UNIVERSITY SYSTEM OF GEORGIA BOARD OF REGENTS

PHYSICAL MASTER PLANNING TEMPLATE

JULY 1997

UNIVERSITY SYSTEM OF GEORGIA
BOARD OF REGENTS

PHYSICAL MASTER PLANNING TEMPLATE

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The Physical Master Planning Template may also be found at:
http://www.peachnet.edu/BORWEB/capres/plantemp/

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THE UNIVERSITY SYSTEM OF GEORGIA

Higher education in Georgia celebrates its two-hundred and thirteenth year in 1997. With the founding of its first institution--Franklin College--in 1784/85, the State of Georgia began its commitment to supporting high-quality colleges and seminaries of learning. After the State of Georgia Reorganization Act of 1931 which created the University System of Georgia Board of Regents, the University System included twenty-six public institutions.

The University System of Georgia has gone through cycles of change, concentration and growth to its present composition of thirty-four institutions. Within this system there are four research universities, two regional universities, twelve state universities, and sixteen two-year colleges. By 1996-97 enrollment had grown to over two-hundred-thousand full-time equivalent students and it is expected to increase more than thirty percent by the year 2010. Today, the University System of Georgia is comprised of fifty thousand acres of land with over 2,777 buildings and fifty million square feet of building space.

The University System of Georgia continues to experience rapid change and growth. Academic offerings are being tailored to meet the needs of a continually diversifying body of students and faculty. Bachelors, masters and doctorate programs range from business to computer science, from visual and performing arts to foreign languages. External degree programs, outreach programs and distance learning also have accelerated to provide multiple opportunities and venues for learning throughout the state.

Integration of computers into classrooms is placing Georgia on the cutting edge with interactive systems and state- and world-wide systems such as electronic libraries (GALILEO), the University System of Georgia data communications network (Peach Net) and distance learning technology.

Scholarship also is being addressed throughout the University System of Georgia. Programs such as Helping Outstanding Pupils Educationally (HOPE) maintain the academic excellence of Georgia's students. Collaborative programs and external partnerships among colleges and elementary schools, secondary schools, business, industry, state adult and technical training provide rich resources for keeping Georgia's workforce trained for the newest technological opportunities, and open the door to new businesses.

With the support of the governor and the legislature, the University System of Georgia, as directed by the Board of Regents and under the guidance of the chancellor, is committed to formulating an educational vision for today's changing world and for Georgia's emerging future. The individual colleges and universities have joined efforts to prepare coordinated and complimentary mission statements, strategic plans and enrollment goals to meet growing state-wide needs.

This accelerating growth in Georgia also brings added impetus to preparing comprehensive plans for the future. In 1996, the University System of Georgia Board of Regents developed a pilot program for preparing and adopting physical master plans at the System's thirty-four campuses. The product of this effort, The *Physical Master Planning Template* (Template), is designed to assist the colleges and universities in preparing physical master plans which support their educational missions. The Template has a dual purpose: to aid individual institutions in preparing physical master plans to augment their academic missions and strategic plans, and to guide the University System of Georgia Board of Regents in allocating funds for future physical improvements. The Template is a guideline which defines the content, methodology, information sources and level of detail of the data which is anticipated for the physical master plans.

THE PHYSICAL MASTER PLANNING PROCESS

The purpose of a physical master plan for the University System of Georgia's colleges and universities is to provide detailed guidelines for the physical development of campuses in order to support their academic missions. The physical master plan seeks to achieve two principal objectives: first, to foster the development of a physical plant that is efficient in serving the academic mission and its physical plant operations; and second, to create a physical environment that is beautiful and emblematic of its educational purpose, and that encourages social and intellectual interchange among students, faculty and staff. Since each of the campuses is an established institution which has a distinct history, physical and community setting, the physical master plan should be reflective of the existing campus and responsive to its future academic mission supporting appropriate renovations and extensions.

