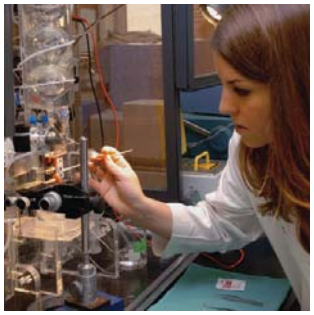
A Campus Within Context

A Comprehensive Master Plan for East Carolina University


Optimize Valuable
Resources

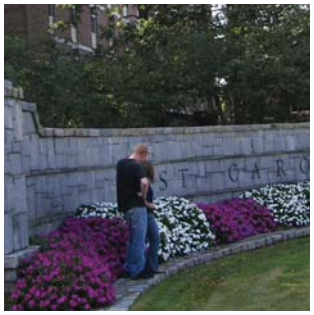



Guide Future
Development


Establish Capital
Priorities


Create a
Sense of Place


Sustainable
Campus



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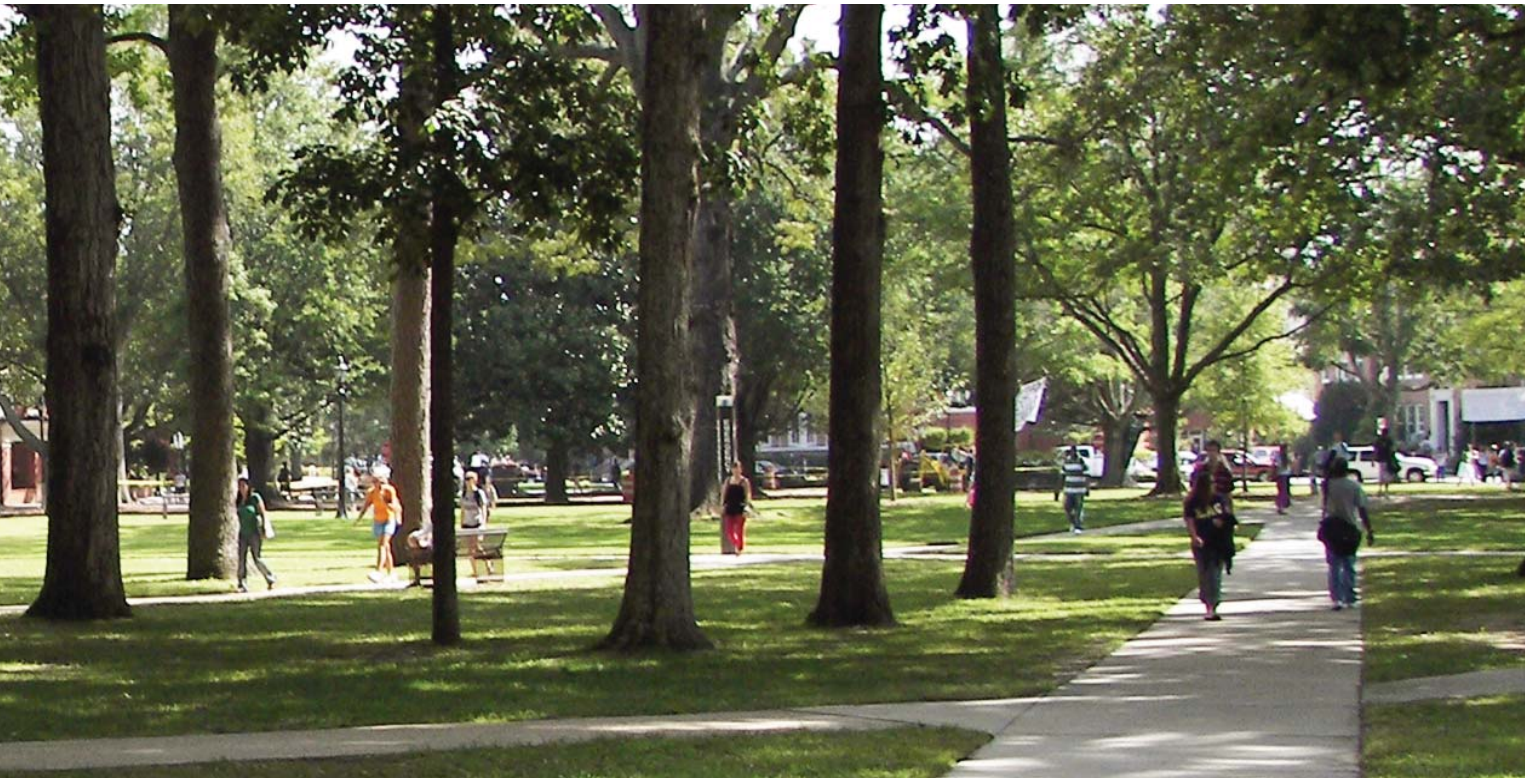

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Institutional Vision and Mission

The Comprehensive Master Plan for East Carolina University, first and foremost, reflects the strategic direction, values, and mission of the University. With this new plan in place, the University will meet the needs for future growth and create a socially, economically, and environmentally sustainable campus plan that represents the hopes and aspirations of the University, region, and state. It will also unite ECU's four diverse campus environments into a coherent and connected campus plan, as well as utilize the campus to support and enhance the University and the community.

ECU Mission

To serve as a national model for public service and regional transformation by:

- Preparing our students to compete and succeed in the global economy and multicultural society
- Distinguishing ourselves by the ability to train and prepare leaders
- Creating a strong, sustainable future for eastern North Carolina through education, research, innovation, investment, and outreach
- Saving lives, curing diseases, and positively transforming health and healthcare
- Providing cultural enrichment and powerful inspiration as we work to sustain and improve quality of life

ECU Vision

East Carolina University delivers on the promise of opportunity.

We open doors. We improve lives. We transform the present, and we discover the future. In these ways and more, we serve our community, our state, our nation, and our world as together we reach toward our greatest potential.

Tomorrow starts here.

Introduction

Master Plan Purpose and Intent

A Long-term Vision

The Campus Master Plan provides a new long-term vision for campus anticipating approximately fifteen-years of growth, integrating the needs of the Main Campus, Health Sciences Campus, West Research Campus, Varsity Athletics, and Student Housing, as well as the campus interface with the City of Greenville. In the past, planning has been done for each of the campus properties independently. This planning effort has been the first to look at all University-owned properties at East Carolina University collectively and envision them as one University.

Comprehensive Effort

The planning effort is remarkably comprehensive in that it looks at all aspects of the campus and its intertwined systems. Detailed studies have been done for space utilization and space needs, building condition and deferred maintenance, campus safety and security, utilities and infrastructure, traffic, transit, parking, academics, research, clinics, athletics and student life including housing, dining, and recreation.

Guided by Key Themes and Goals

The Master Plan is a composite collection of key themes, planning principles, goals, objectives, ideas and recommendations for campus improvement and growth. There is an overall vision for the University and separate recommendations, within the context of the whole, for each neighborhood or district.

Transparent Review Process

As the embodiment of institutional vision and a tool for building consensus, the master planning process has been inclusive, transparent, and iterative, requiring ongoing commitment and input from ECU leadership along with the full participation of students, faculty, staff, alumni and the community of Greenville.

A Visionary Road Map Tool

The Master Plan is a tool for addressing the physical, social, intellectual, and sustainability challenges ECU will face in the approaching decades and provides a realistic road map for implementation of the recommendations. It has been crafted to address five-year planning horizons out to fifteen-years, as well as a longer vision for land use beyond the fifteen-year time horizon.

Provides Future Relevance

The Master Plan is intended to be a “living document,” capable of accommodating unanticipated institutional needs and maintaining relevance well beyond the fifteen-year “near-term” study period. It provides strong direction while remaining flexible to accommodate the inevitable changes that will occur.

Introduction

How To Use This Report

The Campus Master Plan represents over three years of dedicated effort by East Carolina University to produce the volume of information assembled before you. The range of voices embodied in this report is vast and includes ECU students, faculty, staff, administrators, alumni, and the local community. Considerable time has been invested in the master planning process and ECU is encouraged to value this contribution by using the Master Plan Report as a valuable tool to guide all future improvement decisions across campus.

A Living Document

The Master Plan Report is the culminating product of ECU's comprehensive master planning process. It is designed to serve as a living document, allowing flexibility in its application as specific planning initiatives and goals evolve over time. In order to address this possibility, the Master Plan Principles exist as the most important information outlined within this report and provide the fundamental guiding framework that should advise all future planning initiatives at ECU.

Application of this Report

In order to reap the greatest benefit from this report, it is recommended that ECU establish a structure to review all future exterior improvement projects at the University for their adherence to the Campus Master Plan. For example, this could involve establishment of a Master Plan Implementation Committee that would meet on a monthly or bimonthly basis and have diverse representation from the campus community. This group would have a comprehensive understanding of the Master Plan Report and would review each project to determine its compliance with the goals of the Campus Master Plan. All exterior improvements on campus from small projects such as signage, underground infrastructure, and lighting to significant development initiatives such as building expansion or construction should pass before the Master Plan Implementation Committee for consideration.

Deviations from the Campus Master Plan would be allowed, but only when the committee comes to the same conclusion based upon their overall understanding of the Master Plan goals. The Master Plan Report should assist in the decision making process for development initiatives at ECU and the Master Plan Implementation Committee should serve as the entity to ensure that ECU stays on task to reach its long-term goals, as defined within this document.

Lasting Value

As time progresses, East Carolina University is encouraged not to lose sight of the bigger picture embodied within the Master Plan Report. The overriding value of this document is found in its power to guide all future planning efforts on campus towards common strategic goals through adherence to the Master Plan Principles and the wide range of voices that they represent.

Project Overview

Process

Task 1: Project Organization: Work Plan - Identification of Key Stakeholders and Schedule

Drawing from dialogue with the ECU senior administration and the SmithGroupJJR team, a Work Plan and Project Schedule was submitted by the SmithGroupJJR team. The Work Plan and Project Schedule identified project milestones for deliverables, advisory-group participation, and leadership decision-making. It also outlined SmithGroupJJR team campus visits, recommended meeting dates, and illustrated the duration of critical tasks. During this phase, SmithGroupJJR proposed a stakeholder and decision-making structure that recognizes both the unique aspects of ECU and our experience with peer institutions; following University review, the advisory committees were formed and finalized.

Task 2: Campus Overview - Data Collection

The objective of this task was to formalize the SmithGroupJJR team understanding of ECU's expectations of the Campus Master Plan and to gather and analyze existing information. This data collection included, but was not limited to, the University's Strategic Plan, enrollment projections and growth targets, demographic and patient encounter studies for the Health Sciences Campus, existing documentation of campus infrastructure and facilities, and University landholdings. This assembled data is a strategic, quantitative, and physical record of the campus, and the material required to begin identifying program opportunities, influences, and constraints that will guide the master planning effort.

Task 3: Quantitative and Qualitative Analysis - Capital Needs Assessment

Beginning with data gathered during the Campus Overview, the SmithGroupJJR team performed a needs assessment resulting in the Campus Space Program. The needs assessment is based on systematic, organized evaluation of quantitative, qualitative, program-driven, and campus environment needs. It includes an evaluation of existing facilities for both condition and functional adequacy, and identifies facilities for replacement and re-purposing. As the statement of needs was established, order of magnitude costs were generated for each project in the Campus Space Program. The needs and costs identified are overlaid with the strategic goals of the University that developed a list of priorities which steered physical planning.

Task 4: Physical Planning

The conclusions reached in the preceding tasks begin to take form in the Campus Master Plan. The priorities identified in the Campus Space Program are located "on the ground;" spatial and system relationships were developed, including traffic patterns and parking, service, and pedestrian circulation. The connection between distinct areas of campus were identified and reinforced. Areas requiring special programmatic consideration, like the Heath Sciences, were developed in detail. This phase of the work was highly graphic, iterative, and dependent on the ECU Advisory Committee participation. It was during this creative, generative phase, that the Campus Master Plan took "shape." Architectural Design Guidelines were also completed during this phase.

Task 5: Refinement of Master Plan / Prepare Implementation Plan

After the University approved a direction for the physical plan, SmithGroupJJR refined the plan to its final graphic representation. Simultaneously, financial strategies for funding proposed development were explored, resulting in an integrated plan for achieving the vision of the Campus Master Plan.

Task 6: Final Review and Deliverables

At this time, the University has reviewed the final draft documents. The final report and Campus Master Plan documents were completed along with the final versions of the Capital Projects Plan, and Facilities Database software.

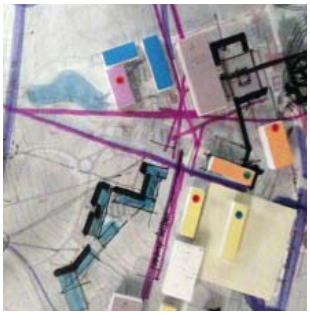






Master Plan






two | the campus today

Quantitative & Qualitative Analysis

Introduction

The following section summarizes the needs assessment conducted for East Carolina University during the Quantitative and Qualitative Analysis process (Task 3). These studies resulted in development of a Campus Space Program. A comprehensive list can be found in the Acknowledgements section of this report. This analysis was completed by the SmithGroupJJR team following accumulation of data that occurred in the Campus Overview process (Task 2).

The assessment is based upon systematic, organized evaluation of quantitative, qualitative, program-driven, and campus environment needs. It includes an evaluation of existing facilities for both condition and functional adequacy, and identifies facilities for replacement and re-purposing. The needs and costs identified for each project in the Campus Space Program were overlaid with the strategic goals of the University to develop a list of priorities. These findings steered the physical planning efforts, which are showcased in later chapters of this document.

Evaluation by the SmithGroupJJR team of ECU's existing conditions considered not only the institution's facilities and property, but also the University's relationship to the broader City of Greenville and eastern Carolina region. This enables a strategic alliance which will allow future growth and enhancement recommendations to provide a more enriching overall experience for East Carolina University and local communities.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Strategic Review

The Strategic Review was performed by Eva Klein and Associates during Task 3 of the Master Plan process.

Introduction

Upon beginning the master planning process, East Carolina University expressed its desire to avoid development of a master plan with many unrealistic elements, either because they do not represent true needs or because they would be impossible to achieve in any kind of plan time horizon. Instead, ECU sought a master plan that could be implemented and also updated over time; the master plan would exist as a living document. It was for these reasons that a fifteen-year time horizon, to 2025, was selected for this Master Plan and serves as the strategic assumption in various analyses and projections. Current financial considerations may extend this fifteen-year timeline.

A Strategic Review was completed during the initial phase of the master planning process in order to achieve four important objectives:

1. Team Preparation (Establish for the entire SmithGroupJJR team a comprehensive understanding of the institutional strategic framework for physical campus planning).
2. Priorities, Initiatives, Targets (Identify priorities and specific initiatives or targets that may affect directions for campus plans and capital priorities).
3. Campus Vision Physical Planning and Principles (Collect stakeholder ideas and aspirations for the campus vision and then express these as Planning Principles that guide the Campus Master Plan).
4. Strategic Framework Summary (Create a summary work paper to capture and summarize the above context for planning).

The following summary provides an overview of the findings compiled during the Strategic Review Process. For additional information, please refer to the *Strategic Framework for Comprehensive Master Plan*, dated February 2010 by Eva Klein & Associates.

Enrollment Overview

In Fall 2010, of 27,783 students, undergraduates represented 78 percent and graduate students represented 23 percent. Based on current enrollment reports, distance education (DE) only students are nearing one-quarter of total enrollment. For the purposes of establishing a master planning baseline, one may assume that, currently, about 78 percent of students are face-to-face (F2F), or blended, while 22 percent of enrolled students are DE only.

ECU is a large and rapidly growing University. Trends of the last several years demonstrated growth in all cohorts. Growth has been averaging about 5 percent per year, from 2001 through 2008 and slowed to almost 0 percent (by design) for Fall 2009 and Fall 2010. The overall growth for the 2001-2010 period is 43 percent. Distance education enrollments have risen sharply, from 6 percent in 2001 to 22 percent in 2010. Beginning in 2006, the Health Sciences Campus

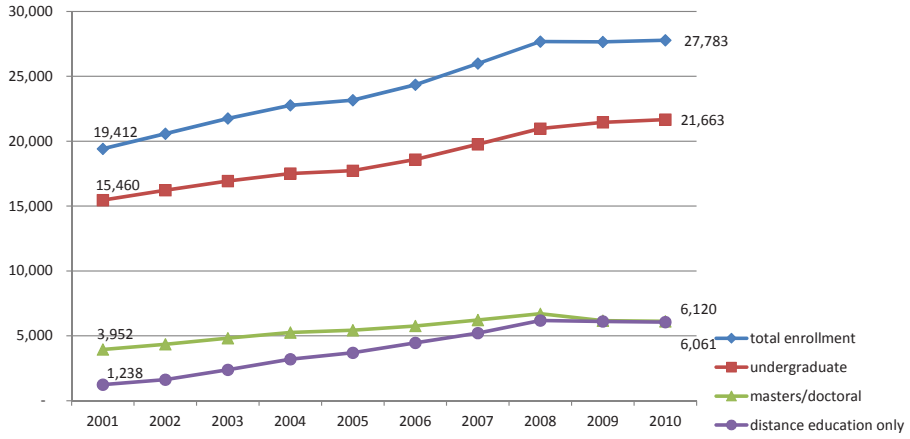


Figure 1 - Recent Enrollment Trends: 2001 through 2010

has had an increasing student population, growing from 802 (4 percent) to 2,479 (9 percent) of ECU's total students. Despite this overall growth, the ratio of Full-Time Equivalent (FTE) students to headcount has been declining slightly in recent years.

At present, ECU has 5,491 undergraduate beds available in 15 buildings and another 265 in non-ECU owned fraternity housing. ECU does not have housing designed/designated for graduate students. For the future, the strategic assumption is that ECU wants to sustain its "residential" Carnegie designation. Thus, housing units will need to be increased in proportion with enrollment growth projected to 2025, assuming 25 percent minimum residential students.

When DE only students are not counted, in Fall 2010, about 24 percent of ECU students (about 5,300) are residential (with some taking both on campus and DE courses) and 76 percent (about 16,450) are commuters that come to the campus, although some also take both F2F and DE courses. In planning for transportation, circulation, and parking these statistics will serve as a baseline and will be adjusted to account for the overall projected enrollment increases.

Retention and Graduation

One significant retention metric is the number (percent) of first-time, full-time freshmen who return for their sophomore year. For the last five years, this measure has consistently hovered between 76 percent and 79 percent. In Fall 2009, there were 3,947 students in the first-time, full-time freshmen class. Of these, 81.2 percent were retained to Fall 2010. This rate is 0.2 percent more than the pre-established goal of 81 percent.

ECU's four-year graduation rates, both those graduating from and beginning at ECU and graduating from any institution that is a part of the Universities of North Carolina (UNC) system, have improved significantly from 2000 to 2006. They grew from 27.6 percent for students completing all four years at ECU and 32.7 percent for completion of a degree at ECU and another UNC institution to 28.8 percent and 33.9 percent, respectively. These completion rates are now nearing the all-UNC averages of 33.9 percent at a single institution and 36.7 percent at any combination of UNC institutions.

For the six-year graduation rate, ECU remains below the all-UNC figures. However, ECU is showing definite signs of closing the gap. The six-year graduation rate has not been improving on average for UNC system institutions.

Future Enrollment Projections

East Carolina University's enrollment was projected to 2017 in an exercise done in 2007 for a ten-year period. These projections are re-visited for each new biennium with UNC General Administration (UNC-GA). There is a new emphasis at the Board of Governors on retention and graduation elements of enrollment. The idea is that, once a strategy is adopted, UNC-GA would find a way to reward campuses for accomplishing improved retention and graduation. A major shift in enrollment growth funding calls for a fundamental shift in the way students are admitted, retained and graduated. While the enrollment growth projections will change, the precise results are unknown and are highly likely to be lower.

According to the 2017 enrollment projections, ECU currently represents 12 percent of UNC system-wide enrollment and its growth will change only slightly during this period, to 13 percent. However, ECU has been expecting a moderate increase, 7 percent growth in on-campus (F2F) enrollment and an aggressive increase in DE enrollments, at 7 percent and 33 percent of UNC total growth, respectively.

As ECU reconsiders its enrollment growth projections, given the current climate (slowing growth) and changing landscape in the UNC system, the data for ECU likely will change in terms of both undergraduate and graduate enrollment. DE enrollment is likely to continue to increase, given that ECU has the largest inventory in the UNC Online initiative. Refinements to the earlier enrollment projections to 2017 and their extension to 2025 may alter the ECU "share" data. In campus discussions and in

discussions with the ECU Board of Trustees, a proposal has been discussed that would slow the projected growth from the current projections for 2017 of 36,763 students to a more reasonable projection of 33,528 in 2017. An extension of this slower growth then would be extended through to 2025, the period established for this Master Plan. Projected in this manner, the total enrollment would be 38,717 in 2025. The greatest percentage change is expected to be in First Professional enrollments, growing by 277 percent. Graduate enrollment is also projected for strong growth, at 76.7 percent. Undergraduate total growth will be about 25 percent. Figure 2 highlights the projected distribution of Student Credit Hours (SCH) by delivery method. Based on this analysis, it is assumed that future instructional delivery will be distributed in two ways: 86 percent of all SCH will take place F2F/On-campus and 14 percent of all SCH will be through DE/Online courses.

Enrollment Management Strategies

An ECU Strategic Enrollment Management Task Force (SEMTF) developed a Strategic Enrollment Management Plan in December 2008. In 2008-09, the University was involved in a strategic enrollment study process which focused almost exclusively on undergraduate enrollment, particularly on ways to increase admission criteria and retain and graduate more students. The Task Force identified the most critical issues facing the institution and built a series of recommendations to address those issues:

1. Defining and Embracing our Access Mission
   GOAL: To be the leader in providing a quality university experience to students who meet reasonable admissions expectations while ensuring that students are prepared to meet those standards and to succeed academically.
2. Improving Student Retention and Graduation
   GOAL: Increase student retention and graduation rates.
3. Determining Effective Academic Program Mix
   GOAL: Strategically evaluate and re-evaluate the breadth and depth of our programs and degrees.
4. Providing Optimal Infrastructure
   GOAL: Rebuild a university infrastructure sufficient to meet the needs of students, faculty, and staff.

This Plan subsequently was accepted by ECU's Board of Trustees. These goals provided a general framework for which the master planning efforts were centered upon.

Workforce Overview

In Fall 2010, East Carolina University employed 2,054 regular full–time and part-time faculty, and 3,633 full-time and part-time staff. Faculty represented over one-third of ECU's workforce. The average length of service for faculty was eight years. More than one-half (52 percent) of faculty members had fewer than six years of service, indicating that

Summary of Change in Total Student Credit Hours (SCH) by Undergraduate & Graduate: 2008 and 2025

	Undergraduate				Graduate				Total			
	SCH Total by Method of Delivery				SCH Total by Method of Delivery				SCH Total by Method of Delivery			
	Campus	DE/	Missing	Total	Campus	DE/	Missing	Total	Campus	DE/	Missing	Total
Fall 2008												
Total (except Medical)	258,452	23,101	311	281,864	38,395	19,373	48	57,816	296,847	42,474	359	339,680
Medical									3,312		798	4,110
Total (including Medical)	258,452	23,101	311	281,864	38,395	19,373	48	57,816	300,159	42,474	1,157	343,790
% of Total SCH by Delivery Method	91.7%	8.2%	0.1%	100.0%	66.4%	33.5%	0.1%	100.0%	87.3%	12.4%	0.3%	100.0%
Fall 2025												
Total (except Medical)	332,886	29,754	401	363,041	68,535	34,581	86	103,202	401,421	64,335	486	466,242
Medical									9,661		2,328	11,989
Total (including Medical	332,886	29,754	401	363,041	68,535	34,581	86	103,202	411,082	64,335	2,814	478,231
% of Total SCH by Delivery Method	91.7%	8.2%	0.1%	100.0%	66.4%	33.5%	0.1%	100.0%	86.0%	13.5%	0.6%	100.0%

Figure 2 - Distribution of Student Credit Hours

there has been considerable hiring in the last six years to replace retiring faculty and/or for new positions. ECU employs more women than men overall, with 61 percent women and 39 percent men. However, men outnumber women in the faculty category, 54 percent to 46 percent.

ECU tends to have a relatively high number/percentage of full-time faculty and staff, except for its many student workers. ECU's workforce has grown in total from 5,078 in 2006 to 5,687 in 2010, an increase of 12 percent. This matches enrollment growth for the period, which was 14 percent. Faculty-only growth for the period is higher, at 21 percent. Staff growth has occurred for Professional staff (38 percent) and Technical staff (50 percent). Decreases in staff levels have occurred in the Executive/ Administrative (87 percent), Clerical (7 percent), Skilled Crafts (21 percent), and Service/Maintenance (8 percent) categories. Faculty and staff levels are subject to budgetary constraints and enrollment growth.

East Carolina University's faculty and staff workforce is predicted to continue to grow through 2025 to parallel increases in student enrollment. For example, faculty projections will likely have a strong relationship to the student ratio, as will student support employees in the non-faculty Exempt from the State Personnel Act (EPA) and Subject to the State Personnel Act (SPA) areas. The greatest variability will be around the size of the budget, facilities, and research activity in 2025.

Land and Campuses

Overall, physical facilities and land assets owned by East Carolina University amount to approximately 1,500 acres and 211 buildings. This comprises nearly six million gross square feet of built space with a current replacement value (CRV) for buildings of nearly $1.4 billion. These holdings are spread across four campuses: Main Campus, Health Sciences Campus, West Research Campus, and the North Recreational Complex. The University also has control (via the State or Foundation) of another 11 acres of property.

In addition to its owned property and facilities, ECU currently leases nearly 200,000 SF of space in various facilities and locations in the City of Greenville and elsewhere. Some space is leased for reasons of shortages on campus and some is leased for strategic or service location reasons. The majority of leased space is clinical (142,551 SF), at least some of which is purposefully leased in certain non-campus locations.

Space Distribution

Figures 3 and 4 show the distribution of East Carolina University's 4,000,000 NASF of campus space. It uses the standard Facilities Inventory and Classification Manual (FICM) Room Use Codes. Data is shown for the Main Campus and Health Sciences Campus, which differ considerably in their space type distribution.

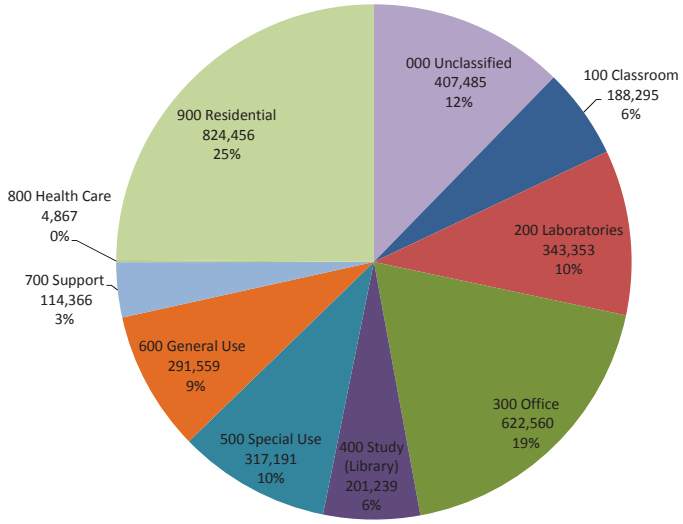


Figure 3 - Main Campus Space

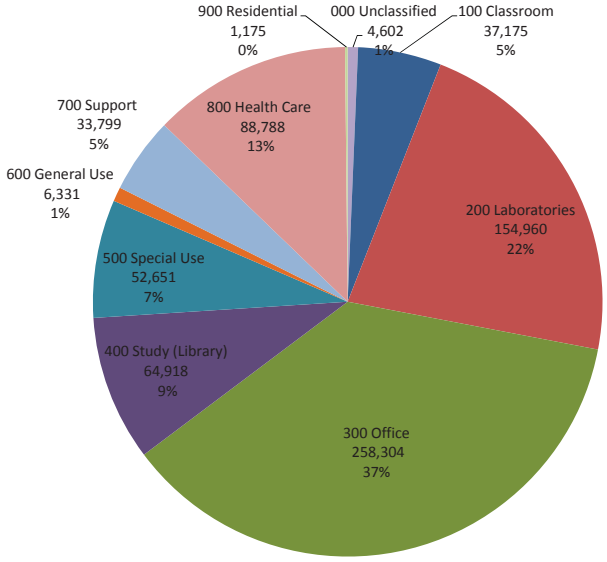


Figure 4 - Health Sciences Campus Space

ASF per student provides a rough measure of capacity. Main Campus has a total of 147 ASF per FTE, largely due to the presence of extensive research, laboratory, and clinical spaces; while Health Sciences Campus has a much larger ratio with 344 ASF per FTE. When comparing instructional space types, the distribution of space per student differs notably between the Main and Health Sciences Campuses, as is shown in Figure 5. For example, Main Campus has much less Classroom and Study space per FTE. Whereas, Health Sciences Campus has virtually no Residential space. The Main Campus has modest space per FTE for Healthcare uses (student health) and Health Sciences Campus has a considerable inventory of Healthcare (clinical) space. Overall, the Main Campus has much more General Use (student/campus life) space than Health Sciences Campus.

ECU Tomorrow

Under the leadership of UNC President Erskine Bowles, the UNC Tomorrow Commission produced a strategic direction document for the University in December 2007. Constituent institutions developed responses in 2008. Implementation began in 2009.

ECU produced its phase 2 response to *UNC Tomorrow* in 2008. *ECU Tomorrow*, adopted by the ECU Board of Trustees in June 2007, pre-dates *UNC Tomorrow*, and is consistent with it. Since late 2008, various internal cross-walk documents that show the connections of *ECU Tomorrow* with *UNC Tomorrow* and divisional strategic plans have been developed.

After discussion with Chancellor Ballard in late August 2009, the Office of Institutional Planning, Assessment, and Research is moving forward with assembling a campus-wide working group to provide draft language for an update to the strategic plan, *ECU Tomorrow: A Vision for Leadership and Service*. A current document is essential as ECU prepares for a 2013 reaffirmation of accreditation.

ECU Tomorrow outlined a strategic direction for the University in five priority areas. These goals provided a framework for development of the Master Plan Principles that are outlined later in this report. *ECU Tomorrow's* most recent strategic plan goals are as follows:

1. Education for a New Century
   - ECU students will be prepared to compete in the Global Economy.
   - We are committed to student learning and success.
   - We will make ECU education accessible—increase college attendance, distance education, new programs.

Assignable Space (ASF) by FICM Room Use Codes per FTE Student for HSC and Main Campuses

	Room Use Codes		ASF	ASF/FTE	% of Total
ECU--Main Campus	100	Classroom	188,295	8.4	5.7%
	200	Laboratory	343,353	15.3	10.4%
	300	Office	622,560	27.7	18.8%
	400	Study	201,239	8.9	6.1%
	500	Special Use	317,191	14.1	9.6%
	600	General Use	291,559	13.0	8.8%
	700	Support	114,366	5.1	3.4%
	800	Health Care	4,867	0.2	0.1%
	900	Residential	824,456	36.7	24.9%
	000	Unclassified	407,485	18.1	12.3%
		Totals--East Campus	**3,315,371**	**147.4**	**100.0%**
ECU-West Campus (Health Sciences)	**Room Use Codes**		**ASF**	**ASF/FTE**	**% of Total**
	100	Classroom	37,175	18.2	5.3%
	200	Laboratory	154,690	75.7	22.0%
	300	Office	258,304	126.4	36.8%
	400	Study	64,918	31.8	9.2%
	500	Special Use	52,651	25.8	7.5%
	600	General Use	6,331	3.1	0.9%
	700	Support	33,799	16.5	4.8%
	800	Health Care	88,788	43.4	12.6%
	900	Residential	1,175	0.6	0.2%
	000	Unclassified	4,602	2.3	0.7%
		Totals--West Campus	**702,433**	**343.7**	**100.0%**

Source: UNC Facilities Inventory and Utilization Study 2008

Figure 5 - Space Per Student

2. The Leadership University
   - Center for Transformational Leadership.
   - BB&T Leadership Center—service learning and leadership components in the curriculum.
   - Chancellor's Leadership Academy—staff and faculty leaders.
   - Center for Student Success—ensure graduates have demonstrated leadership competency.

3. Economic Prosperity in the East
   - Academic programs that provide individuals skills and tools to compete in 21st century workplace.
   - Improve access for communities and individuals to University resources.
   - Support continued development of competitive workforce for North Carolina.
   - Support entrepreneurial mindset throughout the University.
   - Strengthen partnerships with business, elected officials, and economic developers.
   - Increase investment in innovation and research.

4. Healthcare and Medical Innovation
   - Expand Brody School of Medicine class size.
   - Add up to five new medical specialties.
   - Extend clinical services to every county in the region.
   - Expand/improve healthcare facilities (Heart Institute; School of Dental Medicine; Family Medicine Center).
   - Expand research in Health Sciences.
   - Extend the reach of the Brody School of Medicine.

5. The Arts, Culture, and the Quality of Life
   - Build a world-class center for visual and performing arts.
   - Enhance Greenville's standing as an arts and cultural community.
   - Be the catalyst for a true renaissance of downtown Greenville.
   - Strengthen the athletics program.

The master planning process that is outlined in this report utilized the information and goals established during the Strategic Review process, as summarized above, to develop the framework for a comprehensive Master Plan for East Carolina University.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Facilities Condition

The Facilities Condition Analysis was performed by ISES Corporation during Task 3 of the Master Plan process.

Introduction

As part of the Strategic Review, a Facility Condition Assessment (FCA) was completed for East Carolina University that inspected 67 campus buildings, totaling nearly four million square feet and including various higher education use types. As part of this process, a Facility Conditions Need Index (FCNI) was utilized to provide a relative measure for comparing one building (or group of buildings) to another. The index is a simple calculation, derived by dividing total project costs by the total Facility Replacement Cost (FRC). When applying the index as an evaluation tool, the lower the number, the better the facility condition. It should also be noted that this is an index, not a percentage. It can (and often does in the case of historic facilities) exceed 1.00.

The FRC represents the cost to replace an existing building with one of similar use type and size on the same site. This includes demolition, site preparation, professional fees, and construction costs. The client is given the option to develop their own FRCs or have the consultant develop those costs for them. For this FCA effort, ECU opted to have their consultant develop the FRCs based on 2009 R.S. Means construction cost data.

There are two main methods of applying the FCNI in analyzing the data derived from a FCA. The first method involves looking at individual facilities. When applying it to a single facility, the lower the FCNI, the better. In terms of assessing where a facility falls within a range of conditions, the standards indicated in Figure 6 can be applied. The second method for utilizing the FCNI is by comparing groups of facilities to other groupings. Comparisons in this vein do not yield hard data, but rather form the basis of analysis for comparing the overall state of facilities to another comparable grouping.

EXISTING BUILDING CONDITION (FCNI Ranges)

- 0.01-0.05: Excellent, typically new construction
- 0.06-0.15: Good, renovations occur on schedule
- 0.16-0.30: Fair, in need of normal renovation
- 0.31- 0.40: Below average, major renovation required
- 0.41-0.59: Poor, total renovation indicated
- 0.60 and above: Complete replacement needed
- Not evaluated


Tar River
1st St
Reade
5th St
10th St
Cotanche
Evans
14th St
Elm
Green Mill Run
Charles
E. Arlington
Greenville

Analysis of Overall Conditions

The FCA for ECU culminated in a database of deficiencies that need to be addressed over the next ten to fifteen years. For the 67 buildings evaluated in the study, $347 million in project recommendations were identified for the next ten years. When compared to the $1.259 billion replacement value for the facilities in the study, the subsequent FCNI equals 0.28. This FCNI figure is only slightly higher than the 0.26 median FCNI typically identified. This indicates that these buildings are in just slightly worse than average condition. However, considering the weighted average age of forty years for the portfolio analyzed, the FCNI is to be expected. For a complete analysis, it is necessary to look at individual components and classifications and then compare them to the norm. The first area for standard analysis is reviewing the project backlog distribution across the various building systems. Figure 7 summarizes this information and provides an historical average for comparison purposes.

The median for mechanical, electrical, and plumbing (MEP) systems is about 52 percent of total backlog. MEP systems account for 56.5 percent of total deficiencies in the East Carolina University database. This deviation from the norm is partly attributable to the fact that the portfolio of facilities inspected was slightly older than the norm. It was observed that, although competently maintained, the HVAC systems are generally aged and neglected with regards to capital investment. Exterior envelope and Interior Finish categories for ECU are equal to the norm at 30 percent of the total backlog.

Distribution of Project Costs

A key component of the FCA was understanding the distribution of project costs across the three project classifications. The three project classifications utilized are as follows:

Plant / Program Adaptation

1. Expenditures required to adapt the physical plant to changing codes or standards.
2. Expenditures beyond normal maintenance. Examples include compliance with changing codes (e.g. accessibility).

Individual Building FCNI Range	Condition Description
0.01 - 0.05	Excellent condition, typically new construction
0.06 - 0.15	Good condition, renovations occur on schedule
0.16 - 0.30	Fair condition, in need of normal renovation
0.31 - 0.40	Below average condition, major renovation required
0.41 - 0.59	Poor condition, total renovation indicated
0.60 and above	Complete facility replacement indicated

Figure 6 - Facility Conditions Need Index

Note: The above ranges represent averages based upon the consultant's experience extending over 8,500 facilities and one billion gross square feet, plus associated infrastructure evaluations. The reader is cautioned to examine each facility independently for mitigating factors, (i.e. historic structures, temporary structures, facilities with abnormally low replacement costs such as warehouses, etc.)

Deferred Maintenance

1. Refers to expenditures for repairs which were not accomplished as a part of normal maintenance or capital repair that have accumulated to the point that facility deterioration is evident and could impair the proper functioning of the facility.
2. Costs estimated for deferred maintenance projects should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to affect the needed repairs.
3. Deferred maintenance projects represent catch up expenses.

Capital Renewal

1. Subset of regular or normal facility maintenance which refers to major repairs or the replacement / rebuilding of major facility components (e.g., roof replacement at the end of repair).

Figure 8 shows the results for ECU compared to a base average. It demonstrates that 12.4 percent of the project backlog falls within the Plant / Program Adaptation Projects classification. Consisting mostly of fire / life safety and accessibility upgrades, East Carolina University ranks better than the historical average in this project classification.

The proportion of Capital Renewal projects to Deferred Maintenance projects at ECU is essentially the reverse of what is typically identified. This shift, from Capital Renewal to Deferred Maintenance, has emerged as a trend over the past five to ten years. A higher education construction boom in the late 1960s and early 1970s contributes to an average 38 year facility age. As costly systems with 30 to 50 year life cycles started to fail in recent years, deficiencies that were considered Capital Renewal five to ten years ago are now considered Deferred Maintenance.

Finally, Figure 9 provides a comparison of how backlog falls within the four priority classes, based on completion timelines. For the ECU campus, Priorities 1 and 2 account for only 9 percent of the total backlog compared to the 22 percent Historical Average. This shift can be attributed to renovation efforts in over 10 percent of the facilities portfolio in the late 1990s and early 2000s. Priorities 3 and 4 account for 91 percent of total backlog, with 73

	AC	EL	ES	FS	HE	HV	IS	PL	SI	VT
East Carolina University	4.0%	13.3%	11.0%	8.1%	0.6%	34.8%	18.6%	8.4%	0.6%	0.6%
ISES Historical Average	5.9%	14.8%	11.8%	8.1%	1.3%	29.5%	18.2%	7.4%	2.1%	0.9%

Figure 7 - Project Backlog Distribution Comparison

Note: AC-Handicapped Accessibility, EL-Electrical, ES-Exterior Structure, FS-Fire/Life Safety, HE-Health, HV-HVAC, IS- Interior Finishes / Systems, PL-Plumbing, SI-Site, VT-Vertical Transportation

percent of that amount being due in years two through five. The high percentage of deficiencies in priority class three indicates that facilities conditions can rapidly deteriorate if adequate funding for systems renewal is not secured.

Conclusion

The information presented in this summary, supported by the graphs and charts, illustrate that the overall conditions for East Carolina University's occupied facilities are only 8 percent worse than the norm found from the consultant's past FCA clients. East Carolina University's FCNI currently lies in the 58th percentile of the consultant's historical client data. While the ECU campus was found to be average, the 40 year age of the University's facilities portfolio is such that overall conditions are set to deteriorate rapidly as major building systems exceed their useful service lives.

Applying the FCNI projection capabilities of the database to the backlog, the model predicts that the status quo FCNI of 0.28 can be maintained by reinvesting at the rate of 1.84 percent of current plant value ($23.2 million annually). If the future reinvestment rate is lower than 1.84 percent of plant value, the FCNI will gradually increase (deteriorate) over the next 15 years. For example, a 1 percent reinvestment rate ($12.6 million annually) will cause the FCNI to increase (deteriorate) to 0.344 at the end of ten years. Reinvestment at the rate of 2 percent of plant value ($25.2 million annually) will cause the FCNI to decrease (improve) to 0.263 at the end of ten years. Many different scenarios can be played out in the financial model feature of the database software.

The Life Cycle Model projection shown in Figure 10 demonstrates an average annual renewal cost per square foot for these East Carolina University facilities of $5.04. This figure is derived by estimating the cost to replace all major systems/components of the buildings as they reach the end of their estimated life spans over a fifty-year period. When the annual average of $5.04 per gross square foot is applied to the

	Plant / Program Adapation	Deferred Maintenance	Capital Renewal
East Carolina University	12.4%	54.0%	33.6%
ISES Historical Average	20.3%	28.4%	51.3%

Figure 8 - Distribution of Project Costs

	Priority 1 and 2 (Year 1)	Priority 3 (Years 2-5)	Priority 4 (Years 6-15)
East Carolina University	9%	73%	18%
ISES Historical Average	22%	57%	19%

Figure 9 - Priority Class Comparison

entire group of facilities inspected, it results in an annual Capital Renewal funding requirement of $19.9 million. This figure is less than the aforementioned "status quo" annual reinvestment rate because the Life Cycle Model does not take plant adaptation into account. Still, the number is on par with the annual reinvestment rate required to keep the overall condition of facilities from deteriorating.

When attempting to plan for the annual investment required to meet the desired goal, keep in mind that the annual investments discussed above represent funding from all sources (annual Deferred Maintenance and Capital Renewal funding, major renovation funding, program-related grant funding, which provides for space renewal, etc.). This figure also would include any funding for new construction provided that the new construction is utilized to replace existing deteriorated structures. If new structures are built but the older facilities are kept in service, the problem will be exacerbated.

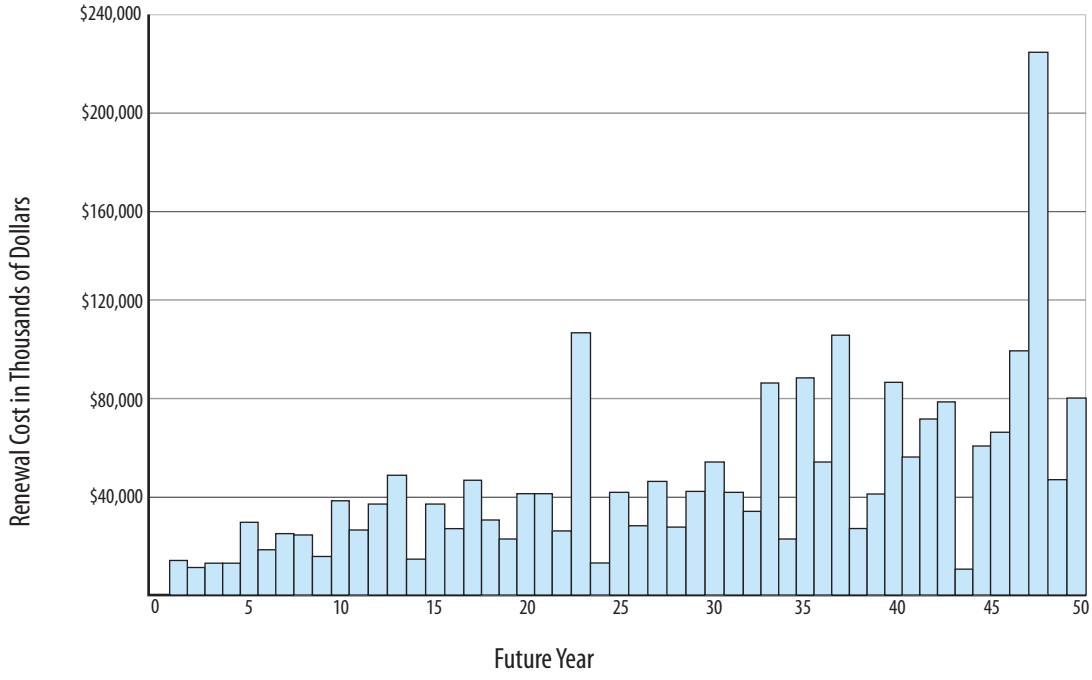


Figure 10 - Life Cycle Model Expenditure Projections

Quantitative & Qualitative Analysis

Capital Needs Assessment: Facilities Functionality

The Facilities Functionality Assessment was performed by Eva Klein and Associates during Task 3 of the Master Plan process.

Methodology

The Functionality Assessment methodology was initially created for the comprehensive capital needs assessment that East Carolina University's spatial planning consultant performed in 1999-2000 for the Board of Governors of the University of North Carolina. It is a methodology that adds another qualitative evaluation dimension to the traditional Facilities Condition Audit which addresses existing deficiencies and expected renewal needs of the buildings, as physical building systems and subsystems. The Facilities Condition Audit is an engineering-based evaluation, whereas the spatial planning consultant's Functionality Assessment is a strategic/program-based evaluation, which seeks to answer the following questions:

1. How well does the existing facility (space) meet contemporary and future functionality needs for the program(s) it is supposed to serve? or
2. What are the requirements to upgrade and modernize the facility (space) to be plausibly equivalent to the functionality of a new facility of the same type, if built today?

A key difference between the Functionality Assessment and the Facilities Condition Audit is that the Functionality Assessment is organized and conducted by space types (e.g., classrooms, teaching or research laboratories, offices, etc.), rather than by building subsystems. Also, it is a two-part methodology:

1. Field Evaluations of buildings based on pre-established Space Functionality Criteria that express functional performance features of space, by space types.
2. Information about functionality and program needs obtained in User Group Interviews.

Figure 11 shows the ECU buildings that were included in this Functionality Assessment, sorted by campus/location, and including notes regarding the evaluation activities that were undertaken for each building. In some cases, buildings were added for the purpose of interviews with users that were not evaluated in walk-throughs. Also, a few buildings that the spatial planning consultant evaluated were not included in the FCA.

Findings

The Functionality Assessment findings were provided in individual Building Reports for each building included in the analysis. Because the findings are specific to each building, they cannot be summarized. Interested readers should refer to the individual *Building Reports*. The information that follows here is a description of the structure/content of those reports.

Overall Building Report Content

In these building-specific deliverables, the primary report page is called the Functionality Assessment Summary - By Building. Where applicable, the *Building Reports* also include the following back-up worksheets:

1. Facility Condition Analysis, Detailed Project Summary by Category/System Code, ISES, April 2010.
2. Facility Condition Analysis, Detailed Project Summary, Project Class by Priority Class, ISES, April 2010.
3. User Group Interviewees, EKA, March 2010.
4. Building Functionality Assessment - Cost Estimates (to correct functionality deficiencies or to "modernize"), provided by Stewart Mulford, Mulford Associates, May 2010.

Details of Assessment

The summary (primary report page) for each building is organized into seven sections:

1. General Information (building code, building name, Gross Square Feet (GSF), Net Assignable Square Feet (NASF), Current Replacement Value (CRV), year built, date and cost of major renovations, comments on type of structure, departments/users, location description and user comments on location).
2. Functionality Findings (building walk-through, summary of walk-through observations).
3. Functionality Findings (user group interviews, summary of interview comments).
4. Functionality Findings (corrections/changes required from #2 and #3 above, SmithGroupJJR team's comments/conclusions based on the combination of walk-throughs and interviews).

5. Findings (condition deficiencies, very brief summary of condition findings and cost estimate for corrections for those buildings evaluated in FCA).
6. ECU Capital Project Defined in 2009-2011 Capital Plan/Request (Where applicable, projects that were listed in the ECU 2009-2011 capital request are shown, with their estimated costs as shown in the Capital Request).
7. Proposed Project / Solution for Building, from #1 through #6 above (In this final section, the proposed modernization project, including changes of use, where these were developed, are provided).

Then, the findings of this Functionality Assessment were evaluated with findings from the Space Capacity Analysis (SCA) (quantified space needs) and other needs assessment work by consultants. A preliminary version of capital projects was defined for existing buildings, for inclusion in the Capital Projects Plan.

The work associated with the Functionality Assessment and its integration into Capital Projects ended in May 2010. The conclusions in this Functionality Assessment and the resulting *Building Reports* input were made prior to the physical planning effort, and adjustments may have been made during that process.

Figure 11 - Building Functionality Assessment

Building Functionality Assessment--Building List Sorted by Walk-Throughs, User Group Interviews, Functionality Cost Estimates, ISES Condition Audit, and Team Project Discussions

Campus/ Location	Bldg Code	Building Name	Building Walk-Through (EKA/SG)	Interviews with Building User Groups (EKA)	Cost Estimate to Modernize (Correct Functionality Deficiencies) (Mulford)	Condition Audit (ISES)	Project Edited in Team Discussions (May 2010) (ECU+ SG Team)
Hlth Sci	BIOT	BIOTECHNOLOGY BUILDING	X	X	X	X	X
Hlth Sci	BROD	BRODY MEDICAL SCIENCES BUILDING	X	X	X	X	X
Hlth Sci	LJCC	LEO JENKINS CANCER CENTER	X	X	X	X	X
Hlth Sci	LIFE	LIFES SCIENCES BUILDING	X	X	X	X	
Hlth Sci	UTIL	MEDICAL HEATING FACILITY	X	X	X	X	X
Hlth Sci	MEDP	MEDICAL PAVILIONS 1-10 (except Pavilion 8)	X	X	X	X	
Hlth Sci	PHQC	PHYSICIANS QUAD C	X	X	X	X	
Hlth Sci	PHQM	PHYSICIANS QUAD M	X	X	X	X	
Hlth Sci	PHQN	PHYSICIANS QUAD N	X	X	X	X	
Main	AUST	AUSTIN BUILDING	X	X	X	X	
Main	BELK	BELK BUILDING & BELK ANNEX		X			
Main	CHRI	CHRISTENBURY MEMORIAL GYM	X	X			
Main	ELLE	ELLER HOUSE		X			
Main	ERWI	ERWIN HALL	X	X	X	X	
Main	FLAN	FLANAGAN BUILDING		X			X
Main	FMUS	FLETCHER MUSIC CENTER	X	X	X	X	
Main	GRAH	GRAHAM BUILDING	X	X	X	X	X
Main	BATE	HAROLD H. BATE BUILDING	X	X	X	X	X
Main	HOWE	HOWELL SCIENCE BUILDING	X	X	X	X	
Main	HUMA	HUMAN RESOURCES	X	X	X	X	
Main	JENK	JENKINS FINE ARTS	X	X	X	X	X
Main	JOYE	JOYNER EAST	X	X	X	X	X
Main	JOYN	JOYNER LIBRARY & JOYNER DRUM ADDITION	X	X	X	X	
Main	B043	MAIL SERVICES / WAREHOUSE / TECH LAB A	X	X	X	X	
Main	MCSS	MCGINNIS SCENE SHOP	X	X		X	
Main	MCGI	MCGINNIS THEATER	X	X		X	
Main	MESS	MESSICK THEATRE ARTS	X	X	X	X	
Main	RAGS	RAGSDALE HALL	X	X	X	X	
Main	RAWL	RAWL BUILDING	X	X	X	X	
Main	RIVE/RIVE2	RIVERS BUILDING & RIVERS ADDITION	X	X	X	X	
Main	SCIE	SCIENCE & TECHNOLOGY BUILDING		X			
Main	SPEI	SPEIGHT BUILDING	X	X	X	X	
Main	SPIL	SPILMAN BUILDING	X	X	X	X	
Main	FSSP	STEAM PLANT 14TH STREET	X	X	X	X	X
Main	WHIC	WHICHARD BUILDING	X	X	X	X	
Main	WRIA	WRIGHT ANNEX	X	X	X	X	
Main	WRIG	WRIGHT AUDITORIUM	X	X	X	X	
City/ Other	GCTR	GREENVILLE CENTRE	X	X	X	X	X
City/ Other	HARS	HARRIS BUILDING	X	X		X	
City/ Other	WRAB	WEST ACADEMIC BUILDING	X	X	X	X	
City/ Other	WILS	WILLIS BUILDING	X	X		X	
South/ Athl	FITT	FITT BUILDING		X			X
South/ Athl	MING	MINGES COLISEUM		X	X	X	X
South/ Athl	STRE	STRENGTH CENTER (no interviewees in group)		X			
South/ Athl	WARD	WARD SPORTS MEDICINE	X	X	X	X	

Quantitative & Qualitative Analysis

Capital Needs Assessment: Facilities Space Capacity

The Facilities Space Capacity Assessment was performed by Eva Klein and Associates during Task 3 of the Master Plan process.

Methodology

SCA methodology is designed to answer the question: Based on space guidelines applied to current and projected use/user metrics, how much space of certain types does ECU require by the end of the Master Plan's fifteen-year time horizon?

Space Types Included

The assignment included Classrooms, Class Laboratories, Open Laboratories, Research Laboratories, Study (Library and non-Library), Office Facilities, and Support Services Facilities. Other SmithGroupJJR team members addressed needs in Special Use, General Use, Clinical, and Residential space types. The SCA was based on Room Use Codes and definitions provided in the standard federal classifications for higher education facilities. Space types and sub-types covered in the spatial planning consultant's SCA and those covered by other team members are shown in Figure 12 at the right.

Policy Inputs

The following policy elements underlie the SCA:

1. Space planning standards or guidelines (expressed as space allowances)—in this case, space planning standards policy of UNC, modified/updated by the spatial planning consultant for this ECU analysis.
2. Utilization targets for Classroom and Class Laboratory space, also drawn from UNC policy and modified/updated for ECU by the spatial planning consultant.
3. ECU Space Policy (final version provided to spatial planning consultant in March 2010).

Data Inputs

The following Fall 2009 data and projection assumptions were provided by ECU:

1. Current Space (ECU's Space Inventory of Assignable Square Feet (ASF) of existing campus space, coded by Room Use Codes and by discipline codes where applicable, and with square footage, for each space type assessed).
2. Current Use/Users (Use counts including Student FTEs, Student Contact Hours of Instruction (by discipline), Faculty and Staff FTEs, library volume counts, and three-year average research expenditures (for research requiring laboratory space). For Health Sciences, Dental Medicine enrollments and the new School of Dental Medicine space were excluded from the analysis).
3. Projected Use/Users (The same metrics that were applied to current use also were projected to 2025, the fifteen-year time horizon of the Master Plan—all based on growth assumptions supplied by ECU. These included enrollment projections converted to Student Contact Hours of Instruction; projections of faculty and staff growth; projections of growth in library collections; and projected growth in research. The spatial planning consultant worked with many ECU personnel to obtain, refine, and correct the 2009 baseline use/user data

Figure 12 - Room Use Classification

Room Use Classifications and Codes Used in EKA's ECU *Space Capacity Analysis*

100 Classroom Facilities

110	Classroom
115	Classroom Service

200 Laboratory Facilities

210	Class Laboratories
215	Class Laboratories Service
220	Open Laboratory
225	Open Laboratory Service
250	Research/Non-Class Laboratory
255	Research/Non-Class Laboratory Service

300 Office Facilities

310	Office
315	Office Service
350	Conference Room
355	Conference Room Service

400 Study Facilities

410	Study Room
420	Stack
430	Open-Stack Study Room
440	Processing Room
455	Study Service

700 Support Services

710	Central Computer or Telecommunications
715	Central Computer or Telecommunications Service
720	Shop
725	Shop Service
730	Central Storage
735	Central Storage Service
740	Vehicle Storage
745	Vehicle Storage Service
750	Central Service
755	Central Service Support
760	Hazardous Materials Storage
770	Hazardous Waste Storage
775	Hazardous Waste Storage Service
780	Unit Storage

Room Use Classifications and Codes Covered by Other Master Plan Team Firms

(main series numbers only)

500	Special Use Facilities (includes Athletics and other)
600	General Use Facilities (includes most student activities/services space)
800	Health Care Facilities (includes clinical facilities)
900	Residential Facilities (includes student housing)

Note: Based upon *Postsecondary Education Facilities Inventory and Classification Manual* (FICM), 2006 Edition

and to refine and test growth assumptions, through several iterations of the SCA calculations).

Findings

The SCA findings were provided separately for the Main Campus and for the Health Sciences Campus, with the exception of 700-Support Service Facilities—for which a single ECU-wide calculation was provided.

Surplus / Deficits in 2009

For Main Campus, surpluses of space in 2009 for Classrooms, Class Laboratories, Research Laboratories, and Office Facilities were found. For the Health Sciences Campus, surpluses in 2009 were found for all space types except Open Laboratories. Instructional space surpluses (100 and 200 Room Use Codes) typically result in cases where utilization is below target standards (for either or both Weekly Room Use Hours and Station Occupancy Ratio). This is usually a consequence of scheduling policy and practices.

ECU was surprised by the finding of a sizeable Office Facilities surplus, as there is a strong impression that offices are in short supply. Both may be true. If offices are incorrectly located, too large, or temporarily vacant, these factors can result in a calculated NASF surplus, while the actual number of discreet office available for assignment (in desired buildings) may be in short supply. Building renovations provide an opportunity to right-size and reallocate offices. However, this strategy is a long-term solution and subject to obtaining sufficient capital funding.

Open Laboratories (220) are a difficult space type to assess, given modern instructional technology. These rooms are defined as specially-equipped, discipline-specific "lab"-type rooms, primarily used for drop-in study (not for scheduled instruction). Music practice rooms and art studios are the classic examples, but other types exist. With changing instructional technologies, for example, simulation software, it has become harder to correctly code 220 Open Laboratories vs. 410 Study Space. Informal use of science laboratories coded as instruction labs (210) also is a factor.

Most of the 400 series Study Facilities deficit on Main Campus is attributable to deficits of 420/430 Stack/Collection space, not 410 Study Space. But, it is possible that the findings point to a shortage of individual study/lab areas on the Main Campus.

Overall, in 2009, ECU's Main Campus had 171,000 more NASF than requirements projected by the model, with some maldistribution of space by types. The Health Sciences Campus had a surplus of 123,000 NASF of space. Overall, ECU had a 2009 space surplus of about 325,000 NASF—that growth will absorb. These model-generated surpluses also present an opportunity; as older buildings are renovated, spaces can be re-purposed and re-sized, with the end result being a better distribution of space types; more efficient use of space; and modern, functionally-correct space.

Total Surpluses / Deficits Project for 2025

By 2025, based on projected growth factors and assuming a hypothetically constant Space Inventory, there will be accumulated deficits—in varying degrees—in all space types on the Main Campus. Even the significant calculated surplus of Office Facilities in 2009 turns into a deficit by 2025.

The single largest projected deficit, in Study Facilities, is driven mostly by the University Librarian's projected growth in collections. Based on this SCA, solutions for off-site volume storage seemed appropriate to consider, so that more of the Main Campus library space can be devoted to library services and study areas.

Even with its projected growth, the Health Sciences Campus will still have (reduced) surpluses in Classrooms, Class Laboratories, and Study Facilities. However, this Campus is projected to have a significant shortage of Research Laboratories and a fairly significant shortage of Office Facilities.

Campus-Wide Space Findings

In this SCA, General Classrooms and Study Facilities were treated as campus-wide space types—meaning that these rooms should be available to all departments on Main Campus or to all departments on the Health Sciences Campus. Support Facilities were calculated on an ECU-wide basis, without regard to campus.

Figure 13 provides the Space Capacity Summary for the three campus-wide space types. It shows both the 2009 Space Inventory, space required and surplus (deficit) for 2009, and space required and surplus (deficit) projected for 2025.

Departmental Space Findings

The four other categories of space, including Class Laboratories, Open Laboratories, Research Laboratories, and Office Facilities, were considered departmental space. Disaggregation by departments/disciplines was provided for those space types where there are uniquely outfitted rooms—e.g. Class Laboratories, Open Laboratories, and Research Laboratories—but not for Office Facilities, which, by the character of the space, should be largely interchangeable in use. (The location of offices is a building functionality issue, and is not analyzed by means of the SCA methodology.)

For departmental space, the summary below shows the 2009 Space Inventory data; the projected requirements for 2025; and the projected surplus (deficit) for 2025 only. The current or 2009 surpluses (deficits) are not shown. Departmental surpluses and deficits were subsequently factors in considering how existing facilities could be re-purposed to better match growing departmental needs projected for 2025.

Integration with Other Findings

The SCA analysis is quantitative only; it does not address location, condition, or quality/suitability of available space. Thus, the best use of SCA findings is in concert with qualitative requirements for modernization of existing buildings. This leads to solutions and a Capital Projects Plan that includes reconfiguration, right-sizing, and re-location of various departmental and campus-wide space. Accordingly, the intent for this SCA was to yield findings that would be integrated with (1) qualitative findings about the condition, functionality, and current uses of existing buildings (ISES and EKA) and (2) special purpose facilities needs, i.e., program-driven needs developed by SmithGroupJJR and other firms in the team. Collectively, the analyses led to identification of capital projects including (1) new program-driven facility requirements; (2) new facilities required for growth/expansion; (3) modernization of existing buildings, including comprehensive renovations and reconfiguration and use changes; and (4) new infrastructure.

Figure 13 - Summary of Surpluses (Deficits): 2009 and 2025

Room Use Code	Space Category	Main Campus Surpluses (Deficits)		Health Sciences Campus Surpluses (Deficits)		Total ECU Surpluses (Deficits)	
		2009	2025	2009	2025	2009	2025
110/115	Classrooms	33,629	(13,528)	25,995	25,995	59,624	12,467
210/215	Class Laboratories	12,992	(39,178)	22,574	18,752	35,567	(20,426)
220/225	Open Laboratories	(8,404)	(32,351)	(9,289)	(14,844)	(17,693)	(47,195)
250/255	Research Laboratories	36,683	(56,810)	45,090	(108,313)	81,773	(165,123)
300	Office Facilities	124,221	(17,658)	962	(52,580)	125,182	(70,238)
400	Study Facilities-Libraries	(26,784)	(99,035)	18,492	7,941	(8,293)	(91,093)
400	Study Facilities-Elsewhere-Main Campus	(1,501)	(8,756)			(1,501)	(8,756)
400	All 400	(28,285)	(107,791)	18,492	7,941	(9,793)	(99,850)
	Total--100 to 400	170,835	(267,316)	103,824	(123,048)	274,660	(390,364)
700	Support Service Facilities					50,895	3,327
	Totals	170,835	(267,316)	103,824	(123,048)	325,555	(387,037)

Figure 14 - Summary of Current Inventory and Space Requirements with Surpluses (Deficits) in 2025

East Carolina University												
Space Capacity Analysis												
SUMMARY OF CURRENT INVENTORY AND SPACE REQUIREMENTS WITH SURPLUSES (DEFICITS) IN 2025												
College/Department Space: 210-Class Labs; 220-Open Labs; 250-Research Labs; and 300-Office												
	Class Lab (210/215)			Open Lab (220/225)			Research Lab (250/255)			Office Facilities (300 Series)		
	2009 Inventory	2025 Space Required	2025 Surplus / Deficit	2009 Inventory	2025 Space Required	2025 Surplus / Deficit	2009 Inventory	2025 Space Required	2025 Surplus / Deficit	2009 Inventory	2025 Space Required	2025 Surplus / Deficit
MAIN CAMPUS												
Arts and Sciences (Harriot)										119,622	127,175	(7,553)
Biology	40,918	61,684	(20,766)	1,989	17,856	(15,867)	20,058	22,940	(2,882)			
Chemistry	24,870	31,019	(6,149)	2,251	10,853	(8,602)	14,491	8,205	6,286			
Geological Sciences	4,141	10,694	(6,553)	627	1,807	(1,180)	11,294	15,080	(3,786)			
Physics	3,439	8,805	(5,366)	1,598	1,501	97	8,931		8,931			
Anthropology	2,786	1,487	1,299	347	1,216	(869)	2,203	6,378	(4,175)			
Psychology	1,826	3,052	(1,226)	1,051	797	254	2,506	218	2,288			
All Other Arts and Sciences	7,212	8,930	(1,718)	10,753	3,147	7,606	1,877	1,794	83			
Business	936	0	936	1,679	408	1,271	0	2,129	(2,129)	24,430	37,134	(12,704)
Education	10,216	9,043	1,173	2,343	4,458	(2,115)	0	1,684	(1,684)	48,069	46,669	1,400
Fine Arts & Communication	50,585	52,359	(1,774)	35,558	44,176	(8,618)	0	59,626	(59,626)	0	2,473	(2,473)
Art & Design (Sch)										13,681	13,892	(211)
Communication (Sch)										5,773	12,158	(6,385)
Music (Sch)										13,118	7,452	5,666
Theater & Dance (Sch)										5,762	6,693	(931)
Health & Human Performance	3,467	4,164	(697)	3,545	1,513	2,032	6,509	0	6,509	37,139	29,526	7,613
Human Ecology	12,006	9,505	2,501	996	5,239	(4,243)	861	0	861	28,537	30,262	(1,725)
Technology & Computer Science	19,248	20,086	(838)	6,283	8,400	(2,117)	6,419	1,668	4,751	22,893	24,759	(1,866)
Academic Library Services										16,971	22,238	(5,267)
Centers/Institutes (not in Colleges)										12,695	1,352	11,343
Subtotal--Colleges/Academic Units	*181,650*	*220,828*	*(39,178)*	*69,020*	*101,371*	*(32,351)*	*75,149*	*119,723*	*(44,574)*	*348,690*	*361,783*	*(13,093)*
Chancellor Division										22,867	15,126	7,741
Academic Affairs Division							0	8,625	(8,625)	46,209	56,292	(10,083)
Student Life Division										66,355	49,262	17,093
Research/Graduate Studies Division							5,708	9,318	(3,610)	21,666	26,942	(5,276)
Admin & Finance Division										99,358	105,412	(6,054)
University Advancement Division										10,603	19,473	(8,870)
Foundations Division										0	3,234	(3,234)
Athletics Division										22,217	29,833	(7,616)
Unassigned										11,733	0	11,733
Subtotal--Administrative Divisions	0	0	0	0	0	0	5,708	17,944	(12,236)	301,008	305,573	(4,565)
Grand Totals--Main	*181,650*	*220,828*	*(39,178)*	*69,020*	*101,371*	*(32,351)*	*80,857*	*137,667*	*(56,810)*	*649,698*	*667,356*	*(17,658)*
HEALTH SCIENCES CAMPUS												
Allied Health	14,862	6,390	8,472	1,038	6,486	(5,448)	10,584	17,465	(6,881)	26,875	26,781	94
Nursing	7,507	4,684	2,823	1,093	7,436	(6,343)	1,525	0	1,525	26,136	29,280	(3,144)
Brody School of Medicine	12,562	5,106	7,456	223	3,276	(3,053)	105,462	208,420	(102,958)	217,405	254,246	(36,841)
Laupus Health Sciences Library										13,823	9,030	4,793
Health Sciences ECHI Institute										0	2,731	(2,731)
Health Sciences Administrative Division										0	14,751	(14,751)

Quantitative & Qualitative Analysis

Capital Needs Assessment: Health Sciences and Clinical

The Health Sciences and Clinical Assessment was performed by SmithGroupJJR during Task 3 of the Master Plan process.

Introduction

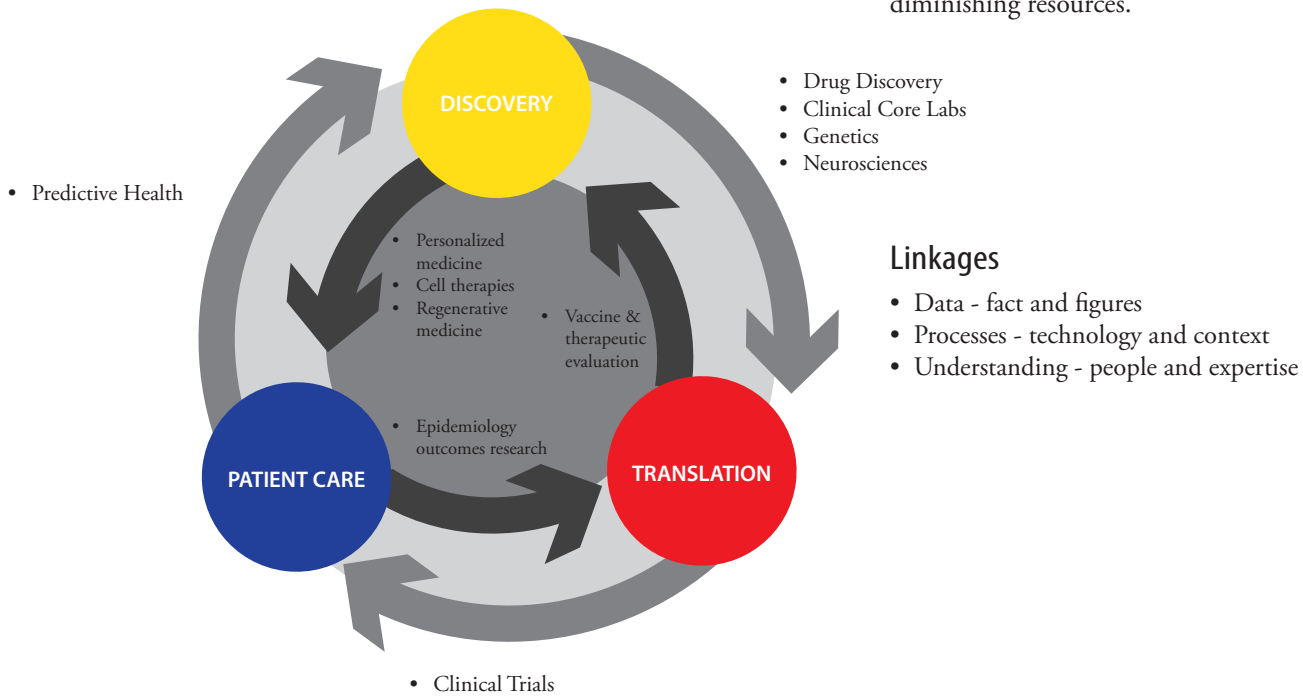
East Carolina University has significant targeted growth set not only for the undergraduate colleges, but also for the Brody School of Medicine (Brody, the Medical School), College of Nursing, College of Allied Health Sciences, and School of Dental Medicine, which was opened on the ECU Health Sciences Campus in 2011. The Brody School of Medicine is ranked among the top medical schools in the country that emphasize the education of primary care physicians. In response to the national shortage of physicians and forecasted future demand, Brody School of Medicine is targeted to increase its incoming class size from 80 students to 120 students over the next decade. In addition to the Medical School's current 350 faculty members (physicians and extenders), new faculty are actively being recruited to meet this increased teaching demand.

ECU Physicians is the organizational entity representing the clinical medical practices of the Brody School of Medicine faculty. It functions as the largest medical practice in eastern North Carolina. There are currently 24 different practice sites of ECU Physicians throughout Greenville and Pitt County serving 1.4 million residents across a 29-county area. The largest practice site is located on the Health Sciences Campus in Greenville and houses most of the specialized services.

A critical component of the campus master planning effort for the Health Sciences Campus was to conduct a Demand Analysis (Figure 16) to determine growth of ECU clinical services and identify key planning units for the development of clinical facilities.

External Drivers

Influences for the expansion of clinical services include: The Institute of Medicine, the Association of American Medical Colleges vision for Medical Education in the United States, initiatives to improve patient safety and care quality, a diverse population with complex chronic conditions, and increasing market expectations with the same or diminishing resources.



Linkages

- Data - fact and figures
- Processes - technology and context
- Understanding - people and expertise

Figure 15 - Integrated and Interdisciplinary Education Diagram

In 2001, the Institute of Medicine published "Crossing the Quality Chasm". The book's release was a sentinel event for health professions education and care delivery. Its publication triggered a flurry of activity to redefine both educational programs and care delivery models as evidenced by various reports which began to define the problem in more detail and create care models focusing on patient care quality and safety.

Health professions practice has changed tremendously over the last century. Not only has it changed, new professions have been added as healthcare has become more complex in response to evidence based medicine and increasing technology. Surprisingly, though, health professions education has remained relatively unchanged. Most health professional schools rely heavily on lectures and memorization of facts although simulation laboratories are emerging to allow the respective student to develop care skills and apply knowledge prior to actual clinical encounters. Such encounters in a real-time clinical setting are an integral part of the professional caregivers' necessary experienced-based curriculum.

Unfortunately, most professional schools still educate their students in isolation from other professions; while healthcare practice is a team effort. Curriculum changes and new models of care are necessary to prepare students for the future of healthcare. In addition, any requisite facilities must facilitate current and anticipated curriculum changes and care delivery models.

Working Premise

A team-based approach to clinical care is optimum and the curriculum in and between health professions schools must foster integration, and necessary clinical environments also must facilitate an integrated / team-based care delivery model. Inter-disciplinary and inter-professional education, as well as care delivery, is the future. This future state must be reflected in facility developments which foster integration.

CLINICAL GROWTH ASSUMPTIONS	Growth Assumption	2008-2009 # Credentialed Staff	2008-2009 # Arrived Faculty Visits (Baseline)	2020 # Credentialed Staff	2020 # Arrived Faculty Visits	2025 # Credentialed Staff	2025 # Arrived Faculty Visits
Medicine							
Cardiovascular	**7%**	32	19,950	40	25,175	57	35,325
Family Medicine	**7%**	36	76,000	45	95,900	64	134,500
Internal Medicine	**3%**	53	42,475	60	47,800	69	55,500
Ob / Gyn	**5%**	16	18,750	19	22,375	24	28,500
Oncology	**3%**	19	39,375	21	44,300	25	51,375
Pediatrics	**5%**	57	36,850	68	43,500	87	56,100
Psychiatry	**3%**	25	13,700	28	15,450	33	17,900
Rehab / PT	**5%**	8	7,900	10	9,400	12	12,000
Surgery	**3%**	32	23,450	36	26,400	42	30,600
Allied Health Sciences							
Communication Sciences	**5%**	15	tbd	18	tbd	23	tbd
TOTAL		***293***	***278,450***	***345***	***330,300***	***436***	***421,800***

Figure 16 - Clinical Program Projections

Implications
Various implications emerge from the working premise; key ones are:

1. Integration faces many challenges, not the least of them culture, history, and tradition.
2. Basic science and clinical integration at all levels will:
   - Solidify and reinforce team-based learning.
   - Assist in developing critical thinking skills.
   - Foster faculty interaction and collaboration.
   - Foster health professions interaction, team-building, and collaboration.
   - Facilitate translational medicine as well as evidence-based care delivery models.
3. Both vertical and horizontal integration in the basic and clinical sciences will be necessary.
4. Faculty development is paramount.
5. Facility development must foster integration models.

Healthcare is increasingly complex and faces ever increasing challenges to provide safe and quality care to diverse populations. A collective vision for ECU's Health Sciences Campus Master Plan development is a prerequisite if it is to become a leader in health professions education which requires continuous adaptation to an ever changing healthcare landscape.

Health Sciences Master Plan Objective

The vision for the Health Sciences Campus is to create an integrated humanistic-oriented community-based care delivery, education, and research model, as demonstrated in Figure 17.

Organizational Aspirations

1. Master Plan will encompass current and anticipated programs and services on the Health Sciences Campus. Off-campus development will be considered, as applicable in support of select programs.
2. Desire to create an integrated Health Sciences Campus respectful of student and faculty support and patient access.

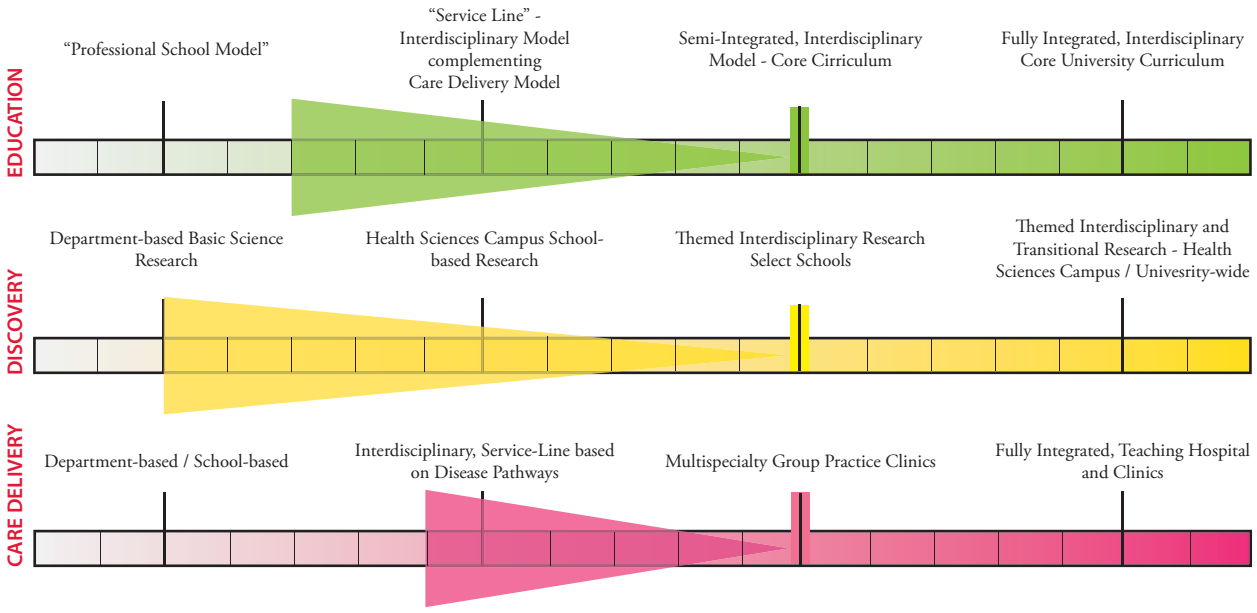


Figure 17 - Continuum-of-Education showing current and proposed future state

3. Efficient and effective.
4. Consistent goal of aligning clinical service, education and research leadership with health needs of the region.
5. Desire to provide an integrated core curriculum in support of inter-professional education across the Health Sciences Campus schools.
6. Continue and strengthen regional growth in support of current and anticipated program development.

