

East Carolina University

Comprehensive Facilities Master Plan

SMITHGROUP | JJR

Eva Klein & Associates

Brailsford & Dunlavey

RMF Engineers

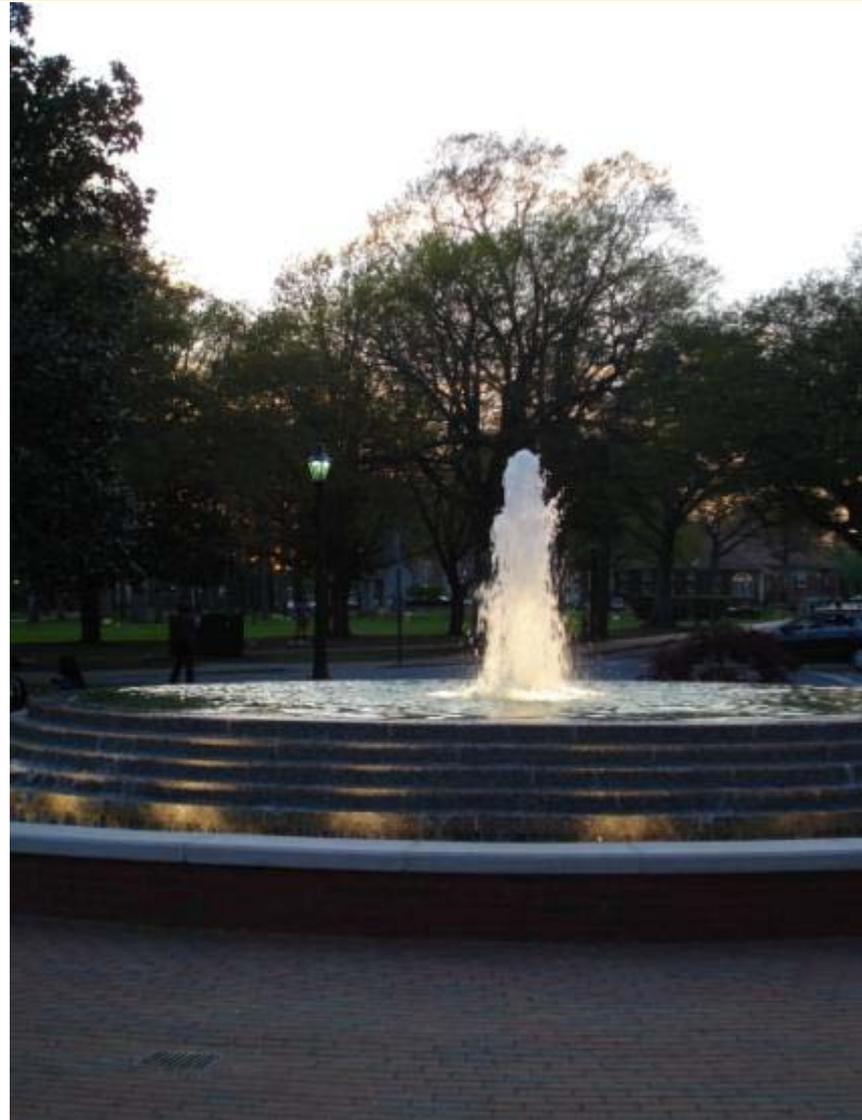
Martin Alexiou Bryson

Protection Engineering Group

ISES

Task 2: Data Collection Overview

- Introduction
 - Purpose and Goals
- Schedule and Process Overview
- Task 2 Accomplishments
 - Individual Updates
 - EKA – Strategic Review
 - SG/JJR – Health Sciences
 - B & D – Housing, Recreation
 - B & D – Athletics
 - MAB – Transit, Parking, Pedestrian
 - PEG – Security
 - SG/JJR – Architectural Guidelines
 - RMF – Utility Infrastructure
- Next Steps



“The purpose of this comprehensive plan is to create a plan that will anticipate the future by considering facility needs generated by the University’s Mission Statement, Strategic Plan and corresponding Academic Program”



Master Plan Purpose & Goals

3 Key Themes:

1. Create a socially, economically, and environmentally sustainable campus plan that represents the hopes and aspirations of this region.
 - Integrate strategic, academic, and financial planning
2. Bring 4 diverse campus environments into a coherent and connected campus plan.
 - East Campus
 - Health Sciences Campus
 - West Research Campus
 - North Recreational Fields Complex
3. Utilize the campus to support and enhance the University and the community.
 - University as engaged resource