A physical master plan concentrates on the physical development of the campus and its facilities, and encompasses elements of campus organization, land and building use, vehicular and pedestrian circulation, infrastructure, open space, relationship to the community and criteria for campus site and building design to ensure compliance with physical master plan principles. Optimally, a physical master plan should sequentially follow the institution's strategic (or academic) plan so that it can function as a physical reflection of the strategic directions being taken by the institutions. A physical master plan can also be undertaken concurrently with the development of a strategic plan wherein it can function as a test and possible modifier of the strategic plan.

Historically, the American college and university campus has been a unique design form with roots in the English tradition. The "yard" at Harvard College and Jefferson's "academical village" at the University of Virginia are early examples. Most of Georgia's college and university campuses exhibit, to varying degrees, planning characteristics of these early campuses such as pedestrian character, design composition of buildings framing pedestrian quadrangles and the continuity of architectural style. The post-World War II period in Georgia, as in the nation, has seen a rapid acceleration of growth and change on the campus. The widespread use and demands of the automobile and, more recently, the impact of the computer, continue to have dramatic impacts on the physical form of the campus.

The physical master plan for each campus, therefore, is expected to exhibit a range of physical forms in response to academic mission and goals, historic development and traditions, physical setting, regional and community setting and the skill of the planning and design professionals working with the institutions. To assist the colleges and universities, the Master Plan Resources section provides a bibliography of campus planning and design.

The Template describes the objectives, work tasks and products in a sequence of steps that lead to the development of the physical master plan. The Template provides the opportunity for two levels of detail. All institutions are expected to follow the general guidelines. In addition, some of the work tasks identify specialized studies to address specific problem areas.

The Template has the following essential characteristics:

1. The Template asks for an inclusionary process that engages the faculty, staff, students, University System of Georgia Board of Regents and the host communities, as appropriate, in a master plan committee. The master plan committee is the professional planner's client and is expected to be engaged in each of the critical review periods outlined in the Template.

2. The foundation for the physical master plan is the institutional mission statement. Sections I and II, History of the Institution and Goal Formulation, are designed to enable the master planning team to translate the institutional mission statement into a set of goals that is expected to address the plan. Upon completion of the Goal Formulation work program, the University System of Georgia Board of Regents will review and confirm their understanding and the master plan's consistency with system-wide goals for the entire state.

3. Sections III and IV of the Template, Existing Campus Conditions and Future Campus Requirements, describe the comprehensive analysis of physical conditions and future facility requirements to support the academic mission and physical

master plan goals. Material for these and other sections should include information that confirms the process and goals of the physical master plan. Highly-detailed information, bylaws, regulations or other potentially lengthy materials may be cited or summarized.

4. Alternative plan concepts are explored in Section V, Preliminary Physical Master Plan. The process includes comprehensively assessing the alternatives and considering goals and costs of implementation.

5. Upon review of the alternatives and selection of a preferred concept or combination of concepts, the plan is documented in Section VI, Physical Master Plan.

6. Implementation programs for the physical master plan are documented in Section VII, Implementation, and include the preparation of final cost estimates, phased capital improvement programs, the development of physical master plan standards and a continuing planning and design monitoring and review process for project design.

7. A process for periodicly updating and reviewing the physical master plan will be developed by each college and university as part of the implementation program. It is expected that more formal updating will occur at least every five years and interim updating will occur in response to unanticipated significant changes in mission or unexpected opportunity. See the Master Plan Resources section.

8. Administrative reviews by the University System of Georgia Board of Regents shall occur upon completion of Section II, Goal Formulation, and either Section V, Preliminary Physical Master Plan or Section VI, Master Plan. An informational presentation by the college or university president to the University System of Georgia Board of Regents shall occur at the completion of Section V or during Section VI, as appropriate.

9. All facility- and space-related data produced from the physical master planning process shall reflect the semester system.

10. Work products are expected to be in written and graphic formats according to tasks, products and graphic standards outlined in the Template. Graphic materials are expected to utilize AutoCad so that products can be delivered electronically on the Internet and in paper form.