High Level Observations – Clinical Programs

1. Current Primary Service Area and Secondary Service Area growth will not provide sufficient clinical material to support medical school growth.
2. Additional market-based growth and market share increases will be necessary to support clinical education and strategic relationships must be defined.
3. Additional program / satellite locations will be necessary to provide sufficient educational / research venues for anticipated education and research program growth.
4. The current on-campus facility development philosophy is based on a fragmented delivery system or a health-mall model which may not be sustainable or necessarily desirable given wayfinding / access considerations as well as available land.
5. New facilities such as Moye foster continued fragmentation (not integration). Acquiring existing Greenville-based practices also fosters fragmented delivery and educational models.

Integration Concepts

The degree of integration within the academic medical center is variable and often driven as much by cultural values as pedagogic philosophy. The major driver of integration as a response to an era of resource constraints, however, is consistent; enhanced alignment offers many benefits:

1. Increased productivity.
2. Reduced duplication.
3. Support of knowledge management.
4. Support of emerging disciplines.
5. Development of evidence-basis.
6. Optimized care delivery.
7. Enhanced safety, quality and value.

A 'continuum-of-integration' has been introduced and a set of future-state scenarios developed for the academic, discovery and clinical care components of the Health Sciences Campus. The working model recommends the following long-term developments:

1. Education - will develop toward a semi-integrated, inter-disciplinary model with a core health sciences curriculum.
2. Discovery - will develop toward a themed interdisciplinary research model across selected schools.
3. Clinical Care - will develop toward a multi-specialty group practice clinic model.

Clinical Delivery Facility

Given existing fragmentation primarily based on facilities developed for various physician specialties or clinical programs (e.g. Family Practice, Cardiovascular, Cancer, etc.), we recommend developing a substantial facility based on a multi-specialty clinic model, including a comprehensive cancer care center. Such a facility will foster clinical-based education and care delivery models most likely to be encountered once students graduate. The new facility must recognize certain on-campus facilities such as the Cardiovascular Center and Family Practice Center, while providing the basis for a fully integrated clinical and clinical education program. The various professional schools and anticipated school of public health must also develop facilities which foster integration at the basic science as well as clinical science level not withstanding integrated research and translational research programs.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Student Life

The Student Life Assessment was performed by Brailsford & Dunlavey during Task 3 of the Master Plan process.

Introduction

One aspect of East Carolina University's master plan process has been to develop a list of capital projects related to the student life facilities. The student life facilities at East Carolina University include student housing, dining, student recreation, and student union / student center. This report includes findings and recommendations prepared for ECU during the course of the study.

The planning process consisted of three major phases. Phase 1, Project Initiation, involved student life committee meetings, campus and facility tours, preliminary stakeholder interviews, and review of existing documents. These initial steps allowed all parties involved to gain a better understanding of the unique issues and conditions at ECU. Phase 2 of this process was the Market Analysis. The Market Analysis phase included a demographic analysis, focus groups and intercept interviews, off-campus analysis (housing and recreation), peer institution analysis, student and faculty / staff surveys, and demand analysis. In-depth research on ECU and the surrounding community was performed during this phase with initial recommendations formulated. Phase 3 of the master planning process was the Program Review. This phase consisted of the program development and coordination, capital project list formulation and preparation of the final report.

Findings

Analysis determined that the student life facilities play a critical role for ECU with respect to enrollment management (recruitment and retention of students), campus community (creation of student life hubs), and enhancement of educational outcomes (extracurricular activities and student involvement). ECU intends to strengthen its student life programs through significant improvements to its residential, dining, recreational, and student center facilities.

With respect to the residential program, ECU intends to meet the Carnegie Classification of a residential campus. This means housing at least 25 percent of degree seeking

EXISTING STUDENT LIFE LOCATIONS

- Residence Hall
- Dining Hall
- Convenience Store or other
- Student Center
- Recreation Center
- Other Campus Building
- (1) Central Neighborhood
- (2) West Neighborhood
- (3) College Hill Neighborhood

undergraduate students. In order to meet this goal, ECU will have to provide between 5,600 and 5,700 beds. With the current capacity of the residential program at 5,491, the improvements will address, primarily, the quality of offerings through replacement of under-performing buildings, de-densification of some facilities, and suite-style conversions.

While the residential program is not likely to grow significantly in the foreseeable future, an addition of beds in one of the campus neighborhoods (while other neighborhoods lose beds due to de-densification) may necessitate increasing capacity at one of the dining halls. Todd Dining Hall appears to be the most logical choice, due to the limited land availability near the West End Dining Hall. One of the most important student life facilities at ECU is Mendenhall Student Center. Through research and analysis, it was determined that the current facility is deficient with respect to functionality (demand vs. supply of desired activity spaces), overall building organization and wayfinding, as well as the physical condition. The facility no longer meets ECU's strategic objectives and, therefore, should be replaced with a new student center. This new structure should be located in the same campus neighborhood as the existing building, while Mendenhall should be re-purposed to serve other campus needs.

The student recreation programs at ECU are very popular among students and successful with respect to both variety and quality. Generally, the Student Recreation Center is functional but certain areas of the building get over-crowded during peak hours. As a result, it is recommended that ECU consider increasing the space available for group exercise, weight machines / free weights, cardiovascular fitness, and basketball court space.

In addition to addressing the Main Campus, ECU should consider the creation of a student life hub on the Health Sciences Campus. The Health Sciences Campus does not currently offer any meaningful quality of life facilities to satisfy the student demand. To address the shortfall, construction of a hybrid student center / recreation center building with appropriate food service offerings is recommended. Students taking classes at the Health Sciences Campus did not express strong interest in housing in that location and, therefore, no housing developments are recommended at this point.

Capital Project List

Research and findings led to development of the following capital project list:

Residence Life

1. Replacement of Belk Hall with a new 500-bed, suite-style housing facility.
2. De-densification of Fleming Hall from traditional doubles to traditional singles (primarily through furniture re-arrangement).
3. Conversion of Green Hall from traditional doubles to suite-style units.
4. Conversion of White Hall from traditional doubles to suite-style units.
5. Construction of a new 400-bed, suite-style residence hall to maintain the balance of 5,600 to 5,700 beds, as identified in ECU's strategic objectives.

Residential Dining

1. Expansion of Todd Dining Hall by approximately 175 seats. The estimated size of the expansion is approximately 9,300 gross square feet.

Student Center

1. Replacement of the Mendenhall Student Center with a new comprehensive student life facility. The estimated size of the new development is approximately 232,000 gross square feet. Mendenhall should be considered for re-purposing.

Student Recreation

1. Main Campus - Expansion of the existing Student Recreation Center by approximately 62,000 gross square feet to accommodate additional activity spaces.
2. Health Sciences Campus - Construction of a new student life facility – a hybrid of a student center and a recreation center sized at approximately 73,000 gross square feet.

During the course of the master planning efforts, the Residential Life and Student Center Plans have been presented to and well received by the East Carolina University Board of Trustees.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Safety and Security

The Safety and Security Assessment was completed by Protection Engineering Group during Task 3 of the Master Plan process.

Introduction

A major focus of the Campus Master Plan was to enhance the safety and security of the University's assets, which include people, information, and facilities, against security threats such as crime (traditional and non-traditional) and other hazards. The SmithGroupJJR team conducted an in-depth survey and analysis of the existing Security Program that provided recommendations on how best to improve ECU's security posture.

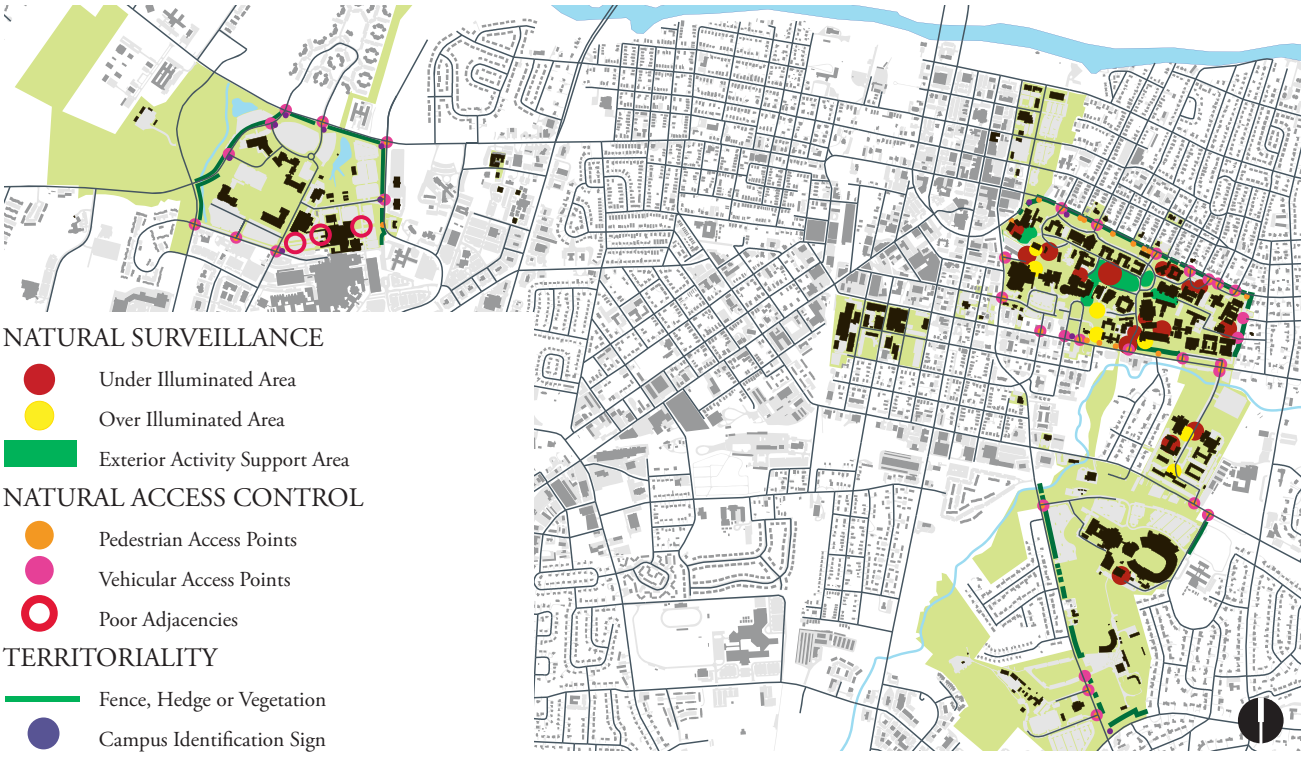
Overall, ECU has made a great deal of headway towards improving the safety and security of the University's facilities in large part due to the individual efforts of staff members and departments. Many areas have implemented new procedures and equipment to mitigate potential threats, unfortunately this has not been coordinated as an overall campus effort. This has caused a duplication of effort and created a piece-meal security system with various levels of protection, creating areas where security is considered insufficient. There is a significant lack of university level policies and procedures, minimal criteria for the selection and implementation of services or equipment, no university-wide budget or procurement process for security related equipment or services, and the University has implemented multiple electronic security systems that are not integrated to function as a single system.

Findings

This information aided development of a comprehensive East Carolina University Strategic Security Plan and Security Master Plan, as well as the integration of security into the overall Campus Master Plan. The overarching concept was to establish a centralized security program that is committed to the development of a cohesive and consistent level of safety and security at the University.

Strategic Security Plan

This Strategic Security Plan has six strategic goals to facilitate progress toward meeting the vision and mission of ECU's security program:



1. Institute University Security Policies.
2. Establish a Centralized Security Organization.
3. Develop Security Plans.
4. Develop Security Operating Procedures and Programs.
5. Implement Physical Security Improvement Projects.
6. Establish New Police Facility.

The Security Design Criteria provides guidance to architectural and engineering (A/E) design teams, security consultants, and all ECU staff for the design and construction of ECU facilities. This document defines performance standards for physical security systems with information in key areas to ensure compliance with the goals and objectives stipulated in the University Strategic Security Plan and Security Master Plan for the University. This document defines the minimum security criteria required for ECU-owned and leased facilities and the spaces and assets within those facilities. This document applies security measures consistently throughout ECU to all spaces and is an integral part of the planning, design, and construction of all projects. An objective of this manual is to provide cost effective design criteria that provides an appropriate level of protection to each facility.

Crime Prevention Through Environmental Design Principles

The most efficient way to implement security into a building and campus is through pre-design planning. ECU advocates the integration of Crime Prevention Through Environmental Design (CPTED) principals and strategies in their site planning and facility designs. CPTED focuses on the positive use of space and natural elements to maintain a desirable quality of life for intended users, while increasing the difficulty for criminal or abnormal activities. These principles focus on the positive use of space to create designs that attract users because they feel safe, while simultaneously making it unattractive and difficult for criminals and terrorists.

The three main CPTED design principles are territoriality, natural surveillance, and natural access control:

1. Territoriality clearly defines an area by physically or psychologically utilizing a physical element to create an environment with a sense of ownership where abnormal behavior, such as unusual loitering or other unauthorized activities is easily recognized. A major component of territoriality is wayfinding, which is a concept where architectural and landscape features are designed with visual clues and signage to direct people or allow them to easily identify where they are and where they should go.
2. Natural Surveillance supports good visibility in and around the campus and buildings to limit concealment of criminal activities. The concept is to see and be seen; criminals do not like to be seen and guests feel safer when they are seen.
3. Natural Access Control is about using layout and design elements to easily direct site users in an orderly fashion from one location to another while reinforcing territoriality and aiding natural surveillance.

For the electronic security systems ECU will begin to standardize to one centralized security management system that is capable of integrating and centralizing the existing disparate systems, providing a cost effective approach. Additional improvements will include revamping the video monitoring center, consolidating the access control systems, and building a new facility to house the Police Department and Security Operations Center.

Security Master Plan

The primary intent of the Security Master Plan is to implement a proactive and cost effective set of policies, plans, and procedures that will improve the overall safety and security of the University. The plan prioritizes assets based on the actual threats and risks ECU faces. The Security Master Plan establishes a long-term approach to building a security program trailer made for ECU that matches the current planned growth of the University. It provides a best practice approach to discourage a criminal or group of criminals from perpetrating an incident or crime.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Infrastructure

The Infrastructure Assessment was completed by RMF Engineering during Task 3 of the Master Plan process.

Main Campus and Athletic Facilities

Chilled Water

Continued development of a centralized chilled water system is a key goal for ECU. Benefits of central cooling include energy savings, reliability, aesthetics, and noise reduction. Future growth on Main Campus will require an additional 9,250 tons of cooling capacity and distribution infrastructure to support both new buildings and existing buildings planned for connection to the chilled water loop. Two new regional plants, one located in the parking deck of the Academic A Building, the other located south of Belk Residence Hall will be required to provide space for the additional chillers. Additionally, existing Central Chiller Plant No. 1 will require a full build out bringing the total cooling requirements of main campus to 13,750 tons.

Based on their remote proximity, the buildings earmarked for the Millennial Campus and the Health and Human Performance (HHP) site would not be connected to the central chilled water system. Those facilities will be supported with unitary cooling equipment or small regional chilled water distribution systems.

Steam

ECU operates an established central steam plant and distribution network. Future growth on Main Campus will require an additional 51,000 PPH of steam generation capacity. The current steam firm generating capacity exceeds the future demand and will not require additional boiler expansion. However, steam distribution system upgrades are required and include replacement of aged piping along with steam and condensate feeds to each new building.

Based on their remote proximity, the buildings earmarked for the Millennial Campus and HHP site would not be connected to the central steam system. These facilities will be supported by unitary equipment.

Natural Gas

Future growth has very little impact on the natural gas system on Main Campus. The majority of the natural gas consumed is for the boiler plant. The new lab building will require a feed from the main.

Domestic Water

The domestic water system will not require any significant improvements to support the future growth on campus. The network of piping through campus is extensive enough to provide ample water for both domestic use and fire protection. Each building will require two separate feeds from the nearest main. The minimum water pressure provided by the Greenville Utilities Commission (GUC) will require the use of a dedicated fire pump in each new building to meet code requirements.

Electrical

Utilizing the Main Campus power distribution system to provide electrical power to University buildings is desirable from an energy cost standpoint. Therefore, the goal is to utilize the campus distribution where practical. Where the distance to proposed smaller buildings is excessive or when the building is labeled as private, it is likely they will have direct utility service. For the purposes of this report those facilities are included in the new loads associated with Immediate and Future as a worst case scenario.

The additional buildings identified as Immediate Need would add approximately 15MVA to the Main Campus electrical demand. Additions identified as Future would increase the demand for another 4MVA, for a total add to the Main Campus system of 19MVA. The two GUC Point of Delivery (POD) locations for Main Campus, Ficklen Drive (circuits 1 and 2) and 9th Street (Circuits 3 and 4) have rated capacities of 10MVA per circuit. The existing loading, reported by GUC as of June 22, 2011, for these circuits is 28 percent, 18 percent, 15 percent and 24 percent respectively. Therefore there is sufficient capacity to add both Immediate and Future buildings to the Utility Service. The campus 15kV loop circuits would require extension and redistribution of loads to accommodate the growth.

Telecom / Data

For new facilities located relatively close to the existing campus fiber loops, extending this service to the building would be recommended. Where it is not practical, new utility connections would be established. Based on the distance and expected

usage, the decision to extend existing fiber would be made on a case by case basis.

Stormwater
ECU is actively initiating a campus-wide strategy to reduce stormwater runoff and improve stormwater quality management. Proposed buildings in the central portion of Main Campus, Warehouse District, and the new residence buildings will have minimal stormwater quantity impact based on the impervious composition of the proposed site location. However it is recommended that new Best Management Practices be implemented. New drainage lines as well as some utility relocation will be required for new building sites. Office Surge Building and proposed buildings southwest of the athletic fields will require additional stormwater improvements to prevent increasing the stormwater runoff quantity in this area.

Sanitary Sewer
Proposed buildings in the central Main Campus vicinity and residence area are located in close proximity to the existing GUC sanitary sewer main. Existing sanitary sewer lines in the proposed areas may have to be relocated for new building connections. All buildings can be connected to the surrounding nearby GUC system.

Health Sciences Campus

Chilled Water
Health Sciences Campus buildings are cooled with a central chilled water plant. Future building growth will require an additional 2,350 tons of cooling capacity to the plant. Along with replacement and upsizing of several existing chillers, a 3,000SF chiller plant expansion to the west will be required. Distribution to the new buildings will be fed radially from the utility tunnel. Based on its remote proximity, the proposed Cancer Center would not be connected to the central chilled water system.

Steam
Health Sciences Campus buildings are heated with a central steam plant. Future growth on the Health Sciences Campus will require an additional 35,000 PPH of steam capacity. The existing plant has adequate physical space to accommodate the new boiler and auxiliary equipment pending removal of hazardous waste storage space and equipment. Distribution to the new buildings will be fed racially from the utility tunnel.

Natural Gas
Future growth has very little impact on the natural gas system on the Health Sciences Campus. The majority of the natural gas consumed is for the boiler plant. None of the proposed new buildings require a new natural gas feed.

Domestic Water
The domestic water system will not require any significant improvements to support the future growth. The central plant's domestic water booster system is sufficiently sized to provide water to each new building. The central plant also operates a dedicated fire pump to provide fire water to each new building. Individual fire pumps will not be required in the new buildings. Domestic water to each new building will be fed from the utility tunnel.

Electrical
The capacity of the existing GUC service to this campus will not support any sizable new loads. To accommodate the Immediate and or Future electrical demand, additional service capacity will need to be provided, either by increasing the existing circuits or by the addition of new. The Cancer Center and the Future Clinical buildings would likely receive independent utility services due to their remote location from the existing campus.

Telecom / Data
With the exception of the Cancer Center and two Clinical Buildings, the campus fiber could be extended to the proposed Immediate and or Future buildings.

Stormwater
ECU is actively initiating a campus-wide strategy to reduce stormwater runoff and improve stormwater quality management. Expansion on the Health Sciences Campus will require additional stormwater measures to account for additional runoff that will be produced by the new impervious area. Construction projects that are currently in progress may affect this estimate detention number.

Sanitary Sewer
The existing primary sanitary sewer main for this campus is over the recommended capacity. As such any new buildings will have to be either routed to the sanitary sewer main west of the campus or to a new sanitary sewer main that could run parallel to the existing main.

Quantitative & Qualitative Analysis

Capital Needs Assessment: Traffic and Parking

The Traffic and Parking Assessment was performed by Martin / Alexiou / Bryson, LLC during Task 3 of the Master Plan process.

Introduction

East Carolina University is expected to see a significant amount of growth on both Main Campus and the Health Sciences Campus in the next 15 years. This growth will put pressure on the limited land resources and the transportation infrastructure serving the campuses.

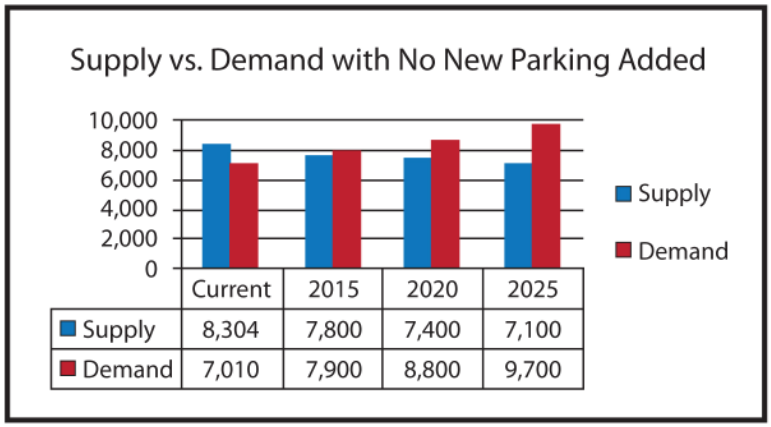
The anticipated growth will increase the demand for parking as new students, faculty, and staff are added to the limited physical space. In addition to this increased demand for parking spaces many building projects planned for the next 15 years will reduce the available parking supply. This increasing demand for parking coupled with the decreasing supply of parking will require changes to the University's parking infrastructure. While the existing system works well for the current conditions it is not adequate for a growing university.

This Campus Transportation Master Plan provides a strategy to meet the University's current and future transportation needs. It focuses on plans and policies that meet the needs of the University, which also help to enhance the campus environment and provide sustainable solutions. The Campus Transportation Master Plan presents recommendations for Pedestrians, Bicycles, Transit, Parking, and Travel Demand Management (TDM) programs.

Plan Creation

Stakeholder involvement was critical to developing the Campus Transportation Master Plan. Numerous task force meetings were held to develop awareness and to exchange information and ideas with the University community. The campus community was also engaged on a direct level at open house events. Additionally, an online survey was conducted early in the process to help identify commuting trends and gauge attitudes about transportation options.

Extensive analysis also lies behind the Plan. Parking supply and demand were forecast into the future (Refer to Figure 18). Commuter addresses were mapped ('geocoded') to show



	Current	2015	2020	2025
Supply	8,304	7,800	7,400	7,100
Demand	7,010	7,900	8,800	9,700

Figure 18 - Parking Analysis

which of the potential improvements would benefit the most people. The SmithGroupJJR team walked and rode buses around each campus and between campuses. A final round of events was held in Spring/Summer 2011 to present the draft Plan and confirm a broad level of support.

Parking and Growth

Today East Carolina University has more parking spaces than demand requires. Many of the spaces are not located where the drivers would prefer, however. Specifically, there is a strong desire for more parking spaces in the center of Main Campus.

At of the start of the 2010-2011 academic year, there were approximately 1,300 surplus spaces during the peak period. The bulk of these surplus spaces are located ½ to 1 mile south of Main Campus at the Minges Park & Ride lot and the lots near the HHP section of campus.

If no new parking were to be constructed between now and 2025 that 1,300 space surplus will turn in to a 2,600 space deficit.

Plan Goals

The Campus Transportation Master Plan has the following goals:

1. Support the Physical Master Plan.
2. Identify cost-effective solutions to existing and future problems.
3. Identify and advance sustainable practices where possible and practical.

The Campus Transportation Master Plan includes a comprehensive set of strategies, as well as particular strategies for walking, cycling, transit, and parking. There are also strategies for managing travel demand. Each strategy contributes to the overall goals, and most importantly, all the strategies complement each other. Highlights from the specific recommendations for each strategy are listed below. Many of the recommendations contribute to several strategies.

Pedestrian Improvements

Perhaps no mode of transportation is more important to the operations of a college campus than walking. Efficient and open paths between buildings are necessary so schedules can be maintained and buildings can be utilized effectively.

The Physical Master Plan has much in the way of design standards for paths on campus so the recommendations in this section focus mainly on what connections need to be made.

Recommendations and Supporting Policies:

1. Develop a better connection to the Reade Street Corridor including upgrading the intersection of Reade Street and 5th Street or possibly providing a grade-separated option.
2. Close Founder's Drive to through traffic in order to create a pedestrian-friendly central campus.
3. Improve paths along the periphery of campus. Many paths along the periphery of campus, 10th Street, Reade Circle, and Cotanche Street, have undersized sidewalks and obstructions within the sidewalk.
4. Work with the City of Greenville to improve the 10th Street Corridor by creating a consistent cross-section and reducing the width of (or eliminating) some drive ways.
5. Work with the City of Greenville to improve sidewalks in the neighborhoods surrounding the University to improve the journey to campus.
6. Develop a wayfinding plan.

Bicycle Improvements

Cycling is by far the mode of transportation with the most potential to grow. The climate is fairly temperate and the general terrain of the city is flat. These factors allow for an easier commute. There is good infrastructure on the campus to support cycling, and the recommendations in this section provide a path for improving that infrastructure significantly. The greatest improvement to cycling in the area will come in partnering with the City of Greenville to implement the projects outlined in the Greenville Urban Area MPO (GUAMPO) Bicycle and Pedestrian Master Plan.

Recommendations and Supporting Policies:

1. Add new paths around campus and new bicycle parking locations.
2. Work with the GUAMPO to implement the Greenville Bike Plan.

3. Continue to evaluate the need for bike racks on buses. This applies to both East Carolina University Student Transit Authority (ECUSTA) and Greenville Area Transit (GREAT).
4. Add a bicycle repair station on or near campus.
5. Work towards achieving Bicycle Friendly University status from League of American Bicyclists.
6. Provide cyclists access to showers, ideally located in multiple campus buildings.
7. Provide bicycle parking near all buildings where feasible.
8. Provide covered bicycle parking where possible including under eaves/overhangs of buildings, in parking decks, and in covered bike lockers.
9. Maintain and expand Pirate Ride.
10. Adopt a Complete Streets policy.
11. Discuss bicycle options with incoming students during orientation.
12. Work with Bicycle Advisory Committee to continue to refine this plan.
13. Promote bicycle options as an alternative to driving.

Transit Improvements

ECUSTA runs a very robust, high quality and cost efficient transit service that aims to meet the varying needs of the student body. Throughout this project ECUSTA, in coordination with the SmithGroupJJR team, has made a number of improvements to the transit service to reduce redundancy and cost while maintaining the high level of service. Many of the low hanging fruits, such as reducing the number of stops or consolidating routes, have already been picked. Near-Term Recommendations and Supporting Policies:

1. Consolidate afternoon service to apartments to more accurately reflect demand (planned for Fall 2011).
2. Develop a true main campus circulator route. This route could also serve downtown destinations that are adjacent to campus, but cannot serve downtown destinations that are not adjacent to campus.
3. Continued route consolidation.

Long-term Recommendations and Supporting Policies:

1. Shift transit hub to the new Student Union.
2. Develop new service and maintenance facility.
3. Expand focus from student-centric service to the entire campus community.
4. Shift the Red Route from 5th Street to 10th Street when the 10th Street Connector project is finished.
5. Create shuttle and/or circulator service for Health Sciences Campus.
6. Maintain and deepen relationship with Parking and Transportation Services. Consider consolidation.
7. Continue to develop a web-based transit portal that shows the location of all buses.
8. Add automated passenger counters to all buses and train drivers in techniques to improve accuracy of data.

Parking Improvements

As noted above there is currently a surplus of parking campus-wide. That surplus is not expected to last long, potentially being completely eliminated within five years. Given the desired growth it will no longer be possible to continue to provide all faculty and staff, as well as some students, parking on or near the center of main campus. This means there will be a change in how parking is located and distributed which will require a new approach to meet the changing needs of the University and the campus population.

Main Campus Recommendations and Supporting Policies:

1. Construct a 5-story deck in concert with the new Student Union on the location of the existing WC-8 lot (near Mendenhall). This deck will need to be approximately 5 stories in height and have a capacity of near 1,000 spaces. Some spaces will be reserved for short-term parking and some for permit parking. Any short-term parking should be controlled via pay on foot stations. This deck will need to be constructed in the four to seven year time frame, depending on the pace of campus population growth and building construction. This deck could be constructed earlier to provide a cushion of spaces to offset any temporary losses due to construction.
2. Construct a new 1,300 space surface Park & Ride lot near the HHP section of campus. This lot can be constructed in phases as needed.

3. Construct one additional deck that provides a net increase of approximately 500 spaces. This deck is likely needed in the ten- to fifteen-year time horizon. Specific location is to be determined but initial thoughts are to construct this deck on the site of the existing surface lot on College Hill Drive south of 10th Street.
4. Consolidate parking permits and revise prices to reflect new parking options.
5. House freshmen resident students in residence halls on Main Campus. Maintain residence halls on College Hill Drive for upperclassmen where possible.
6. Adopt a "Park Once" philosophy to cut down on intra-campus vehicle trips during the day.

Health Sciences Campus Recommendations and Supporting Policies:

1. Construct a 700 space deck north of the Family Medicine Building with access to MacGregor Downs Road.
2. Construct 200 sub-grade parking spaces as part of the Medical Education Building.
3. Construct a lot of roughly 600 spaces to accompany the new Cancer Center.
4. Consolidate existing permit types, such as the A3, A5, and A7. The existing A, B, and C designation can be retained. Those permit types should be divided in to two sub-categories; one for the south side of the Health Sciences Campus and one for the north side of the Health Sciences Campus.
5. Begin charging visitors for parking to develop a fund to pay for/off set parking deck construction. Such fees should be limited at this time to a maximum of what PCMH charges.

Travel Demand Reduction Strategies

In addition to the parking strategies recommended above, the University should continue to promote and incentivize the use of alternative modes. Such policies can have a significant cost benefit for the University, potentially reducing the size of, or need for, the second deck on main campus. Travel demand reduction strategies also help to promote sustainable development and maintain land for buildings or open space.

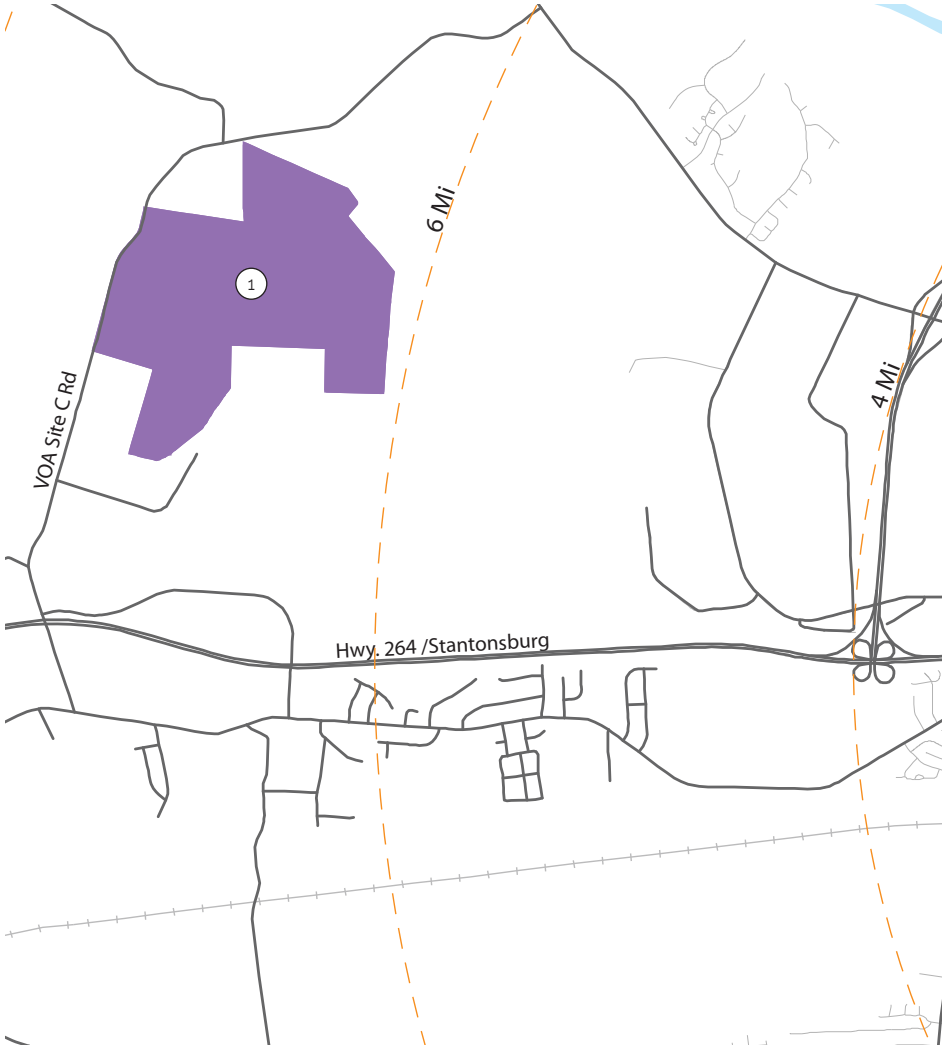
Recommendations and Supporting Policies:

1. Construct a 400 space student storage lot, located in Warehouse District near Campus Police Station. Lot must be fenced and gated and served by transit once or twice a day. This lot could reduce parking demand on Main Campus by 400 spaces.
2. Examine the viability of Park & Ride lots for employees. Possible locations include (a) along Highway 264 near the North Recreational Complex, (b) on Stantonsburg Road near US-264, and (c) along S. Memorial Drive near Pitt Community College.
3. Consider parking restrictions for students, particularly underclassmen and those living near campus or in apartment communities served by ECUSTA. Student parking bans have the largest potential to reduce parking demand.
4. Provide incentives to those persons who pledge to not buy a parking permit. Package could include passes for parking on campus five to ten days a year, access to shower and locker facilities for cyclists, and free or reduced cost GREAT transit passes.
5. Promote and refine ride matching service for those persons who want to carpool.
6. Reserve premium access parking spaces for carpool/vanpool riders.
7. Develop a process to monitor parking demand and update future parking demand annually or biennially.
8. Work to adjust class scheduling to minimize peaking.
9. Hire a full time TDM coordinator with a dedicated marketing budget as warranted.

Physical Planning Analysis

Regional Campus Context

1. West Research Campus
2. Health Sciences Campus
3. Warehouse District
4. Downtown Greenville
5. Main Campus
6. North Recreational Complex



Location

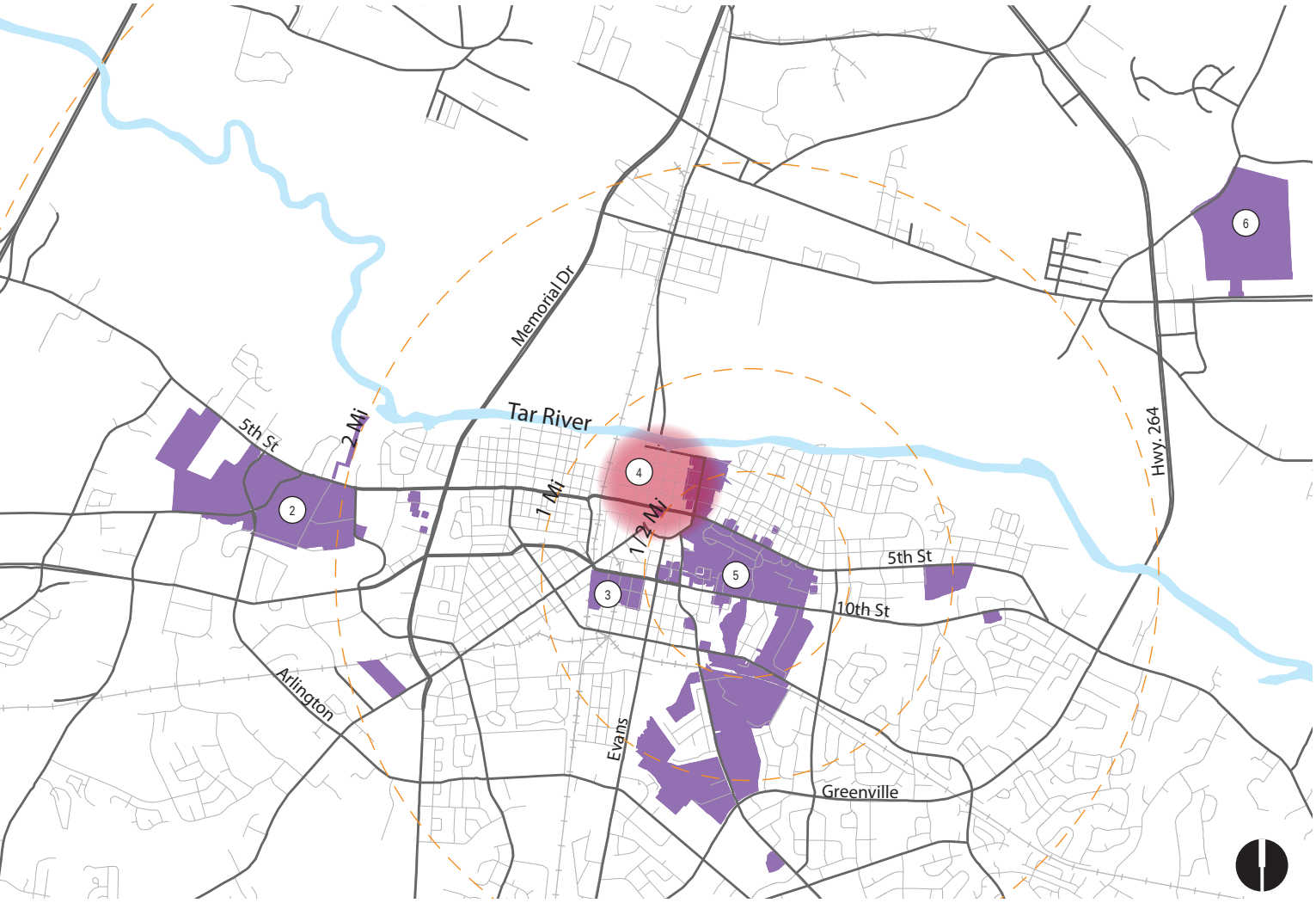
East Carolina University is located in the eastern portion of the State of North Carolina, approximately 85 miles from the capital city of Raleigh. It is situated in the center of Pitt County within the Greenville metropolitan region.

According to the U.S. Census Bureau's 2010 findings, Pitt County is one of the fastest growing counties in North Carolina, reflecting a more than 25 percent change in population over the last decade. Greenville is the county's largest city with a population of approximately 85,000 permanent residents.

East Carolina University serves as a significant driver of economic development for both the state and the region with over two billion dollars generated annually for the state's economy. In addition, East Carolina University and its educational partner, PCMH, both in Greenville, serve as the county's largest employers.

Campus Composition

East Carolina University comprises four major campuses: Main Campus, Health Sciences Campus, West Research Campus, and the North Recreational Complex. The historic



Main Campus borders the eastern portion of Greenville's downtown business district. While this is ECU's second largest campus at approximately 410 acres, it provides the widest range of educational facilities and core student life activities for the University. The Main Campus' academic component is focused on the humanities, fine arts, business, education, and health and human development. The Dowdy-Ficklen Stadium, located in the southern portion of the Main Campus, serves as the centerpiece to a well-developed athletics complex. All University-owned student housing is located on this campus.

ECU's Health Sciences Campus is located approximately 2 miles west of the Main Campus near PCMH. It serves as home to the University's health sciences professions.

The West Research Campus comprises 580 acres, with wetlands occupying approximately 65 percent of this land. It is located 7 miles west of the Main Campus. Biology and botany research is the primary focus of this campus.

Three miles northeast of the Main Campus is the North Recreational Complex. It is used for intramural sports and recreational activities.

Physical Planning Analysis

Main Campus Overview

J.Y. Joyner Library

Main Campus Mall

Residence Halls

In 1907, East Carolina University was established as the East Carolina Teachers Training College on 47-acres along 5th Street, east of downtown Greenville. This land now forms the historic Academic Core of the Main Campus' 410 total acres that has grown to support a campus population of 33,470. The campus maintains a linear north-south configuration stretching from the Tar River to Greenville Boulevard, approximately ¾ of a mile to the south.

As mentioned on the previous page, ECU's Main Campus serves as the focal point for academic and student life activities with 175 buildings totaling 4,807,026 square feet. The academic buildings predominantly lie in the eastern portion of the Academic Core with student life facilities focused to the west. An academic complex is located near the campus' southern boundary with a residential district centrally located between the academic and athletic districts. A Warehouse District is separated by three blocks west of the Main Campus along 10th Street.

A natural corridor consisting of woods, wetlands, and a flood zone run from 10th Street to the southwest portion of campus. These natural areas comprise 61 total acres of the Main Campus. Soils consist mostly of sandy loams with some areas of hydric soil located within the Green Mill Run watershed area, woodland areas, and drainage areas south of the Tar River.

Topographic change is minimal in the built portions of campus. However, steep slopes do exist along the west edge of campus near the Downtown District and in the Green Mill flood plain areas. Campus elevations range from approximately 10 feet above sea level to 62 feet above sea level.

Utilities are easily accessible with major utility corridors running east to west in the central portion of campus and around perimeter streets.

Health Sciences Campus Overview

Health Sciences Building

East Carolina University Heart Institute

Brody Medical Sciences Building

East Carolina University's Health Sciences Campus was established in the 1980s with the goal of locating the University's allied health programs closer to PCMH. As the flagship hospital for eastern Carolina and the teaching hospital for ECU's Brody School of Medicine, PCMH serves an important educational alliance for the University.

The Health Sciences Campus occupies approximately 200 acres from PCMH north to 5th Street. It is located approximately 2 miles west of ECU's Main Campus. The Brody School of Medicine is directly connected to the hospital to provide easy interaction between the two entities. The Health Sciences Campus also includes some medical office properties that lie between Moye Boulevard and Memorial Drive. No Student Life programs exist on the campus, although private multi-family residential areas are located nearby.

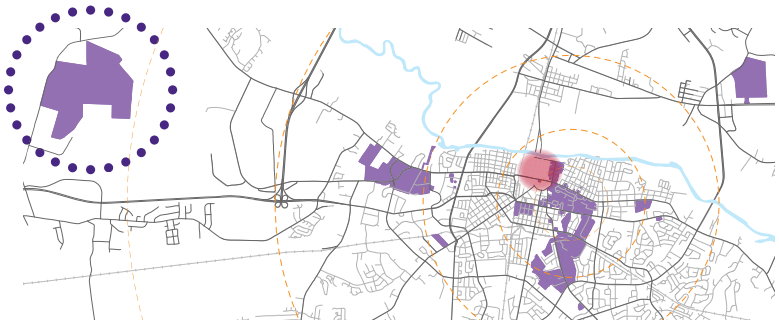
Natural areas comprise approximately 96 acres of the Health Sciences Campus. This is defined by a natural wooded corridor that exists west of MacGregor Downs Road to the western border of the campus. A few small wetland pockets are also present within this undeveloped land.

The property's soils are predominantly sandy loam with a few areas of hydric soils that may be limiting to development. These soils are typically located east of MacGregor Downs Road and along the Health Sciences Campus' northern border with 5th Street. The majority of the site's drainage naturally flows towards 5th Street.

Overall, the Health Sciences Campus is relatively flat, but steep slopes do exist along the eastern edge of MacGregor Downs Road. Elevations range from approximately 30 feet to 66 feet above sea level. Major utility corridors exist in the center of campus making future expansion very feasible.

Physical Planning Analysis

West Research Campus Overview



West Academic Building

Weather Station

Research Facilities

The West Research Campus is a unique feature of East Carolina University's academic resources. The University acquired the 580 acre property, located approximately 7 miles west of the Main Campus, in 2001. It now provides an important research and educational facility for ecological studies with the unique advantage of allowing long-term experiments to be accommodated. This campus is used by a variety of ECU's research programs such as biology, ecology, field botany, field zoology, and ornithology.

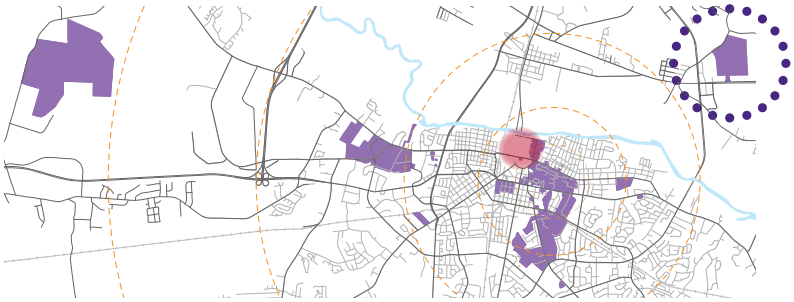
The property is largely undeveloped with only four buildings constructed that comprise a total of 36,000 square feet of academic and storage space on the campus. Metal radio transmission towers, numbering 20, are scattered across the site. A majority of the campus is occupied by 367 acres of wetlands, which supports a diversity of plant communities allowing for many research opportunities.

The majority of the campus is a poorly drained mineral flat with sandy loam soils. Of these sandy loams, most are limiting to building development. The upland areas of the property support woodlands and an open savanna-like habitat. Campus elevations range from approximately 66 feet above sea level to 86 feet above sea level.

In 2008, an *Ecosystem Management Plan* and a *Proposal for WRC Land Use* were established to outline efforts to restore and maintain significant ecological characteristics of the campus. This includes the recommendation for biannual prescribed burns of all undeveloped areas.

Utility infrastructure is lacking on the campus, making future development here costly. For this Master Plan, the West Research Campus was eliminated from any consideration of further development.

North Recreational Complex Overview



Field House

Multi-purpose Athletic Fields

Team Training Challenge Course

The North Recreational Complex is located approximately 3 miles northeast of East Carolina University's Main Campus, along Highway 264 East. Its intended purpose is to meet the recreational needs of ECU's students. A master plan for the 130-acre property was completed in January 2010 with phase 2 recently opened in August.

The complex features eight multi-purpose athletic fields which have been sized to accommodate soccer, flag football, lacrosse, ultimate Frisbee, and rugby. A field house is located adjacent to these fields to provide seating space, restrooms, and equipment storage.

The phase 2 development includes a boat house that overlooks a 6 acre lake for swimming, fishing, kayaking, and boating. A sand beach lines a portion of the lake.

The North Recreational Complex also features a 5K running trail, six walking/jogging trails, and a team training challenge course.

During this master plan process, no further site improvements were proposed for ECU's North Recreational Complex.

North Recreational Complex Master Plan (image courtesy of Site Solutions)

Physical Planning Analysis

Campus History and Growth

Beginning in 1902, a statewide campaign to enhance North Carolina's educational system gained widespread public support. As a result of this effort, the General Assembly voted in 1907 to establish a two-year teacher training college. East Carolina Teachers Training School was then established in Greenville on its present site, previously known as Harrington Hill.

Immediately following, a New York landscape architect, Louis Miller, was hired to envision the future of East Carolina Teachers Training School. The school evolved in a linear arrangement along 5th Street (now the Campus Core of Main Campus).

In 1920, the college transitioned to a four-year degree granting institution, renamed East Carolina Teachers College. President Wright oversaw this conversion and endorsed expansion plans in 1924 that resulted in creation of a more internalized campus layout.

By the 1930s, land surrounding the college had been developed into single-family residences. It was at this time that the campus began to expand to the southeast, taking on its current north-south linear configuration.

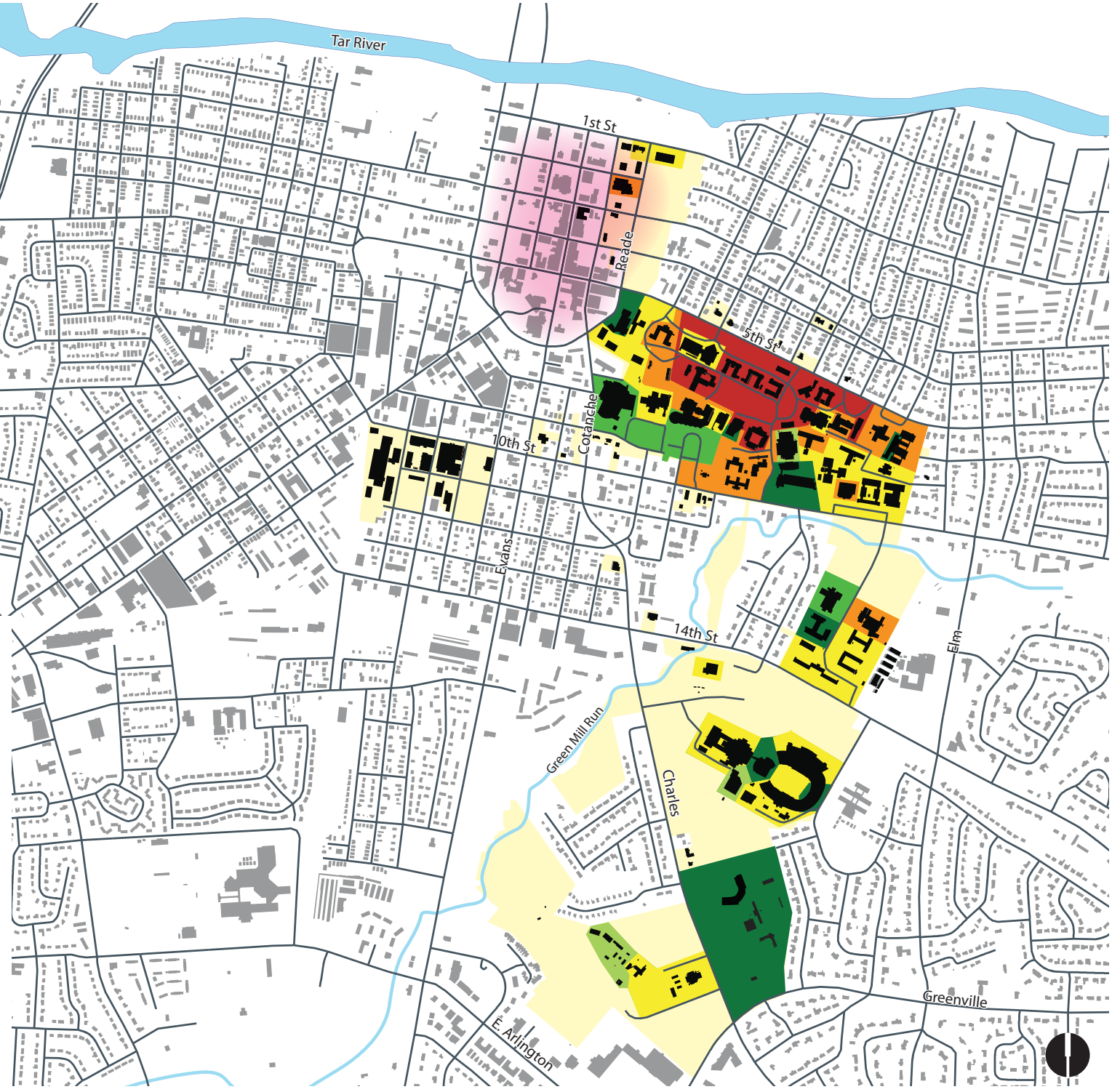
Establishment of the G.I. Bill in 1944 meant increased enrollment for East Carolina College. This propelled significant campus expansion efforts during the 1950s-60s. In 1967, the North Carolina General Assembly approved re-establishment of the college as East Carolina University.

The Health Sciences Campus evolved in the 1970s with the purchase of 40 acres west of the newly planned PCMH. This campus continued to grow over the decades and has become an important regional medical destination.

By the 1980s, ECU's Main Campus had extended southeast to Greenville Boulevard with continued construction. During the beginning of the 21st century, ECU established two new campuses, the West Research Campus and North Recreational Complex. East Carolina University now comprises four campuses and nearly 1,000 total acres of land.

CAMPUS GROWTH

- 1900 - 1930's
- 1940 - 1950's
- 1960 - 1970's
- 1980's
- 1990's
- 2000's
- Not Developed


Tar River
1st St
Reade
5th St
10th St
Cotanche
Evans
14th St
Elm
Green Mill Run
Charles
E. Arlington
Greenville

Physical Planning Analysis

Community Context and Land Use

Main Campus

East Carolina University has evolved from its presence along 5th Street a century ago to a linear north-south configuration today that stretches from Downtown to Greenville Boulevard. Development on Main Campus has tended toward segmented land use districts with academics focused to the east and student life to the west in the Campus Core. A Residential District is centrally located between the Athletic Complex and the Academic District and a Warehouse District is separated three blocks from the Campus Core.

In regards to floor area ratio (FAR), the Downtown District has a lower FAR than a comparable sized neighbor, such as is found between 1st Street and 4th Street (0.08 vs. 0.70). The Student Services District has a lower FAR compared to the Academic Core District (0.38 vs. 0.71) and the South Academic District has a relatively lower FAR (0.04) than the Academic Core District. The North and South Residential Districts have comparable FAR's (0.63 vs. 0.67)

Health Sciences Campus

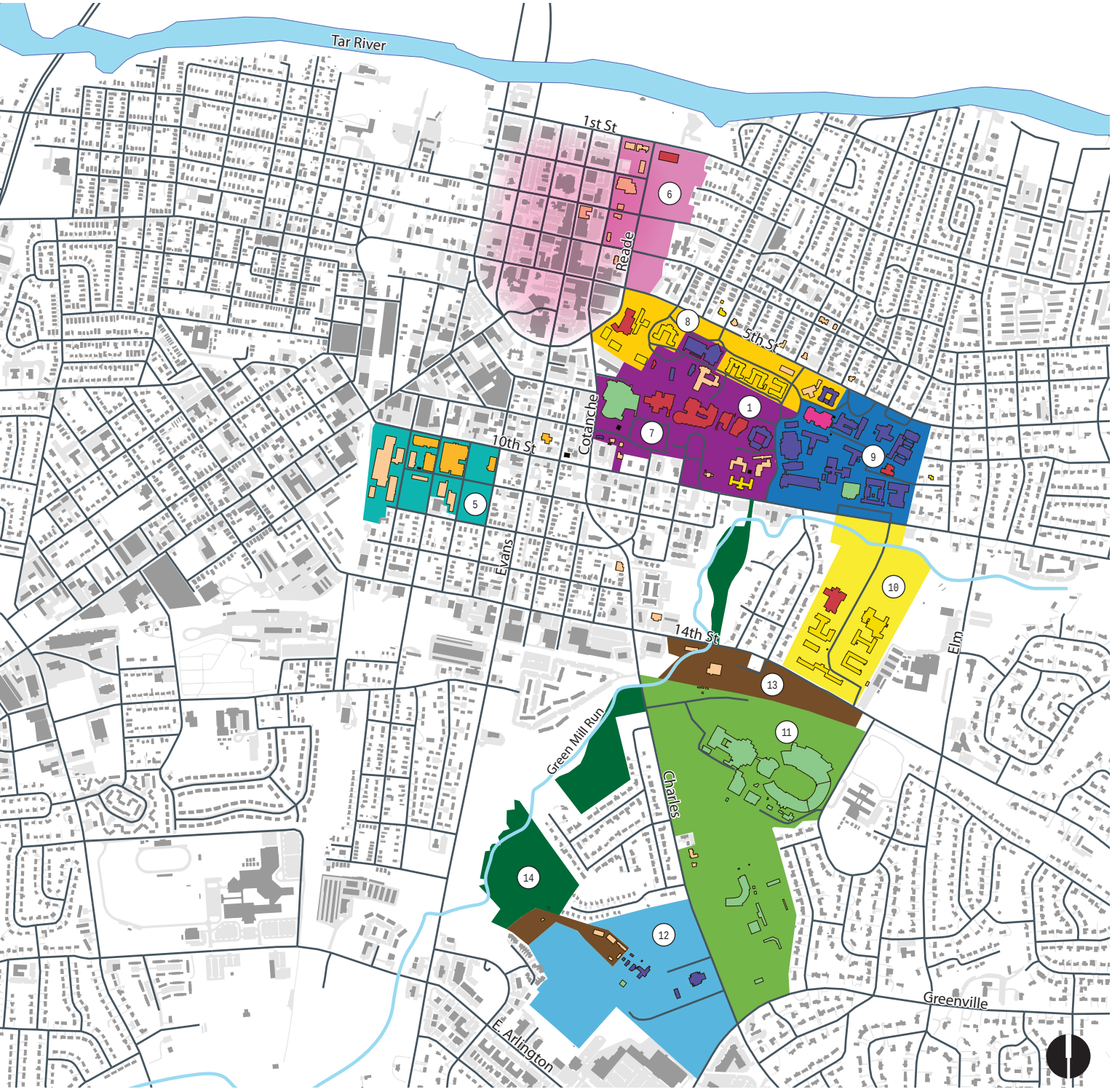
As previously mentioned, the Health Sciences Campus is entirely devoted to academic and institutional facilities with no student life programs. The Brody District has an FAR of 0.71 and the Learning Center District will have a FAR of 0.32 upon completion of the Family Medicine and Dental Schools. The Support Facilities District has a relatively low FAR (0.05) due to parking and retention, while the West Parcel remains undeveloped.

EXISTING BUILDING USE

- Academic Use
- Academic / Institutional
- Research
- Recreation / Athletics
- Natural Area
- Mixed Use
- Special Use (Union, Dining)
- Residence Hall
- Campus Service / Support
- Unoccupied

OBSERVED EXISTING DISTRICTS

1. West Parcel District
2. Learning Center District
3. Support Facilities District
4. Brody District
5. Warehouse District
6. Downtown District
7. Student Services District
8. North Residential District
9. Academic Core District
10. South Residential District
11. Athletic / Recreation District
12. South Academic District
13. Support Facilities District
14. Natural Areas District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Physical Planning Analysis

Natural Features Analysis

Main Campus

The City of Greenville is located in the coastal plain region of North Carolina. The area is relatively flat and contains the fourth largest river basin in the state: Tar-Pamlico River Basin. The Tar River frames the northern edge of downtown Greenville and a tributary, Green Mill Run, creates a major drainage corridor through the southwestern edge of campus. Significant floodplains associated with Green Mill Run encroach on ECU property creating flooding issues on 10th Street during times of heavy rain.

The Main Campus is generally flat, except for river bank and floodplain areas which contain areas of steep slopes. The high point of campus lies at the intersection of Greenville Boulevard and Charles Boulevard. From this high point, a ridge runs beyond the eastern border of the campus through the Forest Hill Neighborhood, from Greenville Boulevard north to 14th Street. All campus stormwater runoff eventually discharges into the Tar River. Poor soils that limit building development are found in the floodplains surrounding the Tar River, Green Mill Run, and their associated tributaries.

Floodplain forests originally populated this land prior to European settlement. Now, natural wooded areas comprise 61 acres, or 15 percent of the Main Campus landscape. Approximately 30 percent of ECU's Main Campus consists of mown lawn areas scattered with canopy trees.

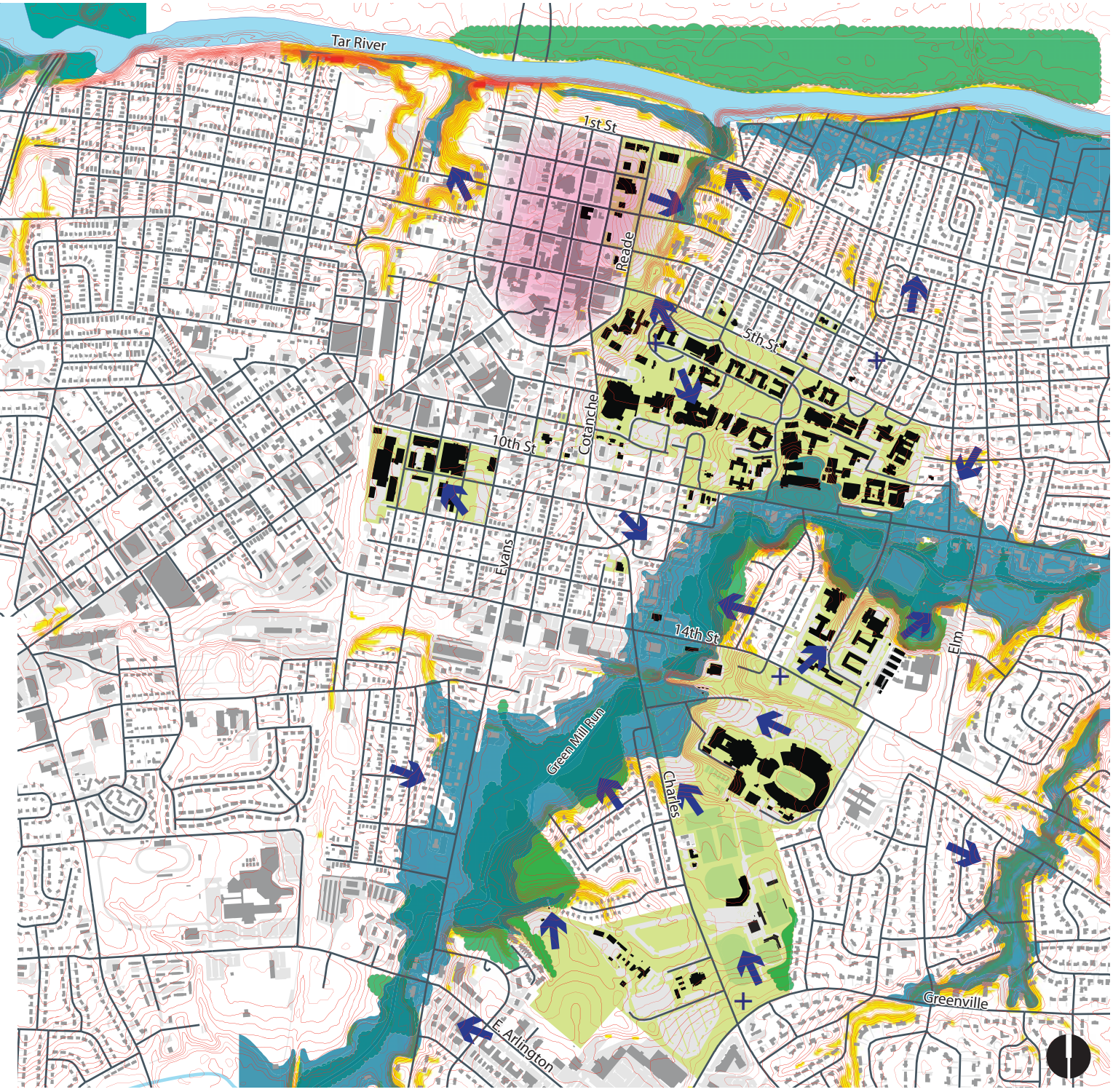
Health Sciences Campus

The Health Sciences Campus is also located in the Tar-Pamlico watershed with all stormwater runoff ultimately flowing into the Tar River. A FEMA Flood Zone crosses 5th Street, but does not impact the majority of the campus.

Topographic change is relatively minimal except for steep slopes in a wooded area east of MacGregor Downs Road and lowlands adjacent to 5th Street. These are also the areas where hydric and limiting soils can be found on campus, although few wetlands exist.

EXISTING NATURAL FEATURES

- Wooded Area
- Flood Zone
- Water Body
- Steep Slopes
- 4' Contour Interval
- Surface Flow Direction
- High Point
- Campus


Tar River
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Reade
5th St
10th St
Cotanche
Evans
14th St
Elm
Green Mill Run
Charles
Greenville
E Arlington

Physical Planning Analysis

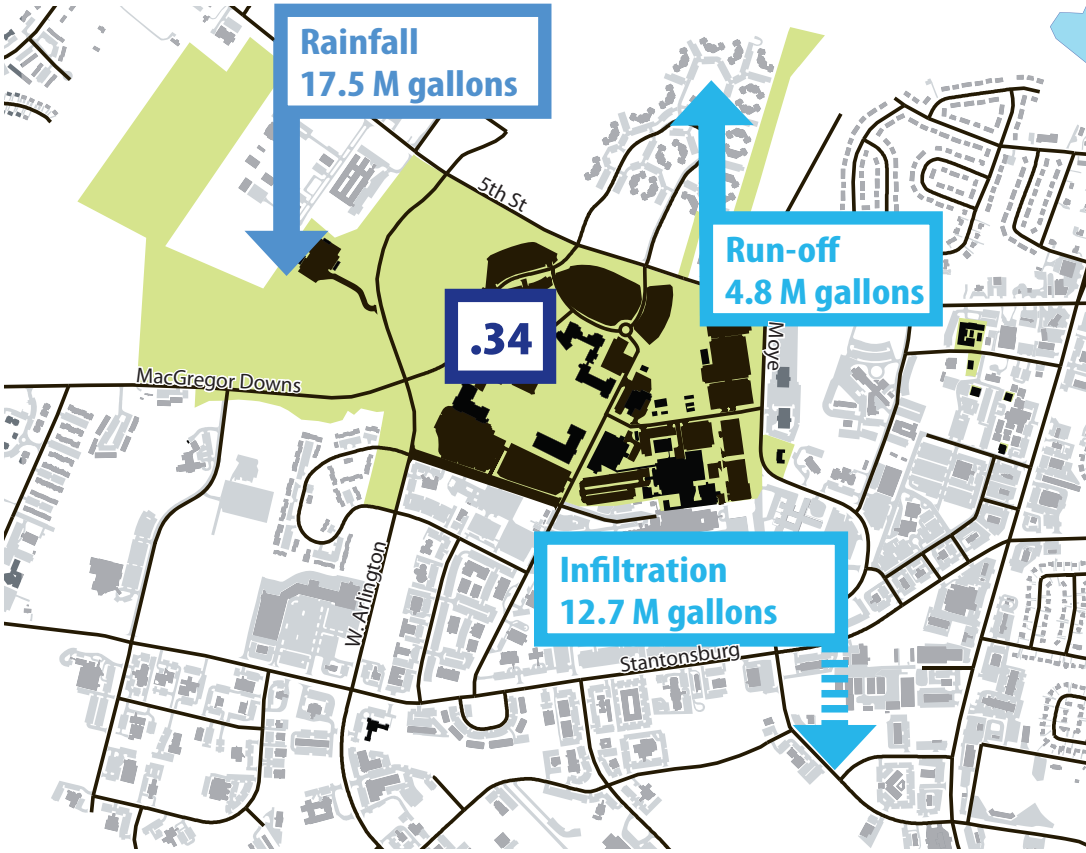
Impervious Area Analysis

Main Campus

East Carolina University's location within in the Tar-Pamlico watershed has historically resulted in flooding along 10th Street on Main Campus. It typically follows a heavy rain event and is due in considerable measure to development upstream. While activities upstream are out of ECU's control, the University does have the power to serve as a leader among institutions within Greenville and also within the UNC system for the incorporation of progressive stormwater initiatives on campus.

Prior to development, the land now occupied by ECU's Main Campus was wooded with a pre-settlement stormwater runoff coefficient of 0.05 and stormwater runoff volume of 1.7 million gallons. Compare this to the current runoff coefficient of 0.53 and 18.3 million gallons of stormwater that currently leaves ECU's property. These numbers indicate that significantly more stormwater is now flowing off of the site untreated and at a much faster rate, as opposed to previously infiltrating into the soil. A faster rate of runoff combined with large quantities of impervious surface are the leading causes of flooding.

The State of North Carolina has recently implemented a series of nutrient reduction requirements that have also been incorporated into the City of Greenville's stormwater regulations. The measures focus on capturing and treating stormwater at the point where it falls to reduce flooding and improve water quality. Currently, Main Campus has no stormwater controls, which allows water to run directly into Green Mill Run and the Tar River. The University should use the City and State regulations as a guide and strive towards pre-settlement patterns.



EXISTING IMPERVIOUS AREA

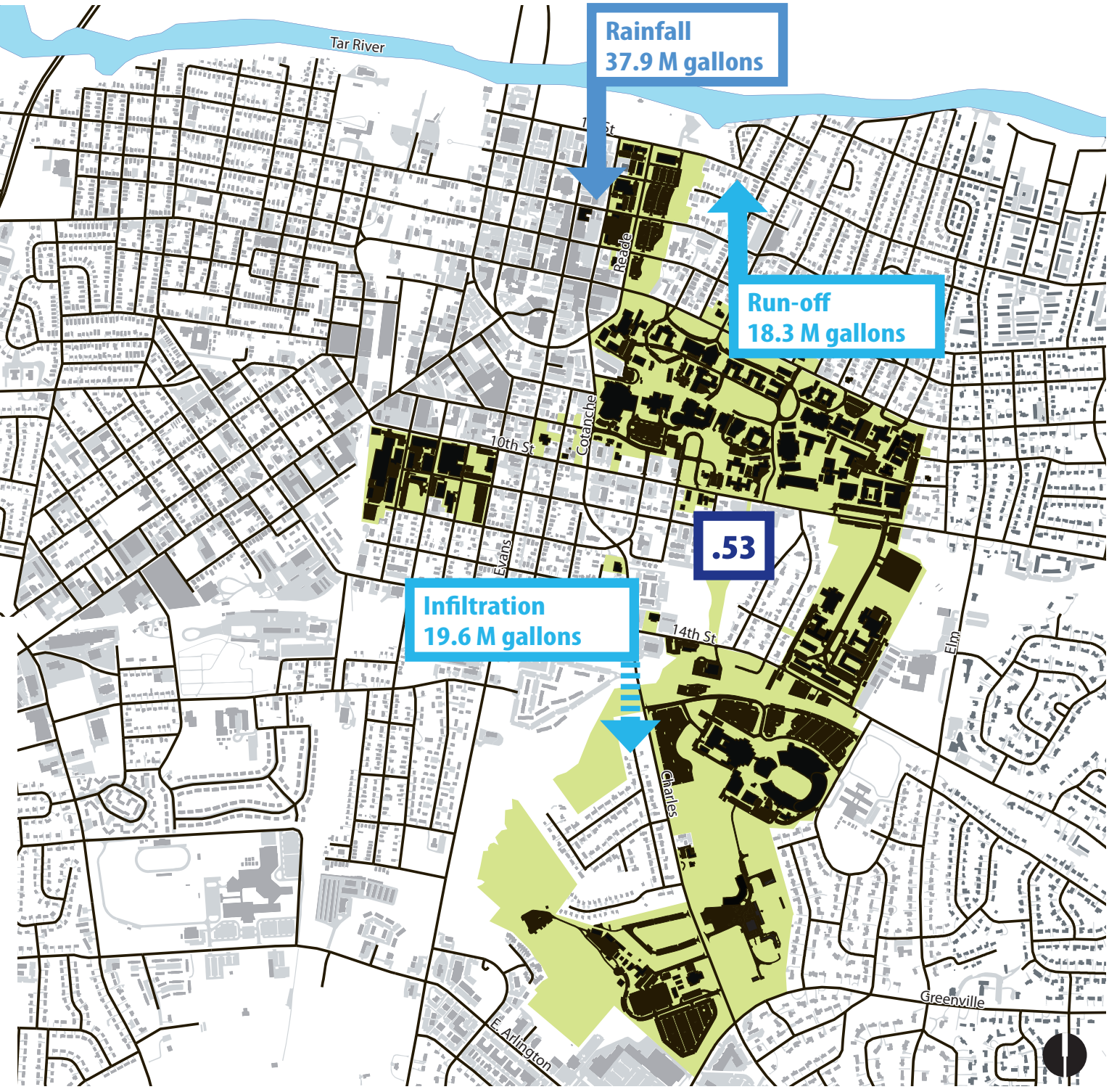
Impervious Area
- 50 acres Health Sciences Campus
- 200 acres Main Campus

Pervious Area
- 140 acres Health Sciences Campus
- 210 acres Main Campus

(runoff coefficients based on a 1 year/24 hour storm)

Health Sciences Campus

Similar to Main Campus, the pre-development runoff coefficient and stormwater volume were significantly lower than they are today, 0.05 and 751,000 gallons versus 0.34 and 4.8 million gallons. As impervious surface increases on Health Sciences Campus through new growth, it will also be important to incorporate sustainable stormwater strategies.


Rainfall
37.9 M gallons
Tar River
Run-off
18.3 M gallons
Reade
Cotanche
10th St
.53
Evans
Infiltration
19.6 M gallons
14th St
Elm
Charles
Greenville
E. Arlington

Physical Planning Analysis

Public Realm Analysis

Main Campus

East Carolina University's campus began along 5th Street. This history is visible in the fact that 5th Street demonstrates the most comprehensive and fully developed, high-quality edges and gateways on Main Campus. This corridor serves as a model for other areas of campus. Comparatively, 10th Street's edges and gateways range from medium to lower quality. ECU's edge with the Downtown District along Reade Street varies from a medium to low quality. It offers future opportunity for enhancement. Recent streetscape improvements along Charles Boulevard and at the intersection with Greenville Boulevard have improved the overall quality of this edge, befitting this important campus gateway.

The central mall within the Academic Core District serves as a highly contributing open space for the Main Campus. The Main Campus also benefits from a deep setback along 5th Street that is lushly planted. There are some exterior spaces, particularly in the central portion of the Main Campus, that lack definition and programming. These open spaces are most evident along the 10th Street edge and within the central Residential District.

Health Sciences Campus

On the Health Sciences Campus, 5th Street and northern portions of MacGregor Downs and Moye Roads demonstrate high quality edges. However, the gateways in these areas are of a medium to lower quality.


Tar River
1st St
Reade
5th St
10th St
Cotanche
Evans
14th St
Elm
Green Mill Run
Charles
Greenville
E. Arlington

Physical Planning Analysis

Circulation Analysis

Main Campus

A primary goal of the Master Plan is to develop better connectivity and identity between Main Campus and the Health Sciences Campus, as well as with downtown Greenville. Presently, minimal indicators exist to inform visitors of the relationship between the two campuses. The information below highlights specific conflict locations on campus that should be resolved to encourage better and safer connectivity.

Pedestrian conflicts exist along 5th, 10th, and Cotanche Streets. This is due to a lack of pedestrian crosswalks along each street. 10th Street presents particular concern because it is a vital pedestrian crossing point on campus and supports a high traffic load. Railroad tracks south of 14th Street also bisect Main Campus and present pedestrian conflicts.

Seamless pedestrian connectivity across Main Campus is limited by pedestrian corridor gaps in several locations within the Academic Core, as well as between Campus and the Downtown District, Campus and the Warehouse District, the South Residential District to the Athletic District, the Carol Belk Building from Charles Street, and between Main Campus and Health Sciences Campus. In terms of vehicular connectivity, gaps are less prevalent on campus, but a strong vehicular link is lacking between Main Campus and the Health Sciences Campus.

Vehicular and pedestrian conflicts exist at the Christenbury bus hub, at the 10th Street and College Hill Drive intersection, and along Cotanche, 5th, and 10th Streets where a lack of crossings exists.

Health Sciences Campus

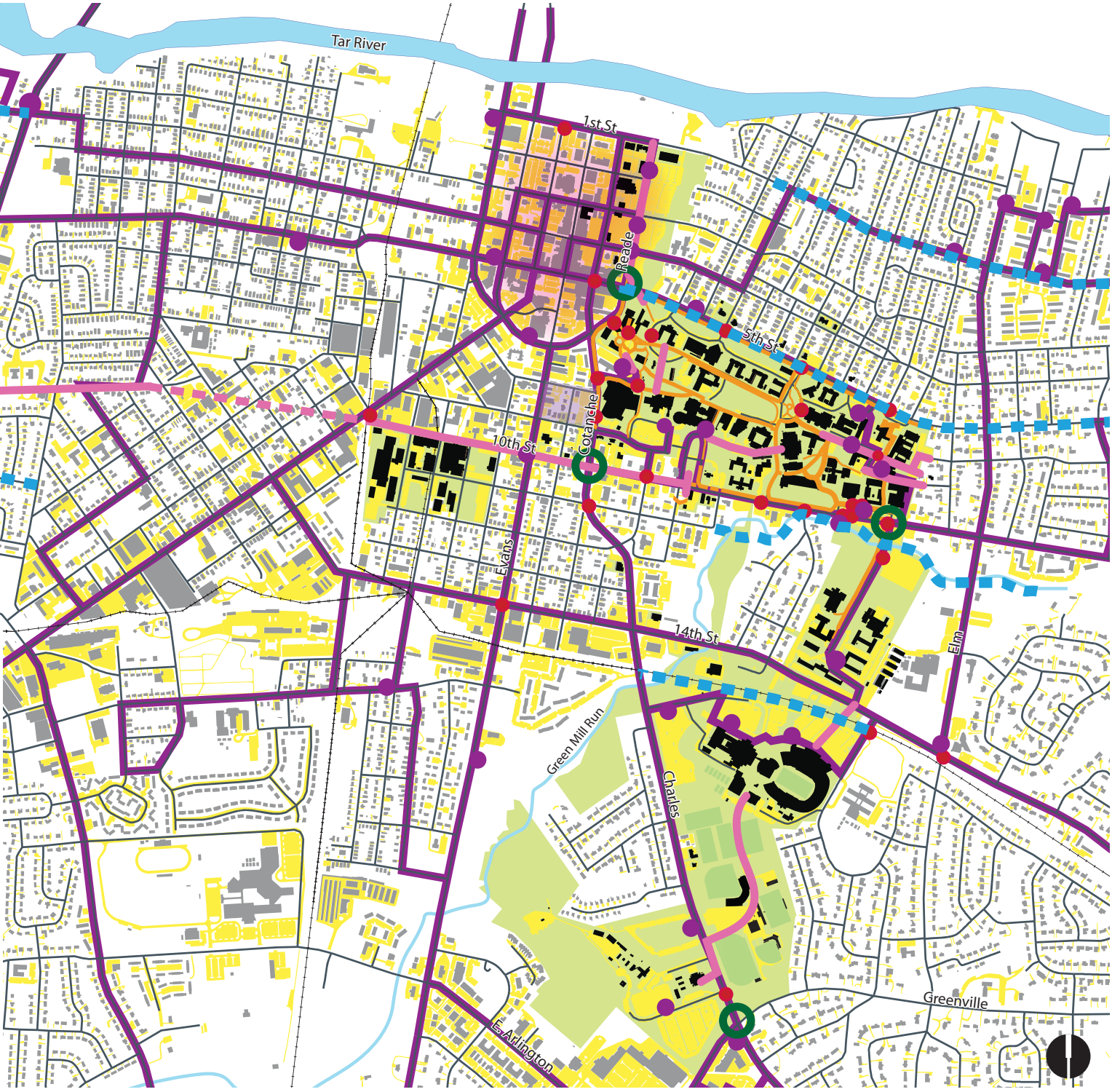
Pedestrian safety and connectivity are the overriding concerns for the Health Sciences Campus. This is due to pedestrian/vehicular conflicts along 5th Street, gaps in pedestrian walkways between newer academic buildings, and campus streets that lack companion walkways. As mentioned above, the connection to Main Campus should also be reinforced.