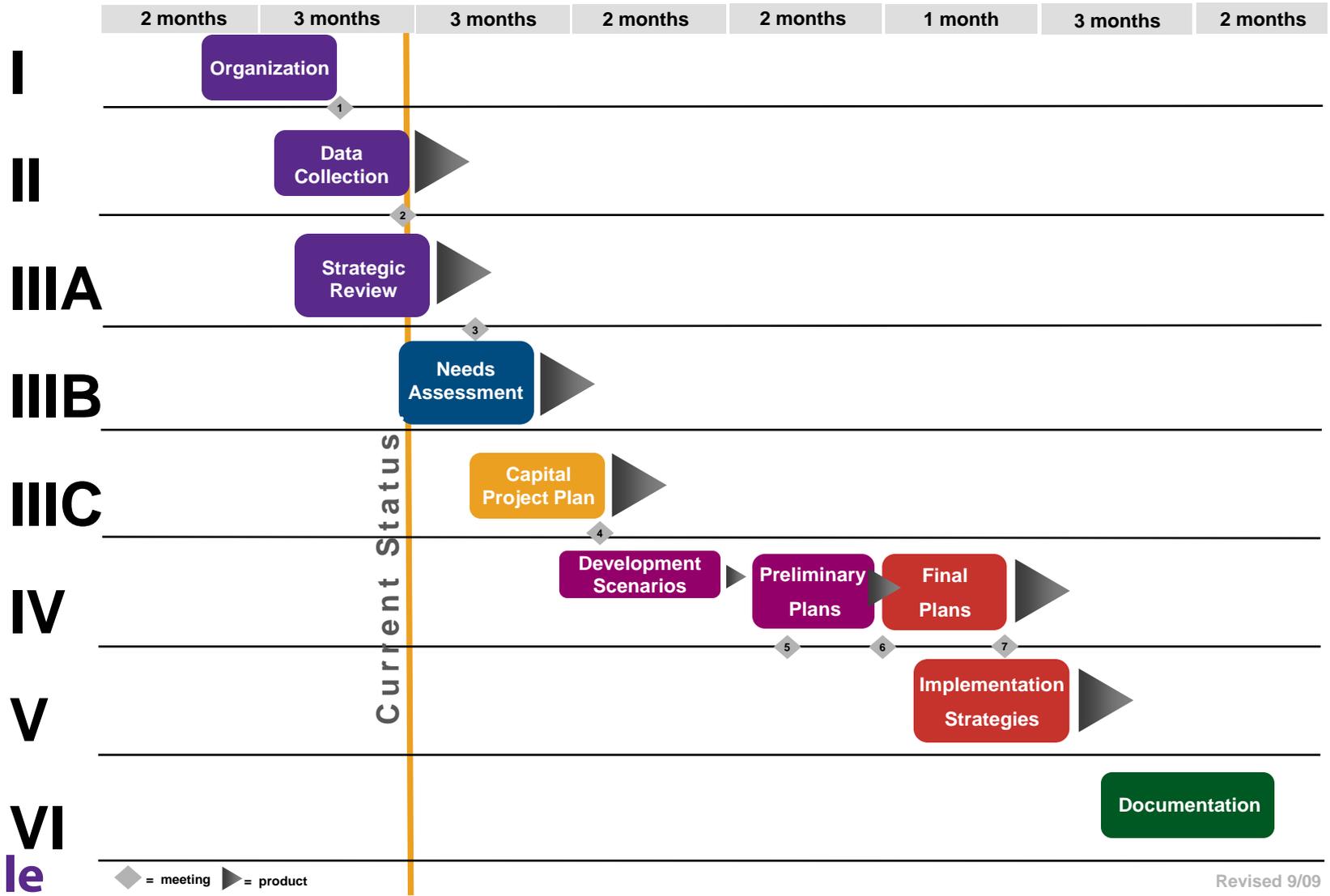
- Finalize work plan with ECU management
- Prepare inventory data list
- Collect and review inventory data
- Site inspections by Project Team with Focus Groups
- Reports discussing data collection and initial findings
- Draft architectural guidelines
- ECU SharePoint site - up and running
- ECU public Master Plan Site



Goals of Task 2

East Carolina University || Comprehensive Facilities Master Plan

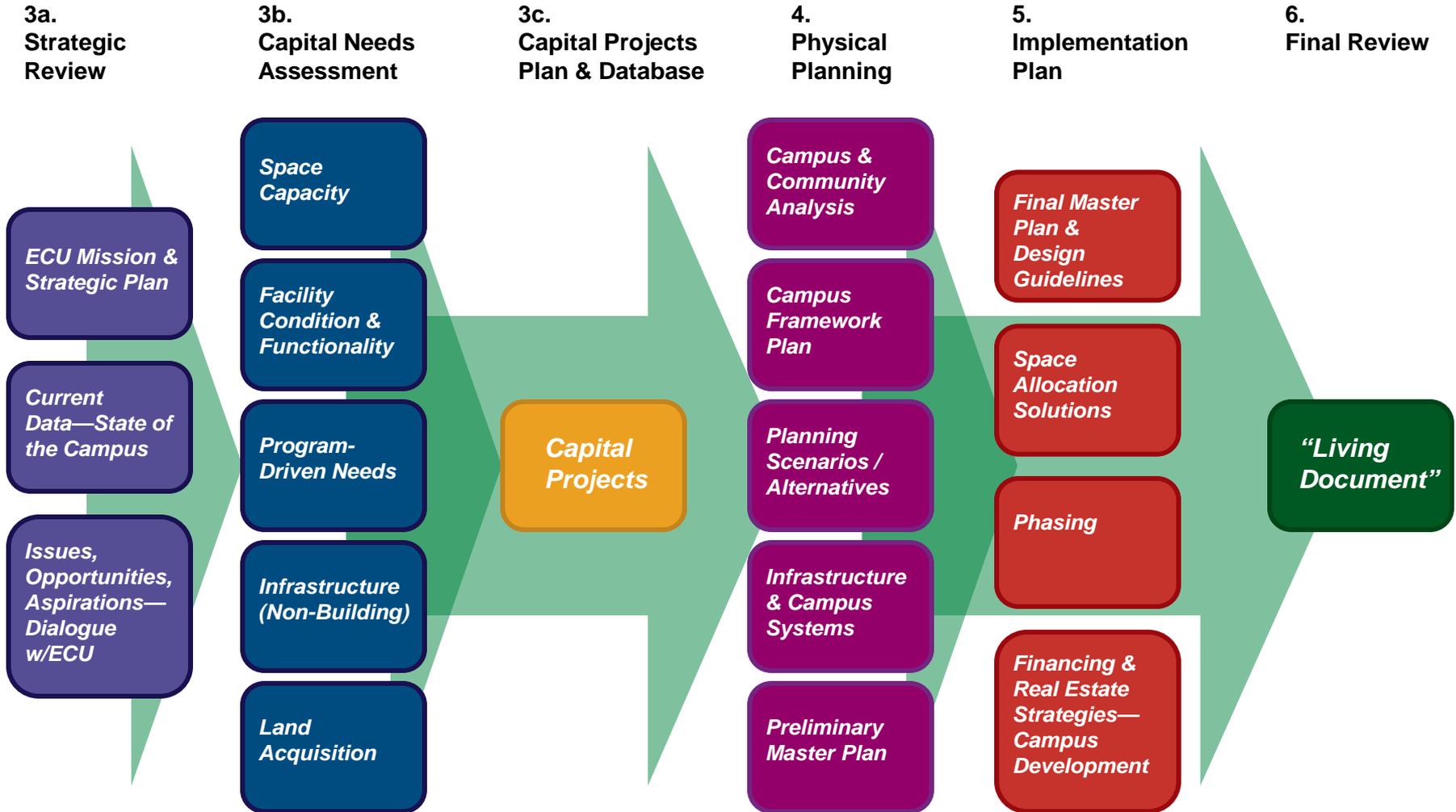
TASK



Schedule

Revised 9/09

East Carolina University || Comprehensive Facilities Master Plan



Process

Task 2: Team Updates

Strategic Review—Objectives

- Prepare team for Master Plan
- Identify ECU priorities, initiatives, targets
- Define Master Plan Guiding Principles
- Produce Strategic Framework summary