11. Final master planning documentation is typically compiled in two primary ways. The first document is a three-ring binder within which technical memoranda prepared by the master planning consultant and subconsultant(s) are arranged according to the sections outlined in the Template. A sample table of contents for this type of final report is included in the *Physical Master Planning Template Reference Guide*. The second document is an executive summary which summarizes and cites findings from the technical memoranda. The executive summary is typically between ten and twenty-five bound pages and contains images, illustrations and summary tables embedded in the text. See Master Plan Resources, Writing an Executive Summary section for more information.

12. The Template process expects that all final physical master plan documentation will be posted in their entirety to the Board of Regents' official repository. In addition, a comprehensive subset of this final physical master plan should be posted to the individual college or university web site or to the University System of Georgia Board of Regents web site if an individual college or university web site does not presently exist. See the Master Plan Resources, Posting Information to the Internet section for more information.

13. At least ten printed copies of the final technical memoranda binder and the executive summary will be provided by the consultant to the college or university.

SAMPLE MASTER PLANNING PROCESS

			Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9
MASTER PLAN TASKS											
1	**Data Collection, Assessment and Reconnaissance**										
	A	Historical Context									
	B	Goal Formulation									
	C	Physical Analysis of Existing Campus Conditions:									
		Campus Grounds									
		Campus Infrastructure									
		Community Setting									
		Deliverables:									
		Technical memoranda as outlined in Template			^						
		CAD drawings as outlined in Template			^						
		Preliminary presentation to the Board of Regents Staff			P						
2	**Assessment of Future Requirements**										
	A	Future Academic Program									
	B	Space Needs Analysis									
	C	Parking									
	D	Athletic and Recreational Space									
	E	Campus Infrastructure									
	F	Land Acquisition / Disposition									
		Deliverables:									
		Technical memoranda as outlined in Template				^					
		CAD drawings as outlined in Template				^					
3	**Concept Development through Alternatives**										
	A	Land and Building Use									
	B	Open Space and Pedestrian Circulation									
	C	Vehicular Circulation and Parking									
	D	Athletic and Recreational Space									
	E	Campus Infrastructure									
	F	Cost Estimates									
	G	Assessment of Alternatives									
		Deliverables:									
		Technical memoranda as outlined in Template						^			
		Cost estimates study						^			
		CAD drawings as outlined in Template						^			
		Presentation to the Board of Regents Staff						P			
		Informational Presentation by President to BOR						<	----------	----------	>
4	**Master Plan Formulation**										
	A	Land and Building Use									
	B	Open Space and Pedestrian Circulation									
	C	Vehicular Circulation and Parking									
	D	Recreation and Athletic Facilities									
	E	Utiity Infrastructure									
		Deliverables:									
		Narrative / tabular information as outlined in Template									^ X
		CAD drawings as outlined in Template								*	^ X
5	**Implementation**										
	A	Cost Estimates									
	B	Capital Improvement Program									
	C	Phasing Plan(s)									
	D	Master Plan Design Standards									
	E	Planning and Design Review Process									
		Deliverables:								*	X
		Narrative / tabular information as outlined in Template									X
		CAD drawings as outlined in Template							^	^	X
Meetings											
		Review by Campus Master Plan Committee									
		Review by Board of Regents Cross Team									
		Review by Board of Regents Bldg and Grounds Comm.							*or later as appropriate*		