TRANSIT
- ECUSTA & GREAT Bus Stops
- ECUSTA & GREAT Bus Routes

VEHICULAR
- Parking
- Road Network
- Existing Gateway or Gateway Needed

PEDESTRIAN
- Major Campus Network
- Existing Bike Route

CONSTRAINTS
- Conflicts
- Gaps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Analysis Conclusion

Planning Challenges

Introduction

The analysis phase revealed numerous factors that significantly influenced the decision making process and shaped the physical character of the proposed Master Plan for East Carolina University. These challenges included issues uncovered during site analysis, as well as during discussions with various campus advisory groups. The challenges encompass items relating to compatible land use adjacencies, building condition and current program usage, pedestrian and vehicular circulation across campus, existing utility infrastructure, parking placement, and natural features.

Buildings and Land Use

The existing spatial configuration of both ECU's Main Campus and the Health Sciences Campus served as the primary challenge to physical master planning efforts and informed the development of alternative schemes. This particularly proved to be the case in determining the ideal placement of new academic facilities on Main Campus.

The Spatial Analysis findings, discussed earlier in this report, concluded that additional academic space was needed on Main Campus. However, the existing density of the Academic Core of Main Campus prevented the possibility of significant infill development and a floodplain boundary encroaches on much of the remaining undeveloped land. The analysis also revealed that academics were not nearly as integrated into the Campus Core District as previously imagined, with Founders Drive bisecting the core to create two distinct campus experiences.

It was ultimately determined that Christenbury Memorial Gymnasium should be demolished to provide space for a new building that will help define a science quad within the Academic District. It was also determined that the Main Campus should expand near the Cotanche Street and 10th Street intersection to accommodate new academic and student service buildings. This would result in a student services core with areas of academic focus surrounding it. Prior to making these decisions, the demolition of existing university buildings was carefully weighed against expansion into other districts or onto adjacent private land. In the case of Christenbury Memorial Gymnasium, analysis concluded that the gym was under utilized and not universally accessible, with limited opportunity for upgrades. For the proposed academic and student service facilities, large building footprints and close proximity to the Academic District were desired.

Along 10th Street, existing retail and restaurant uses adjacent to the Student Services District prevent ECU from establishing a defined

Existing Main Campus 10th Street frontage contains narrow walks and non-campus uses.


Pedestrian, parking and transit conflicts at the existing transit hub, south of Christenbury Memorial Gymnasium.

edge and strong image. People entering campus from Charles Street are not greeted by a front door to campus. The SmithGroupJJR team took this concern into consideration when siting new university buildings. While ECU's spatial program needs could have been accomplished within existing campus lands, ECU's image would have remained challenged unless improvements were considered for its 10th Street edge. The proposed location of new academic and student service buildings on Main Campus will eliminate this concern by defining a gateway into campus and creating a unified facade along 10th Street.

The Spatial Analysis findings also concluded that a portion of ECU's residential facilities should be renovated and/or reconfigured during the master plan process to address changes in residential trends. Initial discussions with the ECUs Advisory Committee revealed that no significant demand was present for residential facilities on the Health Sciences Campus. This focused consideration on infill development within the two existing residential districts on Main Campus. No significant buildable areas of land were present within the North Residential District and existing floodplain areas and steep topography limited development in the South (College Hill) Residential District. The space capacity and demolition studies suggested that Belk Residence Hall be demolished, presenting the opportunity for two new modern residence halls in its place.

The Warehouse District presented significant potential and very few challenges to development. With its existing position between Main Campus and the Health Sciences Campus, it was determined that it could serve as a new academic campus, as the headquarters for campus facility services, or as the location for public-private partnership initiatives. The challenge was to find ways for the Warehouse District to reinforce connections between the campuses along 10th Street.

ECU's proximity to downtown Greenville presented exciting opportunities to enhance connections between the two. Presently, Greenville's downtown is under utilized and many streets, such as Reade Street, lack a defined streetscape. One goal of the master planning effort was to better integrate ECU with downtown and position it to serve as an economic engine for this area. A significant challenge was overcoming the campus community's perception that this area would be unsafe. The presence of an existing riverfront park and small performing arts facility suggested that a diversity of university facilities should be located in this area and that it can become a vibrant, safe extension of campus.

Founders Drive bisects the Main Campus from 5th Street to 10th Street.


Utilizing the existing Health Sciences Campus land is challenging when attempting to maintain patient convenience.

On the Health Sciences Campus, the disparate relationship of university buildings made consolidation of campus facilities a priority. Ancillary and Ambulatory Clinics are presently located in leased buildings across Moye Boulevard and near Memorial Way. It was a challenge to determine the correct adjacencies that would best serve faculty, students, and patients. It was determined that the Brody School of Medicine building is not currently serving medical education to its best capacity. This offered an opportunity to consolidate the clinics and position them adjacent to a new medical education facility, PCMH, and the existing medical institutes. This included finding a location large enough to accommodate a sizeable building footprint, as well as an area for surface parking.

Parking

On both the Health Sciences Campus and the Main Campus, existing surface parking areas currently interrupt pedestrian connectivity and dilute their respective open space networks. The objective of master planning efforts on both campuses was to discourage parking within the campus core to create open spaces for students to gather. On Main Campus, a challenge was helping people understand the value gained by displacing parking to the perimeter. The Health Sciences Campus also required careful consideration of parking needs versus open space enhancement.

With the reconfiguration of clinics near the proposed medical education facility and PCMH, it became evident that existing surface parking demands would increase in the southwest portion of the Health Sciences Campus. It was determined that surface parking lots should be designated solely for patients and that faculty, staff, and students should be accommodated on the periphery of campus. The primary challenge for the SmithGroupJJR team was to find a balance between the provision of easily accessible surface parking for patients and proposed decks for faculty, staff, and students, while also creating a pedestrian friendly campus environment.

Connectivity

Improvement of vehicular and pedestrian connectivity proved challenging on both campuses. ECU's Main Campus presented obstacles to both east-west and north-south pedestrian movement with the presence of surface parking areas, railway corridors, and poor alignment of certain existing pedestrian pathways. Analysis revealed that there was no safe way for pedestrians to move from the Campus Core to the South Academic District. Development of a unified circulation system required careful analysis of these existing conditions

Parking lots surrounding Austin, Rawl and Howell have become pedestrian thoroughfares in the Academic Core of Main Campus.

Existing crosswalks at the intersection of 5th and Reade are not intuitive.

to create a singular pedestrian network across campus. In addition, it was determined that bus transit service and bicycle amenities should be enhanced on the Main Campus. The existing configuration of certain bus drop-off areas, such as near Christenbury Memorial Gymnasium, proved awkward and necessitated change.

Pedestrian connectivity also posed significant concerns for the Health Sciences Campus. Recent development efforts have resulted in a lack of pedestrian connections between buildings and no sidewalks along campus roadways. The primary challenge was to define a coherent pedestrian network that would serve the dual purpose of encouraging greater pedestrian connectivity and knitting the campus together visually. Development of the proposed pedestrian circulation system was closely aligned to analysis of the existing transit system. The enhancement project underway for the 10th Street Corridor suggested that greater connectivity between campuses could be achieved.

Infrastructure

A significant challenge to master planning efforts that is not always readily apparent is the impact that infrastructure can have upon physical planning decisions. On the Main Campus, stormwater management presented the most significant infrastructure challenges to planning efforts. Existing flood concerns near 10th Street and the athletic facilities necessitated that floodwater relief areas be designated on campus. However, existing floodplain areas associated with Green Mill Run limited stormwater collection basins to perimeter areas of campus. In addition, the existing density of Main Campus reduced opportunities for large retention areas, encouraging the use of innovative stormwater management techniques. An electrical substation, near the existing Student Recreational Facility, also shaped the physical composition of building expansion efforts on Main Campus and it was also important to consider major utilities located west of Founders Drive next to Umstead Hall.

Within the Health Sciences Campus, a large consolidation of utilities between Warner Life Science Building and Brody Medical Sciences Building impacted physical planning decisions related to proposed medical education facilities and surface parking. A utility tunnel, that starts at Service Drive and runs west to just before MacGregor Downs Road necessitated a division between the academic and institutional uses. In addition, stormwater infrastructure also challenged the planning process by requiring that a new retention area be located in the southwest corner of campus.

Service Drive at Health Sciences Campus is a pedestrian circulation barrier between Brody and the academic/institutional portion of campus.

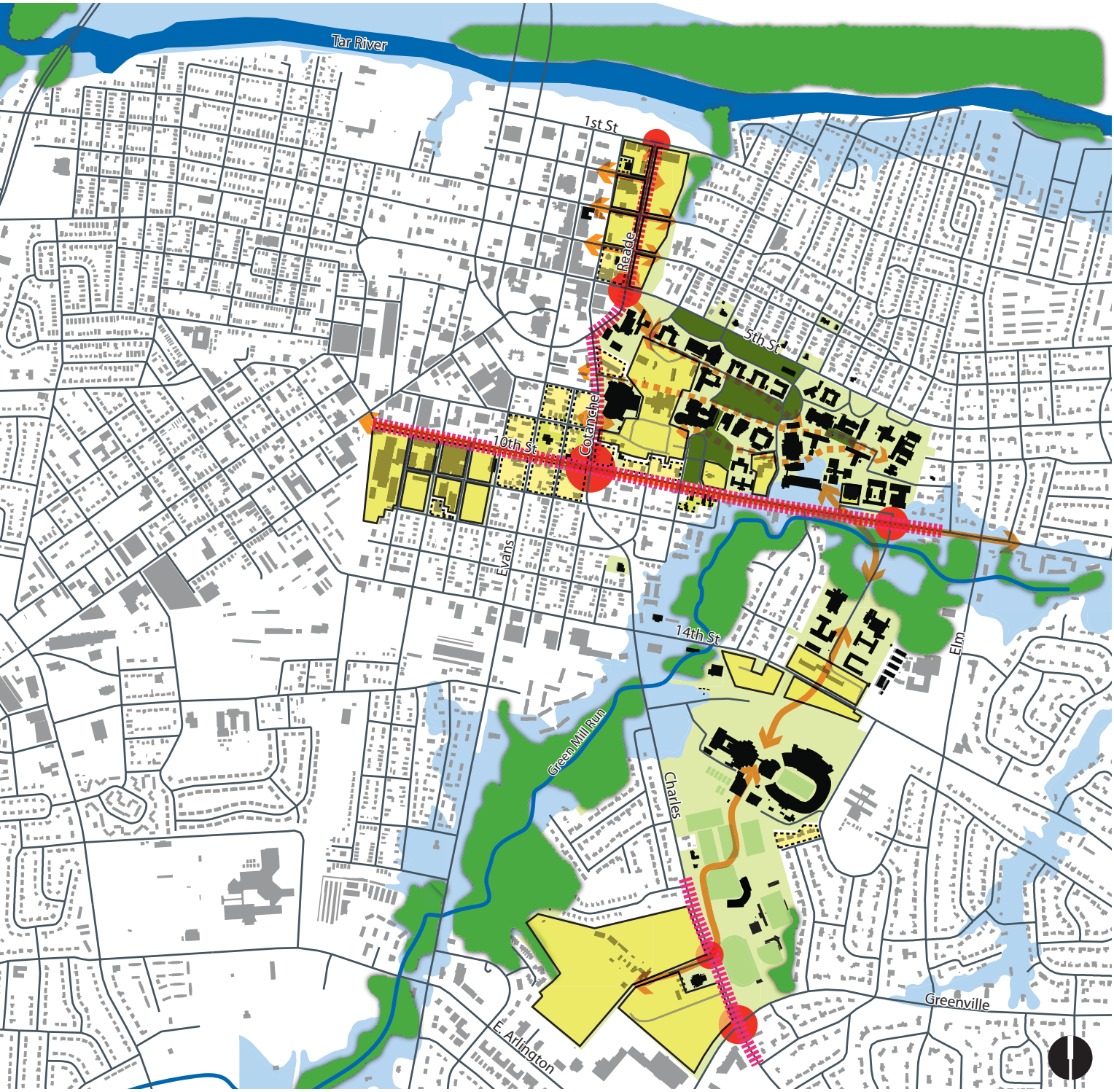
The existing Belk Residence Hall is a visual and physical barrier to the Athletic District.

Developmental Opportunities Plan

The Development Opportunities Plan serves as a graphic summary of all site analysis findings derived during initial stages of the master planning process. The analysis phase produced a series of information, that when overlaid, begin to reveal opportunities for change on campus and locations for potential campus expansion.

The areas highlighted in yellow on the plan indicate zones that are unencumbered by any of the three major analysis categories: natural features, public realm (community context and land use), and circulation. This can be expanded to mean that these areas are not constrained by floodplain concerns, significant woodlands, water bodies, or historic structures, to name a few of the specific analysis criteria.

The composite graphic presents a preliminary evaluation of strategic opportunities for change at East Carolina University to create a better overall campus environment. The Development Opportunities Plan suggests areas for increased density, improved pedestrian circulation, edge enhancement, and expanded open space networks. This plan includes land that ECU currently owns, while also suggesting potential strategic acquisitions.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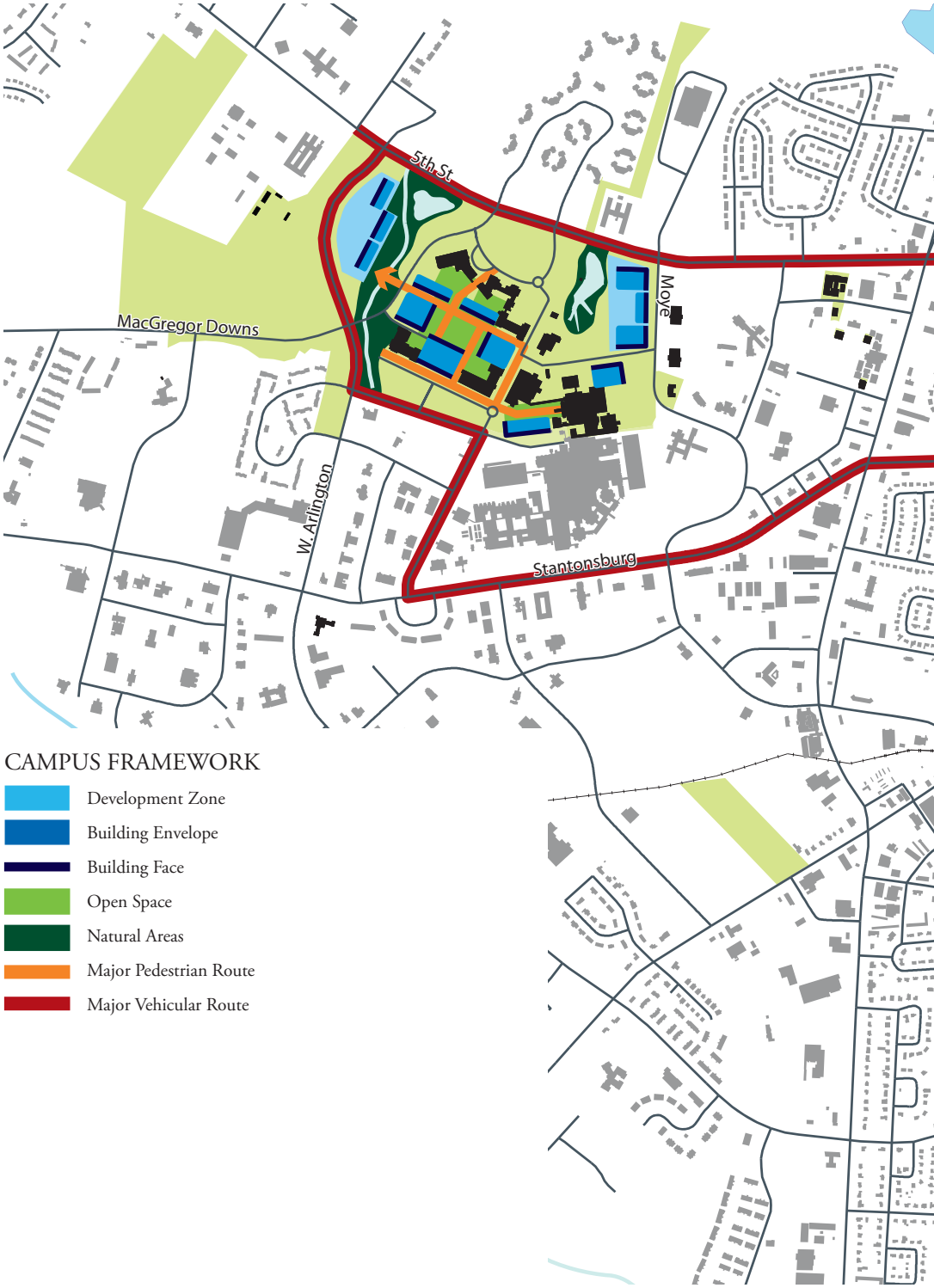
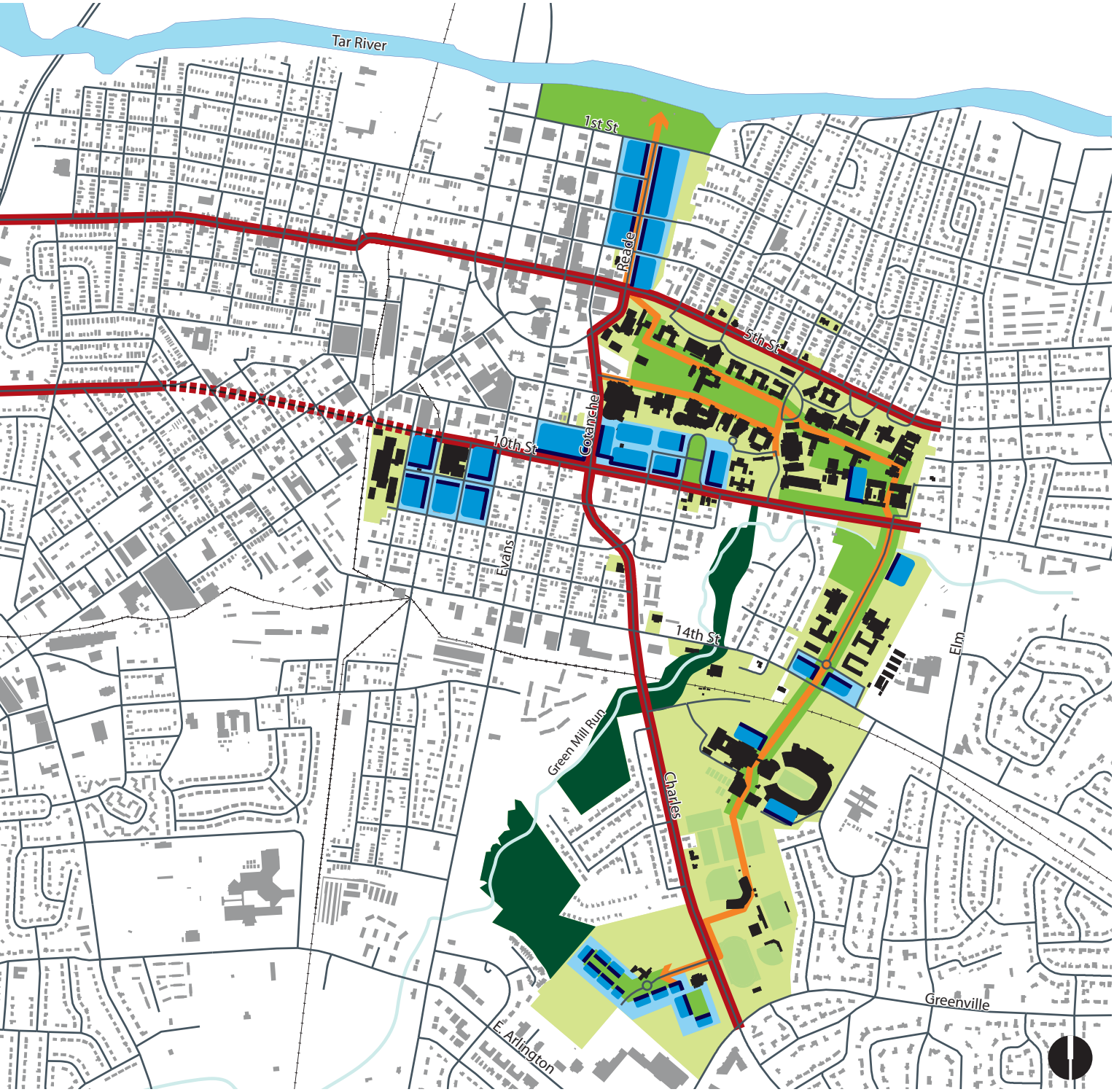
Campus Framework Plan

The Campus Framework Plan serves as a more refined version of the Development Opportunities Plan, presented on the previous page. It takes that information and moves one step further towards demonstrating specific planning ideas that relate to campus development patterns, circulation systems, and open space networks.

Approximate building locations that help to frame open space and encourage activity through density are proposed on the Campus Framework Plan. In contrast, the illustrative Campus Master Plan presented in this report presents an additional level of refinement and serves as one idea for the future development and enhancement of ECU. It provides detailed implementation suggestions for consideration by the University, whereas the Campus Framework Plan distills the overriding ideas embedded in the Master Plan Principles into generalized physical site initiatives.

It is understood that specific planning initiatives presented on the illustrative Campus Master Plan may likely change with time. Therefore, the Campus Framework Plan represents a more diagrammatic view of development and preservation priorities for East Carolina University and should serve as an important long-term reference plan to guide all future campus planning initiatives. The Campus Framework Plan reveals patterns of development that will remain viable recommendations for ECU well into the future.

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three | the master plan

Introduction

The intent of the Campus Master Plan is to present a vision for East Carolina University that reinforces its goals and objectives, as it repositions itself for the future. The physical Campus Master Plan translates these guiding principles into an illustrative framework to aid ECU's future decision making process. It is comprised of three components: the Master Plan Principles, University-wide systems recommendations, and detailed district priorities.

The Master Planning Principles, outlined on the next pages, convey the intent, goals, and long-term values of the University. They are the most fixed and enduring elements. These principles embody ideas regarding campus enhancement, preservation, and transformation opportunities that will strengthen ECU's existing campuses. The key themes, goals and objectives served as the guiding framework from which all specific campus systems recommendations were derived.

The overall campus systems approach addresses improvements to the University's existing programs, circulation systems, open space network, and infrastructure for both the Main Campus and Health Sciences Campus. The recommendations outlined in this section strive to better connect both campuses to create a more unified University system. The following section takes a holistic approach to the recommendations, leaving detailed discussions of specific initiatives to the Neighborhood section which follows.

Master Plan Principles

Themes, Goals and Objectives

Themes, goals and objectives were developed early in the master planning effort. These statements have guided the SmithGroupJJR team in evaluating alternative scenarios and determining decisions that resulted in the final plans.

Key Themes

1 Create a socially, economically, and environmentally sustainable campus plan that represents the hopes and aspirations of this region.

2 Bring four diverse campus environments into a coherent and connected campus plan.

3 Utilize the campus to support and enhance the University and the community.

Goals and Objectives

Goal 1: Education Outcomes, Instructional Content and Delivery, and the Student Experience

Objectives:

- Change is the constant and capital is scarce. Accordingly, flexibility (adaptability) is the highest imperative.
- Instructional capacity requirements will be based on a deliberate strategy for distribution between face-to-face and online delivery—as well as consideration of other locations used.
- Enhancement of the student experience with and in the campuses is a priority.
- In design, configuration, and utilization of instructional space, flexibility, quality, functionality, and efficiency will be valued as much (or more) than quantity of space.

Goal 2: Research, Scholarship, and Related Faculty Community Issues

Objectives:

- Growth of interdisciplinary research and scholarship is a high priority, requiring new facility solutions.
- Beyond research space, all facility concepts will serve to strengthen the faculty's community of scholarship.

Goal 3: Community/Regional Constituencies, Connections, and Partnerships

Objectives:

- ECU's campuses will be welcoming and navigable for community visitors.
- ECU will clarify its strategies for ongoing involvement in initiatives or projects that benefit neighborhoods in Greenville.
- ECU will define its future strategies for its role in downtown Greenville revitalization.
- ECU will pursue opportunities for urban planning coordination with the City of Greenville.
- ECU will sustain and expand clinical healthcare facilities for the community and region—in current and possible future locations.
- Knowledge-based business-industry partnerships are a priority for the engaged ECU and suitable facilities solutions are one factor in nurturing these partnerships.
- ECU will consider an expanded "footprint" in the region—including potential use of satellite locations in the counties for instruction and clinical activities.

Goal 4: Physical Characteristics of the Campuses

Objectives:

- Physical features and development patterns must create campus identities, while at the same time, enhance the environment for programmatic collaboration and people connections—between campuses and beyond.
- Impact of the automobile will be reduced, in favor of more pedestrian-friendly places and public transit solutions.
- ECU's campuses will have a high level of safety and security—both real and perceived.
- Advanced information technology capacity will be ubiquitous.
- ECU will achieve carbon neutrality by 2050 and, in the Master Plan, will determine how much of this goal can be attained by 2025. ECU will pursue sustainability with both technical and policy solutions.
- In design and aesthetics, there will be a balance between appreciation of institutional history and anticipation of the future.
- In planning capital projects, ECU will achieve balance between five objectives: aesthetics, functionality, flexibility, sustainability, and life cycle costs.

Goal 5: Business and Policy Considerations

Objectives:

- Users will be involved in planning new and renovated facilities—but they will be challenged to invent, consider and adopt new good ideas—sometimes breaking tradition.
- Revenue-producing facilities may receive somewhat different treatment in prioritization—especially if funding sources differ from those for non-revenue producing facilities.
- ECU will carry out a principle-based, orderly, prioritized, optimized, and sustained long-term capital development program.
- ECU will assign and re-assign all space based on pragmatic principles of efficiency and productivity, in ways that optimize mission accomplishment and in recognition of the fact that needs change.

Growth and Strategic Plan

Space and Program Summary

The following diagrams illustrate the planning goals for academics, residential, parking, and special use. It is important to remember that this program is an estimate of future needs based on recognized benchmarking of similar institutions and decisions made by the University as to specific possible needs in the future. While it is impossible to predict the exact needs of the University, this program sets a reasonable and flexible framework in which East Carolina University can grow for the foreseeable future. The additional building program that is represented below does not allocate demolition or renovation measures that are described later in this plan. These numbers were used to help drive the alternatives portion of the plan and may have been adjusted as the plan moved forward.

University Campus Population	2009 Population	Total Projected (2025)
Students	27,677	38,717
Faculty and Staff	5,129	7,573
Total Population	32,806	46,290

Health Sciences Campus Program Needs

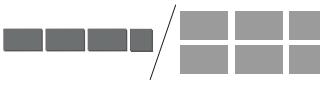
Academic (Classroom, Labs, Office)	Existing	Additional Academic
		
Academic	450,439	300,000

Special Use (Library, Special, General)	Existing	Additional Special Use
		
Special Use	71,249	64,000

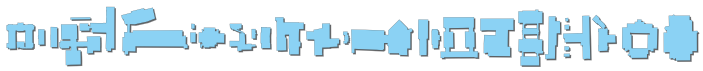
Healthcare (Clinical Enterprise)	Existing	Additional Healthcare
		
Healthcare	88,788	340,000

Research	Existing	Additional Research
		
Research	52,651	75,000

Service Support	Existing	Additional Service Support
		
Service Support	33,799	3,000

Parking	Existing	Additional Parking
		
Parking (No. of Spaces)	3,115	1,500

Main Campus Program Needs

Academic (Classroom, Labs, Office)	Existing	Additional Academic
		
Academic	1,154,178	860,000

Special Use (Library, Special, General, Athletics and Recreation)	Existing	Additional Special Use
		
		
Special Use	809,989	329,000

Residential	Existing	Additional Residential
		
Residential (NASF)	824,456	275,000

Service Support	Existing	Additional Service Support
		
Service Support	114,366	130,000

Parking	Existing	Additional Parking
		
Parking (No. of Spaces)	8,304	2,700

Alternative Scenarios

Program Use Bubbles

The master planning process tested projected program and space needs for the Main and Health Sciences Campuses in order to best achieve the vision of the Master Plan. Alternatives were presented to the campus community at open house and workshop sessions. During these meetings, preferred elements were identified to be incorporated into a final plan.

Main Campus

East Carolina University's Main Campus physically embodies a long, storied history of higher education in North Carolina. It was for this reason that increased sensitivity was required in the master planning approach towards the Main Campus. A respected existing framework of traditional academic programs provided the foundation for master planning decisions. The proposed program and space recommendations for Main Campus build upon the current strength of these existing academic programs and facilities.

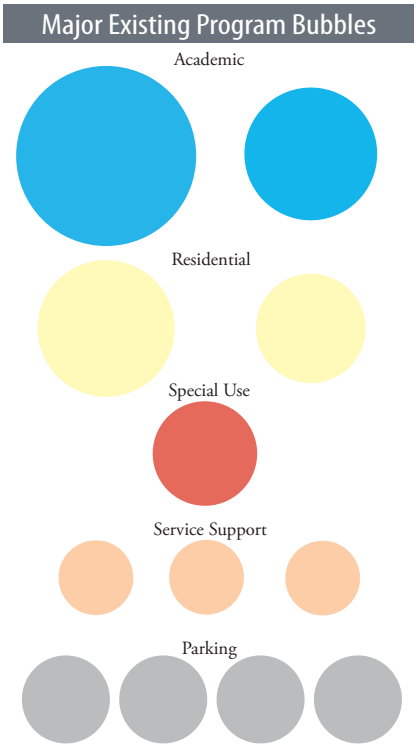
The existing density of the core campus area limited the potential for significant infill development, thus requiring new ideas for campus expansion. This reality presented the opportunity to both redefine existing campus boundaries and enhance underperforming lands within campus. Available University land adjacent to downtown Greenville, in the southern portion of Main Campus, and within the Warehouse District provided potential for the development or consolidation of programmatic elements such as new academic facilities, special uses relating to student life, and support services.

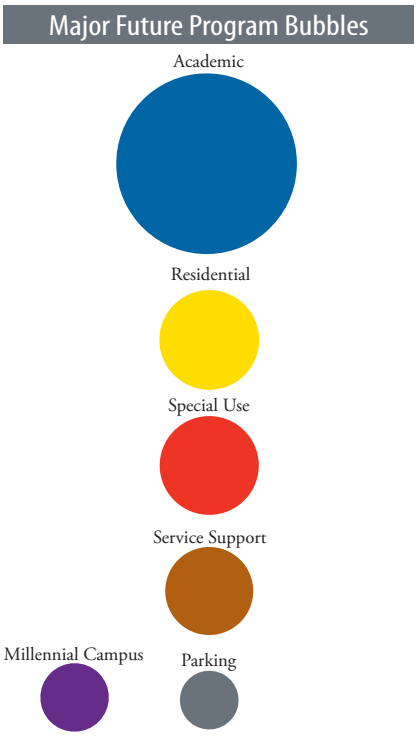
Certain programmatic elements such as new academic buildings, special student support services, and residential facilities were limited in their flexibility because of the desire to locate each of these future programs adjacent to similar uses.

In some situations, these intentions were addressed through proposed demolition, renovation, or expansion recommendations. Major future programmatic elements such as the 'Millennial Campus', parking, and University support services demonstrated significant flexibility and therefore served as moveable pieces during the master planning process.

Millennial Campus

The 'Millennial Campus' was considered a floating piece on both Main Campus and the Health Sciences Campus. The concept to create an environment which fosters relations between ECU and the private sector reflects an idea found in ECU's Strategic Action Plan 2010-2011. (For more information, please refer to the *Strategic Framework for Comprehensive Master Plan*, February 2010 by Eva Klein Associates.) The 'Millennial Campus' is proposed to serve as a tech transfer center that will allow innovative ideas, which emerge from ECU's academic programs, the opportunity to grow into independent entrepreneurial pursuits in an alliance between academia and private enterprise. The 'Millennial Campus' programmatic element provides the greatest potential to serve, both physically and symbolically, as a link between town and gown.





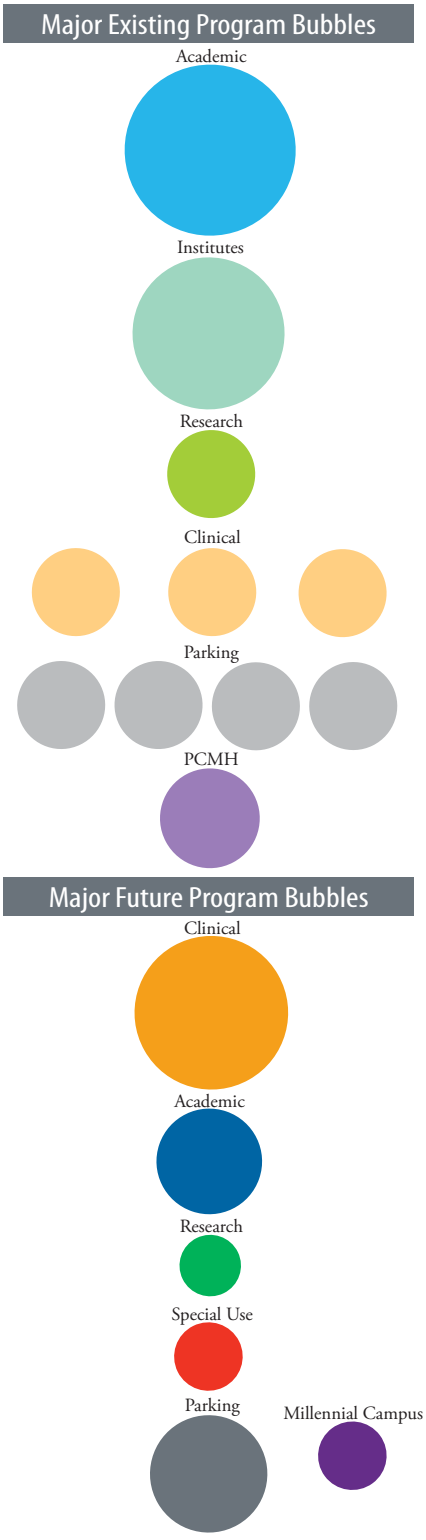
Health Sciences Campus

Since its development three decades ago, the Health Sciences Campus has continued to refine its focus on providing consolidated medical education in this campus location. The program for the Health Sciences Campus is unique in that it correlates entirely to the future of allied health and related medical programs.

The recent nature of development efforts on this campus presented increased flexibility, as compared to Main Campus, in defining the location for future programmatic opportunities. However, certain existing facilities such as the Brody Medical Sciences Building, PCMH, and the medical institutes were constants to be considered when siting new facilities. In addition, faculty and students' schedules are designed to move seamlessly between the hospital and medical education facilities. This required that a proposed medical education building be located in very close proximity to both Brody and PCMH.

A primary goal of the master planning process for the Health Sciences Campus was to develop a consolidated clinical model. It was desired that Ambulatory Care and Ancillary Services be located in one area with better access to the other medical facilities. This programmatic component served as one of the most malleable pieces during master planning discussions. However, the need for patient surface parking adjacent to proposed clinical facilities limited opportunities for its placement due to the large footprint that would be required. It also necessitated that faculty, staff, and student parking needs be relocated to surface parking areas near the perimeter of campus or to a proposed parking deck.

At present, the Health Sciences Campus does not provide any student services. While residential facilities were not desired, incorporation of some student services such as dining and recreation were outlined as a strategic goal of the master planning effort. This programmatic element also served as a flexible component during the development of master plan scenarios, however its proximity to an area with significant student traffic was essential to ensuring its use and success.

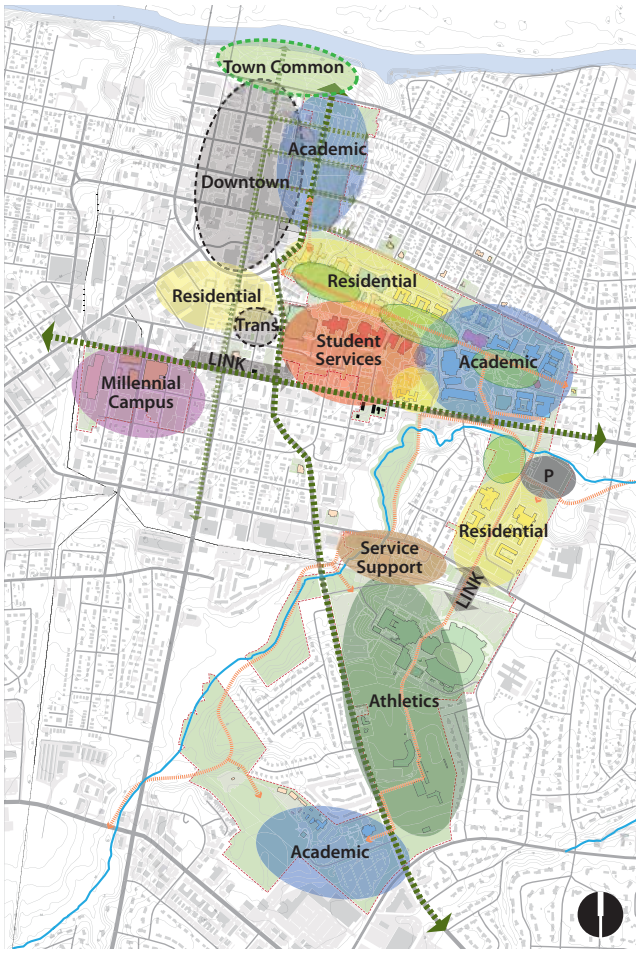


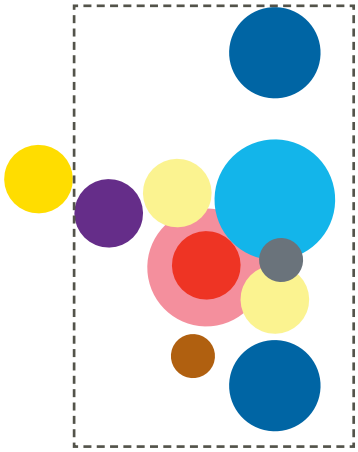
Alternative Scenarios

Main Campus

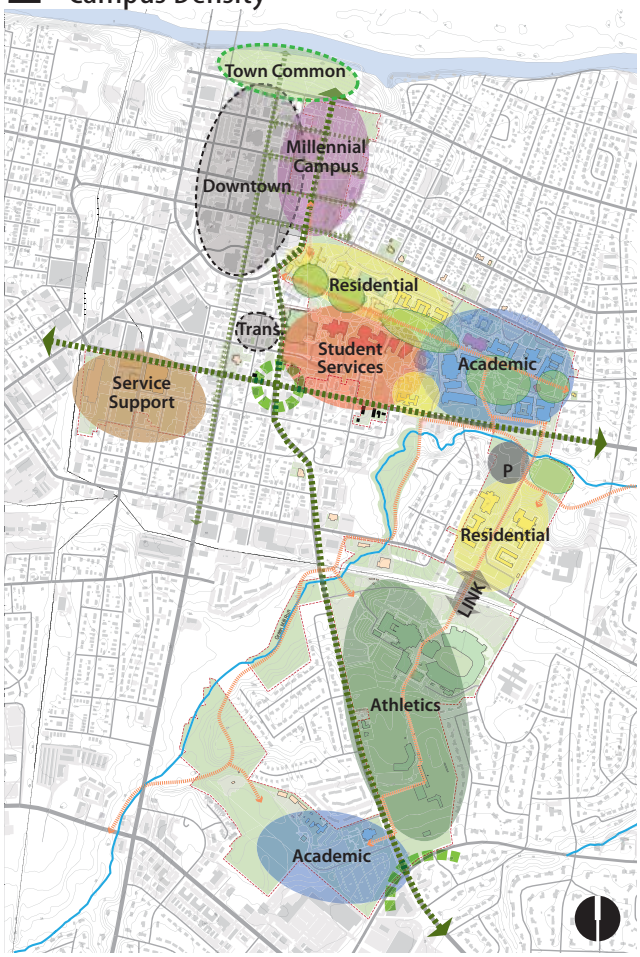
Three alternative scenarios were developed for Main Campus. These "bubble" illustrations present a comparative overview of each. The primary movable pieces are the proposed growth areas for academic, residential, 'Millennial Campus' and facilities components. The stationary pieces are the established athletic, residential, and academic neighborhoods.

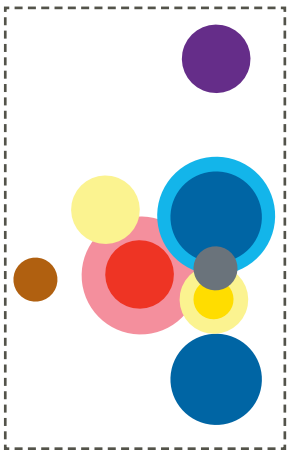
1 Go North





2 Campus Density





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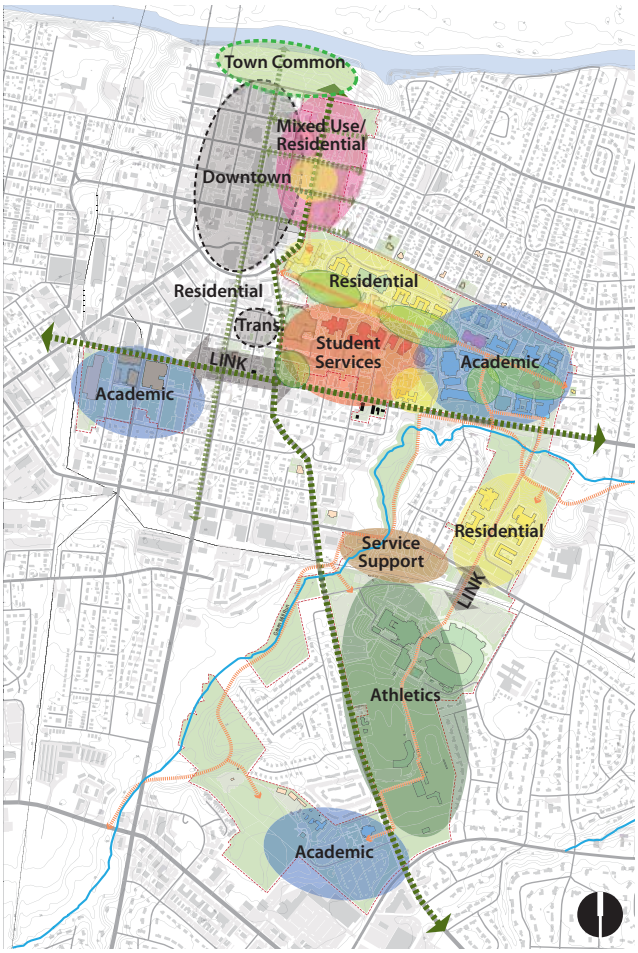
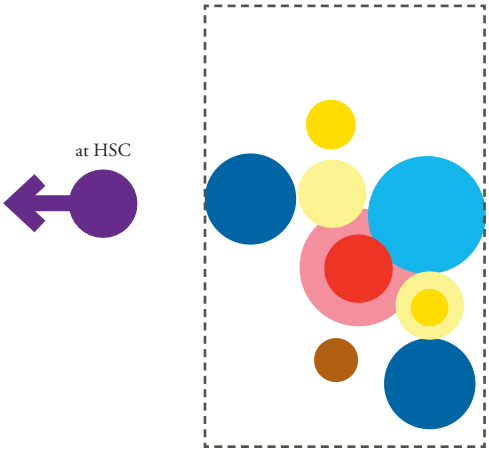




1 Go North

"Go North" illustrates a scenario in which future academic components are incorporated into the downtown fabric of campus. A new residential component would be distributed just to the south of this area, along both 5th Street and Reade Circle. This configuration has the potential to help spur revitalization efforts within the Downtown District. The proposed 'Millennial Campus' would be developed in the Warehouse District.

2 Campus Density

The "Campus Density" scenario shows an increased concentration of academic facilities within the existing east academic zone. New residential opportunities would be located in existing residential areas within the campus boundary. The 'Millennial Campus' would be developed within the Reade Street Corridor. Facilities and support services would be consolidated in the Warehouse District.

3 Go West

In the "Go West" scenario, academic expansion would occur in the Warehouse District. The placement of academics here would create a stronger linkage between the Main and Health Sciences Campuses. Residential expansion could be paired with mixed use in the downtown area. The 'Millennial Campus' in this scheme is located on the Health Sciences Campus.

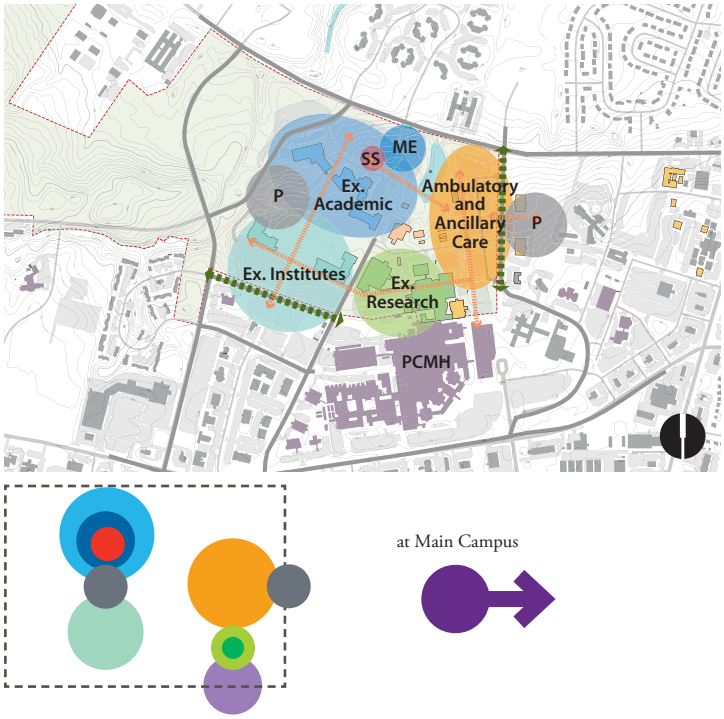
Alternative Scenarios

Health Sciences Campus

Four scenarios were generated for the Health Sciences Campus for discussion. Established research, academics, and institutional zones were the immovable pieces that defined the parameters for a new medical education building, ancillary and ambulatory facilities, research expansion, and a student services building.

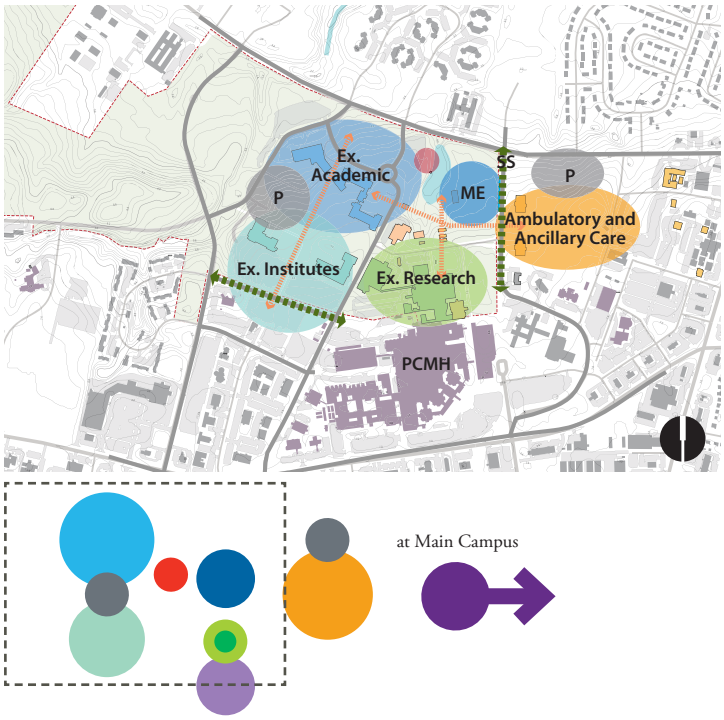
1 Live Within Your Means

"Live Within Your Means" explores a land use arrangement with future facilities to be constructed on land currently owned by ECU. Ambulatory Care and Ancillary Services would be consolidated into one central development on the west side of Moye Boulevard. A proposed Medical Education Building would front 5th Street and the medical institutes would expand to the south. In addition, expanded research areas would be located within the existing vivarium and Brody complex.



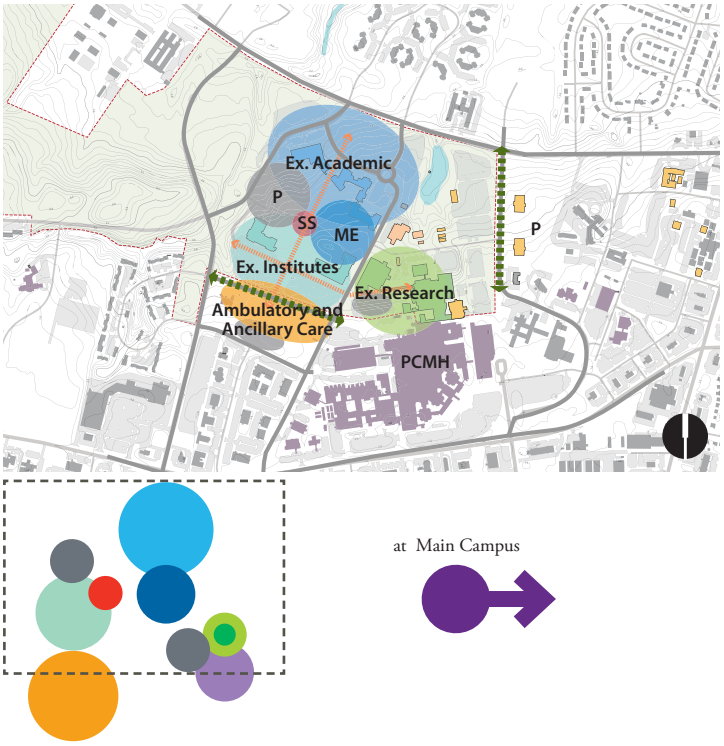
2 Moye Village

"Moye Village" takes the concept of a consolidated Ambulatory Care/ Ancillary Services facility and locates it east of Moye Boulevard, in association with the existing clinical facilities. This would require ECU to purchase the former County hospital site for expansion and construction. The Medical Education Facility would shift further east to a new location at 5th Street and Moye Boulevard. Future research, institutional expansion, and the re-use of Brody for office and research remain the same as presented in Scenario 1.



3 Partner with PCMH

In the "Partner With PCMH" scenario, Ambulatory and Ancillary components move south of Heart Boulevard for a more direct adjacency to PCMH on land owned by Pitt County. This brings future outpatient clinical functions closer to Family Medicine and the Cardiovascular Institute, and creates a new front door off of Arlington Boulevard. Partnering with PCMH could result in a greater cost sharing and savings for ECU. The new Medical Education Building would be located close to research and Brody would be re-used in a manner similar to the previous schemes.



4 Institution Zone Density

In the last scheme, the Ambulatory and Ancillary components move into a central location between the Family Medicine and Cardiovascular Institute. The Medical Education Building would be located between the Cardiovascular Institute and the Medical Library. Expansion of the vivarium and Brody complex would be similar to previous schemes. A 'Millennial Campus', is also proposed west of MacGregor Downs Road, to facilitate partnerships between ECU and private companies working on biomedical research.

Alternative Scenarios

Consolidation of the Big Idea

ECU and SmithGroupJJR identified the most desirable aspects of each of the alternative scenarios, as presented on the previous pages, for integration into a single comprehensive campus master plan. The proposed plan respects immovable programmatic pieces and preferred adjacencies; while capitalizing on the flexibility of other elements to create a unifying campus vision.

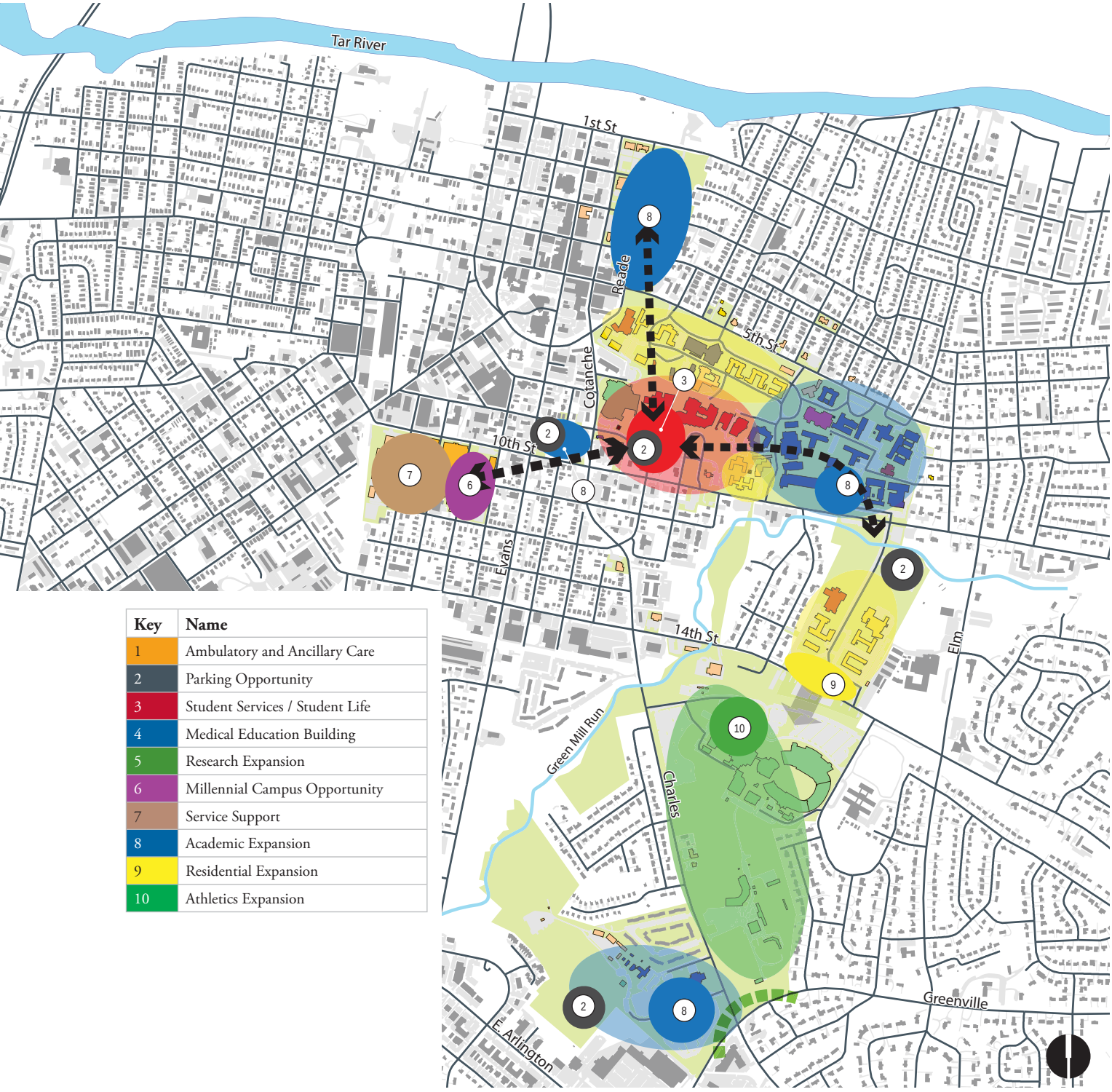
Main Campus

Aspects from each of the three alternative scenarios developed for Main Campus are visible within this consolidated plan. A primary theme that emerged was the centrality of the existing Student Services District to the ECU campus. The Master Plan reinforces this role by enhancing it as a central hub of student life on campus and orienting all other districts as spokes radiating out from it. An increased concentration of academic facilities within the existing academic zone radiates from this hub to the east. To the south, spokes of residential and athletics will be supplemented with similar uses to reinforce these neighborhoods. A new Downtown District with a future academic component radiates off to the north and a new Warehouse District is proposed to the west.

The 'Millennial Campus' concept was embraced as an innovative idea that warrants space on both Main Campus and Health Sciences Campus to capitalize on research synergies happening at each location. On Main Campus, the Warehouse District was selected to help bridge the distance between the two campuses. A 'Millennial Campus' is also proposed on the Health Sciences Campus, near a new Medical Education Building to facilitate partnerships focused on biomedical research.

Health Sciences Campus

Alternative Scenarios 3 and 4 emerged as the most influential concepts to help shape development of the Master Plan. In addition, new ideas emerged during review of the various schemes that are also present in this consolidated scenario. The central location for Ambulatory Care and Ancillary Services, between Family Medicine and the Cardiovascular Institute as shown in Scenario 4, was favored as a means to consolidate the institutes and encourage partnership opportunities with PCMH. As a result of this decision, it was determined that the Medical Education Building should also be located nearby to further reinforce collaboration across disciplines and with the hospital. Expanded research areas should be sited within the existing vivarium and Brody Building to create a consolidated medical complex. A Student Life Building is also introduced in the heart of campus.



Key	Name
1	Ambulatory and Ancillary Care
2	Parking Opportunity
3	Student Services / Student Life
4	Medical Education Building
5	Research Expansion
6	Millennial Campus Opportunity
7	Service Support
8	Academic Expansion
9	Residential Expansion
10	Athletics Expansion

Master Plan Recommendations

Illustrative Plan

The Illustrative Master Plan represents an ideal future vision for both East Carolina University's Main Campus and the Health Sciences Campus. It translates the principles and key themes developed during the master planning process into a graphical representation. Both short- and long-term opportunities for the continued growth and development of the University are represented in the plan.

Specifically, the Illustrative Master Plan proposes the placement of new features such as future buildings, roadways, pedestrian corridors, open space, parking, and infrastructure with a thorough understanding of their relationship to ECU's existing campus composition. The Illustrative Master Plan is supported by recommendations for campus-wide systems that include campus development, landscape character, circulation, parking, and campus infrastructure. However, the fundamental function of the Campus Master Plan is to suggest a principle-driven framework for managing future opportunities.

LEGEND

- Immediate Need Buildings
- Future Building Opportunity
- Existing Campus Buildings
- Reuse Candidate
- 10th Street Connector

Key	Name
1	Cancer Center and Medical Offices
2	Ambulatory Clinics & Ancillary Services
3	Medical Education Building
4	New Open Space
5	New Student Life Hub
6	Infill Opportunities
7	Future Infill Opportunities
8	Facilities and Service Support
9	Downtown Campus Development
10	New Open Space
11	Student Life Infill
12	10th Street Infill Opportunities
13	Academic Core Infill Development
14	College Hill / Gateway to Athletics
15	Athletics Improvements
16	Academic Infill Opportunities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Master Plan Recommendations

Campus Sustainability

Sustainability will play an important role in the development and improvement of East Carolina University's campus. The Campus Master Plan defines a broad holistic approach that unifies fundamental planning recommendations with meaningful qualitative and quantitative green strategies. Sustainable planning principles, alternative modes of transportation considerations, innovative building initiatives, and carbon reduction strategies all come together to inform the development vision for the campus and ensure that growth is forward thinking and environmentally sustainable.

East Carolina University is committed to developing a sustainable campus, and to contributing to an enhanced environment for the City of Greenville and the region. Signed by Chancellor Ballard in 2006, the ECU Safety and Environmental Policy Statement establishes the University's commitment to pursuing environmental sustainable design initiatives for campus activities and developments. The Campus Master Plan emphasizes several aspects of sustainability, summarized here, that should be considered in the design of any development.

Sustainable Land Use Practices

Campus development should prioritize sensible land use practices that encourage physical and functional consolidation and facilitate pedestrian mobility, access, and convenience. Campus functions should be concentrated in defined walkable areas, encouraging multiuse neighborhoods that minimize reliance on automobiles and promote alternative modes of transportation.

Preservation of Natural Features

Natural resources should be leveraged to improve their inherent effectiveness and enhance environmental quality. The campus should be viewed in the context of the Coastal Plain Ecosystem and development should respect, and where possible, regenerate this ecosystem.

ECU's location between the Tar River and Green Mill Run, elevates the importance of managing and treating stormwater on site to reduce discharge volume and contribute to the restoration of natural systems. Stormwater management practices should be implemented that rely on natural features by restoring ephemeral stream beds, reducing impervious ground cover, and treating stormwater where it falls instead of pushing it downstream. Campus woodland areas and native habitats should be preserved and expanded to increase shaded tree canopies and promote indigenous wildlife.

Diverse Transportation Options

To reduce greenhouse gas emissions and promote healthy lifestyles, pedestrian and bicycle connections on campus and to the community should be reinforced. Bicycle commuting should be encouraged with infrastructure enhancements that include dedicated cyclist commuter lanes and convenient bicycle parking and storage. Similarly, automobile circulation should be considered carefully on campus and only provided for essential services.

Parking infrastructure should be refocused along core campus edges to reduce internal campus traffic and facilitate the daily transition of vehicle commuters to campus pedestrians. Transportation and circulation infrastructure should be fully integrated with local and regional transit systems and non-motorized trail networks to provide efficient access across campus to encourage diverse commuting options.

Innovative Buildings

Sustainable design should be a priority for all new building construction on campus. North Carolina Executive Order 156 and State of North Carolina Senate Bill S581 and S668 established energy conservation goals and requirements for state-owned facilities. These guidelines provide numerous recommendations which promote sustainable design and user wellbeing. The University Construction Standards also recommend using the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) evaluation system to guide designers for all campus developments.

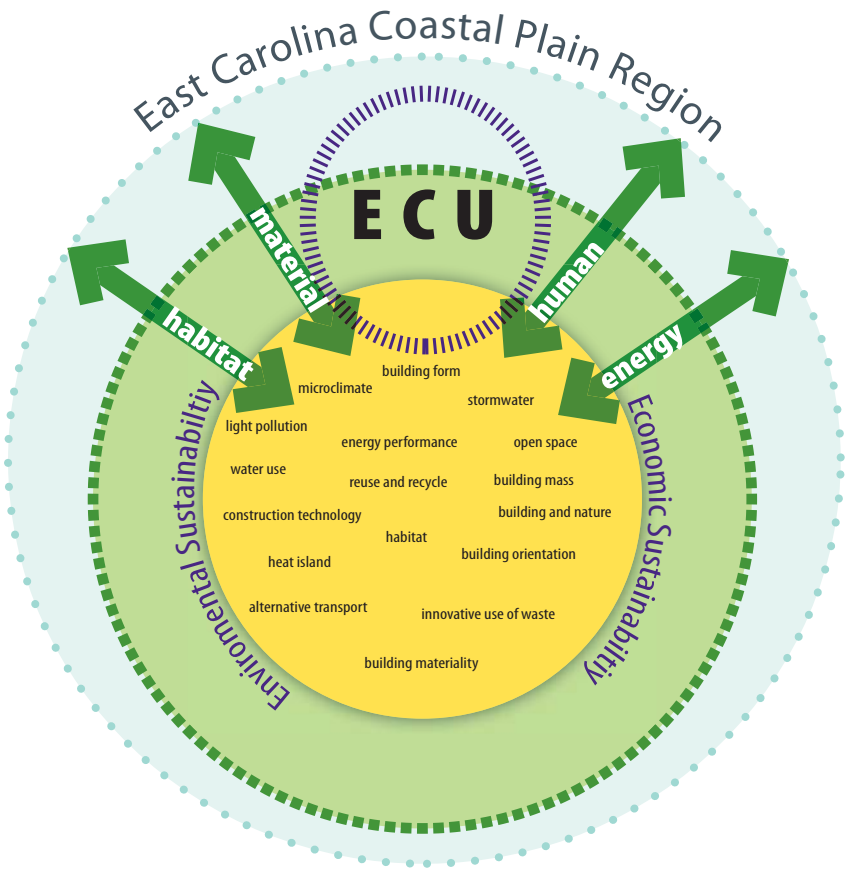
These two sets of sustainable guidelines provide benchmark opportunities to assist in the

development of innovative and sustainable new buildings for ECU's campus. Innovative measures may include optimizing energy performance, using recycled content or regionally sourced materials, designing buildings for daylight harvesting, and minimizing heat island effect from roof elements. New facilities should utilize strategies that are innovative by current standards and be flexible enough to incorporate future innovative features.

Carbon Neutral Campus

Campus energy efficiency should be improved, and the University should move toward a carbon neutral campus by implementing greenhouse gas emission reduction strategies. These reductions can be achieved by reducing existing and future energy consumption, diversifying campus energy resources, and monitoring actual campus energy use to better understand power consumption and develop reduction strategies.

Designers are encouraged to evaluate building envelope thermal performance and to design and select systems that reduce energy consumption for building heating and cooling. Currently, a Greenhouse Gas Emissions Study is under consideration by East Carolina University. When completed, this study will provide a definitive understanding of the impact of campus developments, both existing and new, on the environment.



Master Plan Recommendations

Immediate Need Building Opportunities

The immediate building needs proposed for East Carolina University's Main Campus and Health Sciences Campus address its commitment to the sciences, arts and humanities, research, and enhanced student life.

Main Campus

On the Main Campus, a diversity of building uses are proposed. These include enhancements to traditional academic programs through the addition of Academic A and a Life Sciences / Biotechnology Building. Academic A strives to bridge the distance between Main Campus and the Warehouse District. The HHP division requires new academic space, as well as a new research gym. Immediate campus needs also include upgrades to student support services such as a new Student Union, Library addition, and Todd Dining Hall expansion. The introduction of an Alumni Center and Visual & Performing Arts Center on Reade Street is expected to enliven this corner of downtown Greenville.

Health Sciences Campus

Development proposed for the Health Sciences Campus remains focused on the allied health professions and medical education. Consolidation of clinics and faculty offices were a primary goal for the University. On both campuses, parking presented immediate concerns. Recommendations include provisions for both the relocation of existing surface parking and the addition of parking decks.

IMMEDIATE NEED BUILDINGS

- Immediate Need Buildings
- Immediate Land Acquisition
- Existing Campus Buildings
- Future Campus Buildings
- 10th Street Connector

Key	Name
1	Cancer Center
2	HSC Parking Deck #1
3	Ambulatory Clinics and Ambulatory Ancillary Services Building
4	Clinical Faculty Offices
5	Student Life Building
6	Medical Education Building
7	Utilities Expansion
8	Research Expansion
9	Facilities Building Complex
10	IT / Data Center

Key	Name
11	Academic A Building
12	Visual & Performing Arts Center
13	Office Surge Building
14	Alumni Center
15	Main Campus Parking Deck #1
16	Student Rec. Center Expansion
17	Student Union Building
18	Library Addition
19	Life Sciences / Biotechnology Bldg.
20	College Hill Parking Deck
21	Todd Dining Hall Expansion
22	Belk Hall Residence Replacement, Phase 1
23	Belk Hall Residence Replacement, Phase 2
24	Basketball Practice Facility
25	Stadium Press Box Addition
26	HHP Research Gym
27	HHP Classroom and Offices
28	Utility Expansion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Master Plan Recommendations

Future Building Opportunities

The Campus Master Plan recommends a number of future building opportunities that will accommodate academic, medical services, special uses, student life, and support service growth. This plan provides a long-range vision for ECU that allows for flexibility in its execution. While no program has been defined for the buildings highlighted, they provide ECU with expansion possibilities if the anticipated future need presents itself.

Main Campus

The majority of future building opportunities proposed for Main Campus are located along Reade Street, adjacent to downtown Greenville. These include academic/mixed use facilities with associated parking structures. Additional building opportunities are centered around the intersection of 10th Street and Cotanche Street. A visitor center and additional academic buildings are proposed in this location. The Warehouse District is the recommended site for ECU's new 'Millennial Campus'.

Health Sciences Campus

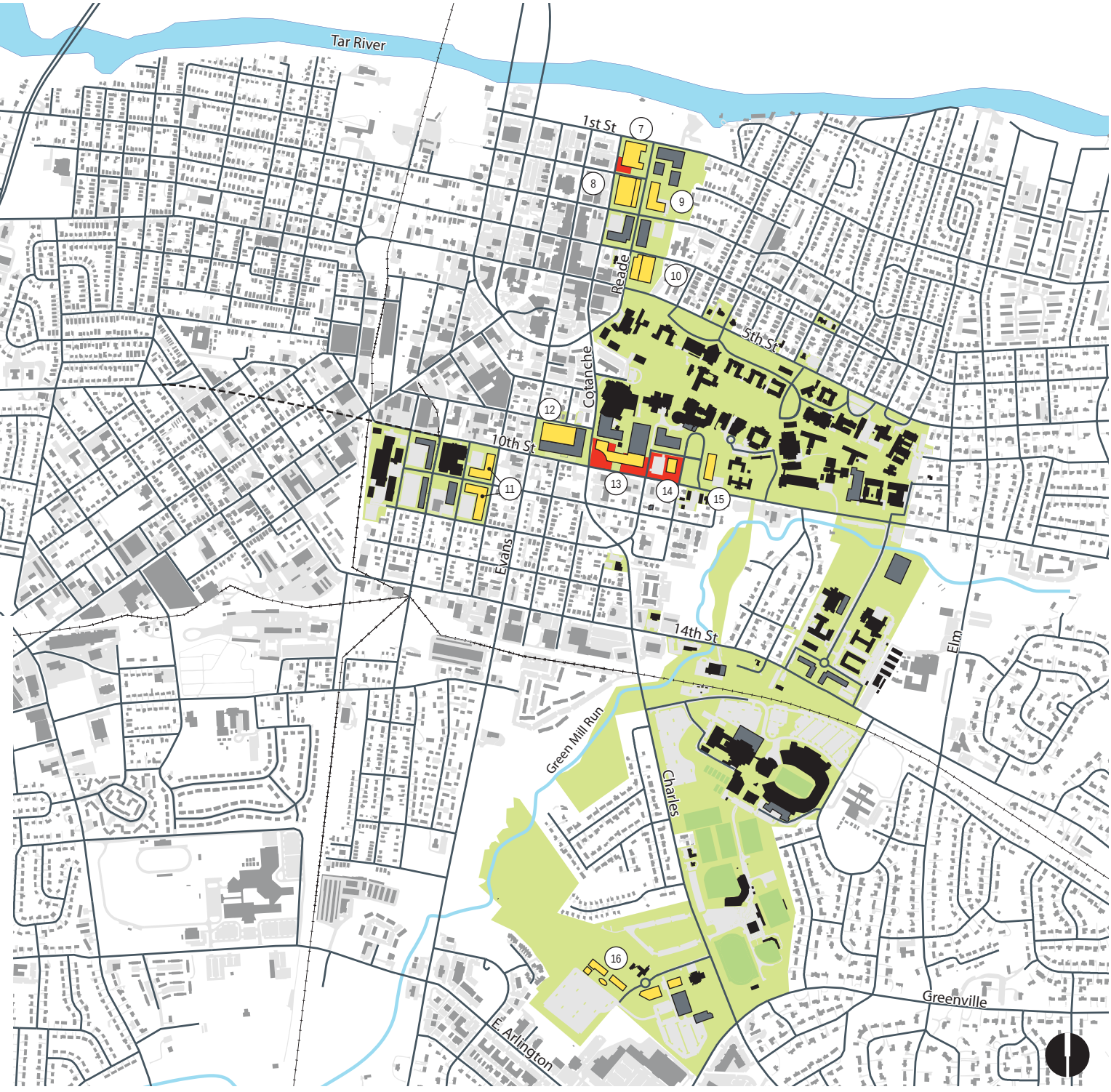
The Health Sciences Campus offers several future building opportunities that include academic, office, and clinical space, as well as the development of a 'Millennial Campus' that would focus on advancements in medical technology and the biosciences. The majority of expansion opportunities are focused along Moye Boulevard, with some development possible in the center of campus and near MacGregor Downs.

FUTURE OPPORTUNITIES

- Future Opportunity Buildings
- Future Land Acquisition
- Existing Campus Buildings
- Immediate Need Buildings
- 10th Street Connector

POTENTIAL FUTURE USES

Key	Name
1	Clinic / Medical Office
2	Academic
3	Utilities Expansion
4	Academic, Millennial, Office
5	Office
6	Parking Deck
7	Hotel / Conference Center
8	Parking Deck / Mixed Use
9	Academic / Mixed Use
10	Academic / Parking Deck
11	Millennial Campus / Office
12	Parking Deck
13	Academic
14	Visitor / Welcome Center
15	Academic
16	Academic / Office / Administrative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Master Plan Recommendations

Vehicular Road and Parking Removals

In order to accommodate the immediate and future building needs proposed for East Carolina University, several areas of surface parking and portions of existing roadway would require removal. In addition, certain areas of existing parking and roadway are recommended for removal in order to improve the overall campus circulation system and enhance ECU's open space network.

Main Campus

Enhanced pedestrian circulation and open space improvements were a primary goal for Main Campus. It was for this reason that portions of several service drives are proposed for immediate removal. In addition, many surface parking lots are recommended for removal in order to provide building opportunities in strategic locations to respond to important adjacencies.

Health Sciences Campus

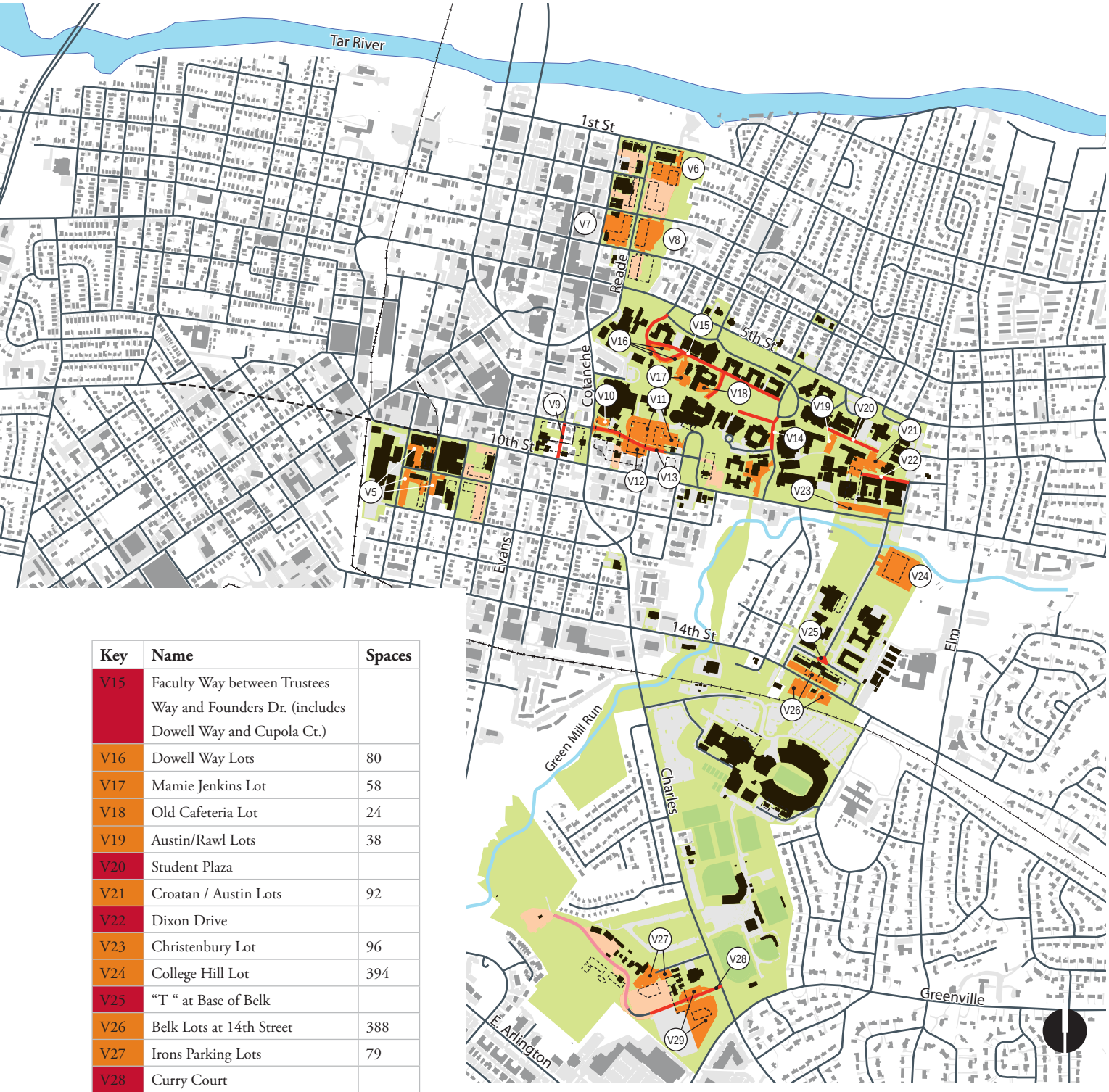
On the Health Sciences Campus, immediate parking removal opportunities include the Health Sciences Campus Core and West Brody Lots. These removals allow for the immediate consolidation of medical education and clinical facilities. Service Drive between Heart Boulevard and North Campus Loop is also proposed for immediate removal in order to improve pedestrian connectivity on the Health Sciences Campus.

