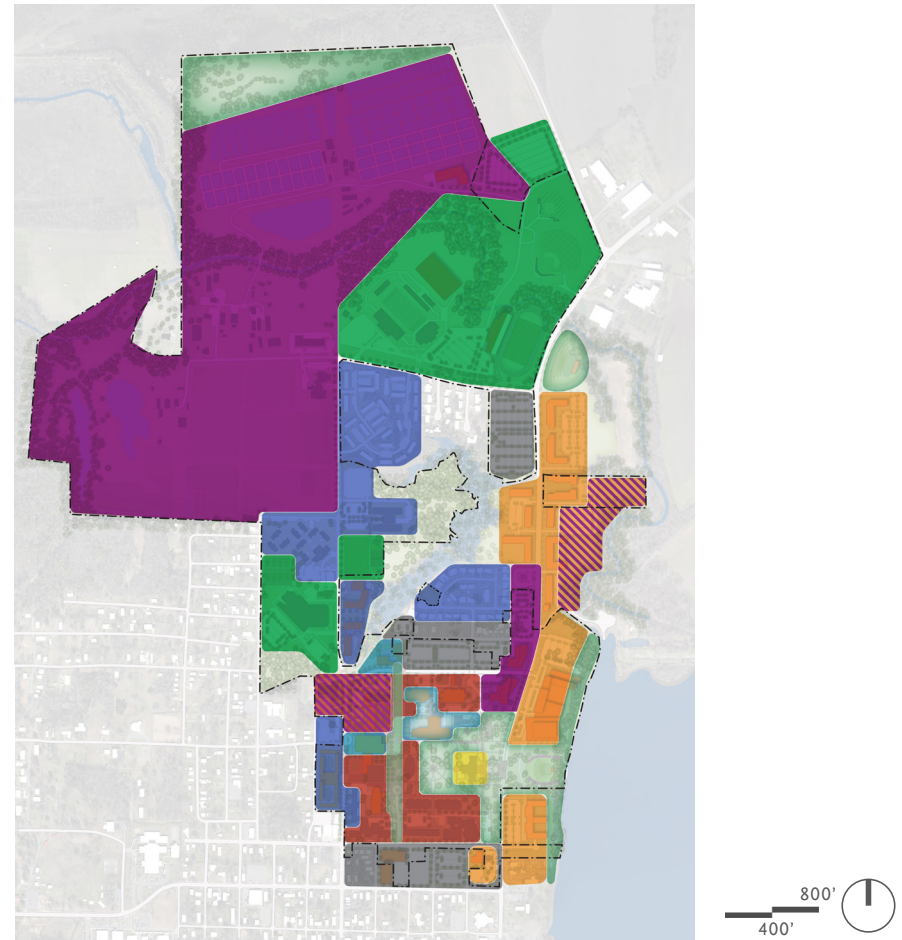


Figure 1.6-2, Preferred Concept Land Use

1.7 Long Term Vision Plan

A Master Plan Program was established from the Space Needs Analysis, interviews with administration and academic department heads, and on-campus workshops. Priority projects reflect the Master Plan Principles especially to enhance the living/learning community and to spur innovative academic and research collaboration.

PROJECT RECOMMENDATIONS

- | | |
|--|-----------|
| <ul style="list-style-type: none"> (A) Residence Halls (B) Student Center (C) Wellness Center (D) Nanoscience + Biotechnology (E) Track + Field / Soccer Facility (F) Public Safety / Welcome Center | PRIORITY |
| <ul style="list-style-type: none"> (G) Larrison Renovation (H) Kountz-Kyle Renovation (I) Harrold Complex Renovation (J) Adair Renovation (K) Biomedical / Life Sciences (L) Relocated Facilities (M) "One Stop Shop" – Student Services (N) Student Success | NEAR-TERM |
| <ul style="list-style-type: none"> (O) Basketball / Convocation Center (P) Conference Center (Q) Hotel (R) Aquaculture / Fisheries (S) Expanded Library – Info Commons (T) Football Practice (U) Future Mixed-Use Development | LONG-TERM |



Figure 1.7-1, Long Term Vision Plan

- | | |
|---|--|
| ■ NEW CONSTRUCTION | ■ EXISTING |
| ■ RENOVATION | ■ FUTURE BUILDOUT |

The Master Plan program on the previous page is described within this document with regard to priority and implementation phase. Projects have also been carefully sited to reinforce existing campus districts.

Through campus infill growth, the identity and life of each district will become stronger by siting more like elements. Where district overlap occurs, the opportunities for synergistic, collaborative, interdisciplinary and mixed-use projects are greatest. These types of projects will act as connectors between districts by bringing diverse groups together. The one-stop shop student services center shown at the overlap of the residential village and the campus core will be a convenient stop along the way for students from residence hall to classroom. The new research buildings and convocation and conference center on University Drive will bring together academics, researchers and the community in economic development for the City of Pine Bluff and the region.

Each district also has a central space to strengthen its sense of place. The main quad at the campus core is the symbolic center of the University, and with the addition of the new student center on the north side of the quad, it will become the center of activity on campus as well.

The student recreation field and basketball courts are the central space for the residential village. This outdoor space will create a new gathering space to build community among campus residents. Greater engagement with peers is known to enhance student success.

On the north side, beside the fields of the athletic venues, the parking lot between Golden Lion Stadium and the new soccer and track facility will be the center of activity. It will host tailgates, festivals and other athletics related events.

The University Drive district has two centers: one at the newly created ceremonial campus gateway east of Caldwell Hall and amphitheater across the street. This area could be home to large campus and city events. The other center is the newly created mixed-use “college town” that connects the academic core to athletics. Graduate and upper level student apartments, retail outlets, restaurants and incubator space will transform campus and community into a dynamic innovation zone.

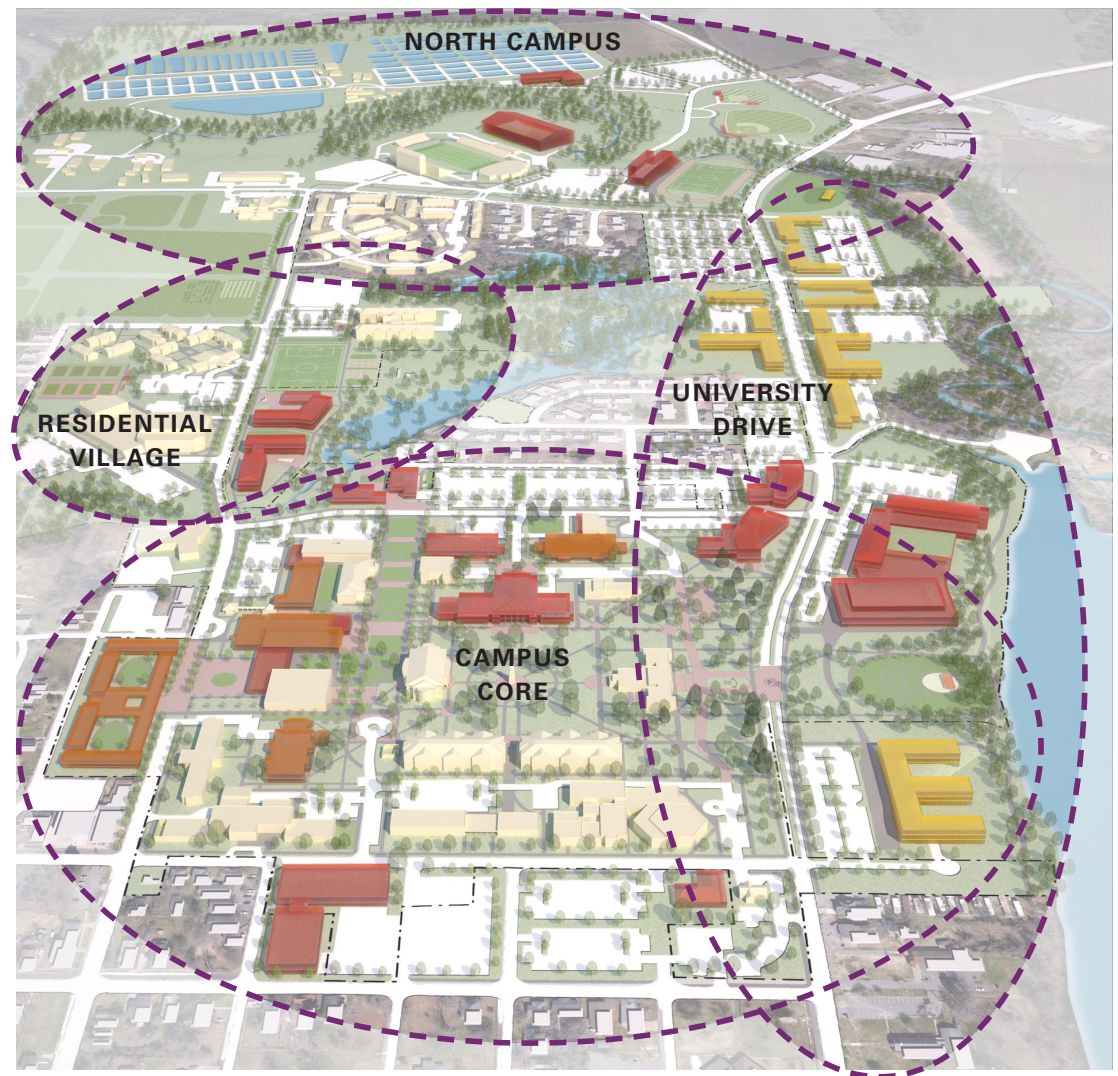


Figure 1.7-2, Campus Districts



Figure 1.7-3, Rendering of New Student Center in Campus Core

CAMPUS CORE - STUDENT CENTER

The new Student Center will sit along the north side of the main quad bringing new life to the historic core of campus. Its east side will prominently face University Drive and therefore will also contribute to strengthening campus identity.

The main entry facing the quad is designed as a large covered front porch with ample seating to encourage the campus community to come together and socialize.

New dining spaces along the south side of the building will have outdoor seating that further invigorates the quad. The third level will have an outdoor rooftop terrace reminiscent of the one that was historically active at Davis Student Union. It will have views of the quad and out to Lake Saracen.

Cherry trees will line the north and south edges of the quad bringing spring color to campus as the weather encourages outdoor activities.



View Depicted in Rendering Above



Figure 1.7-4, Rendering of University Avenue Corridor Looking North

UNIVERSITY DRIVE CORRIDOR

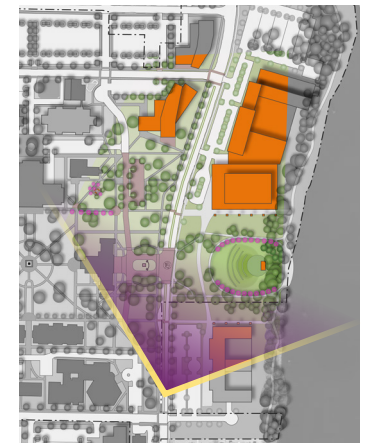
The University Drive corridor from the south is, by a large margin, the primary route to campus. In partnership with the City of Pine Bluff, the University Park neighborhood, and the Arkansas State Highway and Transportation Department, the University is transforming its front door and its public image.

A boulevard concept as it passes through campus, University Drive will be safer for pedestrians to cross with a landscaped center median. Trees, light poles and banners will line each side of the street to announce the neighborhood and entry into campus. New sidewalks will encourage pedestrians and bikers to walk along the street.

A new ceremonial gateway to access Caldwell Hall includes a paved centerpiece in University Drive designed to both signify an important entry and to slow traffic through this zone. New monumental signage, lion statues, flagpoles and landscaping will create a more civically scaled campus gateway.

An amphitheater, convocation center, new research buildings and mixed-use buildings lining University Drive will bring new energy to this part of town that will benefit the community beyond UAPB.

These projects will symbolize the forward-thinking optimistic outlook of the University and spur economic development in this community.



View Depicted in Rendering Above

2

MASTER PLAN ELEMENTS

THE PLANNING PROCESS

ANALYSIS AND CONCEPT DEVELOPMENT

- Regional Context
- Land Use
- Campus Analysis
- Preferred Land Use Plan

PROGRAM ACCOMMODATION

- Project Recommendations



2.1 the planning process

The process to develop the plan was guided by the Campus Master Plan Steering Committee which encouraged broad participation and input. During the 10-month process the planning team met with virtually every campus constituent group and the City of Pine Bluff. Six on-campus workshops included student, faculty and staff open houses, meetings with academic department heads and student life and athletics leadership, as well as consistent input from Chancellor Alexander and senior administration. The plan was presented to the University of Arkansas System Board of Trustees on May 20, 2015.



Data Collection

Established an understanding of existing conditions, assets, issues, programmatic needs and aspirations; as well as the UAPB mission, vision and strategic plan.

Analysis + Options

Analysis of needs, strategic vision and physical opportunities generated multiple land use concepts. Concepts for campus systems such as open space, circulation, and infrastructure were also generated.

Concept Refinement

The preferred concept was tested with stakeholder review and refined by developing strategies for program accommodation and synergistic adjacencies, as well as creating a connected open space network and campus gateway.

Integration + Documentation

Natural and man-made campus systems were coordinated to reinforce the overall land use strategy and campus framework. The final plan and graphics were created to illustrate proposed projects and their implementation.

Publication + Presentation

Documentation of the process and final recommendations are the basis of this report. The Campus Master Plan was presented to the campus community and UAPB constituents.

2.2 analysis and concept development

HISTORICAL AND REGIONAL CONTEXT

Pine Bluff sits approximately 45 miles south of Little Rock on the Arkansas River in the Arkansas Delta. Historically, Pine Bluff came to prominence through cotton production, the lumber industry and river commerce. The city evolved as the railroad grew in importance. The U.S. Army built the Pine Bluff Arsenal and Grider Field Airport during the World War II era. Several paper mills also helped to diversify the Pine Bluff economy.

University of Arkansas at Pine Bluff (UAPB), the second oldest public educational institution in Arkansas is known as the “Flagship of the Delta.” Founded in 1873 as the Branch Normal College, it was later designated a land-grant college in 1890 under amendments to the Morrill Land-Grant Colleges Act. In 1927, the school became known as the Arkansas Agricultural, Mechanical & Normal (AM&N) College after leaving the University of Arkansas System. It moved to its current location in 1929. The institution reunited with the University of Arkansas System in 1972 and became a University.

UAPB has gained recognition for leading research in the field of aquaculture studies and has recently added a PhD program in Aquaculture & Fisheries.

The campus is located northwest of downtown Pine Bluff on the west bank of Lake Saracen. Its primary access is from Business Route 79 or University Drive, which runs along the east side of campus.

With a Fall 2013 enrollment of 2,615, UAPB houses over 1,000 students on campus. The campus is bordered by the University Park neighborhood to south and west. The neighborhood seeks to partner with UAPB to spur economic and community development.

To the north, agricultural land predominates with some manufacturing interspersed such as the Delta Natural Kraft paper mill.

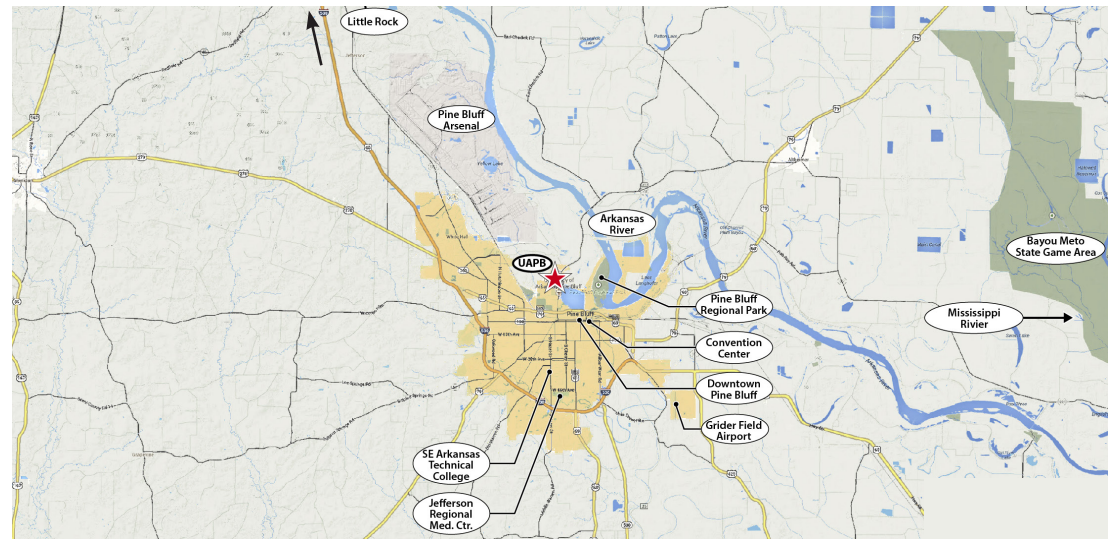


Figure 2.2-1, Regional Analysis



Figure 2.2-2, Campus Context Diagram

EXISTING LAND USE

Existing campus land use reflects typical institutional growth over time. A compact core houses a mix of academic, housing and student support functions, which represents the legacy of the early campus. Larger areas of single use then developed outside of the core campus as enrollment and academic programs grew.

Academic functions (red) have largely been contained between the north and south boundaries of the core campus. This arrangement, within a five-minute walking circle, enhances the pedestrian environment enabling students to comfortably walk from class to class within class change time.

Much of the Agriculture lands and Aquaculture and Fisheries lands are dedicated to Research (purple). There is also a mix of Academic and Research functions in multiple buildings in the northwest section of the core campus. The STEM building is the latest addition to this zone.

Student Housing (dark blue) is primarily in two locations. At the south and west edge of the campus core, Hunt Hall (134 beds for males) and the Harrold Complex (512 beds for females and males) are older residence halls constructed in the 1950's and 1960's respectively. Farther north on L.A. Prexy Davis Drive, the Johnny B. Johnson (JB) Complex was constructed in 1991 and is home to 288 male and female students. Across from JB) the Delta Housing Complex, built in 2003, houses 388 female students. Lewis and Douglas Halls are located in the campus core just north of the main quad, but are currently unoccupied.

Athletics and student recreation facilities (green) are located in three areas. The current soccer facility sits just north of Hazzard Gymnasium (home to ROTC) on the east side of University Drive. The K. Johnson HPER Complex along L.A. Prexy Davis Drive is home to athletics, recreation and academic functions associated the Department of Health, Physical Education and Recreation. Golden Lion Stadium (football) and the Torii Hunter Baseball Complex are located on North Campus.

Student Support and Administrative functions (light blue and yellow) are dispersed throughout the campus core. There is a desire for consolidated services in a "One Stop Shop."

Outreach functions labeled Campus Gateway (orange) include the Welcome Center at the southern campus edge and the public/private partnership initiative University Plaza, both on University Drive.

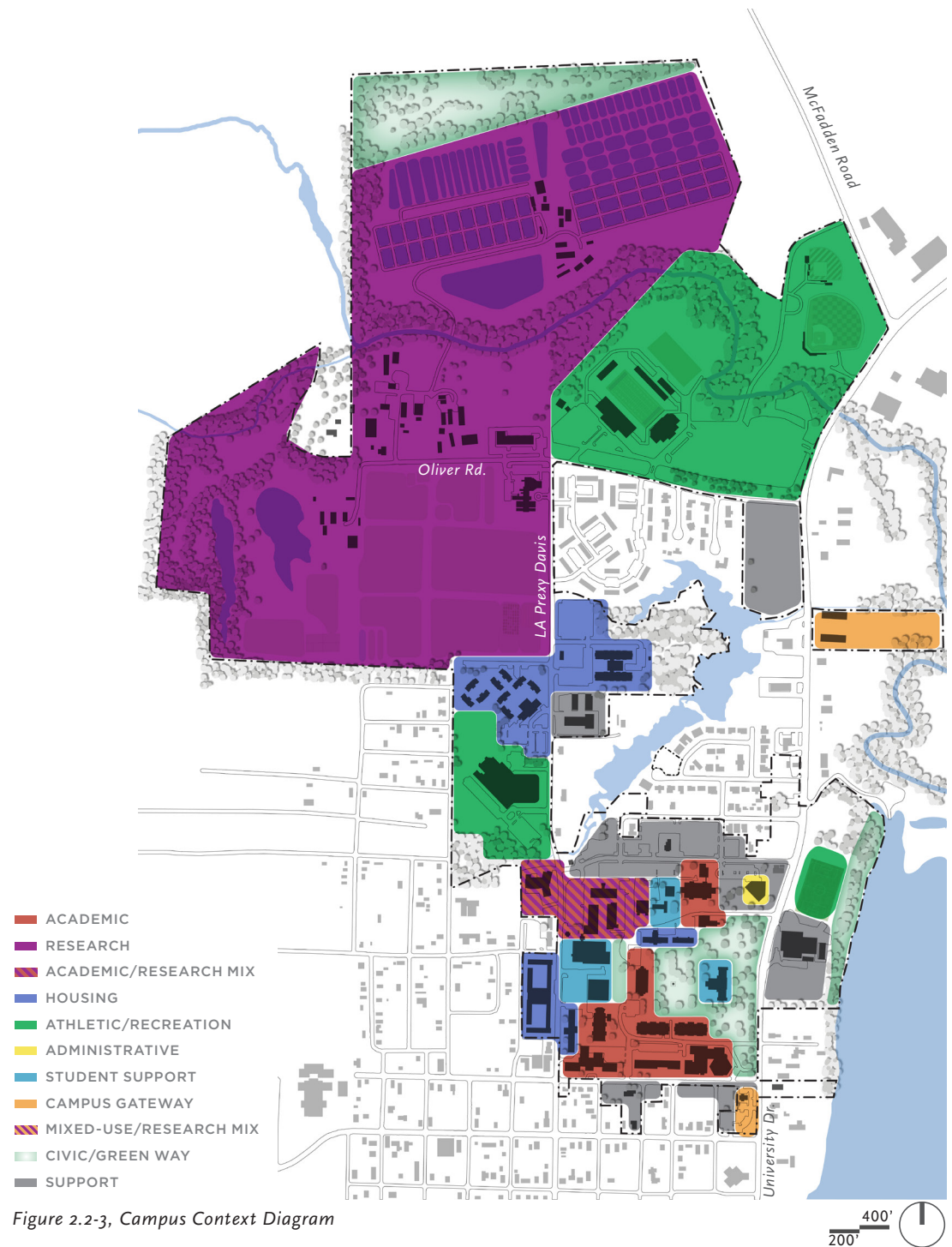


Figure 2.2-3, Campus Context Diagram

CAMPUS ANALYSIS

“Strengthening the Core”

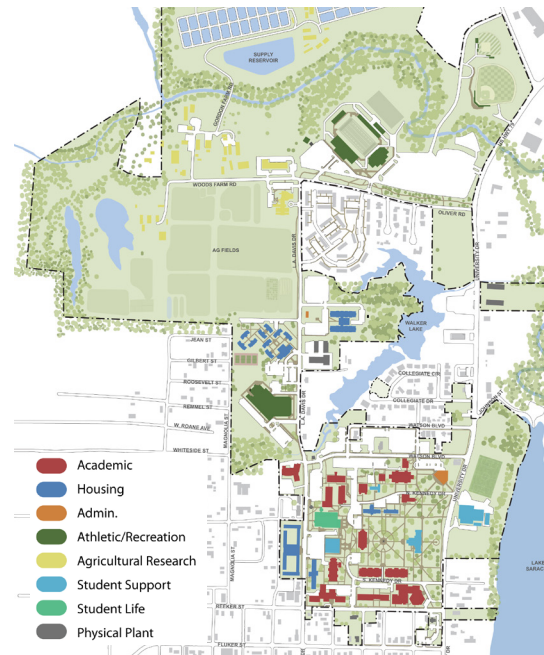
Physical campus conditions, built patterns and natural systems were initially mapped and documented to generate an understanding of the existing campus and its historical growth.