key: * = preliminary draft ^ = final draft X = final submission P = presentation

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is for the planning team to gain an understanding of the history of the college or university which has shaped the educational and physical form of the campus and is likely to influence its future.	**1.** Summarize the history of the institution including key dates for major campus interventions such as date of founding, enrollment charter, dates of major facilities, location of specific historic elements on the campus, key decisions which have affected the college's or university's educational mission and physical form. **2.** Briefly describe the history of the strategic planning process. **3.** Summarize major accreditation, affiliations and accomplished goals that have affected the college's or university's academic mission. **4.** Summarize the history of physical master planning efforts, including dates of revision. Describe ways in which physical master planning supports the strategic planning process and identify committees, advisory groups, or community groups that have been involved in previous campus planning efforts. **5.** Provide a list of buildings or sites currently listed on or nominated for a historic register.	**1.** Narrative description for tasks (1) through (5). (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Plan(s) and illustration(s) showing the campus at key historic periods. (See *Physical Master Planning Template Reference Guide* E-1.) **3.** List of historic buildings and sites. (See also Master Plan Resources, Additional Information Sources section.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Complete an architectural survey to determine eligibility of buildings for the National Historic Register, if necessary.	i. Architectural Survey.

OBJECTIVE

The objective of this work element is for the planning team to understand the overall dimensions and physical characteristics of the campus.

TASKS

1. Summarize key factual information such as academic size (FTE and total headcount), total area of campus(es), number of buildings, and other pertinent data.
2. Describe satellite campuses (if any).
3. Describe any distinctive qualities of the college or university.
4. Describe funding and endowment characteristics.
5. Describe research or other affiliations.
6. Describe any matriculation agreements which are part of the college or university policy.

PRODUCTS

1. Narrative description outlining tasks (1) through (6). (See *Physical Master Planning Template Reference Guide* B-1.)

OBJECTIVE

The objective of this work element is for the planning team to gain a general understanding of the college's or university's present and future institutional mission and strategic plan and their impact on the campus' physical characteristics.

Pilot programs put forward by the president of the college or university must be described herein and receive administrative confirmation by the University System of Georgia Board of Regents as described in Section II-C.

Academic program and specific space needs will be addressed in Section IV-A and B.

Note: SACS refers to the Institutional Mission Statement as the Purpose Statement.

TASKS

1. Identify the potential impact of any proposed change in student enrollment on the existing campus in terms of land, facilities and infrastructure.
2. Summarize the existing academic and administrative structure.
3. Describe methods by which the college or university will fulfill or accomplish roles established in conjunction with the University System of Georgia Board of Regents.
4. Identify current or proposed changes in research or public service.

PRODUCTS

1. Copy of most recent Institutional Mission Statement submitted to the University System of Georgia Board of Regents, identifying significant impacts on campus buildings and grounds. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Copy of most recent Strategic Plan submitted to the University System of Georgia Board of Regents identifying significant impacts on campus buildings and grounds. (See *Physical Master Planning Template Reference Guide* B-1.)
3. Narrative description and tabular information for tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* B-1 and C-2.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to articulate goals, recurrent themes and issues that should be addressed in the development of the physical master plan. Pilot programs put forward by the president of the college or university must be described herein and receive administrative confirmation by the University System of Georgia Board of Regents as described in Section II-C. Physical Master Planning must be consistent with the Institutional Mission Statement and Strategic Plan.	**1.** Interview appropriate college or university professionals and staff regarding future academic program. **2.** Interview appropriate Board of Regents staff regarding the institutional mission and primary issues of the college or university. **3.** Interview key college or university professionals and staff such as the president, provost, physical plant director and faculty to determine goals for the physical master plan and issues that should be addressed by the physical master plan. **4.** Interview students to determine goals for campus improvements and issues to address in physical planning. **5.** Carry out additional interviews as needed with community leaders and others. **6.** Prepare a draft of project goals and issues. Articulate recurrent themes for the physical master planning process for review and approval by appropriate committees or academic governing bodies at the college or university. **7.** Describe pilot programs of the college or university which need to be validated by the University System of Georgia Board of Regents. **8.** Carry out a preliminary comprehensive physical reconnaissance of campus buildings, grounds, facilities, infrastructure, parking and circulation in order to identify issues and objectives.	**1.** Narrative description summarizing overall interview findings. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description summarizing tasks (6) through (8). (See *Physical Master Planning Template Reference Guide* B-1.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Interview appropriate directors of research and/or service divisions regarding mission or goals. ii. List current campus planning policies or procedures currently in effect.	i. Narrative description summarizing tasks (i) and (ii). (See *Physical Master Planning Template Reference Guide* B-1.)