Strategic & Academic Research Planning
EKA



Contexts: UNC Tomorrow and ECU Tomorrow

Main Strategies of *UNC Tomorrow*

- Our Global Readiness
- Our Citizens and Their Future:
Access to Higher Education
- Our Children and Their Future:
Improving Public Education
- Our Communities and Their
Economic Transformation
- Our Health
- Our Environment
- Our University's Outreach and Engagement

Strategic & Academic Research Planning

EKA

Main Strategies of ECU Tomorrow

- Education for a New Century
- The Leadership University
- Economic Prosperity in the East
- Health Care and Medical Innovation
- The Arts, Culture, and the Quality of Life

Master Plan Principles

- Education Outcomes, Instructional Content and Delivery , and the Student Experience
- Research, Scholarship, and Related Faculty Community Issues
- Community/Regional Constituencies, Connections, and Partnerships
- Physical Characteristics of the Campuses
- Business and Policy Considerations

Strategic & Academic Research Planning

EKA

Issues for Decisions

- Enrollment Issues
- Research Growth and Space Productivity
- Space Ownership, Utilization, and Configurations

Strategic & Academic Research Planning

EKA

The “Maturing” Health Sciences Center

Robust School of Nursing @ 1,100 Students (Largest in the State)

- Regional Education and Placement Model
- Significant Distance Education Curriculum
- Growth will be Limited at Class Size of 150)

Robust School of Allied Health @ 800 Students

- Very Broad Curriculum Offering
- Clinical Enterprise with 4 Distinct Clinics (Speech, PT, Rehab / Substance Abuse, and Sports PT)
- Anticipate 34% growth over next 8 years

Health Sciences

SG/JJR

The “Maturing” Health Sciences Center

New Dental School @ 200 Students

- Innovative Regional Clinical Offering (4th Year in a Regional Campus Setting)

Mature School of Medicine @ 320 Students with Growth to 480 Students

- Historic Clinical Training Focus with Family and Rural Health Mission
- Robust + Broad Clinical Enterprise; Centers of Excellence in Cancer, Metabolic, CardioVascular
- Close Relationship with PCMH, Require Regional Expansion to Serve Student Growth
- Historic Source of Extramural Funding (Research)
- Expectation to Grow Research

Health Sciences

SG/JJR

East Carolina University \\\ Comprehensive Facilities Master Plan

UNIVERSITY HEALTH SYSTEMS	Complex Beds	Discharges	Location
Pitt County Memorial Hospital	745	34,923	Greenville, NC 27835
Heritage Hospital	117	4,002	Tarboro, NC 27886
Roanoke-Chowan Hospital	112	3,922	Ahoskie, NC 27910
Duplin General Hospital	89	2,788	Kenansville, NC 28349
Chowan Hospital	25	1,902	Edenton, NC 27932
The Outer Banks Hospital	18	1,533	Nags Head, NC 27959
Bertie Memorial Hospital	15	444	Windsor, NC 27983
Albemarle Health	142	7,246	Elizabeth City, NC 27909
SUB-TOTAL	1,263	56,760	

ECU TARGET AFFILIATIONS			
Lenoir Memorial Hospital	188	9,348	Kinston, NC 28501
Wilson Medical Center	277	8,786	Wilson, NC 27893
Nash General Hospital	353	14,421	Rocky Mount, NC 27910
Wayne Memorial Hospital	276	14,014	Goldsboro, NC 27534
Halifax Regional MC	144	7,061	Roanoke Rapids, NC 27870
Craven Regional MC	303	15,166	New Bern, NC 28561
Sampson Regional MC	105	3,965	Clinton, NC 28328
Onslow Memorial Hospital	162	8,042	Jacksonville, NC 28541
New Hanover Regional MC	665	30,149	Wilmington, NC 28401
SUB-TOTAL	2,473	110,952	
TOTAL	3,736	167,712	

source: American Hospital Directory accessed 7-28-2009, updated 8-13-2009



Health Sciences
SG/JJR

0 mi 20 40 60 80

Medical Student to Staff Ratio

Duke
 Texas A&M
 Wake Forest
 North Carolina
 South Dakota
East Carolina - Brody
 Michigan State
 Southern Illinois
 Hawaii - Burns
 Texas Tech
 Morehouse
 Nevada
 Marshall - Edwards
 Mercer
 South Carolina
 Wright State - Boonshoft
 East Tennessee - Quillen
 Eastern Virginia
 Northeastern Ohio
 North Dakota
 Florida State

TOTAL STUDENTS		
Total Medical Students	Total Full time Faculty incl Instructors	Ratio of Faculty to Students
404	1,663	4.12
348	914	2.63
454	932	2.05
665	1,267	1.91
210	276	1.31
293	358	1.22
494	586	1.19
291	333	1.14
254	258	1.02
567	541	0.95
216	204	0.94
224	208	0.93
246	221	0.90
243	216	0.89
315	266	0.84
413	343	0.83
242	195	0.81
440	349	0.79
456	310	0.68
245	138	0.56
416	112	0.27

STUDENTS - Y1 + Y2		
Y1 + Y2 Students	Total Basic Science Faculty	Ratio of Faculty to Y1 + Y2 Students
202	194	0.96
174	71	0.41
227	181	0.80
333	233	0.70
105	37	0.35
147	69	0.47
247	137	0.55
146	81	0.56
127	90	0.71
284	84	0.30
108	51	0.47
112	64	0.57
123	45	0.37
122	37	0.30
158	54	0.34
207	43	0.21
121	50	0.41
220	50	0.23
228	41	0.18
123	66	0.54
208	41	0.20

STUDENTS - Y3 + Y4		
Y3 + Y4 Students	Total Clinical Science Faculty	Ratio of Faculty to Y3 + Y4 Students
202	1,469	7.27
174	843	4.84
227	751	3.31
333	1,034	3.11
105	239	2.28
147	289	1.97
247	449	1.82
146	252	1.73
127	168	1.32
284	457	1.61
108	153	1.42
112	144	1.29
123	176	1.43
122	179	1.47
158	212	1.35
207	300	1.45
121	145	1.20
220	299	1.36
228	269	1.18
123	72	0.59
208	71	0.34

HSC Aspirations

- Consistent Desire to Create an Integrated **Health Science Center Campus** Respectful of Student and Faculty Support and Patient Access
- Efficient and effective
- Consistent Goal of Aligning Clinical Service, Education and Research Leadership with Health Needs of Region
- Desire to Provide an Integrated Core Curriculum in support of Interprofessional Education across the Health Science Center Schools
- Continue and Strengthen Regional Growth in Support of Current and Anticipated Program Development

HSC Conceptual Vision

An Integrated, Humanistic-Oriented, Community-Based Care-Delivery, Education, and Research Model.