REMOVALS

- Immediate Need Parking Removal
- Future Parking Removal
- Immediate Need Road Removal
- Future Road Removal
- Existing Roads
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

IMMEDIATE NEED PROJECTS

Key	Name	Spaces
V1	HSC Core Lot	280
V2	West Brody Lot	169
V3	Service Dr. between Heart Blvd. and North Campus Loop	
V4	Service Drive On-street Parking	39
V5	Misc. Warehouse District Lots	
V6	Willis Hall Lot	128
V7	West Reade Street Lot	194
V8	East Reade Street Lot	192
V9	Forbes St., between 8th and 9th	
V10	Rec. Center Lot	30
V11	Mendenhall Lots	309
V12	Surface Parking Lot	55
V13	Library Drive	
V14	Founders Dr. between Alumni Lane and Wright Circle	



Key	Name	Spaces
V15	Faculty Way between Trustees Way and Founders Dr. (includes Dowell Way and Cupola Ct.)	
V16	Dowell Way Lots	80
V17	Mamie Jenkins Lot	58
V18	Old Cafeteria Lot	24
V19	Austin/Rawl Lots	38
V20	Student Plaza	
V21	Croatan / Austin Lots	92
V22	Dixon Drive	
V23	Christenbury Lot	96
V24	College Hill Lot	394
V25	"T " at Base of Belk	
V26	Belk Lots at 14th Street	388
V27	Irons Parking Lots	79
V28	Curry Court	
V29	Park & Ride Lot	322

Master Plan Recommendations

Building Removal Candidates

The Campus Master Plan recommends the removal of certain existing buildings in order to best achieve the outlined goals for ECU. Each removal candidate was carefully evaluated during the master planning process for its renovation and/or re-use potential. Ultimately, the buildings highlighted on the adjacent diagram were determined to prevent realization of the overall Master Plan vision. Therefore, these buildings are recommended for immediate or future removal. It is essential that all removal efforts be coordinated with proposed campus development projects to ensure that all building occupants and functions are transitioned to a new facility prior to demolition. Generally speaking, every campus building should be evaluated for preservation opportunities prior to removal. For example, the architectural elements found on Christenbury Memorial Gymnasium should be carefully removed and reused on the new HHP Gymnasium.

Main Campus

All of the immediate building removal recommendations are located on the Main Campus. They include several buildings in the core campus area, six buildings in the Warehouse District, three buildings along Reade Street, two in the southern portion of campus, and Belk Residence Hall.

Health Sciences Campus

There are no immediate building removal candidates on the Health Sciences Campus. However, several temporary facilities are recommended for future removal.

REMOVAL CANDIDATES

- Immediate Need Building Removals
- Future Building Removals
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

IMMEDIATE NEED PROJECTS

Key	Name	Bldg. #
D1	Warehouse District Buildings	
D2	10th and Evans Buildings	
D3	Eller House	58
D4	International House	87
D5	Christenbury Memorial Gymnasium	7
D6	Bloxton House	50
D7	Erwin Building	49
D8	Willis Building	56
D9	Administrative Support Annex	151
D10	Building #159	159
D11	Mail Services	43
D12	Belk Residence Hall	73
D13	Pirate Club Buildings	39
D14	Belk Annex	59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Master Plan Recommendations

Vehicular Parking Opportunities

The recommendations that relate to parking in the Campus Master Plan focus on strategic locations for replacing parking facilities that are displaced, as well as address the parking needs that are expected to result from new construction. Proposed parking, primarily in decks, is positioned to serve the Academic Core and downtown, for both the daily campus population and visitors. Additional future parking locations are shown as part of long-term planning within the Master Plan. These locations should only be considered for implementation as demand justifies their construction. Minor roadway adjustments are to be addressed immediately.

Main Campus

The parking recommendations for Main Campus vary between immediate needs and future parking opportunities. The primary districts determined to have immediate parking needs are the Student Services District, Warehouse District, and the South Academic District. Within the Campus Core and Downtown District, proposed structure parking is recommended in lieu of surface parking to allow for building density in these areas.

Health Sciences Campus

Parking structures are also proposed to serve the Health Sciences Campus in areas near the new medical education building and PCMH. Surface parking is also recommended to be located in perimeter areas of the campus.

PARKING

- Surface Immediate Need
- Surface Future Opportunity
- Structure Immediate Need
- Below Grade Structure
- Structure Future Opportunity
- Existing Roads
- Proposed Roads
- 10th Street Connector
- Proposed Campus Buildings
- Existing Campus Buildings

IMMEDIATE NEED PROJECTS

Key	Name	Spaces / Floors
P1	Cancer Center Surface Lot	650
P2	Health Sciences Parking Deck #1	700 / 4
P3	Service Drive Loop	
P4	Medical Education Deck	200 / -2
P5	Main Campus Parking Deck #1	1,000 / 5
P6	College Hill Parking Deck	1,000 / 5
P7	College Hill Loop	
P8	HHP Surface Lot (phased)	1,300
P9	Olgesby Drive Extension	


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Master Plan Recommendations

Academic, Clinical, Research and Support Building Opportunities

The master planning process revealed that several building opportunities exist to enhance and meet East Carolina University's future program goals for the Academic, Clinical, Research, and Support Service sectors. The Campus Master Plan suggests future building footprints to accommodate these proposed programs that are distributed across both the Main Campus and the Health Sciences Campus.

Main Campus

Academic and Support Service Building opportunities are recommended for placement on the Main Campus. These initiatives are primarily centered in the Warehouse District and the Downtown District. The Warehouse District presents the opportunity to consolidate the University's support services, such as Police, Parking and Transportation, and the IT/Data Center, into one central location between both the Main and Health Sciences Campuses.

Health Sciences Campus

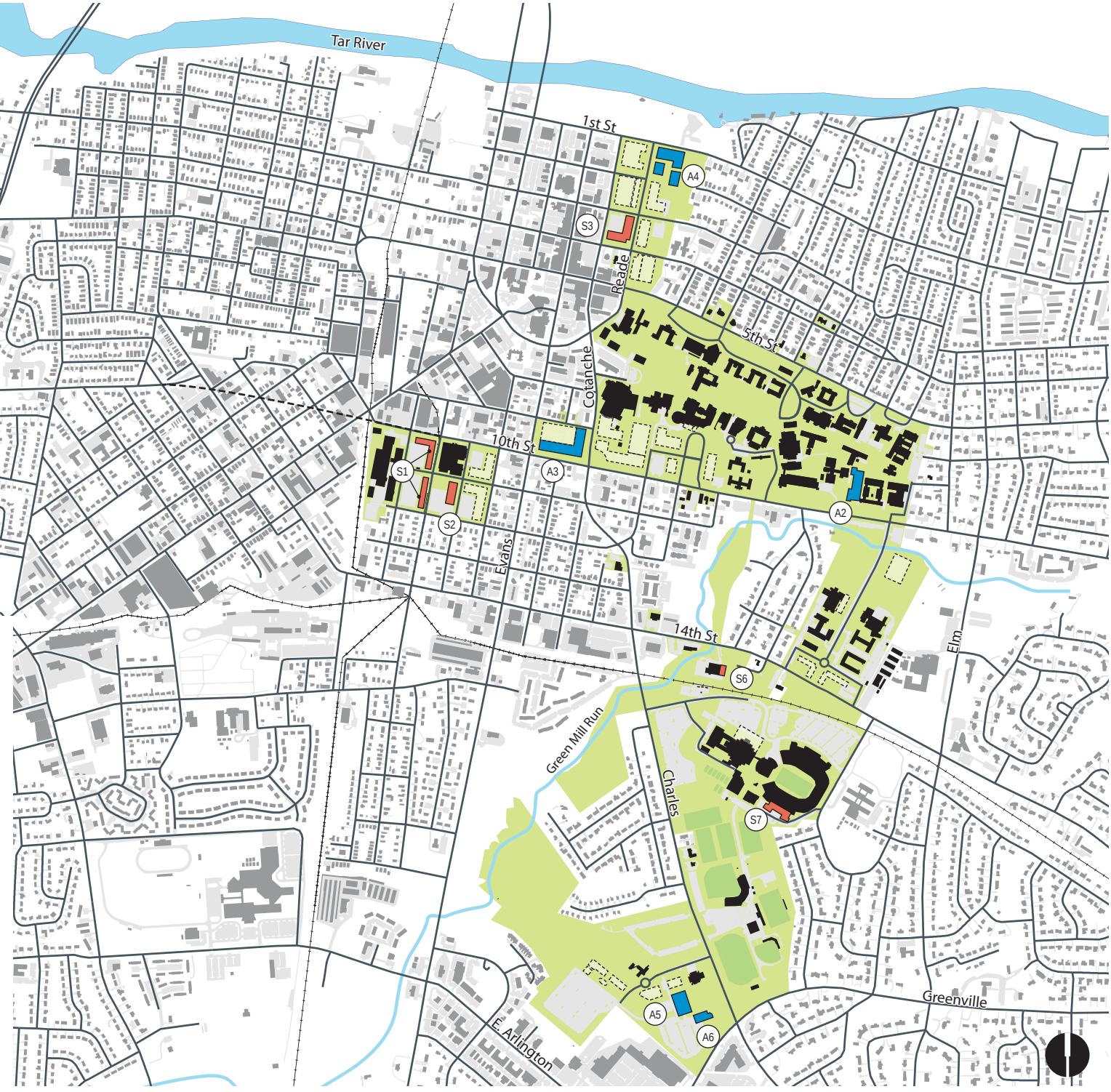
The Health Sciences Campus also presents an opportunity to consolidate services. As was previously mentioned in this report, the clinical services are currently located in several different areas across this campus. The Campus Master Plan proposes that clinical services be centralized on campus, adjacent to both medical education and research and PCMH.

BUILDING OPPORTUNITIES

- Proposed Academic
- Proposed Research
- Proposed Support
- Proposed Clinical
- Proposed Campus Buildings
- Existing Campus Building
- 10th Street Connector

IMMEDIATE NEED PROJECTS

Key	Name	GSF/ Floors
A1	Medical Education	250K / 6
A2	Life Science / Biotechnology	270K / 6
A3	Academic A	275K / 4
A4	Visual & Performing Arts Center.	200K / 3
A5	HHP Research Gym	55K / 1
A6	HHP Faculty Offices	60K / 3
R1	Research Expansion	33K / 2
S1	Facilities Building Complex	50K / 4
S2	IT / Data Center	40K / 3
S3	Office Surge Building	40K / 4
S4	Clinical Faculty Offices	50K / 4
S5	HSC Utilities Expansion	
S6	Main Campus Utilities Expansion	
S7	Stadium Press Box Addition	25K / 6
C1	Ambulatory Clinics Building	100K / 5
C2	Ambulatory Ancillary Services	194K / 5
C3	Cancer Center	60K / 3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Master Plan Recommendations

Residential and Student Life Building Opportunities

East Carolina University remains committed to providing its students with exceptional residential and student life opportunities. During the master planning process, this translated into several proposed recommendations for new and expanded facilities across both campuses.

Main Campus

The Master Plan recommendations for Main Campus address a variety of identified residential and student life needs. Several expansion efforts are proposed such as the Joyner Library, Recreation Center, and Todd Dining Hall to accommodate over use. New building opportunities include an Alumni Center within the Downtown District and a new Student Union. Changing trends in residential living resulted in the recommendation to replace Belk Residential Hall with a facility that combines more modernized suite-style residential options with communal study areas.

Health Sciences Campus

A Student Life Building is proposed for the Health Sciences Campus to meet the existing student demands. Presently, no student support facilities exist upon this campus. This proposed building opportunity will serve as a welcome addition for students, staff and visitors and create a more complete campus composition.

STUDENT LIFE

- Proposed Student Center
- Proposed Athletics / Recreation
- Proposed Dining
- Proposed Residential
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

IMMEDIATE NEED PROJECTS

Key	Name	GSF/Floors
SL1	Student Life Building	64K / 2
SL2	Student Union Building	230K / 5
SL3	Library Addition	22K / 1
SL4	Alumni Center	36K / 3
SL5	Recreation Center Expansion	63K / 2
SL6	Basketball Practice Facility	38K / 1
SL7	Todd Dining Hall Expansion	10K / 1
SL8	Belk Residential Hall Replacement, Phase 1	up to 120K / 8
SL9	Belk Residential Hall Replacement, Phase 2	up to 138K / 8


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Master Plan Recommendations

Repurpose and Renovation Opportunities

The SmithGroupJJR team evaluated the condition of East Carolina University's buildings and identified a range of facilities that are either in need of repurposing or renovation. The remodeling efforts primarily address conversion activities that will result from recommended development efforts that shift various academic and support services to new facilities.

Main Campus

On Main Campus, the Academic Core, Student Services, and Warehouse Districts contain all of the buildings proposed for repurposing. One notable aspect of the plan is the transition of ECU's business and educational programs to a new Academic A Building from Bate and Speight. A newly renovated Greenville Town Common, containing an outdoor amphitheater overlooking the Tar River, seemed the appropriate location for a new Visual & Performing Arts Center. This presents new opportunities for the existing McGinnis Theatre. The University has also planned the renovation of several of its residential halls to transform them into more modern living arrangements.

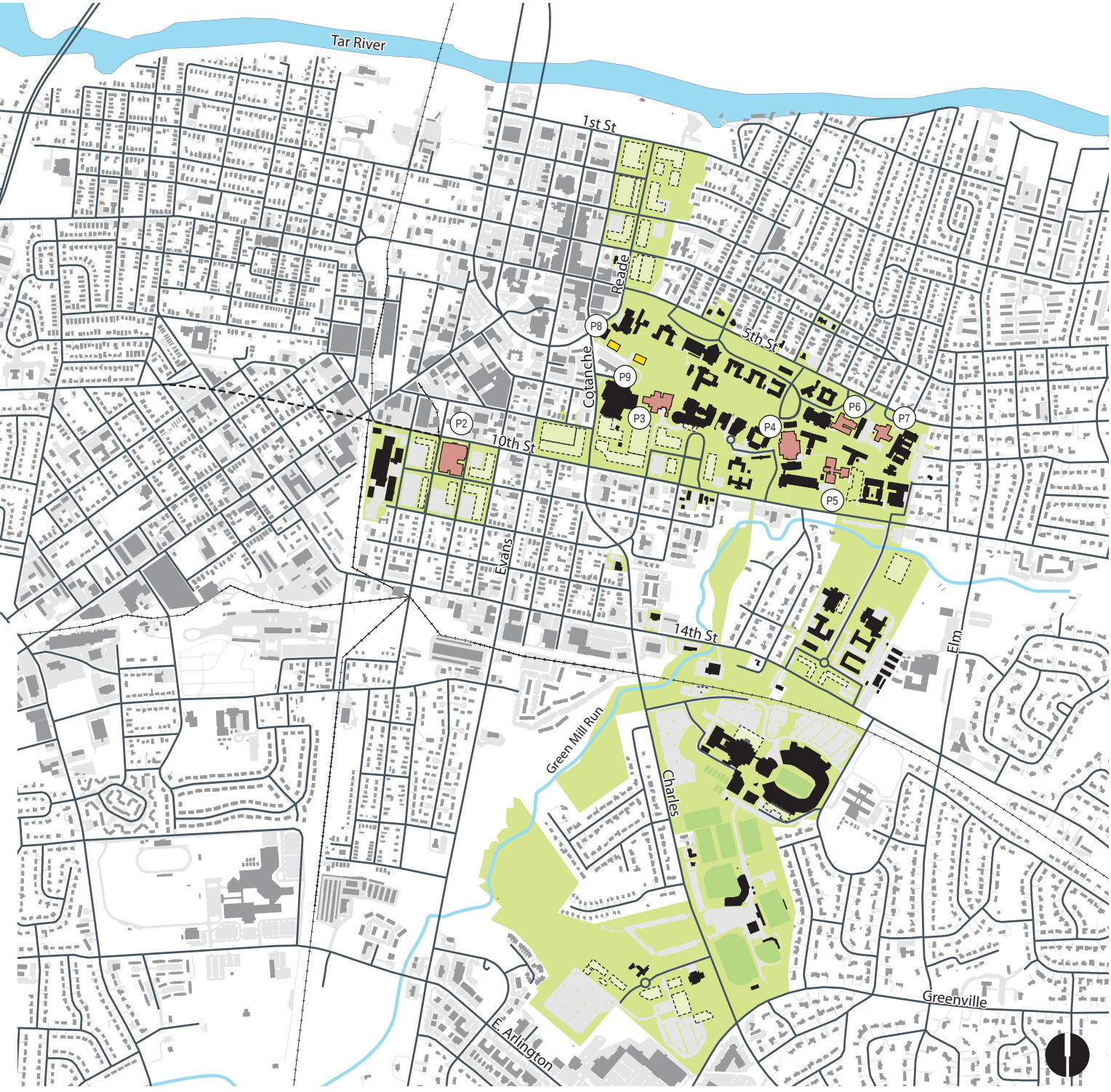
Health Sciences Campus

Brody Medical Sciences Building is the only repurpose candidate on the Health Sciences Campus. The spatial needs assessment determined that Brody is no longer adequately serving ECU's medical education needs. For this reason, Brody will transition to research and office space.

REPURPOSE CANDIDATES

- Renovation Candidate
- Residential Renovation Candidate
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

Key	Name	Bldg.	GSF/Floors	Beds
P1	Brody Renovation	15	64 K / 2	
P2	Hainey Building	216	75 K / 1	
P3	Mendenhall Student Center	55	117 K / 3	
P4	Harold H. Bate Building	95	165 K / 3	
P5	Howell Sciences Complex	5	108 K / 3-5	
P6	McGinnis Theatre	33	36 K / 2	
P7	Speight Building	12	51 K / 3	
P8	Convert White Residence Hall	78	83 K / 10	250
P9	Convert Greene Residence Hall	77	83 K / 10	250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Charles
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E. Arlington

Master Plan Recommendations

Campus Roads and Entrances

The campus road and entry recommendations focus on a holistic vision for East Carolina University that seeks to visually unite its two primary campuses. Campus entries represent important routes into and out of campus, which should enhance the arrival experience of visitors. Entry portal improvements have been identified at a hierarchy of scales, to serve both vehicles and pedestrians. A counterpoint to these proposed measures is the revitalization of important city streetscapes. Much of the perceived character of ECU's campuses is derived from the quality of its edge conditions. As illustrated in the adjacent diagram, many opportunities exist for streetscape improvements through alliances with the City of Greenville.

Main Campus

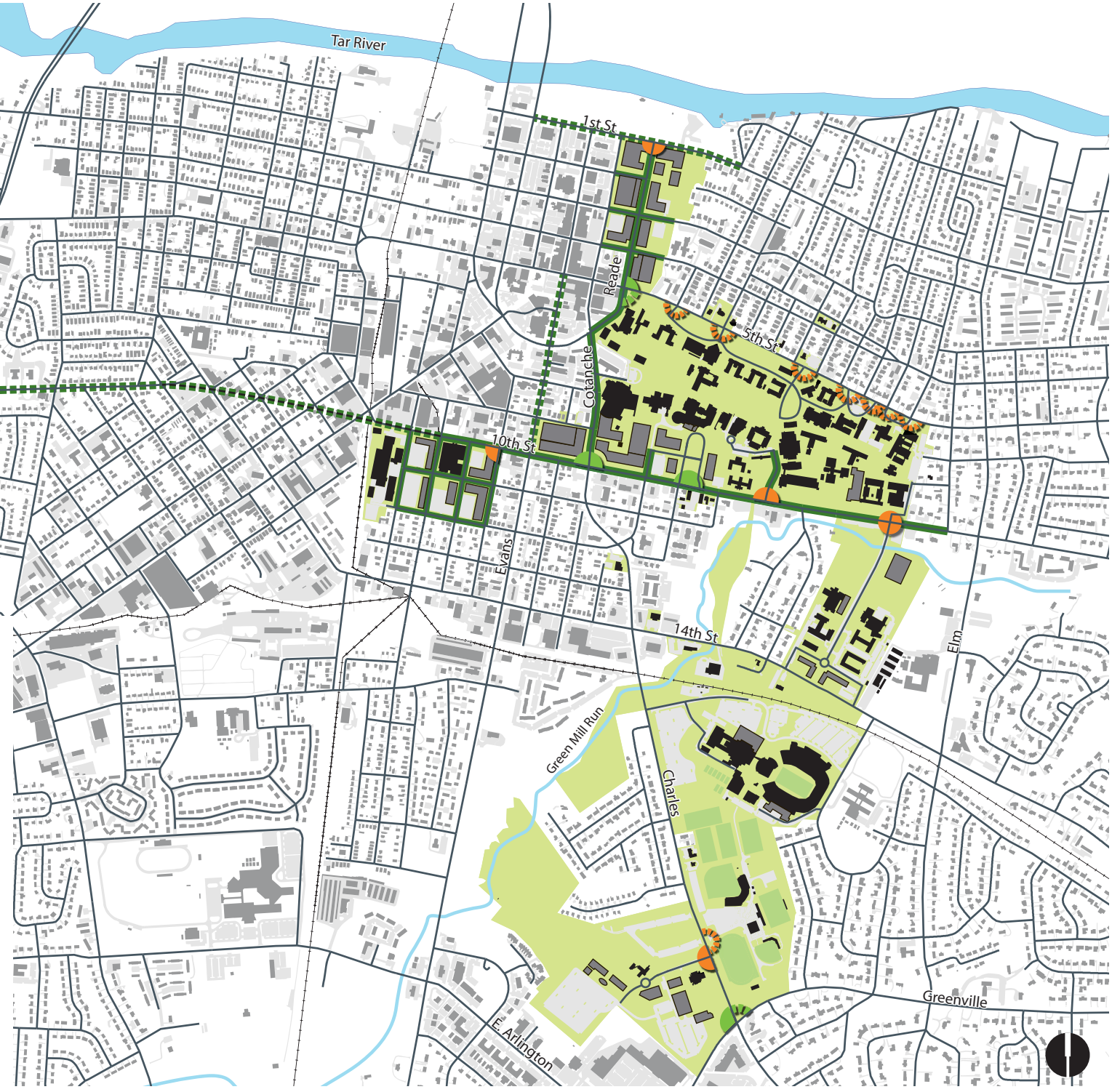
Analysis of traffic volumes suggest that there are two important existing entry portals into Main Campus, as well as an anticipated one near the Student Union. Enhancement of these areas, in combination with efforts to improve secondary entry locations and streetscapes, will contribute significantly to the overall visual impact of ECU's campus.

Health Sciences Campus

The Health Sciences Campus would benefit greatly from a partnership with PCHM to enhance strategic entry portals, and to make wayfinding clear, concise and uniform. In addition, coordinated streetscape efforts with both PCMH and the City of Greenville would improve the overall experience of visitors.

ROADS AND ENTRANCES

- Proposed Streetscape Improvements
- Improvements proposed by others
- Existing Campus Entrance
- Proposed Primary Campus Entrance
- Proposed Secondary Campus Entrance
- Proposed Joint Collaboration Entrance
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector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Master Plan Recommendations

Transit Routes and Stops

The master planning process revealed that East Carolina University could benefit from an improved campus transit network that accommodates a variety of modes of travel. The Campus Master Plan recommends enhancement of the campus transportation network through a multi-modal approach that encourages walking and biking, while also improving vehicular and transit movement. Recommendations for new bus routes and stops build upon the resources of an existing transit framework with the overall objective of improving campus accessibility.

Main Campus

ECUSTA presently serves as the only transportation option on campus. The Master Plan recommends that a Main Campus Circulator Route be developed to provide timely access to major activity nodes on the Main Campus. The ECUSTA and Main Campus Circulator Routes should be coordinated to ensure overlap exists at their stops.

Health Sciences Campus

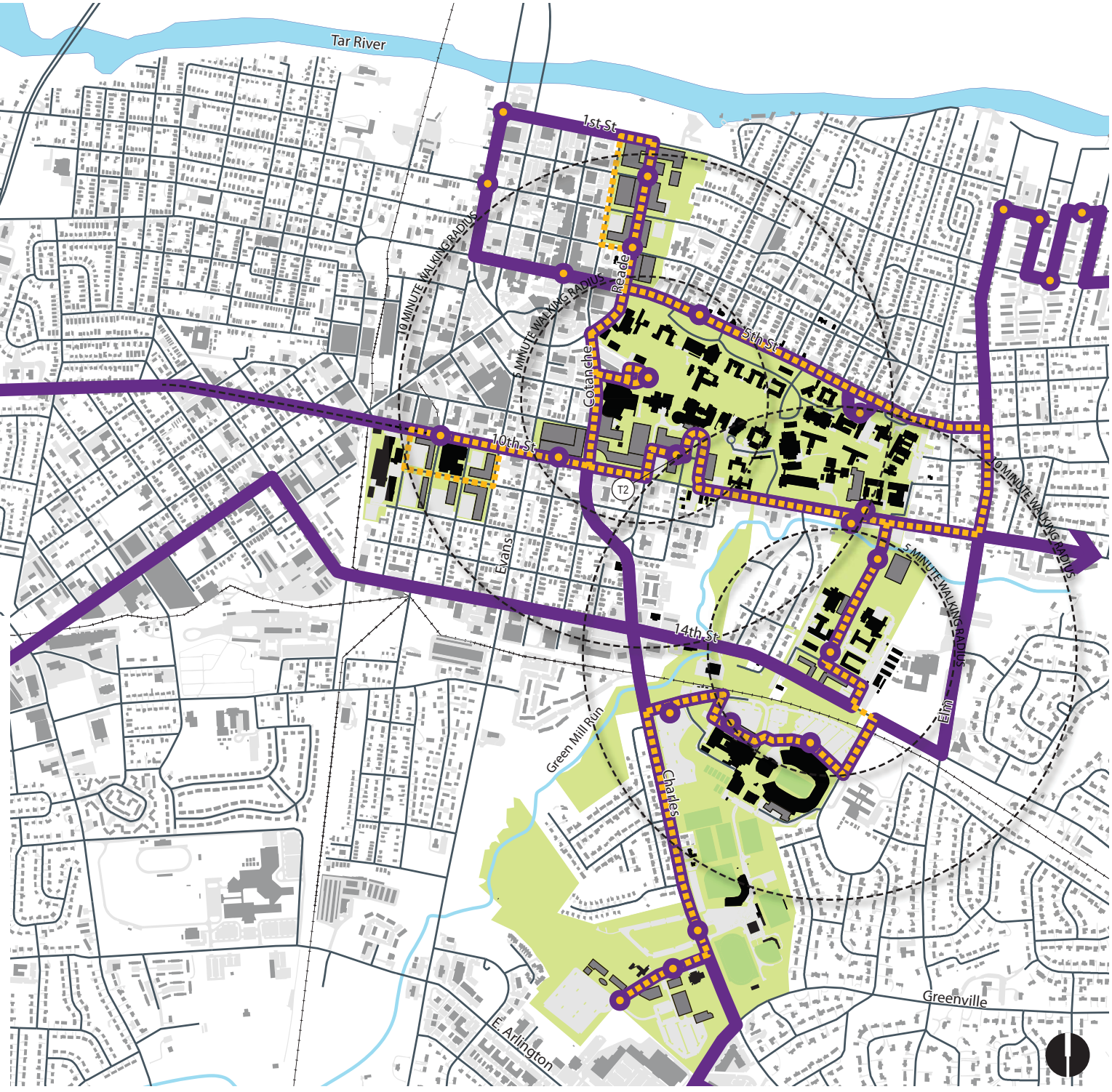
In addition, a Health Sciences Circulator route is recommended to service the Health Sciences Campus. Presently, the ECUSTA route only stops along Moye Drive and 5th Street, making access to all campus facilities difficult for some individuals. The proposed circulator will help unite the campus by providing door-to-door service. It is also recommended that the ECUSTA stops be amended to include the new Student Life Building.

CAMPUS TRANSIT SYSTEM

- ECUSTA Route and Stops
- HSC Circulator Route and Stops (Shuttle)
- Main Campus Circulator Route
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

NEW TRANSIT HUBS

Key	Name
T1	Transit Hub at Student Life Building
T2	Transit Hub at Student Union Building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Master Plan Recommendations

Pedestrian Circulation

The Campus Master Plan seeks to improve the overall walkability and pedestrian connectivity of East Carolina University's campuses. Future pedestrian walks are proposed to enhance and expand the network of circulation routes already present across both the Main Campus and Health Sciences Campus. In addition, many areas have been identified that would significantly benefit from new or improved pedestrian street crossings.

Main Campus

On Main Campus, recommendations specifically address the need to better connect both the east-west pedestrian network within the core campus area and north-south connectivity near College Hill and the Athletic District. In the Campus Core, several existing surface lots are to be removed to unite existing sidewalk networks to allow for fluid east-west pedestrian movement. Within the Downtown District, walks are proposed to align with existing city streetscapes in order to bridge the existing divide between town and gown.

Health Sciences Campus

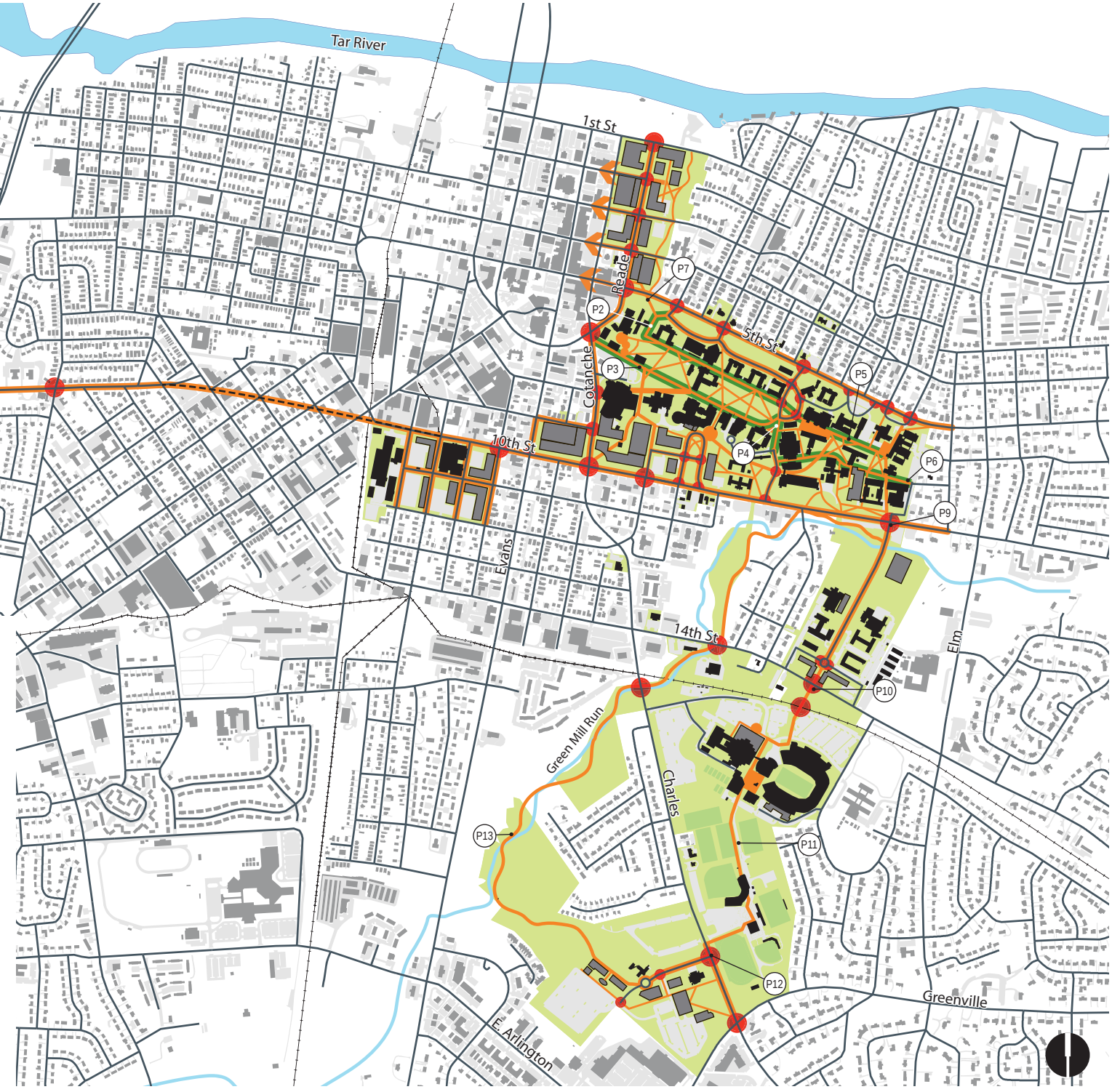
As mentioned earlier in this report, the segmented development of the Health Sciences Campus has resulted in the lack of a coherent pedestrian circulation network. The Campus Master Plan recommendations address this important concern by eliminating portions of existing interior campus roadway and surface parking lots in order to connect buildings, parking lots, and transit stops to one another.

PEDESTRIAN CIRCULATION

- Major Pedestrian Walks
- Shared Use Path
- Pedestrian Crossings
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector

PEDESTRIAN IMPROVEMENTS

Key	Name
P1	Service Drive shared-use path conversion
P2	Faculty Way shared-use path conversion
P3	Alumni Lane shared-use path conversion
P4	Founders Drive shared-use path conversion
P5	Student Plaza Drive shared-use path conversion
P6	Dixon Drive shared-use path conversion
P7	Connection to Downtown District
P8	Connection to Cancer Center
P9	Improved crossing to College Hill District
P10	Connection to Athletic District / rail crossing
P11	Athletic District connection
P12	Improved crossing from Athletics to South Academic District
P13	Recreational path through Natural Area District
P14	Connected circulation routes at HSC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Master Plan Recommendations

Bicycle Circulation

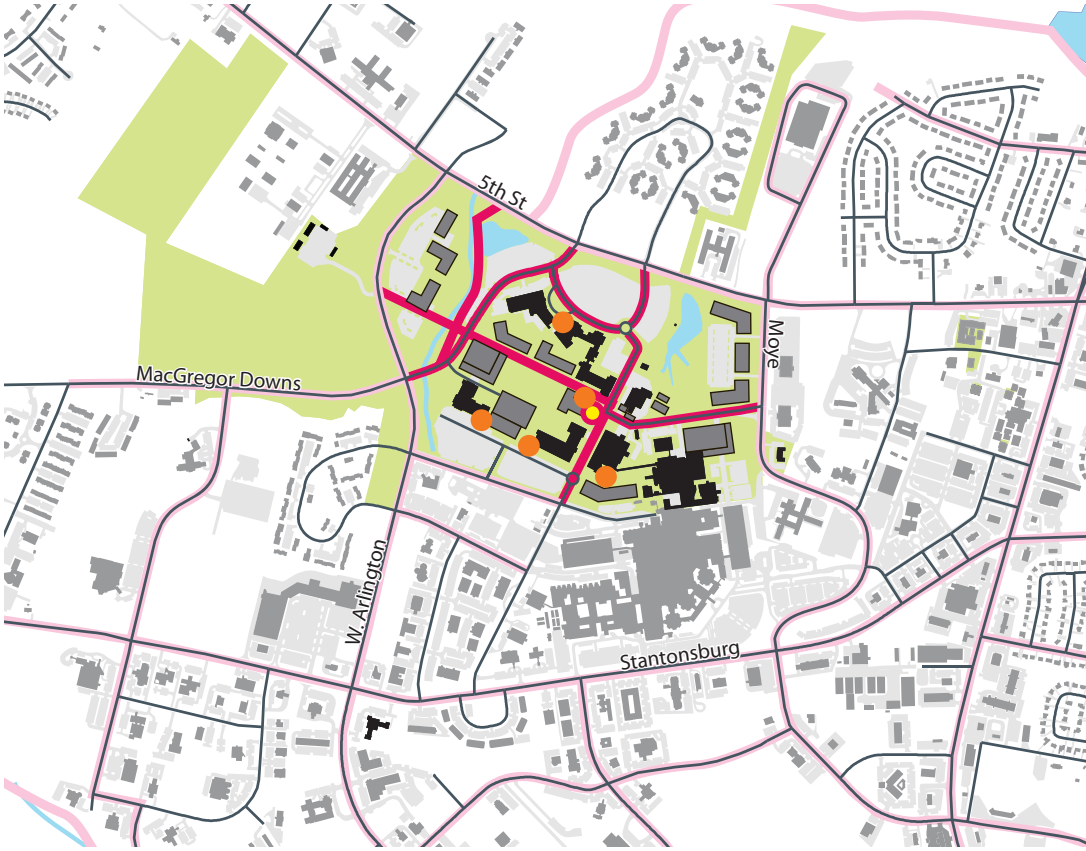
While bicycle ridership is gaining momentum on campus, East Carolina University does not yet have a strong bicycle network in place. Improvements to bicycle circulation involve strengthening the north-south and east-west routes on both campuses. In addition, increased bike parking and new bike stations, providing bicycle maintenance and supplies, are recommended to accompany the route improvements. All components must be in place for the system to function most effectively.

Main Campus

Existing bike routes on Main Campus focus on east-west movement from non-University residential areas to the Campus Core. The Campus Master Plan recommends that a bicycle network be implemented that both enhances these existing east-west routes and also provides new paths from the southernmost portion of campus to the Downtown District. The recommendations acknowledge existing routes and future proposals from the City of Greenville. New bicycle routes connect with these existing and proposed systems to provide a comprehensive regional bicycle network.

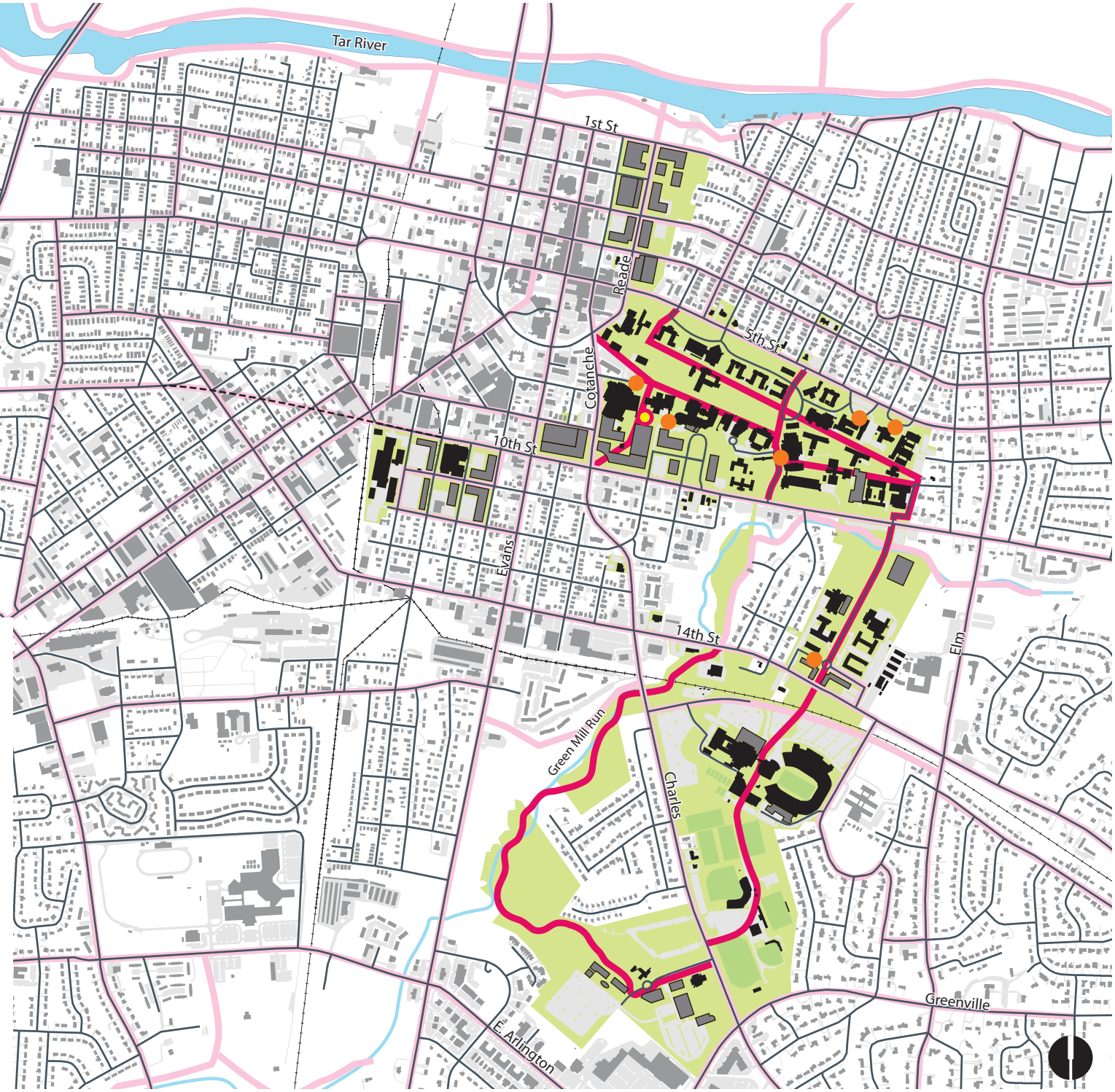
Health Sciences Campus

Similar improvements are proposed for the Health Sciences Campus. A notable feature that is present on both campuses is a bike station near each Student Center. Combined, these transformations are expected to provide seamless connectivity both on campus and between the two campuses.



BICYCLE CIRCULATION

- Planned or Existing City Bike Routes
- Campus Bike Circulation
- Additional Bike Parking
- Bike Station
- Proposed Campus Buildings
- Existing Campus Buildings
- 10th Street Connector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Master Plan Recommendations

Campus Open Space

East Carolina University combines quality natural systems with memorable outdoor spaces, resulting in a unique campus environment. Based on the planning principles, the Campus Master Plan recommends the preservation and sustainable management of these natural features, the creation of new memorable spaces, improvements to edges and gateways, and enhancement of the pedestrian realm to produce a more dynamic open space network.

Main Campus

ECU's Main Campus contains important woodlands, floodplains, and steep slopes associated with Green Mill Run that necessitate preservation. In addition, this campus' longevity has established existing memorable spaces with mature landscaping that should never be built upon. However, careful analysis of the existing campus systems has revealed that new memorable spaces and pedestrian malls should be created to enhance the open space network. The overriding goal of the proposed pedestrian malls are to align with memorable spaces in order to encourage significant student use.

Health Sciences Campus

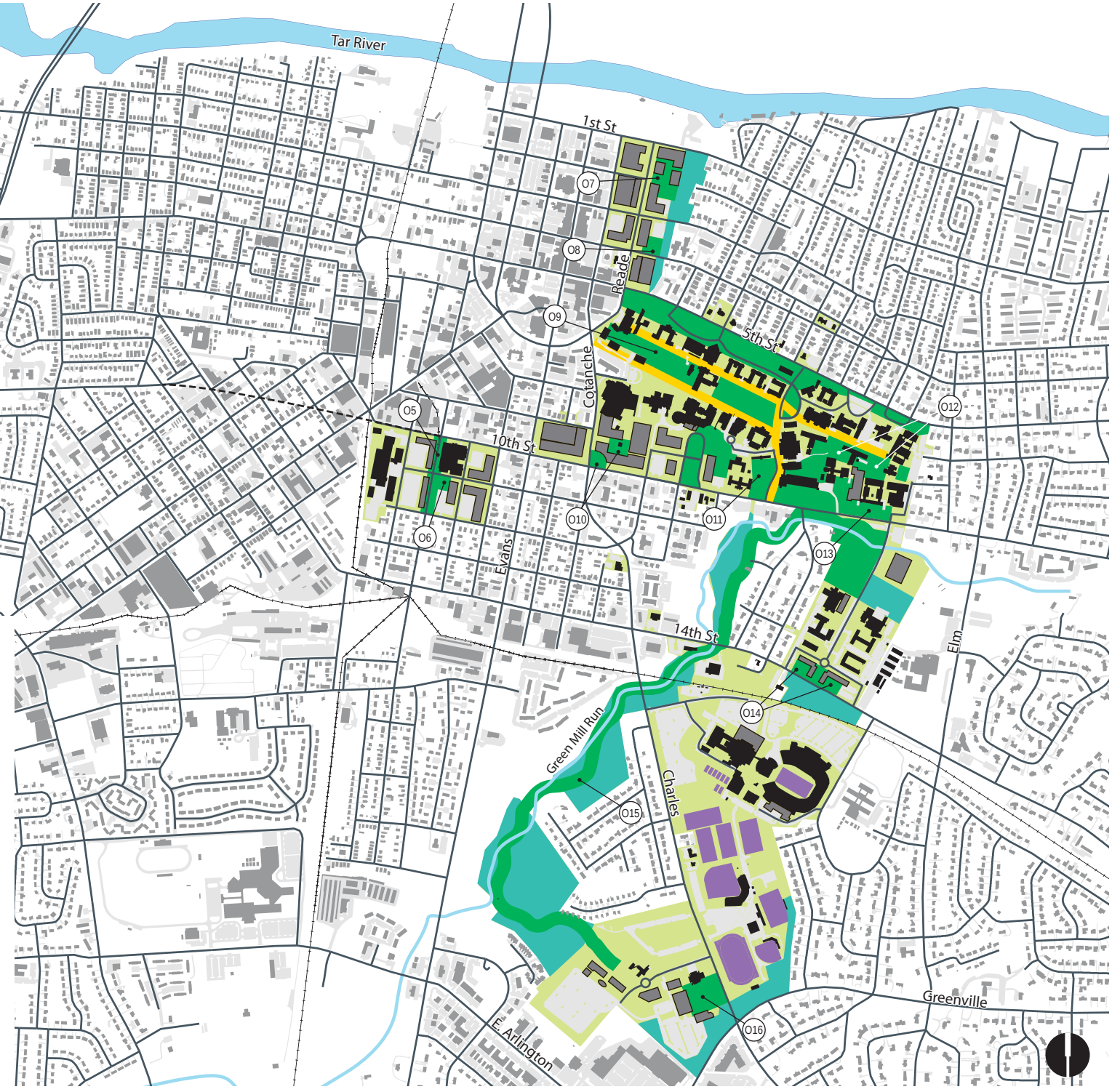
As has been identified in the previous section of the report, the Health Sciences Campus does not yet have a memorable open space character, as demonstrated by Main Campus. Recommendations address this concern by defining new open spaces and pedestrian malls that will create visual cohesion across the campus.

OPEN SPACE ZONES

- Existing Memorable Spaces
- New Memorable Spaces
- Preservation Zones
- Existing Athletic Fields
- New Pedestrian Malls
- Proposed Buildings
- Existing Buildings
- 10th Street Connector

NEW MEMORABLE SPACES

Key	Name
O1	Healing garden and recreation path at Cancer Ctr.
O2	Central campus green
O3	Medical Education courtyard
O4	Courtyard function space
O5	Linear green space
O6	Central open space
O7	Sculpture / art courtyard
O8	Alumni Center courtyard
O9	West Mall improvements
O10	Gateway open space courtyards
O11	Founders Drive open space
O12	Rawl, Austin and Howell open space
O13	10th Street open space
O14	Recreational space for residence halls
O15	Main Campus recreation path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O16

Campus Infrastructure

Stormwater System

East Carolina University is located in the Tar-Pamlico River Basin and requires treatment of stormwater run-off. Due to its close proximity to the floodplain, any increased run-off from new impervious services must be captured and stored to avoid additional flooding. Ideally, new stormwater improvements will include Best Management Practices that capture and reuse run-off and improve the current flooding issues.

Main Campus

Modifications to the existing stormwater system will be required at proposed building locations. Numerous areas will require additional inlets and/or upsized lines. The majority of the proposed buildings have been located on existing impervious area. Since there is no increase in stormwater run-off volume, only piping and structure relocation will be required. Improvements can be made in these areas for stormwater retention and treatment of run-off including rain gardens, cisterns, green roofs, bio-swales, sand filters, or retention ponds. Retention ponds permanently contain all collected stormwater run-off from the site, whereas detention ponds temporarily hold stormwater run-off and release it into the city storm sewer system at a pre-determined rate to prevent inundation of the system.

Health Sciences Campus

The Health Sciences Campus will require additional stormwater measures to account for the increased run-off storage and treatment. New stormwater infrastructure will be required at all proposed building sites including new catchment structures and pipe networks and retention and treatment of the stormwater run-off using Best Management Practices. Recommended improvements include adding new retention ponds on the campus, underground storage cisterns that could be utilized for water reuse in the new buildings, rain gardens, green roofs, bio-swale, and sand filters.

Campus Infrastructure

Domestic Water System

The domestic water needs for East Carolina University are provided by the Greenville Utility Commission through a network of underground piping. The same network of piping provides building fire protection as well. The current piping arrangement provides ample reliability and redundancy for normal domestic water requirements and does not necessitate any improvements as part of the Campus Master Plan.

Main Campus

As Main Campus expands, so does the need for domestic water and fire protection. While the quantity of water available on Main Campus is reliable and adequate, the water pressure needed for fire protection will require building booster pumps to increase water pressure. Due to the complexity of the piping network, a central pump house would not be feasible. New piping plans for connecting future buildings should include separate feeds for domestic water and fire protection.

Health Sciences Campus

The domestic water distribution network on Health Sciences Campus is as complex as Main Campus. The water system utilizes a central booster pump package to increase water pressure for high rise buildings and fire protection. The booster pumps will provide ample water and pressure. New piping plans for connecting future buildings should include separate feeds for domestic water and fire protection. As a result of the central booster pumps, future buildings will not require separate building booster pumps.

DOMESTIC WATER SYSTEM

- Existing Domestic Water Line
- Immediate Need Domestic Water Line
- Existing Buildings
- Immediate Need Buildings
- Future Buildings


Tar River
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Campus Infrastructure

Chilled Water System

The anticipated growth at East Carolina University will facilitate the need for additional chilled water generation. The University already utilizes district cooling facilities in areas of high building density. Recommendations for continuing this approach will optimize redundancy and energy efficiency. In areas where buildings are remotely located, regional district facilities and unitary cooling is most appropriate.

Main Campus

Two central cooling facilities currently exist on Main Campus. The Master Plan recommends one new district cooling facility and two regional facilities to support future growth and replace aging equipment. The development of a central distribution loop through the heart of Main Campus will connect the existing plant to a future district plant. This will provide the most redundancy and flexibility. Remaining regional facilities should be strategically located to reduce distribution piping while optimizing cooling efficiency.

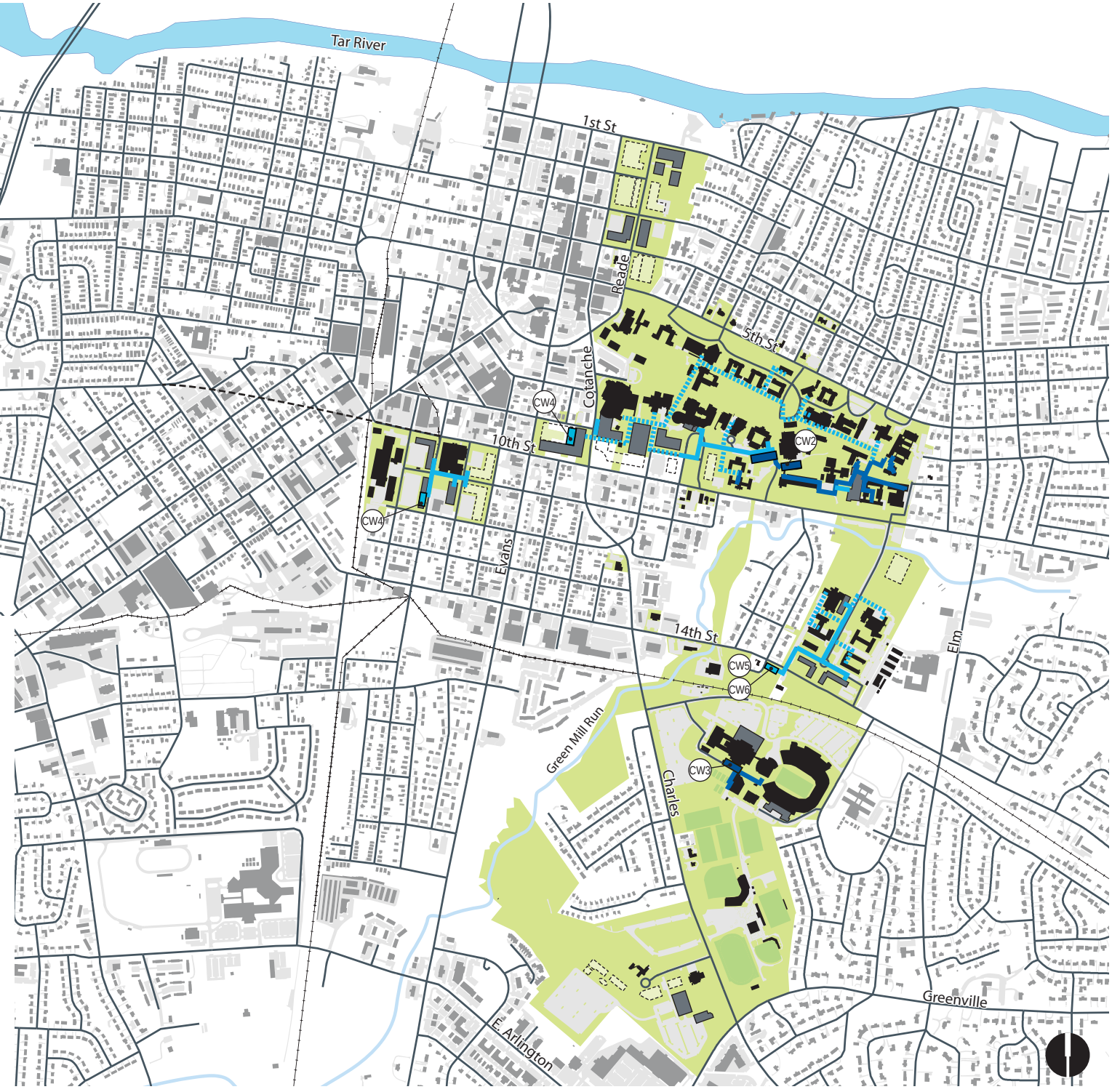
Health Sciences Campus

The Health Sciences Campus utilizes a single Central Utility Plant. All existing buildings proposed to remain are connected and receive chilled water from this plant. The Master Plan recommends developing a phasing plan for replacing chillers and expanding the plant to support future growth. Future buildings should tie into the distribution network. More remote buildings planned should utilize unitary equipment.

CHILLED WATER SYSTEM

- Existing Chilled Water Line
- Immediate Need Chilled Water Line
- Future Chilled Water Line
- Existing Chilled Water Plant
- Future Chilled Water Plant
- Existing Buildings
- Immediate Need Buildings
- Future Buildings

Key	Plant	Name	Capacity
CW1		HSC chiller plant expansion (Phase 1)	1,200 tons
		HSC CH4 chiller upgrade (Phase 2)	to 1,200 tons
		HSC CH5 chiller upgrade (Phase 3)	to 1,200 tons
CW2	CCP1	Existing CCP1chiller upgrade	(2) 1,500 tons
CW3	CCP2	Replace CH1 in CCP2	to 400 tons
CW4	CCP3	Construct CCP3	1,200 tons
CW5	CCP4	Construct CCP4	(2) 675 tons
CW6	CCP4	CCP4 chiller plant expansion	(2) 625 tons
CW7	CCP5	CCP5 chiller plant	500 tons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Campus Infrastructure

Steam and Condensate System

The current heating requirements for East Carolina University are met with steam generation located in district boiler plants. An underground network of steam and condensate piping deliver steam to the majority of buildings on campus for heating water production. While a vast steam infrastructure network is already in place, plans for replacing aged piping and development of new feeds to future buildings should be in place to maintain a reliable heating system.

Main Campus

The existing central heating plant on 14th Street includes generation capacity to support heating needs of the Main Campus. While additional capacity will not be necessary, the replacement of older piping and new steam and condensate feeds will be required to support future growth. A phased piping plan is recommended to replace energy inefficient piping and connect future buildings. Remotely located buildings will be heated with unitary heating equipment.

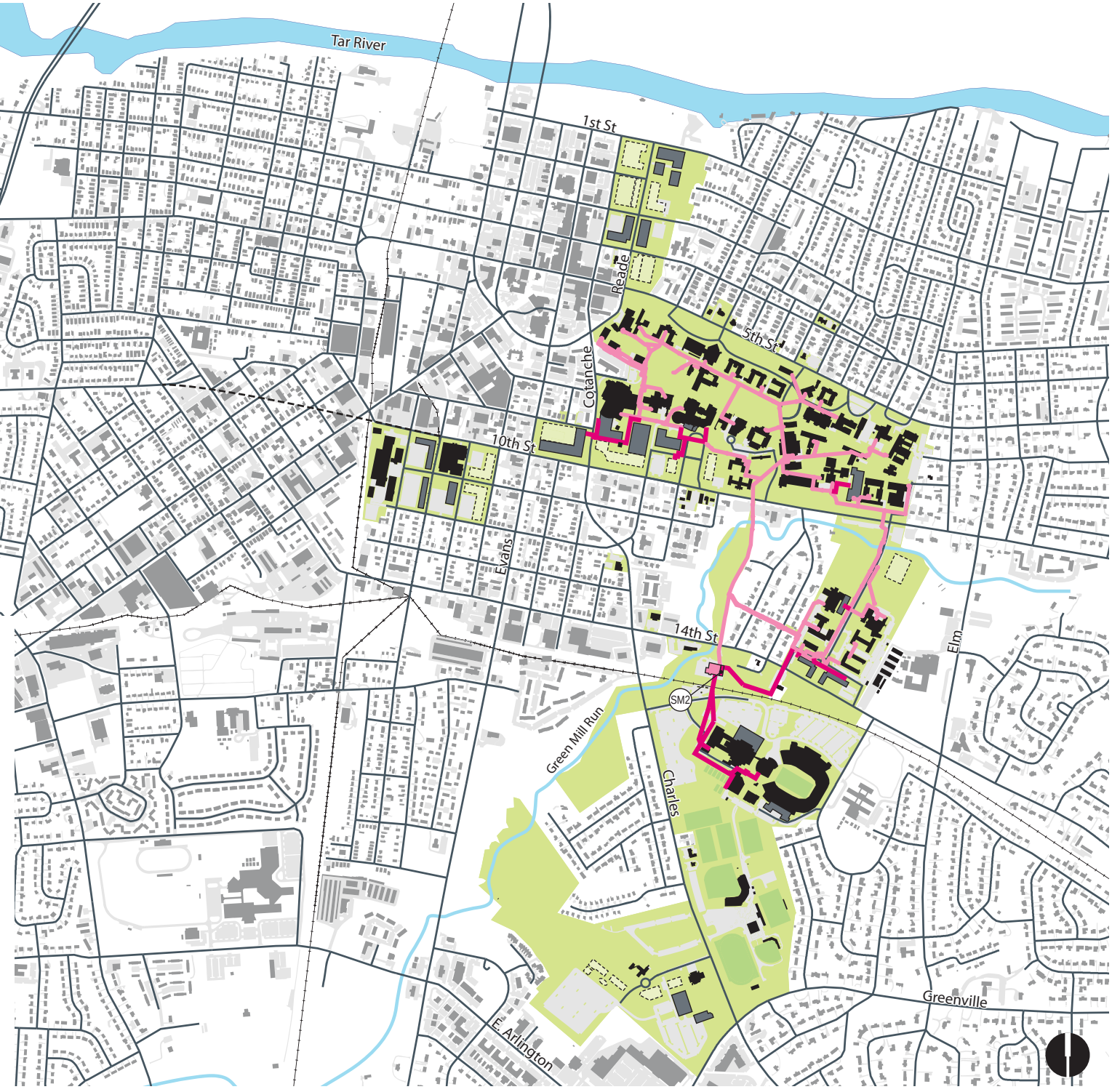
Health Sciences Campus

The Health Sciences Campus generates steam at the Central Utility Plant. To maintain a firm reliable source of heating, additional boiler capacity and auxiliary equipment will be required. Current plans have already been developed to replace aged portions of the distribution network and should be complete before any expansion is required. Buildings remotely located, far from distribution mains, will be heated with unitary heating equipment.

STEAM AND CONDENSATE SYSTEM

- Existing Steam Line
- Immediate Need Steam Line
- Existing Steam Plant
- Future Steam Plant
- Existing Buildings
- Immediate Need Buildings
- Future Buildings

Key	Name	Capacity
SM1	Boiler installation	1,000 BHP
SM1	Boiler no. 2 replacement	to 1,000 BHP
SM2	Steam Plant Expansion	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Campus Infrastructure

Sanitary Sewer System

The sanitary sewer system on East Carolina University's campuses is comprised of a University-owned piping network that discharges into the Greenville Utilities' system which discharges at the Greenville Utilities' Wastewater Treatment Plant.

Main Campus

The sanitary sewer system on Main Campus connects to the GUC in numerous locations. The existing sanitary sewer systems at the proposed building locations will have to be relocated. All of the proposed buildings can be connected on to the surrounding GUC system.

Health Sciences Campus

Additional capacity of the existing sanitary sewer main on the Health Sciences Campus, that is located west of Lake Laupus, exceeds the recommended capacity. The sanitary sewer line should be upsized using a slip-lining process to increase the capacity or a parallel line next to the existing line in this area could be installed. Sanitary sewer piping for the new development on the west side of Health Sciences Campus can be connected to the sanitary sewer main located in McGreggor Downs Road.

SANITARY SEWER SYSTEM

- Existing City of Greenville or ECU Sanitary Line
- Immediate Need Sanitary Line
- Existing Buildings
- Immediate Need Buildings
- Future Buildings


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Campus Infrastructure

Electrical System

The electrical needs for East Carolina University are met by an underground system of 15kV medium voltage loops that are owned and operated by the University. These loops are fed by the GUC at POD stations strategically located at each campus. The future growth of the University will require the expansion of these loops to feed power to new buildings, as well as new utility POD to service remotely located structures.

Main Campus

The electrical system for the Main Campus consists of seven medium voltage loops owned and operated by East Carolina University. These loops are fed by GUC at two POD stations, each consisting of two separate circuits. The total capacity available to the University at these PODs is sufficient to provide power to all proposed future buildings. Future buildings close to the central areas of campus should be tied into the existing loop distribution system with the use of additional switches, duct banks, and feeders. For those buildings proposed to be located in remote areas of campus, it will be more economical to provide a separate utility feed rather than connecting them to the University-owned loop system.

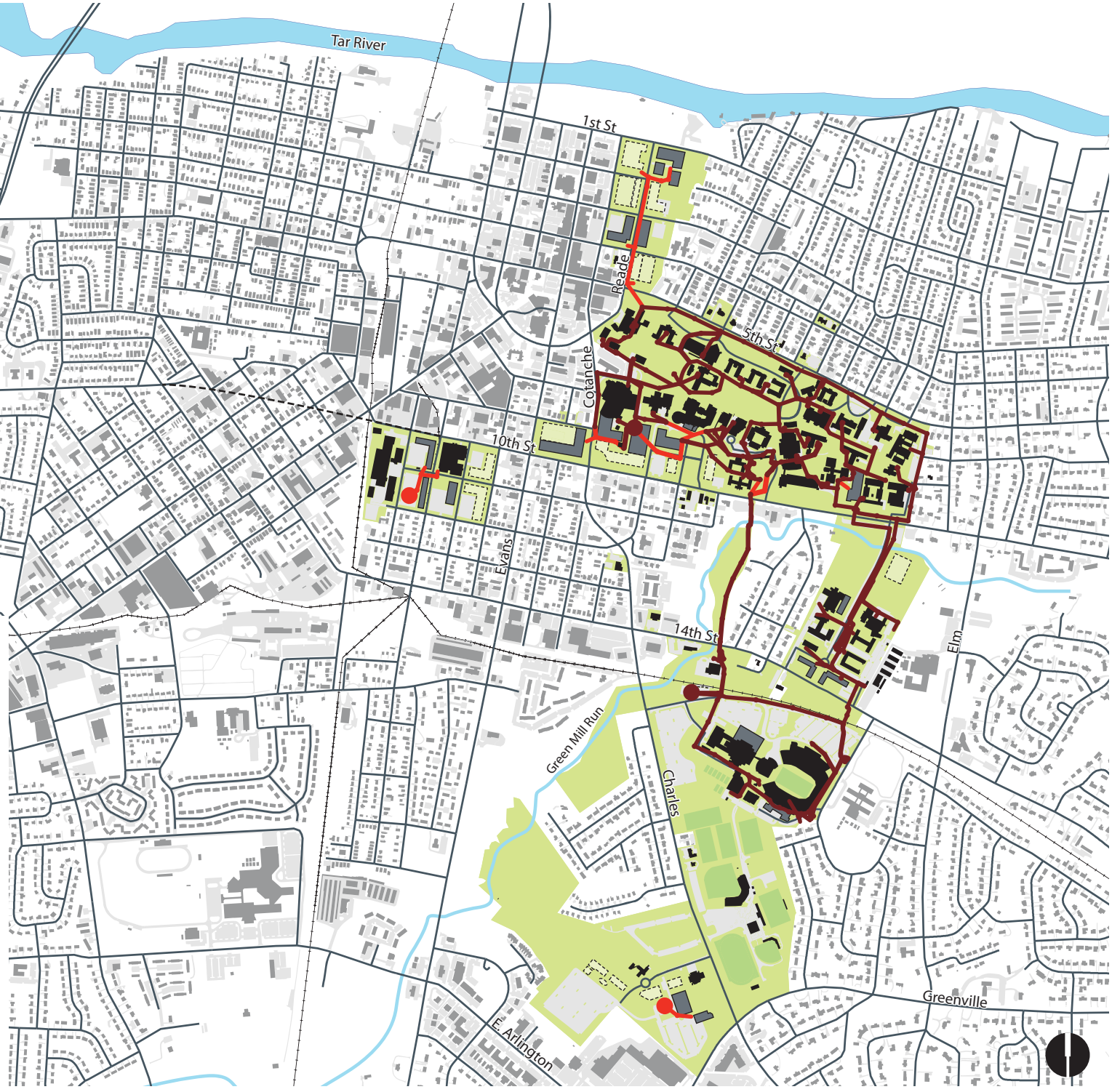
In two or three locations the planned new construction will conflict with existing electrical duct banks. These locations will require re-work of the distribution to avoid having electrical underground below structures.

Health Sciences Campus

The Health Sciences Campus electrical distribution system also consists of medium voltage loops owned and operated by the University. Power to these loops is provided by GUC at one POD consisting of two separate utility feeds through two University-owned distribution systems. Capacity from the utility is sufficient to feed all proposed future buildings, and it is recommended that all future buildings be integrated into the existing loop-fed distribution system.

ELECTRICAL SYSTEM

- Existing Electrical Line
- Immediate Need Electrical Line
- Existing POD Location
- Future POD Location
- Existing Buildings
- Immediate Need Buildings
- Future Buildings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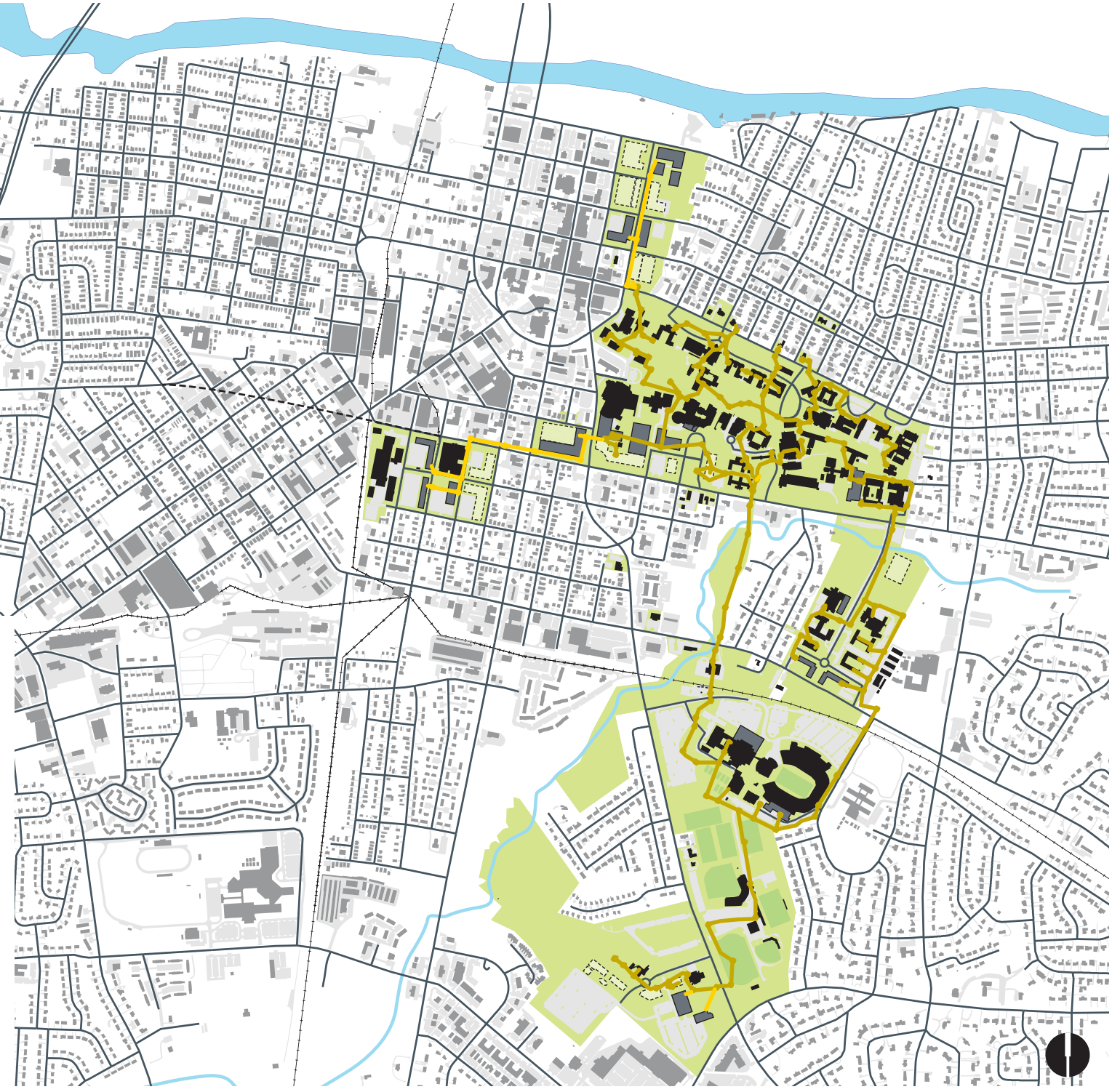
Campus Infrastructure

Telecommunications System

Infrastructure for the telecommunications system is available for all additions near existing University buildings, for both Health Sciences and Main Campuses. It is anticipated that University telecom infrastructure will be required at all new University-owned facilities. The cost of the expansion of the fiber loops is not included in this study, however an opinion of cost to install conduit with innerduct is included.

TELECOMMUNICATIONS SYSTEM

- Existing Telecommunications Line
- Immediate Need Telecommunications Line
- Existing Buildings
- Immediate Need Buildings
- Future Buildings



four | neighborhoods















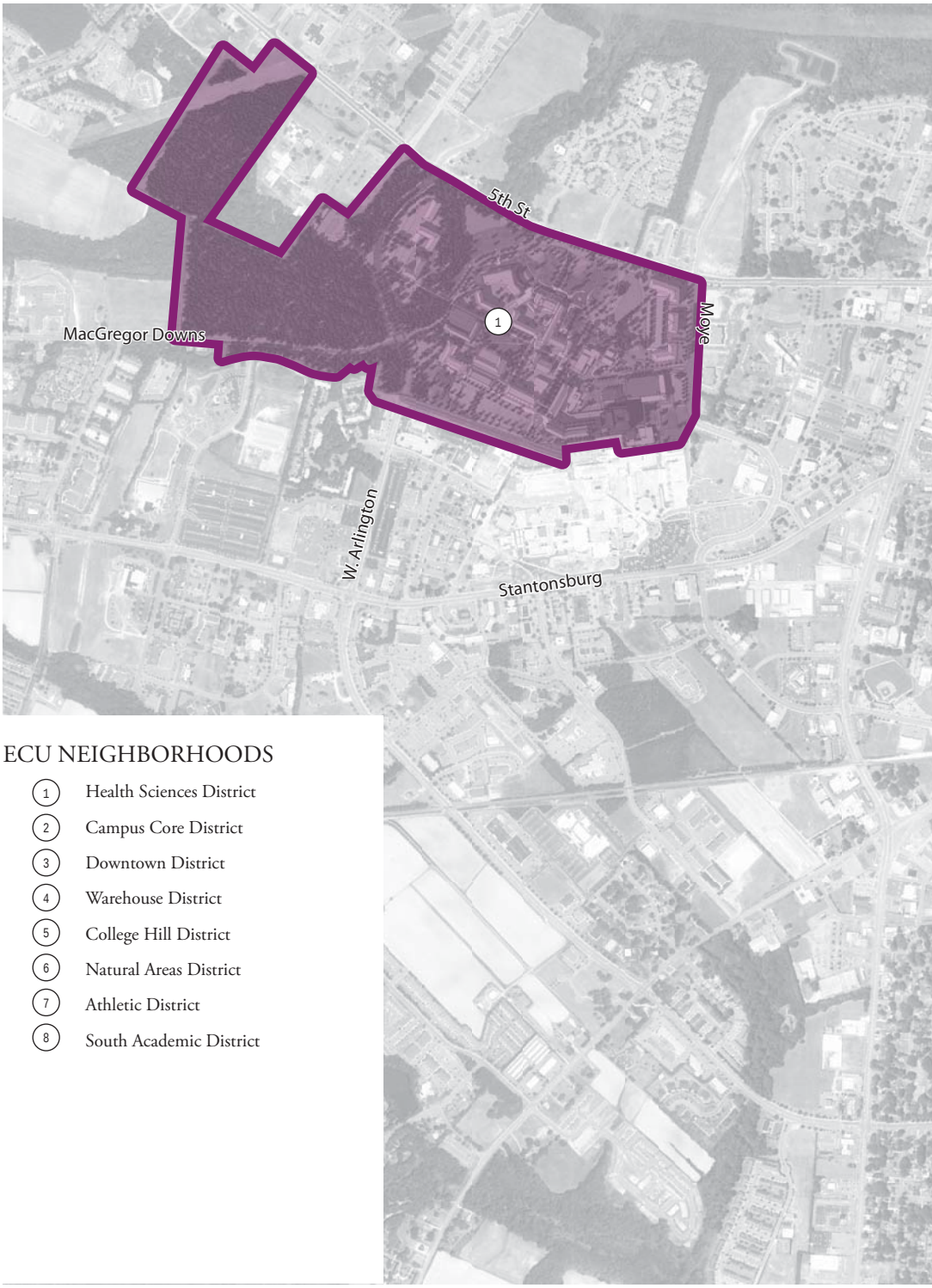

Neighborhoods

Introduction

East Carolina University is naturally organized into an array of unique neighborhoods that help break down the scale of campus into identifiable pedestrian environments that support the primary activities of living, learning, teaching, and research. The Campus Master Plan reinforces this existing scenario by defining eight neighborhoods within the overall campus framework that each represent a distinct identity. Several of the established neighborhoods are conceptually complete, while others are emerging or fragmented.

The Campus Master Plan recommendations are intended to guide the development of all campus neighborhoods to ensure that successful qualities within established districts are celebrated and reinforced, while encouraging the development of innovative and comparable qualities in underdeveloped areas. Design guidelines reflect the unique qualities found in each neighborhood, while also working to achieve a coherence and unity across both the Main Campus and Health Sciences Campus.

ECU's Main Campus is anchored by a historic Campus Core District at its northern edge with the majority of campus extending to the south. The Downtown District is the one exception, located to the north of the Campus Core. A separate neighborhood has been devoted to the Health Sciences District.



ECU NEIGHBORHOODS

1. Health Sciences District
2. Campus Core District
3. Downtown District
4. Warehouse District
5. College Hill District
6. Natural Areas District
7. Athletic District
8. South Academic District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Neighborhoods

Health Sciences District

KEY

- Immediate Need Buildings
- Future Building Opportunity
- Existing Campus Buildings
- Building Renovation
- Proposed Parking Deck
- Proposed Gateway Improvements

Building Initiatives

1. Ambulatory Ancillary Services Building
2. Ambulatory Clinics Building
3. Cancer Center
4. Student Life Building
5. Faculty offices
6. Health Sciences parking deck #1 to serve faculty, staff and students
7. Medical Education Building and below grade parking deck
8. Research addition (3rd and 4th floors on Warren Life Sciences)
9. Medical Heating Facility expansion
10. Potential medical office building complex
11. Potential staff or faculty offices
12. Potential future parking deck
13. Potential academic building
14. Potential utility expansion
15. Brody Building renovation for office, research or Millennial Campus

Circulation Initiatives

1. Service Road removal from N. Campus Loop to south side of Warren Life Sciences, replace with shared-use path. Add vehicular loop drop-off at new Medical Education front door
2. Pedestrian connection from central campus location to Cancer Center
3. Campus-wide interior pedestrian network connections
4. Central ECUSTA bus drop off at Student Life Building, connect to destination using campus circulator route
5. Patient surface parking
6. Complete Streets on 5th, MacGregor Downs, Arlington and Moye, Heart, and N. Campus Loop

Streetscape Initiatives

1. Heart Boulevard streetscape character and gateways
2. Moye Boulevard streetscape character and gateway
3. W. Arlington Blvd streetscape character and gateways
4. MacGregor Downs streetscape character and gateway
5. 5th Street streetscape character and gateways
6. North Campus Loop screening of utilities and research areas

Open Space Initiatives

1. Campus Central Green common space development
2. Medical Education Building courtyard area
3. Courtyard function space, opportunity for art location
4. Healing Garden and recreational path (at Cancer Center)

Neighborhoods

Health Sciences District

Existing Character

Since the mid 1980s, the Health Sciences Campus has been home to East Carolina University's medical education and allied health programs. An initial Master Plan was developed to guide growth of the campus. However, rapid development in recent years has resulted in sporadic adherence to the overall campus vision. Buildings have been constructed in isolation to the larger campus network with the development of separate surface parking areas and pedestrian path systems. This has resulted in the lack of a coherent, unified campus character and circulation system.