OBJECTIVE

The objective of this work element is for the staff of the University System of Georgia Board of Regents to confirm their understanding of the college's or university's goals for the physical master plan in relation to the Institutional Mission Statement and Strategic Plan. In addition, the staff of the University System of Georgia Board of Regents may have an opportunity to relate issues of physical planning to issues of academic planning.

The University System of Georgia Board of Regents cross team will include members of the professional staff appointed by the Senior Vice Chancellors.

TASKS

College or University Staff:

1. Invite the University System of Georgia Board of Regents cross team (cross team) to participate in the on-campus meeting for the Goal Formulation work program. Present and discuss goals and recurrent themes with the cross team. Make available to the cross team the college or university materials prepared in Sections II-A and II-B including:

- Institutional Mission Statement
- Strategic Plan
- Description of any major new program(s) anticipated by the college or university
- Preliminary projection of total students, faculty and staff for the next five-year increment
- Preliminary comprehensive physical analysis of the campus

University System of Georgia Board of Regents Cross Team:

2. Attend the presentation and discussion of the college's or university's Goal Formulation work program. Confirm the appropriateness of the goals, issues and projections or propose additional dialogue between the cross team and college or university to clarify goals and issues. At the conclusion of the review, report findings and recommendations to the Chancellor through the Senior Vice Chancellors of the University System of Georgia Board of Regents.

PRODUCTS

1. Materials in paper form described in task (1).

2. Letter confirming procedures and projections.

OBJECTIVE

The objective of this work element is to provide the planning team with an understanding of the natural and man-made environment, as well as the neighborhood influences on the campus.

TASKS

1. Assess the natural systems on the campus(es) and in surrounding neighborhoods for their impact upon campus development. Elements should include topography, drainage, soils and vegetation.
2. Assess and map the campus framework including edges, entry points, open space framework, gathering places, building setbacks, circulation corridors, landmarks, pedestrian circulation, streets, etc.
3. Assess and map all major roadways which lead into the campus or which form the transportation networks of the surrounding city or town.
4. Describe the relationship between or among campuses including distances, transportation, faculty assignments to particular campuses, distance learning opportunities, access to research and other specialized resources.
5. Assess adjacent land use in adjoining neighborhoods and highlight character, issues and concerns.
6. Locate major commercial districts identifying those which are within walking distance of the campus. Inventory all recreational sites.
7. Describe and map existing political and jurisdictional entities within which the college or university exists, along with any jurisdictional overlaps that may affect development on the campus.

PRODUCTS

1. Narrative description summarizing findings of tasks (1), (2), (4), (5) and (7). (See *Physical Master Planning Template Reference Guide* B-1.)
2. Brief narrative description to introduce each graphic or table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Tabular information for tasks (1) and (4) through (7). (See *Physical Master Planning Template Reference Guide* C-3.)
4. CAD graphics for tasks (2), (3), (5) and (6). (See *Physical Master Planning Template Reference Guide* E-1, E-2, E-3 and E-4.)
5. Photographs of key sites.