Health Sciences

SG/JJR

HSC Limitations

- Various Programs are Fragmented and Non-Integrated
- Funding Resource Constraints
- Inconsistent Utilization of Existing Facilities
- Limited Physical Ability of Current Facilities to Support Future Program Development
- Revenue Sources are Inconsistent; Distribution in Support of Programs Require Constant Negotiation
- Wayfinding Challenges due to Historic Focus on a “Medical Mall” Model Rather Than an “Integrated Health” Model (A Community Health Resource Center)

Health Sciences

SG/JJR

Housing, Recreation, and Union B & D

The Master Plan should:

- Support Enrollment Growth
 - 37,000 students projected by 2017
 - Capacity to house at least 25% of undergraduate population
- Consider West Campus Growth
- Evaluate Options for Public / Private Partnerships
- Enhance the Relationships between Quality of Life Facilities



Housing, Recreation, and Union B & D

Market Analysis Summary

- Administrative Interviews
- Focus Groups / Intercept Interviews
- Off-Campus Market Analysis
- Competitive Context Review
- Student Survey Analysis



Housing Demand & Summary B & D

2008-2009

On-Campus Housing Type: Distribution of Demand

	Unit A - Traditional Residence Hall Double	Unit B - Traditional Residence Hall Single	Unit C - 8- person Suite Double	Unit D - 4- person Suite Single	Unit E - 2- person Semi- Suite Single	Unit F - 2- person Apartment Single	Unit G - 4- bedroom Apartment Single	Total
Freshman Year	197	152	137	832	505	444	520	2,788
Sophomore Year	127	141	121	429	276	405	433	1,931
Junior Year	47	83	41	229	379	313	266	1,359
Senior Year	0	210	81	262	213	262	231	1,258
Graduate/Professional Year(s)	28	83	0	28	132	220	110	599
Total Demand (# beds)	398	668	380	1,780	1,505	1,644	1,560	7,936
Existing On Campus Beds	4,513	0	494	490	0	0	0	5,497
Surplus/(Deficit)	4,115	(668)	114	(1,290)	(1,505)	(1,644)	(1,560)	(2,439)

Surplus of Traditional-Style Beds

Deficit of Suite- and Apartment-Style Beds

Recreation Demand

B & D

Main Campus - Recreation & Wellness Demand for Students, Faculty and Staff

Activity	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
Cardiovascular fitness machines	Sq. Ft.	13,040	9,800	to	11,100
Indoor jog or walk	Sq. Ft.	20,680	15,500	to	17,600
Free weights	Sq. Ft.	16,300	12,200	to	13,800
Group Fitness (aerobics, dance, etc.)	Sq. Ft.	15,200	11,400	to	12,900
Weight machines	Sq. Ft.	9,300	5,150	to	6,050
Yoga, stretch, or Pilates	Sq. Ft.	24,280	13,300	to	15,800
Lap swimming	Lanes	34	18	to	22
Recreational swimming	Sq. Ft.	13,050	5,200	to	6,500
Basketball	Courts	14	5	to	8
Indoor tennis	Courts	25	10	to	13
Water aerobics	Sq. Ft.	12,470	5,000	to	6,200
Outdoor tennis	Courts	28	11	to	14
Outdoor sand volleyball	Courts	9	2	to	3
Racquetball	Courts	29	8	to	10
Martial arts	Sq. Ft.	5,850	1,568	to	2,110
Outdoor basketball	0	7	2	to	2
Indoor soccer	Courts	5	1	to	1
Volleyball	Courts	6	1	to	1
Rock climbing wall	Ln. Ft.	43	4	to	9
Badminton	Courts	16	1	to	4
Table Tennis	Tables	18	2	to	3
Roller or floor hockey	Courts	2	0	to	0
Squash or paddleball	Courts	3	0	to	1

Union Demand

B & D

Main Campus - Union Demand for Students, Faculty and Staff

Activity	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
24 Hour Study Lounge	Sq. Ft.	7,995	5,944	to	6,661
Coffeehouse	Sq. Ft.	4,020	3,043	to	3,402
Computer Lab	Sq. Ft.	3,510	2,548	to	2,960
Food Court Dinner	Sq. Ft.	4,630	3,368	to	3,885
Food Court Lunch	Sq. Ft.	5,880	3,363	to	3,938
Convenience store / small grocery mkt	Sq. Ft.	420	232	to	274
Copy / Print Center	Sq. Ft.	700	382	to	452
Bookstore	Sq. Ft.	1,340	575	to	685
Food Court Breakfast	Sq. Ft.	4,520	1,871	to	2,302
Sports bar / pub	Sq. Ft.	4,030	1,628	to	2,039
Grab-and-go Lunch	Sq. Ft.	970	411	to	508
Grab-and-go Breakfast	Sq. Ft.	1,100	344	to	452
Small Group Study Rooms	Sq. Ft.	4,180	1,013	to	1,426
Informal lounges / social gathering areas	Sq. Ft.	3,580	940	to	1,256
Games / Informal Rec Space	Sq. Ft.	4,900	1,248	to	1,785
Grab-and-go Dinner	Sq. Ft.	760	76	to	152
Multipurpose theater / Auditorium	Sq. Ft.	5,160	550	to	1,000
Large Special Event Programming Space	Sq. Ft.	3,820	460	to	784

Recreation & Union Summary

B & D

- Recreation
 - Excellent Quality
 - Demand for Additional Quantity
- Union
 - Poor Quality
 - Demand for additional quantity is a function of ECU's strategic decisions concerning the operational model for the union system
- West Campus
 - Housing, Recreation, and Union demand has been considered and will be incorporated into the plan in the next phase.