The Health Sciences Campus is located adjacent to PCMH and Pitt County clinical facilities. Distinction between the public and academic entities is not readily apparent, nor does any partnership appear to exist through combined signage or streetscape initiatives. ECU currently does not present a strong image within this area of town. No gateways or harmonious streetscape enhancements exist to signal to a student, patient, or visitor that they are entering the Health Sciences Campus. The experience can be disorienting because medical facilities, research institutes, and clinical treatment centers are not located logically near one another.

The addition of consistent building, parking, and landscape setbacks combined with proposed building, circulation, streetscape, and open space initiatives will significantly enhance the overall character of the Health Sciences Campus. The placement of each proposed building was carefully considered as to how it would aid in strengthening the overall campus composition. In addition, each building use was analyzed to ensure that it would be compatible with existing adjacencies. The initiatives presented in the following text, when combined together, will result in an elevated image for the Health Sciences Campus within the Greenville community and an enhanced experience for all campus users.

Building Initiatives

1 Ambulatory Ancillary Services Building

The Ambulatory Ancillary Services Building (100,00 SF, 5 stories) provides a central facility on the Health Sciences Campus for the location of all diagnostic labs. This building consolidates activities previously distributed throughout the adjacent research institutes into one easily accessible building. It is designed to facilitate resource sharing and avoid lab space duplication across campus.

2 Ambulatory Clinics Building

The Ambulatory Clinics Building (194,000 SF, 5 stories) directly addresses the need to consolidate ambulatory clinical services on the Health Sciences Campus. This arrangement should alleviate patient confusion and increase overall efficiency by providing one centralized location for clinical treatment that is easily accessible on the campus perimeter. The Ambulatory Clinics Building is also strategically positioned to be within walking distance of the new Medical Education Building and the existing PCMH. Future partnership opportunities may exist with PCMH on land owned by the hospital, across Heart Boulevard from the proposed clinical facility.

3 Cancer Center

Stakeholder meetings and Spatial Analysis findings revealed that the Cancer Center need not be directly connected to PCMH because the vast majority of visitors to the center receive outpatient treatment. The opportunity to identify a natural setting for the facility was expressed as a desirable objective. It is for these reasons that the Cancer Center (60,000 SF, 3 stories) has been located in a secluded wooded site west of MacGregor Downs.

4 Student Life Building

The lack of student life programming on the Health Sciences Campus is resolved by the establishment of a Student Life Building (64,000 SF, 2 stories) to be centrally located between the Warren Life Sciences Building and the Health Sciences Building. It is to be set on axis with the campus' central green space and designed to be easily accessible from all points on the Health Sciences Campus. The Student Life Building will contain dining facilities, recreational opportunities, study space, and lounges. It is intended to serve the needs not only of students, but also faculty, staff, patients, and patients' families. The analysis phase revealed that student residential facilities were not desired on the Health Sciences Campus, as the majority of students preferred living on or near Main Campus. It is for this reason that no residential facilities are provided.

Courtyards provide seating opportunities and shade adjacent to buildings.

Campus buildings can be positioned to frame open space.

5 Faculty offices
6 Health Sciences parking deck #1 to serve faculty, staff and students

A new 4-story parking deck, containing 700 spaces, is proposed near the Academic Core to serve faculty, staff, and students since surface lots will now be designated for patients only. This proposed parking structure is wrapped with faculty offices on its east and southern sides to present a more aesthetically pleasing facade to the interior campus. It is intended to be the first parking deck constructed on the Health Sciences Campus.

7 Medical Education Building and below grade parking deck

During the initial analysis phase, the Brody Building was determined to no longer meet ECU's medical education needs. This posed concern for the University as the Brody School of Medicine is a centerpiece within ECU's academic program offerings. The construction of a new Medical Education Building (250,000 SF, 6 stories with 200 Parking Spaces Below-Grade) became a top priority of the master planning efforts on the Health Sciences Campus. The building is intended to address advancements in medical facility technology and a nation-wide growth in medical education that has resulted in ECU's desire to expand future enrollment. The proposed Medical Education Building is positioned to be in close proximity to the new Integrated Ancillary Services and Clinics Building, PCMH, and medical research facilities. This will allow faculty and students to move seamlessly between these related buildings.

Special paving highlights significant pedestrian corridors on campus.

View of the campus central green framed by new buildings.

8 Research addition (3rd and 4th floors on Warren Life Sciences)

The research expansion to the existing Warren Life Sciences building will comprise two additional stories totaling 33,000 SF. This expansion addresses the need to consolidate research activities on the Health Sciences Campus and also responds to anticipated future growth of ECU's integrated research and translational research programs. The research facilities are within walking distance of a new Medical Education Building and the existing PCMH.

9 Medical Heating Facility expansion

In order to accommodate additional development on the Health Sciences Campus, an immediate expansion is proposed to increase capacity of the existing Medical Heating Facility. The building is centrally located on campus, directly east of the Health Sciences Building. The Campus Master Plan proposes that the building be extended to the south and east where available land exists and landscape screening can be accommodated if necessary.

10 Potential medical office building complex

The Campus Master Plan has not specifically identified program uses for future building opportunities, rather it has left these flexible to allow ECU to respond to future academic needs, market demands, or changes in technology. The suggested uses presented in the report reflect possible future needs as understood by the SmithGroupJJR team.

An opportunity representative of this description has been identified near the Cancer Center. Land has been designated directly north of the Cancer Center for two additional buildings to meet future specialized clinic or medical office needs. Another future development opportunity has been identified adjacent to Moye Boulevard in the northeast corner of campus. This three building complex presents a flexible configuration to accommodate additional medical office, clinical, and/or academic space needs.

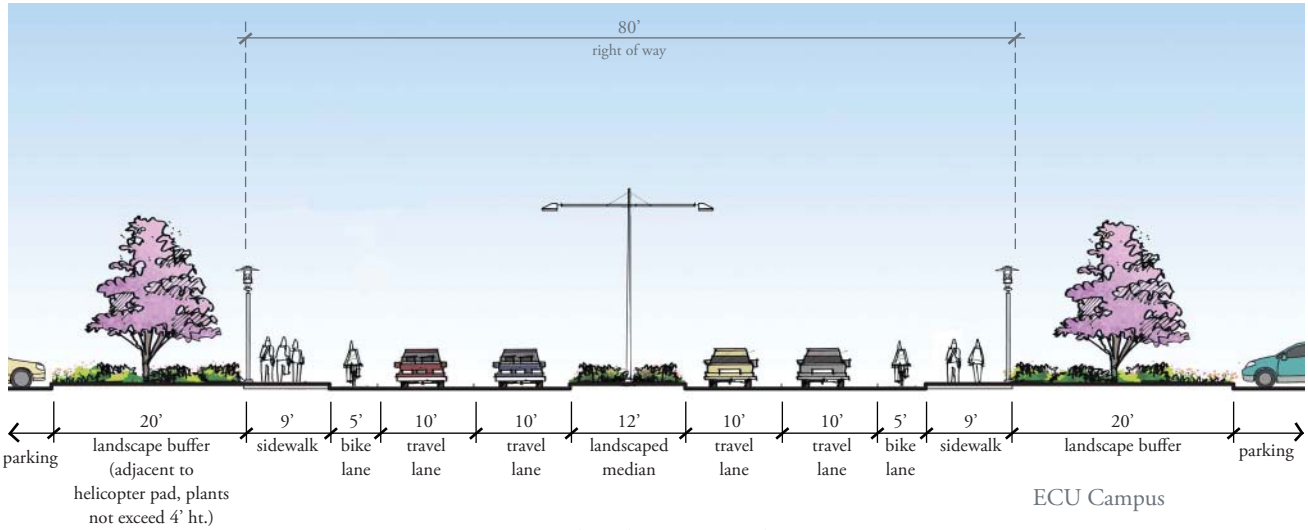
11 Potential staff or faculty offices

12 Potential future parking deck

A future parking deck has been sited south of the proposed medical office building complex near Moye Boulevard to service both these buildings and PCMH. The parking deck is intended for faculty, staff, and students in order to allow surface parking lots to be reserved for patient parking. As is proposed for the parking deck near the Integrated Ancillary Services and Clinics Building, this parking deck also presents the opportunity to wrap the facade with faculty or staff offices.

13 Potential academic building

The existing Health Sciences Campus configuration suggested that new academic buildings be located near the center of campus, adjacent to existing academic facilities in order to form an academic core. A future building opportunity has been identified south of the Health Sciences Building and Laupus Library. This location places a new academic building in close proximity to the College of Allied Health



Heart Boulevard Streetscape Character
Cross-Section

Recreational Path at Cancer Center

Stormwater Opportunities in Parking Islands

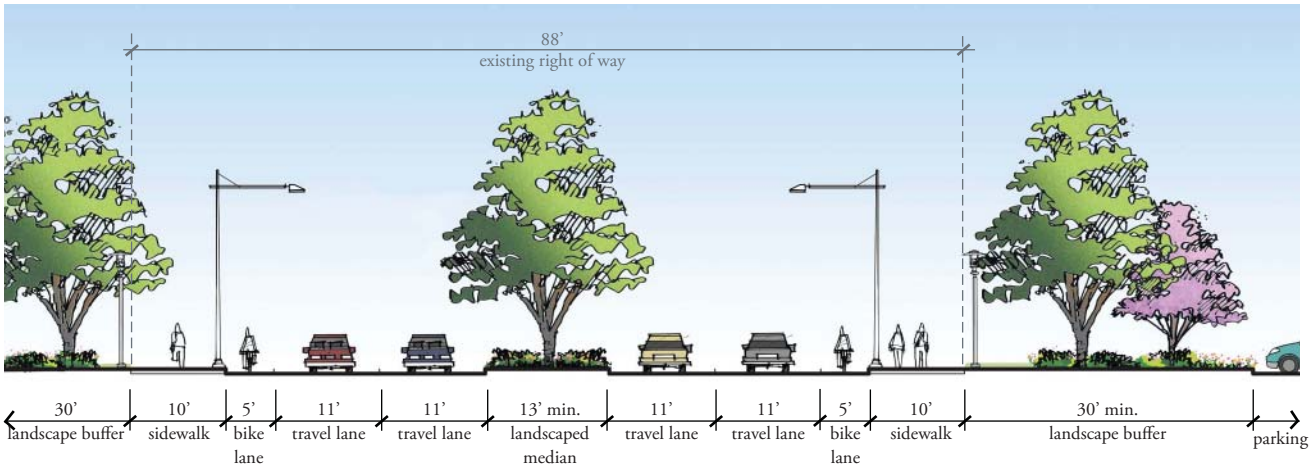
Sciences and College of Nursing, as well as the new home for ECU's School of Dental Medicine, Ledyard E. Ross Hall, to be opened in Spring 2012. The academic needs of these programs do not demand that they be located directly adjacent to PCMH. Therefore, this central campus location was deemed appropriate for academic expansion.

14 Potential utility expansion

The Campus Master Plan anticipates that the Health Sciences Campus will continue to expand in the coming decades. In order to effectively accommodate increased development, a future expansion to the Medical Heating Facility will be needed. Land is not available directly adjacent to the building to allow for expansion; therefore a new stand alone structure is proposed across a service drive directly east of the existing facility.

15 Brody Building reuse for office, research or Millennial Campus

The Brody Building is to be repurposed with suggested future uses such as the proposed location for a 'Millennial Campus' or additional office and research space. The 'Millennial Campus' would specifically focus on science and biotechnology initiatives. New research space and offices within the Brody Building would be positioned in close proximity to the Warren Life Sciences Building to allow easy collaboration between research facilities, as well as the future faculty or staff offices along Moye Boulevard.



W. Arlington Boulevard Streetscape Character
Cross-Section

View of the Health Sciences Campus Looking Northeast

Circulation Initiatives

1 **Service Road removal from N. Campus Loop to south side of Warren Life Sciences. Add vehicular loop drop-off at Medical Education**

The circulation initiatives proposed for the Health Sciences Campus target the overall goal of facilitating increased pedestrian activity on campus and creating a seamless circulation network for all modes of transit. Three proposed initiatives specifically target the creation of an enhanced pedestrian network. The first proposal includes removal of Service Road from N. Campus Loop to the south side of Warren Life Sciences Building. It is to be replaced with a shared-use path and a loop drop-off to serve the front entry of the new Medical Education Building. A single bay of on-street parking was removed as part of this project which will be accommodated in consolidated surface lots.

2 **Pedestrian connection from central campus location to Cancer Center**

3 **Campus-wide interior pedestrian network connections**

The second and third initiatives address the lack of a cohesive pedestrian path system by providing new walkways across campus to connect all building entries and parking areas to one another. A primary aspect of these efforts is the installation of a direct east-west pedestrian connection from central campus to the Cancer Center to provide much needed cross campus access.

4 **Central ECUSTA bus drop off at Student Life Building, connect to destination using campus circulator route**

The lack of cohesive campus accessibility will also be enhanced by the relocation of an existing ECUSTA route to a new drop-off location at the Student Life Building. This bus stop location is designed to align with a proposed Connector shuttle that will provide door-to-door service to all buildings on the Health Sciences Campus. A future opportunity exists to partner with Pitt County to expand the reaches of the transit system further.

5 **Patient surface parking**

Existing surface lots presently exist within interior areas of the Health Sciences Campus and are shared by faculty, staff, students, and patients. In order to make the campus more pedestrian friendly and easily accessible for drivers, several small surface lots have been removed from the center of campus to provide larger consolidated parking areas at the perimeter. These have been located near the Integrated Ancillary Services and Clinics Building, Cancer Center, and the proposed future medical

office complex in the northeast corner of campus. The goal is to have all patient parking accommodated within surface parking lots; as it was determined that surface parking lots are more intuitive for patients to navigate than parking structures. As was previously mentioned in this report, faculty, staff, and students will be asked to use new parking decks.

6 Complete Streets on 5th, MacGregor Downs, Arlington and Moye

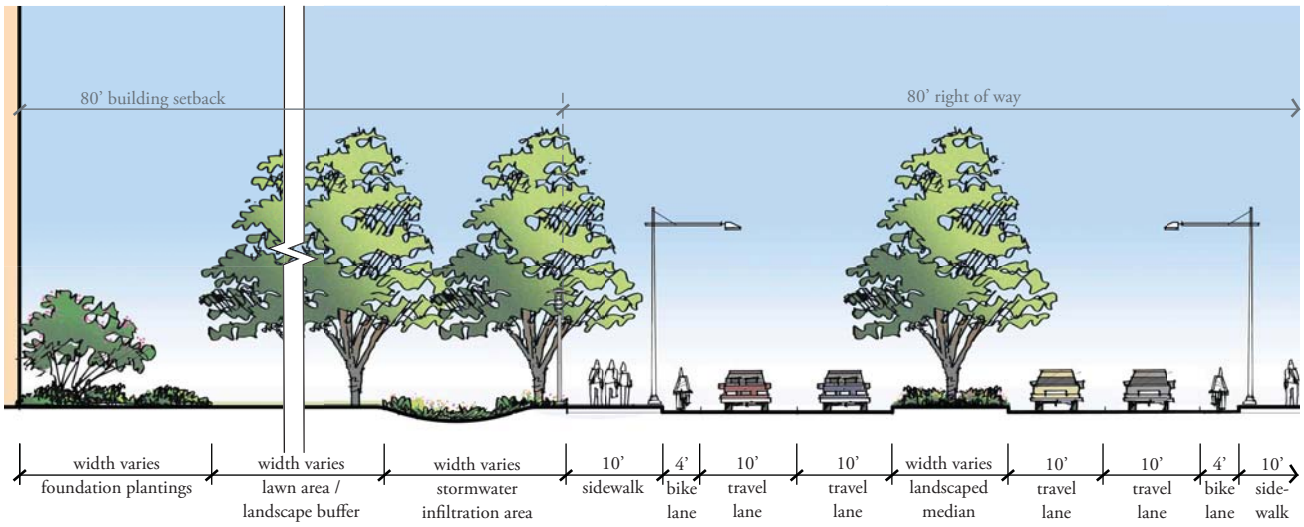
The Campus Master Plan recommends that Complete Streets be developed on 5th Street, MacGregor Downs, W. Arlington Boulevard, and Moye Boulevard. A Complete Street is defined as a street that safely and comfortably accommodates all modes of transit including pedestrians, cyclists, and vehicles. These streets also typically address stormwater management by interweaving infiltration areas such as bioswales, pervious pavement, and rain gardens into the right-of-way. The cross-sections presented on the next few pages highlight the manner in which each street can be re-developed to accommodate all forms of transit and stormwater management.

The streets that form the perimeter of the Health Sciences Campus do not display a consistent character, nor do they successfully accommodate pedestrians and cyclists. The primary goal of these sections is to impose a level of consistency upon all campus roadways to create a unified identity across the Health Sciences Campus. This will be accomplished through various measures such as widening existing sidewalks, constructing new sidewalks to eliminate any possible obstructions, installing separate or shared-use bike lanes, and areas for stormwater infiltration. Regional alliances with the Metro Planning Organization are recommended to ensure that ECU's Complete Street efforts align with those ongoing in the Greenville region.

Streetscape Initiatives

1 Heart Boulevard streetscape character and gateways

The improvements proposed for Heart Boulevard will include the addition of sidewalks on the northern side of the road to complete the existing pedestrian network. In addition, 5 foot wide bike lanes will be provided on both sides of the street. The overall character will be improved with additional landscaping to buffer views from the roadway into parking areas. Three gateways are proposed along Heart Boulevard at prominent intersections to signal entrance onto campus.



Moye Boulevard Streetscape Character (from 5th Street to Service Drive)
Cross-Section

2 Moye Boulevard streetscape character and gateway

The northern end of Moye Boulevard currently contains four vehicular travel lanes divided in half by a landscaped median. This configuration will remain the same, but separate 4 foot wide bike lanes will be added. Sidewalks currently flank both sides of the street and are proposed to remain. An important gateway intersection has been identified at Moye Boulevard and 5th Street. This area should be enhanced to guide visitors into campus. Stormwater infiltration opportunities, such as the incorporation of bioswales, are proposed adjacent to the roadway.

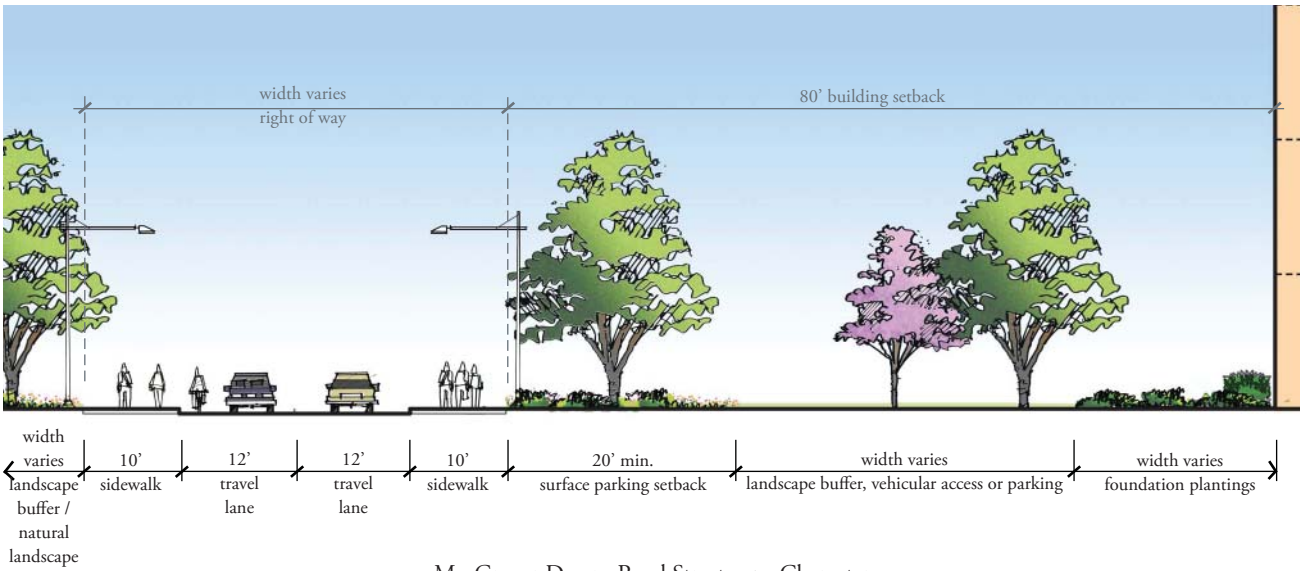
3 W. Arlington Boulevard streetscape character and gateways

W. Arlington Boulevard serves as an important north-south connector to 5th Street. Therefore, this roadway supports high traffic loads along its existing four lane streetscape. W. Arlington Boulevard is divided by a large landscaped median that has future stormwater management potential. With the exception of an area of clearing for the proposed Cancer Center, Arlington Boulevard is natural in character. The streetscape improvements attempt to preserve as many existing trees as possible, while also incorporating separate 5 foot wide bike lanes into the right-of-way.

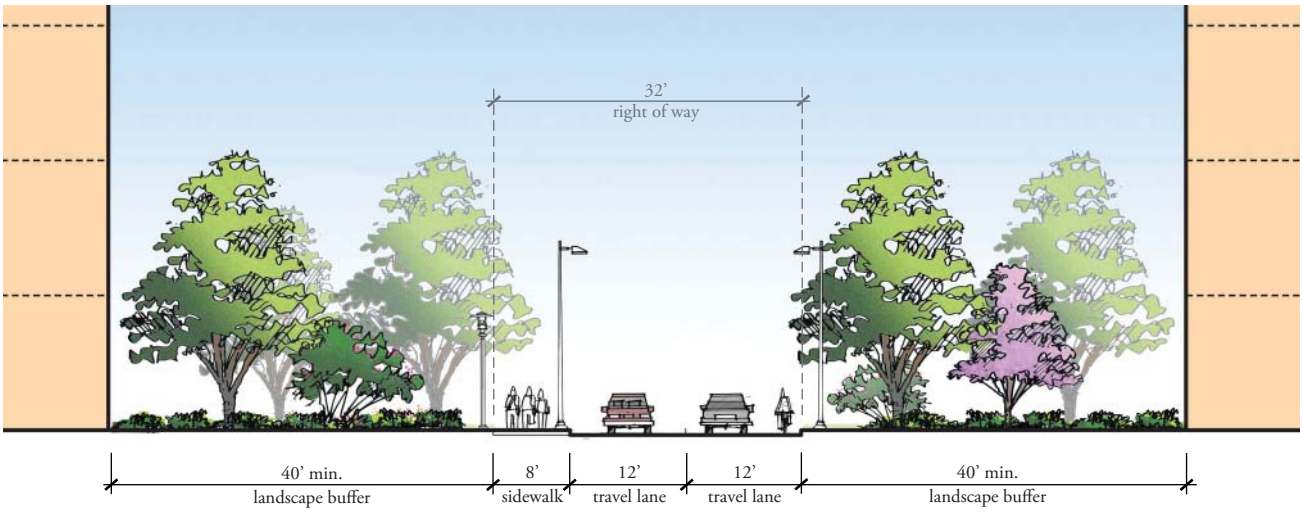
4 MacGregor Downs streetscape character and gateway

MacGregor Downs is a two-lane road that bisects the naturalized portion of the Health Sciences Campus from more developed areas. Currently, no sidewalk exists along the roadway. In order to preserve existing natural features, sidewalks are proposed to be added adjacent to both sides of the road, but the road is not to be widened. Vehicles will be expected to share the road with cyclists. The intersections of MacGregor

Common green space defines the center of campus.



MacGregor Downs Road Streetscape Character
Cross-Section



North Campus Loop Streetscape Character
Cross-Section

Downs and Arlington Boulevard and MacGregor Downs and 5th Street will benefit from gateway enhancements. Development of the Cancer Center and parking deck are expected to increase traffic loads at these intersections.

5 5th Street streetscape character and gateway

5th Street forms the northern boundary of the Health Sciences Campus and is an important east-west collector street within Greenville. Circulation can be enhanced by completing the existing disjointed sidewalk network along both sides of the roadway. In addition, 5 foot wide bike lanes are proposed along both sides of the street. A bioswale is to be located along the campus side of 5th Street, both to enhance its landscape character and also address stormwater concerns. Each intersection along 5th Street, between W. Arlington Boulevard and Moye Boulevard is recommended to receive gateway enhancements. Each of these four intersections serve as important entry points into campus.

6 North Campus Loop screening of utilities and research areas

Streetscape enhancements are also proposed for the North Campus Loop. These improvements are intended to screen research areas and utilities. While this street is not intended as a primary roadway, it will likely be used to access interior campus buildings and parking areas.

Open Space Initiatives

1 Campus Central Green common space development

The Campus Master Plan outlines a series of open space initiatives that will work together to define a distinct open space network for ECU's Health Sciences Campus. As has been previously mentioned in this report, the campus currently lacks strategically placed and defined open spaces. One feature that will help resolve this concern is a central green common space framed by existing and proposed buildings. It is located directly north of the Integrated Ancillary Services and Clinics Building. A lush lawn dotted with large, deciduous canopy trees will create a memorable space similar to those found on Main Campus. This space is expected to serve as a popular outdoor area where the majority of students will gather.

2 Medical Education Building courtyard area

The new Medical Education Building frames an outdoor courtyard that is expected to be used by people from the Medical Education Building, PCMH, and the Brody Building seeking an outdoor respite.

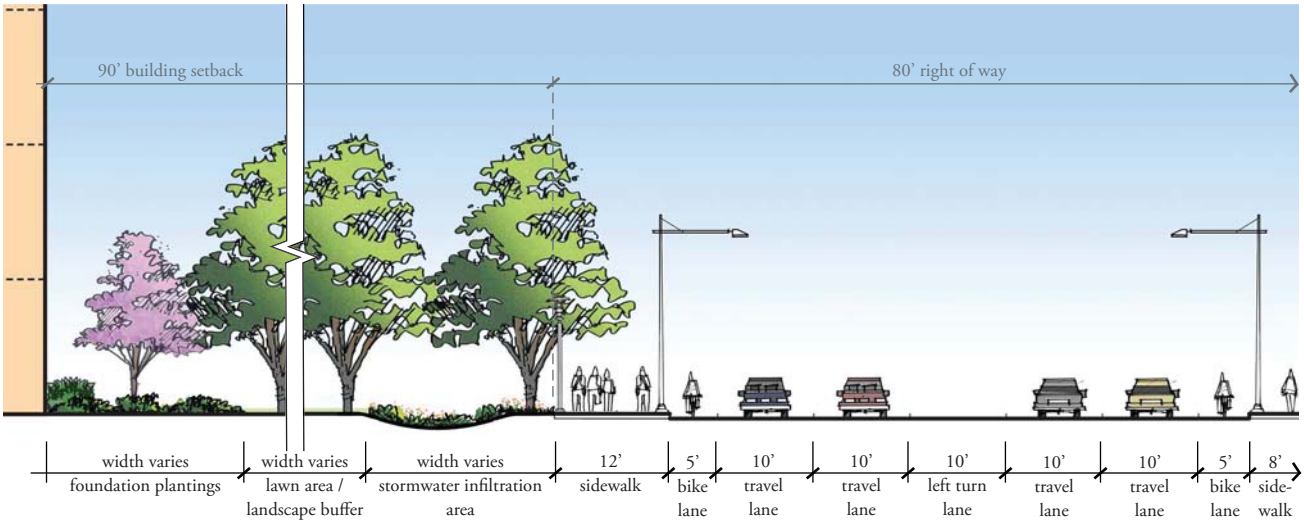
3 Courtyard function space, opportunity for art location

Four outdoor courtyards are located throughout the Health Sciences Campus. These serve as a counterpoint to the central green space by providing more intimate seating areas, typically adjacent to campus buildings. They also have the opportunity to serve as locations for public art. Another courtyard is located near the Integrated Ancillary Services and Clinics Building and defines a prominent entry point into the center of campus. Two additional courtyard spaces are located near the new Student Life Building. The one directly adjacent to this building is expected to contain tables and chairs to provide an outdoor dining option. The fourth courtyard is situated between the Student Life Building and the proposed future academic building. It can be seen from the central green, thus presenting itself as an ideal location for campus art.

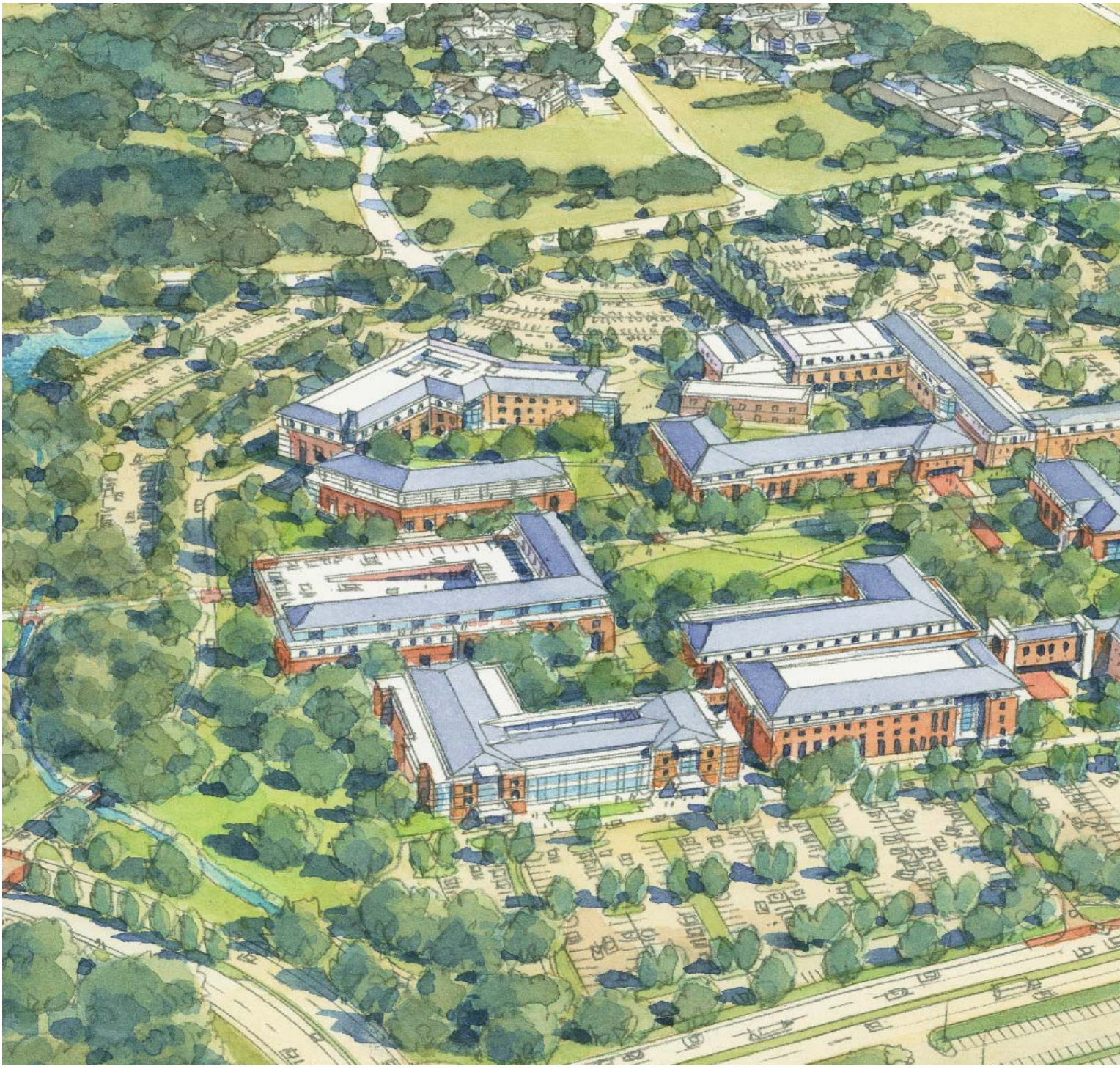
4 Healing Garden and recreational path at Cancer Center

With the relocation of the Cancer Center to the existing natural area along the west side of campus, an opportunity for a recreational trail and healing garden presented itself. A healing garden is to be located adjacent to the Cancer Center to provide a passive, reflective space to encourage stress reduction. Its potential benefits can be enjoyed not only by patients, but also by their family members and medical staff.

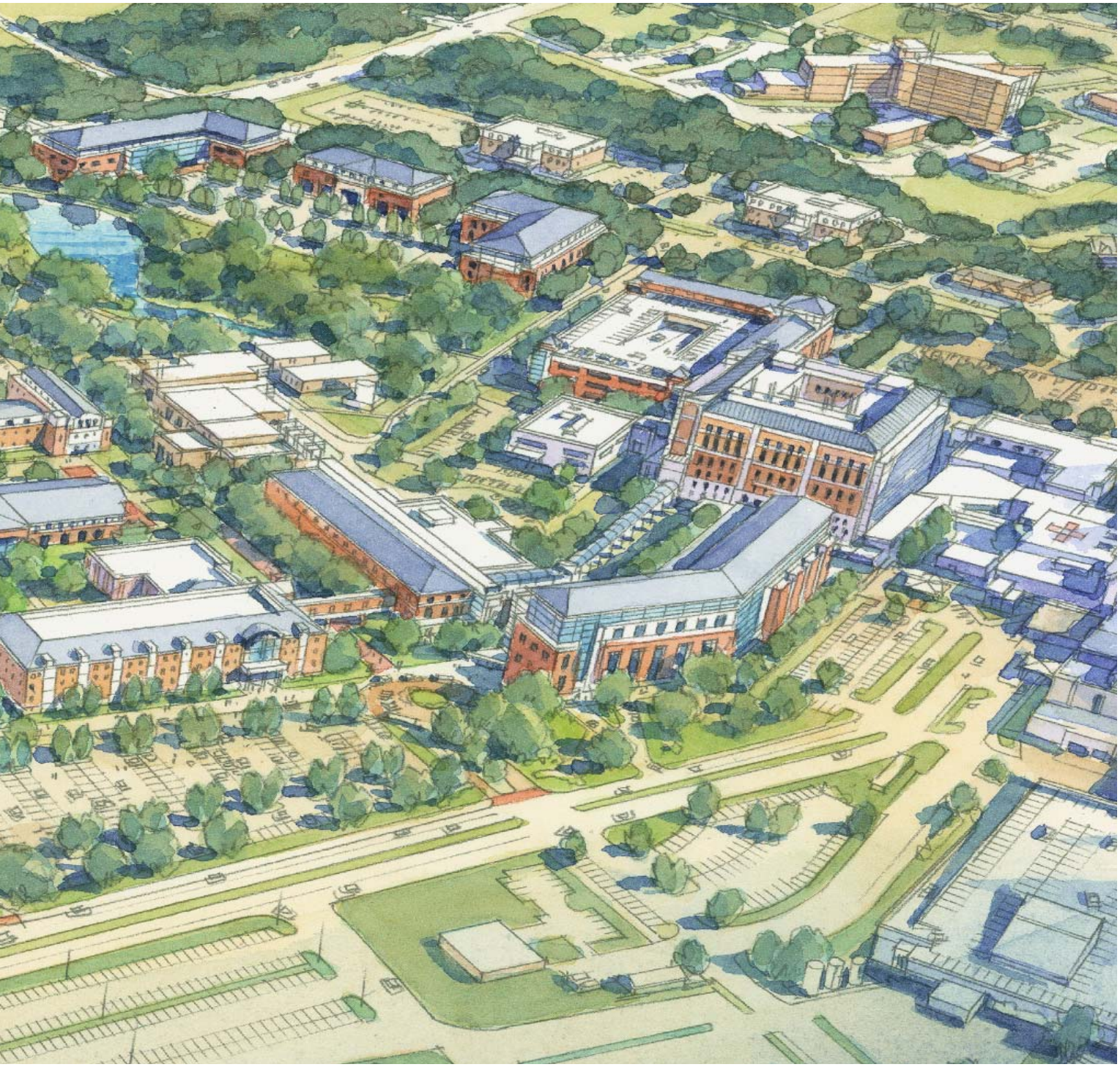
The healing garden provides access to a proposed path through the adjacent woodland. An existing pathway that encircles the retention basin near the Health Sciences Building has proven incredibly successful on campus. This use suggested that an additional recreational path through the existing natural areas on the west side of campus near the proposed retention basin and Cancer Center also has the potential to be a success. A typical cross-section of the recreational path can be found within the Natural Features District later in this report.



5th Street Road Streetscape Character
Cross-Section

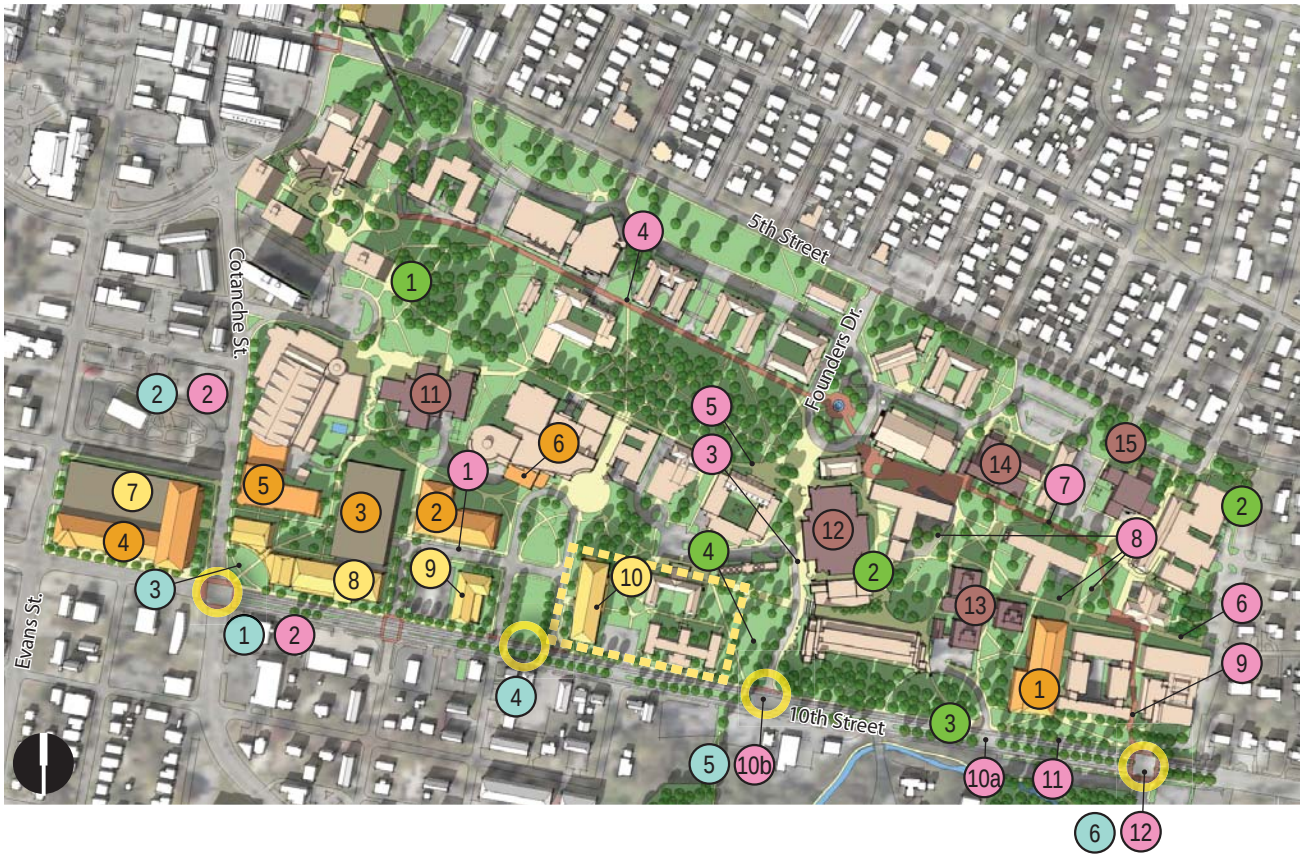


View highlighting the new Ambulatory Ancillary Services Building, Ambulatory Clinics Building, Medical Education Building, and Academic Core.



Neighborhoods

Campus Core District



KEY

- Immediate Need Buildings
- Future Building Opportunity
- Existing Campus Buildings
- Building Renovation
- Proposed Parking Deck
- Proposed Gateway Improvements

Building Initiatives

1. Life Sciences and Biotechnology Building
2. Student Union Building
3. Main Campus parking deck #1 serves union, library, and Mendenhall
4. Academic A Building
5. Student Recreation Center expansion
6. Library addition
7. Potential parking deck to serve academic expansion at 10th and Cotanche
8. Potential academic building
9. Potential Visitor's / Welcome Center
10. Future academic building quad, such as Science/ Engineering
11. Renovate Mendenhall for conference and meeting space
12. Renovate Bate for academic, classrooms and offices
13. Renovate Howell for academic, classrooms and offices or demolish
14. Renovate McGinnis for academic
15. Renovate Speight for academic

Circulation Initiatives

1. Relocate ECUSTA transit hub from Christenbury site
2. Complete Streets on 10th Street and Cotanche Street with the addition of medians, bike lanes and improved pedestrian walks
3. Removal of Founders Drive from Duncan Court to Wright Circle. Addition of a vehicular loop. Replace Founders Drive with shared-use path
4. Remove Faculty Way between Dowell Way and Founders Drive. Addition of shared-use path. Keep Faculty Way name
5. Remove Alumni Lane for addition of shared-use path. Rename to Alumni Walk
6. Remove Dixon Drive, replace with shared-use path
7. Remove Student Plaza Drive, replace with shared-use path, retain Student Plaza name
8. Remove parking lots located west of Busbee Drive, at the west terminus of Dixon Drive, and east of the Rawl Building
9. Improve pedestrian walks between Fletcher and Brewster
10. Remove traffic signal from 10a to 10b. 10a to be service drive only
11. Bus pull-off area off of 10th
12. Improved crosswalk at College Hill Drive

Streetscape Initiatives

1. 10th Street streetscape character
2. Cotanche Street streetscape character
3. 10th / Cotanche Gateway
4. Wendell Smiley Way Gateway
5. Founders Drive Gateway
6. College Hill Gateway

Open Space Initiatives

1. West Mall open space enhancements
2. Open space enhancements at Rawl, Austin and Howell
3. Open space enhancement at the south side of the new Life Sciences / Biotechnology Building and Brewster
4. Addition of open space at former Mail Services Building location.

Neighborhoods

Campus Core District

Existing Character

The Campus Core District represents the oldest portion of the East Carolina University campus, with areas along 5th Street dating back to the school's formation. Over the decades, ECU has expanded from its original linear configuration along 5th Street to an expansive arrangement that stretches south to Greenville Boulevard. The Campus Core District focuses on the area between 5th Street and 10th Street.

ECU's Campus Core District has many significant existing buildings and memorable spaces worth preserving. However, the master planning effort determined that opportunities exist to enhance the overall campus character and to transform certain areas to meet ECU's future goals. Two fundamental objectives of the master planning effort were to enhance the pedestrian experience on campus and to better integrate the Campus Core District with the Downtown District.

Building Initiatives

1 Life Sciences and Biotechnology Building

The analysis phase of the campus master planning process revealed that ECU has an immediate need for new bioscience facilities. Determining the location for a new 6-story, 270,000 SF Bioscience Building was not an easy decision. Discussions with campus advisory groups revealed that the building should be located within the Campus Core District, near the existing Howell Science Complex, in order to facilitate resource sharing and provide easy transitions between buildings for science faculty and students. However, limited developable land exists within the Campus Core District and it became necessary to examine the reuse or removal of an existing campus facility for construction of a new Bioscience Building.

The FCA revealed that Christenbury Memorial Gymnasium, located adjacent to the Howell Science Complex, is currently in poor condition, does not meet the standards needed for full-time use by ECU's HHP program, and lacks universal accessibility. The report recommended removal of the gymnasium. However, Christenbury Memorial Gymnasium is beloved by alumni for its striking architecture and historic presence on campus; thus increased sensitivity in planning was required. Ultimately, it was determined that Christenbury could

not be preserved in its entirety, but portions of the facade will be preserved to be reused either on the Biosciences Building or on the new gymnasium to be located within the South Academic District.

2 Student Union Building

One of the most important aspects of the campus planning effort was the development of a new Student Union Building. Mendenhall Student Center currently serves as the central student life facility on campus. Analysis and stakeholder feedback revealed that Mendenhall is underused as a student union due to a lack of diverse student services, but remains an important meeting space on campus. For this reason, a new 5-story, 230,000 SF Student Union Building is proposed in a location just south of Mendenhall within the student services zone. The facility will include dining opportunities, convenience stores, and study space. The proposed Student Union will front on Wendell Smiley Way and serve as a prominent entry point to the campus.

3 Main Campus parking deck #1 serves union, library, and Mendenhall

Mendenhall, the Student Recreation Center, Joyner Library, and adjacent residence halls each generate significant vehicular traffic with many people vying for 309 available parking spaces in a surface lot accessed from 10th Street. To meet demand, a 5-story, 1,000 car parking deck is proposed in this same location to better serve these campus facilities.

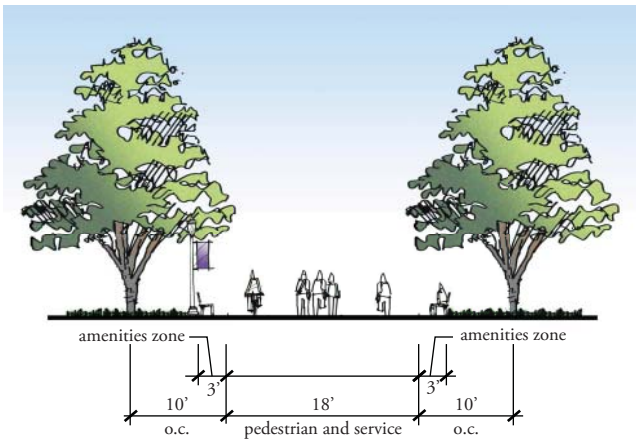
4 Academic A Building

The SCA completed during the analysis phase of the master planning process concluded that ECU needs additional academic space with appropriately sized classroom space to meet future programmatic goals. The property located at the corner of Cotanche Street and 10th Street was identified as an ideal site for a new Academic A Building. The 4-story, 275,000 SF building is expected to provide additional classrooms and faculty offices for ECU's business and education programs. In addition, a new chilled water plant will be located at the rear of the proposed building. Academic A also helps bridge the distance along 10th Street between the Warehouse District to the Campus Core District.

5 Student Recreation Center expansion

The Student Recreation Center plays an important role in student life programs on ECU's Main Campus. During the academic

Shared-use paths can be aesthetically pleasing.



Shared-use Path
Cross-Section

year, the Student Recreation Center experiences very heavy use by the entire campus community. Stakeholder interviews highlighted the need for expanded recreation space due to the perception that the facility is at maximum capacity. The Campus Master Plan proposes expansion of the Student Recreation Center to the south, in the location of an existing surface parking lot and the Eller House and International House. These two existing buildings were identified for removal. The Student Recreation Center expansion is intended to accommodate both current usage and anticipated future increased demand.

Option A: Intersection of Cotanche and 10th Street with existing commercial properties.

Option B: Intersection of Cotanche and 10th Street framed by new University facilities.

6 Library addition

The Joyner Library Master Plan Feasibility Study and stakeholder interviews revealed that the Joyner Library is not currently meeting some of the needs of ECU's student population. Presently, stacks consume a significant portion of the library square footage, while student demand for group study space and computer labs has risen. The study proposed the re-allocation of existing space from book stacks and materials storage to patron spaces that support learning activities. As part of this proposal, an expansion is recommended for the south side of Joyner Library that will house a new automated book holding system to allow existing stacks to be transitioned into more usable space. Expansion efforts should take into consideration the amenities that are to be provided in the proposed Student Union Building and Mendenhall to ensure that student services do not significantly overlap.

7 Potential parking deck to serve academic expansion at 10th and Cotanche

With the development of Academic A, Student Union Building, and expansion of the Student Recreation Center, parking demand is expected to increase in this area of campus. The Campus Master Plan recommends the future addition of a parking deck in place of the existing surface lot behind Academic A if use demands it.

8 Potential academic building

ECU currently lacks a strong campus identity at the intersection of 10th Street and Cotanche Street. This is a concern because the intersection serves as one of the primary approaches into campus. The Campus Master Plan proposes an alternative option that includes the acquisition of commercial properties near this intersection, in order to create a dynamic entry into campus and a strong urban edge along 10th Street. ECU currently owns one parcel in this area that contains Parking and Transportation Services which is recommended for relocation to the Warehouse District. The focal point of this gateway would be the addition of a new academic building of striking architectural character that would signify an entrance onto the

View of the enhanced 10th Street campus edge.

ECU campus. The Campus Master Plan has not specifically identified program uses for future building opportunities, rather it has left these flexible to allow ECU to respond to future academic needs, market demands, or changes in technology.

9 Potential Visitor's / Welcome Center

The Campus Master Plan proposes the addition of a new Visitor's / Welcome Center off of 10th Street, facing Wendell Smiley Way. While this is not an immediate need for ECU, its development will fill a void that currently exists and also help to create a new "front door" to campus. A Visitor's / Welcome center would serve as a destination point for new visitors to campus. With its position near the proposed Student Union Building and Joyner Library, the area is expected to become a hub of student activity on campus, allowing visitors to gain a first impression of the energy to be found on campus.

10 Future academic building quad, such as Science / Engineering

As part of the alternative option presented for the 10th Street Corridor, another future academic building is proposed to the east of the Visitor's / Welcome Center. The future academic building will have frontage on Wendell Smiley Way, while also defining an open space area adjacent to Umstead Residence Hall and Slay Hall. This area can potentially be transformed into a Science and Engineering Quad. The future academic building would contribute to the formation of a linear academic zone along 10th Street. This alternative planning approach would create a strong identity for ECU along 10th Street that is currently lacking.

11 Renovate Mendenhall for conference and meeting space

Mendenhall Student Center currently serves as the primary student life program facility on campus. However, during the analysis phase of the master planning process, it became evident that Mendenhall is no longer adequately serving students' needs. It is for this reason that a new Student Union Building is proposed, as was discussed earlier in this section. Mendenhall is recommended to undergo a significant renovation that would transform it into modern conference and meeting space. Programmatic changes to Mendenhall shall consider the common space within Joyner Library and the Student Union Building to ensure

that the appropriate amount is not exceeded in this area of campus.

12 **Renovate Bate for academic classrooms and offices**

13 **Renovate Howell for academic, classrooms and offices or demolish**

14 **Renovate McGinnis for academic**

15 **Renovate Speight for academic**

The FCA revealed that the Bate Building, Howell Science Complex, McGinnis Theatre, and Speight Building displayed deferred maintenance concerns that placed them as candidates for renovation. The Campus Master Plan recommends that each of these buildings be renovated to better serve ECU's current and future academic needs.

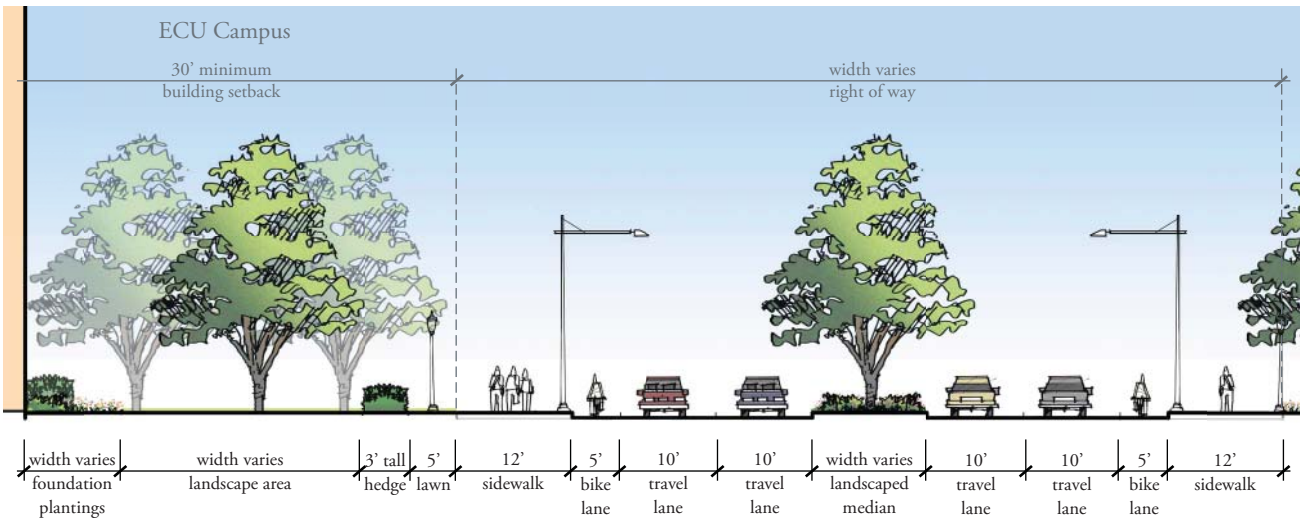
The business programs within the Bate Building and the education programs within the Speight Building are both proposed to move to Academic A Building. These two facilities should be reused for academic classrooms and office space. The Howell Science Complex may be repurposed to include modernized laboratory space and classrooms. If renovation appears too costly, it may be appropriate to be demolished. A new theatre is proposed within the Downtown District, so the McGinnis Theatre is to be repurposed for academic space.

Circulation Initiatives

1 **Relocate ECUSTA transit hub from Christenbury site**

One of the primary ECUSTA bus stops within the Campus Core District is located adjacent to Christenbury Memorial Gymnasium near the intersection of 10th Street and Ormond Drive. Ormond Drive currently serves as a pull-off area for bus traffic. During the analysis phase of the campus master planning process, it was determined that this area presents a traffic hazard for both pedestrians and vehicles and is located a considerable distance from the most popular student venues on campus. It was also determined that this portion of 10th Street does not represent the most desirable edge condition for ECU.

The Campus Master Plan recommends that this bus stop be relocated to the east side of the proposed Student Union Building to create a transit hub off of Wendell Smiley Way. This new location is expected to result in increased utilization of the transit system due



Between Cotanche and Founders: 30' setback for building development from back of curb
Between Founders and Bennett Way: 100' setback for building and parking development from back of curb

10th Street Streetscape Character
Cross-Section

to the bus stop's position near Joyner Library, Student Union Building, and the Student Recreation Center.

2 **Complete Street on 10th and Cotanche with the addition of a medians, bike lanes and improved pedestrian walks**

Complete Streets are recommended for both 10th Street and Cotanche Street. These two roads should be re-designed to comfortably accommodate all modes of transit including pedestrians, cyclists, and vehicles. Adjustments are needed to both roadways to develop Complete Streets. Narrow sidewalks abut the curb on both streets and contain pedestrian obstructions such as hydrants and light poles. Limited green space is provided between roadway and buildings.

The city has streetscape improvements planned for 10th Street, west of Evans Street. The Campus Master Plan recommends that these improvements be continued east along 10th Street through campus. Improvements include existing sidewalks widened to 12 foot and 5 foot wide with bike paths added on both sides of the roadway. A landscape median is also proposed to help soften the character of the street. The existing width of Cotanche Street and position of buildings limits the transformation opportunities along this right-of-way. However, the character of 10th Street should be carried over to Cotanche Street as much as possible. Right-of-way improvements will require partnership with the City.

View of new pedestrian crossing at 10th Street and shared-use path near Brewster Building.

3 **Removal of Founders Drive from Duncan Court to Wright Circle. Addition of a vehicular loop. Replace Founders Drive with shared-use path.**

Founders Drive presently bisects the Campus Core District from 5th Street to 10th Street and presents a significant obstruction to pedestrian east-west traffic across campus because it serves as a heavily used vehicular shortcut. The Campus Master Plan recommends removal of Founders Drive from Duncan Court to Wright Circle to make the central spine of the Campus Core District more pedestrian friendly. The portion of Founders Drive slated for removal will be replaced with a shared-use path. A vehicular loop is also proposed near the Bate Building to provide for drop-offs and access to the surface parking lots near Wright Auditorium.

4 **Remove Faculty Way between Dowell Way and Founders Drive. Addition of a shared-use path. Keep Faculty Way name.**

5 **Remove Alumni Lane for addition of shared-use path. Rename to Alumni Walk.**

6 **Remove Dixon Drive, replace with shared-use path.**

7 **Remove Student Plaza Drive, replace with shared-use path**

A primary objective of the Campus Master Plan is to enhance the pedestrian experience on Main Campus. One means to accomplish this goal is to reduce vehicular traffic from interior areas of campus where pedestrian activity is most significant. ECU currently has a robust bus system, that when combined with the proposed bike system and walking paths, will allow people to park on the perimeter and easily access the Campus Core District. The four roadways mentioned above: Faculty Way, Alumni Lane, Dixon Drive, and

Existing campus edge along 5th Street.

Streets can be enhanced with landscape medians.

Student Plaza Drive each currently create pedestrian hazard zones on campus. The Campus Master Plan recommends the removal of portions of each of these roadways to be replaced with shared-use paths. The walkways are designed for pedestrians and cyclists with occasional use by service vehicles. The elimination of each of these segments of roadway will significantly enhance pedestrian circulation and improve open spaces across the Campus Core District.

8 Remove Parking lots located west of Busbee Drive, at the west terminus of Dixon Drive, and east of the Rawl Building

Interior surface parking lots adjacent to the Austin Building and the Rawl Building are proposed to be removed to help to create better pedestrian accessibility on campus. The parking lots will be replaced with greenspace and walkways to enhance connectivity.

9 Improve pedestrian walks between Fletcher and Brewster

The existing bus stop near Christenbury Memorial Gymnasium encourages students to walk through the service drive near the Science and Technology Building to access the central spine of the Campus Core District. The relocation of this bus stop to the Student Union Building allows pedestrian circulation to be redirected and improved in this area of campus, as well as new landscaped setback in place of Ormond Drive. An enhanced walkway will provide a more direct and apparent flow between the Brewster Building and Fletcher Music Center to the center of the Campus Core.

10 Remove traffic signal from 10a to 10b. 10a to be service drive only

The existing traffic light at Ormond Drive and 10th Street that previously serviced bus traffic should be removed and relocated to the intersection of Founders Drive and 10th Street.

11 Bus pull-off area off of 10th

While the bus stop near Christenbury Memorial Gymnasium is to be relocated, a bus stop is still desired in this general area. Therefore, a small bus pull-off area with a bus stop off of 10th Street near Fletcher Music Center is proposed.

12 Improved crosswalk at College Hill Drive

Analysis of the circulation patterns on campus revealed that pedestrian conflicts exist across 10th Street from the College Hill District to the Campus Core District. The Campus Master Plan recommends that pedestrian crossings be enhanced along 10th Street to provide easy flow between districts. A proposed median and decorative pavement will aid pedestrians in crossing this busy roadway.

Streetscape Initiatives

1 **10th Street streetscape character**

2 **Cotanche Street streetscape character**

The Complete Street improvements proposed for 10th Street and Cotanche Street align with a design proposal to upgrade the overall streetscape character along both of these corridors. In addition to the circulation improvements proposed as part of the Complete Streets effort, 10th and Cotanche Streets should attempt to reflect the character of 5th Street as much as possible. This can be accomplished through the use of low stone walls and hedges, as well as similar landscaping, materials, and manicured lawns. These elements define the campus boundary in a very effective, but transparent manner. Streetscape efforts along both 10th Street and Cotanche Street should follow the design guidelines outlined in this report. The cross-sections presented for this district highlight the manner in which each street can be transformed to create a more defined edge that lends identity to the campus.

3 **10th / Cotanche Gateway**

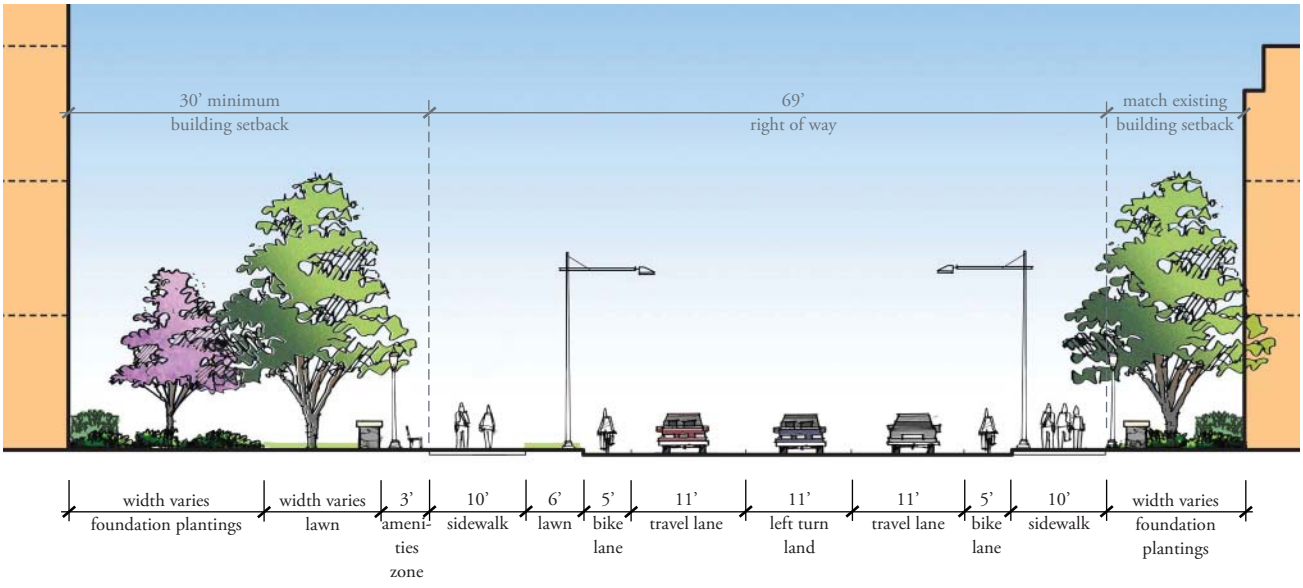
The Campus Master Plan proposes that the intersection of 10th Street and Cotanche Street be transformed into a primary gateway for the ECU Main Campus. The intersection improvements should reflect the flavor of recent enhancements made at the intersection of 5th Street and Reade Street through the use of similar forms and materials. The 5th and Reade Street Gateway improvements elegantly match the historical gateways along 5th Street, without attempting duplication.

4 **Wendell Smiley Way Gateway**

The proposed placement of a Visitor's / Welcome Center, Student Union Building, and Transit Hub adjacent to Wendell Smiley Way have provided the framework for a new primary entrance into the Campus Core District. This area is expected to serve as the new heart of activity on campus. The gateway should reflect the materials, forms, and landscaping used along 5th Street, while not directly mimicking them.

5 **Founders Drive Gateway**

A hierarchy of gateways has been established for the ECU campus with the Founders Drive Gateway serving as a tertiary gateway to campus. This access point should be more understated than the others while still matching the general character of primary and secondary gateways.



Cotanche Street Streetscape Character (from 10th to Reade Circle)
Cross-Section

6 College Hill Gateway

College Hill Gateway serves as an important connection point between the Campus Core and the College Hill District. It will be a secondary gateway on campus and should be similar in character to the other gateways within the Campus Core District.

Open Space Initiatives

1 West Mall open space enhancements

The West Mall open space enhancements seek to create an undisrupted large green space in the area north of Mendenhall Student Center. This proposal is accomplished through the removal of two small buildings, the Bloxton House and Erwin Building, which were both identified as not functioning effectively. In addition, surface parking lots in this area are to be replaced with landscaping. These improvements will allow pedestrian circulation to be enhanced and create a more memorable open space in this area of campus.

Pedestrian Crossings

Complete Streets

Existing primary campus gateway at 5th Street and Reade Street.

2 Open space enhancements at Rawl, Austin and Howell

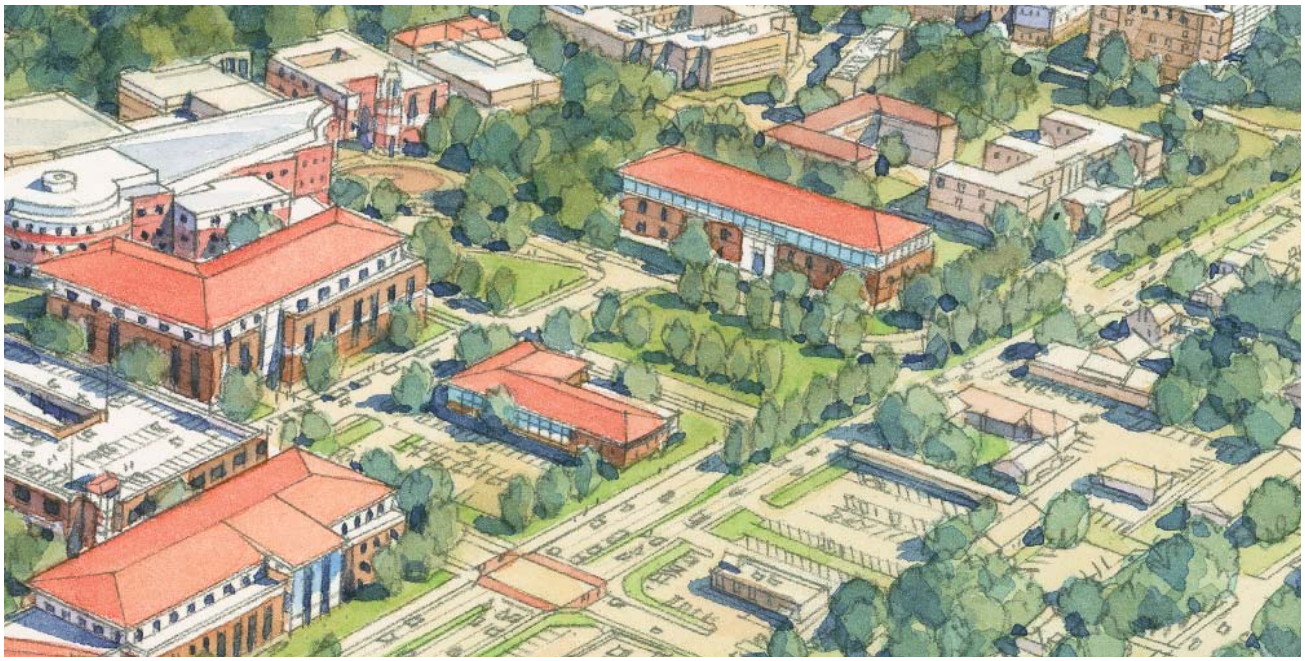
The removal of surface parking lots and portions of service drives in the areas near Rawl Annex, Howell Science Complex, and the Austin Building will allow for the creation of intimate quad spaces. These open space enhancements will provide quiet seating areas for the campus community near each building with opportunities for both shade and sun.

3 Open space enhancement at the south side of the new Life Sciences / Biotechnology Building and Brewster

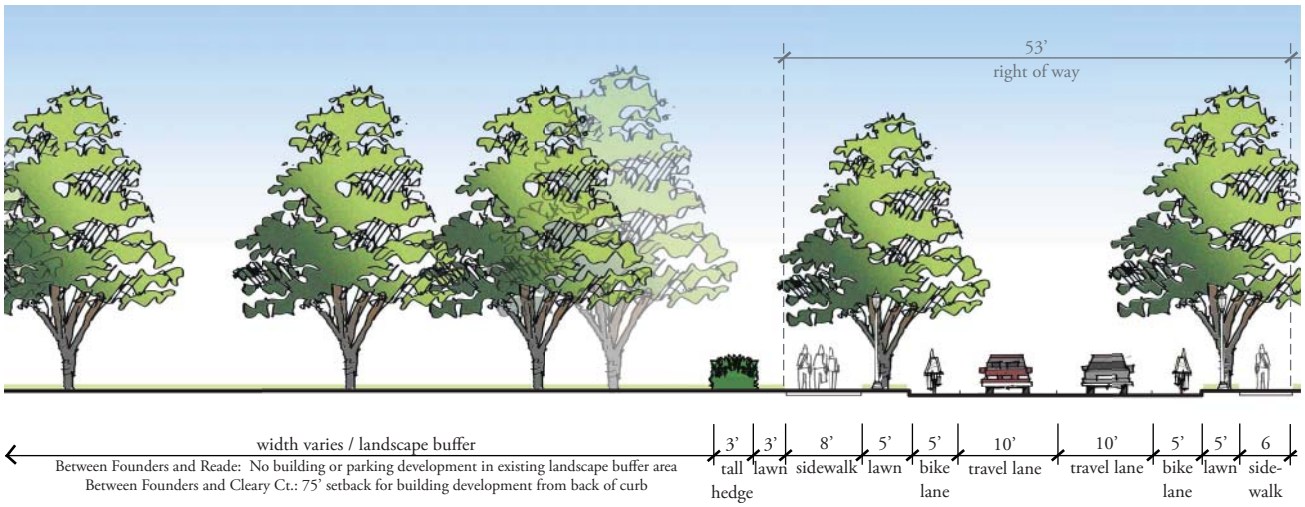
ECU's identity along 10th Street will be enhanced by improvements to the areas south of the new Biosciences Building and Brewster Building. A nicely landscaped setback between the roadway and buildings is proposed, as well as improved pedestrian access to these facilities.

4 Addition of open space at former Mail Services Building location.

With the removal of the Mail Services Building (Building #43), an opportunity for open space occurs here. This open space will enhance the gateway of Founders Drive and the University presence on 10th Street. Due to the large amount of utility infrastructure, new building construction would be challenging for this location.



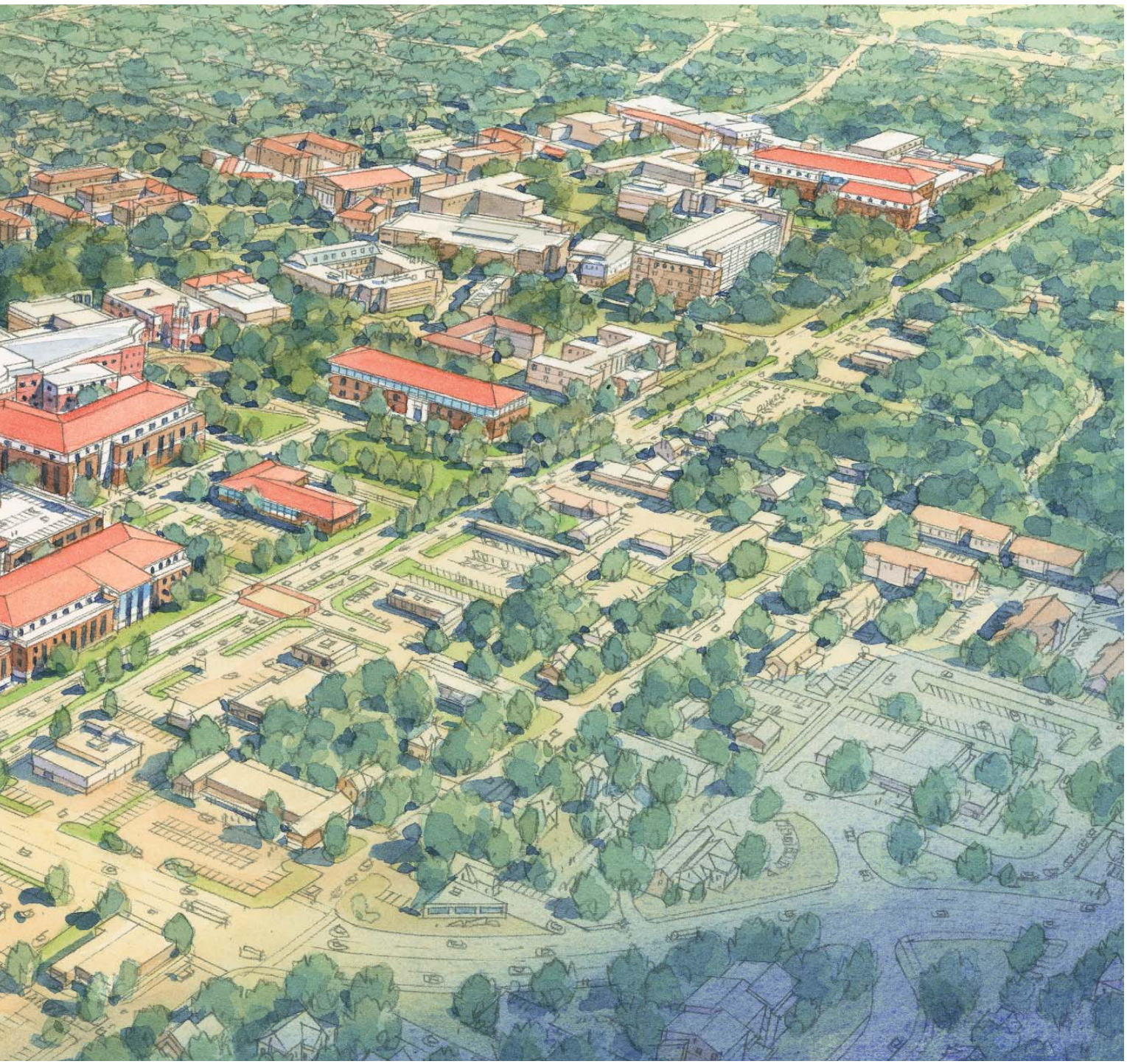
View of enhanced Wendell Smiley Way framed by Student Union Building, Visitor's/Welcome Center and potential future Academic Building.



ECU Campus

5th Street Streetscape Character
Cross-Section

View of ECU's Campus Core District looking northeast.



Neighborhoods

Downtown District

Building Initiatives

1. Alumni Center
2. Office and swing space
3. Visual & Performing Arts Center Complex
4. Potential hotel and conference center
5. Potential mixed use building (academic, housing, office)
6. Potential mixed use building (academic, housing, office)
7. Potential mixed use building (academic, housing, office)
8. Future parking deck to serve academic and offices
9. Parking deck to serve hotel, arts and academics
10. Relocate IT to Warehouse District

Circulation Initiatives

1. Reade Street to become two-way, with parallel parking, bike lanes, and pedestrian circulation
2. Pedestrian enhancements into downtown Greenville
3. Alumni Center, short-term parking
4. Surface parking
5. Pedestrian bridge crossing from Campus Core District to Downtown District
6. Informal pedestrian / bike path connecting Town Common with campus

Streetscape Initiatives

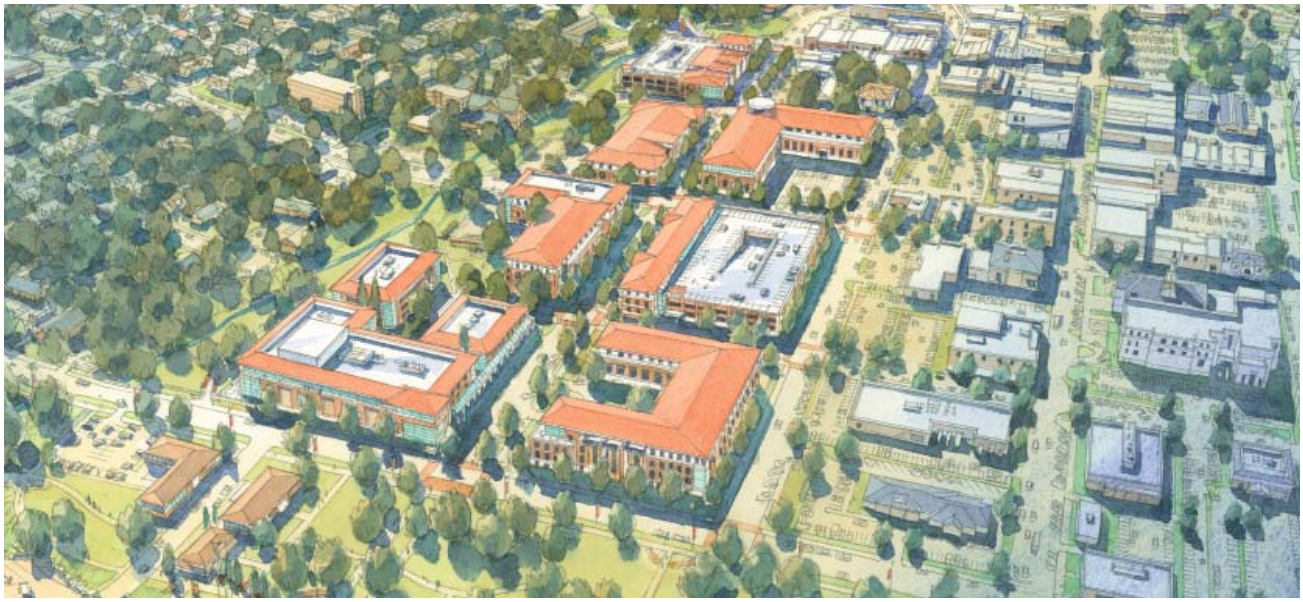
1. Reade Street streetscape character
2. 2nd, 3rd, 4th and 5th Streets streetscape character
3. Gateway to ECU, 1st and Reade Streets
4. Completion of gateway at north side 5th and Reade Streets

Open Space Initiatives

1. Semi-private, sculpture /art courtyard for pre-function use
2. Alumni Center Courtyard function space
3. Improved open space and stormwater management area

Neighborhoods

Downtown District



Existing Character

East Carolina University currently owns seven blocks of land along Reade Street, directly adjacent to downtown Greenville. Given its ideal location near the Tar River waterfront and Evans Street (Greenville's "Main Street"), this property appears significantly under utilized by ECU. Surface parking lots, predominantly used by ECU commuting faculty and staff, currently cover large expanses of land in this area. Only a few small existing buildings are located near 1st Street. This configuration results in the lack of any defined streetscape along Reade Street.