Existing use and circulation patterns have an important impact on growth strategies for the campus. The majority of campus buildings are located within a five-minute walk from one another, which creates a pleasantly pedestrian oriented campus. All campus housing is located within a 10-minute walk of the core. New facilities, sited as infill projects where possible in and around the core, will keep the campus compact and easily walkable.

Expanding the mix of uses at the campus core with new student life amenities will spur greater activity day and night. This will create a more engaged and connected campus community. There are two main areas of student housing; locating new residence halls adjacent to existing housing would create a housing cluster that would foster more activities there as well. If the land across L.A. Prexy Davis Drive from HPER were to be acquired, that would be an ideal location for new housing.

Identifying buildings that are in need of major repairs (Figure 2.2-5) assists in making strategic decisions about siting new projects. Lewis and Douglas Residence Halls, located on a prime site on the north edge of the main quad, are examples of under-utilized buildings with major renovation needs, and are therefore prime candidates for demolition. That site is an ideal location for a major student life facility to take advantage of the quad space.

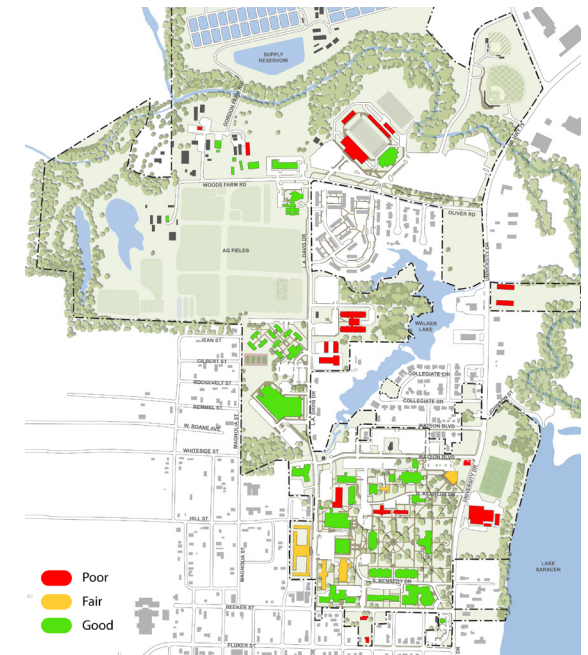
A good deal of campus parking exists at the edges of campus. Further consolidation of parking at the perimeter would provide infill building sites within the core for new facilities. It would also further enhance the core as a pedestrian oriented zone. Removing some service drives in the core would have a similar effect and would simplify vehicular circulation patterns.



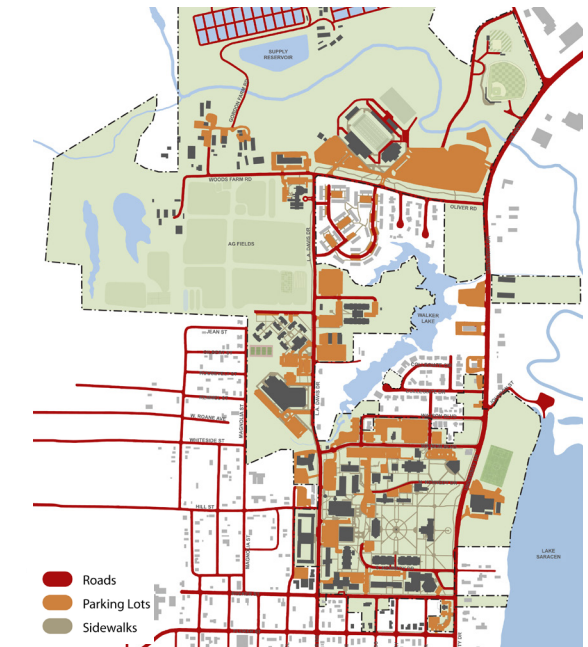
Existing Building Use, Figure 2.2-4 Building Use patterns illustrate the zoning of academic functions at the campus core with student housing located along L.A. Prexy Davis Drive.



Walking Diagram, Figure 2.2-6 UAPB's campus scale is highly walkable and bikable, allowing for a decreased dependency on vehicular movement around campus.



Facilities Conditions Index, Figure 2.2-5 FCI is used by Facilities Management to provide a benchmark to compare the relative condition of a group of facilities on campus.



Circulation Network, Figure 2.2-7 The road network on and around campus (shown in red) is straightforward and easily navigable. Parking is shown in orange and the pedestrian path network in tan.

CAMPUS ANALYSIS SUMMARY

Challenges

- Natural:
 - Flooding concerns during heavy storm events
 - Walker Lake has limited access
- Campus Core:
 - Lack of student life amenities
 - Under-utilized outdoor space
 - Wayfinding/Orientation concerns
 - Multiple campus access points
- University Drive is a barrier to Lake Saracen
- Property ownership pattern north of the core for future growth
- Student Housing:
 - JBJ and Delta Housing lacks a feeling of community
 - Harrold Complex is outdated

Assets

- Natural:
 - Lake Saracen to the east
 - Walker Lake to the north of the core
- Campus Core:
 - Compact
 - Moderate density allows for infill projects
 - Great civic framework
 - Facilities generally in good condition
- Clear land-use zoning
- Fairly clear access, circulation and parking

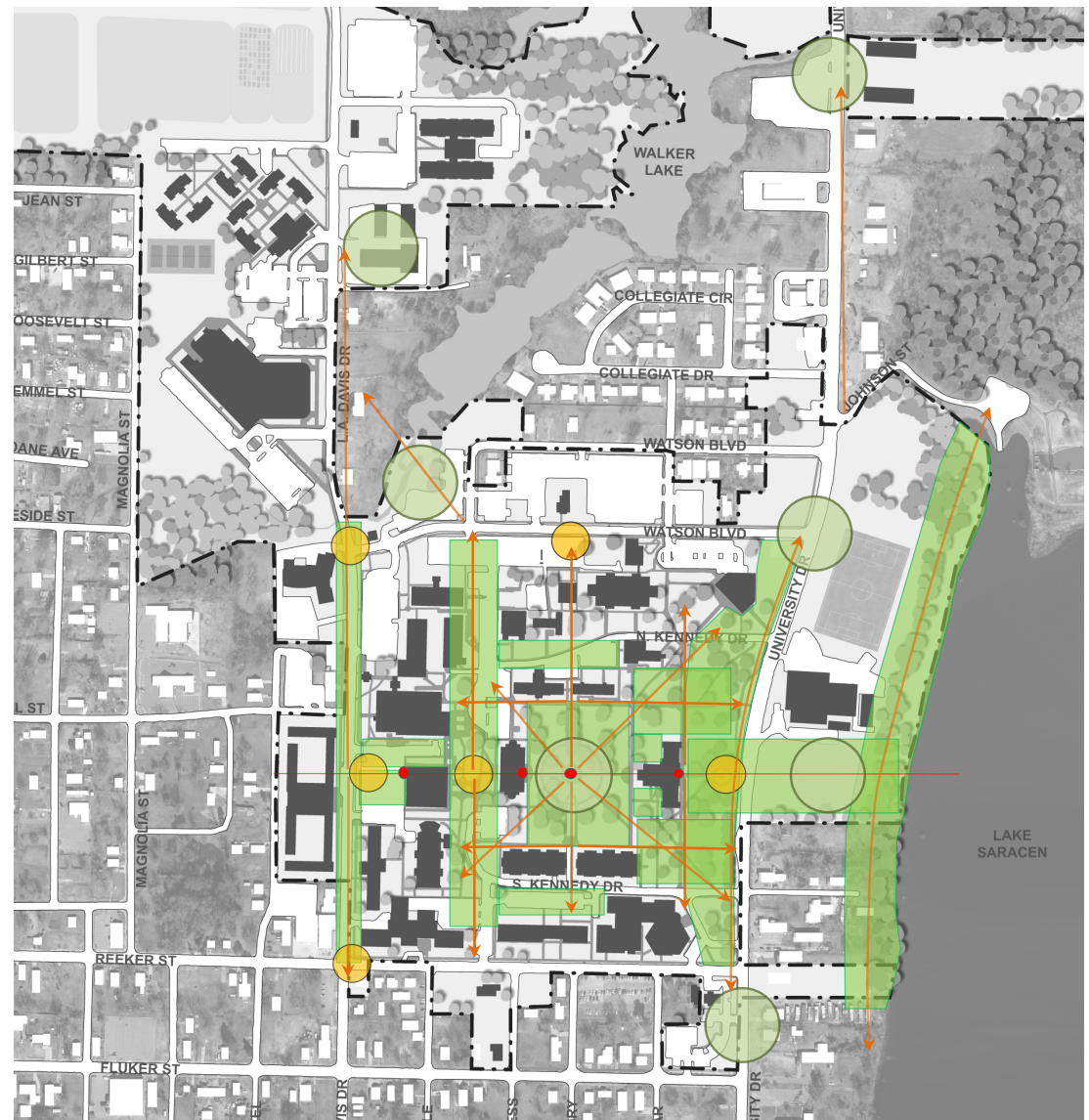


Figure 2.2-8, Framework Diagram

- OPEN SPACES
- MAJOR CAMPUS NODES
- SECONDARY CAMPUS NODES
- DESIRE LINES

PREFERRED LAND USE PLAN

Physical opportunities and constraints have been analyzed within the context of strategic initiatives and space needs to begin to understand and develop land use and campus framework concepts.

The land use concepts build on existing land use patterns, but also assert the future vision for UAPB as laid out in the strategic plan. Strengthening the campus core is an important concept to enhance academic excellence and grow research with state-of-the-art facilities (red and purple areas).

The Residential Village (dark blue) land use concept will bring another 388 students just south of Delta Housing and creates a new center for the village with new recreation fields and basketball courts. The new housing consolidates student housing along L.A. Prexy Davis Drive and connects to Hunt Hall and the Harrold Complex.

Student Life and Student Support functions (light blue) serve as a bridge between housing and the academic zone. The library and new student success center, student center, wellness center and student services buildings are located to be on students' path of travel and to stimulate areas around them with activities.

The future campus vision lies largely in redefining University Drive as the public face of UAPB. A series of University facilities and public/private partnerships (orange) will bring a new identity to the campus as it seeks to be the model for community and economic development through the knowledge economy. It will become a live, work and play corridor with mixed-use projects, new research facilities (purple) and potential incubator space for translating research into products for the marketplace.

The North Campus uses are reinforced with new research space for the Department of Aquaculture and Fisheries and the consolidation of field sports into a contiguous area. Athletics will anchor the north end of the newly conceived University Drive.

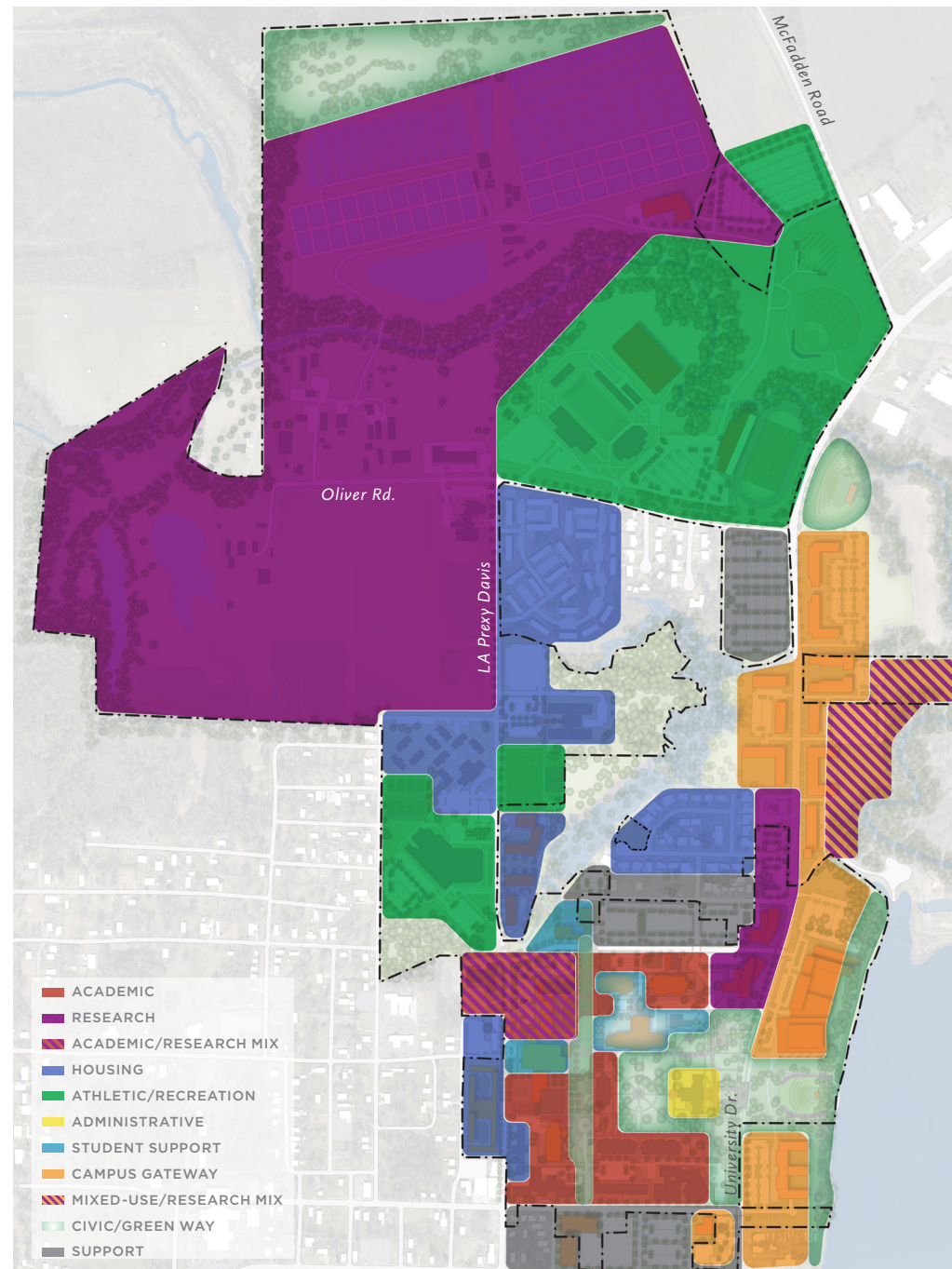
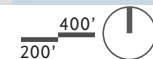


Figure 2.2-9, Long Term Land Use Plan



2.3 program accommodation

A Master Plan Program has been developed that prioritizes future campus projects based on space needs and strategic direction. Projects are characterized as Priority, Near Term, and Long Term. The plan at right shows the proposed locations for each of these projects in support of the preferred campus land use concepts.

PROJECT RECOMMENDATIONS

- | | |
|--|-----------|
| <ul style="list-style-type: none"> (A) Residence Halls (B) Student Center (C) Wellness Center (D) Nanoscience + Biotechnology (E) Track + Field / Soccer Facility (F) Public Safety / Welcome Center | PRIORITY |
| <ul style="list-style-type: none"> (G) Larrison Renovation (H) Kountz-Kyle Renovation (I) Harrold Complex Renovation (J) Adair Renovation (K) Biomedical / Life Sciences (L) Relocated Facilities (M) "One Stop Shop" – Student Services (N) Student Success | NEAR TERM |
| <ul style="list-style-type: none"> (O) Basketball / Convocation Center (P) Conference Center (Q) Hotel (R) Aquaculture / Fisheries (S) Expanded Library – Info Commons (T) Football Practice (U) Future Mixed-Use Development | LONG TERM |



Figure 2.3-1, Long Term Vision Plan

- | | |
|--|---|
| NEW CONSTRUCTION | EXISTING |
| RENOVATION | FUTURE BUILDOUT |



3

PROPOSED ACTIONS

FOCUS AREAS

CAMPUS CORE

Academics & Student Life
Student Center + Wellness
Nanoscience + Biotechnology Research Facility
Public Safety / Welcome Center

RESIDENTIAL VILLAGE

Residential & Recreational

NORTH CAMPUS

Athletics & Research

UNIVERSITY DRIVE CORRIDOR

Campus Gateway



3.0 focus areas

CAMPUS FOCUS AREAS

Four focus areas of campus have been defined because of unique physical and programmatic characteristics.

- **Campus Core - Academics & Student Life**
 - The heart of campus academic and social life
 - Provides UAPB's unique identity
 - Compact zone contained within in a 10-minute walking circle
- **Residential Village - Residential & Recreational**
 - Composed of three residence hall communities with a central student recreation field and basketball courts
 - Physically separated from the Campus Core by Walker Lake, connected by L.A. Prexy Davis Drive
 - Could be designated for upper level students
- **North Campus - Athletics & Research**
 - Least densely developed zone, mainly field use
 - Aquaculture and Fisheries Research separated by topography, stream bed, and woods
 - Athletics are appropriately located closer to University Drive
- **University Drive - Mixed Use, Retail & Research**
 - As the gateway to campus, it provides the first impression of the University
 - Proposed projects connect campus to Lake Saracen and town, and Campus Core to Athletics
 - Could act as an important economic driver for the area

Projects within the four focus areas of the UAPB campus are described on the following pages.

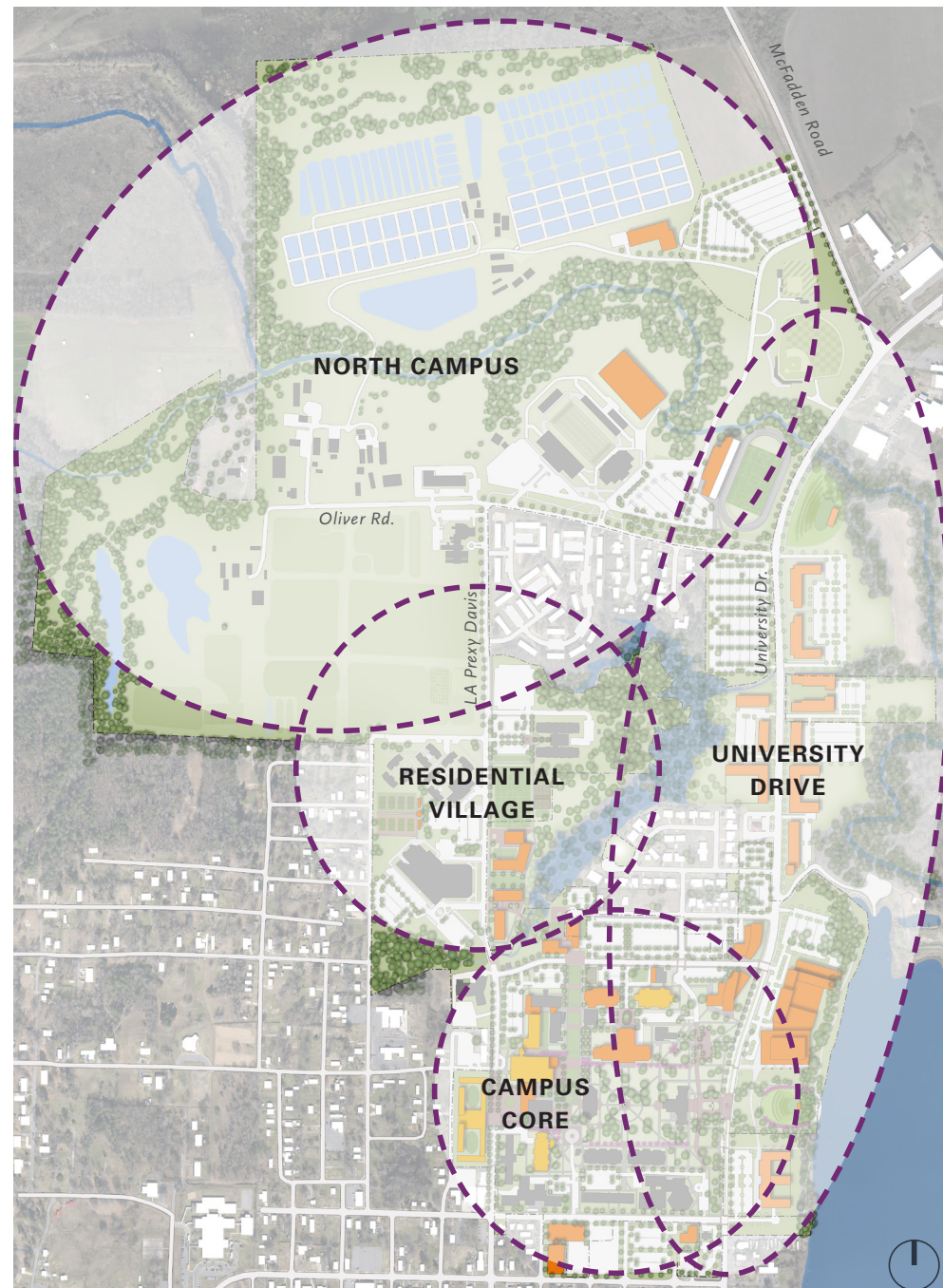


Figure 3.0-1, Campus Focus Areas

3.1 campus core

ACADEMICS & STUDENT LIFE

Campus Core projects are located to extend and enhance the campus physical framework. Such projects include the amphitheater (J) to the east of University Drive and the pedestrian mall (I) between Watson Library and the new Student Services building (F). Priority projects are prominently located for maximum impact on UAPB identity.