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to enable the planning team to understand the strengths and weaknesses of the existing land use pattern on campus and the associated issues to be addressed in the physical master plan.	**1.** Map and describe the land use patterns of all land owned, leased or operated by the college or university on the main campus including academic use, support use, residential use, recreational and open space uses, utilities use, parking use, research use, vacant or undeveloped land, conservation areas and natural resources. Quantify uses by acres. **2.** Map the land use of all land owned, leased or operated, which is adjacent to or within walking distance from the main campus. Label use such as agricultural plots, temporary classrooms, affiliated centers, vacant or test sites, etc. **3.** For parcels described in Task (2), classify land ownership as college/university, foundation, auxiliary, athletic association, etc. Describe terms of lease, cost of lease, accessibility issues, operational issues and space adequacy issues. Note any utilities within these parcels and their adequacy, parking adjacent to these parcels and its proximity, and other pertinent information. **4.** Create a table of all land owned, leased or operated which is contiguous or non-contiguous with the main campus. Specify total acres, gross square feet, assigned square feet, approximate percentage of activity contained on the parcel relative to the campus as a whole, and whether use of the site will continue in the future. **5.** Describe relationships between existing land use and any qualitative characteristics of existing use patterns.	**1.** Narrative description of tasks (1) through (5). (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Tabular information for tasks (3) and (4). (See *Physical Master Planning Template Reference Guide* C-3.) **3.** CAD graphic for task (1). (See *Physical Master Planning Template Reference Guide* E-5.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Map and describe non-contiguous land owned, leased or operated by the college or university that is located at an out-lying facility (non-adjacent) such as agricultural, vacant or test sites. Quantify uses by acres.	i. Tabular information for task (i). (See *Physical Master Planning Template Reference Guide* C-3.) ii. CAD graphic for task (i). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is for the planning team to gain an understanding of the amount of building space by type; the pattern of its assignment by academic unit, research, continuing education and other units; and its general condition. Note that athletic and recreational facilities are addressed in detail in Section III-A-6.	**1.** Document total building area in gross square feet and assignable square feet for each campus building. **2.** Document and map building use by standard classifications described in *The Post-Education Facilities Inventory and Classification Manual*. **3.** Document and map research and continuing education building use. **4.** Document building use in gross square feet and assignable square feet by facility categories from *The Post-Education Facilities Inventory and Classification Manual*. **5.** Document building use in gross square feet and assignable square feet by Classification of Instructional Programs (CIP) code groups. See Master Plan Resources CIP Code Groups section. **6.** Assess the quality and condition of each building. If relevant to a changing use or an expanding program, have architect(s) and engineer(s) carry out a "walk-through" of buildings to assess the building structure, envelope, suitability for current use systems and finishes. Consult most recent facility audit if available.	**1.** Narrative description of task (6). (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Tabular information for tasks (1) through (6). (See *Physical Master Planning Template Reference Guide* C-3.) **3.** CAD graphics for tasks (2) and (3). (See *Physical Master Planning Template Reference Guide* E-6.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Complete a detailed building condition survey. ii. Prepare preliminary order of magnitude cost estimates for deferred maintenance and renovations.	i. Tabular information for tasks (i) and (ii). (See *Physical Master Planning Template Reference Guide* C-1 and C-2.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is for the planning team to gain an understanding of the character and pattern of the open space and pedestrian circulation system. Note that athletic and recreational facilities are addressed in detail in Section III-A-6. Please refer to Section III-C-1 for ADA compliance.	**1.** Document and map open space areas by character: formal, informal, test or research plots, movement system or other. Specify area of open space types in acres. **2.** Describe pattern of open space and pedestrian circulation. **3.** Assess the quality and condition of open space and the hierarchy of pedestrian walkways. **4.** Identify conditions which do not comply with ADA requirements including walkways, street crossings and building entrances.	**1.** Narrative description of tasks (2) and (3). (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Tabular information for tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* C-3.) **3.** CAD graphic for task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING		
	i. Prepare preliminary order of magnitude cost estimates for deferred maintenance and site improvement.	i. Tabular information for task (i). (See *Physical Master Planning Template Reference Guide* C-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is for the planning team to assess existing vehicular circulation and parking requirements, current policies, and the location, size and condition of parking facilities. Please refer to Section III-C-1 for ADA compliance.	**1.** Describe and map the location of vehicular circulation routes on- and off-campus. Classify existing campus roadways within the context area as local, collector or arterial, and describe condition. **2.** Describe public transit services including routes, stops/links, frequency and capacity. **3.** Inventory and map existing on- and off-campus parking facilities and identify spaces allocated to students, faculty, staff and visitors. Document present utilization rates of these parking facilities. **4.** Inventory conditions of both on- and off-campus parking facilities. **5.** Document existing college or university parking policy and administrative framework.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Tabular information for tasks (1) through (5). (See *Physical Master Planning Template Reference Guide* C-3.) **3.** CAD graphics for tasks (1) and (3). (See *Physical Master Planning Template Reference Guide* E-7.