This property offers ECU a unique opportunity to assist with the ongoing revitalization of downtown Greenville. Downtown Greenville can be characterized as struggling and in need of increased pedestrian traffic. High-density development upon these University parcels has the potential to energize this area and reinforce an important link between campus and downtown. ECU's efforts align with ongoing municipal planning initiatives such as redevelopment efforts along the Tar River at Town Common. These efforts are expected to result in increased waterfront activity and the enhancement of 1st Street.

Building Initiatives

1 Alumni Center

The Alumni Center is currently located in a small house on the opposite side of 5th Street from campus. Analysis and stakeholder interviews conducted during the master planning process highlighted ECU's desire to relocate the Alumni Center to a larger facility in a more prominent location. Parking for the existing Alumni Center is extremely limited and difficult to access. In addition, very little space exists to accommodate sizeable gatherings in or near the facility. The proposed downtown location addresses all of the concerns previously mentioned in a new 3-story, 36,000 SF Alumni Center. The building footprint will be sized to accommodate both large and small groups with exterior gathering space included. A small surface parking lot, directly behind the building, will provide for short-term parking. The Alumni Center's new location on Reade Street and 4th Street will allow it to serve a greater role as a gateway to campus than as a hidden asset.

2 Office and swing space

The building directly across Reade Street from the Alumni Center is proposed for immediate development to serve as a transitional space for ECU. As reorganization efforts are underway on campus, this 40,000 SF building will provide much needed flexible office and swing space. A future opportunity exists to incorporate mixed uses into the building with the addition of ground floor retail and residential units, upon completion of reorganization efforts. This facility will be served by a surface parking lot at the rear of the building to accommodate short-term parking needs.

3 Visual & Performing Arts Center Complex

ECU's performing arts programs serve a prominent cultural role within both the city and county. They attract a regional audience to the McGinnis Theatre to enjoy theatre and dance performances. Despite high attendance, analysis revealed that ECU is in desperate need of upgraded performing arts space.

A parcel along 1st Street, adjacent to the Tar River waterfront, is proposed to meet this need with the addition of a new 3 story, 200,000 SF complex. The Visual & Performing Arts Center Complex will include an auditorium, black box theatre, and lab space for both dance and the theatre arts. The new location is expected to provide easier access for patrons and an enhanced experience with attractive views to the Tar River. The proposed site for ECU's Visual & Performing Arts Center Complex is expected to help activate Town Common and the Downtown District by attracting large populations of people to this location. Parking is not expected to be an issue with existing surface parking lots serving immediate demand and proposed parking structures designed to meet future needs. Whereas McGinnis Theatre is embedded within campus, the Visual & Performing Arts Center Complex will be a prominent architectural feature, framing the edge of campus.

4 Potential hotel and conference center

A future ambition for ECU is to provide a facility on campus for students within the hospitality program to gain professional experience. A proposed hotel and conference center on Reade Street, across from the Visual & Performing Arts Center Complex, would provide this much needed on-campus opportunity. Realization of this proposed facility will require a public / private partnership. A

Parking structures may be positioned behind buildings.

Mixed use development with ground floor retail helps activate streetscapes.

private developer would lead the development effort with ECU collaborating on its design and operation. Its ideal location at the edge of both Main Campus and Downtown and adjacent to the Visual & Performing Arts Center Complex and Town Common places it in a unique location to cater to both the University's needs and the City of Greenville. The facility will also be located close to public transit.

5 **Potential mixed use building (academic, housing, office)**
6 **Potential mixed use building (academic, housing, office)**
7 **Potential mixed use building (academic, housing, office)**

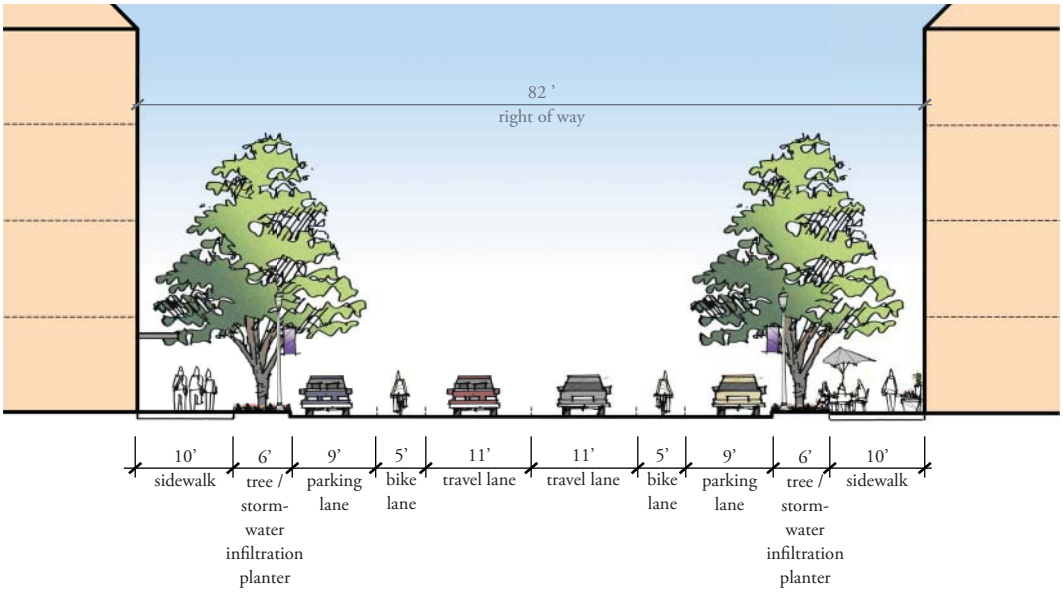
Future development opportunities exist for three University-owned parcels within the Downtown District. Two properties are located at the intersection of 3rd Street and Reade Street, with the other property located at the corner of 5th Street and Reade Street. The Campus Master Plan outlines a proposal for the general building massing to help define and activate the streetscape by providing zero setbacks and parking at the rear.

Given the proximity to downtown, a mix of uses is intended for each of these buildings that includes academic, residential, and office. Retail opportunities may also be considered for the ground floor of each facility. Development of these parcels should respond to ECU's future immediate needs. The building proposed for the corner of 5th Street and Reade Street has the potential to be a signature gateway building on campus. The use is currently undefined, but graduate studies have been suggested.

8 **Future parking deck to serve academic and offices**
9 **Parking deck to serve hotel, arts and academic**

The parking contained in existing surface parking lots along Reade Street will be relocated to parking structures during future development phases. A future parking deck is proposed to be located behind the potential mixed use facility at the corner of 5th Street and Reade Street. It will serve academic and office needs in this area. This facility should not be constructed until the Downtown District is close to reaching parking capacity.

An additional deck is proposed to be located at the rear of the proposed



Reade Street Streetscape Character
Cross-Section

View north of the Downtown District and proposed pedestrian bridge from West End Dining Hall to Reade Street.

building near 3rd Street and Reade Street. This parking structure will be needed much sooner than the previous one to serve the high traffic demands of the Visual & Performing Arts Center Complex, hotel, and academic facilities in this area of the Downtown District. The location of these two proposed parking structures, on the border of campus and the city, present an opportunity to partner with the city to address the parking needs of both ECU and downtown Greenville.

10 Relocate IT to Warehouse District

ECU's IT Department is currently located in this area of the Downtown District. With the consolidation of ECU's support services to the Warehouse District, it seemed logical for the IT Department to also move to that area of campus. This relocation opens up the property at the intersection of 1st Street and Reade Street for the proposed hotel and conference center. This also presents the opportunity to update the University's fiber optic lines.

Circulation Initiatives

1 Reade Street to become two-way, with parallel parking, bike lanes, and pedestrian circulation

Downtown Greenville is currently designed with pairs of one-way streets. Reade Street is no exception, with one-way traffic flowing north to the Tar River waterfront. The Campus Master Plan recommends that Reade Street be converted to a two-way traffic pattern to make the road more user friendly. As part of the streetscape enhancements proposed, existing angular parking should be converted to parallel parking and bike lanes added. This route could easily connect to existing and future bike routes within the City of Greenville. The initiatives along Reade Street should follow Complete Street policies to make the roadway more accessible for vehicles, bikes, and pedestrians. Coordination between ECU and the city will be necessary for this project to be realized. This circulation proposal parallels one currently underway by the municipality for Evans Street.

2 Pedestrian enhancements into downtown Greenville

One goal of the master planning effort is to better integrate ECU's Main Campus with downtown Greenville. Presently, University-owned property within the Downtown District has little relationship to adjacent privately-owned land. It is recommended that efforts be made to align pedestrian walkways and bike lanes, as well as reflect the character proposed for Reade Street on east-west roads that traverse both campus and downtown property. 1st, 2nd, 3rd, 4th, and 5th Streets shall all be designed to encourage circulation from Main Campus, west into downtown. The intent of this initiative is to encourage energy to flow through east-west streets from ECU to downtown, thereby helping to further enliven the Downtown District.

3 Alumni Center, short-term parking

A small surface parking lot, accessible from 3rd Street, is proposed at the rear of the new Alumni Center. No deck is ever intended to replace this parking area due to a desire for the lot to remain both visible and easily accessible for short-term parking.

4 Surface parking

Two additional surface parking lots are proposed behind new buildings located at the intersection of 3rd Street and Reade Street. The parking lots have been sited to minimize their appearance from Reade Street. These spaces are intended to provide parking for staff in adjacent buildings.

5 Pedestrian bridge crossing from Campus Core District to Downtown District

A significant topographic grade change exists near the West End Dining Hall within the Campus Core District, adjacent to Reade Street and 5th Street. This elevation change presents numerous pedestrian circulation challenges with people currently jaywalking mid-block across 5th Street and limited accessibility to Greenville's downtown. With increased University development within the Downtown District, it is imperative that circulation concerns relating to this area of campus be resolved to allow fluid pedestrian movement between these two districts. If designed properly, the proposed pedestrian bridge also presents the opportunity to act as an important gateway element into the ECU campus.

Based on recommendations from the transportation engineers, the Campus Master Plan proposes the construction of a pedestrian bridge to connect the Campus Core District with the Downtown District. This structure should alleviate circulation conflicts within this area. It will begin between the West End Dining Hall and Fletcher Residence Hall and end near the proposed mixed use building at the corner of 5th Street and Reade Street. In addition to these efforts, an option should be explored to reconfigure the intersection of 5th

Planters define pedestrian zones and enhance street aesthetics.

Zero building setbacks and seating help enliven urban streetscapes.

Street and Reade Street to make it more comfortable for pedestrian crossings. The southeastern corner of the intersection currently maintains a large radius with a fly-through right turn option. This intersection should be re-designed to convert it into a more traditional design reflective of the others in this area of downtown.

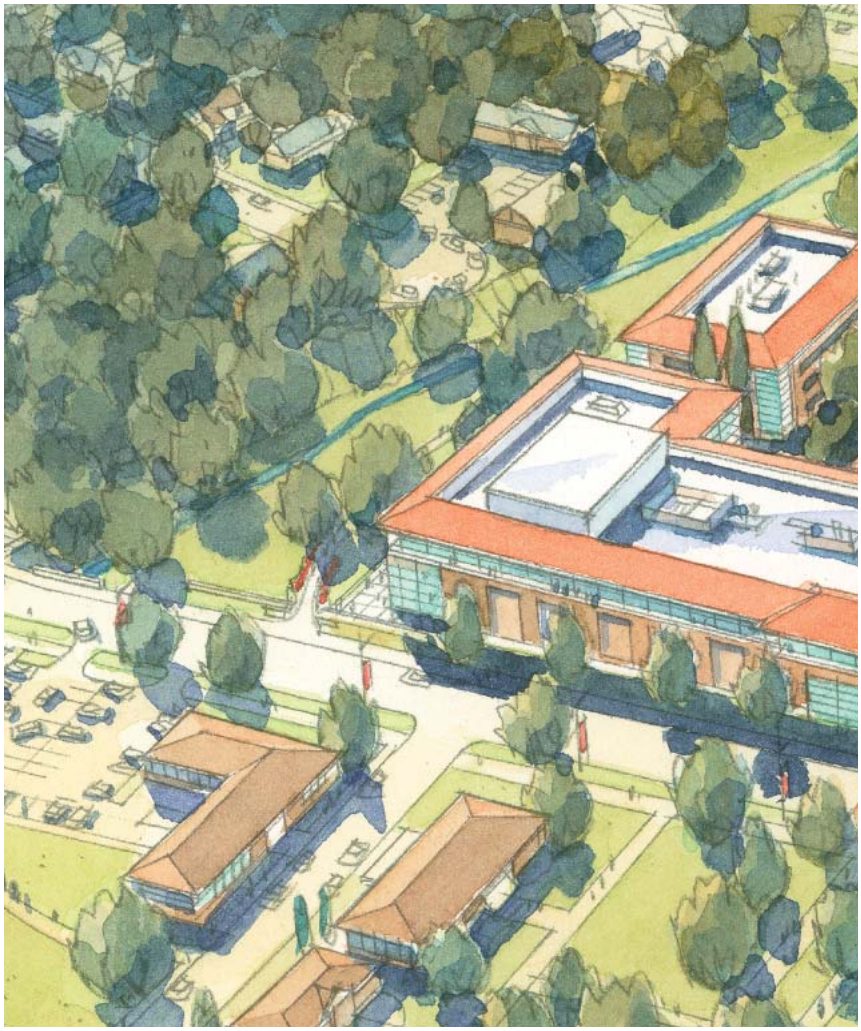
6 Informal pedestrian / bike path connecting Town Common with campus

As previously mentioned in this section, the City of Greenville is currently engaged in redevelopment efforts along the Tar River waterfront. Town Common, public parkland adjacent to the river, currently supports passive recreational activities such as an outdoor amphitheater, riverwalk, and boat access. Revitalization initiatives are slated to include a new cultural center, kayak launch, community gardens, and improved recreational pathways. With these efforts underway, it is expected that more ECU students will wish to access the riverfront. Therefore, a non-motorized pathway is proposed to connect Main Campus to Town Common. The path system is proposed to traverse an existing open area located behind proposed buildings east of Reade Street.

Streetscape Initiatives

1 Reade Street streetscape character

The existing Reade Street corridor provides obstructed and narrow walks with expansive road pavement for vehicular parking and movement. The Campus Master Plan recommends that the Reade Street streetscape be reconfigured to improve circulation and enhance the overall pedestrian experience along this corridor. Reade Street currently has an 82 foot wide right-of-way which allows all proposed streetscape initiatives to be easily incorporated within this existing space. Proposed buildings along Reade Street should have zero setback to be consistent with other areas of downtown Greenville and to reinforce an urban design character. Landscape areas, as shown in the section on the previous page, should incorporate non-traditional stormwater management techniques if existing conditions allow, such as permeable pavement and infiltration planters.



Main Campus and Town Common are connected by a non-motorized path.

2 2nd, 3rd, 4th and 5th Streets streetscape character

The streetscape improvements proposed for Reade Street should set the tone for character enhancements made to 2nd, 3rd, 4th, and 5th Streets. The intent of these proposed measures is to better integrate University-owned property with downtown Greenville to encourage pedestrian movement between both areas. Recommendations relating to proposed streetscape elements such as seating, lighting, and landscaping are outlined in the Design Guidelines found later within this report.

3 Gateway to ECU, 1st and Reade Streets

With revitalization efforts underway at Town Common and the proposal of a nearby Visual & Performing Arts Center Complex and hotel / conference center, the intersection of 1st and Reade Street is poised to become an important secondary gateway into the ECU campus. This intersection should be enhanced to signal to visitors their entrance onto Main Campus.

4 Completion of gateway at north side 5th and Reade Streets

As this corner of 5th and Reade Streets is developed, consideration should be given to the landscape that borders the roadway. Here, it should be clear that visitors are entering campus. This gateway completion will help visually connect the Campus Core District to the Downtown District.

Courtyards may serve both large and small gatherings.

The Alumni Center can become a prominent facility on campus.

Open Space Initiatives

1 Semi-private, sculpture / art courtyard for pre-function use

An open space is proposed adjacent to the new Visual & Performing Arts Center Complex. It will provide opportunities for both large and small gatherings in conjunction with performances and events at the facility. The space is currently unprogrammed, but development of the Visual & Performing Arts Center Complex suggests that a plaza area with seating may contribute to the overall quality of the space. The courtyard also has the potential to serve as an excellent location to showcase sculpture or art.

2 Alumni Center Courtyard function space

The existing Alumni Center, located on 5th Street, does not currently provide any exterior gathering space. As part of the Campus Master Plan, open space is proposed at the rear of the new facility for exactly this

purpose. The space can be accessed either directly from 4th Street or through the Alumni Center from Reade Street.

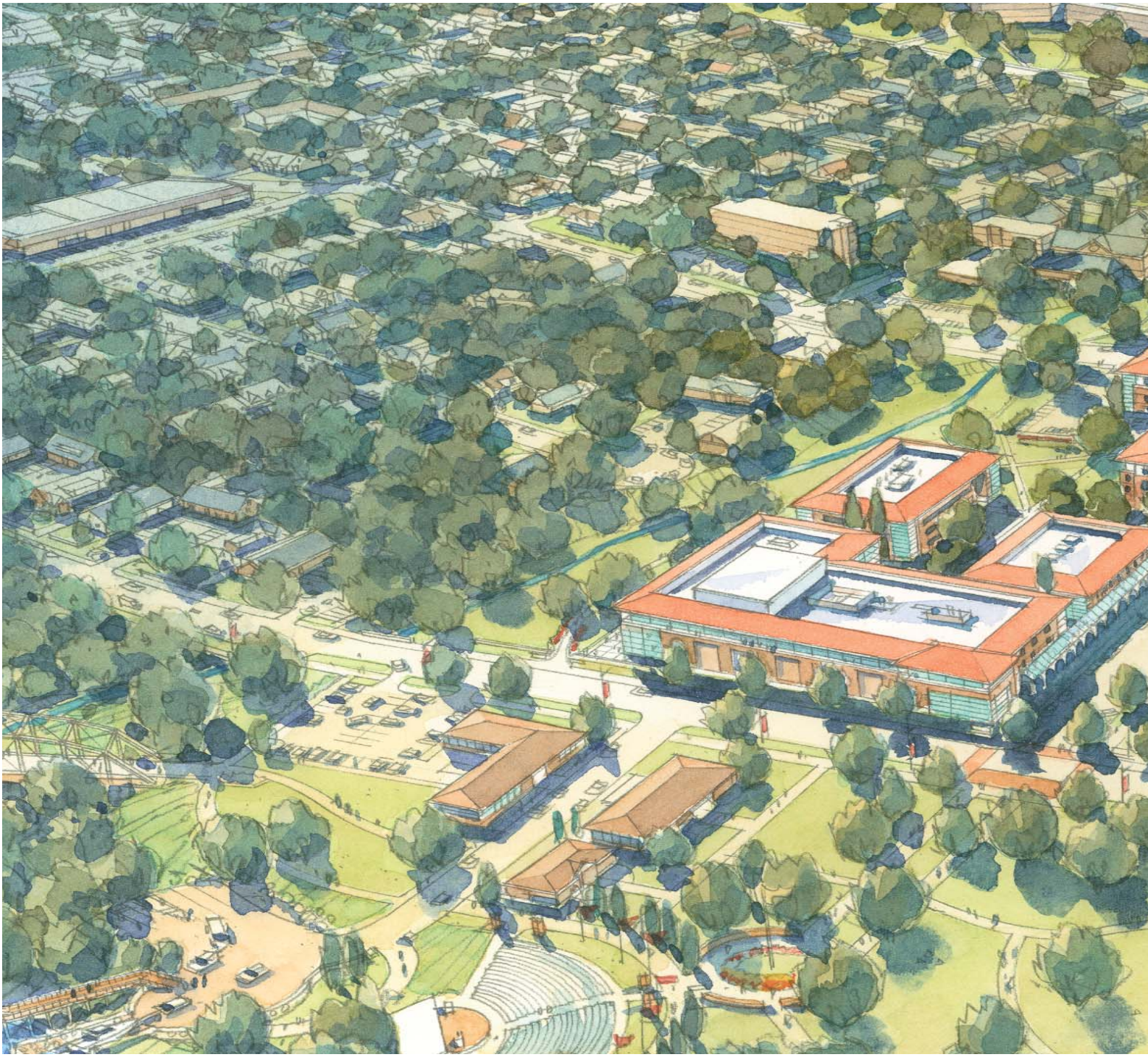
3 Improved open space and stormwater management area

As mentioned above, the proposed pathway connecting Main Campus to Town Common will traverse an area of preserved open space east of Reade Street. In addition to serving as a significant landscape buffer to adjacent residential properties, this land also supports a tributary to the Tar River. Only a small portion of the existing creek remains visible with the majority of the creek underground in pipes. This land is low-lying and serves an important flood prevention role for the area. It is recommended that further study be completed to consider daylighting additional portions of the existing creek, creating defined retention areas, and restoring this open space to a more natural, ecologically diverse habitat.

Landscape planters also function as stormwater infiltration areas.

Well designed urban streetscapes improve urban campus edges.

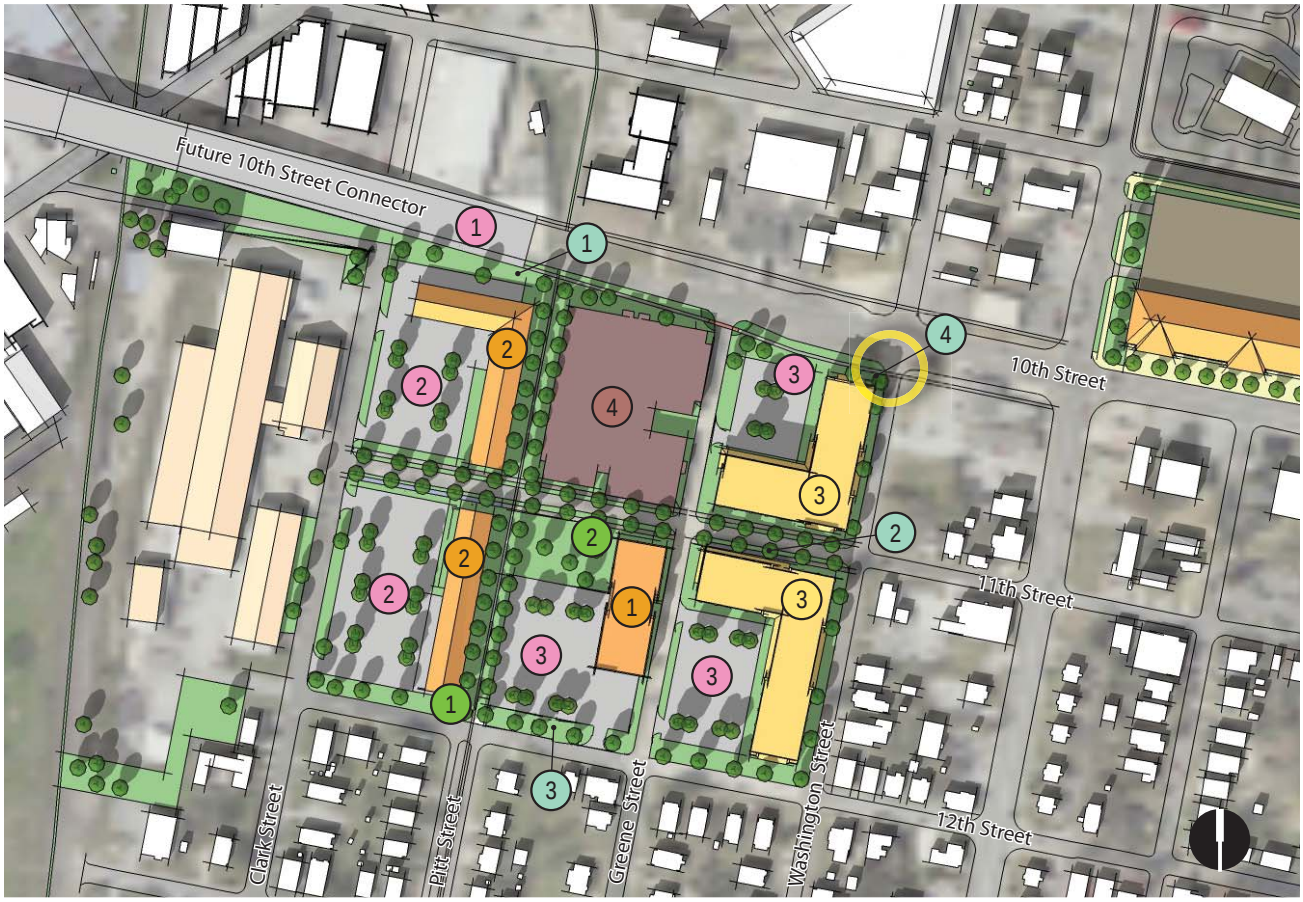
Prominent intersections should be treated as gateways into campus.



View of the Downtown District looking south towards ECU's Core Campus District.

Neighborhoods

Warehouse District



KEY

- Immediate Need Buildings
- Future Building Opportunity
- Existing Campus Buildings
- Building Renovation
- Proposed Parking Deck
- Proposed Gateway

Building Initiatives

1. IT / Data Center, mixed use office building
2. Facilities Buildings consolidation
3. Potential Millennial Campus Buildings
4. Hainey Building renovation for Police, Parking and Transportation, Environmental Safety and Mail Services

Circulation Initiatives

1. 10th Street Connector, Complete Street
2. Facilities parking and material storage
3. Surface parking, potential parking deck location

Streetscape Initiatives

1. 10th Street streetscape character and screening of facilities storage
2. 11th Street streetscape character
3. 12th Street landscape buffer
4. 10th Street secondary gateway element

Open Space Initiatives

1. Old railroad spur becomes linear green space
2. Central open space for district

Neighborhoods

Warehouse District

Existing Character

East Carolina University has owned the property defined as the Warehouse District for several years, but until now has not pursued any significant development initiatives on the land. The Warehouse District spans an area of seven city blocks and includes the existing Hainey Building, which falls within the boundaries of the City of Greenville's Tobacco Warehouse Historic District. Presently, ECU's shipping and receiving facilities occupy warehouse structures at the western most edge of the district. Seven existing pole barn style structures with associated surface parking areas are distributed across the remaining property. It has been determined that these facilities do not warrant preservation.

Analysis concluded that this area is currently under utilized and offers many ways to better serve East Carolina University. In addition, the district has a unique industrial character that can serve as an interesting design feature for development efforts. The overriding goal that guides all building, circulation, streetscape, and open space initiatives for the Warehouse District is to better connect this property to ECU's core campus area by defining it as a strategic hub for the consolidation of support services.

Building Initiatives

1 IT / Data Center, mixed use office building

Currently, ECU's IT/Data Center is located downtown near 1st Street. During the master planning process, the properties near the Tar River and Town Common were determined to be prime development opportunities for ECU. This propelled the master planning team to recommend relocation of the IT/Data Center to the Warehouse District. Space within the building will also be dedicated to mixed use office. It will be located at the corner of 11th Street and Green Street with surface parking provided.

2 Facilities Building Consolidation

The Campus Master Plan recommends two additional buildings to be located along Pitt Street to provide miscellaneous support service space. These buildings are proposed to be constructed immediately in order to respond to ECU's current needs. Surface parking will be provided adjacent to each building.

3 Potential 'Millennial Campus' Buildings

As was previously discussed in the Master Plan Recommendations section, a 'Millennial Campus' offers ECU the opportunity to encourage the transfer of research ideas into

private business initiatives. Two L-shaped buildings located along Washington Street are recommended to serve as the location for the campus. This area emerged as the ideal placement for a 'Millennial Campus' due to the fact that it would help to better connect the Warehouse District to both Academic A and the Core Campus District. These two structures are designated as future building initiatives because the 'Millennial Campus' remains an idea at this point with hope for realization in the future. The vision was derived from *UNC Tomorrow* planning goals.

4 Hainey Building

The Hainey Building is an historic structure that originally served as a tobacco warehouse. It displays distinct brick architectural detailing and retains vestiges of its industrial past such as a train spur and loading docks. The building is proposed to be preserved and renovated for reuse. ECU's Mail Services, Police, Parking and Transportation, and Environmental Safety will all be relocated to this facility. Mail Service is currently located on Founders Drive, but will soon require a new home. The building that houses it is recommended to be removed as part of the master planning efforts. In addition, the Safety and Security Analysis emphasized the importance of providing a new facility for Police to better serve campus needs. The Hainey Building was chosen to house these various support services because of its location adjacent to ECU's existing shipping and receiving facility.

Circulation Initiatives

1 10th Street Connector, Complete Street

10th Street currently dead ends at Dickinson Avenue, one block west of ECU's existing shipping and receiving facility. This current configuration prevents fluid vehicular, bicycle, and pedestrian movement from Main Campus to the Health Sciences Campus. A new proposal called the 10th Street Connector, sponsored by the City of Greenville and the North Carolina Department of Transportation, seeks to rectify this issue by extending 10th Street to tie into Farmville Boulevard. This design will allow direct east-west traffic movement from ECU's Main Campus to the Health Sciences Campus. The design incorporates a portion of elevated roadway to span an existing CSX railroad crossing that is located directly west of ECU's shipping and receiving facility. In addition, 10th Street is being entirely reconstructed to serve as a Complete Street with bicycle and pedestrian facilities. These efforts will significantly enhance circulation between Main Campus and the Health Sciences Campus.

Design details reinforce historic character.

Existing railroad spur can be converted to serve as a pedestrian corridor.

2 Facilities parking and material storage

3 Surface parking, potential parking deck location

Surface parking is recommended to be constructed in the immediate future to service the new IT / Data Center, proposed 'Millennial Campus', and Facilities Buildings. Over the long-term, the possibility exists that a parking deck may need to be constructed to successfully accommodate parking demand within the Warehouse District. Depending upon the specific future parking needs of building occupants, the New IT / Data Center or 'Millennial Campus' surface lots could serve as the location for a new parking deck. The areas adjacent to the two proposed facilities buildings are planned to accommodate material storage, in addition to parking.

Streetscape Initiatives

1 10th Street streetscape character and screening of facility storage

In addition to the connection of 10th Street to Farmville Boulevard, 10th Street's overall streetscape character will be enhanced. The streetscape initiatives include the development of a central landscaped median along its entire length, proposed deciduous canopy trees and ornamental trees, and new bicycle and pedestrian facilities. The streetscape enhancements will help tie Main Campus to the Health Sciences Campus. Increased landscaping is also proposed along 10th Street in the Warehouse District to screen the facilities storage areas.

Historic buildings can be enhanced to create dramatic entries.

2 11th Street streetscape

3 12th Street landscape buffer

11th Street serves as the central east-west road that bisects the Warehouse District. Deciduous canopy trees, walkways, and bicycle paths are proposed to line both sides of the roadway. Similar improvements are also proposed for 12th Street. Due to the location of the proposed material storage lots, 12th Street will also include a heavily landscaped buffer to screen this potentially unsightly area from adjacent neighbors. However, the Warehouse District has been designed to ensure that it provides greater connectivity to the neighborhood.

4 10th Street secondary gateway element

As the corner of 10th and Washington Streets develops, consideration should be given to campus identity here and include a gateway signage and landscape treatment.

Open Space Initiatives

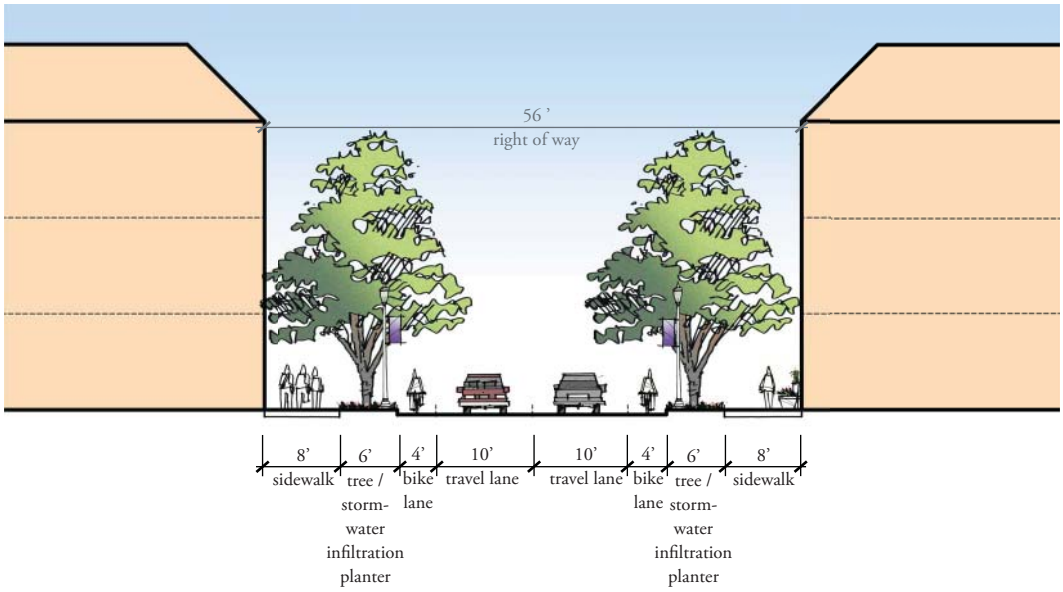
1 Old railroad spur becomes linear green space

Due to the historic nature of the Warehouse District, interesting design opportunities are available that can enhance and create character for the area. A prime example of this can be found within the existing railroad spur adjacent to the Hainey Building. The linear space, located on the western side of this historic tobacco warehouse, once allowed rail traffic direct access to the building.

Now, the space has the opportunity to be converted into an urban linear green space for pedestrians. Several examples exist throughout the country to suggest that these types of corridors can be converted into very desirable spaces for pedestrians. The proposed space should provide canopy trees for shade, interesting hardscape, and decorative light features. The design guidelines should be referenced in order to align the design features with the character of the existing ECU campus.

2 Central open space for district

The Warehouse District will accommodate a significant number of ECU employees, as well as researchers with the advent of the 'Millennial Campus'. These people will need an exterior place to congregate, eat lunch, and relax. It is for this reason why a central open space is proposed adjacent to the new IT / Data Center. The open space will be framed by the Hainey Building across 11th street, the new IT / Data Center, and the southernmost proposed support services building. The central open space shall include areas of both hardscape and landscape, as well as outdoor seating opportunities. It should be urban in character to match the overall aesthetic of the Warehouse District.



11th Street Streetscape Character
Cross-Section

Neighborhoods

College Hill District

Building Initiatives

1. Belk Residential Hall replacement, phase 1 Living / Learning Complex
2. Belk Residence Hall replacement, phase 2
3. Todd Dining Hall expansion of 175 seats
4. Potential future parking deck

Circulation Initiatives

1. New turn-around loop at south end of College Hill Drive
2. Pedestrian link to the athletic campus
3. Plaza between new residence halls
4. College Hill Complete Street with the addition of bike lanes and improved pedestrian walks
5. Green Mill Run connection to city/regional recreational path and bike route system
6. Improved pedestrian crossing on 10th Street
7. Complete Street on 10th Street with the addition of a median, bike lanes and improved pedestrian walks

Streetscape Initiatives

1. College Hill Drive streetscape character
2. 10th Street and College Hill Drive gateway enhancement

Open Space Initiatives

1. Open space area for passive / active recreation
2. Flood control / stormwater management area with the inclusion of native planting and nature area for passive recreation
3. Existing marching band practice field to be maintained
4. Removed parking becomes wooded preservation zone

Neighborhoods

College Hill District

Existing Character

The College Hill District is an existing residential area within Main Campus, owned and operated by ECU. College Hill Drive bisects the area from north to south and is lined with student life facilities. Six student dormitories and the Todd Dining Hall are accessible from this roadway. The northern edge of the District is defined by open land with the western portion used by ECU's marching band as a practice facility and the eastern portion used for surface parking lots. Safe, pedestrian access from the College Hill District to both the Campus Core and Athletic District is desperately needed.

Building Initiatives

1. **Belk Residential Hall replacement, phase 1**
2. **Living / Learning Complex Belk Residence Hall replacement, phase 2**

Belk Residential Hall replacements, phase 1 and 2, are together proposed to replace existing Belk Residence Hall that spans the entire southern edge of the College Hill District. This imposing dormitory was constructed in 1966 and no longer appears to meet the needs of ECU's current student population. During the campus master planning process, the FCA revealed that Belk Residence Hall is in very poor condition and should be considered for removal. This information, coupled with the fact that the Student Life Facilities Master Plan also recommended the removal of the building, suggested that Belk Residence Hall should be replaced.

The demolition of Belk Residence Hall provides the opportunity to create new residential configurations on ECU's Main Campus. Trends in student residential architecture have changed since the 1960s from stark bedrooms and communal bathrooms to suite-style room arrangements. Both the 120,000 SF phase 1 replacement and the 138,000 SF phase 2 replacement are to be designed in a suite-style living arrangement. A Living / Learning Complex is proposed as part of phase 1. It will serve as a unique facility on

campus that will combine residential units with common study areas and classrooms.

3 Todd Dining Hall, expansion of 175 seats

The addition of new beds within the College Hill District presents a possible need to expand Todd Dining Hall to accommodate this increased capacity. A 10,000 SF addition is proposed for the east side of the existing building, adjacent to College Hill Drive.

4 Potential future parking deck

As mentioned previously, the northeast corner of the College Hill District is currently occupied by three separate surface parking lots that together accommodate a significant number of vehicles. Parking demand remains high in this area; therefore a parking deck is recommended as a future option. This entire area is situated within a 100-year floodplain. The proposed parking deck may be engineered to avoid seasonal flooding concerns that currently impact surface parking lots in this area.

Circulation Initiatives

1 New turn-around loop at south end of College Hill Drive

A turn-around currently exists at the south end of College Hill Drive, but its triangular configuration makes it awkward for vehicles to maneuver. A new circular loop turn-around is proposed to improve vehicular movement in this area. All existing surface parking areas in front of Belk Residence Hall will be maintained.

2 Pedestrian link to the athletic campus

There is presently no safe, direct pedestrian route from the College Hill District to the Athletic District. Belk Residence Hall spans the entire southern length of the College Hill District and prevents a direct link to Dowdy-Ficklen Stadium. In addition, existing railroad tracks currently bisect the area and make pedestrian movement treacherous. In order to make a safe crossing, pedestrians must take a circuitous path east to Berkley Road. However, an existing dirt path from the rear of Belk Road to the Stadium indicates that a large majority of pedestrians are currently making unsafe crossings.

The proposed configuration of two new residence halls to replace Belk Residence Hall will allow a direct paved pedestrian path to be constructed between the College Hill District and the Athletic District. Further study is recommended to determine the specific safety measures needed at the railroad crossing. However, a preliminary study indicated that it is possible to construct an overhead bridge with the proper 25 foot high clearance and Americans with Disabilities Act (ADA) accessibility.

Example of a multi-purpose plaza similar to space proposed between new residence halls.

3 Plaza between new residence halls

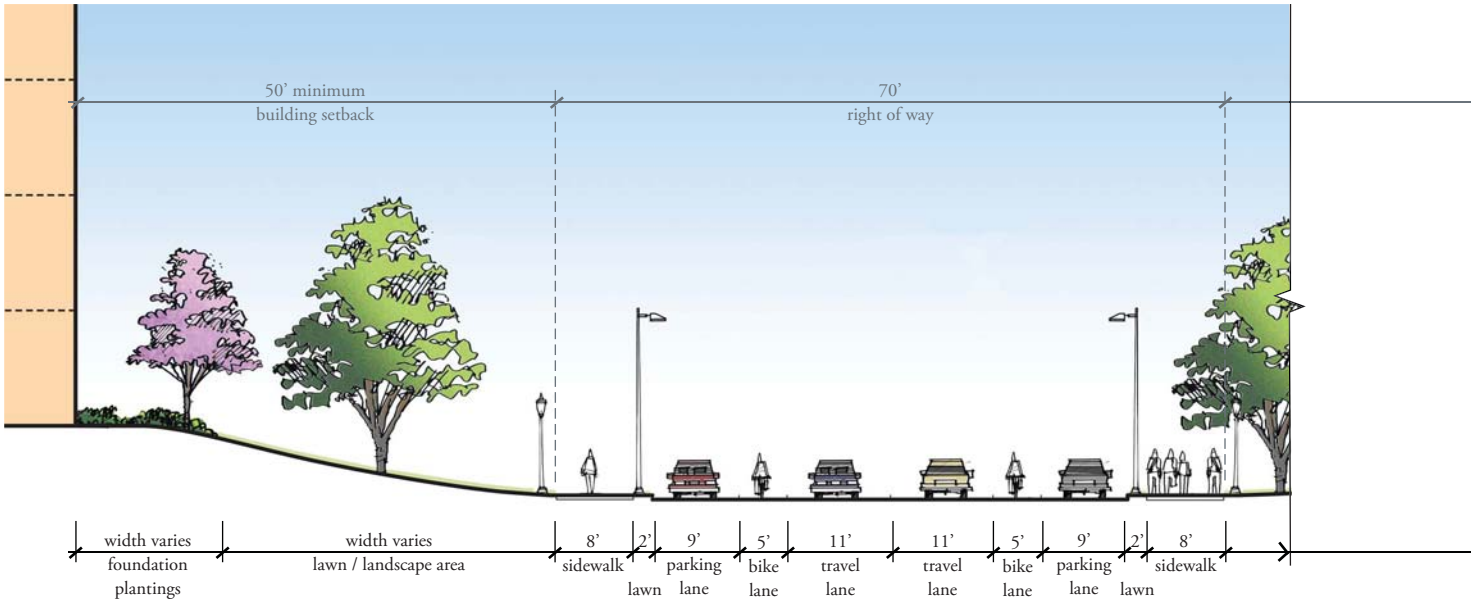
The proposed arrangement for the new Belk Residence Hall and the Living / Learning Complex allows an outdoor plaza to be created between the two buildings. The space may be used for informal gatherings by students, as well as for outdoor study. As is demonstrated in the image on the previous page, the plaza can serve a variety of functions and be an inviting space for students on campus. The pedestrian link, previously mentioned, from the College Hill District to the Athletic District, begins in this plaza.

4 College Hill Complete Street with the addition of bike lanes and improved pedestrian walks

College Hill Drive currently supports pedestrian circulation with sidewalks on both sides of the street. However, they are narrow and contain obstructions. The Campus Master Plan recommends that the right-of-way be transformed into a Complete Street that enhances the pedestrian experience while also supporting bicycle traffic. The section below showcases the proposed changes within the right-of-way that includes expansion of sidewalks to 8 feet wide, the addition of 5 foot bike lanes, and upgraded lighting.

5 Green Mill Run connection to city/regional recreational path and bike route system

Green Mill Run is an existing stream that flows through campus. The City of Greenville partnered with other government entities in the region to establish a recreational path and bike route system that closely follows the path of Green Mill Run. An access point to the trail is located at the northwestern corner of the College Hill District, near the edge of the band practice lawn. The path should be extended into campus to provide easy access to the recreational trail system. Extension of the Green Mill Run trail would then create a recreational loop through the College Hill, Athletic, and South Academic Districts.



College Hill Drive Streetscape Character
Cross-Section

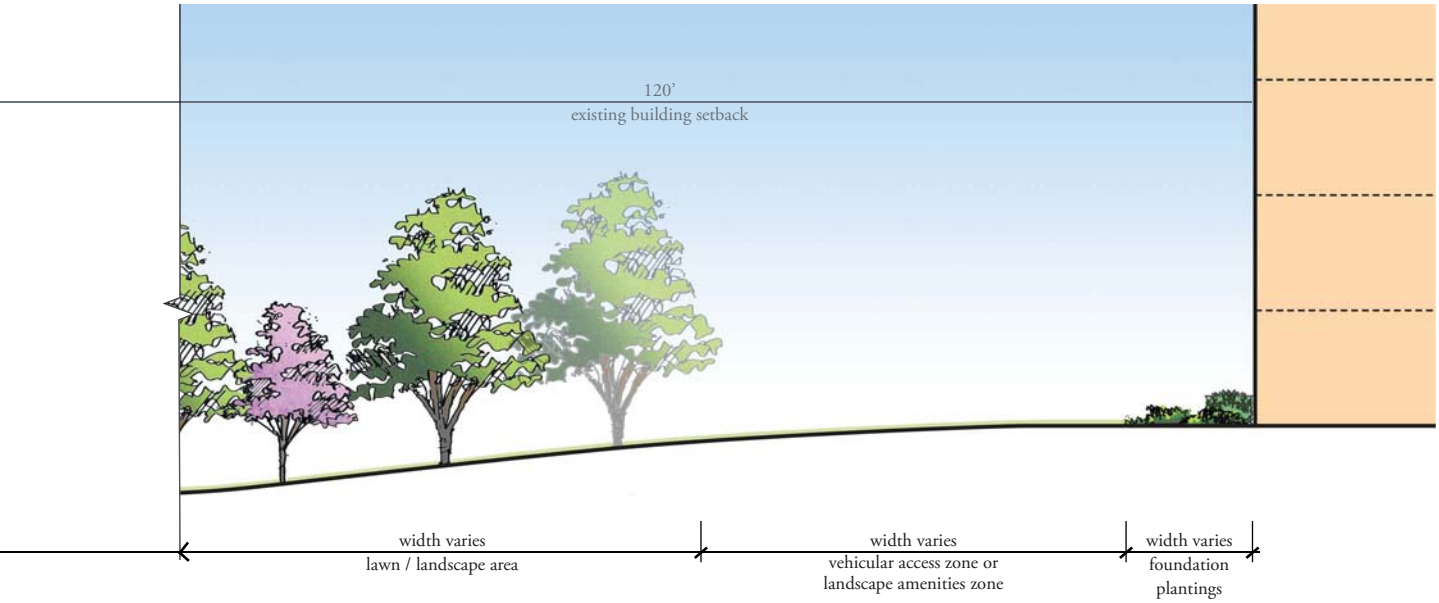
6 Improved pedestrian crossing on 10th Street

Analysis of the circulation patterns on campus revealed that pedestrian conflicts exist across 10th Street from the College Hill District to the Campus Core District. The Campus Master Plan recommends that the pedestrian crossing be enhanced at 10th Street to provide easy flow between districts. This intersection serves as the primary pedestrian crossing point for the many students that live within the College Hill District and walk to classes and student services located within the Campus Core District. A proposed median and decorative pavement will aid pedestrians in crossing this busy roadway.

7 Complete Street on 10th Street with the addition of a median, bike lanes and improved pedestrian walks

10th Street is recommended to be transformed into a Complete Street. This road should be re-designed to comfortably accommodate all modes of transit including pedestrians, cyclists, and vehicles. Adjustments need to be made to the roadway to develop a Complete Street. Narrow sidewalks abut the curb and contain pedestrian obstructions such as hydrants and light poles. Limited green space is provided between roadway and buildings.

Along 10th Street, existing sidewalks are proposed to be widened to 12' wide and 5' wide bike paths are to be added on both sides of the roadway. A landscape median is proposed to help soften the character of the street. A cross-section detailing the proposed streetscape improvements can be found in the Campus Core District section in this report. Right-of-way improvements will require partnership with the City of Greenville.



Existing marching band practice field to be maintained.

Open space adjacent to residence halls allows for active recreation.

Streetscape Initiatives

1 **College Hill Drive streetscape character**

As part of the Complete Streets proposal for College Hill Drive, the overall character of the streetscape should be improved. The specific site enhancements should reflect the recommendations made in the Design Guidelines section, found later in this report. In general, landscaping, lighting, and stormwater management shall be improved along this corridor. Retaining walls may be needed to accommodate walkways near topographic grade changes associated with Green Mill Run. These should reflect the character of walls found within the Campus Core.

2 **10th Street and College Hill Drive gateway enhancement**

The intersection of 10th Street and College Hill Drive serves as an important connection point between the Campus Core District and the College Hill District. This area should be enhanced to signal to visitors that it serves as an important secondary gateway on campus and to facilitate pedestrian crossings. It should be similar in character to other gateways proposed for the Campus Core District.

Open Space Initiatives

1 **Open space area for passive / active recreation**

Open space is proposed behind both the Living / Learning Complex and new Belk Residence Hall to provide areas for both passive and active recreation. Existing surface parking lots currently occupy this land. The College Hill District presently lacks a large, open lawn area for students to recreate.

2 **Flood control / stormwater management area with the inclusion of native planting and nature area for passive recreation**

The northeast corner of the College Hill District is located in the floodplain and experiences seasonal inundation. The Campus Master Plan recommends that efforts be taken to address this issue by implementing stormwater management techniques that control and contain the floodwater. One option is the development of a constructed wetland composed of native plantings which provides wildlife habitat and passive recreational opportunities. Stormwater management strategies can be designed to be aesthetically pleasing spaces on campus that can enhance otherwise unremarkable existing land.

3 Existing marching band practice field to be maintained

Stakeholder interviews conducted during the master planning process indicated that the existing open field in the northwest corner of the College Hill District serves as an important practice facility for ECU's marching band. Given the general satisfaction with this area, the Campus Master Plan recommends that it be maintained in its current state.

4 Removed parking becomes wooded preservation zone

The southernmost edge of the College Hill District provides an opportunity to enhance the open space within the district. Single family residential homes use to be located in the area between the College Hill and Athletic District, until ECU acquired these properties and demolished them. One existing home remains that is not owned by ECU. Unformalized gravel parking lots replaced the former home sites. The Campus Master Plan recommends that woodlands be established in this area, as part of a wooded preservation zone. This would provide a generous buffer between the existing railroad tracks and student residential complex.

Green Mill Run recreational path will be paved to serve both pedestrians and cyclists.

Stormwater management areas can provide flood control, as well as be aesthetically pleasing.

Neighborhoods

Athletic District

Building Initiatives

1. Basketball Practice Facility
2. Dowdy-Ficklen Press Box Addition

Circulation Initiatives

1. Pedestrian link to the athletic campus
2. Improved pedestrian crossing on Charles Boulevard
3. Charles Boulevard Complete Street with the addition of bike lanes and improved pedestrian walks
4. Pedestrian connection through Athletic District

Streetscape Initiatives

1. Continue streetscape character for the east side of Charles Boulevard which includes landscape and an edge treatment of ornamental fence

Open Space Initiatives

1. Pedestrian plaza and donor recognition area
2. Landscape buffer area

Neighborhoods

Athletic District

Existing Character

In 2009, an Athletics Master Plan was completed for ECU that served as a precursor to the Campus Master Plan. The Athletics Master Plan transformed the area, south of 14th Street and extending to Greenville Boulevard, into a top class athletics complex. ECU is a member of Conference USA, a 12-college organization spread across nine states. ECU's athletic teams have a strong following and draw upon a large regional audience.

Many of the proposals presented as part of the Athletics Master Plan have already been or are in the process of being implemented to enhance the experience for both athletes and fans. An Olympic sized track and field complex has recently been constructed along with a new Clark-Le Clair Baseball Stadium.

Building Initiatives

1 **Basketball Practice Facility**

A 38,000 SF expansion to Minges Coliseum is proposed to provide two basketball practice courts, expanded locker and office space, and an indoor weight room. The expansion will be completed on the north side of the existing building.

2 **Dowdy-Ficklen Press Box addition**

ECU is proposing an expansion to Dowdy-Ficklen Stadium that includes a new press box, ticket office, athletic offices, and Pirate Club. These expansion efforts follow another recent stadium project that added seating to the western portion of the facility. The press box expansion is to be located on the southern side of Dowdy-Ficklen Stadium and will also serve as a prominent entrance gateway.

Circulation Initiatives

1 **Pedestrian link to the athletic campus**

There is presently no safe, direct pedestrian route from the College Hill District to the Athletic District. Belk Residence Hall spans the entire southern length of the College Hill District and prevents a direct link to Dowdy-Ficklen Stadium. In

addition, existing railroad tracks currently bisect the area and make pedestrian movement treacherous. In order to make a safe crossing, pedestrians must take a circuitous path east to Berkley Road. However, an existing dirt path from the rear of Belk Residence Hall to the Stadium indicates that a large majority of pedestrians are currently making unsafe crossings.

The proposed configuration of two new residence halls in lieu of the existing Belk Residence Hall will allow a direct paved pedestrian path to be constructed between the College Hill District and the Athletic District. Further study is recommended to determine the safety measures needed at the railroad crossing. Grade separation may be considered or a combination of signage and gates to alert pedestrians.

2 **Improved pedestrian crossing on Charles Boulevard**

A primary goal of the Campus Master Plan is to improve pedestrian circulation across ECU Main Campus. As part of this initiative, the pathway that connects College Hill to the Athletic District is proposed to also provide a pedestrian link to the South Academic District. The proposed pathway will continue past Dowdy-Ficklen Stadium and Clark-Le Clair Baseball Stadium to cross over Charles Boulevard into the South Academic District. The intersection of Charles Boulevard and Olgesby Road is already functioning as an important pedestrian crossing, however it should be enhanced to achieve increased safety and visibility.

3 **Charles Boulevard Complete Street with the addition of bike lanes and improved pedestrian walks**

The Complete Streets initiative should also be applied to Charles Boulevard, which serves as an important north-south connector on campus. Charles Boulevard is currently divided by a landscape median, but does not have marked bike lanes or consistent walks. The Greenville Urban Area Metropolitan Planning Organization's Bicycle and Pedestrian Master Plan recommends Charles Boulevard become a strategic route within the region's non-motorized transportation system. The cross-section of Charles Boulevard provided in the following South Academic District section showcases how it may be implemented.

4 **Pedestrian connection through Athletic District**

A continuous pedestrian thoroughfare is lacking in the central portion of the athletic campus, most notably between the south side of the football stadium through to the baseball and softball complex. This connection is imperative to provide a safe link from the northern portions of campus through the Athletic District to the South Academic District.

Streetscape Initiatives

1 **Continue streetscape character for the east side of Charles Boulevard which includes landscape and an edge treatment of ornamental fence**

The streetscape design that has already been established along Charles Boulevard should be extended to cover its entire length. This includes landscaping and ornamental fencing to define the edge.

Open Space Initiatives

1 **Pedestrian plaza and donor recognition area**

As part of the Minges Coliseum expansion, a pedestrian plaza and donor recognition area is proposed. It is to be located on the north side of the arena, adjacent to the proposed practice courts addition. The plaza will provide a much needed formal gathering space within the Athletic District.

2 **Landscape buffer area**

An existing wooded landscape buffer is to be preserved in the southeast corner of the Athletic District. It is meant to maintain a good relationship with the adjacent single-family residential community by offering them privacy and screening from ECU's baseball, soccer, and track fields.

Neighborhoods

South Academic District

KEY

- Immediate Need Buildings
- Future Building Opportunity
- Existing Campus Buildings
- Building Relocation
- Proposed Parking Deck
- Proposed Gateway

Building Initiatives

1. Health and Human Performance Research Gymnasium
2. Health and Human Performance faculty offices and classrooms
3. Future classroom and office use
4. Relocated facilities
5. Relocated recreation fields

Circulation Initiatives

1. New turn-around loop at Oglesby Drive
2. New Park & Ride surface lot
3. Pedestrian walk connection from Charles Boulevard
4. Improved pedestrian crossing from Athletics across Charles Boulevard
5. Charles Boulevard Complete Street to include the addition of bike lanes and improved pedestrian walks
6. Green Mill Run connection to city/regional recreational path and bike route system

Streetscape Initiatives

1. Charles Boulevard streetscape character
2. Gateway to ECU, Charles Boulevard and Greenville Boulevard

Open Space Initiatives

1. Flood control / stormwater management area with the inclusion of native planting and nature area for passive recreation
2. Research recreation field to be used in conjunction with the indoor gymnasium
3. Landscape buffer area

Neighborhoods

South Academic District

Existing Character

The South Academic District is located at the southern edge of ECU's Main Campus. It is bordered on the south side by Greenville Boulevard. Historically, the district has acted as an overflow area for campus with temporary trailers stationed here for the Maritime Conservation program's research needs, along with ECU's Facilities Services Grounds Complex. The district is also dominated by two large Park & Ride lots and four intramural baseball fields. Classroom and faculty office space exists within two buildings in this area. It primarily serves the College of HHP. Overall, there is very little organization between the existing buildings and site elements within this District.

As part of the Campus Master Plan, a sub-study was also completed that focused specifically on ECU's College of Health and Human Performance. The report revealed that programs relating to HHP are currently distributed across Main Campus, reducing resource sharing opportunities and making access difficult. The report recommended that all HHP programs be consolidated to one area of campus.

Building Initiatives

1 **Health and Human Performance Research Gymnasium**

The College of Health and Human Performance requires regular use of a research gymnasium for its program activities. Christenbury Memorial Gymnasium presently serves this purpose. However, the FCA revealed that Christenbury is currently in poor condition, does not meet the standards needed for full-time use by ECU's HHP program, and lacks universal accessibility. The report recommended removal of the gymnasium.

Christenbury Memorial Gymnasium is beloved by alumni for its striking architecture and historic presence on campus; thus increased sensitivity in planning was required. Ultimately, it was determined that Christenbury could not be preserved in its entirety. However, portions of the facade will be preserved to be reused either on the new 55,000 SF Research Gymnasium, to be located within the South Academic District, or on the Life Sciences and Biotechnology Building, to be located within the Campus Core District. The proposed gymnasium has an ideal location adjacent to the Athletic District.

2 **Health and Human Performance faculty offices and classrooms**

As part of the College of Health and Human Performance consolidation initiative, a new 3-story, 60,000 SF building is proposed adjacent to the HHP Research Gymnasium. This proposed building will help to define an open quad space that will also be used by HHP. The building will provide classroom and faculty offices.

3 **Future classroom and office use**

The location of four additional buildings has been identified on the Campus Master Plan to address potential future growth within the South Academic District. No program has yet to be defined for these proposed buildings.

4 **Relocated facilities**

Presently, four existing buildings related to ECU's Facilities Services Grounds Complex are located in the northwest corner of the South Academic District. This complex provides storage for campus vehicles and lawn equipment and supplies. As part of the consolidation of ECU's support services highlighted earlier in the Campus Master Plan report, the Facilities Services Grounds Complex will be relocated near other campus support services in the Warehouse District.

5 **Relocated recreation fields**

The North Recreational Campus will absorb the five existing baseball fields currently located in the southwestern portion of the South Academic District.

Circulation Initiatives

1 **New turn-around loop at Oglesby Drive**

The Campus Master Plan proposes the removal of Curry Court, while maintaining Oglesby Drive. Curry Court is recommended for removal, in order to improve overall circulation within the South Academic District and to designate land adjacent to the Belk Building for construction of the new HHP Research Gymnasium. Oglesby Drive should be extended slightly and improved with the addition of a new turn-around loop.

2 **New Park & Ride surface lot**

The South Academic District serves as an important destination for commuters due to the presence of an existing Park & Ride surface lot. As part of the Campus Master Plan, it is recommended that this lot be reconfigured and reduced in capacity by 322 spaces to allow building development in its place. In addition, a new 1,300 space Park & Ride surface lot is proposed. This lot should not be built until parking demand necessitates its

View of proposed research recreation field serving HHP.

View of proposed HHP Research Gymnasium.

construction. Phased development should be considered. Given the considerable amount of impervious surface associated with the proposed parking lot, stormwater management techniques such as bioswales and sections of pervious pavement should be incorporated into its design.

3 Pedestrian walk connection from Charles Boulevard

Sidewalks are proposed to extend from Charles Boulevard along either side of Oglesby Road to improve pedestrian accessibility within the South Academic District.

4 Improved pedestrian crossing from Athletics across Charles Boulevard

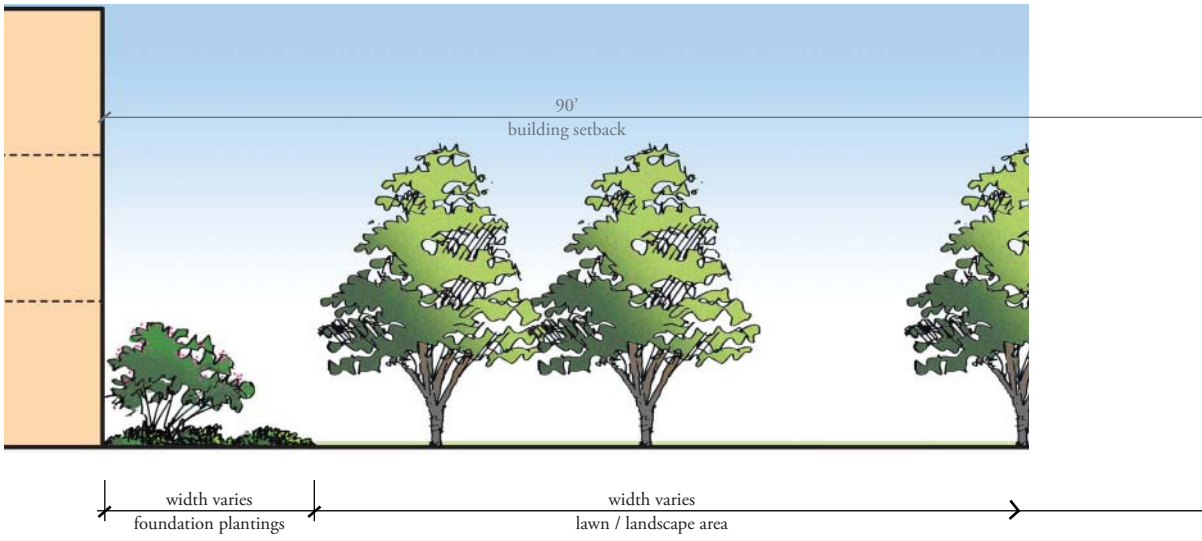
A primary goal of the Campus Master Plan is to improve pedestrian circulation across Main Campus. As part of this initiative, the pedestrian connection between the Athletic District and the South Academic District should be improved. The intersection of Charles Boulevard and Oglesby Drive is already functioning as an important pedestrian crossing, however it should be enhanced to achieve increased safety and visibility.

5 Charles Boulevard Complete Street to include the addition of bike lanes and improved pedestrian walks

The Complete Streets initiative should also be applied to Charles Boulevard, which serves as an important north-south connector on campus. Charles Boulevard is currently divided by a landscape median, but does not have marked bike lanes or consistent walks. The Greenville Urban Area Metropolitan Planning Organization's Bicycle and Pedestrian Master Plan recommends Charles Boulevard become a strategic route within the region's non-motorized transportation system. The cross-section of Charles Boulevard provided below shows how a Complete Street may be implemented.

6 Green Mill Run connection to city/regional recreational path and bike route system

Green Mill Run is an existing stream that flows through campus. The City of Greenville partnered with other government entities in the region to establish a recreational path system that closely follows Green Mill Run. The only current access to this trail is located west of the College Hill District. The Campus Master Plan recommends establishing a path from Oglesby Drive through existing natural areas to connect to the regional path system. Extension of the Green Mill Run trail would then create a recreational loop through the ECU campus.



Charles Boulevard Drive Streetscape Character
Cross-Section

Streetscape Initiatives

1 **Charles Boulevard streetscape character**

The streetscape design that has already been established along Charles Boulevard should be extended to cover its entire length. This includes landscaping and ornamental fencing to define the campus edge.

2 **Gateway to ECU, Charles Blvd. and Greenville Blvd.**

The intersection of Charles and Greenville Boulevards shall be enhanced to signify a primary gateway into ECU. Proposed improvements should be similar in character to those on the Campus Core.

Open Space Initiatives

1 **Flood control / stormwater management area with the inclusion of native plantings and nature area for passive recreation**

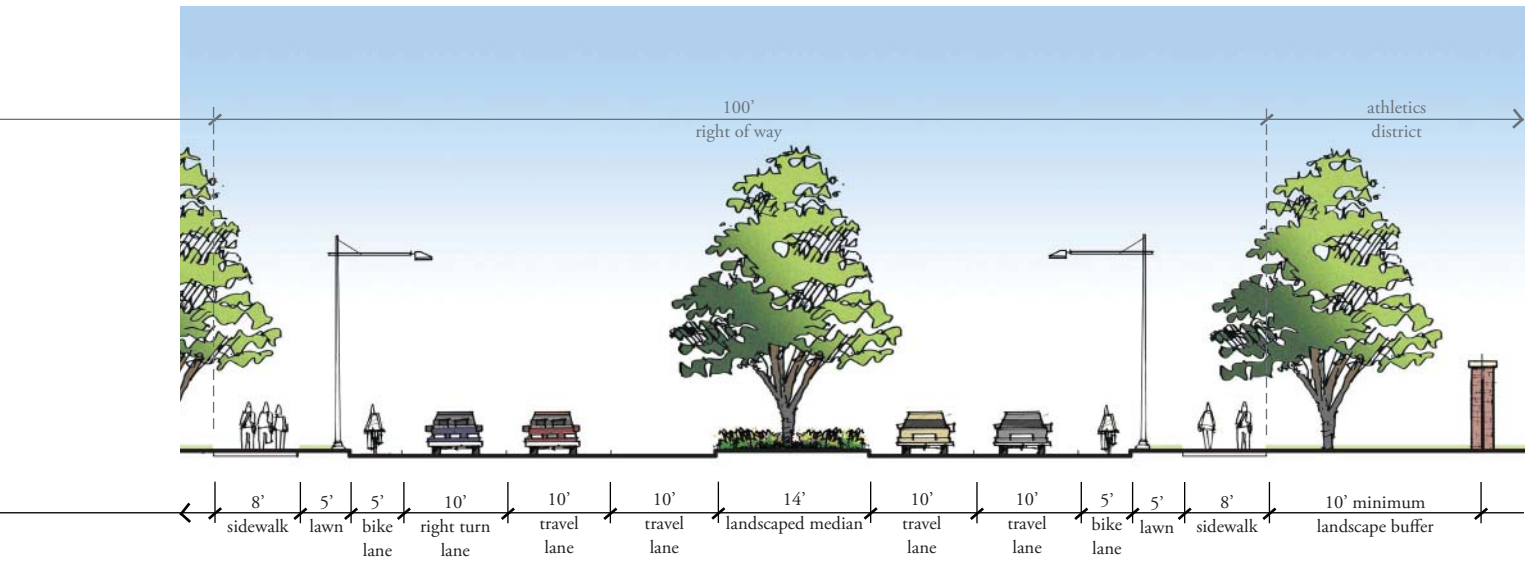
The undeveloped northwest corner of the South Academic District presents the opportunity to address flood control and stormwater management due to its location near floodplain. One option is the development of a constructed wetland composed of native plantings which will provide both wildlife habitat and passive recreational opportunities.

2 **Research recreation field to be used in conjunction with the indoor gymnasium**

The open quad space defined by the Belk Building and the new HHP Research Gymnasium is designed to serve an important research role for the College of Health and Human Performance. This outdoor space will be used in conjunction with the indoor gymnasium to monitor patients progress.

3 **Landscape buffer area**

An existing wooded landscape buffer is to be preserved and enhanced along the southern boundary of the South Academic District. It is meant to provide screening between campus and adjacent properties.



Neighborhoods

Natural Areas District

Existing Character

A natural corridor consisting of woods, wetlands, and floodplain runs from 10th Street to the southwest portion of campus. It typically follows the course of Green Mill Run stream that flows through campus. These natural areas comprise 61 total acres of Main Campus and are generally unbuildable. Soils consist mostly of sandy loams with some areas of hydric soil located within the Green Mill Run watershed. Topographic change is minimal in the built portions of campus. However, steep slopes do exist in the Green Mill Run floodplain areas.

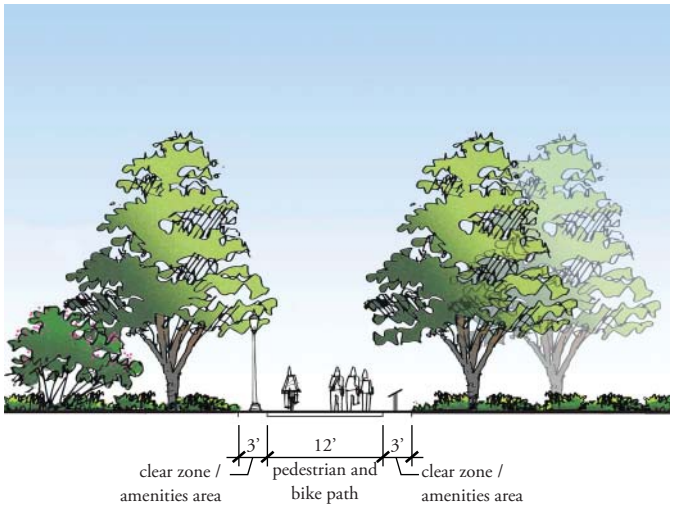
Circulation Initiatives

1 **Green Mill Run connection to city/regional recreational path and bike route system**

Green Mill Run is an existing stream that flows through campus. The majority of the stream is currently inaccessible, hidden within natural areas on campus. The Campus Master Plan proposes to establish a recreational trail that would follow the stream and transform these natural areas into an asset for ECU.

The City of Greenville has partnered with other government entities in the region to establish a recreational path and bike route system that closely follows the course of Green Mill Run. The only existing access to this trail from campus is located west of the College Hill District. The Campus Master Plan recommends establishing two connection points to the trail system, one from the College Hill District and one from the South Academic District. The proposed paved recreational path would follow Green Mill Run through existing campus natural areas to connect the northern and southern ends of campus to one another and also to the existing regional path system.

Extension of the Green Mill Run trail would create a recreational loop through the ECU campus that would significantly benefit both students and community members. The character of the proposed trail should reflect design guidelines outlined later in this report. The completed Green Mill Run trail system will enhance the existing circulation system on Main Campus, while also providing regional connectivity.



Recreational Path
Cross-Section

Boardwalks allow paths to cross streams and wetlands.

five | design guidelines

Introduction

Purpose Statement

Postcard illustration of East Carolina Training School for Teachers, 1909

The purpose of these guidelines is to provide a framework for managing the development of the campus environment for ECU. The goal is for the campus fabric to become unified, reinforcing a distinct physical campus identity for ECU.

These guides are infused with an open appreciation on behalf of the University stakeholders for the historic structures and spaces on campus, particularly those in the "Colonial Revival" and "Mission Revival" styles; this preference is central to all of the guideline's principles.

The guidelines are a blend of descriptive recommendations and prescriptive direction. In general, the intent is not to dictate particular overall solutions or designs. The intent is to help guide decision-making for each aspect of the composition, and to provide a basis for evaluation of development proposals. For each development, the extent to which the design guidelines should be employed will be influenced by many factors including building function and relevance, site and existing context, and location on campus.

University policies and construction and technical performance standards are developed and documented separately, and should be referenced concurrently with these guidelines.

The guidelines are organized into two primary aspects of development on campus: "Buildings" and "Grounds". "Buildings" provides guidance for the development of buildings and structures. "Grounds" provides guidance for the development of the campus spaces between buildings and structures.

The development of the guidelines relied on the valuable review and input of the Architectural Standards Committee as well as scores of individuals, both designated and volunteer, whose commitment to the continued realization for excellence in campus development and for East Carolina University is unsurpassed.

Introduction

Sustainability

Sustainability

East Carolina University is committed to developing a sustainable campus, and to contributing to an enhanced environment for Greenville and the region. Signed by Chancellor Ballard in 2006, the ECU Safety and Environmental Policy Statement establishes the University's commitment to pursuing environmental sustainable design initiatives for campus activities and developments. North Carolina Executive Order 156 and State of North Carolina Senate Bill S581 and S668 establish additional energy conservation goals and requirements for state-owned facilities.

These guidelines provide numerous recommendations which promote sustainable design and user well-being. The University Construction Standards recommend using the U.S. Green Building Council's LEED evaluation system to guide designers for all developments.

The ECU Campus Master Plan emphasizes several issues particular to East Carolina University that should be considered in the design of any development. These include:

- Endeavor to reduce greenhouse gas emissions and promote healthy lifestyles by reinforcing pedestrian and bicycle connections on campus and to the community.
- Similarly, automobile circulation should be considered carefully on campus and only provided where essential for service an emergency access
- Located between the Tar River and Green Mill Run, Main Campus is prone to flooding and requires active stormwater management; facilities should manage and treat stormwater on site, to reduce discharge volume and contribute to the restoration of natural systems.
- The campus should be viewed in the context of the Coastal Plain Ecosystem and development should respect, and where possible, regenerate this ecosystem
- Designers should aggressively pursue energy conservation, consider high-efficiency building mechanical and ventilation systems, and use life-cycle-cost analysis to establish the value of energy-use reduction over time.
- Buildings should utilize recycled-content and regionally-sourced materials. Designers are encouraged to evaluate building envelope thermal performance, and design and select systems that reduce energy consumption for building heating and cooling.

Currently, a Greenhouse Gas Emissions Study is under consideration by the University. When completed this Study will provide a definitive understanding of the impact of campus developments, both existing and new, to the environment.

Buildings

Overview

Origins

C.C. Hook, in the early years of his career.

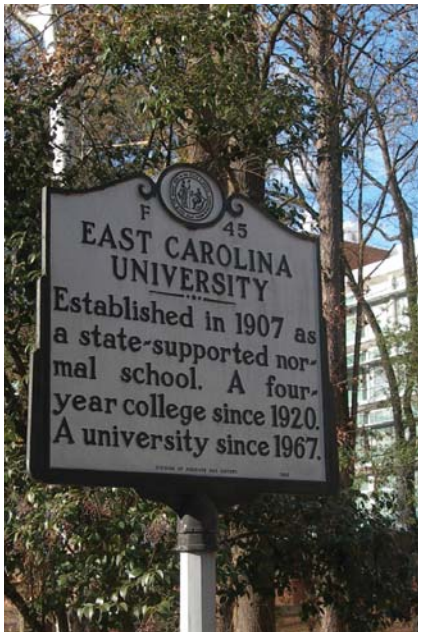
Origins

The earliest buildings on the East Carolina Teacher's Training School campus were products of Charlotte-based architects Hook & Rodgers. The designs are attributed to the region's leading architect of the era, Charles Christian Hook.

Born in Wheeling, West Virginia, C.C. Hook graduated from Washington University, St. Louis, in 1890. Recruited to teach "mechanical drawing" in North Carolina's public schools, Hook relocated to Charlotte. He taught for two years before becoming the city's first full-time, professional architect.

Hook's early commissions were residential, and located predominantly in the street-car community of Dilworth. His early work reflected his clients' tastes and included late-Victorian, Queen Anne homes. As Hook matured he revealed a preference for Neoclassicism, acknowledging the influence of the "White City" assembled for Chicago's 1893 Columbian Exposition, and the work of New York architects McKim, Mead, and White.

Rejecting Victorian complexity, ornament, and romanticism, proponents of Neoclassicism advocated simple massing, symmetry, and restrained use of classical decorative motifs. The resulting "purity" of expression was perceived as sufficiently sober



for civic and institutional structures, as well as for the homes of business and community leaders. At the turn of the 20th century, southern cities emerged from the extended period of poverty following the civil war, and embraced both Neoclassical and Colonial Revival styles. Hook wrote:

> *"Out of all this chaos we again have a revival of the colonial. Its symmetry, restfulness, and good proportions generally caused it to be superior to all other schools of design. Beyond doubt the colonial style in its purity expresses more real refined sentiment and is more intimately associated with our history than [other] styles … it is not only an association of English history with our own, but expresses authentic memoirs of the American people themselves."*

Despite his ideological stance, Hook's work exhibits surprising variety, and a nearly post-modern affection for allusion and borrowing. Of particular relevance, he demonstrates an affinity for the Mediterranean: rusticated or encrusted stone bases, hipped-roofs with mission-style tile in terracotta or green glaze, and syncopation of arched openings and fenestration.

In 1908 when Hook and Rogers received the commission for Jarvis Dormitory, Hook's vision had become unique: he was operating within a cultural sensibility that valued stability and order, yet accented his work with components both distinct and idiosyncratic. The result has been described as "Mission Revival," but is significantly more: it is a regional style with noteworthy manifestations at East Carolina University.

Overview

Historical Significance

Jarvis Dormitory

Messick Theatre Arts Building

Wright Auditorium

Mamie E. Jenkins

Flanagan Building

Graham Building

Fleming Dormitory

Spilman Building

Ragsdale Hall

Whichard Building

Cotten Dormitory

Historical Significance

Several historical structures and properties on and adjacent to ECU's campus are under the purview of specific committees and commissions responsible for the review of any proposed changes.

In 1995, the East Carolina Board of Trustees established the Campus Historical Preservation Committee. The Committee, now defunct, designated several buildings on campus designated as historically significant. Today, the Facilities Engineering and Architectural Services is responsible for reviewing and approving proposed revisions to these designated historically significant buildings.

Additional information regarding historical structures can be found in the "Additional Resources and References" portion of these guidelines.