- (A) **New Student Center**
±117,000 gsf, dining, meeting rooms, 1000-1200 seat grand ballroom/auditorium, recreational space, bowling, flexible
- (B) **New Nanoscience + Biotechnology Research Facility**
±58,500 gsf
- (C) **New Public Safety / Welcome Center**
±10,920 gsf, training for local/regional law enforcement, criminal justice curriculum, parking services, campus safety
- (D) **New Health and Wellness Center**
±52,000 gsf
- (E) **New Biomedical / Life Sciences Facility**
±58,500 gsf
- (F) **New “One Stop Shop” - Student Services**
±26,000 gsf, career, health & disability services, registrar, recruitment, admissions, enrollment management, bookstore
- (G) **Addition to Library - Info Commons**
±13,000 gsf
- (H) **Relocated Facilities Management**
Easier delivery access, allows housing village concept
- (I) **New Pedestrian Mall**
Greek plots, north/south connector, basketball court
- (J) **Expansion of Historic Core across University Dr.**
Amphitheater, exterior convocation space
- (K) **Student Success Center - Reno. Old Student Union**
±45,000 gsf, tutoring, computer labs, study space
- (L) **Renovation of Adair Greenhouse & Addition to Childcare**
- (M) **Renovation of Kountz-Kyle**
- (N) **Renovation of Larrison Hall**

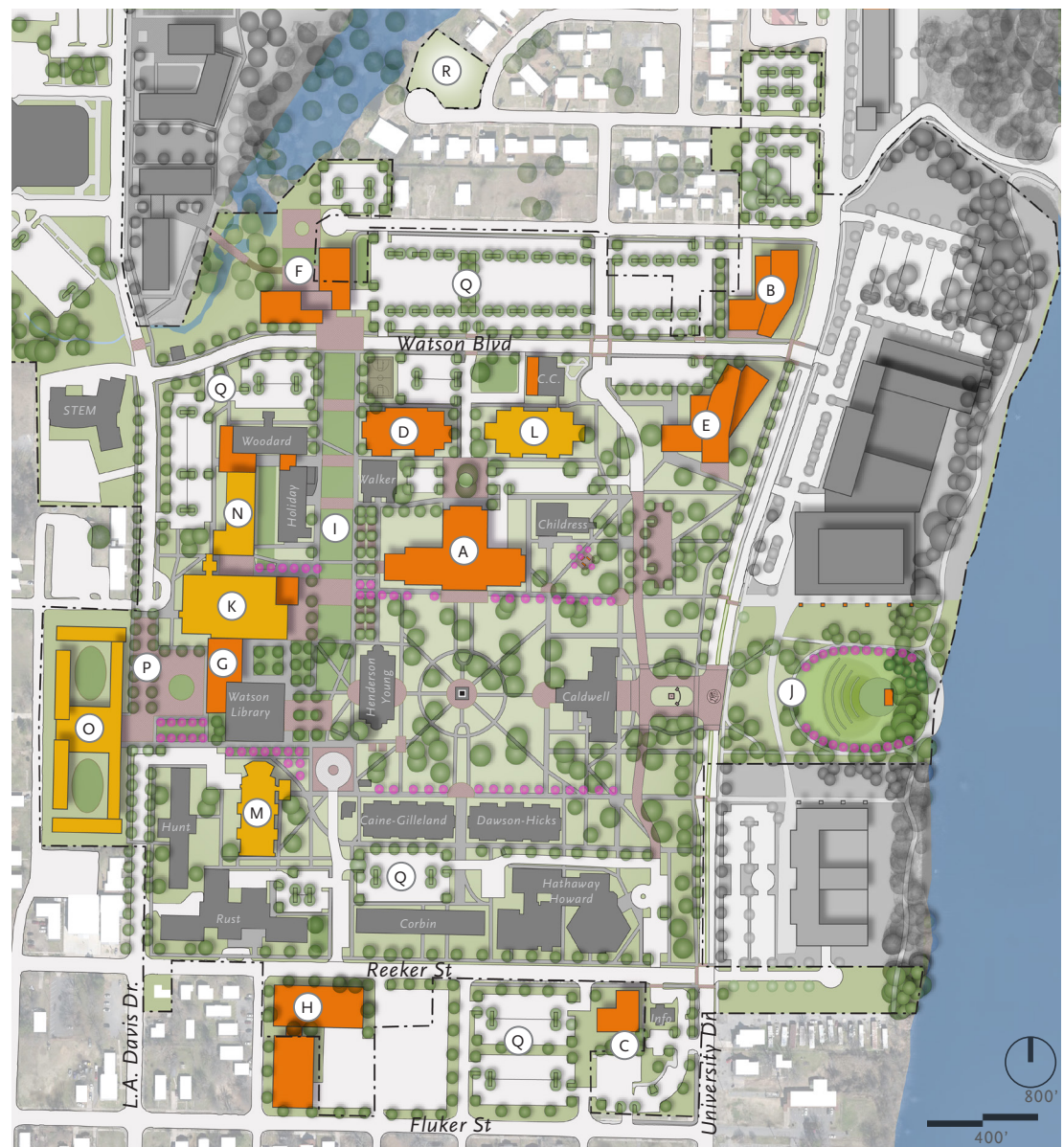


Figure 3.1-1, Enlarged Accommodation Plan

- (O) **Renovation of Harrold Complex**
- (P) **L.A. Davis Drive Partial Closure & Pedestrian Plaza**
- (Q) **New Parking**
- (R) **Site for Future Chancellor's Residence**

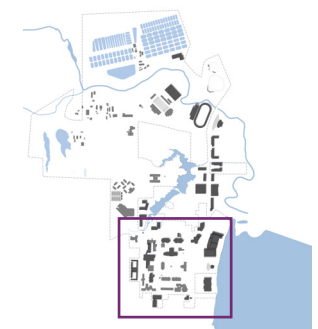




Figure 3.1-2, Rendering of New Student Center in Campus Core

STUDENT CENTER + WELLNESS

- Student Center is centrally sited to activate the historic core of campus
- Main entry and front porch are south facing on historic quad
- There will be an important auto drop-off on the north side
- The Student Center will be highly visible from University Drive to the east
- The west entry will face the new pedestrian mall
- Wellness Center fronts Watson Boulevard and new pedestrian mall
- Synergy with School of Education Department of Human Studies
- Basketball courts located on north side of building
- 3 levels ±117,000 gsf
- Dining and food court
- Student meeting rooms
- Ballroom/auditorium
- Recreational space
- Bowling alley
- Flexible space



Figure 3.1-3, Existing Conditions Photo of Campus Core



Figure 3.1-4, Existing Student Union Space



View Depicted in Rendering Above

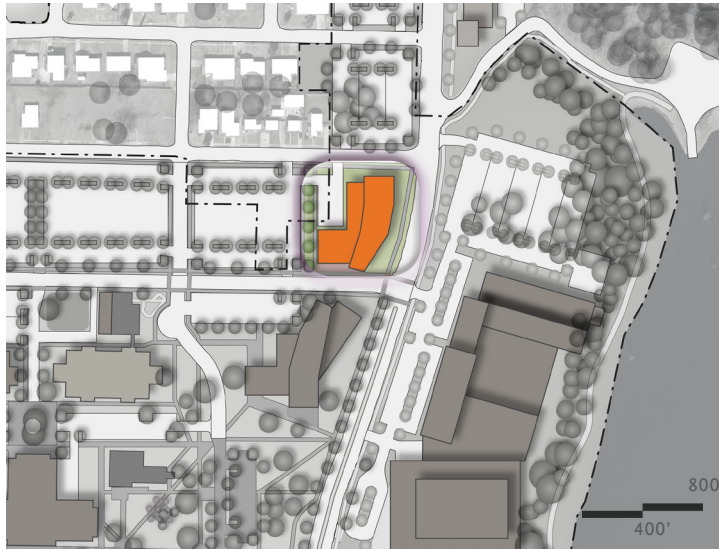
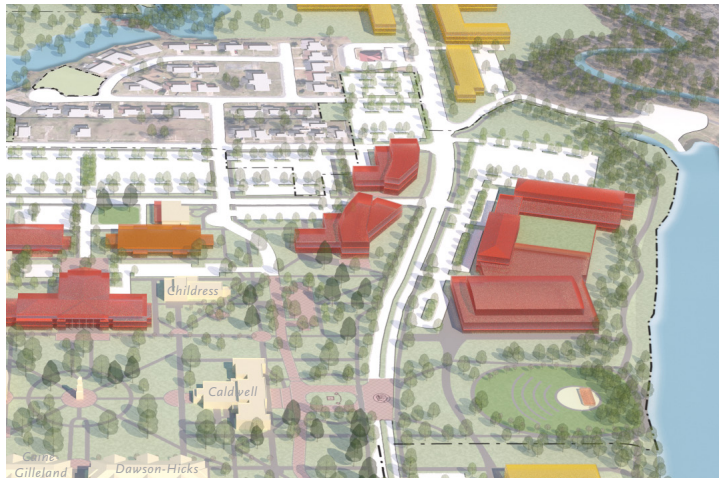


Figure 3.1-5, Nanoscience + Biotechnology Research Facility

NANOSCIENCE + BIOTECHNOLOGY RESEARCH FACILITY

- ± 58,500 GSF
- Sited prominently on University Drive to showcase cutting-edge program
- Bridges between academic campus, conference center and translational research space along University Drive
- First of two research buildings sited along University Drive

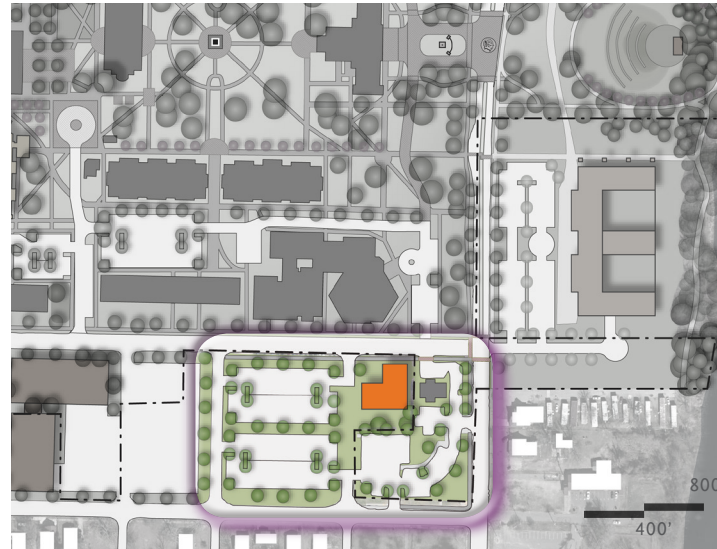


Figure 3.1-6, Public Safety / Welcome Center

PUBLIC SAFETY / WELCOME CENTER

- ± 10,920 GSF
- Sited at the gateway to campus and providing orientation for visitors
- Could contain regional cultural center
- Serves regional public safety continuing education needs

MAKING THE MOST OF CAMPUS HERITAGE

Buildings on the National Register of Historic Places anchor the historic campus quad: Caldwell Hall, the W.E. O'Bryant Bell Tower, and Childress Hall. Newer classroom buildings have set a new architectural standard for campus while reinforcing the quad. The future Student Center forming the north edge of the quad will contextually align with existing buildings and spaces. Though a thoroughly contemporary building, its siting will reinvigorate a connection to the heritage of the campus.

SMALL MOVES, BIG IMPACT

Several projects within the Campus Core can be undertaken quickly and relatively inexpensively that will have transformational impact to this zone. Projects include:

- » **Design and Layout of the Pedestrian Mall**
 - Removal of existing surface parking to create a new student green space
- » **Partial Closure of L.A. Davis Dr. for Pedestrian Connection**
 - Creation of a pedestrian plaza to unite the Harrold Housing
 - Complex with Watson Library and the academic campus
- » **Landscape Improvements**
 - New ceremonial gateway and crosswalk at University Drive in front of Caldwell Hall
 - Rain gardens at the perimeter of the Campus Core to mitigate stormwater and flooding issues
 - Flowering trees planted in historic quad



Figure 3.1-9, Existing Examples of Student Social Spaces on Campus



Figure 3.1-7, 3-D Rendering of Campus Core Pedestrian Mall Looking North



Figure 3.1-8, Existing Conditions Photo of Pedestrian Mall Location

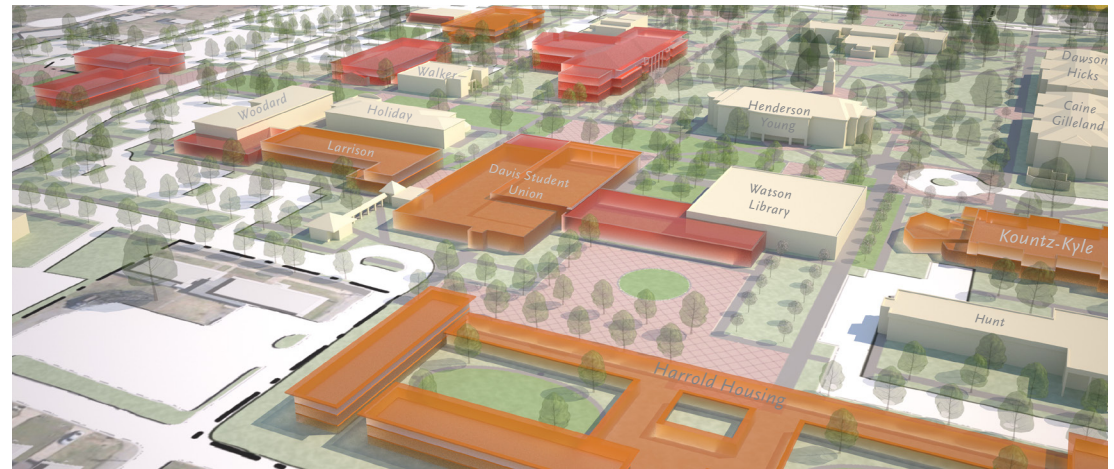


Figure 3.1-10, 3-D Rendering of Campus Core Looking East

3.2 residential village

RESIDENTIAL & RECREATIONAL

A strategic goal for UAPB is to provide more student housing on campus in order to enhance the living/learning environment. The residential village is a driving concept that will create a vibrant community around Delta and J.B. Johnson Housing Complexes and the new residence halls. The centerpiece of this village is a new student recreation field and basketball courts (C). This objective is contingent on property acquisition.

On the west side of L.A. Davis Drive, projects include four new and four refurbished NCAA regulation tennis courts for the tennis team and recreational use (B), expanded parking around HPER used to help accommodate new demand from the new housing (D), and better pedestrian connection to the academic core of campus (E).

Other features will include a new pedestrian bridge over Walker Lake (E) and path network that connects the village to a new Student Services building and the north end of the pedestrian mall.

- (A) New Residence Halls**
388 beds, ± 151,000 GSF
- (B) New Tennis Courts, Restrooms and Grandstands**
4 courts
- (C) New Intramural Fields and Basketball Courts**
Soccer field and 2 basketball courts, current facilities complex to be demolished and relocated
- (D) New Parking**
138 spaces at HPER, reconfigured entry/parking at delta
- (E) Pedestrian Connections to Campus Core**
Walker Lake bridge and L.A. Davis crossing

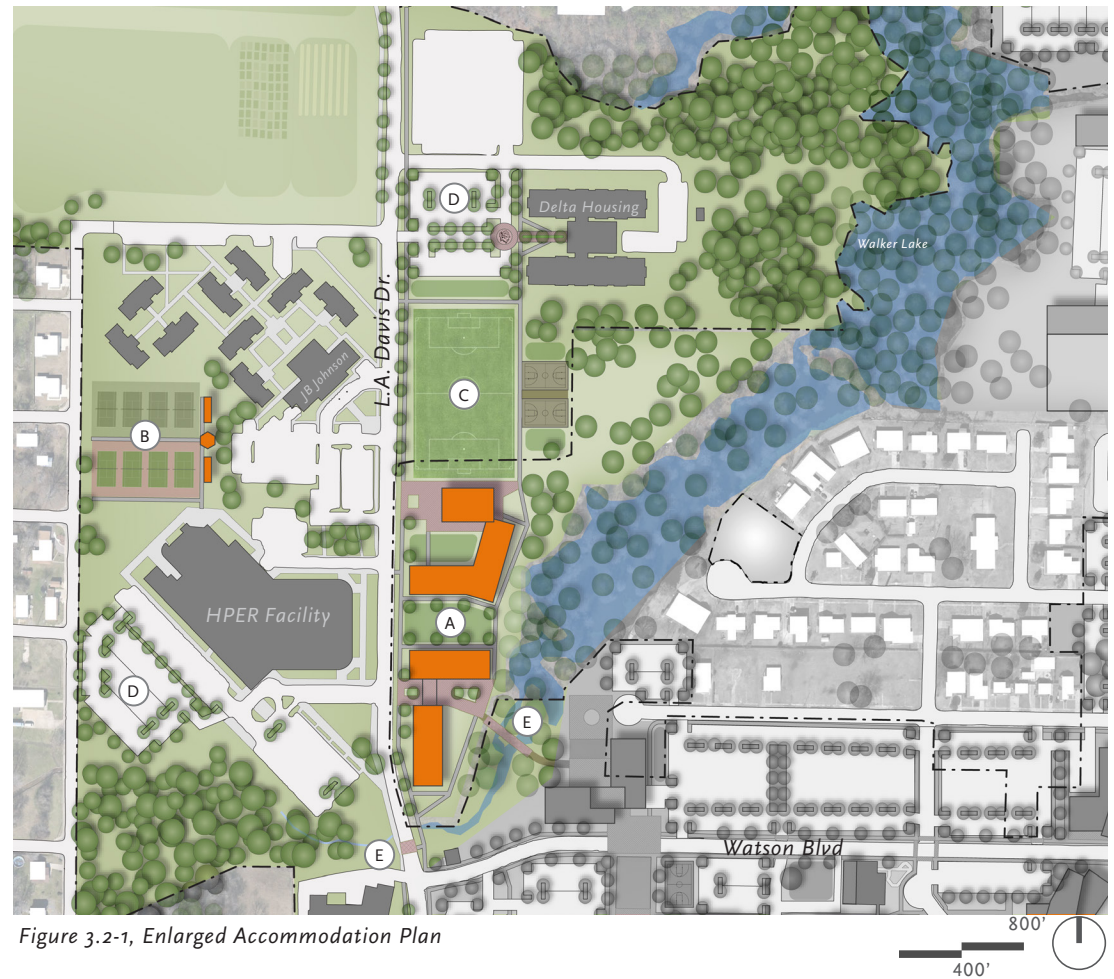


Figure 3.2-1, Enlarged Accommodation Plan



Figure 3.2-2, 3-D Rendering of Residential Village Looking North

REINFORCING THE RESIDENTIAL CAMPUS

Two new residence halls will accommodate approximately 388 beds. These new beds will replace the 188 beds formerly housed in Lewis and Douglas Halls as well as increase capacity by 200 beds. Buildings will be three levels. The southern hall is shown with a bridge connection between the two wings to allow circulation through the site to the pedestrian bridge at Walker Lake. The northern hall is shown with a community/dining building that sits at the south edge of the rec field providing space for village gatherings.

SMALL MOVES, BIG IMPACT

Potential projects to be performed that will pave the way for the future implementation of buildings include:

- » **Walker Lake Enhancements**
 - Enhanced stormwater detention capacity and flow at L.A. Davis Drive and Watson Boulevard
 - Bridge and path network around the lake for circulation and outdoor classroom opportunities
- » **Landscape Improvements**
 - Street trees along L.A. Davis Drive and sidewalk improvements on both sides of the street
 - Improvements to the shoreline of Walker Lake
- » **Expanded parking on the south side of HPER**
 - Supports recreation and residential village expansion needs



Figure 3.2-4, Existing Delta Housing



Figure 3.2-3, 3-D Rendering of Residential Village

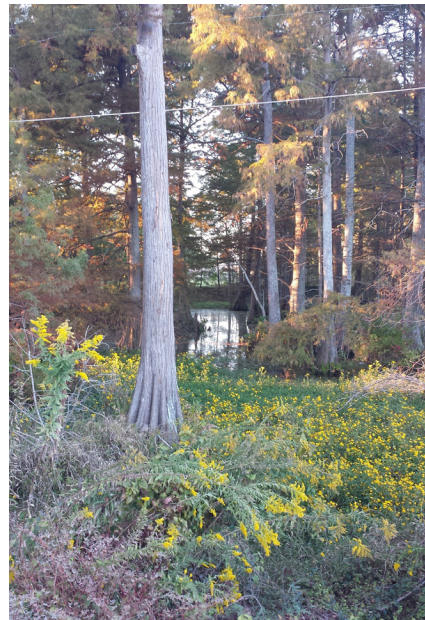


Figure 3.2-5, Walker Lake



Figure 3.2-6, L.A. Davis Heading North

3.3 north campus

ATHLETICS & RESEARCH

North Campus improvements will transform the east edge of this area of campus. A priority project, the new track and soccer field (A) will anchor the northwest corner of University Drive and Oliver Road. It will provide greater identity for these programs and for Athletics generally. The complex will provide a destination for the north end of the University Drive improvements. New parking to the south (D) will increase the overall parking capacity for Athletics and University Drive development. Parking lot (E) will be reconfigured to best serve both football and track/soccer.

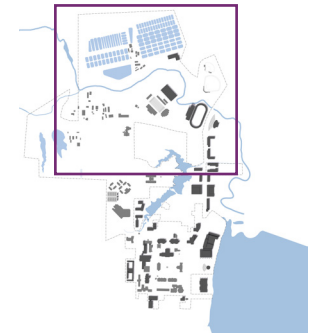
A new Aquaculture and Fisheries research building (B) will add needed capacity and resources for this important campus program adjacent to the research ponds. A new campus entry from McFadden Road will serve the future research building, as well as shared parking (D) for the new building and the softball and baseball complex.

An indoor football practice facility (C) is sited on the existing practice field just north of Golden Lion Stadium. Its height and mass will be mitigated by the surrounding trees.

- (A) **Track and Field + Soccer Field**
Track and grand stands, artificial turf field
- (B) **Aquaculture and Fisheries Building**
±74,100 gsf, 209 new parking spaces, new access road to aquaculture research
- (C) **Football Practice Facility**
- (D) **New Athletics Paved Parking**
719 new spaces for football, 502 new for softball and baseball
- (E) **Reconfigured Football Parking Lot**
292 spaces (reduction of 493)



Figure 3.3-1, Enlarged Accommodation Plan



ENHANCING NORTH CAMPUS

The new track and soccer facility will house lockers, offices, storage, concessions, and a press box. Grandstand seating will have views of Lake Saracen and downtown Pine Bluff in the distance. Collocating track and soccer with football, softball and baseball will create more efficiencies for maintaining fields and camaraderie among athletes and coaches. Moving soccer from north of Hazzard Gym also frees the future site of the convocation center, conference center and hotel.

SMALL MOVES, BIG IMPACT

Several projects on North Campus can be undertaken immediately that will create added energy for athletic events, boost overall institutional pride, and increase community engagement.

Projects include:

- » **Athletics**
 - Gameday Green on the east side of the track and soccer facility and University Drive for event related activities and recreation
 - Gameday Promenade connecting L.A. Davis Drive, Golden Lion Stadium, track and soccer complex, and University Drive
- » **Landscape**
 - Street trees along L.A. Davis Drive, Oliver Road and University Drive
 - Improved walkway along University Drive and Oliver Road
- » **Expanded Parking** at the southwest corner of University Drive and Oliver Road



Figure 3.3-2, 3-D North Campus Looking North



Figure 3.3-3, UAPB Football

3.4 university drive corridor

CREATING PLACE

The University Drive corridor is, as the primary access to campus, vitally important to UAPB identity. The plan for University Drive incorporates several of the Master Plan Principles to extend the campus framework, engage the community, and create economic development. Multiple “places” have been developed along the corridor that connect city, neighborhood and the UAPB campus.

Proposed projects will transform this area into an active campus edge with a mix of uses from academic and research to commercial/retail with market rate housing above (D). Important longer term University projects (A,B,C) located on the east side of University Drive are designed to extend the campus to Lake Saracen. Pedestrian crosswalks have been incorporated to provide safe access points across University Drive.

- Ⓐ **Basketball / Convocation Center**
60,000 gsf
- Ⓑ **New Conference Center**
74,800 gsf, parking garage
- Ⓒ **New Hotel**
69,400 gsf, 150 rooms, surface parking
- Ⓓ **Mixed Use Development**
+ 200,000 gsf - commercial/retail, incubator space, restaurants / market, housing, heritage trail/cultural venues, continuing education/job training, Lake Saracen trail, recreation

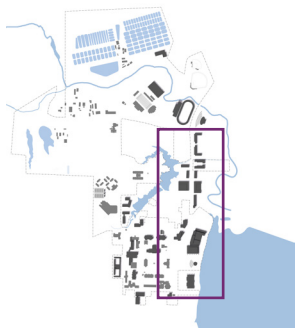


Figure 3.4-1, Enlarged Accommodation Plan

CAMPUS AND COMMUNITY DEVELOPMENT

Three dimensional model illustrations shown here depict University buildings in red and private developer partnership projects in yellow. UAPB is partnering with the City of Pine Bluff, University Park neighborhood and the Arkansas State Highway and Transportation Department to collaboratively bring community and economic development to this area of Pine Bluff. UAPB is an anchor institution for the community and could strengthen its strategic position by taking full advantage of its physical opportunities for growth.

The extension of the Welcome Center at University Drive and Fluker Street will provide orientation to both campus and community. It is sited at the interface between campus and neighborhood and is the first UAPB building that visitors will encounter.

The “main street” concept for the mixed-use development will bring campus and community together to live, work, shop and dine. In collaboration with the Economic Research and Development Center (ERDC), flexible office and research space will incubate University start-ups.