Athletics Work Plan

B & D

- Tour Existing Facilities
- Interview Senior Athletic Administration
- Collect Data Regarding Athletic Master Planning
- Review and Organize Athletic Master Plan Data
- Provide Relevant Research and Information (for Basketball Practice Facility)

Athletic Master Plan

East Carolina University \\\ Comprehensive Facilities Master Plan



Athletic Facilities Expansion
East Carolina University Greenville, NC

Master Plan
Scale: 1"=50' 02/24/09



CORLEY REDFOOT ZACK
ARCHITECTS ENGINEERS PLANNERS
1000 WEST 10TH STREET SUITE 1000 GREENVILLE NC 27601-1000
TEL: 252.333.1111 FAX: 252.333.1112

	Parking & Traffic Department	Student Transit Authority
Sustainable Practice	<ul style="list-style-type: none"> • “Real-cost” permit sales • Occupancy-based permit sales • “Park once” emphasis • Travel Demand Management programs • Long-range parking strategies 	<ul style="list-style-type: none"> • Service area limitations (off-campus) • Formalized bus stop locations and times • Easy transfers to other transit systems • Capital improvement planning • Coordinated service planning
Non-Sustainable Practice	<ul style="list-style-type: none"> • Subsidized parking permit costs • Subsidized parking deck construction • Maximum permit flexibility (drive to meetings) • “Hunting” for parking spaces • Free visitor parking 	<ul style="list-style-type: none"> • Subsidize (25%) of costs to apartment complexes • Demand-responsive route planning • Non-Transparent decision making • Temporary or improvised bus stops/transfer areas • Renting bus dispatch/storage location
Caveats	<ul style="list-style-type: none"> • Parking enforcement “liaison” program • 5-Year financial plan • Departmental outreach program 	<ul style="list-style-type: none"> • Full-time driver safety coordinator • Formal data collection program • Departmental outreach program

Transit, Parking, Pedestrian MAB

Transit Master Planning Questions

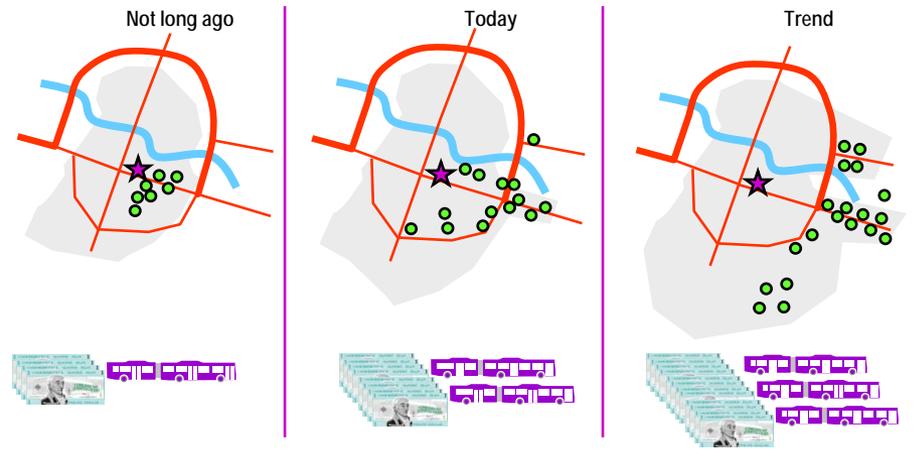
- Where do you want the East, Athletic, and Health Sciences Campus bus stops/stations?
- Where do you want the Bus Maintenance (dispatch and bus storage) Facility?
- Where will new students live?

Transit Supports Sustainability Goals

- Traffic volumes
- Pedestrian safety
- Air quality
- Land for parking
- Storm water management
- Cost of car ownership



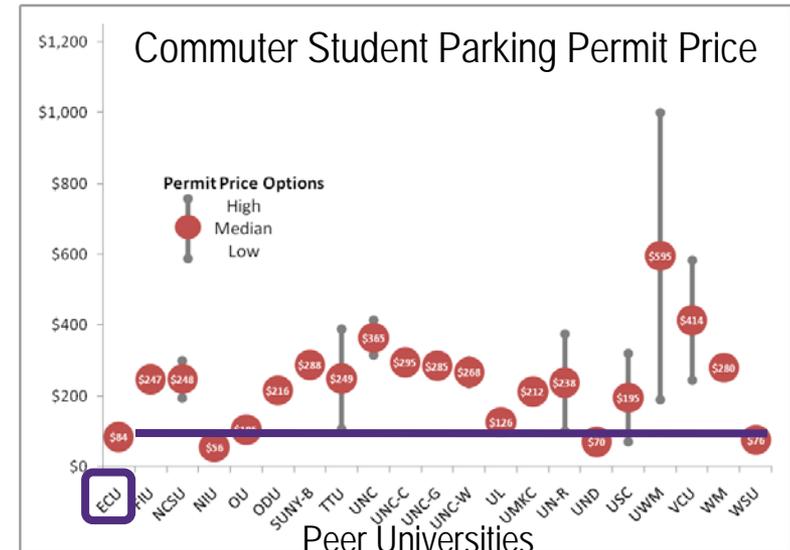
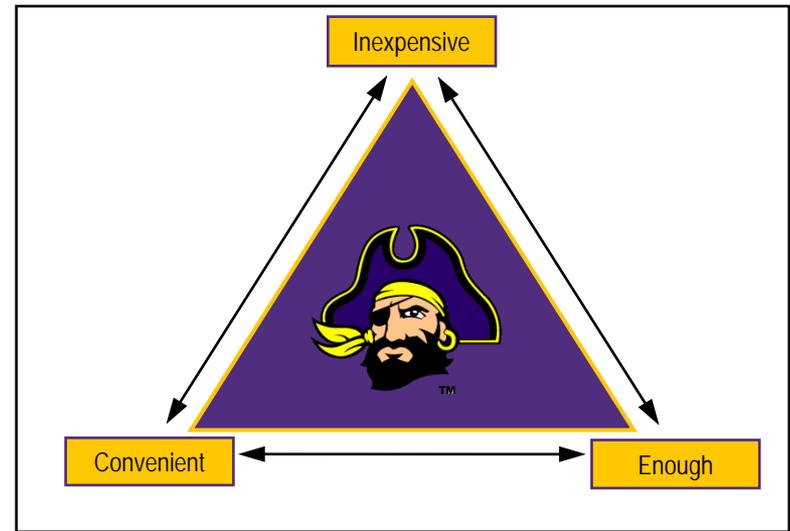
Apartments are Spreading Out...Trend is Unsustainable