Historically Significant Buildings:

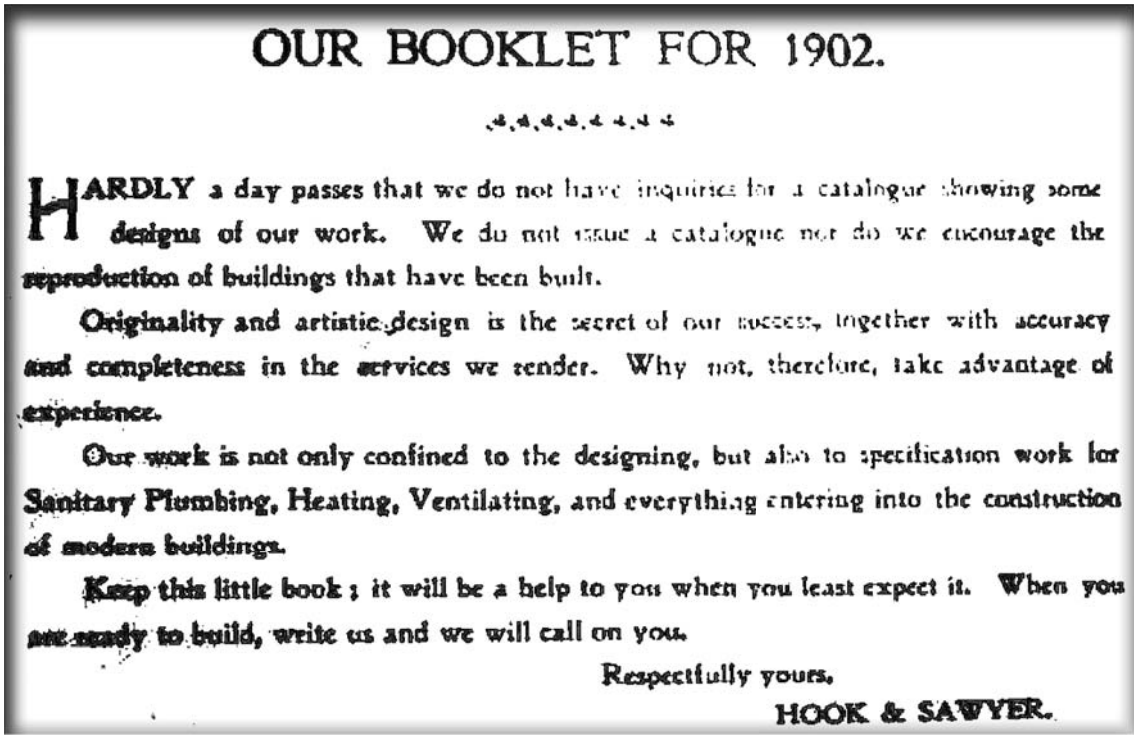
- Jarvis Dormitory, Hook & Rogers, 1908-09
- Fleming Dormitory, H. A. Underwood, 1922-23
- Spilman Building, George Berryman, 1930
- Whichard Building, H. A. Underwood, 1923
- Wright Auditorium, H. A. Underwood, 1925
- Ragsdale Hall, H.A. Underwood, 1923
- Graham Building, George R. Berryman, 1929
- Cotten Dormitory, H. A. Underwood, 1925
- Mamie E. Jenkins, Hook & Rodgers, 1909
- Messick Theatre Arts Building, George R. Berryman, 1927
- Flanagan Building, Eric G. Flanagan, 1939

Located adjacent to campus is the College View Historic District, a National Register Historic District. The North Carolina Historical Commission and the Greenville Historic Preservation Commission are responsible for reviewing and approving proposed revisions to properties within and in viewing range from this district.

College View Historic District, May 19, 2006

Overview

Unity or Uniformity



OUR BOOKLET FOR 1902.

HARDLY a day passes that we do not have inquiries for a catalogue showing some designs of our work. We do not issue a catalogue nor do we encourage the reproduction of buildings that have been built.

Originality and artistic design is the secret of our success, together with accuracy and completeness in the services we render. Why not, therefore, take advantage of experience.

Our work is not only confined to the designing, but also to specification work for Sanitary Plumbing, Heating, Ventilating, and everything entering into the construction of modern buildings.

Keep this little book; it will be a help to you when you least expect it. When you are ready to build, write us and we will call on you.

Respectfully yours,

HOOK & SAWYER.

Publication of Hook & Sawyer, 1902:

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Hook & Sawyer.

Unity or Uniformity

The physical campus environment has many important responsibilities: it is the institution brand; the recruitment tool for students and faculty; an intellectual and economic harbor; and a resource for alumnus. As the emergence of the virtual campus continues to evolve, the importance of the physical campus environment has become reinforced, serving as the tangible differentiator.

The grounds and buildings of a campus are the physical manifestation of the institution. Thematic and contextual developments can reinforce the history and stability of an institution, while modern developments can embody the innovative future of an institution. Balancing these sometimes competing themes through physical development can be difficult. At the same time, the institution is constantly evolving and maturing; this change is similarly reflected in the development and growth of the campus physically.

The ECU campus has harbored many exceptional historic structures which serve as the organizational foundation for campus and are reminiscent of the longevity and stability of the University. As the institution has grown, developments to the campus have generally been representative of the technology, design trends, and institutional ambitions current of their time. Some of these developments are noteworthy examples of their architectural era; others successfully complement the existing historic structures; and a few developments are undesirably incongruous on campus, neither contextual nor representative. The resulting variation in architectural character, quality, and style has resulted in a disjointed campus fabric.

As stated in the "Purpose Statement," the goal for these guidelines is to provide a development framework to unify the campus fabric. However, the intent is not to mandate uniformity or replication of design. Unity of the campus fabric can be achieved through careful understanding of context, and sensitivity to the environment, both existing and future. A unified campus fabric includes nuanced variation that results from function, site, building technology advancements, and design expression.

C. C. Hook, while practicing in partnership with Sawyer, published an advertisement for their services in which they emphasized the importance of originality in their work. Though representative of popular styles of the time, his work subtly deviated from the tradition and standard of the style with skillful and clever inclusion of idiosyncratic elements. This sensibility remains relevant today and should continue to be embraced while progressing towards to unification of the campus fabric.

East Carolina University has given evidence to the ambition for the campus through the undertaking of these Design Guidelines. Developments on campus should reflect and respect the inspiration and ambitions of the institution: to promote beautiful design that contributes to the unification of the campus fabric.

Overview

Influencing Factors

For each development on campus many factors are expected to influence the extent to which these guidelines are to be implemented

Adherence to these guidelines should never compromise satisfying University and development-specific requirements, goals, and conditions such as:

- Function
- Sustainable Design
- Security
- Accessible Design
- University Construction Standards
- Budget
- Context
- Site and Location

Throughout the guidelines, preferred recommendations are provided and lower-cost alternatives are presented where appropriate. The expectation is that each development evaluate and balance design decisions to be responsive to established budgets and to cost-effectively meet the quality expectations of the University.

The existing buildings on campus provide a wide range of varying precedence; these guidelines attempt to distill from the existing precedent, the preferred aspects to be considered for new developments. For renovations or additions to existing buildings, the existing building context should always take precedence. Finally, it is expected that the guidelines will be implemented to varying degrees based on the development's location on campus and the development's relevance and significance. For example, a new library centrally located carries a greater burden for implementation of the guidelines than a service building located at the campus perimeter. In these cases, explicit and notable deviation from these recommendations may be approved by the University after review.

Organization of Design Guidelines for Buildings

The recommendations for the Design Guidelines for Buildings is organized under three headings:

- **Attributes**
- **Components**
- **Materials**

Attributes

Beginning with the most general characteristics of building design, the Attributes section addresses recommendations relevant for decision-making early in the development process. These early decisions are related to overall building planning and organization.

- Form
- Symmetry
- Proportion
- Height
- Hierarchy and Order
- Repetition and Scale

Components

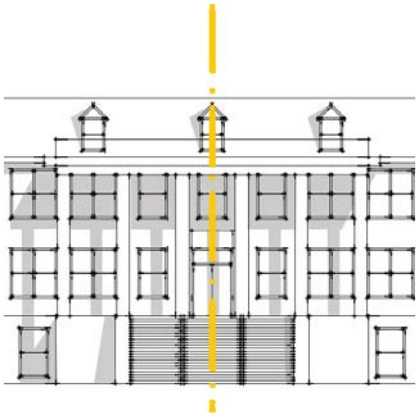
Moving from general characteristics to discreet building elements, the Components section addresses formal design recommendations for specific building elements.

- Roof Form
- Entrances, Porticos, Arcades, and Balconies
- Fenestration
- Ornamentation and Pattern
- Service Areas
- Structured Parking

Materials

Finally, the Materials section addresses recommendations for the selection of materials for visible aspects of building exteriors. These recommendations, while detailed, are to be generally applied to all appropriate building Components.

- Masonry
- Stone Materials, Natural and Fabricated
- Doors, Windows and Glazing
- Roofing
- Metals and Miscellaneous Materials



Attributes

Form

An important distinction of the early buildings on campus is the relationship of the building to the outdoor environment. The form of the building simultaneously defined outdoor space while being shaped by the landscape environment.

Outdoor areas, intended to be actively used for gathering and interaction, were developed and embraced by the building form. Views of the building through the landscape foreground were crafted by the designer and influenced the building form. The experience of the pedestrian and outdoor occupant was fundamental to the form of the building.

As the examples from ECU's campus illustrate, these formal developments are intuitively recognized, and are applicable to the full range of campus typologies and buildings. Today, the pedestrian experience remains an important aspect of the campus environment. The building design should emphasize forms that shape outdoor space and provide for the pedestrian experience.

Green Effect

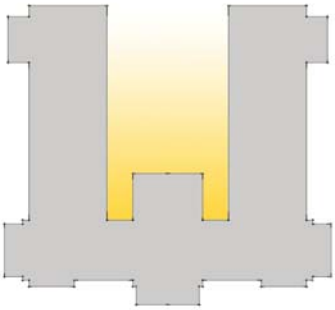
Developments integrated with their sites can contribute to green design initiatives:

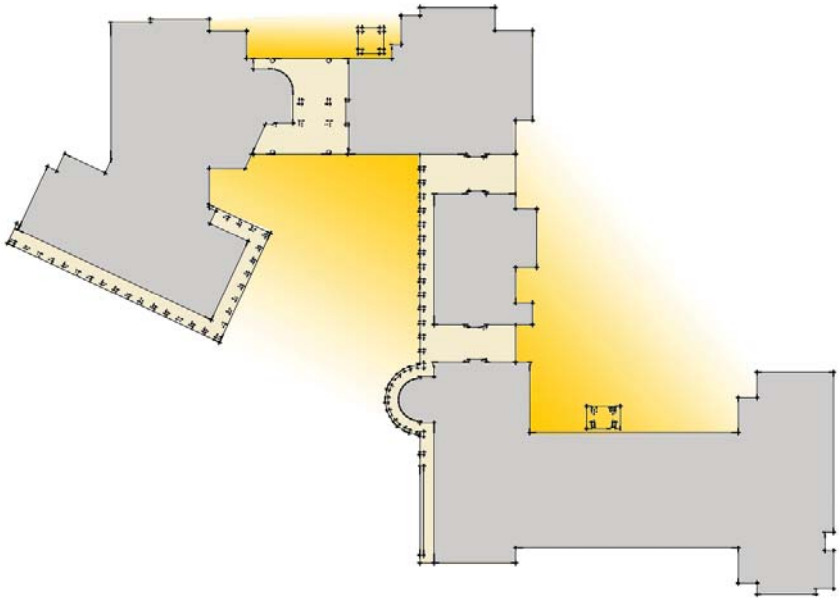
- *Opportunity for vegetated open spaces*
- *Allows for protection of existing habitats*
- *Help to reduce heat island effect*

Form

Right:
Plan diagram of Health Sciences Building highlighting shaped outdoor space.

Below:
Plan diagram of Jarvis Dormitory highlighting shaped outdoor space.





Outdoor Space

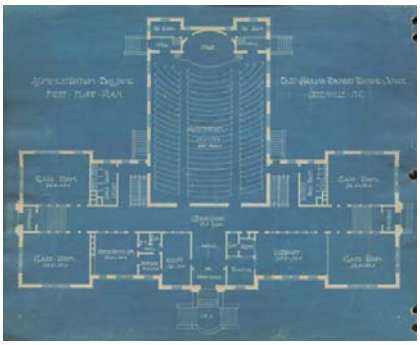
Building forms should make and give shape to pedestrian activated outdoor spaces. Plazas and courtyards should be developed through the building form, and should function in concert with overall campus circulation patterns.

Landscape Collaboration

Building forms should respond to the site and landscape conditions to provide an integrated development.

Attributes

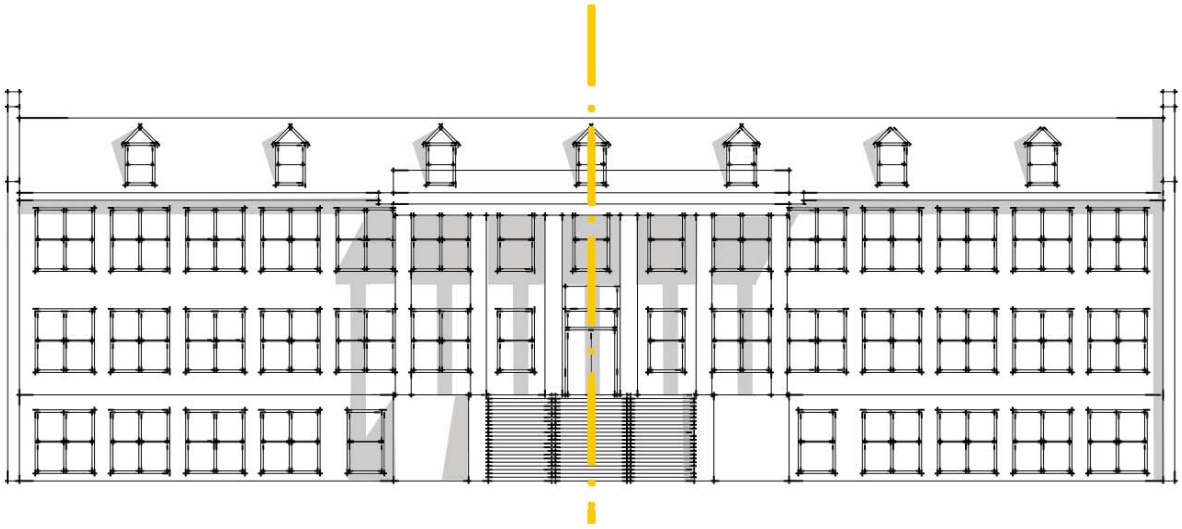
Symmetry



Floor plan of Old Austin (1908, razed in 1968) Plan Symmetry

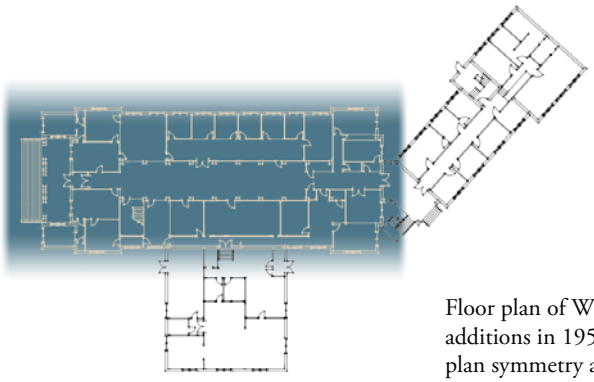
The neoclassical influence on the mission revival style of the early ECU buildings established the formal constraint of symmetry. With symmetry, building compositions exhibited clarity, balance and restraint; attributes that were at the core of the neoclassical movement. Interior development, relegated in the design process, was manipulated to fit the symmetrical composition.

As the needs for buildings evolved, the constraint of symmetry could not always be satisfied. Addressing growth, functional requirements, and site conditions were often prioritized over maintaining the symmetry of the building. As such, several early buildings on campus, which were once symmetrical, are no longer. Recognizing this historical pattern and inevitability of future development, the application of symmetry for new developments, including renovations and additions, should be similarly evolved. Attributes of clarity, balance and restraint in conjunction with limited symmetry should be applied in lieu of strict adherence to overall building symmetry.



Flanagan Building Elevation Symmetry

Symmetry



Floor plan of Whichard Building (1923 with additions in 1958 and 1959)
plan symmetry altered

Clarity

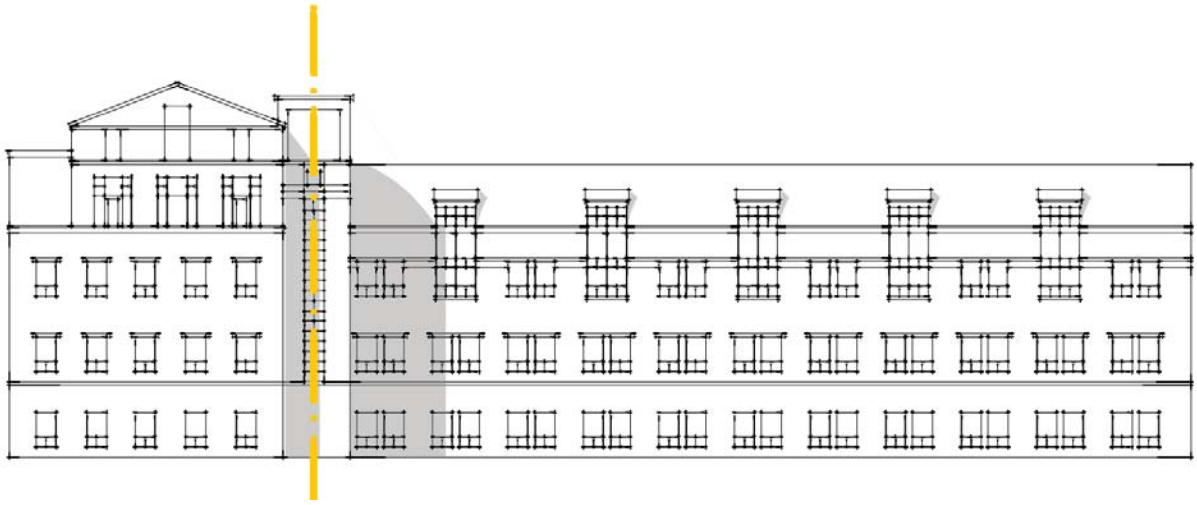
Provide building compositions that emphasize primary aspects of the exterior such as the entrance.

Balance

Symmetrical compositions by nature are balanced, but visual balance can be achieved with asymmetrical compositions as well. Consider the visual weights of materials, building forms, fenestration and other façade elements.

Limited Symmetry

Consider symmetrical organization of elements for limited building areas or components. For example, symmetrically organize window openings within a facade area.



Health Sciences Building Facade: Overall asymmetry, but with balance, clarity of elements, and limited use of symmetry.

Attributes

Proportion

Health Sciences Building

Proportion, similar to symmetry, was critical to building designs rooted in the neoclassical style. Every aspect of the building design, from the overall building mass to the columns and windows, followed rules established for their respective proportions.

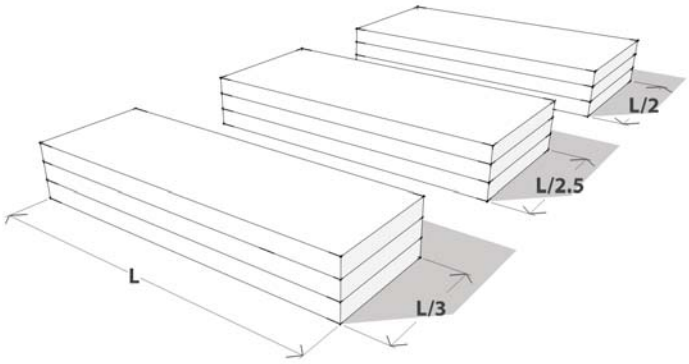
These rules included geometric analysis of designs that were considered "pleasing." The proper proportion, fundamentally a stylistic preference, was also determined by the constraints of building technology of the time. For example, floor plates were generally narrow to maximize natural ventilation and to support simple sloped-roof structural designs. These proportions also provided an overall building mass that reinforced the attribute of human-scaled, pedestrian-focused form.

For new developments, massing should be developed to provide human-scaled proportions to the overall building composition and facades.

Proportion

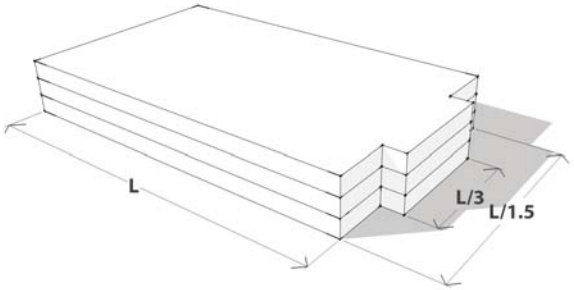
Narrow Floor Plate

Where programmatically feasible, floor plates should have 1:3 to 1:2.



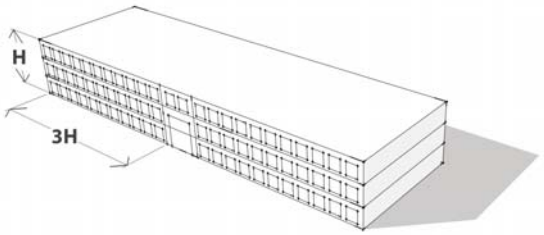
Articulated Plan

Where large, deep floor plates are a programmatic requirement, or where a narrow floor plate cannot be achieved otherwise, the plan perimeter should be articulated or subdivided to develop the 1:3 to 1:2 proportion.



Facade Length

The façade lengths should be broken into composition elements that should not exceed three times the vertical façade height, excluding roof forms.



Green Effect

Providing a narrow floor plate can contribute to green design initiatives:

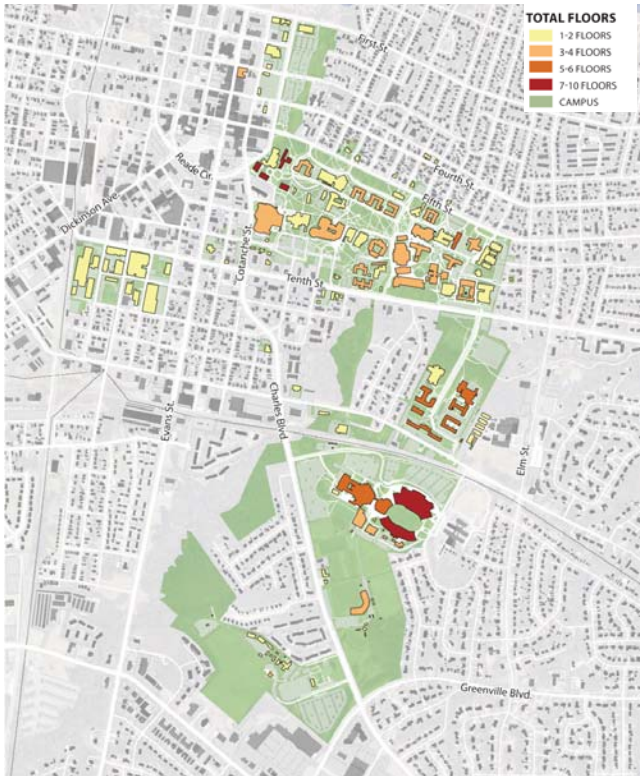
- *Improved access to outside views for occupants*
- *Increased use of daylighting, reducing day-time energy consumption for lighting*
- *Opportunity to provide effective natural ventilation*

Attributes

Height

The early buildings, constructed in the first quarter of the 20th century, were predominantly 2 to 3 stories in height, exclusive of roof. During this same time, advancements in steel construction and elevator technology allowed 10- to 13-story tall buildings to become increasingly common in urban settings. This advanced building technology provided increased density and maximized economic potential particularly where available land was constrained. Where land was more readily available, constructing taller buildings provided little value and was often beyond the community's ability to provide fire safety. Designed in concert with the narrow floor plates, lower-height buildings produced human-scaled development.

Increased density on ECU's campus is an inevitable aspect of development today and for the future. New construction should endeavor to preserve campus real estate, and may be substantially taller than early campus buildings. Although taller, new developments should be designed with sensitivity to the pedestrian and with human-scale applied to the components.



Main Campus existing building heights.
Image from master plan report

Health Sciences Campus existing building heights.
Image from master plan report

Height

Height based on Location

In general building heights are to be primarily guided by the building's location on campus and existing building height context.

Main Campus

- Typical: 3-4 floors
- Along 10th Street: 5-6 floors
- Along 5th Street and non-campus residential areas: 1-2 floors
- Along Cotanche and Athletic Area: 5-6 floors
- North Downtown District and the Warehouse District: 3-4 floors

Health Sciences Campus

- Typical: 5-6 floors
- Along Moye and 5th Street: 3-4 floors

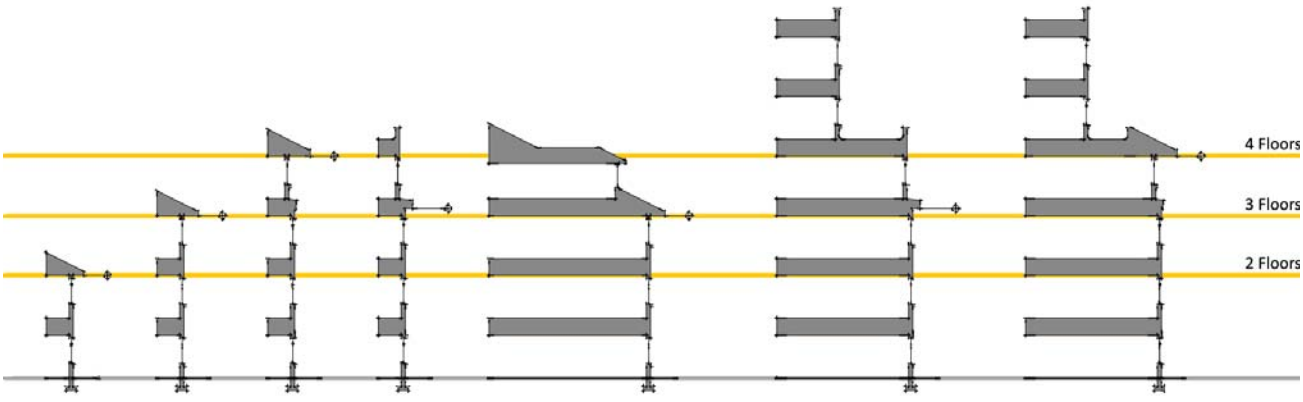
Pedestrian Context

Developments should be endeavor to relate positively to the pedestrian experience. Building heights of 3-4 floors bests achieves this objective. However, programmatic needs may require that actual building heights exceed 4 floors. For buildings 4 floors or taller, the perceived and experienced building height should be established by reinforcing a pedestrian datum at the third or fourth story. Architectural elements such as a cornice, an occupied "attic", or a plan set-back can mark the pedestrian datum and help to reduce the overall perceived and experienced height.

Maximum Height

Buildings should not exceed the height criteria for "high-rise" buildings as defined by applicable codes except in cases with compelling programmatic requirements and as approved by Facilities Engineering and Architectural Services.

[At the time of printing, the applicable code defines High-Rise Buildings as those with an occupied floor level located more than 75 feet above the lowest level of fire department vehicle access.]



2 Story Section with sloped roof

3 Story Section with sloped roof

4 Story Section with sloped roof

4 Story Section with cornice at 3rd story low-slope roof

4 Story Section with occupied attic in sloped roof

4 Story Plus Section with plan set-back above 4th story and cornice at 3rd story

4 Story Plus Section with plan set-back above 4th story and sloped roof expression at 3rd story

Attributes

Hierarchy and Order

Following the early tradition of classical design, early campus buildings were articulated vertically through the hierarchical expression of Base, Middle and Top. The expression of this in the mission revival style was restrained and nuanced. As the building heights were generally low, the opportunity to develop each layer was limited. The expression of base was often a simple projection of the masonry as a water table near grade. Occasionally the base expression was taller, including a full or garden story. The expression of top was often simply the sloped roof mass, which also frequently included an occupied story or attic.

For new developments on campus, hierarchical expression should be articulated. In general, this expression should be proportional to the overall massing of the building. For buildings with narrow and smaller footprints, this expression should be applied only to the pedestrian-scaled portion of the overall building height, or limited to the vertical facade of the lower 3-4 floors.

Consideration should also be given to the surrounding context and existing hierarchical expression of adjacent buildings; where appropriate provide relational continuity across adjacent structures.

Top

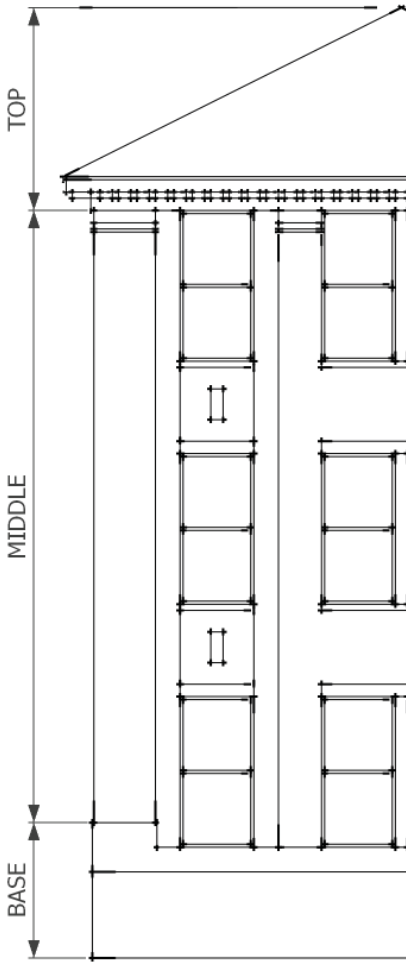
The top expression should generally consist of the sloped roof form. For buildings with low-sloped roof systems, the top layer should be expressed by a set-back in plan and a change in predominant exterior material from the middle expression.

Middle

The middle expression should be the predominant layer, consisting of 2 to 3 stories vertically. Generally this layer should be refined, simply articulated and patterned simply with window openings. Distinctive building features, such as entrances or towers, should rise vertically through the middle layer from the base.

Base

Provide a base expression through use of a water table, accent stone course, or occupied garden level element; base expression should always include a projection in the vertical plane from the middle expression above.



Graham Building Detailed Elevation

Graham building

Repetition and Scale

The revival styles relied on repetition of building components to craft the restrained and austere image preferred for building designs. Major facade areas were often only articulated with repeated, unadorned and narrow window openings.

Unique and proportionally more elaborate components were reserved for more limited, sometimes singular, use within the building composition. These elements frequently marked significance for the building, in many cases denoting the building entrance.

The scale of elements reinforced the restrained expression for the building design. Repeated elements were generally human-scaled, while distinctive elements were of a grander scale.

Jarvis Dormitory

Cotten Dormitory

Repetition

Use repetition of components in major building facades. Variation should be subtle applied to the different levels of building hierarchy.

Scale

Building components should be human-scaled. Significant building elements may have increased scale but remain proportional to the overall building composition.

Components

Roof Forms

Ragsdale Hall, 1923

Perhaps the most distinctive feature of the notable early buildings on campus is their roof.

The predominant roof form of the mission revival style buildings is hip. Good examples of this roof form can be seen on Jarvis and Fleming Buildings. These roofs have a pitch of about 1:2 and typically overhang the building face with a solid horizontal soffit. The horizontal projection of the soffit is generally proportional to the building height measuring between 1 foot to 4 feet in length.

Gabled roof forms are common to several campus buildings designed in the colonial revival style. These roofs generally did not include a significant overhang to the building face and were framed by a masonry gable wall at each end.

Ludowici clay tile was the predominant material used on both hip and gabled roof forms of the early campus buildings. Dormers, both shed and gabled, were frequently incorporated into the sloped roof form. Gutters and downspouts were generally exposed, made of copper, and used as refined ornamentation to the facade.

Green Effect

Using green technologies, such as solar water heating, photoelectric panels, vegetated roof, or high-albedo roofing, is encouraged. These should integrate visually with the roof form, and can contribute to green design initiatives:

- *Reduced heat-island effect*
- *Reduced building energy consumption*

Roof Forms

Hip roof forms: Main Campus

Hip roof forms: Health Sciences Campus

Gabled roof form

Sloped Roof

It is preferred that all buildings have sloped roof forms expressed at the building perimeter for buildings and structures 4 floors or less in height. Hip roof form should be used as the predominant roof form; gabled forms may be considered where adjacent buildings provide that context.

Low-sloped Roof

For buildings and structures with heights greater than 4 floors, low-slope roofs may be used provided there is articulation of the building form. For these buildings, consider sloped roof forms at focal building elements, such as arcades or stairwell towers, at the recommended building height step-back, or as a means of screening rooftop equipment.

Low-slope roofs areas should have parapets or expression of sloped roof form at building perimeters. If the low-sloped roof area is visible from above, consideration should be given to the color and materiality of the low-sloped roof area. Analysis of the exterior envelope is recommended in order to determine membrane color or benefits of vegetated roofs.

Refer to the materials section for color and finish properties.

Components

Roof Forms

Main Campus roof overhang and accessories

Roof Elements

It is preferred that sloped roofs incorporate dormers, either shed or gabled, into the roof form. Dormers should not be decorative; when included these should serve a function. Possible functions could include providing daylight for an occupied area within the roof form, or providing ventilation for equipment or areas within or behind the roof form.

Roof Accessories

Gutters, downspouts, conductor heads and nozzles, should typically be exposed and considered refined ornamentation. For gabled roof forms, gutters may be integral type, with exposed conductor heads and downspouts. Exposed through-wall scuppers are discouraged; conductor heads with downspouts should be provided at scuppers. Roof rainwater should always be managed through roof accessories; free-fall of roof drainage is not acceptable.

Equipment and Penetrations

In general, there should be no penetrations through or equipment located on sloped roof forms. Rooftop equipment should be concealed within or behind sloped roof forms. Unavoidable penetrations should be expressed as chimneys or towers with attention given to location relative to the building perimeter. Where mechanical equipment is located on a low-sloped roof outside a penthouse, ensure that the parapet can provided screening. For low-sloped roof systems, rooftop equipment should be concealed.

Overhangs and Soffits

For hip roof forms, provide solid horizontal soffit roof overhang. Soffit projections should be at least 1' or larger in proportion to the vertical building facade height. Soffits may include refined detailing such as dentils, brackets, or trim. For gabled roof forms, roof overhang projection may be minimal.

Example of laboratory venting expressed as a chimney (Murray Hall, UNC-Chapel hill. Wilson Architects)

Roof Forms

Historic Main Campus

Health Sciences Campus overhangs and soffits

Recent construction; Main Campus

Roof penetrations at the Health Sciences Campus

Components

Entrances, Porticos, Arcades and Balconies

Whichard Building

Generally at the centerline of symmetrical facade compositions, building entrances featured prominently on the facades of early campus buildings. Entrances were often defined by raised porches with grand stairs, porticos, arcades, and balconies. Typically between 1- and 2-floors high, porticos were nearly always covered with flat roofs, while arcades were covered with both sloped and flat roofs. In general, porticos and arcades were composed of masonry piers supporting arched openings. In some instances, buildings in the colonial revival style utilized Tuscan or Doric order columns to support the portico roof which often also served as a balcony. While not always functional, balcony areas were always framed by railings.

Entrances, Porticos, Arcades and Balconies

Entrances

The building entrance should be emphasized as a primary facade component in new developments. While early buildings utilized grand staircases to elevated ground levels, new developments should only include this if equally-grand barrier-free access can be seamlessly integrated into the entrance design.

Porticos and Arcades

New developments may include porticos, arcades or other similar compositional elements. If included, these should be composed of masonry piers with rounded arches, or simply supported with columns. Columns may be rectilinear or round; rectilinear columns and piers may be of masonry or stone while round columns should be made of stone. Columns should be simple, similar to Tuscan or Doric order. Compositions should be refined with only subtle ornamentation and complexity. A refined entablature should be provided above columns.

Detail

If arches are used, the spring line or impost, and archivolt may be articulated with accent brick or stone. Spandrels may include refined ornamentation, such as pattern development through contrasting masonry. Columns and entablature should include sufficient, but refined, detailing to establish an expression of capital, shaft, and base for columns and cornice for entablature. Railings used for porches, stairs, or balconies should be stainless steel or brushed aluminum to minimize maintenance requirements.

Fleming Dormitory

Messick Theatre Arts Building

Mamie E. Jenkins

Balconies

While more prevalent in the colonial revival styled buildings, balconies may be included in new developments when used in conjunction with entrance or arcade components. If expressed, balconies should be defined by railings.

Flanagan Building

Components

Fenestration

Jarvis Dormitory

The fenestration of the facades on the early campus buildings was limited and restrained. Facades were generally more solid than transparent with window openings comprising as little as 15-25 percent of the facade. The resulting opacity of the facade reinforced principles of clarity and refinement of the style.

Windows were narrow, sometimes ganged into larger openings, but still framed within punched openings. Lites divided the windows into smaller rectangular proportions. Window units were single-hung style, typically also operable to provide natural ventilation.

Masonry openings for fenestration typically included stone lintels or rounded or segmental masonry arches and stone sills. In some cases ornamental stone was added as keystones and imposts associated with the arch.

Fenestration openings on facades were arranged repetitively and often symmetrically. Doors and windows were treated similarly, except for doors at primary buildings entrances which were afforded more ornamentation and often presented in conjunction with a portico or porch.

Window walls, or curtain wall, was not commonly presented in the colonial or mission revival styles. Later renovations and additions introduce limited use of small window walls, generally used in conjunction with multi-story interior areas such as entrances or stairs.

Green Effect
In determining the extent of fenestration, daylighting objectives should be balanced with improved thermal performance of the building envelope. Reducing the percentage of openings through the insulated envelope compliments the colonial and mission revival style and can help to reduce heating and cooling based energy consumption.

Fenestration




Main Campus

Type, Size and Proportion

Windows for new developments on Main Campus should generally have narrow vertical orientation and proportion located within punched openings. Horizontal ribbon windows should not be used. Units may be ganged together to create larger openings when used in the "top" layer or vertical element of the building composition. Window units should be subdivided into lites that reinforce a narrow vertical proportion. The percentage of fenestration should be limited, but should not compromise daylighting and sustainable design goals for the project.

Windows for new developments on the Health Sciences Campus may be larger in response to overall building scale and proportion increases on this campus. Curtain walls, window walls, and multi-story fenestrations in service of optimal daylighting are encouraged.

Operable windows should generally not be used except where programmatically and functionally appropriate.

Arrangement

Windows should be repetitive elements on the building with subtle variation vertically to distinguish hierarchical order. Openings should generally be symmetrically arranged within facades.

Ornamentation and Trim

Use stone trim and masonry arches at openings. University technical and functional requirements, such as security screens, should be considered in the design and incorporated to minimize their visible impact.

Health Sciences Campus




Components

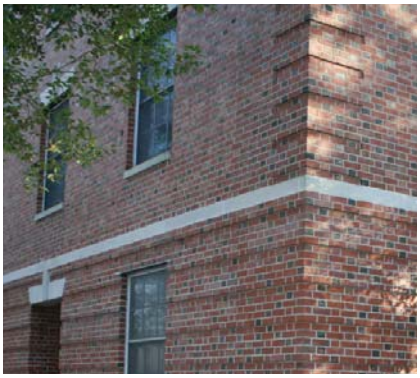
Ornamentation and Pattern

Despite being considered ostentatious, ornamentation and pattern were still used, although sparingly, on early campus buildings. Ornamentation was provided through four primary means: stone and masonry; roof; inscriptions; and lighting. New developments should include subtle ornamentation and pattern, generally in locations to denote significance.

Stone and Masonry

Stone and masonry quoins at building corners was commonly used, and was both matched and contrasted to the adjacent material field color. Contrasting masonry or stone was also used as accent fields and bands. When used, quoins and accents had limited application on the facade. On several recent buildings, decorative contrasting horizontal banding has been included as a continuous expression on all facades. This represents a departure from the colonial revival and mission revival styles into the more heavily ornamented baroque style, and is encouraged to be examined on a case-by-case basis.

For the purposes of these guidelines stone refers to both natural quarried materials and fabricated materials made to replicate natural stone.



Ornamentation and Pattern

Roof Accessories and Detail

Roofs offer many opportunities for refined ornamentation. On early buildings, soffits and overhangs included refined trim such as dentils. Recent buildings have also included brackets as visual support to soffits and overhangs. Gutters, conductor boxes, downspouts and overflow nozzles were typically exposed on early buildings; these were afforded subtle pattern to serve as utilitarian decoration to the facade.

Inscriptions

Early buildings showcased their namesake prominently. Today, it is less common that buildings are named in honor of an individual. New developments should still consider inscriptions as a form of ornamentation, however as building's function and assignment may change over time, less specific inscriptions, such as construction date, should be considered.

Building Lighting

Several early buildings on campus incorporated exterior building light fixtures. Generally limited to entrance areas, these light fixtures provided another opportunity for utilitarian ornamentation to the building. If used for new developments, exterior building light fixtures should harmonize with the building aesthetic and be historically rooted.

Components

Service Areas

Service areas for buildings, including service vehicle access, loading docks, and required external building equipment, should be an integrated aspect of the overall design of the development. The service area should be located with attention to Campus Master Plan objectives, such as minimizing vehicle and pedestrian conflicts. To the extent possible, service areas should be located to share access, site, and screening with adjacent building's service needs, both existing and proposed by the Master Plan.

Service areas should be enclosed with a masonry wall that provides visual and acoustic screening. The wall should be of an appropriate height to fully conceal all equipment and stacks from near-range pedestrian view. Access gates should be metal and match the character of the associated building fenestration or railings. Screening vegetation may be considered only in conjunction with the masonry wall. This may be accomplished directly with a non-destructive creeping species or indirectly through the additional layer to the masonry of a 'green screen".

Where practical, equipment required for building function should be integrated within the building footprint and facade treatment. All equipment that must be located outside of the building footprint, should be within the development service area.

Loading docks and building service equipment such as dumpsters should be visually concealed by the service area wall.

Structured Parking

Vehicles are an integral aspect of campus development. Surface parking on campus has historically satisfied all functional as well as economic needs. However, as campus growth and development continues, surface parking, existing and new, will consume valuable physical and visual real estate. For new development on campus, structured parking should be evaluated, and if determined viable, be provided. Refer to the Campus Master Plan for recommendations regarding parking development.

Although no precedent exists among the early campus buildings on campus currently, structured parking developments should be sympathetic to the context of the early campus buildings and follow the general building design principals outlined in these guidelines.

Structured parking may be provided in a stand-alone structure, or be incorporated into multi-use buildings with compatible functions, such as retail campus services or residence life.

Masonry should be the predominant visible exterior cladding. Exterior wall openings should follow building fenestration guidelines, while meeting code requirements for natural ventilation. Sloped roof forms should be considered for building elements when feasible. Building components such as entrances, arcades and ornamentation are recommended and, if provided, be in accordance with other portions of these guidelines.

Green Effect

Providing structured parking can contribute to green design initiatives:

- *Reduced site development area to maximize open space*
- *Reduced impervious area for improved stormwater management*

Materials

Masonry

Brick masonry is the predominant facade material found on early campus buildings. The preferred predominant material for facades of new developments on campus should be brick masonry**.**

Following are recommendations and preferences for brick masonry use on new developments. For renovations or additions to existing buildings, the existing building material and context should be considered and should most frequently be matched.

Brick masonry used on Health Sciences Campus should match masonry used on recently constructed projects completed on this campus.

Brick masonry material selections should be mocked up for approval by the University prior to specification.

Green Effect
North Carolina has a rich history of producing high-quality brick masonry. Unless an exception is sought and approved, brick should be sourced from within the state. Reclaimed or recycled should be pursued when applicable

Use

- Predominant exterior cladding material

Color - Field brick

- Red, reddish-brown, or brown; mostly uniform color or with subtle, or no, color blends. Color and blend alternatives may be considered where existing context establishes precedent.
-

Color - Accent brick

Accent brick should only be used in limited application as ornamentation.

- Grey, buff, or similar neutral hue

Size

- Modular size or of similar length-to-height proportion

Texture

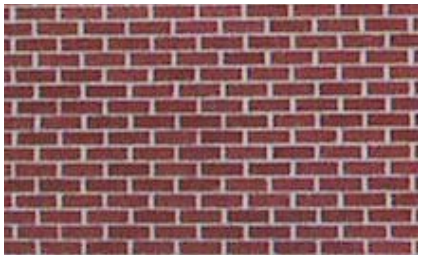
- Smooth or velour texture

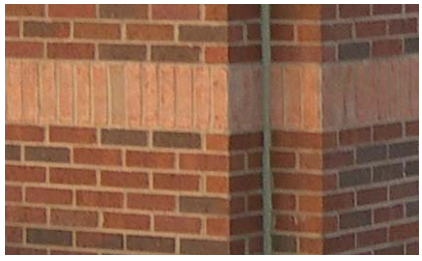
Bond pattern

- Common (American), Flemish, or English bond

Mortar

- Color preferred to contrast with the brick masonry color in which it is located. Color alternatives may be considered where existing context establishes precedent.





Stone Materials, Natural and Fabricated

On early campus buildings, stone was applied in limited use as an accent material and for its special weathering characteristics. As keystones, quoins, masonry insets and horizontal banding, window sills and lintels, stone added refined ornamentation to buildings.

Stone ornamental and trim elements should be considered on new developments. Their use should be limited and refined in keeping with the colonial revival and mission revival style principles.

On the Health Sciences Campus, fiber reinforced plaster has been applied with limited use. FRP should be considered for limited use at upper portions of buildings, above levels of pedestrian interaction.

For the purposes of these guidelines stone refers to both natural quarried materials and fabricated materials made to replicate natural stone.

Use

- Limited application as an accent to the brick masonry and as trim at fenestration
- Larger applications for developments taller than 4 stories as a predominant "top" expression material
- Set in relief relative to the masonry plane

Material

- Natural limestone, natural granite, architectural precast, cast stone, or fiber reinforced plaster

Color

- Buff, grey, white or similar hues or blends of these hues to match natural limestone or natural granite

Texture

- Smooth

Green Effect
North Carolina quarries produce commonly used building granites. Providing locally sourced building stone can contribute to green design initiatives and is encouraged for all new developments.

Materials

Doors, Windows and Glazing

For a review of the campus precedents and general recommendations for fenestration components, refer to Components - Fenestration portion of these guidelines. This portion of the guidelines reviews the materials, colors and textures recommended for doors, windows and glazing for new developments.

The University Construction Standards should be referenced for additional information regarding door and window system materials and requirements.

Color - Framing Systems and Trim

- Window and door system framing members (mullions, muntins) and surrounding trim should be light-color paint (white, cream, off-white) to contrast with masonry. Silver painted or clear anodized may be considered in areas of matching context, particularly on the Health Sciences Campus.

Glass and Glazing

- Clear or low-iron glazing in conjunction with high-performance coatings to optimize performance. Glass units with coatings should be evaluated in the field for reflectivity and color rendition.
- Tinted glazing may be considered as a lower-cost alternative to clear, low-iron glazing. If used, grey hue tints are recommended. Blue or green hue tints should be avoided.
- Reflective glazing should be avoided.
- Spandrel units are discouraged. If used, it is recommended that painted metal infill to match the framing system be considered first. Glass spandrels, back-painted or shadow-boxes, should be avoided, and only used after samples are field-reviewed and approved by the University.

Roofing

Early buildings on campus of both the mission revival and colonial revival style predominantly utilized clay tile roofs for sloped roofs. On several more recent buildings, standing-seam metal roofs have been successfully integrated into the design. For sloped roofs on new developments, clay tile material is preferred, however metal can be considered if the adjacent buildings provide that context or as a lower-cost alternative to clay tile.

If clay tile is provided, it is important to include special tile shapes for ridges and hips to complete the design aesthetic. Ludowici clay tile has been used extensively on campus.

For developments or portions of developments with low-sloped roof areas, refer to the Components - Roof Form portion of these guidelines.

The University Construction Standards should be referenced for additional information regarding roof system materials and requirements.

For the purposes of these guidelines clay tile refers to both natural materials and fabricated materials made to simulate natural clay.

Sloped Roofing - Clay Material

- Natural or simulated barrel tile (Refer also to University Construction Standards)

Color
- Red

Shape
- Pantile shape with coordinating system hip, ridge, and arris tiles

Sloped Roofing - Metal Material

- Metal standing seam, painted or natural zinc, copper, aluminum, or stainless steel, coated or uncoated
- Roofing materials used on Health Sciences Campus should match those used on recently constructed projects completed on this campus

Color
- Painted: Neutral hue
- Natural metal: finished or patinated to grey or similar neutral

Profile and Size
- Standing seam, 12 to 18 inches max spacing with minimal reinforcing ridges

Materials

Metals and Miscellaneous Materials

Metal Wall Panel Systems

There is little precedent on existing campus buildings for use of metal as an exterior cladding material. However, consideration of metal wall panels may be appropriate for limited application such as spandrel conditions, or as the primary material for "top" expression of developments greater than 4 floors in height. These uses should be implemented only after review and approval from the University. The following recommendations should be considered with its use.

Material
- Painted metal or natural zinc, copper, aluminum, or stainless steel, coated or uncoated

Color
- Painted: When integral with fenestration framing, light color to match window framing. Other uses: grey or similar neutral hue
- Natural metal: Finished or patinated to grey or similar neutral

Texture and Detail
- Smooth or embossed, with concealed fasteners, and refined expression of trim in profile

Miscellaneous Metals

In general, the material and color of miscellaneous metals exposed to view should follow the recommendations associated with their use; for example, louvers installed within window framing should follow the recommendations for fenestration.

Uses
- Railings, louvers, downspouts, gutters, conductor heads and nozzles

Material
- Painted metal or natural zinc, copper, bronze aluminum, stainless steel, coated or uncoated. *(Railing components should not be painted metal.)*

Color
- Painted: When integral with fenestration or precast, light color to match window framing. Other uses: grey or similar neutral hue
- Natural metal: Finished or patinated to grey or similar neutral

Unavoidable metal items exposed to view, such as sidewall vents, should be painted to match the adjacent wall.

Miscellaneous Materials

For each development several other materials may be required or considered for use. These uses should be implemented only after review and approval from the University. The following recommendations should be considered with their use.

Wood
Wood should only be considered in associated with fenestration systems and should not be considered for exterior cladding. If used, the material should be clad and follow the guidelines recommendations associated with fenestration.

Stucco and Plaster
Existing buildings on campus offer a handful of precedent examples for use of stucco and plaster as an accent material. As a lower-cost alternative, stucco or plaster material may be considered in lieu of stone where stone is recommended by these guidelines. If used, stucco and plaster should otherwise follow the recommendations provided for stone.

Exterior Insulation Finishing System (EIFS)
As a lower-cost alternative, EIFS material may be considered in lieu of precast or metal wall panel systems where these materials are recommended by these guidelines. If used, EIFS should otherwise follow the recommendations provided for precast or metal wall panels. *(Recommendations for use of precast can be found under the Materials - Stone Materials, Natural and Fabricated portion of these guidelines.)*

Grounds

Introduction

Introduction and Significant Landscapes

These Open Space Design Guidelines recognize the current diversity of landscapes at East Carolina University. The intent of these guidelines is not to create visual homogeneity, but to provide an overall conceptual framework for the development of open spaces, establish a high level of quality in the design of open space, create an order and structure to the campus, and link eclectic building styles through common open space design. Sustainable open space techniques are incorporated into these guidelines.

Significant Landscapes

Several open space areas on the ECU campus have special significance and have endured the development of campus throughout the decades. New York landscape architect Louis Miller drew up plans and renderings of what he envisioned for the future of then East Carolina Teachers Training School and his vision was carried on with the future development of the campus. As the campus has developed, new spaces have been constructed and have become memorable and iconic places on campus. These areas are considered sacred and therefore, should not be encroached, redeveloped, or built upon.

The Mall and 5th Street Edge
These areas are concentrated on the central core of the Main Campus and off of 5th Street, where some of the first campus buildings were constructed. The development of these buildings between the 1920s through the 1950s shaped these open spaces by providing a linear pattern and forming a central green mall now flanked by mature trees and vast lawn areas. Located within this mall is a replica of the Old Austin Cupola, which was originally located atop the University's first Administration Building. This area also includes the landscaped setback off of 5th Street which features several stone wall gateway entrances. This setback follows the entire north campus boundary along 5th Street.

The Fountain in Wright Circle
The original fountain was dedicated in 1932, and a major restoration occurred in 2007 to replace the crumbling feature. The fountain was originally named after Robert H. Wright, the first University president. After the construction of the new fountain, it was dedicated as Trustees Fountain and is still a major landmark of the University.

Sonic Plaza
Sonic Plaza is located between the Joyner Library and Joyner East. This is a significant plaza space and a gateway into the heart of the Campus Core. The plaza is heavily traveled by pedestrians and includes seating areas, and four visual arts components.

Wright Student Plaza
A major pedestrian corridor through the north side of the Academic District of campus provides opportunities for demonstration, events and people-watching.

Other Areas of Significance
Additional landscape areas are Wendell Smiley Way, which is an entrance loop drive off of 10th Street. This drive was constructed as a part of the Joyner Library addition and Sonic Plaza installation which was completed in the late 1990s. This drive is an important "front door" entry from the south side of campus.

Significant tree stands are also of importance to the campus landscape fabric. A sloping landscape area on the corner of 5th and Reade Streets showcases several majestic red oaks. A stand of beech, oak, holly and birch lie between Wendell Smiley Way and Slay Hall. Another important stand of trees is located between the Science and Technology Complex and 10th Street. As a low area and located within a floodplain, this tree stand contains cypress, beech, oaks, hickory, and sycamore.

The plan for East Carolina Teachers Training School, circa 1907, as illustrated by Louis Miller, a New York landscape architect.


The Cupola located on The Mall


Sonic Plaza


The Fountain in Wright Circle


Wright Student Plaza

Defining Open Space

Building Placement

New facilities, buildings and open spaces combined, should be located and aligned to establish the campus framework, reinforce pedestrian routes, and form clear, identifiable edges for public spaces and walks. Building and open space entries should front onto positive outdoor space and major pedestrian walks.

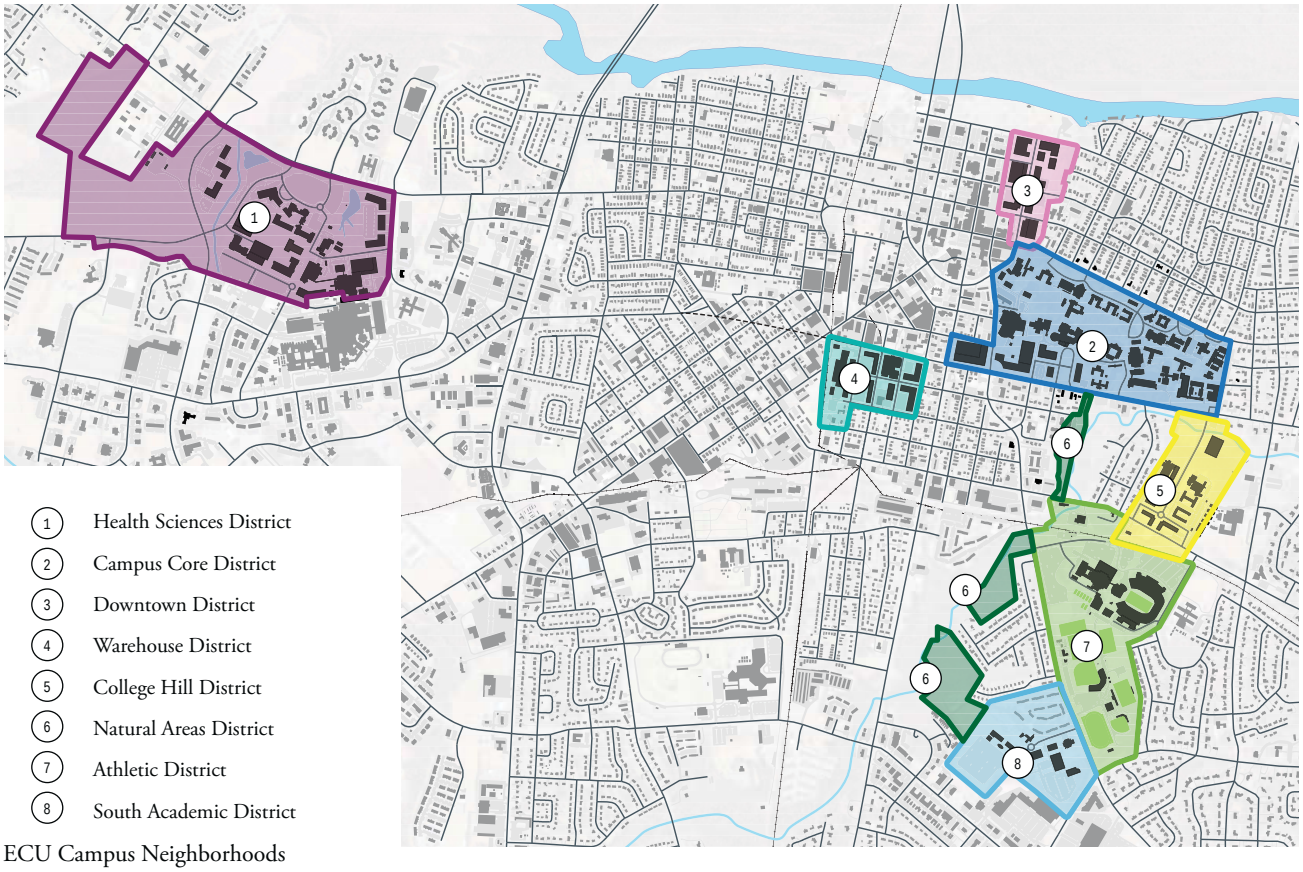
Wherever possible, shared programming and active uses should be located fronting onto public spaces to help activate and animate gathering spaces, and create more opportunities to interact. Building placement, wherever possible, should respect the natural environment of campus, including mature tree locations, floodplains and historic campus open spaces. Building footprints, in general, should create open spaces.

Building placement should also take into consideration microclimate conditions, such as sun and wind patterns, as described in the sustainability portion of this Master Plan Report.

Future roadway and building framework for campus

Landscape Character and Neighborhoods

As part of the Master Plan recommendations, specific districts were delineated for the campus. Within these district descriptions, landscape character was described for the existing site as well as for future planning initiatives. Site descriptions include directives for campus gateways and edges, plaza and courtyard spaces and road cross-sections. Refer to the Master Plan for more information on these recommendations.



1. Health Sciences District
2. Campus Core District
3. Downtown District
4. Warehouse District
5. College Hill District
6. Natural Areas District
7. Athletic District
8. South Academic District

ECU Campus Neighborhoods

Landscape Areas

Campus Entrances

Campus entrances are significant areas on campus that identify to the visitor and the community that one is entering University grounds. Campus entrances can be both vehicular and pedestrian orientated.

The University should enhance and beautify the landscape treatment at designated campus entrance locations to create significant and memorable portals. Entrances should be appropriately reinforced with landscape and architectural features to signify an arrival on campus.

Two entrance scales should be created for campus: primary and secondary scales. A primary campus entrance is defined as a main pedestrian and vehicular gateway for campus, much like the entrance at 5th and Reade Streets. This entry signals a clear arrival on campus and is scaled appropriately for it's location. A primary entry element can also be located on one or both sides of the street and should have the ECU name included within the element. A secondary campus entry is one that is also used for pedestrians and vehicles. Secondary entry examples are located along 5th Street, at every entrance. This entry element can also be placed on both sides of the drive or street, should reflect a scaled down version of the primary gateway, and maintain a presence of campus identity. The ECU campus name should also be located within the secondary gateway elements.

The materials/colors should be uniform and consistent throughout campus and be based on the palette of stone that has already been established on the main campus

This is an example of a primary campus entrance at 5th and Cotanche Street.

This entry portal element wall on 5th Street is an example of a secondary type entrance for pedestrians and vehicles.

5th Street Corridor and at the intersection of Cotanche/Reade and Cotanche/5th. Plant material should be used in accordance with the scale of the entry and to soften the hard lines of the elements.

Signage at the campus entries should prominently introduce visitors to the campus. Campus entry elements are best implemented when viewed as a distinct "system" on campus. A unified campus entry design standard should be developed campus-wide as soon as possible.

The Athletic District should also follow the recommendations for campus entry elements as described within this report. Entry elements in this district should be implemented at the time when renovations in this area are necessary.

Campus entry elements and wayfinding signage at the Health Sciences Campus should be studied to include potential partnership entry elements and wayfinding with PCMH. A strategy to include both PCMH and ECU within one wayfinding system of signs will make both entities within this large complex easy to navigate for visitors. The materials and colors should be unified to coordinate with the Main Campus, but wayfinding elements should be clear and concise for campus visitors.

Campus Entrances

LEGEND

- Proposed Primary Campus Entrance
- Proposed Secondary Campus Entrance
- Proposed Partnership Entrance
- Existing Campus Entrance
- Proposed Campus Buildings
- Existing Campus Buildings

Key	Status	Entrance Name
1	Proposed	South of 1st, east and west side of Reade
2	Proposed	North of 5th, east of Reade
3	Existing	South of 5th, east of Reade Circle
4	Existing	South of 5th, at Trustees Way
5	Existing	South of 5th at Chancellors Way
6	Existing	South of 5th at Founders
7	Existing	South of 5th at Beckwith, Leary and Cleary
8	Proposed	South of 10th, west of S. Washington
9	Proposed	North of 10th, east and west of Cotanche
10	Proposed	North of 10th, east and west of Wendell Smiley Way
11	Proposed	North of 10th, east and west of Founders
12	Proposed	North and south of 10th, and east and west of College Hill and Bennett Way
13	Proposed	West of Charles, north and south of Oglesby
14	Existing	East of Charles at Athletics entrance
15	Proposed	West of Charles, north of Greenville Boulevard
16	Existing	East of Charles, north of Greenville Boulevard
17	Proposed	South of 5th, east and west of W. Arlington
18	Proposed	South of 5th, east and west of MacGregor Downs
19	Proposed	South of 5th, east and west of Moye
20	Proposed	North of Stantonsburg, east and west of Moye
21	Proposed	North of Stantonsburg, east and west of Service Dr.
22	Proposed	North of Heart Blvd., east and west of Service Dr.
23	Proposed	East of W. Arlington, north and south of Heart Blvd.
24	Proposed	East of W. Arlington, north and south of MacGregor Downs

Main Campus proposed and existing entry portals

Health Sciences Campus proposed and existing entry portals

Landscape Areas

Campus Edges

The image and identity of the campus is expressed in the consistency of the campus edges, and the treatment of public and campus rights-of-way. The north edge of Main Campus (on 5th Street) and the west edge of the Athletic District (on Charles Boulevard) have clear edge treatments and establish the campus identity. Campus edges should create a distinctive, positive image for the University.

Each edge should have its own character, yet use materials that are complementary to each other and to the surrounding campus context. Some edge treatments that can be utilized are fences, walls, and landscaping such as a low hedge similar to the hedge along 5th Street. If low walls are used, materials should reflect the campus entrances along 5th Street. Walls should be at a height that maintains clear visibility in and out of the site.

Concurrently during this plan, the Athletic District established it's own edge treatment, which coordinates with the architecture within this area. This edge treatment is acceptable for this portion of campus.

For campus edges that are directly adjacent to residential areas, urban streetscape design techniques should be utilized and allow for complementary landscaping and not screen out, but interface with the surrounding neighborhoods. Common setbacks and streetscape characters are defined within the neighborhoods section of the Master Plan Report.

Edge treatment along Charles Boulevard, at the Athletic District

At Penn State, this retaining wall edge also serves as a pedestrian gateway.

Edge treatment along 5th Street

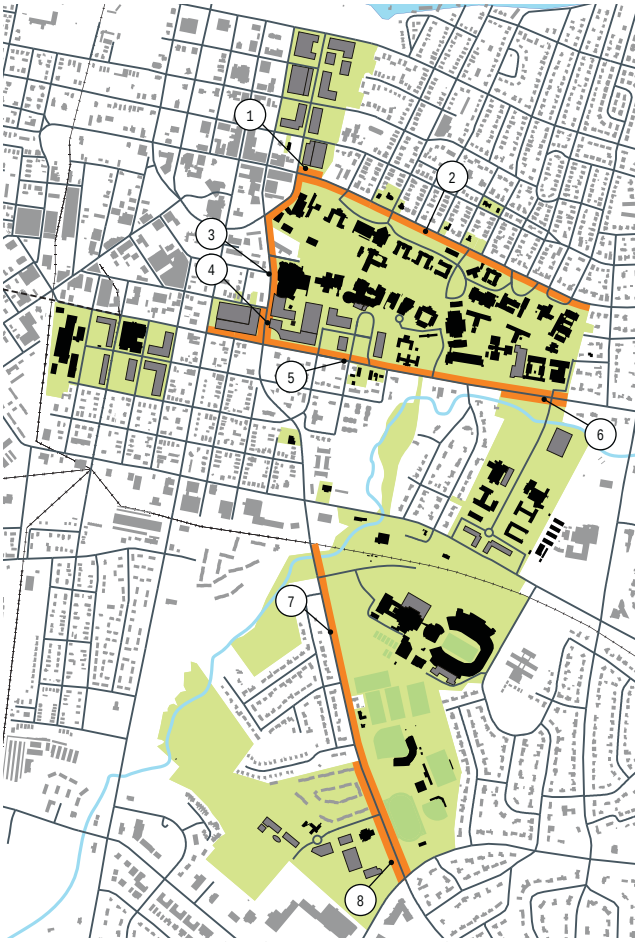
This edge treatment retains topography at Indiana University

Campus Edges

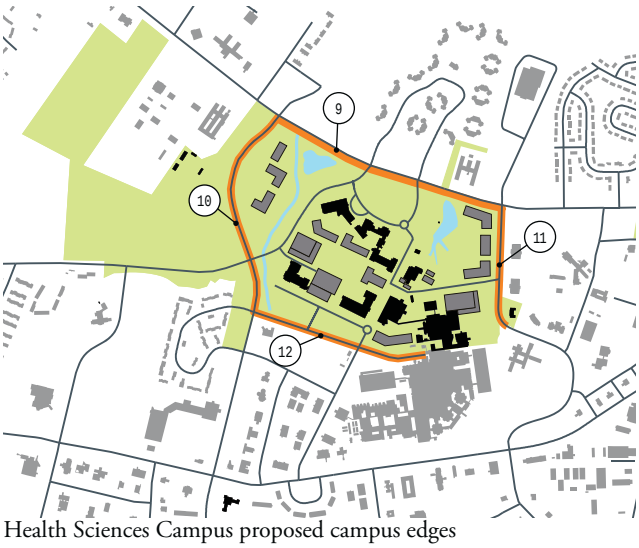
LEGEND

- Campus Edge
- Proposed Campus Buildings
- Existing Campus Buildings

Key	Status	Edge Name
1	Proposed	North side of 5th, between Reade and east campus boundary
2	Existing	South side of 5th, between Cotanche and Rivers Building
3	Proposed	East side of Cotanche, between 5th and 8th
4	Proposed	East and west side of Cotanche, between 8th and 10th
5	Proposed	North side of 10th, between Evans and Bennett Way
6	Proposed	South side of 10th, along College Hill District
7	Existing/ In-progress	East side of Charles, between railroad tracks and Greenville Blvd.
8	Proposed	West side of Charles, along South Academic District boundary
9	Proposed	South side of 5th, between W. Arlington and Moye Blvd.
10	Proposed	West and east side of W. Arlington, between 5th and Heart Blvd.
11	Proposed	North and south side of Heart Blvd., between W. Arlington and PCMH
12	Proposed	West and east side of Moye Blvd., between 5th and south to the campus boundary



Main Campus proposed and existing campus edges



Health Sciences Campus proposed campus edges

Landscape Areas

Quadrangles

The central open spaces on campus are quadrangles, locations for formal and informal outdoor circulation and activities. They form the campus' iconic and organizational open spaces.

The ECU campus has established distinctive quadrangle areas that should be maintained. Within the core of Main Campus, The Mall around the Old Austin Cupola contains a traditional campus landscape character of mature trees with lawn and walks. As the Campus Master Plan recommendations suggest, the area west of the Old Cafeteria should also reflect this traditional quadrangle setting with tree planting enhancement, lawn restoration and concrete walks that are utilized for ease of pedestrian movement. The area surrounding Wendell Smiley Way, off of 10th Street, also should be preserved and enhanced as a traditional campus quadrangle as this could be developed as a major front door to the University in the future. As growth on the Health Sciences Campus occurs, quad areas can be implemented, especially between the central academic and institutional portions of the campus. This iconic space on the Health Sciences Campus is lacking today.

Landscape treatment in quads should be simple, utilizing walkways that parallel and define the boundaries of the quadrangle and diagonal walkways respecting desire lines. Simple, open, grass areas and tree massing should reinforce the open space and shrubs and other small pockets of landscape should be avoided in quadrangles. Tree groupings can be formally or informally spaced, but the overall treatment should be to reinforce qualities of space and place within the quadrangle. Since they form the edges of the quadrangle, individual landscape treatment of buildings should reinforce the character of the quadrangle. Features such as fountains, monuments, art, and special site furniture can occur at selected intersections of walkways and in expanded pavement areas.

Quadrangle landscaping should also reinforce significant visual straight lines, points of connections, axial relationships, and building entrances. Pedestrian lighting, site furniture, and signage should all complement and reinforce the sense of a unified open quadrangle space.

The Main Campus Mall and elements contained within and immediate surroundings are regarded as an economic value to the campus and are used in branding ECU's unique campus identity. Therefore, protective measures of this historic Mall should be implemented by the University. For example, permission to host events, hang banners, place tents or accommodate groups of individuals should be permitted thorough an events committee. A designated area within The Mall should be utilized for events to ensure protection of mature trees and reduce compaction of soils. Banners, signs and other items should not be hung from trees as damage can occur, which will invite disease and ultimately loss of life to these campus gems.

The Mall on Main Campus

Courtyards

While quadrangles are a larger part of the campus landscape fabric, courtyards are secondary spaces that serve as adjuncts to a building or a cluster of buildings. These spaces function with a close relationship to the building landscape. Courtyards should be considered as part of the building programming for any new construction project.

Landscape treatment in these zones can be more flexible and relate more to individual building design. These areas should include seating areas for informal study and should provide areas of sun and shade. Courtyard areas should offer a variety of landscape treatments that responds to the scale and use of the space and sets it apart from quadrangles. Consistent site furnishings and signage should be included when designing these spaces.

Numerous courtyards currently exist throughout the ECU campuses. On the Main Campus, the area between Jarvis and Fleming Residence Halls, and the courtyard at the Old Cafeteria Building. The Health Sciences Campus also has courtyard spaces such as the area on the northwest side of the Cardiovascular Institute.

Courtyard at Fleming Hall

An informal courtyard at Delta College

Courtyard seating is nestled into this space at The University of Michigan.

A courtyard gathering area adjacent to a building entrance

Landscape Areas

Plazas

Plazas function as primarily paved areas for gatherings in areas of heavy and frequent pedestrian use. Plazas are usually located near building entrances and at the intersections of primary pedestrian walks.

This primarily open paved area should be located where the heart of campus activity occurs, the place where students instinctively gather. It should be designed attract different kinds of people for different purposes. It should offer many choices of things to do – socializing, protesting, eating, reading, raising consciousness, rallying for an impending game, playing, and interacting with art. These areas should not impede the motion of pedestrian traffic crossing through the site.

Some of the existing plazas on the Main Campus include Sonic Plaza, located at the Joyner Library, Wright Plaza, and the plaza in front of the main entrance at West End Dining. A new plaza could be incorporated with the new Student Union on Main Campus. The Health Sciences Campus should incorporate a plaza adjacent to the new Student Life Center.

A program and intended use for the plaza should be clearly defined during the schematic design phase of the project.

Understanding how students are using or will use campus plazas is critical to designing them. All campus plazas should have:

- Clear definition of space through plantings, seating, elevation changes, or other landscape elements.
- Ability to move through plazas while maintain the intent of the plaza activities.
- Minimal stairs.
- Views into and out of plazas, with clear sight line.
- Special surface textures and materials that define the space.
- Interactive and stimulating sculpture elements.
- Seating arrangements that support a variety of activities – intimate discussions, people-watching, quiet studying, group gatherings, etc.
- Plantings to bring a human scale and intimacy, define the space, and provide shade and incorporate stormwater infiltration strategies if conditions allow.
- Sufficient energy-efficient lighting.
- Trash and recycling containers.
- Power receptacles and internet accessibility.
- Slopes that are at least 1 percent for drainage but not more than 2 percent to meet ADA requirements.
- The relationship between the plaza and the surrounding buildings and significant landscape features should be an important consideration in the plaza design.
- The design should consider the microclimate of area, including sun exposure and seasonal conditions.

Plaza spaces are located at primary walk intersections.

Plazas

Sonic Plaza at ECU

University of Wisconsin-Madison, University Square

Landscape Areas

Athletic Fields

The landscaping around the athletic fields within the Athletic Complex on Main Campus and on the North Recreational Complex should consist of large grassed areas defined by large tree massing. The planting of trees around fields should create large, outdoor rooms that serve to scale down the expansive open space. Deciduous tree leaves can interfere with athletic facilities, therefore, trees should be kept a minimum of 50 feet away from athletic or recreation fields. Landscaping should also serve as a transition from the fields to the adjacent neighborhoods.

Sustainable irrigation practices should be incorporated into the design of any new or restored athletic field. Stormwater ponds or underground detention should be used for run-off captured from these expansive areas. Water from these facilities should then be used for irrigation, or be filtered and treated before release into the regional stormwater system.

Site furnishings should be consistent with campus design guidelines. In regards to parking, plazas and courtyards, refer to those section within these guidelines.

North Recreational Complex at ECU

Tree massing should be incorporated around athletic fields to break up expansive lawn areas.

Natural Areas

ECU is fortunate to have some beautiful natural wooded areas on campus. As directed in the Campus Master Plan, existing plant materials should be cleared selectively to make way for a recreational pathway system. Wooded areas should be managed to control invasive species and removal of dead trees that encroach on pedestrian facilities.

As new buildings are incorporated in to the campus fabric, the architect should consider placement of low-mow, native or a prairie type ground plane instead of traditional sod. Placement of these types of plant materials is intended to reduce maintenance. This would only be intended in perimeter areas of campus that are not intensively used.

Paths should be wide enough to accommodate bikes and pedestrians.

Perimeter area of a parking lot, with native and low-mow grasses

Recreational pathways should meet ADA requirements.

The Lake Laupus path is a valued commodity on the Health Sciences Campus.

Landscape Areas

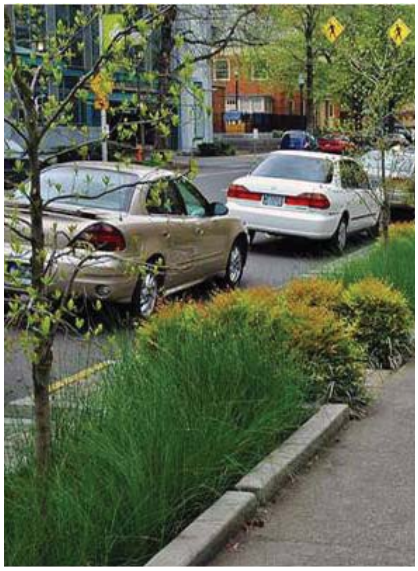
Stormwater

The quality of stormwater leaving a watershed is at its highest when the land is in a pre-developed state. The Campus Master Plan recommends that new development on campus should mock run-off coefficients of pre-settlement conditions. However, the campus should utilize Best Management Practices for stormwater management for all University projects, including new and existing buildings, roads, sidewalks, and landscaping or where significant run-off is expected. Any changes to the existing stormwater run-off or the storm sewer system should also employ Best Management Practices for stormwater management.

When planning a project, the University should consider the long-term health of regional streams and rivers such as the Tar River and Green Mill Run. Stormwater design should follow requirements at state and local levels. Two documents for review are the *City of Greenville Stormwater Management Program* (2004) and the *North Carolina State Rule 15A NCAC 2B .0258 Tar-Pamlico River Basin - Nutrient Sensitive Waters Management Strategy: Basinwide Stormwater Requirements*

Principles for stormwater management are:

- The infiltration of stormwater should be captured close to where it falls. Infiltration along street corridors, parking lots and buildings can provide infiltration capacity while directing heavier rainfall flows toward larger treatments systems such as detention ponds, and rain gardens.
- Untreated stormwater should not be discharged directly into the Green Mill Run, the Tar River or any other water course.
- New development on campus should aim to meet the pre-settlement run-off coefficient as described in the overall master plan section.
- Stormwater run-off should be made into a visible and visual amenity on campus.
- Provide opportunities to collect and store rainwater for irrigation.
- Use stone and other materials to slow rainwater run-off at discharge pipe locations to settle out particulates and larger debris before subsequent treatment practices.
- Utilize native plantings whenever possible and appropriate to further filter stormwater run-off, removing excess nutrients, contaminants, and organic materials that can impact water bodies.



An inlet from the curb allows water to enter the infiltration planter.

Rain garden detention area with native plant material

Stormwater

Stormwater management techniques attempt to slow down the quantity of stormwater run-off from large rainfall events, mimic pre-development run-off conditions by managing small stormwater events at or close to where rain falls, and minimize impervious surfaces. In order to do this, several strategies are described below.

Rain Gardens

Rain gardens, infiltration planters, bioswales, and constructed wetlands are examples of infiltration facilities that will help to filter stormwater from small rainfall events. By encouraging and assisting infiltration, these facilities enhance water quality, reduce run-off rates, recharge the groundwater system, and create habitat.

Pervious Pavements

Pervious pavements allow the infiltration of stormwater in areas that would otherwise be impervious. Pervious pavements allow groundwater recharge by infiltrating water directly back into the underlying soils. Pervious pavements can be applied to walks, parking lots, and plaza areas. The materials for pervious pavement can be concrete, asphalt and paver units. The design architect or engineer should insure that underlying soils can tolerate infiltration.

Green Roofs

Green roofs have proven effective at managing small rain events while slowing run-off for large rain events. These systems utilize plant materials for otherwise impervious surfaces. The plant materials capture most of the rainwater and prevent it from entering the stormwater system, mimicking pre-development conditions.