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	Complete a detailed vehicular circulation and parking study which addresses the following elements: i. Document roadways or intersections which have high accident occurrences. ii. Describe the mode of transport from off-campus parking facilities to the campus (transit, walking, etc.). iii. Document existing parking demand for students, faculty, staff and visitors, by building and time of day/week. iv. Give level of service (LOS) for on- and off-campus roadways in the context area. v. Show traffic counts at peak hours on all roads within the context area on a traffic flow diagram, if applicable.	i. Narrative description for task (ii). (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) ii. Tabular information for tasks (i) through (v). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to assess the existing intercollegiate, intramural sports and recreation facilities.	**1.** Inventory and map on-campus recreational sites, intercollegiate athletic facilities, intramural athletic facilities, incidental recreation facilities and formal or informal open spaces. Give area in acres for each site and describe features located on/within each site. **2.** Describe current scheduling of facilities and usage by number of people per day and at peak times. **3.** Determine usage of each recreational building by frequency and number of people per day during academic periods. **4.** Inventory and map athletic and recreational building facilities. Give area in gross square feet and assignable square feet. Describe condition of each building, types of facilities each building contains and equipment contained. **5.** Assess the adequacy of the existing intercollegiate sports and recreational facilities for current enrollment. Determine dimensional deficiencies, if any, for activities being accommodated.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Brief narrative description to introduce each graphic or table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **3.** Tabular information for tasks (1) through (5). (See *Physical Master Planning Template Reference Guide* C-3.) **4.** CAD graphics for tasks (1) and (4). (See *Physical Master Planning Template Reference Guide* E-1.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	Complete a detailed sports and recreation study which addresses the following elements: i. Give level of service (LOS) standards established for each type of recreational facility. ii. Determine long-term viability of renovating building as a sports facility. iii. Determine student usage patterns relative to on- and off-campus facilities	i. Tabular information for tasks (i) through (iii). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to assess the capability and condition of existing systems and any existing excess capacity for growth. A separate assessment should be performed for each of the following utilities: steam, chilled water, potable water, sanitary (sewers and wastewater treatment), natural gas and electrical.	**1.** Describe current on-campus source or destination. State location of source/destination and its operator, gross square feet of buildings served by central system, capacity, age, last upgrade and fuel source. **2.** Map location and sizes of major distribution lines and source or destination. Describe the capacity and condition of major distribution lines and system. **3.** Describe adequacies or inadequacies of present systems and any prior investigation into other configurations. **4.** For potable water: map fire protection distribution system and its source. **5.** For sanitary: describe any sanitary sewer treatment capacity previously allocated to the college or university by the operator of a sanitary waste treatment facility and any applicable agreements for sanitary sewage collection or treatment facilities. **6.** For natural gas: describe type of system as high, intermediate or low pressure. **7.** For electrical: state whether central meters or individual meters are used.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description to introduce each graphic or table. (See *Physical Master Planning Template Reference Guide* B-1.) **3.** Narrative description of tasks (2) through (7). (See *Physical Master Planning Template Reference Guide* B-1.) **4.** Tabular information for task (1) and (2). (See *Physical Master Planning Template Reference Guide* C-3.) **5.** CAD graphic for tasks (2) and (4). (See *Physical Master Planning Template Reference Guide* E-1.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	Complete a detailed utility study which encompasses the following elements: i. Describe any policies or procedures to implement college or university conservation measures. ii. Indicate sizes for main distribution lines and secondary distribution lines. iii. Describe condition of ancillary infrastructure such as heat exchangers and individual chillers building-by-building. iv. For sanitary: describe the existing volume of sanitary waste generated by the college or university. Describe existing local, state or federal regulations governing sanitary sewer collection and treatment systems.	i. Narrative description of tasks (i), (iii) and (iv). (See *Physical Master Planning Template Reference Guide* B-1.) ii. Tabular information for tasks (ii) and (iii). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to inform the planning team of the capability and condition of existing systems and any existing design criteria for growth.	**1.** Describe and map all facilities and natural features which are part of the stormwater system for the campus including detention and retention structures, storm drainage pipe systems, natural stream channels, rivers, lakes and wetlands. **2.** Estimate the existing volume of stormwater runoff generated by the college or university and describe the capacities of existing stormwater runoff detention, retention, or disposal facilities on-campus. **3.** For facilities shared with the host community, describe the proportional capacity of the facility which is required to meet existing college or university needs, including a description of any capacity that may have been previously allocated to the college or university by the host community. **4.** Describe existing local, state or federal regulations or policies governing stormwater management including land use limitations, utilization and protection of natural drainage features and other requirements.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** Tabular information for task (1). (See *Physical Master Planning Template Reference Guide* C-2.) **4.** CAD graphic for task (1). (See *Physical Master Planning Template Reference Guide* E-8.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. For stormwater facilities, indicate the location(s), operator, geographic service area, capacity, demand and level of service adopted by the local government or other authorities having jurisdiction.	i. Narrative description or tabular information for task (i). (See *Physical Master Planning Template Reference Guide* B-1 or C-3.)