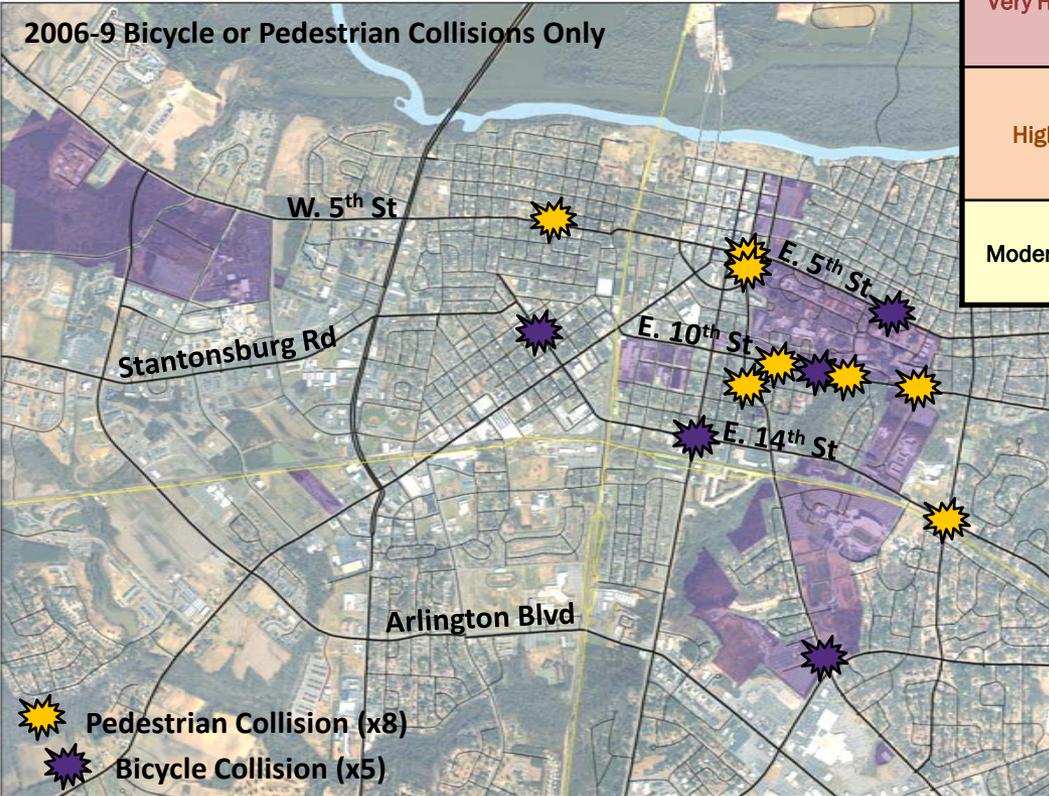


**Transit, Parking, Pedestrian
MAB**

Parking Master Planning Questions

- Should parking lot users be able to walk to East Campus?
- How convenient should parking be for out patients on Health Sciences Campus?
- Where should Visitor Parking be located?





Conflicts	Campus	Location
Very High	East	<ul style="list-style-type: none"> • E 10th St / College Hill Dr • Christenbury Gymnasium Transit Area • College Hill Dr / stairs to residence halls • S Cotanche St / 8th / 9th St (Student Rec)
High	East and Athletic	<ul style="list-style-type: none"> • 14th St / Railroad Tracks / Berkley Rd • 14th St / Residential Student Parking Lots • Founders Dr / Wright / Bate buildings • E 10th St / Retail Development
Moderate	East and Health Sciences	<ul style="list-style-type: none"> • E 5th St / Campus Perimeter (Neighborhood Apts) • S Cotanche St / Future Intermodal Transportation Center • Moye Blvd / Future Development

Pedestrian Master Planning Questions

- Which parking lots on East Campus are sacred?
- Which campus roads on East Campus are sacred?
- Where should the East Campus-Athletic Campus Connector be located?

**Transit, Parking, Pedestrian
MAB**

Summary

- Scope – In-depth security survey and analysis of ECU's current security posture.
- Physical Protection System
 - Operational
 - Architectural
 - Technology
- Assessment Report
 - Finding
 - Recommendations
 - Criticality Level
 - Frame Work for next phases



Operational

- Policies, Plans, and Procedures
- Organization, Roles & Responsibilities

Architectural

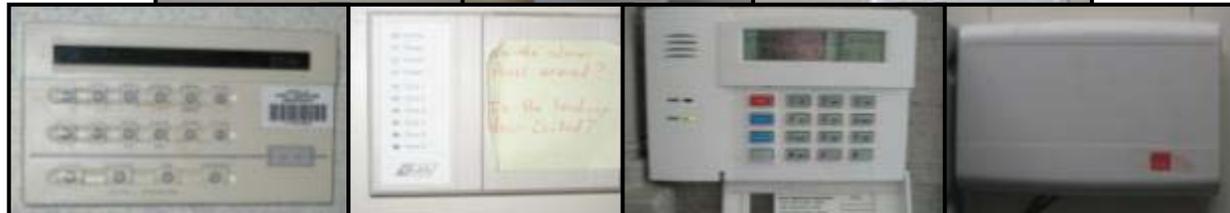
- Police Department Facility
- Lighting
- Security Integrated with Architecture (CPTED)

Technical

- Multiple Systems
- Electronic Security System Integration

Safety and Security

PE Group



Strategic Security Plan

- Goal #1: Establish Centralized Security Organization
- Goal #2: Implement Integrated Technical Security System
- Goal #3: Establish Security Operating Procedures
- Goal #4: Centralize Security Procurement Process
- Goal #5: Initiate Security Budget
- Goal #6: New Police Facility