SMALL MOVES, BIG IMPACT

- » **Ceremonial campus entry at Caldwell Hall**
- » **Light poles with banners along University Drive**
- » **Landscape**
 - Street trees along University Drive
 - Stormwater mitigation rain gardens



Figure 3.4-3, 3-D Rendering of University Drive Looking Southwest



Figure 3.4-3, 3-D Rendering of University Drive Looking North



Figure 3.4-4, Rendering of University Avenue Corridor Looking North

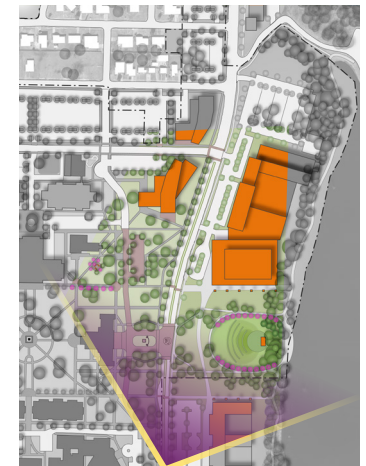
CAMPUS GATEWAY

Multiple exciting projects will create a new gateway to the UAPB campus. A new ceremonial entrance in front of Caldwell Hall will provide access and drop off for Administration and visitors. Paving and pedestrian crosswalks will connect both sides of University Drive and mark the center of the University gateway.

An amphitheater is proposed for the east side of University Drive on axis with Caldwell Hall and facing Lake Saracen. This will be a city-wide attraction designed to bring campus and community together. A lake front boardwalk on the east side of the amphitheater will connect to the city-wide path circling Lake Saracen and therefore promote pedestrian and bike access to campus.

A proposed convocation center which sits just north of the amphitheater will house large campus and community events including the Golden Lions basketball team. Pre-function lobby space on the south side will allow guests to spill out onto an outdoor terrace overlooking the amphitheater and lake. This campus and community asset, along with the conference center and hotel, will be a regional destination.

Two new academic and research facilities for **Nanoscience and Biotechnology and Biomedical / Life Sciences** are located to showcase these new programs at the “front door” to campus. Researchers will utilize the adjacent conference facilities to promote UAPB scholarship, thereby enhancing its reputation and visibility.



4

ADDITIONAL RECOMMENDATIONS

LANDSCAPE AND OPEN SPACE

- Landscape and Open Space Analysis
- Landscape Master Plan Objectives
- University Drive
- Athletic Area
- Residential Village
- Campus Core
- Planting Guidelines

INFRASTRUCTURE AND TECHNOLOGY

- Summary
- Chilled Water
- Power Distribution
- Water System
- Sanitary Sewer System
- Drainage and Stormwater Management
- Future Project Integration
- Information & Technology

CAMPUS CIRCULATION AND TRANSPORTATION

- Circulation
- Campus Access
- Parking
- Transportation Recommendations

PROVIDING A SAFE ENVIRONMENT

ENGAGING THE COMMUNITY

CREATING A SUSTAINABLE CAMPUS



4.1 landscape and open space

Founded in 1873, the University of Arkansas at Pine Bluff has occupied its present location since 1929 covering over 430 acres. The heart of the campus core is the historic quad, anchored by W.E. O'Bryant Bell Tower (cc 1947) in its center and Caldwell Hall (cc 1928) along its eastern edge. The historic quad is considered the academic core, while the majority of the campus acreage is the research zone to the north and west, consisting of farmland and aquaculture ponds. The Athletic zone containing the football and baseball stadiums is also located to the north.

University Drive is a major regional thoroughfare and serves as the main access route to the University from the north and south. The campus core is bordered by Lake Saracen to the east but direct access to the lake is obstructed by University Drive. There are however several access routes onto campus from University Drive but none that are categorized as a celebrated arrival experience into the campus core.

UAPB has a lot of mature oak and pine trees throughout the campus particularly around the historic quad. The large pine trees between Caldwell Hall and University Drive draw strong connections to the 'Pine Bluff' history. The landscape treatment in the campus core is strong but still offer opportunities for improvement.

Campus signage is well distributed and clearly announces the UAPB brand along University Drive however the University could benefit from a more uniform vocabulary throughout.

Small gathering spaces are located around the Bell Tower, the front of the Library and several other building entrances. These are well used spaces, however the existing site walls and site furniture lack uniformity. A consistent palette for benches, tables and chairs, trash receptacles and bike racks is recommended.

The campus also features several public art sculptures along University Drive. It is recommended that this initiative continue and opportunities for new pieces should be identified and implemented in strategic locations.



Figure 4.1-1, Existing Campus Context

LANDSCAPE AND OPEN SPACE ANALYSIS:

The design team assessed the landscape and open space characteristics of the campus throughout the planning process and developed the following landscape vision elements:

- Transform the campus into a destination
- Address flooding issues along the roads surrounding the main core
- Enhance campus image along University Drive and provide a ceremonial entrance in front of Caldwell Hall
- Enhance connections to surrounding community
- Create connections with Walker Lake and Lake Saracen
- Create amphitheater near Lake Saracen
- Address athletic needs (track and field, tennis, etc.)
- Enhance Safety and security measures
- Improve campus signage
- Create site furniture standards
- Improve biking on campus
- Investigate landscape related business opportunities






-  UPDATED SIGNAGE OPPORTUNITIES
-  VIEWSHED CONNECTIONS
-  LANDSCAPE CONNECTIONS TO BE CREATED
-  AREAS PRONE TO FLOODING TO BE IMPROVED
-  PERIMETER LANDSCAPE TREATMENT TO BE ENHANCED



Figure 4.1-2, Landscape Site Analysis Diagram

0 400' 1,200' 2,000'
Scale 1" = 1,200'



LANDSCAPE MASTER PLAN OBJECTIVES:

The landscape vision elements helped shape the list of landscape Master Plan objectives:

- Emphasize campus presence in the Pine Bluff area by a stronger landscape and signage treatment along the edges, especially along University Drive
- Capitalize on the historic landscape core around O'Bryant Bell Tower and further enhance it by the addition of the proposed Student Center
- Strengthen campus cohesiveness through landscape connections (pedestrian mall, demonstration gardens, etc.)
- Minimize flooding by using "soft" stormwater management techniques around the core periphery (retention ponds, bio-swales, infiltration trenches, rain gardens, etc.)
- Create a connection from Caldwell Hall to Lake Saracen
- Use Walker Lake as a study area for stormwater management solutions and for recreational activities
- Create an unified signage package that provides a consistent standard to be followed campus-wide for all new signs and for retrofitting existing signage.
- Focus parking at periphery of the campus

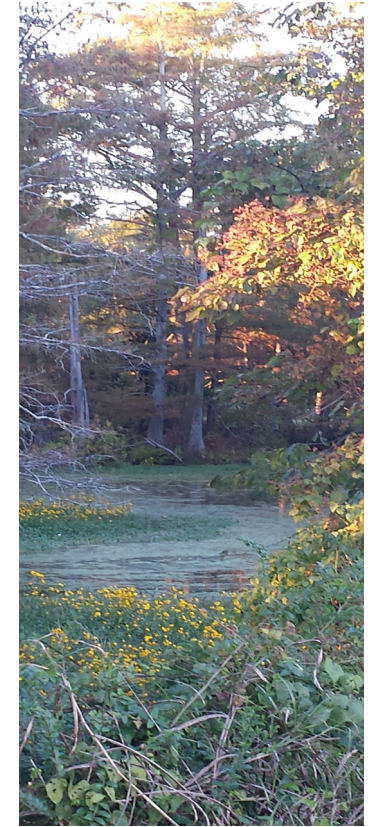


Figure 4.1-3, Existing Campus Context

The aforementioned objectives incorporated in the Master Plan are described below in each of the focus areas.

UNIVERSITY DRIVE

- Unify the vocabulary of existing signage and enhance the new north and south entry signs with landscape features
- Unify the site furniture vocabulary
- Work in collaboration with the City of Pine Bluff to create a pleasant pedestrian environment on both sides of University Drive. The state highway department is currently improving the roadway by adding lighting and burying the overhead lines. Additional improvements to be considered include
 - Tree and low shrubs lining University Dr
 - Sidewalks on both sides of the roadway
 - Addition of University banners to light poles
 - Introduce traffic calming devices that offer a safer crossing experience for pedestrians.
- Partner with the City of Pine Bluff to implement the City's Heritage Trail initiative, which aims to develop heritage tourism in the area. Introduce signage along the University Drive sidewalks that commemorate the life and activity of the notable Pine Bluff residents, some of whose names are remembered in the campus street naming.

- ① Campus Entry Feature
- ② Game Day Promenade
- ③ Department of Agriculture Demonstration Gardens
- ④ Pedestrian Bridge
- ⑤ Pedestrian Mall
- ⑥ Caldwell Hall Ceremonial Campus Gateway
- ⑦ Lake front Amphitheater
- ⑧ Rain Gardens around Campus Core



Figure 4.1-4, Overall Landscape Master Plan



ATHLETIC AREA

- Connect the athletic facilities via a new pedestrian focused game day promenade. The Promenade can be accessible to campus vehicles in non-game days. Key components to the promenade would be:
 - 16' width throughout the majority of the path
 - 32' width in areas to the south and west of the football and soccer fields to allow for both pedestrian passage and setting up tents in game day
 - Tree lined
 - Pedestrian scaled lighting with banners
 - Benches



RESIDENTIAL VILLAGE

- Implement consistent landscape along L.A. Prexy Davis Drive with street trees and sidewalks
- Implement demonstration gardens on the western edge of L.A. Prexy Davis Drive adjacent the research fields to celebrate the rich agricultural history of the University. These long narrow gardens would showcase the plants growing in the region and also those researched by the UAPB faculty and students. The gardens should include interpretive features and kiosks.
- The Master Plan growth proposed to the south of the Delta complex provides the opportunity to create additional recreational and passive open space.
- Shaded tree lined paths and a pedestrian bridge across Walker Lake would offer a pleasant experience connecting to the campus core. Additional trails tailored to academic curriculum and study would be oriented around Walker Lake.

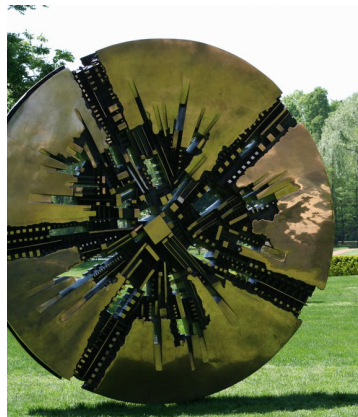


Figure 4.1-5, Proposed Campus Character Imagery

CAMPUS CORE

- Incorporate a series of rain gardens and detention ponds along the streets surrounding the campus core (Reeker, L.A. Prexy Davis, Watson streets) to alleviate campus flooding concerns
- Install public art pieces in strategic areas
- Implement a north-south pedestrian mall is proposed between S. Kennedy Drive and Watson Boulevard east of Watson Memorial Library
- Create a new connection to Lake Saracen



Photo Courtesy of US Department of Agriculture



Photo Courtesy of Aaron Volkening



Photo Courtesy of Shreveport-Bossier Convention and Tourist Bureau



Figure 4.1-6, Proposed Campus Character Imagery

- ① Landscaped Campus Entry Feature
- ② Game Day Promenade (16' wide)
- ③ Game Day Promenade (32' wide)
- ④ Department of Agriculture
Demonstration Gardens
- ⑤ Enhanced Road Landscape
- ⑥ New Tree-Shaded Paved Parking Area
- ⑦ New Parking Area
- ⑧ New Connector Road



Figure 4.1-7, Overall Landscape Master Plan: detail of north side





Figure 4.1-8, Overall Landscape Master Plan: detail of south side



Figure 4.1-10, Existing Imagery of View towards Lake Saracen

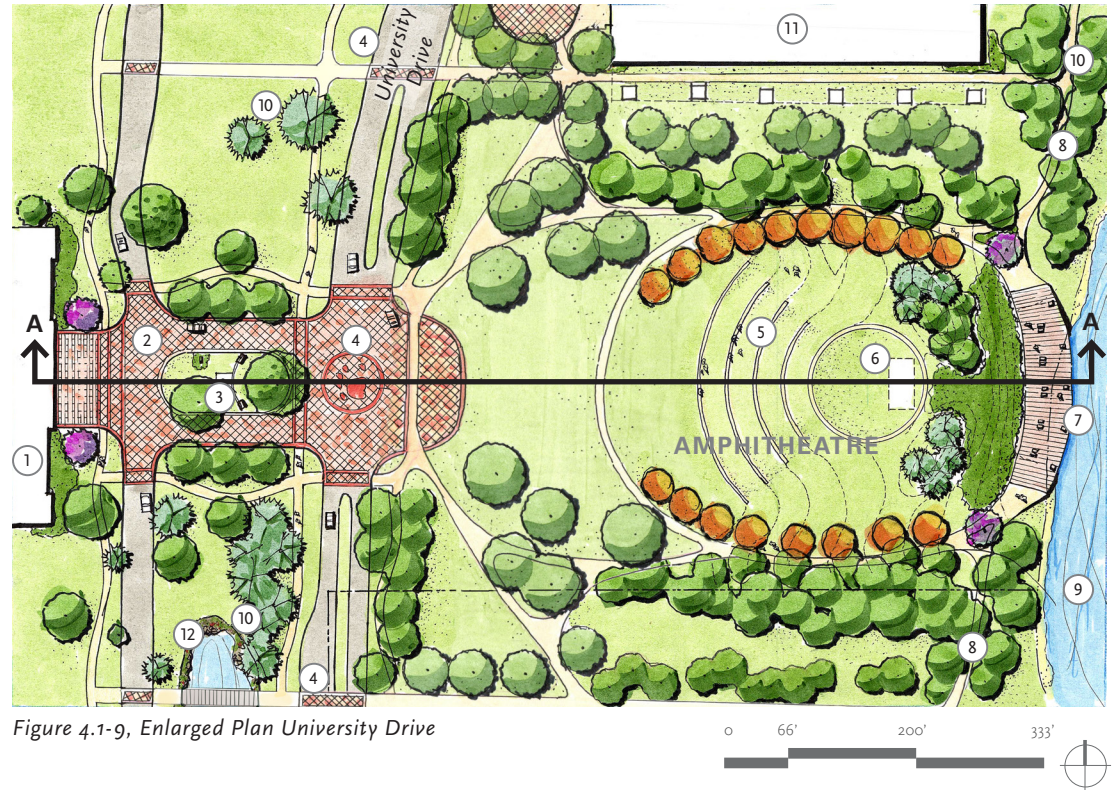


Figure 4.1-9, Enlarged Plan University Drive

UNIVERSITY DRIVE ENLARGEMENT

A key aspect of the Master Plan is creating a connection to Lake Saracen, both visually and physically. A very busy University Drive creates a veritable barrier for the campus core pedestrian to safely cross in order to access Lake Saracen.

A new Ceremonial Campus Gateway is proposed on axis with the Caldwell Hall entrance, with the special paving (concrete or brick pavers) extending over University Drive serving as a traffic calming device. This axis continues across University Drive to Saracen Lake, where the existing topography offers the perfect opportunity to create an amphitheater overlooking the lake. It is envisioned that significant trees (strong flowering or significant fall color) would surround the space creating a valued campus space currently not available on campus. A large boardwalk is proposed along Lake Saracen edge in order to engage the lake. This path will continue to the north and tie into the existing trail surrounding the lake.

- | | |
|-------------------------------|---------------------------------|
| ① Caldwell Hall | ⑦ Lake Saracen Boardwalk |
| ② Ceremonial Campus Gateway | ⑧ Lake Saracen Trail Connection |
| ③ Focal Signage and Sculpture | ⑨ Lake Saracen |
| ④ Enhanced Paving | ⑩ Existing vegetation |
| ⑤ Amphitheater Grass Steps | ⑪ Future Convocation Center |
| ⑥ Amphitheater Stage | ⑫ Detention Pond/Rain Garden |

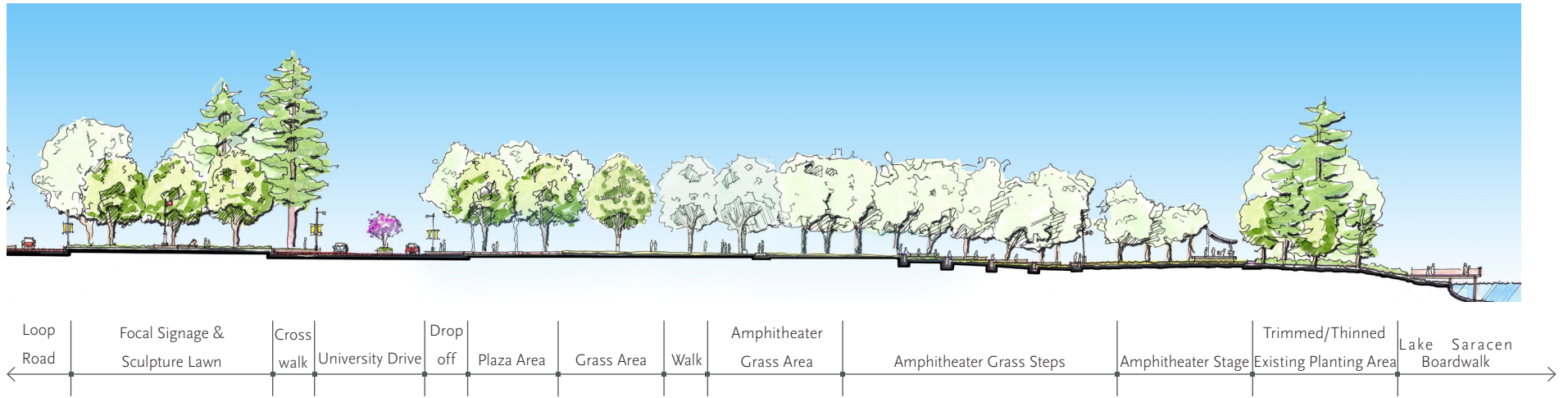


Figure 4.1-11, Cross-Section A-A



Photo Courtesy of Tom Evanson

Figure 4.1-10, Example Imagery of Amphitheater Amenities

PEDESTRIAN MALL ENLARGEMENT

The proposed north-south mall will complement the main quad by creating a defining pedestrian experience for the campus. This new feature is an extension of the new walkways coming down from the proposed Residential Village north of Walker Lake. The mall is framed to the north by the new One Stop Shop Building and to the south by the existing Rust Technology Building. Decorative archways, gateways or sculptures are recommended both at the north and the south end of the mall.

The 105' wide mall includes a central 75' wide lawn bordered by 15' wide sidewalks. The lawn is also crisscrossed by 8'-10' sidewalks leading to building entrances. In strategic places, larger concrete paver areas are proposed, which can be used for outdoor events (fund-raising, events, organization recruiting, demonstrations, etc.). The use of paver areas can be used for donor recognition programs.

Shade trees line the outside edge of the mall while small flowering trees occupy the inside edge. These trees would create a special colorful ambiance to be incorporated in existing or new campus traditions at particular times of the year. One spectacular choice would be a variety of cherry trees with significant blooms that is well adapted to the Pine Bluff climate.

Small gathering spaces with seating and bike racks are proposed around building entrances. Additional features include twelve 20'x20' Greek plots located in between the mall and the new Student Center. Additional flowering trees adjacent the main quad are recommended.



Figure 4.1-13, Existing Imagery of View of Pedestrian Mall Zone to Henderson_Young



Figure 4.1-12, Enlarged Plan University Drive

- | | | |
|-------------------------|--------------------|----------------------|
| ① Residence Hall Garden | ④ Courtyard Garden | ⑧ Service |
| ② Pedestrian Bridge | ⑤ Pedestrian Mall | ⑨ Greek Plots |
| ③ Rain Gardens | ⑥ Drop-off | ⑩ Flowering Trees |
| | ⑦ Entry Plaza | ⑪ North Mall Gateway |

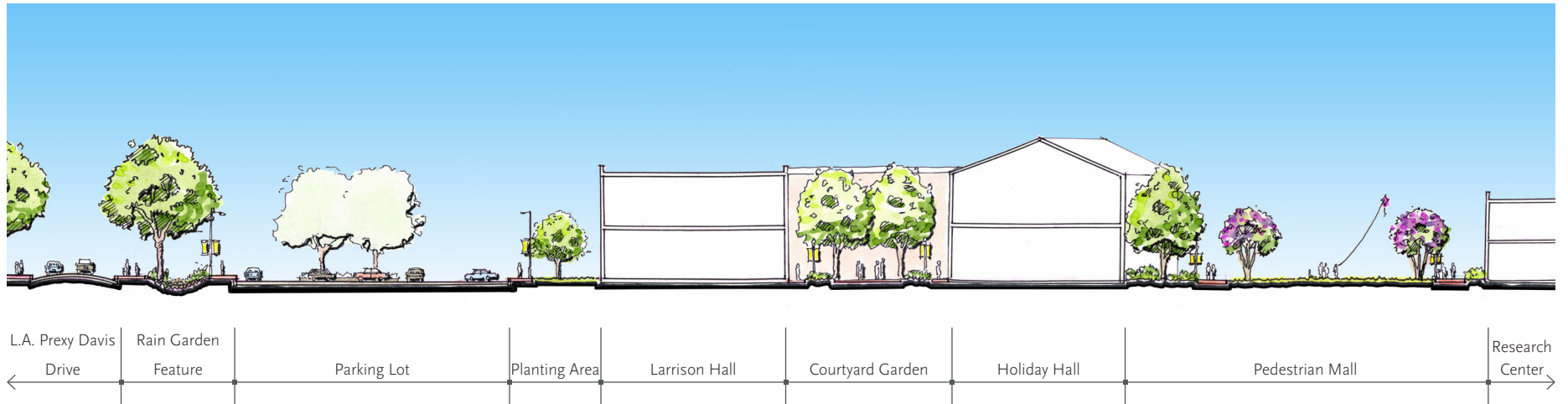


Figure 4.1-14, Cross-Section B-B



Figure 4.1-15, Precedent Imagery

Photo Courtesy of Aaron Volkening

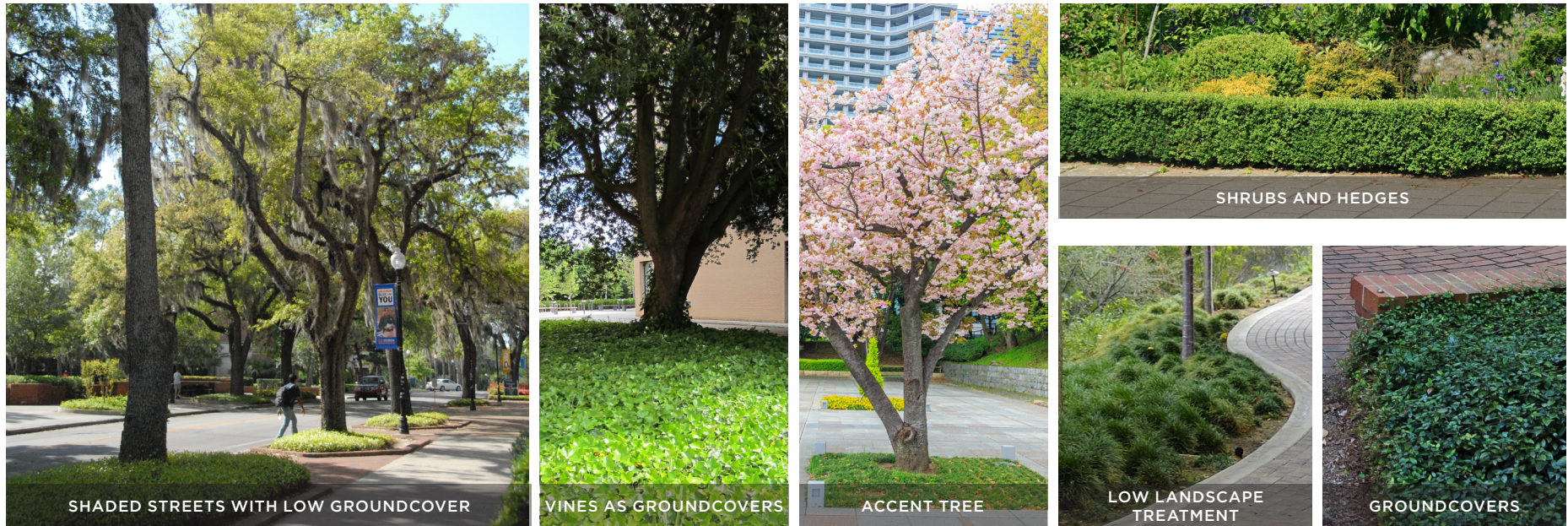


Figure 4.1-16, Plant Material Options

Potential plant material options to add to the campus planting palette are the following:

Native Shade Trees

- *Acer rubrum* (Red Maple)
- *Betula nigra* (River Birch)
- *Liquidambar styraciflua* (Sweetgum)
- *Nyssa silvatica* (Black Gum)
- *Quercus alba* (White Oak)
- *Quercus bicolor* (Swamp White Oak)
- *Quercus macrocarpa* (Bur Oak)
- *Quercus nigra* (Black Oak)
- *Quercus phellos* (Willow Oak)
- *Quercus palustris* (Pin Oak)
- *Quercus rubra* (Northern Red Oak)
- *Pinus* spp.
- *Ulmus americana* (American Elm)
- *Taxodium distichum* (Bald Cypress)

Non Native Trees

- *Acer saccharum* (Sugar Maple)
- *Acer x freemanii* (Freeman Maple)
- *Ginkgo Biloba*
- *Gymnocladus dioicus* (Kentucky Coffeetree)
- *Magnolia grandiflora* (Southern Magnolia)
- *Metasequoia glyptostroboides* (Dawn Redwood)
- *Pistachia chinensis* (Chinese Pistache)
- *Tilia cordata* (Littleleaf Linden)
- *Ulmus parvifolia* (Lacebark Elm)
- *Zelkova*

Flowering Trees

- *Amelanchier arborea* (Serviceberry)
- *Carpinus caroliniana* (American Hornbeam)
- *Cercis canadensis* (Redbud)
- *Cornus florida* (American Dogwood)
- *Chionanthus virginicus* (White Fringe Tree)
- *Hamamelis virginiana* (Witch hazel)
- *Lagerstromia* spp. (Crepe Myrtle)
- *Prunus* spp. (Cherry Tree)
- *Sassafras albidum* (Sassafras)

Potential Shrubs

- *Euonymus* spp.
- *Hydrangea* spp.
- *Ilex* spp.
- *Juniperus* spp.
- *Rosa* spp.
- *Rhododendron* spp.
- *Rhus* spp.
- *Viburnum* spp.