Detention Basins

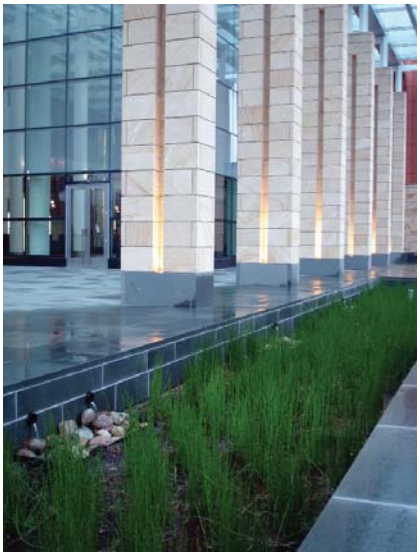
Detention basins manage large storm events by providing added capacity to a drainage system. At-grade basins within the open space can be an added amenity on campus, while solving stormwater needs. A detention basin restricts stormwater flow, creating benefits downstream due to reduced run-off rates.

Underground Detention

Underground detention is an option when space is limited for open systems. Underground detention usually works best when covering a larger footprint such as an athletic field or parking area. Underground detention can also be used for irrigation applications.

The methods described above should not limit the palette of the designer of these stormwater systems. As new Best Management Practices are developed, these methods should be evaluated and considered as options for reductions in stormwater run-off.

Bioswale infiltration in parking lot



Infiltration basin close to building

Greenroof application

Landscape Areas

Building Landscaping

Plantings should not mask building entrances, but enhance and focus attention to the entrances and other architectural features. Public entrances to buildings should be easily found and accessed.

Outdoor transition space should be designed between the building approach and indoor lobbies. This transition space should include materials that relate to the materials used in the building interior or on the exterior walls. This space should also provide some protection from rain, sun, and wind.

Small landscaped areas should be located near the building entrance to serve the building occupants during lunch breaks and between classes. These areas should be relatively intimate in scale and should frame views out of the space.

Landscape treatment adjacent to buildings should be simple with a limited plant palette. Planting beds and foundation planting should be in areas that serve to transition open space areas to individual buildings. Massing and size of planted areas should be in scale with buildings and complement or reinforce the landscape of the open space areas and the campus landscape character.

Plantings should not be located in a way to create hazardous conditions and should not create dark pockets near entrances or along sidewalks at night. To maintain safety, heights of shrubs and small trees should be limited to ensure adequate sight availability.

Large plantings should be located far enough from building walls so to allow for air movement. Plantings should not completely obstruct views from building windows. Plants located near windows should be near enough to filter glare and bright sunlight, but distant enough from windows to maintain views. To protect building façade from lawn mower damage provide mulched planting beds or gravel borders around buildings.

Foundation plantings should be low to enable views in and out of building windows.

Building entrances should not be masked by plantings.

Tree Preservation

Large and significant canopy trees contribute to East Carolina University's special character and add interest to the campus. Such trees take 30 years or more to develop and cannot be easily replaced. Therefore, all significant trees should be protected. The architect should work with the ECU Grounds Services department through all phases of a design project to ensure all trees are protected during a construction project. Trees (existing vegetation) must be shown at the correct scale on all phases of site and utility drawings. The designer must coordinate construction with the locations of Heritage trees on campus (list authored by the University Environment Committee).

Tree protection must be in place to protect trees from the beginning to the end of the construction project to avoid any damage to low branches or compaction to the roots due to placement of construction materials and equipment. Protective fencing must be at least 4 feet tall, extend to the outer perimeter spread of the branches (drip line) except when prohibited by existing structures or pavement, and be comprised of a sturdy material such as PVC or chainlink fence. Gaps between fence posts must be filled with a material such as orange safety fence to prevent penetration from equipment or materials. Proper signage must be posted on tree fencing. Trees (existing vegetation) must be shown at the correct scale on all phases of site and utility drawings.

Construction crews should be prohibited from storing materials under tree canopies during construction and campus staff should monitor activity to prevent any negative instances. The contractor should maintain the integrity of the tree protection fence during the duration of the project and damaged fence should be repaired immediately. A tree protection fence should not be relocated unless with consent from the University landscape architect.

Maintenance and construction projects may cause damage or require the removal of existing vegetation. However, these instances should be thoroughly evaluated and only permitted when absolutely necessary. In cases where trees must be removed, a minimum of 3:1 replacement ratio must be included in the project depending on quantities. The designer should use like varieties, caliper sizing must be between 2 ½ to 6 inches depending on location. Tree replacement must be in close proximity to the removed trees.

Finally, the campus community must be discouraged from hanging or nailing banners or other items onto any campus tree. Locking bikes to trees is also discouraged. Bark perforations and damage can cause an entry point for disease and bug infestation, which will cause tree weakness, deterioration and ultimately tree death.

Typical tree protection prior to the start of a construction project at Michigan State University.

Landscape Areas

Plant Palette and Design

Tree, shrub, and perennial plantings should reflect the existing character of the campus. The campus landscape architect should direct the design team specifically as to what plants are successful on campus based on past experience. Native plants or cultivars of native plants should be used as a primary palette. These plants should be chosen to reflect a local and regional context. Invasive species (exotics) should never be used. Along with the University's non-preferred taxa list on the following page, other publications are worth noting. The designer should refer to the state University extension and the state forest service for a current list of plants that should be avoided. *Landscaping for Wildlife with Native Plants*, published by the North Carolina Cooperative Extension Service is another useful guide.

Generally, planting design should also take in to account the following considerations:

- Planting design should incorporate planting in masses, but offer enough variety that if disease should occur, replacement is economical and not devastating to the campus.
- Plant sizing should take into account safety of pedestrians and maintain clear sight lines whenever possible. For example, large shrubs should be avoided that obstruct building entrances and enable hiding places.
- Consider canopy tree growth and the placement of lighting fixtures and surveillance cameras.
- Vegetation (except lawn areas) near walkways should be designed to not encroach onto the path of pedestrian travel.
- Refer to the Building Landscaping section of this report for more information.

Site lights lining this walkway are visible below the tree canopy.

Color massing in planting design should be used where appropriate.

An example of mass planting creates a bold statement that is appropriate on campus landscapes.

This walk junction is enhanced by ground cover and ornamental shrubs. Plantings are maintained to maintain safety and provide clear views through the junction space.

Plant Palette and Design

In general, the designer should use canopy trees whenever possible, focusing on long lived trees that will reduce the heat island effect in parking lots and urban settings. This section is not meant to provide a comprehensive list of approved species; creativity in the planting design and plant palette is encouraged by the University. However, the following trees have been successful on campus:

- Elm Trees - Bosque, Allee and Princeton Elms are varieties that are extremely urban and drought tolerant. They produce limited seeds/fruits that have been issues in parking lots with other trees.
- Oak Trees - Nutall, Overcup, and Willow Oaks are deciduous varieties that ECU has had very good luck with. They do produce acorns so try to limit their use in parking areas. Live Oak is an evergreen oak that is sometimes difficult to get established. Consider using Highrise for consistent form and upright habit.
- Maples – use October Glory Maple in irrigated, well drained soils for fall color in limited quantities. Trident Maple is a drought tolerant variety that does not get as large as other shade/canopy trees.
- Zelkova – Can be used in limited quantities where an upright tree is required.


Allee Elm


Bosque Elm


Princeton Elm


Trident Maple


October Glory Maple


Highrise Live Oak


Nutall Oak


Overcup Oak


Willow Oak

Landscape Areas

Plant Palette and Design

This list is a guide for preliminary plant selection. It is a representation of certain material that ECU has not had success with in the past. New varieties might become available that could be considered in the future. Additional plants might be dis-allowed at design review due to site location, sun exposure, soil conditions, etc. As a rule, historically present/native vegetation should be used when at all possible. All planting plans must be approved by the University landscape architect.

East Carolina University Non-preferred Taxa

Botanical Name	**Common Name**	**Notes**
Trees		
Acer saccharinum	Silver Maple	
Acer rubrum 'Bowhall'	Bowhall Maple	
Acer rubrum 'Armstrong'	Armstrong Maple	
Cupressocyparis x leylandii	Leyland Cypress	
Fraxinus var.	Ash	
Gleditsia triacanthos	Honey Locust	newer varieties might be considered in small quantities
Liquidambar styraciflua	Sweet-Gum	may be used in native areas
Malus var.	Crabapples	especially older varieties
Pinus strobus	White Pine	
Pyrus calleryana 'Bradford'	Bradford Pear	
Tilia cordata	Linden	
Shrubs		
	Bamboo	certain varieties in confined applications would be considered.
Buddleia var.	Butterfly bush	
Cotoneaster	Cotoneaster	
Hibiscus	Hibiscus	
Hypericum	St. Johnswort	
Kalmia	Mountain Laurel	
Prunus laurocerasus	Laurel	
Liriope spicata	Creeping Lilyturf	may be used if root barrier installed
Photinia	Red-Tip	
Yucca	Yucca	

Pedestrian & Vehicular

Pedestrian Walks

The ECU campus should be developed to prioritize pedestrian travel over other motorized transportation methods. The campus should establish a hierarchy of networks, typology, scale, consistency of materials, and structure of pedestrian walkways to help to define and articulate open spaces and enhance campus wayfinding. The campus should also promote and encourage a lively urban pedestrian environment in the streets surrounding the campus.

Network

The pedestrian walk network should be continuous and aligned so that it connects major destinations and offers pedestrians a safe, interesting, and relatively direct means of travel across campus. Pedestrian walks should generally follow the natural "desire lines" between destinations, with the recognition that in most cases 90-degree turns are not comfortable and therefore not realistic for pedestrian movement. However, with the Campus Master Plan in place, this may not be applicable in the Downtown District and Warehouse District in which the character here relies on the existing urban fabric grid. Landscaping can be used to encourage a certain pedestrian movement, but will not be adequate to force an action that does not approximate the desire line. Students and faculty will always discover new and apparently more direct routes. It is impractical to add new walks in all such instances, but where pedestrian volume is greater than the width of the existing walk, additional pavement should be added. Conversely, walkways not being used should be removed rather than be repaired. Short-path segments that are repetitive of other nearby paths and do not follow pedestrian desire lines should be removed.

Sidewalks should parallel all vehicular circulation routes. Pedestrian walks should connect major pedestrian origin/destination points and major building entrances. Pedestrian walks should interconnect with existing and proposed quadrangles, respecting major desire lines across open spaces, but otherwise preserving large unbroken lawns.

To the extent possible, all pedestrian walks should meet ADA requirements and should not have stairs. The topographic changes between 5th Street and the North Residential District, for example, will require some use of stairs, but pedestrian walks within each sub-campus district should be accessible or facilitate a secondary accessible route if a primary route is not currently incorporated.

Service drives should not cross pedestrian walks and should be minimized. Service vehicles should never park directly on walks, but at designated service parking spaces located adjacent to walks with appropriate landscaping to minimize the negative visual effect to pedestrians.

This pedestrian network shown above allows plaza spaces integrated into a main thoroughfare. Secondary walks are shown cutting through the open space.

Pedestrian & Vehicular

Pedestrian Walks

Hierarchy

The campus should implement a hierarchy of walks. Select few primary pedestrian walks should connect all areas of campus and collect large volumes of students. These primary walks should be given dominance over other walks in width and materials. Secondary walks should connect the primary walks with destinations. Some examples of existing primary pedestrian thoroughfares on campus are:

Main Campus

- Between West End Dining Hall and Cotten Hall
- Between Christenbury Memorial Gymnasium (transit stop area) into the Academic Core
- Between the South Residential District and Christenbury Memorial Gymnasium/Academic Core (transit stop area)
- Between the Student Recreation Center and the Academic Core
- The walk between Croatan and the Wright Annex

Health Sciences Campus

As the Campus Master Plan recommends,
proposed walkways will be incorporated at the perimeter of campus as well as the interior of campus, between buildings and parking facilities.

This Mall walkway is a secondary path for students crossing through the Campus Core.

Wright Student Plaza is a high-use pedestrian thorughfare.

Pedestrian Walks

Junctions and Crossings

Junctions of primary pedestrian paths should accommodate a significant volume of pedestrian traffic and function as major collection points. At significant intersections and connecting points, expanded plazas can serve as focal points and meeting places (see plaza design guidelines). Landscaping around junctions should be more urban in character, with tree pockets, art installations, seating and special features, such as specimen plant material, a wayfinding element, a fountain, or a kiosk.

Walks should merge when approaching roads, to condense the number of street crossings. When pedestrian walks cross vehicular roads, it should always be at a right angle with an open view of the street. Standard pavement markings or special street pavement materials should be used to highlight pedestrian movement at major pedestrian crossings, including each location where primary pedestrian walks end at a road or other vehicular route. Crosswalks and barrier-free ramps that are constructed to meet ADA, state, and local code requirements should be constructed at roadway intersections. Mid-block crossings should be avoided. Landscape plantings within these areas should meet requirements to maintain visual site lines for pedestrian safety. Vegetation should be designed and installed to avoid encroachment onto walkways.

Pedestrian crossings should be perpendicular to the street and be delineated.

Pedestrian junctions should handle larger volumes of pedestrian traffic and can contain iconic elements.

Pedestrian & Vehicular

Pedestrian Walks

Width and Materials

The width of the pedestrian circulation routes should vary and be established by hierarchy, usage, and urban design considerations. Walks must be wide enough to accommodate anticipated pedestrian volumes. Consistent walkway widths should be maintained across campus. Primary pedestrian walks should be at least 12 feet wide, and secondary walks should be 8 feet wide. In cases where primary pedestrian walks accommodate an unusually large number of people or multiple transportation types or are an emergency vehicle access route, the walks should be wider to accommodate these types of vehicles, it is recommended that these types of walks be at least 18 feet wide.

Consistent walkway material is a critical element for achieving campus unity. Existing paving materials and patterns should be continued as a means of maintaining visual continuity and quality. As a base material, concrete should be the dominant walkway material for durability and ease of maintenance and repair. The finish, scoring, and connection details should be consistent and uniform. Heavily articulated and patterned pavement is discouraged. Paved pedestrian building entrance areas should be simple and relate to overall campus walk pavement. Walkways and special pavements should not become subservient to individual buildings and their materials.

Paving materials of contrasting color and texture should only be used in special areas, such as junctions and termination points of primary paths and at major building entrances. Special materials, patterns, banding, etc., may be used to articulate these special areas. These special paver walks should ideally utilize a flexible base system, due to its lower initial cost, proven durability, and ease of accommodating future alterations. Brick may be utilized on a project-specific basis. In addition, a permeable pavement system may be utilized (such as brick pavers) where soils and usage allow this type of application.

ADA codes require that all walks should have no more than a 2 percent cross slope. Walks should be engineered to provide water run-off, and prevent ponding water, and have no more than 5 percent longitudinal slope.

All primary and some secondary pedestrian paths may be used by maintenance and emergency vehicles. In addition, walks near residence halls need to be designed to also accommodate move-in and move-out vehicle traffic. Increased pavement thickness and reinforced thickened edges should be used to support these vehicles.

The primary pedestrian walks should have a single row of regularly spaced canopy trees along both sides of each walk. Use of a singular species for each street with a spacing of 30 to 40 feet on center is recommended. The trees should be regularly spaced in a consistent alignment to distinguish them from adjacent landscape treatment and to reinforce the major pedestrian walks.

Recreational trails should have different materials and widths depending on the type of recreation. However, multi-use paths/regional connecting trails, such as those along the Green Mill Run, should be at least 8 feet wide or wide enough to accommodate bicycles and pedestrians. Trails can be asphalt or crushed stone.

Brick paving is utilized on several pathways within The Mall on Main Campus.

Special pavers should be used in concert in plaza spaces.

This main pedestrian path is mostly concrete, and special pavement is used judiciously.

Shared-Use Paths

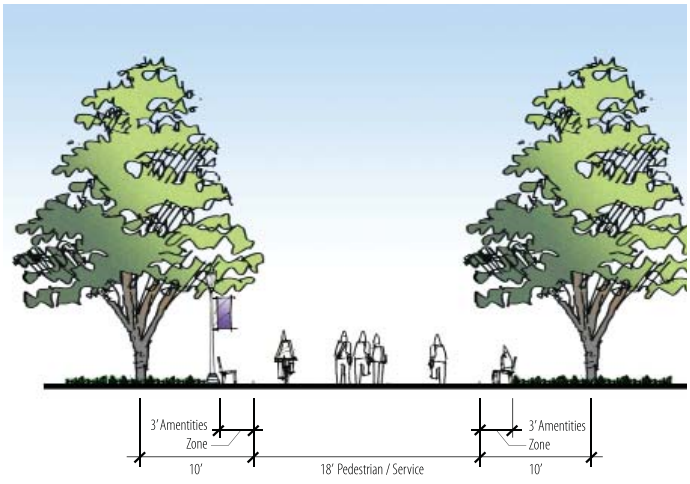
As suggested in the Campus Master Plan, several vehicular roads in the heart of campus will be converted to shared-use paths that accommodate pedestrians but also bicycles, service vehicles and an occasional emergency vehicle. These pathways will maintain a width to accommodate service and emergency vehicles, but be pedestrian focused with amenities that reflect the scale of the pedestrian user. Service vehicles should limit their travel time on these pathways to non-peak class changing times if possible.

These pedestrian-focused thoroughfares include:

- The partial removal of Founders Drive from South Wright Circle to Duncan Court.
- The removal of Faculty Way from Founders Drive west to Dowell Way.
- Alumni Lane in it's entirety.
- Dixon Drive in it's entirety from Shady Lane.
- Student Plaza from west of the Rivers Building to Wright Annex.
- Service Drive on Health Sciences Campus, from North Campus Loop, south to the ECU Heart Institute.

Shared-use paths will be incorporated in a limited fashion on the Health Sciences Campus, this is due to the fact that a strong internal road network does not presently exist here. However, Service Drive south of the Heart Institute and to south of the Utility Plant will be replaced with a shared-use path to accommodate pedestrian movements between the new Medical Education Building and other proposed uses within the central core of this campus.

These paths should be at least 18 feet wide, contain no curbs, and be delineated with a combination of special pavers and concrete, include landscape elements such as canopy trees spaced 30 to 40 feet apart. Benches, lighting and other appropriate site amenities should be included and reflect a pedestrian scale. Bench pads or seating areas must be set back at least 3 feet from the edge of the main path. Care must be executed in the design of these pathways to not inhibit the safe passage of emergency vehicles. See the Width and Material" section that follows for additional guidance.



Shared-use path cross-section

Pedestrian & Vehicular

Bicycle Network

Bicycle commuting and circulation are important contributors to reducing the negative impacts from vehicle trips and parking, including impervious surfaces, emissions, and the heat island effect.

The campus should have a connected and complete bicycle network. The network should consist of off-street recreational trails (where appropriate), bicycle friendly streets with on-street bicycle lanes, and primary pedestrian walks. Bicyclists should not be permitted to use secondary pedestrian walks. The bicycle network should contain no stairs. Bike lanes should be incorporated in the 10th Street Connector project from Main Campus to the Health Sciences Campus.

The bicycle network should connect major bicycle origin/destinations, outdoor bicycle parking areas, access points to indoor bicycle storage areas, and bicycle access points from off-campus (see also Bike Parking section). The bicycle network should connect directly and seamlessly to the City of Greenville and any regional existing and future bike route plans.

Bike routes and paths should employ and follow recommendations from the American Association of State Highway and Transportation Officials Guide for the Planning, Design and Operation of Bicycle Facilities.

Bike planning should also include a facility to store bikes long-term (over the summer for example, for a fee), and self-service bike maintenance stations.

Providing a complete network of routes, paths and facilities will promote a successful bike friendly campus.

Recreational paths, as proposed along Green Mill Run, should provide necessary signage for the safety of users.

Delineated bike lanes on the michigan state university campus (image: MSU Bikes)

Air fill up/repair station

Bicycle Parking

Bicycle parking should be a vital part of the design of each new building and facility, not an afterthought. The campus should have two levels of bicycle parking: short-term and long-term. Short-term bicycle parking will serve students and others making frequent stops. Students are expected to use a bike throughout the day, biking between residence halls, other campus buildings, and to off-campus services. Short-term parking should be located near each public non-residential building. All short-term parking should be secure, and at least 25 percent of short-term bicycle parking should also be weather-protected (where more than ten short-term spaces are required). See the Site Amenities Standards for more information on criteria and location for short-term parking.

A second type of bicycle parking is long-term parking, which provides faculty, staff, and off-campus student bike commuters a secure and weather-protected place to store their bicycles. Commuters are expected to park their bike in long-term parking once a day, walking the campus throughout the day. At least one centralized long-term bicycle parking location is needed on both the Main and Health Sciences Campuses, since bicycle commuters are generally willing to walk a short distance if they are confident the parking is secure. At centralized long-term bicycle parking locations, all parking should be secure, and at least 25 percent of long-term parking should also be weather-protected.

Long-term parking should also be located at every residence hall. Each residence hall should provide secure bicycle parking for 15 percent of hall residents, with at least 50 percent weather-protected. Long-term parking may occur within residence halls such as in a basement. Wall-mounted racks are well suited to indoor storage.

Secure bicycle parking should include a bicycle rack and will be well-lit. Additional security is possible when long-term bicycle parking is located in highly visible locations such as within view of streets and pedestrian walks. If necessary, areas enclosed by a fence with a locked gate provide additional security.

Weather-protected bicycle parking shelters bicycle frames, seats, and tires from damaging rain and sun and further encourages bicycle use. The cover should be designed to protect the bicycle from rainfall and be at least 7 feet above the floor or ground. Cover can be provided by bike lockers or locating bicycle parking under existing overhangs or awnings or under overhead building connections. Sheltered parking can also be located inside parking structures at an accessible, ground level area, close to a main entrance point. Free-standing bicycle shelters are also acceptable and should be designed to withstand wind loads, be well lit, and not obstruct visibility from streets and pedestrian walks.

Interior bike parking

Weather protected exterior bike parking

Bike parking can be concealed near building entrances with the creative use of site walls and landscape

Pedestrian & Vehicular

Mass Transit and Facilities

The bus service on campus provided by ECU is very robust and provides service on Main Campus and to the Health Sciences Campus. Increasing transit use is an important contributor to reducing the negative impacts of vehicle trips and parking.

ECUSTA should be involved in any bus stop design and in the specific location of transit stops for the most efficient service around campus. The bus stop locations should be followed as recommended in the Transportation Element Needs Assessment report dated September 1, 2010 (Martin, Alexiou, Bryson). Major campus buildings that service students, including residence halls and dining commons, should have a nearby transit stop within 500 feet of the entrance.

The shelter should be a single consistent design standard throughout campus, and easy to build. It should be constructed of metal, with a standing metal seam roof and follow the architectural building guidelines for campus (see Figure 1). The color of the shelter should be the same for all campuses, with a bronze painted base and a grey metal standing seam roof. Bus stops should include shelters to offer waiting riders protection from the weather, and be enclosed with glass on three sides. Benches are not necessary at most stops as wait times are relatively short, however ADA access into the shelter is mandatory.

Bus stops should be well lit on the interior of the shelter and clearly signed. A new trend in shelter design is to include a solar powered light source for any lighting needs within the shelter.

Bus stop amenities should include an emergency phone, an information kiosk, trash receptacles, and benches. Bus stops should also have enough paved area around it to provide adequate waiting/queuing space; 5 square feet/person is typical. Pathways leading to and surrounding transit stops should be ADA accessible.

Landscaping in these areas should respect the sight lines of the bus operators and the safety of waiting passengers.

Figure 1 - This shelter follows ECU's campus architectural guidelines in terms of detail. Arched panel openings reflect the window framing details on campus.

Figure 2 - A larger shelter may be used like this at higher volume transit locations.

Vehicular Parking

As recommended in the Campus Master Plan, surface parking spaces within the Campus Core should be limited to service and barrier free parking and all other parking should occur in perimeter parking lots. A limited number of metered spaces should be provided within the Campus Core for short-term parking needs. Vehicle parking should consider the following guidelines:

- Pedestrian access to and from lots should be carefully considered to minimize vehicular-pedestrian conflicts.
- Where parking lots border major sidewalks, campus roads, or residential off-campus neighborhoods, the edges of lots should be landscaped to provide a buffer zone and vegetative screening.
- The interior should incorporate wide islands with appropriately-scaled plantings to soften the visual effect of the lot. Interior landscape islands should provide shade, reduce heat of large paved area, and allow stormwater infiltration.
- Most campus soils will support stormwater infiltration. Consider integrating stormwater treatment through permeable pavement and other infiltration best management practices.
- Lots should be appropriately lit to increase safety. Lights should be appropriately shielded to minimize glare and light pollution.
- Entryways and vehicular circulation should be easily accessed with safe viewing angles for oncoming traffic, and clear signage should occur at each main entrance.
- Lots should have the appropriate number of service and barrier free spaces accommodate the surrounding buildings.
- Lots should be double-loaded for the most efficient parking layout.
- A typical parking space should be 9 feet wide by 18 feet 6 inches in length (to back of curb). Current ADA standards should be followed for barrier free spaces dimensions and accessibility in these areas.
- Adjacent walks next to head in parking bays should allow enough width for pedestrian passage in case of vehicle bumper overlaps.

Parking lot screening utilizing a low brick wall

Parking lot screening utilizing a berm and trees

A lushly planted stormwater management island

Pedestrian & Vehicular

Streets and Drives

The campus should establish a streetscape consistency and street hierarchy to support identity, order, and structure for the campus. The campus should establish clarity for vehicular circulation routes by utilizing landscape treatment on the internal circulation routes. Landscape treatments should project a campus image, promote pedestrian/cyclist visibility and safety, and encourage a lively urban texture. The guidelines apply to internal streets and those surrounding the campus.

In contrast to the formal tree placement along the major pedestrian walks and within major open spaces, the landscaping for on-campus streets should be informal. The street alignment should not set the landscaping pattern, but rather intrude into the campus environment. The landscaping should emphasize the predominance of the pedestrian over vehicles.

Whenever possible and as conditions allow, sidewalks should border both sides of all campus streets. Outside the vehicle and pedestrian travel paths, the ground plane should be predominantly lawn. Street landscape treatments should be coordinated with walks, lights, and signage.

Street design should consider using Best Management Practices to infiltrate stormwater on-site. Integrated stormwater treatment reduces the volume and velocity of stormwater reaching the Green Mill Run and Tar River and improves water quality. When designing campus streets, the University should consider Best Management Practices for stormwater, including:

- Street design: Preserve wetlands, buffers, and high-permeability soils and minimize impervious areas.
- Swales: Infiltrate stormwater and reduce flow velocity, but ensure pedestrian convenience through design.
- Bioretention curb extensions and sidewalk planters: Accept and treat street run-off in tree boxes, planter boxes, or curb extensions.
- Permeable pavement: On low-volume streets, consider permeable concrete, permeable asphalt, permeable interlocking concrete pavers, and grid pavers.
- See the Stormwater section of this manual for additional information.
- Service drives and areas should be consolidated whenever possible, and take into consideration pedestrian movements. See the Architectural Guidelines section for additional information.

This streetscape incorporates infiltration planters along sidewalks.

An example of an informal landscape along a Grand Valley State University road.

Site Amenities Standards

Introduction

These site amenities standards contribute to a positive campus character and achieve a unified and clearly defined campus. Site furnishings such as pedestrian and street lights, benches, trash/recycling receptacles, and bicycle racks enhance the functionality of campus. But when those site furnishings are coordinated, they contribute to a sense of orientation and achieve an increased sense of order.

Like the overall campus design guidelines, the site amenities standards, recommended design family, and specific units should be used throughout campus and at all off-campus University facilities.

The campus should limit its site furnishings to only one family if possible. A single-family of furnishings works together in terms of their materials, style, detailing, color, and scale so that they establish a unified, cohesive image. The family of site furnishings recommended in these guidelines preserves and enhances the aesthetic characteristics of the existing campus by extending the bronze finish of existing furnishings while better coordinating design and improving materials. Some sections recommend other furnishing manufacturers as an alternative source.

Existing campus site furnishings vary in age, condition, style, and material. Existing furnishings that are outdated, vandalized, or deteriorated should be replaced as needed with the recommended style until all site furnishings conform to the design guidelines. Implementation of these recommendations will occur over time through separate physical improvement projects and regular replacement. It is important that University representatives take advantage of opportunities to replace damaged or worn-out units with the recommended replacement units so that consistency is maintained.

The site furnishing standards should increase the efficiency and efficacy of limited site facilities campus budgets. The selection and installation criteria will minimize maintenance efforts and costs. Limiting site furnishings to a single-family will reduce the need of storage of spare parts and reduce staff training needs, thus achieving a higher level of cost effectiveness. To ensure that current site selections will be long-term investments, the site furnishing standards recommend traditional designs that are not fads and suggest styles and sources that will be available for the long-term. The standards simplify and expedite purchasing decisions.

The site furnishing standards are organized under the following headings:

Criteria:

General design considerations to follow in selecting equipment.

Location:

Special considerations regarding where the specific unit should be used in the campus setting

Source

Recommended sources and styles.

Site Amenities Standards

Site Lighting Standards

Criteria

- Lighting design should organize, articulate, and enhance the campus setting and enhance safety and security.
- Pedestrian lighting should be of a different scale from street and parking lot lighting.
- In all other areas of campus, the style of the fixture should be neither traditional nor contemporary but a blend of the two to both reflect the past as well as look ahead to the future.
- Bollards are discouraged for path lighting due to potential for glare, lack of usable vertical light on faces and difficulty of maintenance. A full cutoff fixture should be utilized to reduce light pollution in the night sky and to reduce glare.
- The campus should choose lamp types that have superior lamp life ratings.
- Judicious facade lighting is encouraged.
- For pedestrian lighting, the campus should also consider a LED or induction bulb for long-term life and aesthetic reasons. This type of light emits a white light which allows better recognition of facial characteristics at greater distances and provides better color representation of architectural materials, cars, clothing, etc.
- LED lighting has many benefits, including a longer and more durable life, use of less electricity (up to 80 percent less) and are more cost effective in the long run.
- The University should do a complete study of the costs and benefits of each source to determine what is best for campus safety, longevity, reduced maintenance, and energy consumption.

When selecting a fixture, the maintenance and cost effectiveness considerations should include:

- Limiting the number of luminaire and pole types;
- Ease of maintaining, servicing, and replacement; and
- Pole/luminaire height.
- To facilitate lawn maintenance, a concrete maintenance collar should be created at the base of the pole. The collar should be slightly above ground level to allow for mower overhang during lawn cutting, thus minimizing hand-trimming.
- To avoid long-term maintenance concerns, light fixtures imbedded in the ground or in paving should not be used except in extraordinary lighting designs and locations.
- Attached banner mounts should be utilized in specific areas to identify special University events, campus entry or edges, or designate other special use areas.
- Smooth round poles are recommended since square poles are not as strong and aligning multiple square poles is difficult.

Location

- Strategic placement of units will optimize light distribution and minimize the number of units required.
- Pedestrian lighting should be located along pedestrian paths and spaced as determined by a photometrics plan. Care should be taken in locating the poles to ensure consistent alignments and setbacks (5 feet) from walkway edges. All fixtures should be set plumb and level at a 14 foot height.
- Light locations should also coordinate with tree placement, as canopy trees should not interfere with light placement.
- Luminaires can be located on top of brick columns such as in gateways, in plazas, on curbs, or in paved areas.
- Multiple luminaire configurations should be utilized for special effects where a greater level of detail and attention is desired.

Source

For Main Campus:

Lumec Contempory Lantern Series, L80-SF80, post top mount; Pole style: RTA906, traditional, tapered pole; Color: textured bronze

For Health Sciences Campus:

Architectural Area Lighting, Spectra Series, SP1-STR post top mount; Pole style: PR4, straight pole; Color: bronze

Street and Parking Lot Lighting

Criteria

- Lighting design should articulate the campus vehicular circulation system (streets and parking lots) for user orientation and safety.
- Units with standardized style, color, height, diameter, and location should be simple and unobtrusive. Since luminaires and poles are visually prominent during the day, a coordinated system compatible with other site furnishings is needed.
- Concealed light sources for street and parking lot lighting are desired. Distracting glare is to be minimized; the lit surface is important, not the source itself.
- Light distribution should be controlled to optimize intensity and ensure uniformity of illumination.
- Illumination appropriate to the vehicular use should be selected. Driving requires recognition of vertical objects in the field of vision; therefore, vertical illumination is equally important as horizontal illumination. Intersections require higher levels of illumination.
- See the chart on the following page for recommended vehicular footcandle (FC) levels.
- Smooth round poles are recommended since square poles are not as strong and aligning multiple square poles is difficult.
- Maintenance and cost effectiveness considerations include:
    - A limited variety of luminaires is desirable to simplify maintenance requirements and stocking of replacement parts and units.
    - A quality lighting plan will improve cost effectiveness by optimizing intensity and distribution with the least number of fixtures.
    - Lighting fixtures must be safe to maintain in difficult locations.
    - The campus should choose lamp types that have superior lamp life ratings.

Location

- Streetlights are to be regularly spaced along major streets and offset from the road a consistent and safe distance.
- Parking lot lighting should be at sufficient levels of intensity for safety; the poles should be located in planting islands so they are less visually obtrusive, however to maximize parking efficiency, the poles should be set on 3 to 4 feet high concrete bases to protect them from damage by vehicles.

Source

Street and parking areas
All campus:
Kim Lighting, Archetype Series, SAR or AR Series; Pole: round aluminum pole as per manufacturer recommendation; Color: dark bronze

Site Amenities Standards

Site Lighting Specifications

Lumec Contemporary Lantern Series
Main Campus site light standard

Architectural Area Lighting Spectra Series
Health Sciences Campus site light standard

Kim Lighting Archetype Series
All campus street and parking lot light standard

Illuminance Guidance Chart

Area Type	Target maintained illuminance at night	Max:Min not to exceed
Building entrances	10 FC at entrance within 15 feet of entrance, 5 FC transition lighting	3:1
Building facades	0.5 - 2 FC (vertical)	8:1
Pedestrian paths and trails	1 FC min., horizontal, 0.8 FC min. vertical (not associated with parking) 6 FC, associated with parking	4:1
Parking areas and driveways	2.8 FC min. horizontal, 0.8 vertical	4:1
Maximum illuminance on paths or parking areas at night	10 FC maximum	
Parking Decks	0.5 FC minimum 2 FC average	8:1
Maximum trespass outside perimeter of parking decks	0.5 FC maximum	
Maximum illuminance on focal objects such as art or featured landscape objects	20 FC maximum	
Unoccupied spaces	1-2 FC	6:1

Emergency Call Boxes

Criteria

Emergency Call Boxes (ECB's) have the following functional requirements: (as per Protective Engineering Group recommendations):

- Equip ECB stanchions with a blue light strobe that is lit at night and will strobe when in alarm.
- Hardwire communication wire and cable to ECB; wireless communication is only authorized with prior approval by ECU security.
- The ECB area should be lit to provide adequate illumination at night.
- Coordinate with existing and planned video coverage to ensure the ECB is under video surveillance.
- Mounting the ECB so that its easily visible (no trees or scrubs obscuring line of sight)
- Have eight hours of battery back-up.
- Each unit should be properly ground. For tall pedestal units, install a ½ inch by 8 foot grounding rod and tie it to the steel bollard
- The ECB should be activated by just the push of a button, and it immediately calls emergency responders.
- Coordinate with Security Management System to automatically identify location of ECB when in alarm.
- Provide hands free communication on the caller's part.
- ECB's should be located so that they can be ADA accessible per the Americans with Disabilities Act, Accessibility Guidelines for Buildings and Facilities.

Location

- The placement of ECB's will depend on several factors:
- ECB's should be no further than 250' apart.
- Provide ECB's at outdoor areas such as parking lots and garages, pedestrian walkways, and gathering areas such as courtyards and plazas.
- A person should be able to reasonably see an ECB from anywhere on campus. If a call box is not in the line of sight, because of either location or visual obstruction a new ECB shall be placed.
- A minimum of one ECB is required for each level of a parking garage.

Source

Talk A Phone, Radius Emergency Phone Tower with CCTV and WEBS®: Model number WEBS-MT/R OP5; Color: purple to match existing emergency call boxes on campus. Yellow "Emergency" decal shall be used as shown in photo (right).

An existing Talk A Phone emergency call box on Main Campus.

Site Amenities Standards

Benches

Criteria

- Style should be clean and simple, and add to the atmosphere of its surroundings.
- Benches should be structurally adequate to withstand extensive student use, inclement weather conditions, and most vandalism.
- Benches should be comfortable and functional.
- Benches should require little or no maintenance and be surface mounted.
- Benches should have backs for maximum comfort.
- Material of the bench should be powder-coated steel on a steel base for resistance to moisture, insects, splinters, cracks, and vandalism.
- Benches should contain mostly recycled material and be easily recyclable at the end of their useful life.
- If benches are placed on a separate concrete pad (adjacent to a walk for example), there should be sufficient room at the edge of the pad to accommodate a wheelchair. The bench should be offset at least 2 feet from the edge of the walk.

Location

- Along pedestrian corridors especially where major pedestrian traffic is noted.
- In plazas and courtyards, benches should be organized with other site elements such as light poles, trash receptacles, etc.

Source

Victor Stanley:
Metal, backed, armed bench: Steelsite RB-28 Series, Color: bronze

Victor Stanley:
Metal backless, armed bench:
Steelsite RB-12 Series, Color: bronze

Victor Stanley Steelsite RB-28 Series backed bench

Victor Stanley Steelsite RB-12 Series backless bench

Cafe Table Ensembles

Criteria

- Style should be clean and simple, and add to the atmosphere of its surroundings.
- Cafe tables should be structurally adequate to withstand extensive student use, inclement weather conditions, and most vandalism.
- Seat area should be comfortable and functional and can be backed or backless.
- Umbrellas can be added if the tables are in an exposed environment.
- Cafe tables should require little or no maintenance and be surface mounted.
- Material should be powder-coated steel on a steel base for resistance to moisture, insects, splinters, cracks, and vandalism.
- Cafe tables should contain mostly recycled material and be easily recyclable at the end of their useful life.
- There should be an appropriate amount of ADA accessible tables available in the dining area.
- Free standing tables and chairs are not recommended.
- Umbrellas, if used, should be metal.

Location

- In outdoor eating areas or plaza spaces directly connected to a facility that provides a food service.
- Cafe table ensembles should be coordinated with other site amenities.

Source

VictorStanley: Steelsite Series; Color: Bronze or Landscapeforms Carousel Series (with optional Solstice Sunshade), Color: seat and table base to be bronze or black, umbrella color to match or another color is acceptable such as purple, gold, black, or green.

Victor Stanley Steelsite Series

Landscapeforms Carousel Series with Solstice shade

Site Amenities Standards

Trash, Recycle Receptacles and Urns

Criteria

- Trash and recycle receptacles should be located where needed, but should remain visually inconspicuous.
- Receptacles should have a simple design style, be an appropriate size for anticipated use levels, collect trash, glass, and paper, and have an internal canister with lid for trash control and ease of trash removal.
- The unit should be sturdy and secured to discourage vandalism and to extend the life of the unit. Installation will vary according to location.
- Trash and recycle collection schedules should reflect waste receptacle capacity and use levels.
- Glass and paper recycling receptacles should be integrated into the trash receptacles or be located adjacent to trash receptacles.
- Ash urns should be part of the trash unit.

Location

- Receptacles should be located at the intersections of major pedestrian walks, in plazas, in courtyards, in vehicle and bicycle parking areas, at building entries, and where groups of pedestrian seating are provided.
- Receptacles within athletic areas should be located adjacent to bleachers, fence gates, restroom facilities, and other building entrances.
- The units should be placed contiguous to walks and on a concrete surface extending outward from the walk. The unit should be level and firmly secured to the ground.

Source

Victor Stanley Ironsites Series Receptacle SD-42 with side door opening; Color: Bronze for trash disposal. Pirate Purple for recycling with added custom decal as pictured below.

Victor Stanley Ironsites Series receptacle in bronze

ECU recycle receptacle in custom purple color, with "ECU Recycles" plaque

Bicycle Racks

Criteria

- A simply designed bicycle rack having little visual impact is preferred. When bicycles are not present, the rack should be relatively inconspicuous.
- The rack should accommodate a wide range of bicycle frame types, sizes, wheel sizes and locking apparatuses including a U-shaped shackle lock. The unit should allow the frame and both wheels to be secured. The rack should hold the bicycle frame, not just a wheel.
- The unit must be structurally adequate to withstand most vandalism, extensive student use and inclement weather conditions. It should be covered with material that will not chip the paint of a bicycle, and not have sharp edges.
- To promote year-round biking, some bicycle parking should be covered through a roof or similar covering, using bicycle lockers, or within a building.
- Most bicycle racks should be permanently secured to the ground per manufacturer's recommendations. In some locations where bicycle usage is low, or lessens during colder seasons, bicycle racks may be removed.
- Grouping the storage units allows for a greater level of aesthetic control and policing. Grouped bicycle storage areas should utilize a contrasting paving color or texture surface differentiating it from the main pedestrian walkways.
- Bicycle parking areas are ideal environments for pervious pavement. These areas should be properly illuminated and visually screened by a low hedge or site wall.

Location

- Bicycle parking may be provided in floor, wall, or ceiling mounted racks.
- Bicycle racks need to be conveniently located, yet separate from major pedestrian walks and building entrances. Wherever feasible, bicycle racks should be located contiguous to, but set back from, major pedestrian corridors since these corridors also serve as bicycle routes. Short-term bicycle parking should be located within reasonable and convenient and prominent proximity to building entrances.
- The "U" style unit should be used in a grouped arrangement. This unit should be used where there is adequate space and the volume of bicycles requiring storage is high. If possible, they should be conveniently located to serve multiple buildings.
- If a bicycle rack layout includes two or more aisles, the design should assume a bike length of 72 inches, and allow a minimum of 48 inches for aisle space.
- Aisle width should be increased to 72 inches in high traffic bicycle parking areas where many racks might be located, such as the Student Center or Joyner Library. These large parking areas should also have at least two entrances to ease congestion during times of high turnover. Bike racks should be spaced 3 feet apart. Bike racks should have at least 3 feet of clearance at the end of each row to allow for unobstructed passage of pedestrians.

Source

Madrax Co. "U" Rack Model U238 (or similar from local fence or metal fabricator): Color to be bronze.

Madrax Co. "U" rack

Site Amenities Standards

Bollards

Criteria

Bollards are used to mainly control the movements of vehicular traffic. Bollard choice should be based on the design program which may include issues such as unauthorized vehicular access into a plaza space or parking area.

- Other bollard types include those for loading dock areas which should be chosen mainly for driver visibility and durability.
- Bollard criteria should meet the program requirements. The aesthetic value of the bollard should be decorative in nature especially in highly visible and public spaces.
- Bollards with incorporated lighting should not be used unless the light source is completely hidden

Location

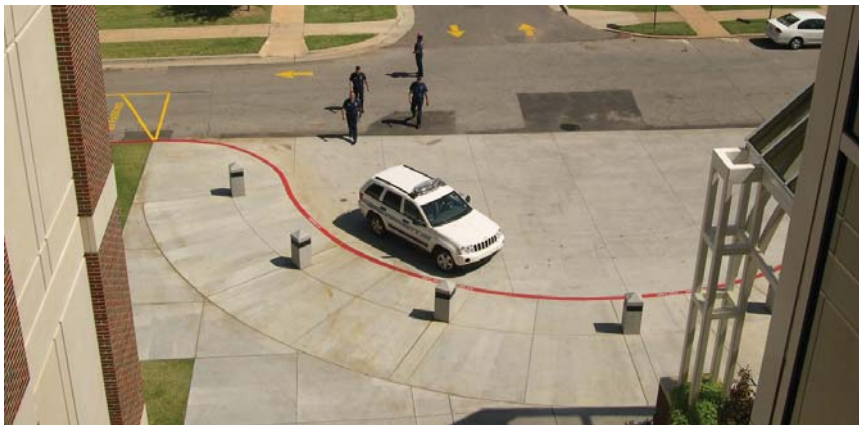
- Used in areas to control vehicular movements and to protect pedestrians. Bollard use and placement should be accessed by the design consultant.

Source

Maglin, 650MTB Series bollard, cast aluminum, color to be bronze. Bollards located at service dock areas can be of a different manufacturer and color to remain visible to drivers and durable for use in these types of areas.

Maglin 650MTB Series bollard

Bollards can be used where large pedestrian crossings intersect with vehicular roadways.



Bollards should be used at drop-off areas to prevent vehicle penetration into pedestrian zones.

Planters and Pots

Criteria

Planters and pots can be used to add another layer of texture and color to a courtyard, plaza space or walkway. Planters should be added when planting beds are not possible around building entrances and to break up vast amounts of pavement.

- Planters could be used in place of bollards if they meet the criteria of preventing vehicle penetration. Planters and pots should not impede pedestrian traffic.
- Planters selection should consider the scale of the space.
- When designing plazas, courtyards or other areas that will contain planters or pots, the architect should include a quick coupler irrigation device so watering is efficient for maintenance staff.

Location

- Can be used in plazas and courtyards or along walkways.
- Planters should be placed next to building entrances where planting beds are not possible.
- Planters can be placed in groups of various sizes, but should be of the same family of planters.

Source

Planters should be simple in design, and be free of unnecessary ornamentation. Planters should be composed of sustainable or recycled materials such as concrete or recycled plastics. Colors should reflect and complement the design of the space, such as earthtones or neutral colors that do not compete with the plant material.

Suggested sources for planters are Wausau Tile, Landscapeforms and Longshadow.

Landscapeforms Rosa planter

Wausau Tile planter TF4144 at a building entrance

Grouping of Landscapeforms Rosa planters

Wausau Tile planter TF4353

Large planters keep vehicles away from this building entrance.

Site Amenities Standards

Irrigation

Criteria

Irrigation systems are important for the establishment of newly installed landscapes on campus and in areas that require watering during drought events. Athletic fields also require permanent irrigation systems.

- Each project must have an irrigation plan for Grounds Services to review – design/build systems are not acceptable, for any project.
- The university should set a goal of designing planted areas to succeed without irrigation and plants should be selected for their suitability to non-irrigated areas.
- Soils for all lawn and landscape areas should be supplied with adequate moisture retention capacity.
- The use of rainwater collection systems are becoming a necessity especially with Senate Bill 668. The designer needs to explore different rainwater harvesting techniques to follow the senate bill yet still succeed in the establishment of the proposed landscape.
- The use of a supplemental watering system during the establishment period (first two years) is recommended as either a part of the landscape installation contract or as part of the in-house maintenance schedule.

Location

- Irrigation should be installed in newly planted landscapes as directed by the ECU project representative.

Source

Irrigation: Rain Bird
Grounds Services also utilizes a Rain Bird Maxi-com system (a central control irrigation system with weather station). For ease of operation, repair and planning, Rain Bird should be the continued source for irrigation on campus.

In general, rotor heads should be used in turf areas (6 inch pop-up heads in tighter areas) and drip zones in planting beds. All systems not tied into the weather station must have a rain sensor.

Harvesting tanks and systems:
Tank specification should be as per recommendations from the designer.

Undergound rainwater harvesting tank

Rain Bird drip irrigation example

Rain Bird drip irrigation installation

An above ground rainwater cistern can become a visual amenity for campus.

Fences and Gates

Criteria

Fences and gates are important site items that are incorporated into areas that need to be secure when not in use, yet be aesthetically pleasing and coordinate with the campus palette.

- Fences and gate materials should take into consideration the place on campus where the fence system is to be used. For example, a fence that is being incorporated into a high visibility area, may require higher quality materials opposed to a fence that may be securing a site that is not easily visible.
- The opacity of the materials is also another factor for design consideration depending on site factors security, and program.
- Ornamental fence must be placed on a base element (see picture, top, right) to facilitate landscape maintenance. Follow material guidelines in the site wall section of these guidelines.

Location

- Ornamental fencing should be placed in high visibility areas, like on campus boundaries or other areas where definition is needed.
- Chainlink fence should be used only in a minimal fashion and not along campus boundaries or vehicular thoroughfares.
- Chainlink fencing may be required around certain athletic fields.

Source

- Ornamental and chainlink fence components should be locally sourced if possible.
- Ornamental fencing should be galvanized steel, primed, and painted with a Tnemic type paint, with the color to be black.
- Chainlink fence heights and color should follow regulations for the use of the field. Otherwise, chainlink fence should be black vinyl coated. Design consultants should address wind loads associated with the height of the fence.

Brick site wall with piers and ornamental fence panels bound the Athletic Campus off of Charles Boulevard.

Ornamental fence can be used to screen a parking lot, or keep pedestrians on track.

Site Amenities Standards

Site Walls

Criteria

Walls can be an important aesthetic and functional addition in site design. The design should take into account any site security and safety issues and allow for clear site views into the area.

Seat Walls

- Seat walls are to be designed to meet structural criteria for soils and winds. Seat walls should compliment surrounding architectural features and materials.
- Most seat walls on campus are of a brick or stone material and this should be a continued material of choice. It is preferable that seat walls have a cap that is either cast stone, stone or limestone, however, a brick cap can be used, but must be designed to prevent water penetration. Brick caps that allow water to penetrate will have issues with efflorescence, which is not acceptable. Capped walls need to be discussed with an ECU representative during the design process.
- Seat walls can contain piers if appropriate, but must be scaled in relation to the wall.
- Concrete seat walls may be used in instances where durability or cost is an issue, however, beveled edges, surface treatments and other detailing should be incorporated.

Free standing walls

- Free standing walls should take into consideration the bearing capacity of the soils and wind loads.
- These walls should use the same types of materials as described in the seat wall section and not block views or impede the safety of pedestrians.
- Free standing walls can also be combined with ornamental fencing and piers.

Location

- Seat walls can frame a courtyard or plaza and retain topography.
- Free standing walls are of various heights depending on the program of the site. These walls can be used as gateway elements, serve a function of security, or delineate campus boundaries.
- Stone walls shall be used at the campus edges as they have traditionally been used on campus. Brick walls shall be located on the campus interior.

Source

Materials for walls should be locally sourced if possible and be coordinated with the architectural guidelines for brick and stone materials within this report.

This site wall hides mechanical equipment with a creative brick pattern.

The stepped wall detail in Sonic Plaza uses a textured concrete cap.

Seatwalls should be capped with limestone or cast stone.

Stone materials similar to this wall off of 5th Street should be used in addition to brick.

Signage and Wayfinding

Criteria

The development of a comprehensive signage and wayfinding plan that addresses the University's graphic design identity objectives in a unified and consistent manner should be implemented as soon as feasible. The comprehensive signage and wayfinding plan should address all sign types. ECU should direct the designer and fabricator on current ECU branding standards as this should be reflected in the design.

Location

- Regional signage directing to and from campus
- Entrance monument campus identifying signs
- Campus area or "neighborhood" identification signs
- Parking lot identification and regulatory signs
- Campus map directory signs
- Visitor destination signs
- Street name signs
- Light pole banners
- Electronic signs (free-standing, mounted to building exterior, internal)
- Wayfinding signs adjacent to sidewalks
- Free-standing building name signs
- Exterior building name graphics
- Dedication plaques

Source

Fabricators for signage should be sourced locally if possible. Materials should be durable, and of weather resistant quality.

Campus maps should be incorporated throughout the campus in central locations. Map architecture should be simple, and relate to the campus fabric in materials and color.

Other wayfinding signs should be simple in design, create a family of signs, and be easily spotted, but not obtrusive, in the landscape.

The flavor of the 5th Street and Cotanche Street entrance gate should be replicated at other campus gateways.

Site Amenities Standards

Information Kiosks

Criteria

Kiosks are important furnishings for the campus environment. They allow a means of presenting information and announcements relative to student groups and University activities.

- They also serve to reduce the amount of litter by providing a means of posting announcements, both student posting and official notice functions.
- The kiosk unit should reflect architectural materials and design that are common to the campus fabric and complement recommended building materials. The materials should be durable or easily replaceable.
- Kiosks should be maintained by a specific campus entity. Many institutions place this responsibility on a student government subcommittee.
- Lighting for the unit can be handled by adjacent pedestrian fixtures.
- Kiosk units should be of one design throughout campus.

Location

- The kiosk should be placed within an area of pavement adequate to allow circulation around all sides.
- The minimum dimension of pavement out from the kiosk should be 6 feet. Ideally the pavement should be comprised of unit pavers to differentiate it from adjacent walkways.
- Information kiosks should be located at a major crossing points on major pedestrian walks and where there will be large volumes of pedestrian traffic.
- Kiosks can also be located within major organizational exterior open spaces adjacent to significant student gathering areas or buildings, such as the proposed Student Union on Main Campus, West End Dining, or the proposed Student Life Building on Health Sciences Campus.
- Units with maps should be located at designated visitor parking areas

Source

Materials for kiosk construction should be locally sourced if possible and should be made of simple, but durable materials.

This kiosk is durable, yet simple in design and allows various campus groups to promote their activities.

Public Art and Monuments

Criteria

Public art is an important ingredient in the campus landscape and can broaden the cultural perspectives of the University community.

- Public art and monuments promote social gathering and discourse, and contribute to the character of the campus.
- Public art can serve as a memorable touchstone and orientation feature in the campus context.
- As a totality, the University's public art collection should speak to diverse cultural and aesthetic viewpoints.
- The work should be vandal-resistant, appropriately lighted, and not require on-going and significant maintenance needs.
- Planning and strategies to maintain installations are recommended as part of a comprehensive maintenance plan.
- Signage for public art and monuments should be consistent and recognizable across the campus setting. Signage should be discrete to not obstruct nor interfere with the work of art.
- Signage should include the artist's name; the work of art's title, date, and material; a concise design statement, and donor recognition. Signage should be durable; cast bronze or stainless steel are suitable signage materials. and mounted to a concrete or stone base. Signage placement should not conflict with landscape care and maintenance activities.

Location

Care needs to be given to the placement and execution of each piece of art. The work must be sensitively sited in relation to its context within the campus.

- Although the Campus Master Plan does not directly address art placement, the creation a stand-alone Public Art and Monument Master Plan is recommended to comprehensively document existing public art and monuments and suggest new locations for new works of various types and scales. This would provide the University with a guide to use in discussions about siting and types of new artwork and monuments. This document could also develop guidelines for displaying student and faculty art as well as artist selection policies for donor or campus funded works.

Source

Funding for art is usually from donors of the University to memorialize an event or individual of campus significance. The University receives many requests for art, monuments, and memorials to recognize an event or individual. Additional funding may be available on a periodic or rolling basis from regional or state level programs. The Campus Art Master Plan should research this sources and document them within the report.

Campus artworks should follow a master plan for appropriate placement in the landscape.

Implementation

In addition to specific building and site improvements, the Campus Master Plan identifies goals, intents, and planning principles. In order for these goals, intents, and principles to be realized, the University must establish a process for reviewing all design and construction projects that will impact the campus' physical setting.

These design guidelines should be followed for all campus improvements, from major building construction to routine landscaping and maintenance.
The ambassadors of the Campus Master Plan and its design guidelines will be Campus Facilities Planning staff, Grounds Services, and University landscape architects.

These staff must represent the Campus Master Plan continuously and consistently at all levels:

- In daily decision-making, Campus Facilities Planning staff must communicate the intent, principles, and requirements of the design guidelines internally to campus staff and campus leadership.
- For routine campus maintenance, these staff must train campus maintenance staff and service providers regarding these design guidelines so that they are integrated into the everyday work of facilities and maintenance staff.
- For major building design and constructions projects, these staff must educate and guide the members of ad hoc committees that oversee major building projects, University staff and project managers, as well as design and documentation consultants. Adherence to these guidelines should begin at a project's identification, site selection, and programming, extend through preliminary and final design stage, and ultimately through project construction and completion.

Even when specific design decisions are not directly addressed in these design guidelines, the design character of every campus project should strive to meet the Master Plan's goals, intents, and principles. Interpretation will be required periodically and consultation from SmithGroupJJR should be sought as required.

These guidelines are not intended to restrict creative expression. Rather, they are intended to guide physical planning and design to unify the campus image and enhance livability.

Additional Resources & References

ECU Resources

ECU Facilities Engineering and Architectural Services
http://www.ecu.edu/cs-admin/campus_operations/facilities_engineering_and_architectural_services/

ECU Construction Standards and Guide
http://www.ecu.edu/cs-admin/campus_operations/facilities/construction_standards.cfm

ECU Safety and Environmental Policy Statement
http://www.ecu.edu/cs-admin/oehs/Safety-and-Env-Policy-Statement.cfm

Regional Resources

College View Historic District
http://www.greenvillenc.gov/departments/community_development/information/default.aspx?id=1089

City of Greenville Historic Preservation Commission
http://www.greenvillenc.gov/departments/community_development/information/default.aspx?id=1281

Historic Campus Buildings and C. C. Hook References

Charlotte-Mecklenburg Historic Landmarks Commission
http://www.cmhpf.org/personalities/cchook.html

North Carolina Architects & Buildings
http://ncarchitects.lib.ncsu.edu/people/P000211

ECU Joyner Library Archives for Buildings and Campus
http://media.lib.ecu.edu/archives/buildings.cfm

six | implementation

Introduction

The following section provides a framework to assist Eact Carolina University with implementation of projects proposed within the Campus Master Plan. The charts and graphics shown on the next few pages refrain from defining a specific time period in which projects are anticipated to be completed. Rather, the diagrams seek to convey an order of prioritization for when initiatives should happen on campus to make strategic use of ECU's resources.

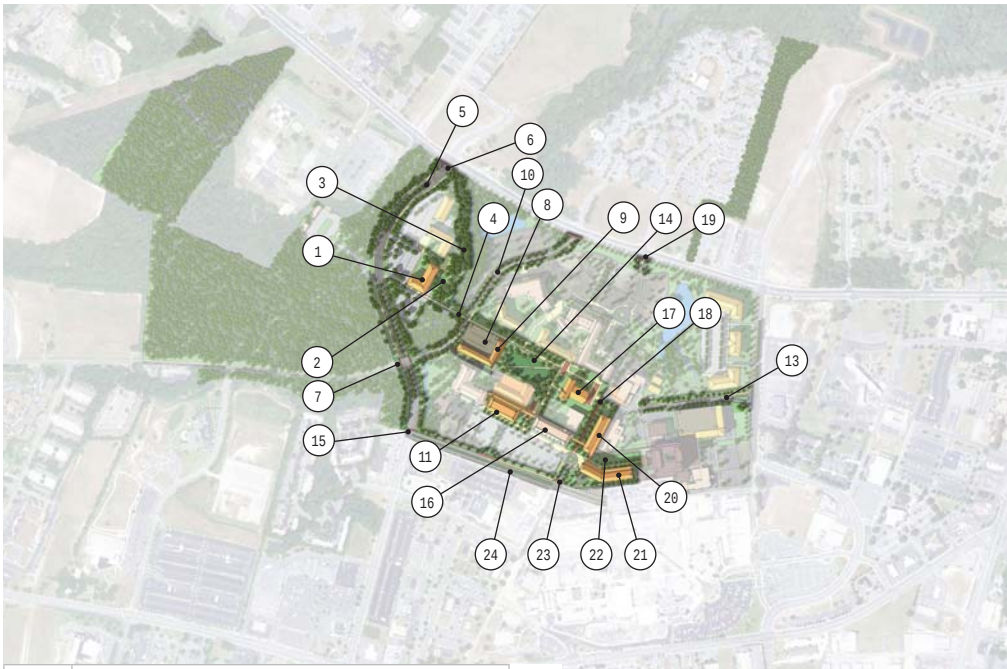
Historically, large bond programs provided the majority of funding for capital improvements on campus. Now, state appropriations comprise the most significant funding source presently available to ECU. The phasing recommendations also consider creative funding strategies and encourage ECU to match state appropriations with private donations.

The Campus Master Plan recommends that projects be implemented in larger portions when funding becomes available, as opposed to within defined five year timeframes. This strategy will allow ECU to ensure that initiatives are realized in a holistic fashion to prevent an image of many unfinished projects distributed throughout campus. Some projects will require that ECU partner and coordinate with appropriate jurisdictional agencies to realize proposals for campus edges, such as streetscape initiatives and gateway enhancement.

Phase 1 Diagram

Project design start period January 2011 – January 2015

Key	Name
1	Cancer Center
2	Healing Garden at Cancer Center
3	Recreational path at Cancer Center
4	Pedestrian ridge connection to Cancer Center
5	Streetscape improvements on W. Arlington, between 5th and Heart Blvd.
6	5th and W. Arlington primary gateway improvements
7	W. Arlington and MacGregor Downs secondary gateway improvements
8	Health Sciences Parking Deck #1
9	Clinical Faculty Offices
10	Streetscape improvements on MacGregor Downs
11	Ambulatory Clinics Building
12	Service Drive shared-use path conversion
13	N. Campus Loop streetscape improvements
14	Campus Central Green common space development
15	Heart Blvd. and W. Arlington primary gateway improvements
16	Heart Institute 4th floor up-fit
17	Student Life Building
18	ECUSTA Central bus-drop off location
19	5th and Health Science Dr., secondary gateway improvements
20	Warren Life Sciences Research and Vivarium Expansion
21	Medical Education Building and parking
22	Medical Education Building courtyard
23	Heart Blvd. secondary gateway improvements
24	Heart Blvd. streetscape improvements
25	Facilities Building Complex
26	Demolition of Admin. Support Annex & Bldg. 159
27	Office Surge Building
28	Willis Building Demolition
29	Alumni Center
30	Alumni Center courtyard function space
31	Site acquisition and demo for Academic A Building
32	Academic A Building and parking
33	Cotanche streetscape improvements
34	Student Union Building and Transit Hub
35	Main Campus Parking Deck #1
36	Wendell Smiley Way primary gateway improvements
37	Mendenhall Student Center renovations
38	Faculty Way shared-use path conversion
39	Harold H. Bate Building renovations
40	Founders Dr. secondary gateway improvements
41	Founders Dr. shared-use path conversion
42	Alumni Lane shared-use path conversion
43	Christenbury Memorial Gym demolition
44	Life Sciences and Biotechnology Building
45	Howell Science renovations



Key	Name
46	Student Plaza Dr. shared-use path conversion
47	Open space enhancements at Austin, Rawl and Howell
48	Open space enhancement south of Life Sciences and Biotechnology Building
49	Dixon Dr. shared-use path conversion
50	Improve pedestrian walks between Fletcher and Brewster
51	Speight Building renovations
52	Improved pedestrian crossing to College Hill District
53	Existing Belk Residence Hall hall demolition
54	Belk Residence Hall replacement building
55	Active/passive recreation space
56	Connection to Athletics District / rail crossing pedestrian bridge
57	College Hill turn around loop and streetscape improvements
58	Basketball Practice Facility
59	Pedestrian plaza and donor recognition area
60	Belk Annex building demolition
61	Health & Human Performance Research Gymnasium
62	Research recreation field at Health & Human Performance
63	Health and Human Performance Faculty Office Building and site development
64	Improved crossing from Athletics District to South Academic District (across Charles Blvd.)
65	Charles Blvd. at Greenville Blvd. gateway improvements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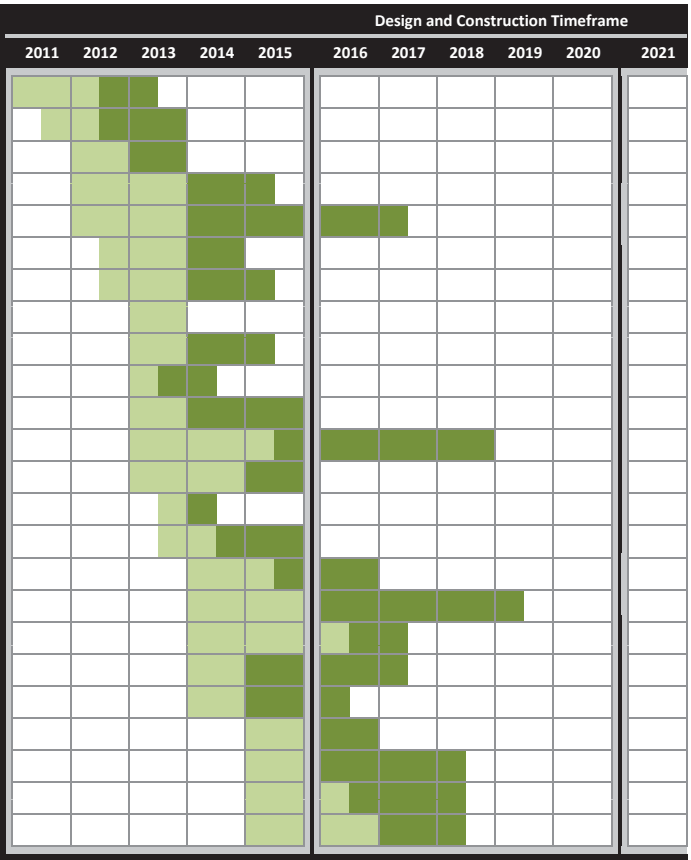
Phase 1 Project List

Project design start period January 2011 – January 2015

Type	Project Name	Proj. GSF
R	Heart Institute 4th Floor Up-Fit	37,500
B	Basketball Practice Facility	20,000
G	Integration of Video and Intercom Systems with Security Management	NA
S	Belk Residence Hall Replacement Building	218,450
S	Student Union Building	297,500
S	Student Life Building	64,000
B	Ambulatory Clinics Building	100,000
D	Belk Annex Demolition	49,567
B	Alumni Center	36,000
G	Health & Human Performance Gateway and Circulation Improvements	
B	Health & Human Performance Faculty Office Building	60,000
B	Life Sciences Complex Project	485,270
R	Warren Life Sciences Research and Vivarium Expansion	30,000
D	Demolition of Administrative Support Annex & Building 159	10,000
G	New Bus Shelters	NA
P	Health Sciences Parking Deck #1	1,000
B	Academic A Building	490,562
B	Cancer Center	60,000
B	Clinical Faculty Offices	50,000
B	Office Surge Building	55,366
G	Transit Hub	NA
B	Facilities Building Complex	50,000
B	Medical Education Building	250,000
G	Central Campus Core Pedestrian Improvements	
		2,365,215



Total Project Cost		Capital Funding Sources				
Today	Escalated	University	State	Private	Auxiliary	Other
$12,150,000	$13,177,302		$13,177,302			
$7,998,750	$8,860,059		$392,163		$8,467,896	
$2,025,000	$2,287,849		$2,287,849			
$61,188,075	$71,014,250		$11,454,790		$59,559,460	
$116,046,000	$140,505,739	$8,647,779	$39,912,126		$91,945,834	
$25,758,000	$30,077,053		$1,499,133		$28,577,920	
$65,819,250	$79,002,924		$50,143,402			$28,859,522
$669,155	$769,875		$769,875			
$15,072,750	$18,086,342	$8,867,383	$351,576	$8,867,383		
$1,383,750	$1,601,623		$1,601,623			
$25,650,000	$31,020,586		$31,020,586			
$223,307,503	$286,990,763		$286,990,763			
$18,265,500	$21,935,210		$21,935,210			
$135,000	$157,241		$157,241			
$2,025,000	$2,491,149		$2,491,149			
$24,300,000	$31,387,435		$31,387,435			
$132,800,675	$178,241,275	$2	$178,161,220			$80,053
$34,647,750	$44,998,621		$25,904,598	$19,094,023		
$18,657,000	$24,264,546		$24,264,546			
$14,368,941	$18,074,884		$18,074,884			
$1,350,000	$1,736,932			$1,736,932		
$17,104,500	$23,462,706		$23,462,706			
$113,575,500	$155,788,488		$155,788,488			
$2,207,250	$3,092,104		$3,092,104			
$936,505,348	$1,189,024,955	$17,515,164	$924,320,768	$29,698,338	$188,551,110	$28,939,575

Type Legend	
A	Property Acquisition
B	New Building Construction
D	Building Demolition
G	Grounds (site)
P	Parking
R	Renovation
S	Student Services
U	Utilities

Timeframe Legend	
	Planning and Design
	Bidding and Construction

Phase 2 Diagram

Project design start period January 2016 – January 2020

Key	Name
1	Medical Heating Facility - Steam Plant expansion
2	Warren Life Sciences renovation
3	Biotechnology Building Renovations
4	Ambulatory Ancillary Services Building
5	Hainey Building renovation
6	IT / Data Center
7	Site acquisition for IT / Data Center and demolition of existing buildings
8	Pedestrian green link open space (old rail spur)
9	Central open space for Warehouse District
10	10th, 11th and 12th St. streetscape improvements
11	Warehouse District, secondary gateway improvements
12	Hotel and Conferencing Center
13	Human Resources Building demolition
14	Visual & Performing Arts Center
15	Semi-private, sculpture / art courtyard for pre-function space
16	Informal pedestrian bike path connecting Town Common with the campus core
17	Reade St., streetscape improvements
18	Reade St. at 1st, secondary gateway improvements
19	Eller House demolition
20	Student Recreation Center expansion
21	Building 43, Mail Services demolition
22	Founders Drive open space
23	Wright Auditorium renovations
24	Wright Annex renovations
25	Austin Building renovations
26	14th Street Heating Plant renovation
27	Dowdy-Ficklen Stadium Press Box addition
28	Athletics District sidewalk connections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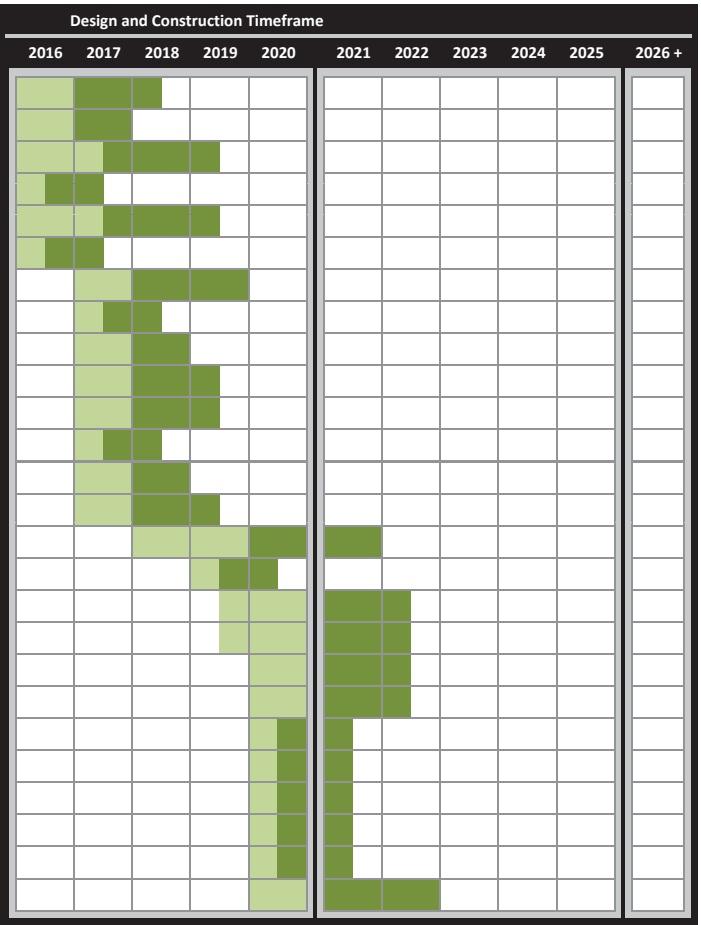
Phase 2 Project List

Project design start period January 2016 – January 2020

Type	Project Name	Proj. GSF
B	Medical Heating Facility - Steam Plant Expansion	11,863
R	14th Street Heating Plant Renovation	16,914
B	Ambulatory Ancillary Services Building	194,000
B	IT / DATA Center	40,000
S	Student Recreation Center Expansion	62,276
D	Building 43: Mail Services Demolition	24,932
R	Warren Life Sciences Renovation	75,482
D	Eller House Demolition	3,500
G	Campus Lighting Improvements	NA
G	Emergency Call Box Renovations	NA
G	Consolidation of Electronic Security Systems	NA
D	Demolition of existing buildings on Warehouse District Site	NA
B	Dowdy-Ficklen Stadium Press Box Addition	25,000
R	Hainey Building Renovation	75,000
R	Austin Building Renovations	63,886
D	Demolition of Human Resources Building	12,250
R	Biotechnology Building Renovations	28,152
B	Visual & Performing Arts Center Complex	200,000
R	Wright Annex Renovations	39,279
R	Wright Auditorium Renovations	33,986
G	Physical Security Improvements to Existing Facilities	NA
G	Integration of Access Control Database with Other University Databases	NA
S	Conversion of Housing Access Control System	
G	Video Storage Upgrade	NA
G	New Wayfinding System for Campus	NA
B	Hotel & Conferencing Center	46,000
		952,520



Total Project Cost		Capital Funding Sources				
Today	Escalated	University	State	Private	Auxiliary	Other
$3,203,010	$4,452,614		$4,452,614			
$1,141,695	$1,567,868		$1,567,868			
$92,110,500	$132,789,464		$66,394,732			$66,394,732
$15,059,250	$20,176,217		$20,176,217			
$27,812,619	$40,095,568				$40,095,568	
$336,582	$447,347		$447,347			
$22,927,658	$33,875,724		$33,875,724			
$47,250	$65,937		$65,937			
$2,025,000	$2,919,841		$2,919,841			
$2,025,000	$2,955,674		$2,955,674			
$2,025,000	$2,955,674		$2,955,674			
$675,000	$949,650		$949,650			
$7,755,750	$11,177,322	$10,949,406	$227,916			
$28,329,750	$40,924,056		$40,924,056			
$12,074,454	$19,667,356		$19,667,356			
$165,375	$256,495		$256,495			
$6,840,936	$11,559,246		$11,559,246			
$116,707,500	$192,053,247		$114,086,584	$38,983,332		$38,983,332
$7,688,864	$12,992,005		$12,992,005			
$7,340,976	$12,404,172		$12,404,172			
$15,525,000	$26,554,792	$13,277,396		$13,277,396		
$371,817,169	$570,840,270	$24,226,802	$348,879,109	$52,260,728	$40,095,568	$105,378,064

Type Legend	
A	Property Acquisition
B	New Building Construction
D	Building Demolition
G	Grounds (site)
P	Parking
R	Renovation
S	Student Services
U	Utilities

Timeframe Legend	
	Planning and Design
	Bidding and Construction

Phase 3 Diagram

Project design start period January 2021 – January 2025

Key	Name
1	Brody Medical Science Building renovation
2	Leo Jenkins Cancer Center renovation
3	West Neighborhood Student Housing Conversion 1 and 2
4	Erwin / Bloxton House Demolition
5	Library addition
6	Visitors Center
7	McGinnis Theatre renovation
8	McGinnis Scene Shop renovation
9	College Hill Parking Deck #2
10	Todd Dining Hall expansion
11	Living / Learning Complex
12	14th Street Heating Plant expansion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Phase 3 Project List

Project design start period January 2021 – January 2025

Type	Project Name	Proj. GSF	Design and Construction Timeframe										
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026 +
R	McGinnis Theatre Renovations	26,692											
R	McGinnis Scene Shop Renovations	9,600											
U	14th Street Heating Plant Expansion	40,000											
R	Leo Jenkins Cancer Center Renovations	39,155											
P	College Hill Parking Deck #2	1,000											
R	Brody Medical Science Building Renovation	480,279											
D	Erwin Hall / Bloxton Demolition	14,652											
S	Living / Learning Complex	120,000											
U	Main Campus Capital Infrastructure Projects - PHASE 3	NA											
U	Millennial Campus Buildings Infrastructure Project Phase 3	NA											
B	Library Addition	22,000											
S	Todd Dining Hall Expansion	9,300											
B	Visitor's Center	15,000											
S	West Neighborhood Student Housing Conversion 1	83,000											
S	West Neighborhood Student Housing Conversion 2	83,000											
		943,678											

Total Project Cost		Capital Funding Sources				
Today	Escalated	University	State	Private	Auxiliary	Other
$5,405,130	$9,473,219		$9,473,219			
$583,200	$1,022,137		$1,022,137			
$9,720,000	$16,622,000		$16,622,000			
$9,514,665	$17,723,809		$17,723,809			
$24,300,000	$43,994,148		$43,994,148			
$118,324,031	$220,594,507		$220,594,507			
$197,802	$369,884		$369,884			
$37,260,000	$72,875,443				$72,875,443	
$405,000	$763,522		$763,522			
$1,775,250	$3,346,772		$3,346,772			
$7,425,000	$17,615,486		$17,615,486			
$5,933,250	$11,584,601				$11,584,601	
$5,887,350	$11,499,498	$5,749,749		$5,749,749		
$14,006,250	$28,766,899				$28,766,899	
$14,006,250	$28,766,899				$28,766,899	
$254,743,178	$485,018,823	$5,749,749	$331,525,484	$5,749,749	$141,993,841	

Type Legend	
A	Property Acquisition
B	New Building Construction
D	Building Demolition
G	Grounds (site)
P	Parking
R	Renovation
S	Student Services
U	Utilities

Timeframe Legend	
	Planning and Design
	Bidding and Construction

Phase 4 Diagram

Project design start period +2026

Key	Name
1	Ambulatory / clinic infill opportunity
2	Academic infill opportunity
3	Courtyard function space
4	Utility plant expansion area
5	Infill opportunity
6	5th St. streetscape improvements
7	Office / parking deck opportunity
8	Moye streetscape and gateway improvements
9	Gateway improvements with PCMH partnership
10	Millennial Campus infill opportunities
11	Mixed-use infill and parking opportunities
12	2nd, 3rd and 4th St. streetscape improvements
13	Pedestrian bridge connection from Downtown District to the campus core
14	5th and Reade primary gateway addition
15	West Mall landscape improvements
16	10th St. infill building opportunities
17	10th St. streetscape and gateway improvements
18	Flood control, stormwater management and passive recreation area
19	Wooded preservation zone
20	Green Mill Run connection to city and regional recreational path and bike route
21	Olegsby Dr. turn-around loop and circulation / parking expansion
22	Infill opportunity
23	Charles Blvd. streetscape improvements


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Full Build-out Diagram

seven | acknowledgements

The dedication of time during this master plan process and the recommendations that have resulted as presented in this report are credited to the East Carolina University community as a whole. The transparent process yeilded ideas that defined the forward-thinking vision of all committees, faculty, staff, students and community members.

Acknowledgements

Participants and Committees

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SmithGroupJJR

Campus Energy Audit
Green House Gas Emissions Inventory and Strategies for CO2 Emissions Reduction
SmithGroupJJR
Complete Spring/Summer 2012

Thank you

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