Security Master Plan

- Documents to implement the Strategic Security Plan

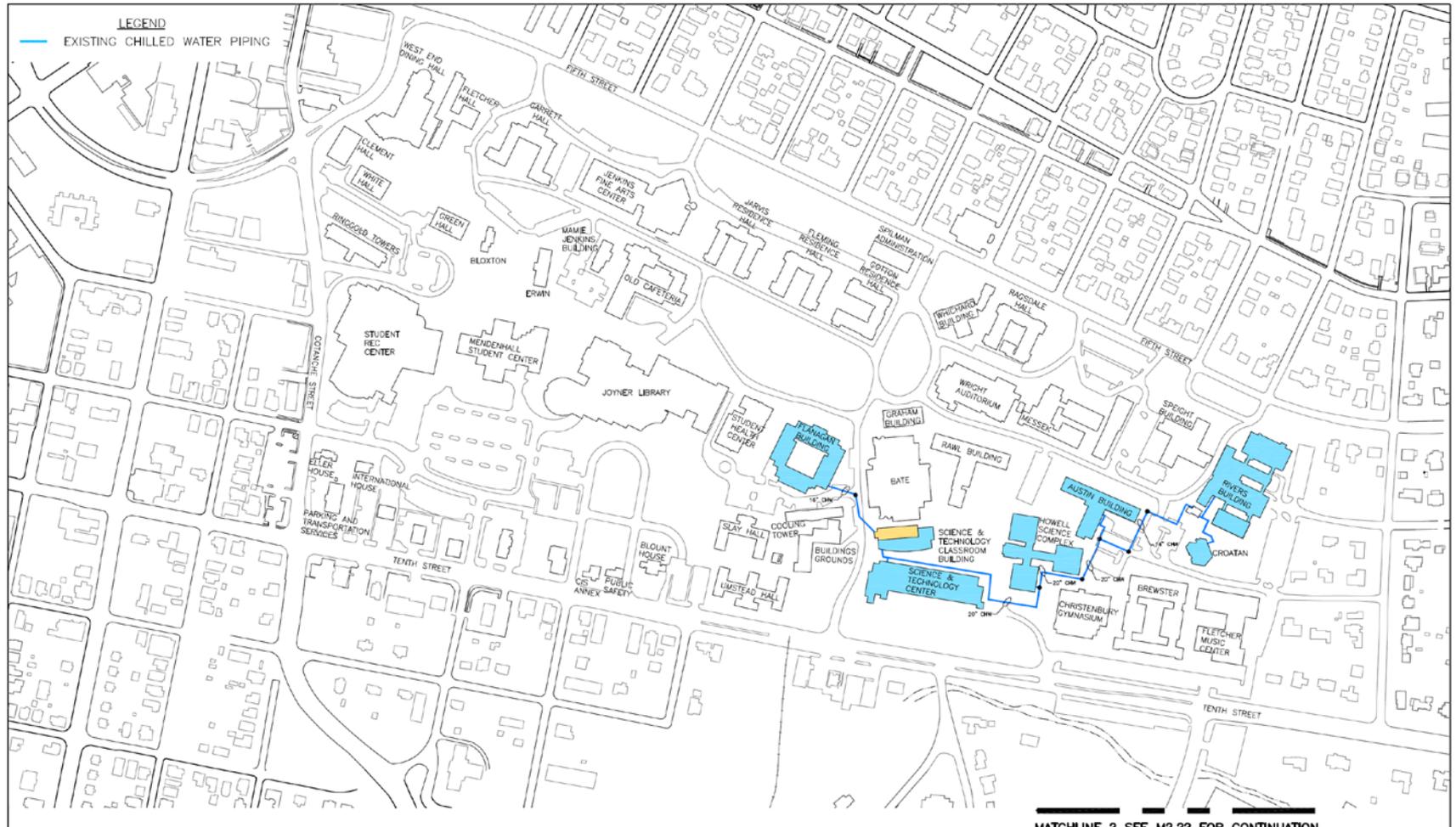
Summary

- Developed Preliminary Utility Site Plans
- Inventoried Utility Generation Equipment
- Incorporated Previous Utility Master Plans

Utility Infrastructure
RMF Engineering, Inc.



East Carolina University \\\ Comprehensive Facilities Master Plan



Utility Infrastructure
RMF Engineering, Inc.

 <small>RMF ENGINEERING, INC., P.C. 4300 BIRCHWOOD BLVD. STE. 100 DURHAM, NC 27703</small>	TITLE:	ECU COMPREHENSIVE MASTER PLAN	DATE:	7/7-7/27-2009	M2.??
	BUILDING:	2009 CHILLED WATER UTILITY SITE PLAN	SCALE:	NONE	
			RMF PROJECT No:	2009088.A0	

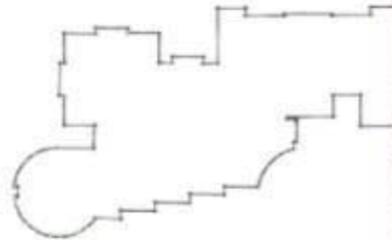
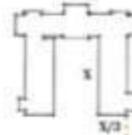
East Carolina University \\\ Comprehensive Facilities Master Plan

GENERAL ATTRIBUTES

- Massing & Proportion
- Height
- Scale
- Symmetry
- Hierarchy

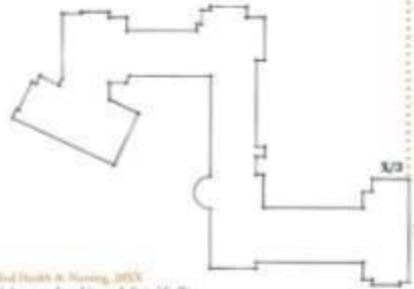
John Hall, 1968

Originally constructed as a march dormitory, this outdoor hall is an untypical campus building located on the primary campus quad. The U-shaped plan creates an intimate courtyard.



James E. Ross, 1953 - 1955

Housing a variety of media and functions, including the University Archives.



Alfred Heath & Manning, 2005

This long and narrow teaching and clinical facility.

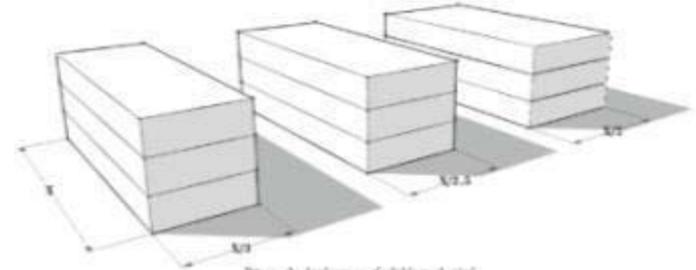
MASSING

Traditionally, campus buildings were planned to shape and define outdoor space; these buildings are generally viewed through a landscape foreground, and perceived as long and narrow. As the examples from ECU's campus illustrate, these proportional relationships are intuitively recognized, and are applicable to the full range of campus typologies.