PLANTING GUIDELINES

- Select trees well adapted to their location and to the Pine Bluff climate
- Select colorful trees for specific locations.
- In order to create special ambiances during spring or fall, select one type of tree along the Pedestrian Mall, Game Day Promenade or around the Lake Amphitheater. Each species chosen should be known for spectacular blooms (cherries for instance) or significant fall color.
- In addition to the standard trees, include unique species to enhance the campus arboretum.
- Use CPTED guidelines for planting along walks and roadways.
- Concentrate colorful shrubs at main entrances and key locations.
- Use low maintenance native or adapted groundcovers instead of lawns to reduce water consumption and create visual interest.
- Select interesting plants for the demonstration gardens that have various textures and colors. Considerations for plants that showcase particular University research is recommended.

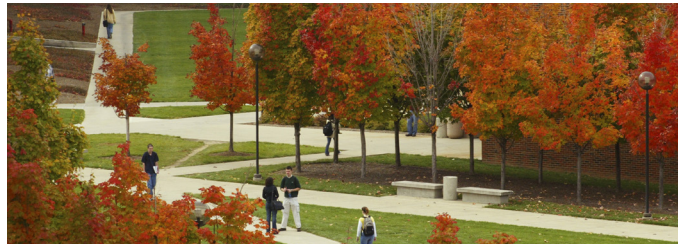
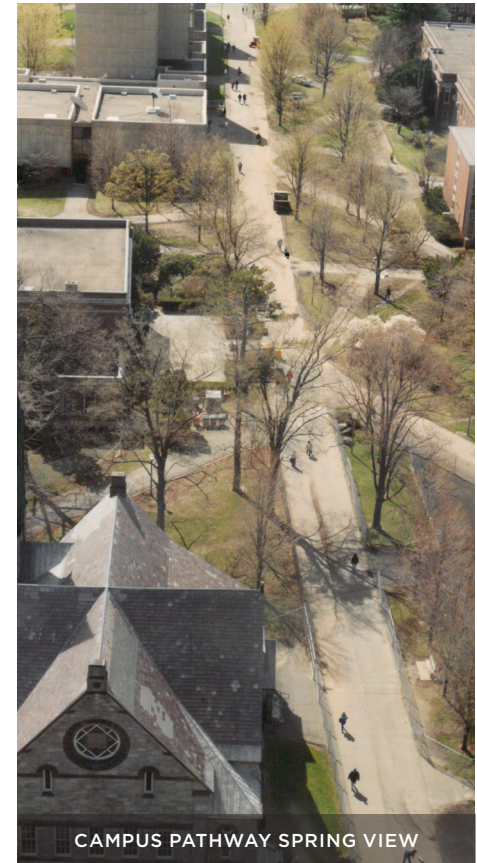
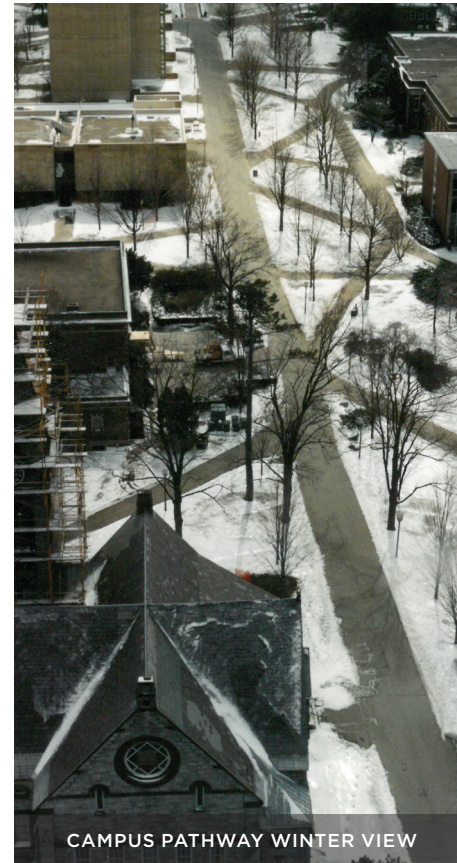


Figure 4.1-17, Precedent Imagery

PROPOSED PLANT IMAGE BOARD

Tree selection should create a pleasing environment year-round, taking advantage of fall colors, spring blossoms and lush green canopies.



LANDSCAPE IMPLEMENTATION GUIDELINES

Utilizing short term landscape opportunities that have a smaller financial impact is a good way to immediately create an impression of positive change. Below are some suggestions for short-term action:

- The City of Pine Bluff is currently implementing improvements to University Drive, including sidewalks and lighting. This is an excellent opportunity for the University to coordinate with the City and accompany these works by additional tree plantings, seating areas, crosswalks, banner poles, etc. These can be enhanced by adding elements on the City's Heritage Trail initiative.
- The implementation of the new Campus Ceremonial Gateway in front of Caldwell Hall will create an immediate visual impact from University Drive. As a part of the gateway efforts it is recommended that the University carefully weave in between the existing pine trees, a new signage feature utilizing two existing precast lion statues.
- The proposed Pedestrian Mall is an important design element for the vision of the campus and could begin immediately with the removal of parking in the core between Holiday Hall and Walker Research Center. This project can also include the planting of flowering trees in the main quad.
- Some smaller landscape projects, such as landscaping the proposed Wall of Honor and its small surrounding plaza in the vicinity of Childress Hall, enhancing the planting existing around the O'Bryant Bell Tower and around other small seating areas can be installed easily without interruption to campus functions.

For the medium and long term implementation, as the various buildings and facilities proposed by the Master Plan start to be implemented, corresponding landscape projects will accompany this development continuously enhancing the campus context.



4.2 infrastructure and technology

SUMMARY

The infrastructure and technology portion of the Master Plan process focuses on broad strategies for campus district chilled water utility and electrical utility service that support the overall plan recommendations noted in previous sections of the master planning document. The infrastructure and technology recommendations allow the institution to plan for the infrastructure upgrades that will be needed to support upcoming projects. Energy efficiency and sustainability are primary goals of the infrastructure analysis.

DRIVERS AND GOALS

» **Maintain**

Existing buildings need proactive maintenance and benchmarking analysis to confirm potential for further renovations or demolition.

» **Improve**

All buildings slated for renovation shall have energy and benchmarking standards targeting a minimum of the current ASHRAE 90.1 Standards or Energy Star Certification and be renovated with both energy efficiency and maintenance in mind.

» **Expand**

Future infrastructure and capacity growth should consider the implementation of a central plant in order to serve the campus cooling and heating needs.

SMALL MOVES, BIG IMPACT

- The future chilled water segment along Watson Boulevard will provide needed redundancy within the system (see Figure 4.2-1)
- Continue to implement current control protocol in buildings without controls, and further develop the controls in buildings without existing systems.
- Set energy usage standards for each building type based on current Energy Usage Index data (2003 Commercial Building Energy Consumption Survey CBECS data)
- Set design standards for air cooled chillers and water cooled chillers.
- Future infrastructure should anticipate central plants, whether localized to a small number of buildings or regionally to provide cooling to many buildings, as a means to save energy and centralize maintenance needs. By anticipating equipment replacement based on useful life, projects to design central plants can provide energy efficient cooling and payback over the life of the equipment.
- Consider performance contracting and combined heat and power as expertise is achieved to adequately assess performance.
- Further refine maintenance standards to not only increase preventative maintenance, but to also determine useful life and replacement plans for major equipment.
- Incorporate a culture of saving energy
- Implement chemical treatment standards
- Develop an equipment replacement plan that anticipates and budgets for replacement based on the expected life of the equipment.

CHILLED WATER

The existing campus-wide district chilled water system is served by five independent chilled water plants associated with the building they are located. Each plant contains water cooled chillers and associated cooling towers.

- HPER Building 700 tons (replacement in process now)
- Harrold Complex 217 tons
- Kountz-Kyle 400 tons (recently replaced)
- Academic II 500 tons
- Home Economics 217 tons

The total of all five central plants is a total of 2,034 tons serving 18 buildings connected to the 12" diameter district chilled water loop. The calculated block load (not total peak load) of all the buildings connected to the district chilled water system is 1,636 tons. The approximately 400 tons of excess capacity allows for any of the chillers in the system to be down and the block cooling load can be satisfied.

Four out of the 18 buildings have variable frequency drives serving the building with no by-pass back to the loop. A project is on the books to convert the remaining 14 buildings to have no by-pass which would greatly reduce the low delta T (temperature) conditions that will occur when by-pass is allowed in a system.

With approximately 400 tons of excess chilled water system capacity, approximately 200,000 square feet of new facilities could be connected to the chilled water district loop without adding additional chiller capacity.

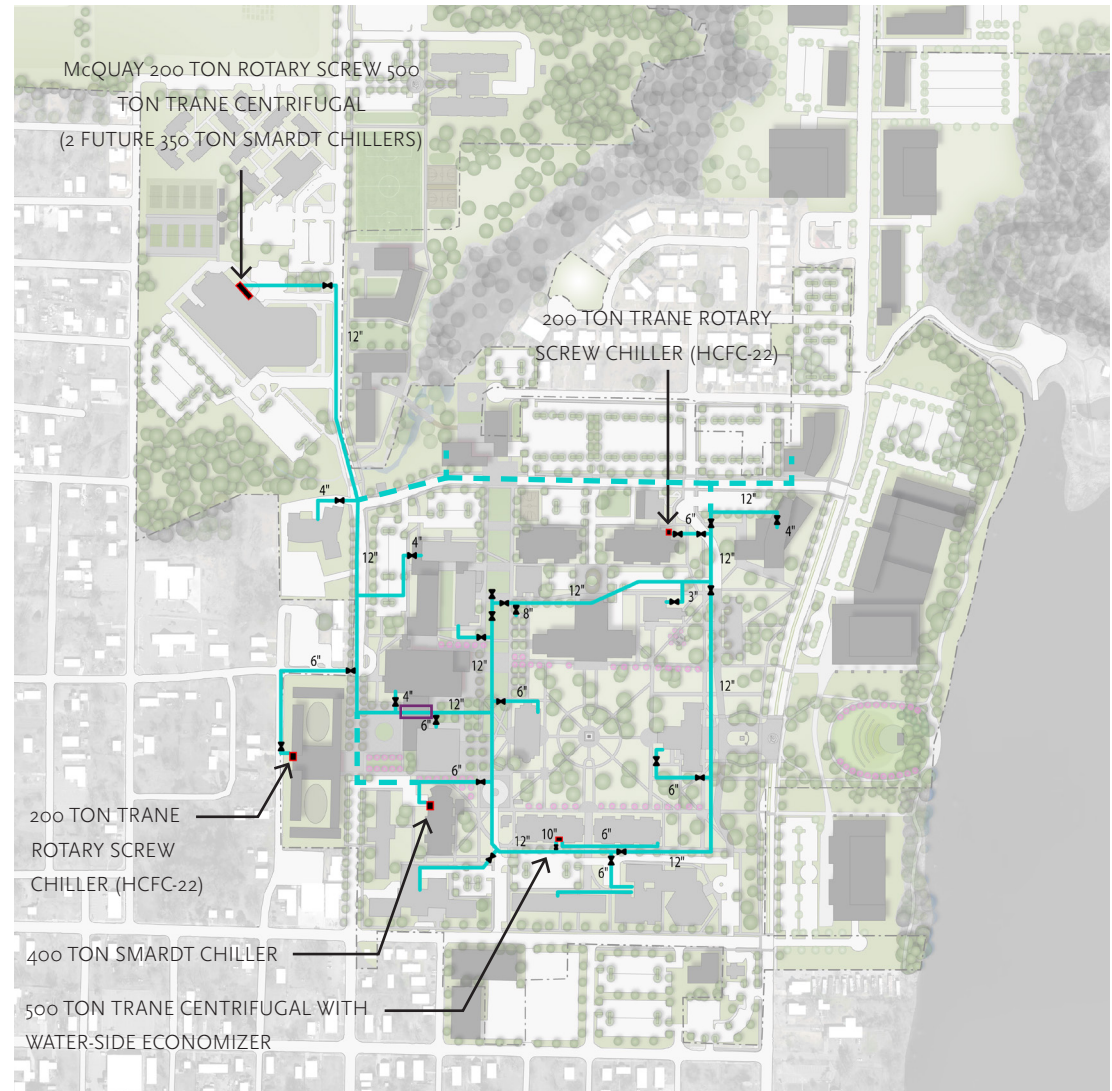


Figure 4.2-1, Chilled Water Infrastructure



Figure 4.2-2, Examples of Existing Mechanical Enclosures around Campus

POWER DISTRIBUTION

Entergy Arkansas maintains the transmission system that supplies power to the entire campus by means of an existing distribution system. The distribution system serves campus building overhead, but there is a project underway to move the center core area of campus to underground distribution. The overhead to underground electrical project will eliminate some campus lighting that was pole-mounted. This will require a new campus lighting strategy in these areas.

The campus is served by a dual feed service from two separate substations. The electrical service from the north side of campus comes from the McFadden substation directly off the White Bluff power plant. The electrical service from the south side of campus comes from the Barraque substation located along I-65 business loop.

Secondary distribution to individual buildings is mainly 208v/3ph. There is sufficient electrical service for current demands and up to approximately 10 percent infrastructure growth. The dual feeds serving the campus are large enough to allow for upsizing of existing transformers for projected new projects.

IT/WIRELESS SERVICE

The existing campus-wide internet access is currently sufficient for current student and staff load. The recently upgraded fiber optic system is served from four communications hubs:

- Admin Building
- Com 1 - AC2 Building
- Com 2 – STEM Building
- Com 3 – Lion Stadium



Figure 4.2-4, Examples of Existing Electrical Utilities around Campus

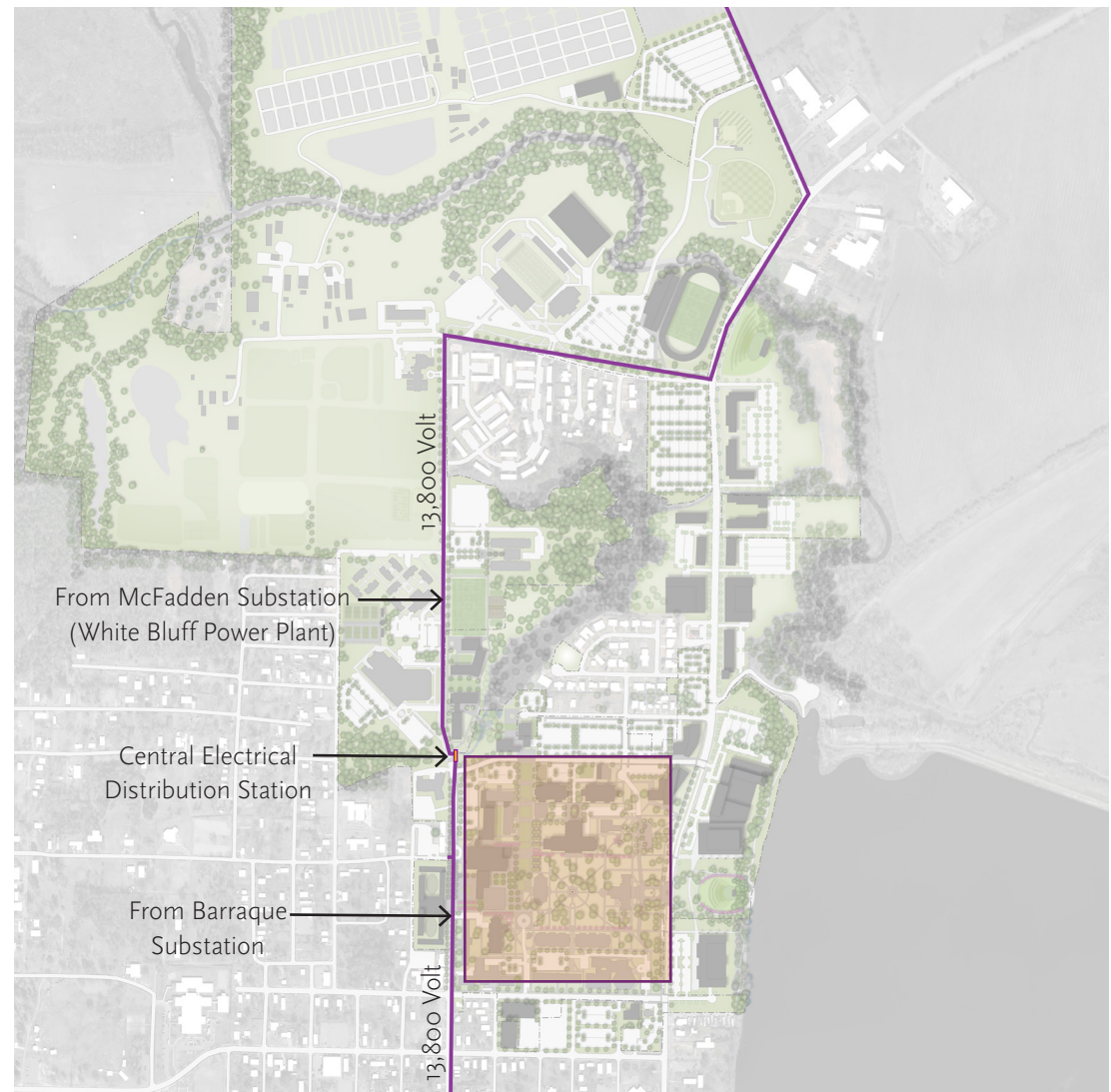


Figure 4.2-3, Electrical Infrastructure

- EXISTING ELECTRICAL LINES
- - - ELECTRICAL LINE EXTENSIONS
- UNDERGROUND ELECTRICAL LINE PROJECT



WATER SYSTEM

Liberty Utilities provides water to the UAPB campus primarily by a 12" PVC waterline along University Drive. This 12" line is connected to other lines of varying size (1" to 8") and type (i.e., cast iron, asbestos coated, PVC and galvanized). As the lines make their way through the campus they are connected with other domestic waterlines on the West side of the campus that serve the surrounding neighborhoods. Liberty Utilities owns and maintains all main waterlines. UAPB's responsibility is from the meter to the building. Individual water meters are at building locations throughout the campus. Monthly meter readings are collected and a bill created by Liberty Utilities for the campus water usage.

Recommendations:

- There are sections of aging waterlines that will ultimately need to be replaced.
- Request that all main waterlines with a diameter less than 6" be replaced with larger diameter pipe.
- As future development is experienced, larger waterlines may be needed, particularly on the North side on campus and East of University Drive.
- Any future development should be closely coordinated with Liberty Utilities so that lines could be replaced or added as development progresses.

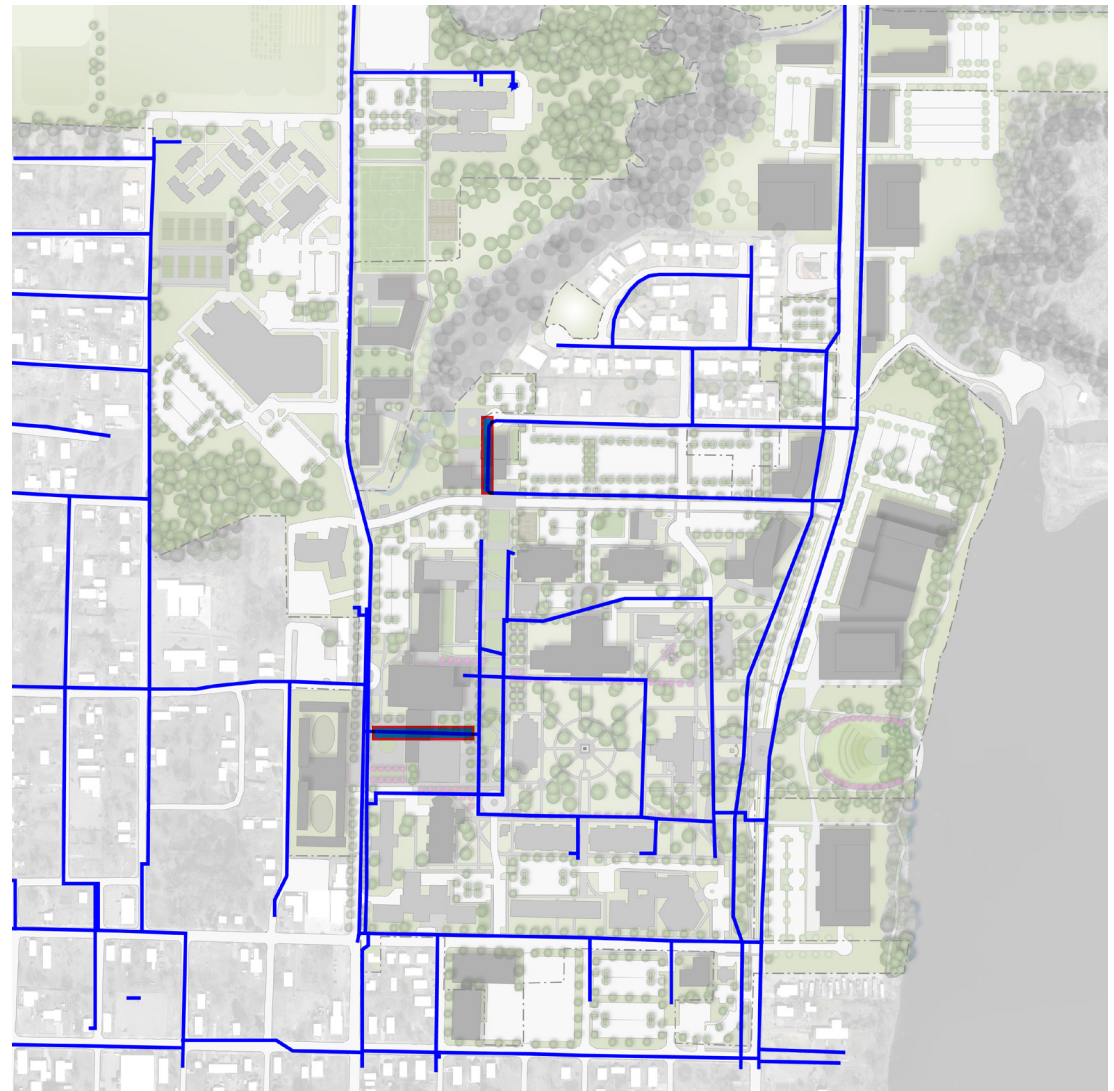


Figure 4.2-5, Water System Infrastructure

— LINE DEMOLITION

SANITARY SEWER SYSTEM

The sanitary sewer main lines are owned and maintained by Pine Bluff Wastewater Utility (PBWU) that serve the UAPB campus. UAPB is responsible for the connection to the mains and from that point to the building. Sewer lines generally are found along the street right of ways and are gravity feed to a pump station located on the west side of campus. All future development or rehabilitation that affects the sanitary system should be coordinated with PBWU.