Where large, deep floor plates are a programmatic requirement, the plan should be articulated to create the perception of "campus-scale" volumes. These proportional relationships are illustrated three-dimensionally.

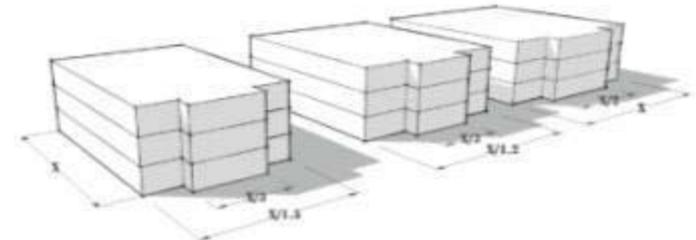
- X : X/3 - X/2 is an optimal range of length to width for plan components and plan articulation

As building technology and functional requirements become increasingly complex, mechanical ventilation systems served deeper floorplates with "leveled" program space.



Prior to the development of reliable mechanical ventilation and low slope roofing, buildings generally had narrow floorplates to permit natural ventilation and simple roof framing.

- Where deeper floorplates or floor plan components are a program requirement, as in laboratories, clinical facilities, and professional schools, consider articulations to reduce apparent width.



Deeper floorplates are typical in clinical and laboratory buildings. Floorplate area in these typologies is also increasing to accommodate multi-disciplinary approaches to research and patient care.

Architectural Guidelines SG/JJR

GENERAL ATTRIBUTES

- Massing & Proportion
- Height
- Scale
- Symmetry
- Hierarchy



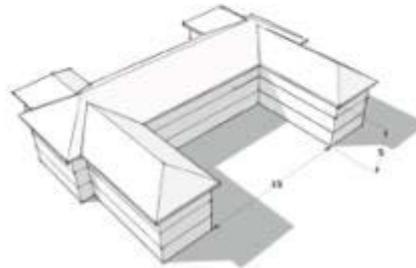
HEIGHT

The early buildings comprising the identity portion of campus are predominantly 2-3 stories, exclusive of roof.

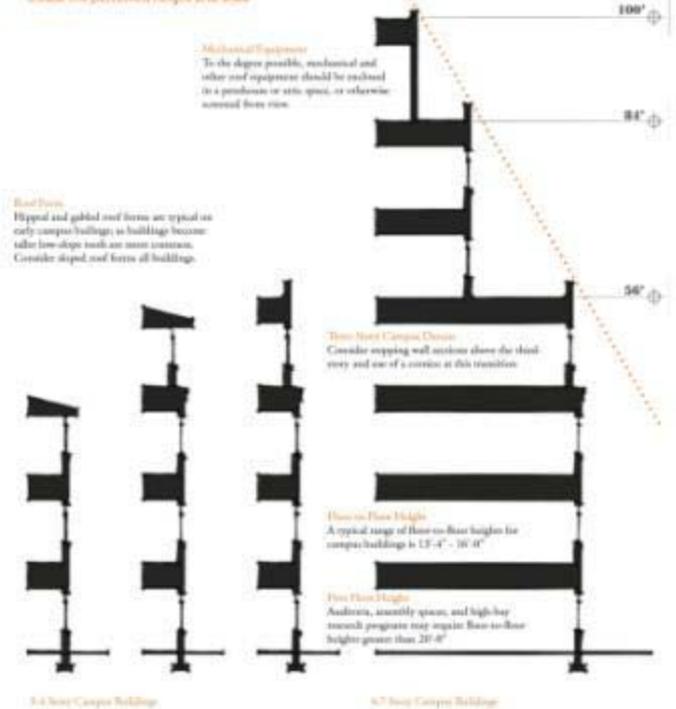
Maintaining human scale.

Consider recommending taller buildings to increase campus density and preserve campus real estate.

- The majority of early buildings comprising the campus identity are two to four stories in height
- In these early buildings, length of facade generally does not exceed three times height, excluding roof, before the introduction of elements that interrupt the length



- As campus becomes increasingly dense, new construction may be substantially taller than early campus buildings
- Buildings exceeding four stories should be set-back in section to decrease the perceived height and scale



MATERIALS

- Brick
- Grout
- Stone Panels & Accents
- Roof
- Window & Opening Systems
- Ornamentation & Trim
- Glazing
- Inscriptions



Architectural Guidelines

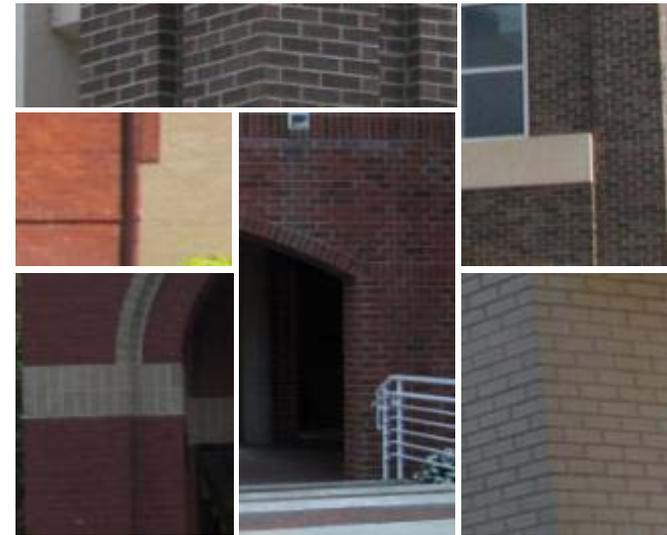
SG/JJR

MATERIALS

- Brick
- Grout
- Stone Panels & Accents
- Roof
- Window & Opening Systems
- Ornamentation & Trim
- Glazing
- Inscriptions



UNC-Chapel Hill



Architectural Guidelines
SG/JJR

COMPONENTS

- Roof Form
- Columns
- Fenestration
- Entrance
- Ornamentation & Pattern
- Service Areas



Hip Roof



Flat roof with false front



Gable Roof



Flat roof with parapet

Architectural Guidelines
SG/JJR

Discussion & Next Steps

- Facilities condition assessment & database
- Utilize inventory data to generate analysis drawings and documents
- Capital needs assessments
- Capital projects plan & database

Next Steps

Task 3

Email:
masterplan@ecu.edu

Website:
www.ecu.edu/masterplan