Recommendations:

- Communicate long range plans with PBWU. This should ensure that PBWU understands the future needs of UAPB. PBWU will be able to place UAPB's needed improvements into their long range plans.
- Expanded sewer along University Drive (East of University Drive and going North) will be required for future development.



Figure 4.2-6, Sanitary Sewer System Infrastructure

- NEW SANITARY LINE
- LINE DEMOLITION



DRAINAGE AND STORMWATER MANAGEMENT

The campus drainage system consists of a series of drainage structures and pipes that are located throughout the campus. There is little elevation change on the campus which can make drainage a challenge. Walker Lake serves as the major drainage outfall area. The elevation of University Drive and driveways/streets along the western side of University Drive present some challenges in properly drainage that area. Drains that go beneath University Drive and the driveways/streets do not allow for adequate drainage of the area. The widening of University drive by AHTD has not eased the drainage problem.

Recommendations:

- Conduct a topographic survey of the entire campus that includes all drainage structures. This will aid not only the campus staff by having a comprehensive map highlighting all structures it will also aid designers as they make plans to correct drainage problem areas.
- Conduct a drainage system study that includes cleaning of stormwater drainage pipes and well as video documenting the inside of the pipe. This study would document any failing structures that need to be addressed.
- Approach AHTD to discuss the drainage problem along University Drive.
- Develop a drainage master plan so that all future development could follow a systematic plan as the area is built-out/rehab.. This master plan would allow for the planning and locating of the future drainage structures that will be required in future development. It would also identify immediate areas on drainage improvements that should be addressed.

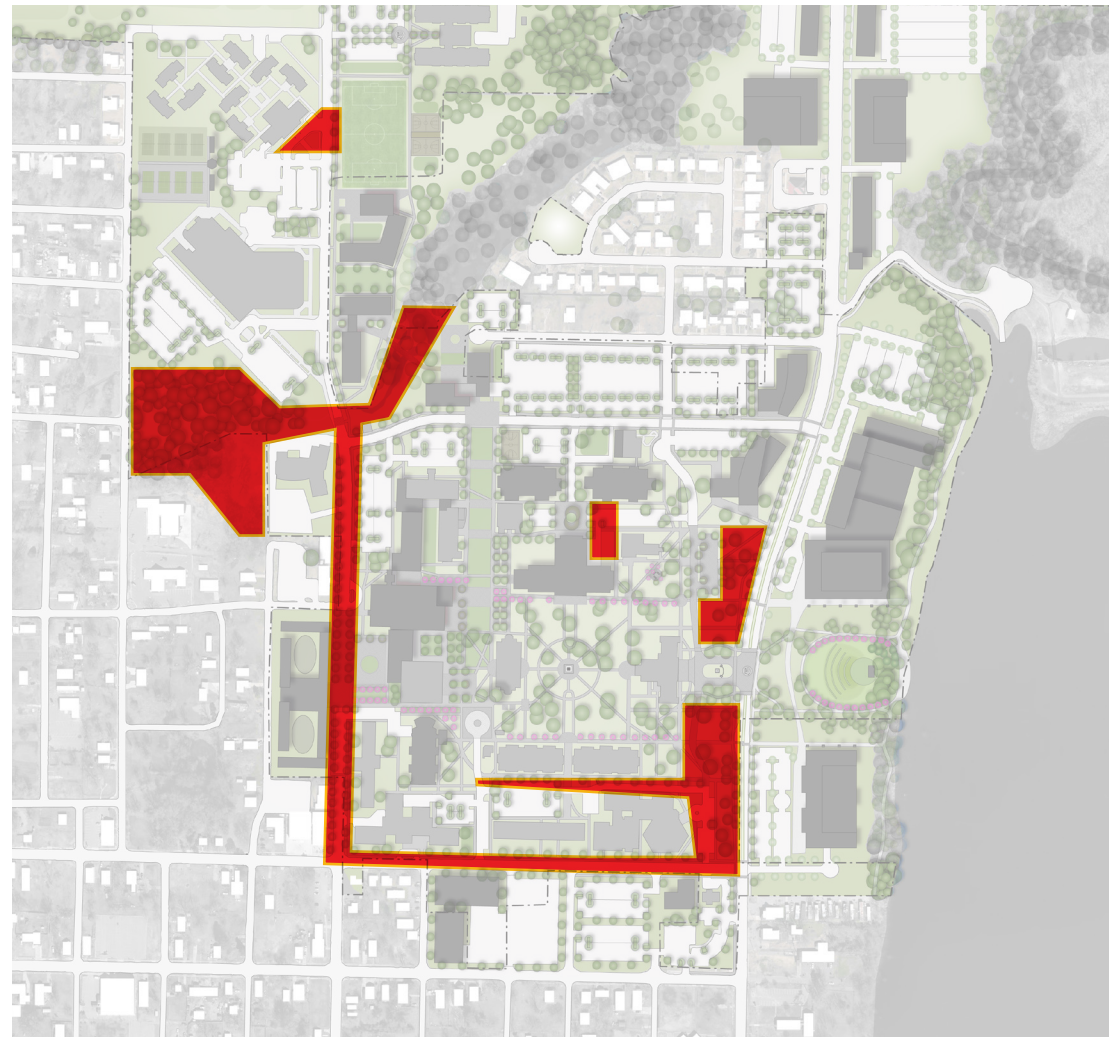


Figure 4.2-7, Stormwater Problem Areas

 STORMWATER PROBLEM AREAS



Figure 4.2-8, Examples of Stormwater Problem Areas

FUTURE PROJECT INTEGRATION - CHILLED WATER

New Residence Halls

- We expect the new Residence Halls (151,000 sf) would be served by a 8" supply and return chilled water line connected to the chilled water district loop off the 12" main serving the HPER building. This would work out well with the 700 tons of chiller capacity contained in the HPER building.

New Student Center

- The new Student Center (117,000 sf) would also be served by 4" lines connected to the district loop at the 12" main that currently runs behind Lewis Hall.
- After adding the Residence Halls and the Student Center to the loop, the excess district loop capacity will be used.

New Wellness Center

- The Wellness Center (58,500 sf) would need a 3" connection to the chilled water 12" main near the same connection as the Student Center. Approximately 100 tons of chilled water capacity may need to be added to the district loop when this building is added.

New Nanoscience and Biotechnology

- The Nanoscience and Biotechnology (58,500 sf) facility would be connected to the district loop with the same 6" lines that served Home Economics. Approximately 100 tons of chilled water capacity may need to be added to the district loop when this building is added.

New Track + Field / Soccer Facility & Public Safety / Welcome Center

- The Track + Field / Soccer Facility and the Public Safety/Welcome Center will not be connected to the district chilled water system.

FUTURE RENOVATIONS

Larrison Hall, Harrold Housing, Adair Greenhouse, Kountz Kyle

- HVAC and Electrical supply for these projects can be incorporated with existing infrastructure on campus with new equipment as needed.
- Each renovation projects will require unique infrastructure feasibility and architectural program studies.



Figure 4.2-8, Existing Photos of Harrold Housing, Larrison and Adair-Greenhouse

TODAY'S CAMPUS CORE INFRASTRUCTURE

Today's University campus must support a technology landscape that is constantly evolving and expanding in terms of the demand for higher data system bandwidth, voice, and video communications technology. In order to dynamically provision such communications, the infrastructure must be planned to be as flexible, expandable, and resilient as possible.

The interbuilding network architecture serving UAPB comprises a backbone optical fiber system in support of many specialized applications including, but not limited to, information technology data and voice communications, video distribution, audiovisual, and security systems.

Presently constructed as a primarily underground outside plant (OSP) ductbanks, the campus is served by the following: (Figure 4.2-9)

- » Four Core Distribution Buildings - The Administration Building and (3) Communications Buildings
- » Redundant single mode fiber optic connections between these Core facilities
- » All other local buildings connect directly to one of the Core buildings
- » Underground ductbanks generally have spare capacity for additional connections and cabling
- » There are spare single mode fiber strands available in building connections
- » The Department of Information System leases spare fibers and equipment space by the space for connections to the local high school and Arkansas Department of Corrections.

There are two data centers on campus; located in Communications #2 and the Administration Building. All main campus servers and network attached storage are located in these two facilities. Nearly all applications are virtualized, except for two legacy applications planned for upgrading in 2015. Cloud-based off-site backup services are provided by Evault, and UAPB is researching other Disaster Recovery options with partner ARE-ON institutions.

UAPB is connected to the ARE-ON private network that provides a 300Mbps Internet connection to campus. A few remote partner institutions like the Minority Research Center use T1 connections to link to UAPB. The North Little Rock Center uses a completely independent network.



Figure 4.2-9, Mechanical Enclosure Building

TELECOM ROOMS

Currently, many of the Telecom Rooms (TR) throughout campus do not meet current campus standards. Areas that are below standard are in many TRs are:

- » Dedicated IT spaces (some are shared with other departments)
- » Secure Rooms (many are shared with other departments and are not secure with a card reader)
- » Dedicated HVAC System (many have inadequate cooling which adversely impacts network reliability)
- » Size and Layout (many are shared spaces so do not allow for proper layout and size of a TR)

WIRELESS

Wireless coverage inside buildings is estimated at 80 percent full coverage. Outdoor wireless network coverage is very limited on campus. As funding becomes available, UAPB plans to implement wireless coverage outdoors on a broader scale. This will support the trend toward learning activities that can happen anywhere. Students are expecting 100 percent coverage in residence halls, which has been achieved in common areas and student spaces but is often spotty in individual suites. Students are allowed up to three devices that can connect wirelessly, and all devices must be authenticated. (Figure 4.2-10)

VOICE SERVICES

Campus voice services were recently refreshed in 2013, migrating from Cisco to a Shoretel system. Voice over IP (VoIP) has been used on campus since 2000. Tech Services charges each department for phone lines and long distance services.

Cellular telephone coverage is acceptable throughout campus with the exception of some building basements and at the Fishery. The predominant provider is AT&T.

CAMPUS INTERNET CONNECTIVITY

UAPB recently refreshed the core and edge switches throughout campus, migrating from Cisco products to Enterasys/Extreme Networks products as the new campus standard. All workstation outlets now have 1Gpbs capability but most are currently only using 100Mbps connection speeds; this will change as endpoint workstations are refreshed since most new equipment will have 1Gbps by default. Wired and wireless electronics are supported under a 5-year maintenance agreement.

The residence halls are provided with a minimum of one wired port per bed. Tech Services charges other departments for all new wired installations.



Figure 4.2-10, STEM Resource Center

CAMPUS COMPUTING

The Arkansas state contract provides Dell and HP computer and printing equipment commonly found on campus. There are some departments and individuals that also use Macs. There are no written standards for classroom technologies such as projectors, switching, control, and other devices. Establishing more policies, procedures, and standards for IT and AV technology is a priority on campus, beginning with new Division 27 construction specification standards slated to be complete in 2015. Training has been completed for recently refreshed desktop standards in the Microsoft Windows 8.1 operating system and Office 365 productivity suite, among other software.

UAPB expects an increase in technology implementations in classrooms, driven by both students and departments, and is making plans to help lead this effort. The campus does boast one supercomputer for advanced research and one 3D visualization space. (Figures 4.2-11, 4.2-12 and 4.2-13)

The campus uses Blackboard for course management, which is a hosted application managed by the vendor. Training modules are under consideration currently. The campus agreement with Microsoft allows for up to five devices per user for Office 365 access. More digital signage is desired throughout campus, with future connections to the mass notification system.



Figure 4.2-11, Research Lab



Figure 4.2-12, Projector in STEM



Figure 4.2-13, Classroom in STEM

CABLE TELEVISION

Cable television service is only run to residence halls and a select few buildings on campus. Departments are charged for each CATV drop by Tech Services. In the future, the campus should consider migrating to on-demand television services or dedicated channels encoded and streamed across the campus network. However, dedicated network segments may be required due to the bandwidth that video often requires. Gigabit Passive Optical Networking (GPON) is another distribution and service model that many campuses are migrating toward, especially where entertainment video services are a key requirement.

TECH SERVICES

The UAPB Director of Technical Services reports to the Vice President of Finance, and it is worth noting that each individual campus department maintains its own IT budget. All IT purchases, however, must be approved by the Director of IT Services. All buildings on campus – academic, housing, and student services – are supported by a staff of ten in Tech Services.

4.3 campus circulation and transportation

CIRCULATION

Creating a pedestrian-friendly environment with limited automobile traffic is an important component of enhancing the campus core. Maintaining adequate vehicle circulation, with convenient access to parking and campus destinations is also an important part of the proposed plan. The concept of “key campus access points” is recommended to provide convenient circulation once on campus without dividing the heart of campus or creating unnecessary conflicts between vehicles and pedestrians (see Figure 4.3-1).

The creation of a secondary loop road would utilize the existing Reeker Street, with an extension/connection of Magnolia Street to JB Johnson Drive on the west side of campus, L.A. Davis Drive and Oliver Road. L.A. Davis Drive south of Hill Street and North of Hunt Hall would be closed to through traffic. University Avenue would continue to be a major regional North/South thoroughfare for vehicle traffic. The primary access points to campus would be Reeker Street at University Drive to the south, Watson Boulevard at University Drive to the north, and Oliver Road at University Drive to the north.

With a majority of students, faculty, and staff residing within several miles of campus, the University should look to expand the network of bicycle paths in the vicinity of the campus in order to encourage bicycling. Particularly within the campus boundary between the residential village along L.A. Davis Drive and the academic core, bicycle paths would be an ideal mode of transport for cost and convenience. Providing convenient access to safe paths and bike storage on campus would help encourage bicycle travel. The shared paths planned along University Drive and around Lake Saracen would improve biking and walking access to campus for employees and students living in University Park (see Figure 4.3-1) and the surrounding Pine Bluff communities. The City of Pine Bluff has plans for a bus transit hub at University Drive and Fluker Street. Regional pedestrian and bicycle network enhancements should seek to improve the accessibility and visibility of this community asset for intercommunity travel.

Given the relatively low volume of vehicles and low posted speeds on campus streets, bicycles could be adequately accommodated without the need for separate bike lanes or side paths. The only area



Figure 4.3-1, Campus Loop Road and Access Routes

of concern for high speeds is along L.A. Davis Drive that currently occur heading south between HPER and STEM. A new stop sign would be recommended at the intersection of L.A. Davis Drive and Watson Boulevard in order to reduce vehicular speeds. Shared-use pavement markings, or “sharrows” may be used to indicate bike routes and alert drivers to the potential presence of bicyclists and the need to share the road.

CAMPUS ACCESS

Consolidate access points to three primary nodes:

- Reeker Street
- Watson Boulevard
- Oliver Road
- Primary vehicle circulation around perimeter of campus core via a Campus Loop

- Provide sidewalks along all campus streets
- Provide dedicated pedestrian crosswalks at University Drive with adequate signaling for oncoming traffic
- All streets should have shared vehicular and bicycle use
- Low vehicle volumes and low posted speeds accommodate bicycles adequately
- Shared-use pavement markings, or “sharrows” may be used

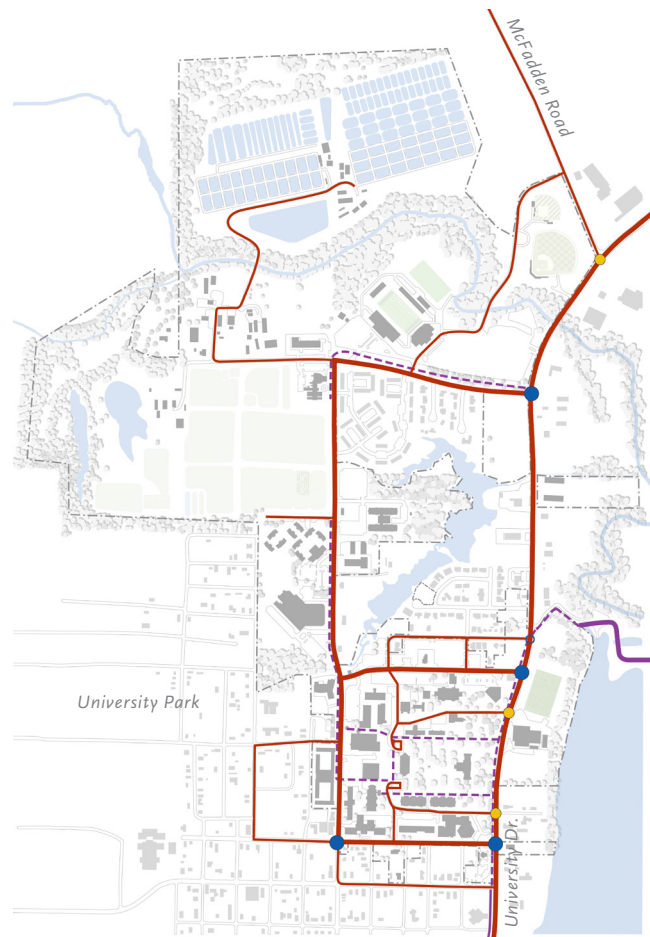


Figure 4.3-2, Existing Pedestrian and Vehicular Circulation

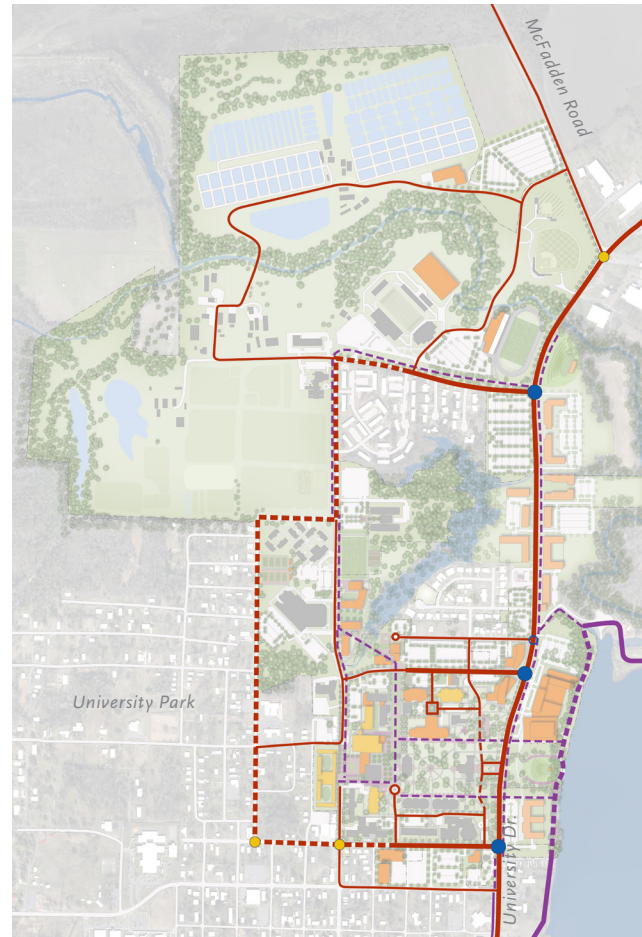


Figure 4.3-3, Proposed Pedestrian and Vehicular Circulation

PARKING

The vehicular circulation patterns in the Master Plan recommend the move of parking lots currently located within the core of the campus to the perimeter of the core. Some of the parking lots would be enhanced with a reconfiguration and resurfacing while others would need to be eliminated to align with the Master Plan vision. There are adequate parking spaces available for student, faculty and staff use, but often times not as conveniently located as desired.

- Focus faculty and staff parking within 'core south' zone
- Remove parking at library to create a safe pedestrian zone

- Expand parking at HPER to serve Residential Village zone
- Reconfigure entry and parking at the Delta Housing to create a clear entry
- Focus commuter student and residential parking within 'core north' zone
- Reconfigure the Golden Lions Football east lot to accommodate the new Track + Field / Soccer Facility
- Create paved athletic lot adjacent the Eastwood and Westwood Courts neighborhood (A)
- Develop a zone-based parking system to reduce intercampus vehicle trips

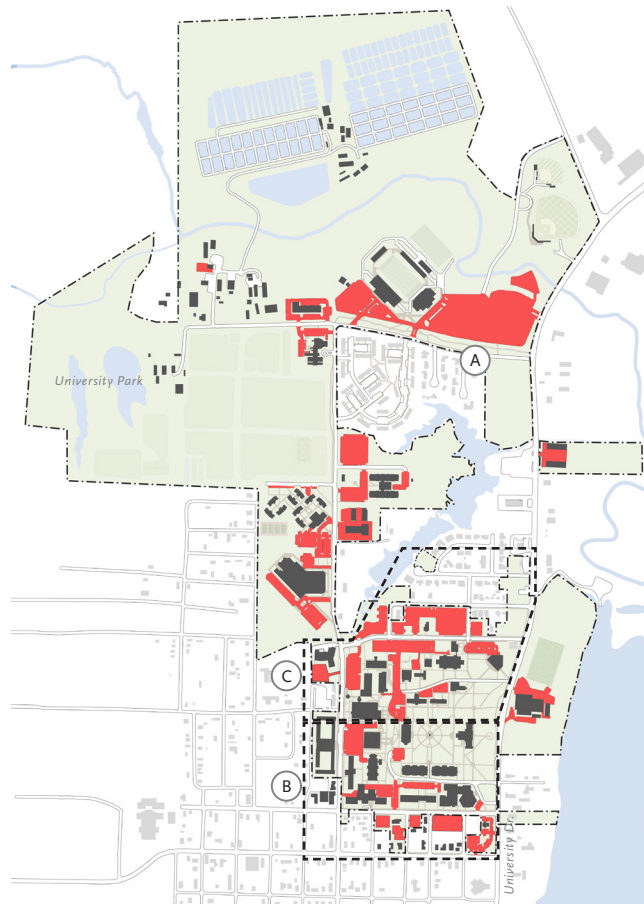


Figure 4.3-4, Existing Parking Locations

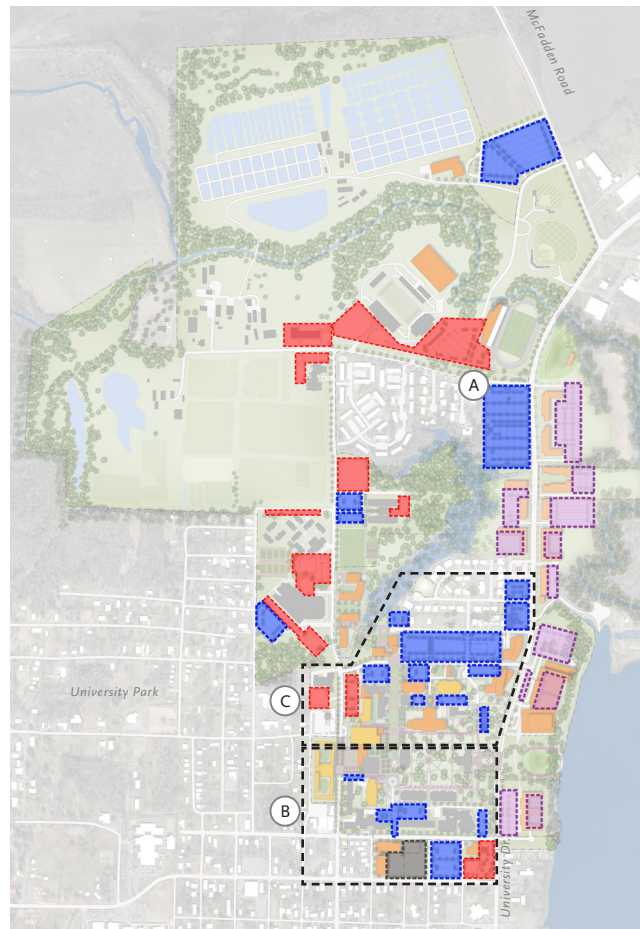
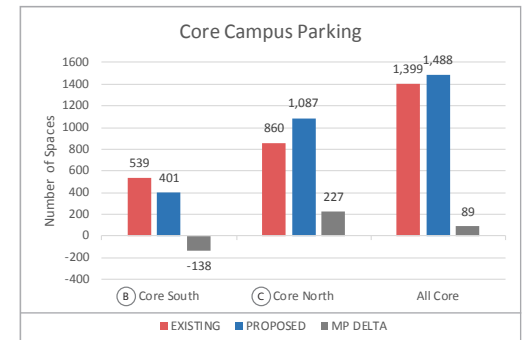
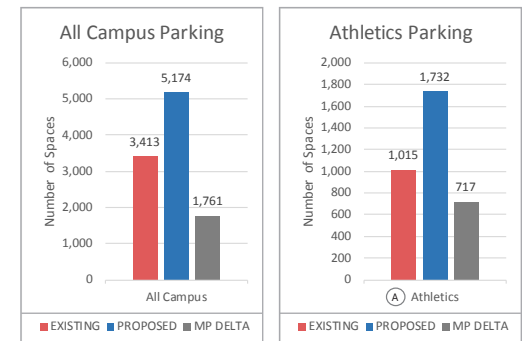
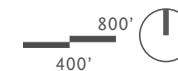


Figure 4.3-5, Parking Locations in Master Plan



- EXISTING/RECONFIGURED
- PROPOSED
- LONG-TERM UNIVERSITY CORRIDOR
- SERVICE



TRANSPORTATION RECOMMENDATIONS

Campus Access and Community

- » Prioritize signage and emphasize primary entry points into campus at Reeker Street, Watson Boulevard and Oliver Road.
- » Work with the Pine Bluff community to enhance bus service between campus and the surrounding region
- » Provide appropriate connections to planned regional pedestrian facilities around Lake Saracen connecting to downtown Pine Bluff

Vehicular

- » Reduce the number of campus access points from University Drive by eliminating North and South Kennedy Drive entry points
- » Construct a roundabout drop-off between Caine-Gilleland and Kountz-Kyle, eliminating the vehicular conflicts in this zone
- » Connect North Magnolia Street to JB Johnson Drive, creating the west loop road condition.
- » Create a ceremonial drop-off at the front of campus to serve Caldwell Hall that enhances the UAPB brand along University Drive
- » Partial closure of L.A. Davis Drive between Hunt Hall and Hill Street
- » Construct a new service drive connector / pedestrian path between Watson Boulevard and Reeker Street in front of Caldwell

Pedestrian

- » Create a pedestrian plaza connection between Harrold Complex and the Library
- » Provide sidewalks along all campus streets
- » Repair damaged and deteriorating sidewalks
- » Provide dedicated pedestrian crossings at University Drive along with proper safety signaling



Figure 4.3-6, Existing Campus Context

4.4 providing a safe environment

PLANNING PRINCIPLES

By understanding the needs and concerns of the constituents it serves, UAPB can implement physical security solutions that proactively meet the long-term mission of the campus, rather than implementing short-term solutions that are more reactive to deficiencies. Additionally, unexpected year-end funding or grants can be applied to security upgrade projects independently of capital projects.

To provide a foundation for decision-making by designers and stakeholders now and in the future, and to reinforce the plan's intent, the following planning principles can be used to guide future decisions for technology implementation, staffing, policies and procedures, and refreshment.

- » **Balance: Safety** | Physical security systems shall be designed to improve student, staff, and visitor safety with the understanding that balancing how security is perceived in a collegial setting is an important influence on planning.
- » **Balance: Privacy** | Physical security systems shall be designed to improve safety while being sensitive to the privacy concerns of students and staff.
- » **Adaptability** | Systems and procedures should be able to adapt to heightened security levels or concerns by implementing additional measures when appropriate.
- » **Industry Best Practices** | Systems shall be designed to comply with industry best practices, based on operational needs of the facilities.
- » **Interoperability** | Interoperability of the security systems is key to the daily and long term operations of campus facilities by safety personnel and administrators. Proprietary systems and components should be avoided.
- » **Ease of Operation** | Systems shall be designed to operate simply and efficiently. Whenever possible, the solutions should require a minimal amount of training to operate effectively by safety personnel and staff.
- » **Supportable** | The systems must be supportable by campus and departmental technical personnel with limited outside technical assistance. Multiple companies should be able to provide service and maintenance on installed products.
- » **Integrated Solutions** | The systems will strive to deliver seamless integration of technologies with facility architecture and enterprise systems.

- » **Cost Effective** | The solutions will use financial resources effectively, efficiently and strategically.
- » **Goals and Objectives** | Goals should be realistic. Interim objectives to reach overall goals should promote visible results that staff and students can take pride in achieving.

Goal: “Maintain and improve campus safety systems, capabilities, and infrastructure in support of the University’s strategic priorities.” In this section, recommendations are offered for facility and infrastructure considerations that relate to the overall Master Plan.

A BALANCED APPROACH TO SECURITY

Modern-day facility crime prevention has evolved into a three-phased dynamic, which addresses all facets of a comprehensive security program. A balanced approach to facilities security involves three principal aspects: the first is the use of CPTED (Crime Prevention Through Environmental Design), the second is Electronic Security (Intrusion Detection, Access Control, and Video Surveillance), and the third is the use of Staff (the “face” of security). Figure 4.4-1 below.

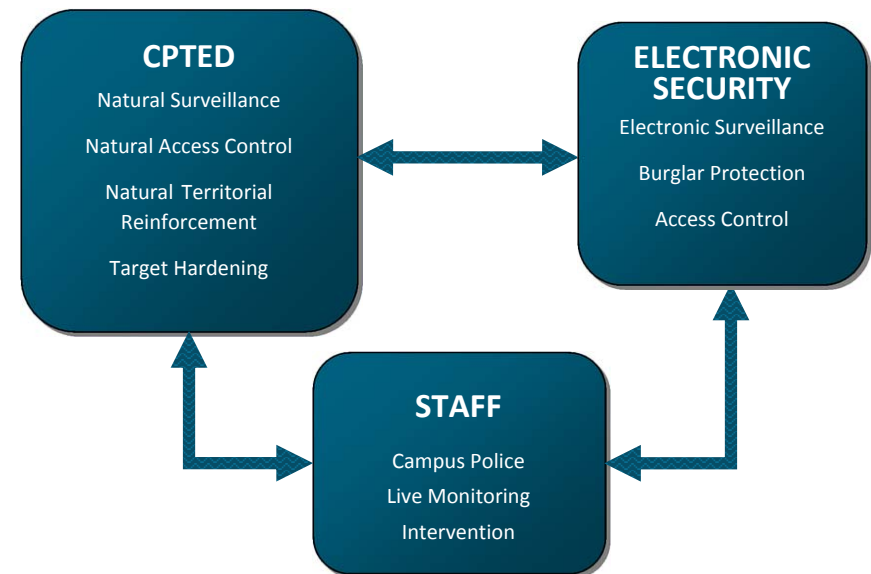


Figure 4.4-1, Balanced Approach to Security

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

As seen in the survey results, campus safety and security represents a major concern for the University, and the use of CPTED (Crime Prevention Through Environmental Design) principles has been identified as a main initiative. CPTED is defined by the National Crime Prevention Institute as the proper design and effective use of the built environment, which may lead to a reduction in the fear and incidence of crime and an improvement of the quality of life. CPTED proposes a “3-D approach” to space assessment (see Figure 4.4-3). CPTED’s goal is to prevent crime through designing a physical environment that positively influences human behavior – people who use the area regularly perceive it as safe and would-be criminals see the area as a highly risky place to commit crime. The principals of CPTED should be applied on new campus construction projects and renovations, including the removal of landscaping that goes against CPTED principals.

An effective security plan for campus facilities needs to be formed with a balance of Deterrents, Delay/Denial measures, Detection mechanisms, and appropriate Responses supported by a comprehensive set of Security Policies and Procedures. The program should be built on the “Rings of Protection” approach using CPTED principles. Deterrents include physical items such as signage, lighting, security officers on patrol at irregular times, clear (hiding-free) zones, and psychological elements including observant people, unobstructed views of critical areas, site illumination, and video surveillance systems. The CPTED guidelines recommend:

- A choice of paths to get to one destination
- Adequate lighting
- Conveniently placed emergency telephones
- Escort service
- Transport service
- Patrols
- Safe access to buildings
- Placement of parking that increases safety

The planting guidelines for good visibility are:

- 2’ Maximum ground cover height
- 3’ Maximum shrub height (placed min. 6’ away from walks)
- 7’-8’ Minimum Tree Canopy Clearance (Figure 4.4-2)



Balanced Approach to Security



Figure 4.4-2, High Tree Canopy Allows Good Visibility

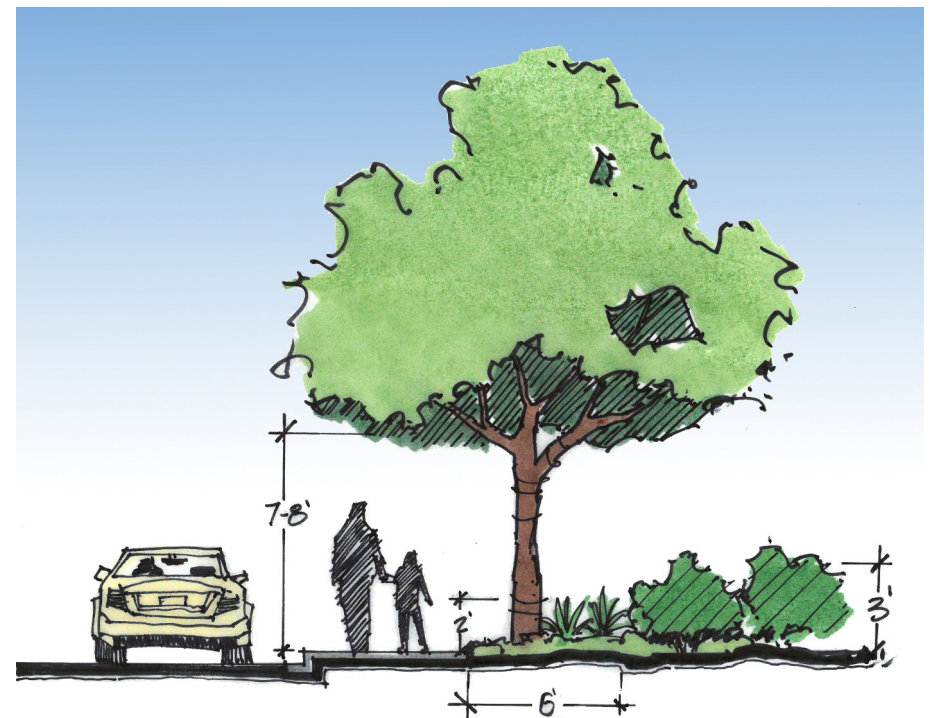


Figure 4.4-3, CPTED Landscape Principles

Delay and Denial mechanisms include physical restriction items such as locks, doors, vehicle barriers, fences, bollards, walls, and access control systems. Detection systems may include alarm systems, video surveillance cameras, campus police, and observant facility personnel. Response may include lights, audible alarms (bells/sirens/horns), alarm transmission and notification systems, or safety personnel intervention. The ‘Rings of Protection’ concept places Deterrent, Delay/Denial, Detection, and Response elements immediately around the target to be protected, at the perimeter of the property and between the perimeter and the target ring as illustrated in Figure 4.4-4.

CPTED is defined as a multidisciplinary approach to deterring criminal behavior through the design of the environment. CPTED strategies rely on the ability to influence offender decisions that precede criminal acts by affecting the built, social, and administrative environment. CPTED strategies are based on the following four principles:

1. Natural Surveillance | Natural Surveillance is the design principle which calls for creating an environment where the occupant has an enhanced ability to observe the surrounding environment and the potential offender has a heightened perception of the increased risk of being observed. The design principles involved include creating good sight lines and minimizing visual obstacles so that from a given location the occupant has a high degree of visual control. People will always feel safer when they can easily see and be seen. This feeling is promoted by features that maximize visibility of people, parking areas, and building entrances: doors and windows that look out on to streets and parking areas, pedestrian-friendly sidewalks and hallways without areas for adversaries to hide, and adequate lighting to name a few.

Proper lighting will also create an effective deterrent to crime, because good lighting discourages criminal activity, improves visibility, and reduces fear. Visibility in design can also be enhanced by including windows that look directly out onto public sidewalks and parking areas and by designing the parking layout to maximize visibility.

It has been noted by UAPB representatives that site lighting is in need of improvement: better uniformity and better coverage of pedestrian paths and parking areas.

2. National Access Control | Facility and site design can decrease criminal opportunities by denying access to targets and creating a perception of risk in would-be offenders. This is achieved by designing streets, sidewalks, building entrances, hallways, and lobbies indicating public routes and discouraging access to restricted areas with structural elements. Providing for a single visitors’ entrance which is clearly indicated and is situated so that the “natural” traffic flow leads to a reception desk is a good example of Natural Access Control.

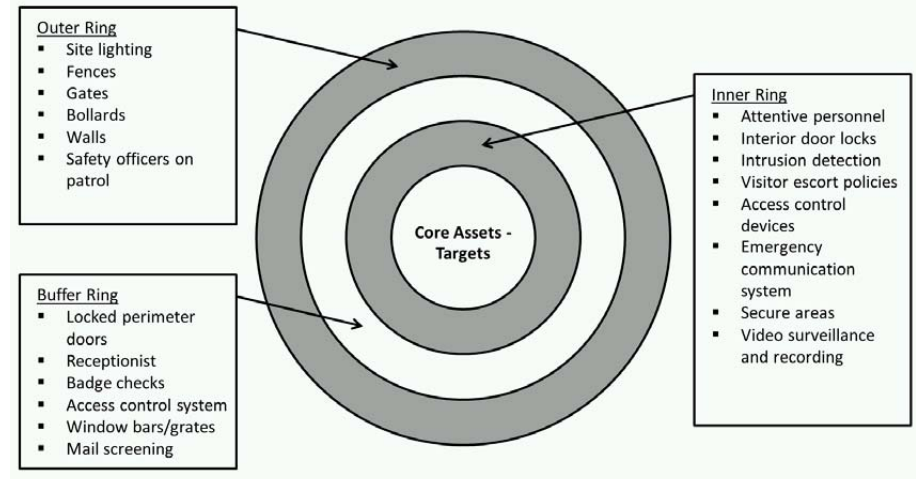


Figure 4.4-4, Rings of Protection

3. Territorial Reinforcement | Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. This is promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, doors, and walls. When a window is broken or graffiti appears on the outside of a public facility and that window is not quickly repaired, then it is likely that soon more windows will be broken or more graffiti will appear because the criminals’ perception is that the facility is no one’s responsibility. Conversely, when the damages are quickly repaired or cleaned the appearance is that the facility is being “watched over,” making it less likely to be damaged again.

4. Target Hardening | Target Hardening is an extension of CPTED, making a site or building more difficult to access or enter using force. It is accomplished by features that prohibit access: window locks, dead bolts for doors, interior door hinges, or vehicle bollards and gates.

STAFF CONSIDERATIONS

The campus staff that manage planning, operations, and maintenance of security systems and policies are the central piece of the security plan. Without a security staff, the entire security system takes on an almost completely passive role in the protection of students, staff, and visitors. An alarm can only alert that a door or window has been breached, but it cannot determine the cause or move to protect persons or property.

Campus Police

The UAPB Campus Police department provides all law enforcement duties on campus. The Police Department handles on-campus emergency communications and dispatch, and partners with local law enforcement and fire department agencies to provide comprehensive safety management at UAPB. Figure 4.4-5.

The UAPB Police and Public Safety Department is located in a converted house on the far end of south campus on Reeker Street; the department also makes use of another converted house. These facilities are aging and are not ideal for police operations. A consolidated Public Safety building should be implemented in the 10-year plan to provide more efficient safety and security related services on campus. A centralized, secure motor pool area to consolidate and manage campus buses, facility vehicles, police vehicles, etc. would provide operational efficiencies and increased security of these campus resources.

Blackboard Transact

Card access is currently only required at student residential buildings and a few core IT rooms through the Blackboard Transact Card Access System, a multi-function “one-card” that combines a picture ID with secure credentials and available for use in Point of Sale locations on campus. The Blackboard Transact is fairly limited to student residential buildings, library book checkout, and point-of-sale functions on campus such as dining. The Blackboard Transact database and card management should be managed by Campus Police with automatic database updates provided from the campus course management systems.

It has been noted during our interviews that this system is only used on residential halls. There is also a strong desire to move away from the reliance on keys that are often lost or not returned to a managed card-based access control system. It is our recommendation that a plan be implemented to utilize this system on all building perimeter doors. This can be accomplished by instituting new facility standards that call for electronic locking hardware and card readers on all new and renovation building projects.



Balanced Approach to Security



Figure 4.4-5, Existing Police Department Patrol Car

Faculty and Staff

Faculty and staff are the final part of the operational equation for a robust security plan. At a minimum, staff should be educated to avoid allowing the following common security risks: piggybacking and door propping.

These security risks are common in commercial and educational facilities, and are more passive in nature as opposed to more obvious and easily-understood active security breaches such as forcing open doors, crashing through vehicular gates, etc. Piggybacking is one of the most common methods for criminals to easily gain entry into a facility without alarming security staff. It comes in many forms, but it basically refers to an unauthorized person gaining entry by following an authorized individual into a secure area of a building. In vehicular entries, it is commonly known as “tailgating.” For example, a perimeter card reader door could be circumvented by an individual waiting outside while smoking or talking on a cell phone. If a staff member exits this door without confronting the person, he or she may simply slip in as the staffer exits. Often, unauthorized persons will gain access to facilities by following staff members past a check point. Students should also be oriented to understand that thieves may gain access to residential facilities using these methods.

Propping doors open is a major problem in many facilities. Leaving a door propped open, even slightly, is an invitation for a criminal to gain entry into secure areas. Doors are most often propped open when staff members go outside to smoke or need to make a quick trip outside for another reason and don’t want to be forced to walk further than necessary. Adding card readers to certain doors should alleviate this situation, but staff members will be required to keep credentials with them for building re-entry. At a minimum, all unmanned or unobserved perimeter doors should incorporate door prop open alarms. Emergency exit doors should sound an alarm immediately when the exit device is used. Door prop alarms would sound a very loud local nuisance alarm when doors remain open for more than 15 seconds, or other predetermined period of time. Personnel will also be alerted through the access control system software.



Figure 4.4-6, Existing Public Safety and Police Department

ELECTRONIC SECURITY

The four elements for an effective electronic security plan are: Access Control, Video Surveillance, Alarm Monitoring, and Emergency Call and Notification. Figure 4.4-7.

Access Control

Access Control utilizes devices such as proximity readers, in conjunction with electronically controlled door locks, and provides for entry control into selected portions of the building, as well as for a record of who has had access to certain areas and when. Card access is generally provided for all main and secondary entrances, staff-only entrances, and all doors to areas housing high value items, but each facility has its own standards of which doors will require card access.

Expanding the campus access control systems beyond its current implementation in residential buildings has the potential to burden the UAPB with database management tasks. The system must have the ability to automatically update the access control database when students are not currently enrolled in classes or are no longer living in on-campus residential housing, faculty have relocated, and staff are no longer employed. Without being automated, the database might not be consistently updated when faculty, staff, or students are no longer authorized to use campus facilities and services requiring proximity card access managed by the access control system.

It is also recommended that any long-term access control cards that are issued to non-employees only be done after a thorough screening of the individual. Providing non-employees free access through secure doors should only be done when absolutely necessary and with the authorization of the Campus Police department.

Video Surveillance

Electronic surveillance is a widely used method of observing and recording the events within and around the campus facilities through the use of discrete cameras and electronic control and storage devices. Generally, a camera is most useful when it is visible to the public, but enclosed in a round, darkened enclosure. While every campus is different, students and staff have generally come to understand video surveillance as a useful tool helping to ensure safety on campus. This is especially true for remote areas, pedestrian walkways, and parking lots where a criminal may lie in waiting for an isolated victim to approach. Figure 4.4-8.



Balanced Approach to Security

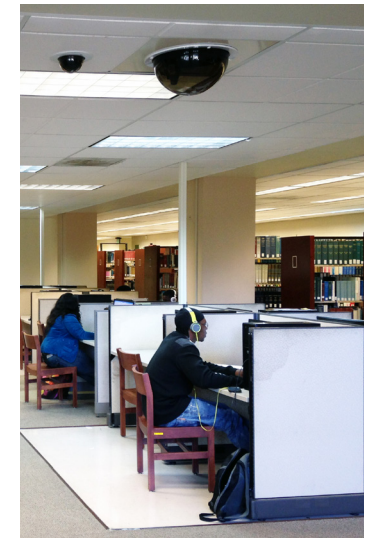


Figure 4.4-7, Camera in Library



Figure 4.4-8, Exterior Surveillance Camera at Welcome Center

Cameras should be located in appropriate quantities and locations as needed to provide visual records of high traffic areas including entrances and parking areas. Recording systems include “watermark” capability, which makes the recorded video admissible as evidence in a court of law when needed. The ability to record audio with the video stream might be a consideration for special situations on campus.

Electronic Surveillance should not be used as a substitute for designing Natural Surveillance features into the building and the site, but it can easily be used to offset any inadvertent blind spots created by the facility. It must be understood that it is a secondary resource to the natural surveillance features of the facility. The camera systems on campus are not monitored in real-time. While advanced video surveillance systems can serve as a deterrent and identify suspicious persons and behavior, the primary benefit of this system on a college campus is to provide a video record of an incident for future response and prosecution. This is an important point when dealing with campus user groups who are unfamiliar with campus electronic security systems. Good facility design will minimize access to/from facilities and sensitive functions while meeting egress codes, also helping to limit the investment in video surveillance.

The UAPB campus has 249 video surveillance cameras in use, providing nearly “full coverage” as defined by campus police. The campus standard is e-Watch cameras but there are some legacy Pelco analog cameras still used with e-Watch encoders. All camera video runs across the campus IT network on a private VLAN. The majority of the cameras are fixed dome cameras with a small amount of pan-tilt-zoom cameras deployed.

Most residence halls have full coverage on the building exterior plus full coverage on interior common areas. Occasionally, security video feeds are interfered with by the residence halls network traffic. This should be addressed with campus IT so they can provide a minimum amount of dedicated bandwidth for security functions above student Internet access or other non-essential network traffic if it is causing the occasional interruptions.

Various academic buildings also have some surveillance coverage, with the goal to provide coverage for all points of entrance/egress to academic buildings. The campus police are currently challenged with providing camera coverage of the J.B.J. Housing Complex and the Fishery. There are currently four cameras in the Fishery area and still lacks coverage at the entrance gate and administration gate.

Throughout campus, many cameras often exhibit poor image quality due to limitation with existing lighting conditions. In lieu of lighting improvements, which offer other crime-reducing benefits, cameras could include infrared illuminators allowing usable images in less-than-ideal lighting conditions. However, these are most easily implemented as a camera replacement with integral illuminator rather than an add-on illuminator except for some specific situations where long-range or high powered illuminators may be required.

While a thorough inventory has not been possible, it was noted that some cameras may not be operating properly and likely in need of replacement, including two cameras at the Bell Tower. In addition, the campus has experienced long lead times from the current vendor when camera replacements are needed, typically six to eight weeks. UAPB is in the process of reevaluating its current standards and researching different video surveillance companies as a possible replacement. As with the Access Control System, we recommend that UAPB confirm the limitations of each vendor under consideration, especially support for other manufacturers’ cameras and related hardware as many companies are somewhat proprietary in the equipment they support. High megapixel resolution cameras and 360 degree cameras often have limited support due to rapidly changing technology. It is also critical that the chosen surveillance system be natively integrated with the Blackboard Transact access control system.

Finally, it was also noted that upgrades such as additional monitors are required at the command center to allow for better monitoring of the various cameras around campus.

Alarm Monitoring

Alarm monitoring on campuses generally covers intrusion detection that can be an element of access control systems. Intrusion detection requires devices such as magnetic door contacts, motion sensors, and glass break detectors to create a secure, building perimeter detection envelope. The system can be turned on and off on a daily, weekly, or monthly calendar, and it includes control panels to allow access by authorized personnel. The system can sound an audible alarm, notify staff, notify campus police, or any combination of the above. Since many buildings will have multiple public access spaces on multiple floors, systems should be set up in zones that provide sufficient detail to indicate the type of problem and its appropriate response.

A growing trend on college campuses is to provide duress button alarms for faculty and staff. This is especially true in higher-level dean and administrator suites, where cash is known to change hands, and where people are at risk for assault or confrontations may be expected. Duress alarms should be uniquely identifiable to safety staff no matter what technology is employed.

Emergency Call and Notification

UAPB has a total of nine Code Blue brand emergency telephones on campus, all located on the exterior of buildings; there aren't any pedestal-type stanchions located on campus walkways or in parking lots. The existing phones do not incorporate the commonly-found blue lights or strobes above them and as result can make it difficult to locate a phone in the event of an emergency.

Calls are routed directly to campus Police. While this functions as originally intended, the campus has expanded a mass notification system that the existing Code Blue phones do not support. Emergency messages cannot be broadcast through the existing emergency phone system. The campus uses the Rave Alert Emergency Mass Notification System to disseminate urgent safety messages and warnings via text messaging, email, and audible exterior loudspeakers. There are no siren alarms deployed. It is desired to add loudspeaker systems in all academic buildings that are tied into the mass notification system. In addition, these notifications should integrate into any current or future digital signage systems throughout campus.



Figure 4.4-, Future Location of Perimeter Fence Located Along University Dr.

Site Considerations

- » The Chancellor has a vision that includes adding a perimeter fence around the campus academic core, from University to L.A. Prexy Davis and Reeker to Watson. Such a fence would help to reduce crimes of opportunity within this area and potentially reduce the frequency of more serious crimes, by forcing foot traffic to enter through predetermined access points that can be monitored more easily by guards and police staff. Manned guard houses and gates will likely be needed at key access points, especially for vehicle entries. Figures 4.4-8 and 4.4-9.
- » Incorporate analytics such as motion sensing based recording and alarm/alert at pedestrian and vehicular access areas.
- » Improve site lighting, especially in parking lots, at stairwell and elevation transitions, and around buildings.
- » Add license plate recognition (LPR) analytics to new camera positions at the vehicular entrances to the campus. LPR systems can integrate site cameras with patrol vehicle cameras, tying in to a central server referencing law enforcement databases.
- » Install door contacts with hold-open alarms at all exit doors, exit-only doors should not have exterior pull hardware.



Figure 4.4-10, Building Lighting at Davis Student Union

Vehicular Traffic

According to UAPB Police and Public Safety Department (Police) staff, a major problem on campus is vehicular traffic, especially speeding. University Drive is a major thoroughfare and there have been five recorded accidents involving cars and pedestrians on campus in 2013, including at the intersection of Reeker Street and L.A. Prexy Davis Drive. Figure 4.4-10.

To combat this issue, campus police would like to install operable flashing lights at crosswalks to alert drivers when pedestrians need to cross major roads. Makeshift speed bumps have been installed with only limited results. Some streets like Reeker also lack pedestrian crosswalk striping at intersections, increasing the risk of accidents. Serious measures to limit vehicular access through campus, especially at off-peak hours, are warranted based on discussions with campus police. There are currently nine public vehicular entrances on campus, and UAPB Police would like to add gates to help reroute traffic around campus. Many vehicles drive through campus trying to reach a destination on the other side, especially using University Drive and L.A. Prexy Davis Drive. There are also plans to add a gate south of the stadium near the STEM parking lot in an effort to reduce vehicular traffic.

Building Perimeters

Creating a defined perimeter around the building is an essential component to any physical security plan. Since the majority of personnel and assets are inside buildings most of the time, defining and securing all potential points of access into the buildings is critical to the overall success of any facility project. This includes public access doors, staff-only doors, and emergency exits required by code. It also includes any vulnerable points that could serve as entries such as low-level windows, loading docks, and other less-obvious weak points.

- Incorporate video surveillance cameras at building perimeter doors to capture foot traffic entering or exiting facilities.
- Install door contacts with hold-open alarms at all exit doors. Exit-only doors should not have exterior pull hardware.



Figure 4.4-11, Vehicular Gate Along L.A. Prexy Davis Drive

Interior Security Measures

Opportunities for creating an “interior perimeter” within the campus buildings should be pursued, as this directly relates to the Rings of Protection concept of CPTED. An interior perimeter could take many forms, but the primary goal is to delay or deter a crime or significant interruption of building activities. Such a measure would create a buffer zone between highly sensitive areas such as cash assets.

Policies and Procedures

A Disaster Recovery and Business Continuity Plan was completed about 4.5 years ago and will need to be updated soon. Security communications is included in this plan. Police radio communications benefit from good reception throughout campus, with a few weak areas of coverage in some building basement areas that should be addressed either with signal boosters/relays or backup emergency communications.

4.5 engaging the community

This master planning process was intentional to consistently integrate the input from the campus and the surrounding community. In addition to regular meetings with the Master Plan Working Committee and the Executive Committee, additional meetings outlining the objectives of the process, soliciting ideas and aspirations, and ultimately showing the Master Plan's concepts, were held with various on-campus groups, including:

- » UAPB Economic Research & Development Center
- » Student Focus Groups
- » Faculty Focus Groups
- » Vice Presidents
- » Academic Affairs
- » Finance
- » Research and Innovation
- » Facilities Management
- » Deans
- » Library
- » Dining
- » Residential Life
- » UAPB Institutional Advancement
- » UAPB Public Safety
- » Athletics

Meetings were also held with representatives from the City of Pine Bluff, which included a review of:

- » City of Pine Bluff Department of Economic & Community Development Initiatives
- » University Park Neighborhood Development Plan
 - Student based housing
 - Land use
 - Pedestrian loop trail around Lake Pine Bluff
 - Lake side restaurant
 - Mix-use 'planned unit development'
 - Public outdoor amphitheater
 - Continuing education center complex
 - Creation of public park lands
 - Expansion of commercial retail areas
 - Job training facility
 - Development of a divided highway (Arkansas Highway 79)
 - Location of a new outdoor track
 - Cultural museum for African Americans
 - Heritage Trail throughout the University Park area

The involvement of these groups during both the early Data Collection Phase, when initial solutions were being considered, and Concept Refinement Phase, has led to a Master Plan that reflects the needs of a broad range of constituents.



UAPB Annual Symposium



Campus and Facilities Tour



Student Engagement

4.6 creating a sustainable campus

Though highlighted on this page, the broad goal of creating a sustainable campus permeates all aspects of this Master Plan. From sustainable land use strategies, use of existing infrastructure, energy conservation, to sustainable transportation and stormwater strategies, this plan emphasizes a holistic approach to sustainability. The fundamental planning principles embodied in this plan embrace sustainable design practices. These fundamental strategies include:

- » Recommending use of existing infrastructure where possible before extending utilities or adding new facilities.
- » Using existing land assets rather than expand campus.
- » Minimizing additional quantity of impervious area on campus.
- » Preserving and reinforces riparian areas adjacent to streams on campus, Walker Lake and Lake Saracen.
- » Focusing on enhanced pedestrian and bicycle paths to reduce the demand for vehicular trips around campus.
- » Proposing additional trees and landscaping to provide shade, reduce heat island effect and provide more comfortable outdoor gathering spaces.
- » Incorporating Tree Campus USA Initiative Tree Care Plan
- » Collaborating with Agriculture and Science Academic areas on environmental stewardship.

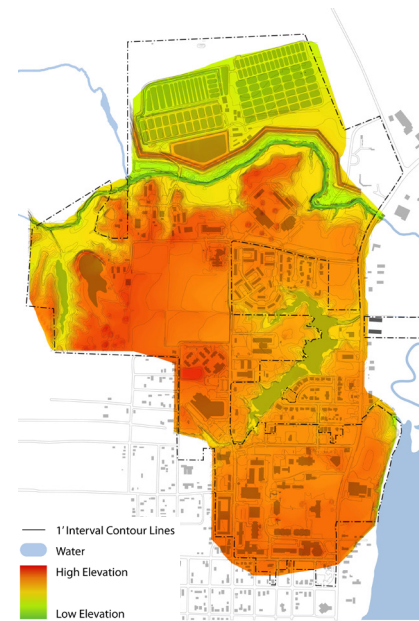


Figure 4.6-1, Terrain Gradient



Figure 4.6-2, 100-year Floodplain



Figure 4.6-3, UAPB Stormwater Rip-Rap

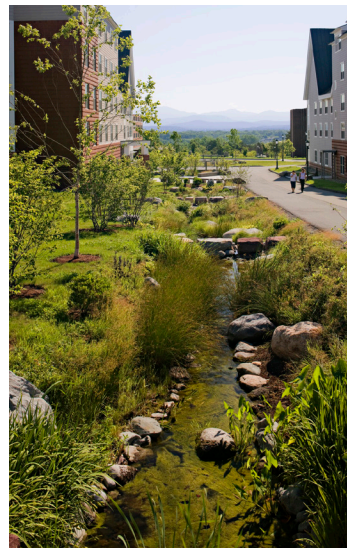


Figure 4.6-3, University of Vermont Stormwater Swale

In addition to the fundamental planning principles, this plan recommends specific strategies moving forward:

- » Design and construct new facilities and renovations to meet LEED and other energy efficiency best practices as aligned with industry “best in class” guidelines.
- » Assess and mitigate noise and light pollution. Use IEE full cutoff fixtures for exterior lighting.
- » Comprehensively assess steam, chilled water, and electrical systems on campus to implement energy management and sustainable resource practices.
- » Install additional meters on existing buildings to implement a campus energy monitoring system to optimize campus energy consumption.
- » Identify specific existing locations where appropriate stormwater management systems such as rain gardens and bio-swales could be installed.
- » Enhance existing recycling programs on campus.



5

IMPLEMENTATION

PROGRAM ACCOMMODATION

Priority
Near Term
Long Term

PROGRAMMED NEEDS

Programmed Needs Tabulation
Demolition
Space Needs Reconciliation

FUNDING MECHANISMS

Energy Arkansas
Arkansas Natural and Cultural Resources
Council (ANCRC)
Qualified Energy Conservation Bonds
Department of Arkansas Heritage /
Arkansas Historic Preservation Program
National Park Service Historic Preservation
Grants for HBCU's



5.1 program accommodation

Priority Projects are directly related to the UAPB Strategic Plan and Master Plan Principles. New Residence Halls and Student and Wellness Centers will enhance the living/learning community and attract and retain students. The new Nanoscience + Biotechnology Academic and Research Building will spur academic innovation and excellence. The Track and Field and Soccer Facility, as well as the expanded Welcome Center, will create new centers of activity for campus and engage the larger Pine Bluff community.

PROJECT RECOMMENDATIONS

- (A) Residence Halls
- (B) Student Center
- (C) Wellness Center
- (D) Nanoscience + Biotechnology
- (E) Track + Field / Soccer Facility
- (F) Public Safety / Welcome Center

PRIORITY



Figure 5.1-1, Long Term Vision Plan

- NEW CONSTRUCTION
- EXISTING
- RENOVATION
- FUTURE BUILDOUT



Near Term Projects expand on the strategic growth initiated in the Priority Projects phase. A combination of new projects (**orange**) and renovation projects (**yellow**) will strengthen the campus core to be provide 21st century classrooms, labs and living/learning environments.

PROJECT RECOMMENDATIONS

- | | |
|---|-----------|
| <ul style="list-style-type: none"> (A) Residence Halls (B) Student Center (C) Wellness Center (D) Nanoscience + Biotechnology (E) Track + Field / Soccer Facility (F) Public Safety / Welcome Center | PRIORITY |
| <ul style="list-style-type: none"> (G) Larrison Renovation (H) Kountz-Kyle Renovation (I) Harrold Complex Renovation (J) Adair Renovation (K) Biomedical / Life Sciences (L) Relocated Facilities (M) "One Stop Shop" – Student Services (N) Student Success (O) Hazzard Addition / Renovation | NEAR TERM |



Figure 5.1-2, Long Term Vision Plan

- | | |
|--|--|
| ■ NEW CONSTRUCTION | ■ EXISTING |
| ■ RENOVATION | ■ FUTURE BUILDOUT |

Long Term Projects address aspirational program desires. With the right partnership, a project may develop in the shorter term. With the exception of the Info Commons, these projects are on the perimeter of campus, but are important for UAPB identity and future strategic goals.

PROJECT RECOMMENDATIONS

- | | |
|--|-----------|
| (A) Residence Halls | PRIORITY |
| (B) Student Center | |
| (C) Wellness Center | |
| (D) Nanoscience + Biotechnology | |
| (E) Track + Field / Soccer Facility | |
| (F) Public Safety / Welcome Center | |
| (G) Larrison Renovation | NEAR TERM |
| (H) Kountz-Kyle Renovation | |
| (I) Harrold Complex Renovation | |
| (J) Adair Renovation | |
| (K) Biomedical / Life Sciences | |
| (L) Relocated Facilities | |
| (M) "One Stop Shop" – Student Services | LONG TERM |
| (N) Student Success | |
| (O) Basketball / Convocation Center | |
| (P) Conference Center | |
| (Q) Hotel | |
| (R) Aquaculture / Fisheries | |
| (S) Expanded Library – Info Commons | |
| (T) Football Practice | |
| (U) Future Mixed-Use Development | |



Figure 5.1-3, Long Term Vision Plan

- | | |
|---|--|
| ■ NEW CONSTRUCTION | ■ EXISTING |
| ■ RENOVATION | ■ FUTURE BUILDOUT |

5.2 programmed needs

PROGRAMMED NEEDS TABULATION

As a result of the on-campus planning meetings and subsequent design conversations that followed, the aspirational goals contained in the Master Plan long-term vision plan include:

- 1,151,310 GSF new construction (excludes Hazzard addition)
- Nearly 256,000 GSF renovation (excludes Hazzard renovations)

The Master Plan Project Summary (Figure 5.2-1) and the Space Needs Reconciliation (Figure 5.2-3) show the projects being proposed to provide the square footage on campus for a projected enrollment of 4,000 students. Based on the space needs analysis (see *Figure 1.5-2*), nearly 243,000 assignable square feet (ASF), or nearly 316,000 gross square feet (GSF), needs to be added to reconcile the projected space needs.



Figure 5.2-2, Renovation Planned for L.A. Davis Union

	Number of Levels	New Project Total GSF	Renovated Project Total GSF
--	------------------	-----------------------	-----------------------------

Proposed Projects

PRIORITY			
	New Residence Hall - 388 beds (300sf/bed)	3	151,320
	New Student Center	2 - 3	117,000
	New Student Recreation / Wellness Center	2	52,000
	New Nanoscience / Bio-Technology Building	2 - 3	58,500
	New Track and Field + Soccer Field	2	26,000
	New Public Safety Complex	1	10,920
	Priority Project GSF Total		415,740

NEAR TERM				
	Renovation of Larrison Hall	2	23,166	
	Renovation of Kountz-Kyle	2	35,844	
	Renovation of Harrold Complex	3	107,280	
	Renovation of Adair Greenhouse	2	44,721	
	Renovation of Hazzard	1	6,000	41,745
	New Bio-Medical / Life Sciences Facility	2 - 3	58,500	
	New Physical Plant Facilities	1	52,000	
	New One Stop Shop - Student Services	1 - 2	26,000	
	Student Success - Renovation of Davis Student Union	2		45,000
	Addition to Childcare	1	3,770	
	New Pedestrian Mall			
	L.A. Davis Drive Partial Closure & Pedestrianization			
	(1) Intramural / Recreation Field			
	(4) Tennis Courts, Concessions & Grandstands			
	(3) Outdoor Basketball Courts			
	Near Term Project GSF Subtotals	146,270	297,756	
	Near Term Project GSF Total		444,026	

LONG TERM			
	Basketball & Convocation Center	1	60,000
	Conference Center	1 - 2	74,800
	Hotel - 150 Rooms	4	69,400
	Aquaculture and Fisheries Building	1 - 2	74,100
	Addition to Library - Info Commons	1	13,000
	New Football Practice Facility	1	104,000
	Mixed Use	1 - 2	200,000
	Lake Saracen Amphitheatre		
	Long Term Project GSF Total		595,300

Figure 5.2-1, Master Plan Project Summary

		SPACE USE CATEGORIES (ASF)																
		Classrooms & Service	Class Laboratories & Service	Open Laboratories & Service	Research & Service	Office & Service	Study/Library	Physical Education	Recreation	Athletics	Special Use	Assembly & Exhibit	Student Center	General Use	Support	Residential Facilities	Health Care	Total NASF VARIANCE by College (including classrooms)
<i>Projected Deficits ASF by Space Category</i>				4,346	59,553		27,002		28,763	34,086	18,053		8,391	12,995		109,469		
Proposed Projects																		
New Nanoscience / Bio-Technology Building	45,000			45,000														45,000
New Residence Hall - 388 beds (300sf/bed)	116,400															116,400		116,400
Addition to Library - Info Commons	10,000					10,000												10,000
New Student Center	90,000					9,000						111,000						120,000
New One Stop Shop - Student Services	20,000		2,000		15,700									2,300				20,000
New Track and Field + Soccer Field	20,000								20,000									20,000
New Physical Plant Facilities	40,000													40,000				40,000
New Public Safety Complex	8,400									2,800				5,600				8,400
New Bio-Medical / Life Sciences Facility	45,000			45,000														45,000
New Student Recreation / Wellness Center	40,000							40,000										40,000
Student Success - Renovation of Davis Student Union	45,000					39,900								5,100				45,000
Addition to Childcare	2,900													2,900				2,900
New Football Practice Facility	80,000		1,000		2,300				76,700									80,000
Aquaculture and Fisheries Building	57,000		2,000	37,000						15,300			2,700					57,000
Project Total ASF	619,700	0	0	5,000	127,000	18,000	58,900	0	40,000	96,700	18,100	0	111,000	13,000	45,600	116,400	0	649,700
Delta from Deficit		0	0	654	67,447	18,000	31,898	0	11,237	62,614	47	0	102,609	5	45,600	6,931	0	347,042

Figure 5.2-3, Space Needs Reconciliation

DEMOLITION

The following buildings are recommended for demolition and would reduce the total amount of space on campus by 161,386 GSF:

Browne Infirmary	11,000
Modular Fitness	4,320
Lewis	17,760
Douglas	16,157
Administration	27,427
Physical Plant	19,218
Hazzard	41,744
Plaza 1 & 2	18,000
Residential Services	2,340
Public Safety	3,420
Priority Project GSF Total	161,386

Figure 5.2-4, Demolition GSF Total



Figure 5.2-5, Demolition Planned for Browne Infirmary



Figure 5.2-6, Demolition Planned for Lewis and Douglas Hall



Figure 5.2-7, Master Plan Buildings Recommended for Demolition

5.3 funding mechanisms

The following section documents the available options that the University should pursue for the funding of projects listed in the Master Plan.

ENTERGY ARKANSAS

Entergy Arkansas (electric utility) offers the ‘CitySmart’ Program for which eligible institutions (including accredited public higher education) may obtain incentive rates for utility savings based on efficiency upgrades in both new construction and renovations, including lighting fixture retrofits, lighting and HVAC control upgrades, commercial kitchen upgrades, and retrofit of wastewater treatment plant components.

http://www.entergy-arkansas.com/your_business/save_money/EE/citysmart.aspx

ARKANSAS NATURAL AND CULTURAL RESOURCES COUNCIL (ANCRC)

ANCRC annually disburses funding sourced from a real estate transfer tax, which typically approaches \$14-\$15 million per fiscal year. State-owned properties are eligible, which includes agency-run facilities such as state parks and historic sites, along with public colleges and universities. Both historically significant properties and culturally significant properties (such as performing arts facilities, etc.) are included within the scope of the council’s approved projects. Working with institutional grant writers, architects will typically assist in compiling or preparing portions of the ANCRC application, particularly regarding documentation which describes scope and severity of project needs. Funding approvals for the previous fiscal year are linked here:

<http://ancrc.org/docs/2015FundingApprovals.xls>

<http://ancrc.org/>

QUALIFIED ENERGY CONSERVATION BONDS

Qualified Energy Conservation Bonds pay for energy projects such as chilled water loops, new boiler systems, and others that improve a campus’ energy efficiency and promote sustainability initiatives for publicly owned buildings. With rates as low as 1-1/2 percent, these bonds are issued by Arkansas Development Finance Authority and do not count towards the University’s bonding limit.

<http://energy.gov/eere/slsc/qualified-energy-conservation-bonds>

<http://www.arkansas.gov/adfa/>

DEPARTMENT OF ARKANSAS HERITAGE /

ARKANSAS HISTORIC PRESERVATION PROGRAM

Historic Preservation Restoration ‘OPTION 2’ Grants at a minimum of \$10,000 are available through for projects for National Register-listed historic properties and owned by a not-for-profit organization, including publicly-funded colleges and universities. While UAPB currently only has two listed properties (Caldwell Hall and the O’Bryant Bell Tower), a recommendation of this Master Plan may be to give future consideration to establishing the entire University, or perhaps the ‘historic core,’ as a district for the purpose of expanding future eligibility. Facilities which are awarded such grants from AHPP are required to “conservation easement” which, in effect, establishes that the building’s exterior envelope may not be altered from its historic appearance as determined by AHPP. A 50 percent match of awarded funds is also required from the applicant.

<http://www.arkansaspreservation.com!/userfiles/editor/docs/Grants/HPRGGrantGuidelines-Dec2014.doc>

NATIONAL PARK SERVICE HISTORIC PRESERVATION GRANTS AVAILABLE FOR HISTORICALLY BLACK COLLEGES & UNIVERSITIES

In recent years, eligible HBCU’s in Arkansas have received funding for eligible historic preservation projects with significant influence from NPS on the project’s character and design. Currently, this program is not receiving any federal funding.

<http://www.nps.gov/preservation-grants/HBCU/index.html>