OBJECTIVE

The objective of this work element is to inform the planning team of the capability and condition of existing systems and any existing capacity for growth.

TASKS

1. Describe and map existing data, voice and video/CATV distribution systems on the campus. Include any plant extensions (CATV), etc. Indicate type of main or backbone lines for data and include current band width capacity.
2. Describe operator, service area, capacity and demand for data, voice and video/CATV.
3. For telephone system, state centrex-type system or direct linkage to telephone system for campus users.
4. Describe level of service to be used by the college or university in establishing communications distribution supply requirements for data, voice and video/CATV.
5. Describe whether the communications system could accommodate future additional work stations.
6. Describe security measures in place or proposed.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (6). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Tabular information for tasks (1) and (2). (See *Physical Master Planning Template Reference Guide* C-2.)
4. CAD graphic for task (1). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE

Many communities have specific institutional zoning districts governing the use, intensity and development procedures for campuses. The objective of this work element is to inform the planning team of regulatory issues which should be addressed by the physical master plan or which will influence its form, existing zoning and impact on development of the campus.

TASKS

1. Carry out an audit of regulatory requirements, including zoning and land use regulations, which affect existing campus land. Identify zoning authorities.
2. Map adjacent properties within the context area by zoning type.
3. Identify procedure for amending the zoning code.
4. Identify procedural requirements such as community review boards, waiting periods, filing dates, etc., that could affect physical planning of the college or university.
5. Identify adjacent parcels which offer the greatest potential for changing land uses (such as abandoned industrial sites, etc.).
6. Confirm that all building or site improvements comply with Title II of the Americans with Disabilities Act (ADA) and ADA/AG.
7. Consult the college's or university's transition plan for existing facilities.
8. Confirm that environmental and regulatory authorities plan to issue necessary land use and/or facility discharge permits.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Brief narrative description to introduce each graphic or table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Narrative description of tasks (1), (3), (4) and (6) through (8). (See *Physical Master Planning Template Reference Guide* B-1.)
4. CAD graphics for tasks (2) and (5). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE

The objective of this work element is to inform the planning team of areas of concern and environmental regulations which affect the development of the campus.

Consult the University System of Georgia's environmental health and safety policy and other approved environmental documents identified in the Master Plan Resources, Materials Checklist.

Physical master planning should comply with all applicable laws and regulations established to protect the environment, developing good environmental practices applicable to all facilities and include environmental considerations as an integral part of planning, operating and developing facilities and processes in order to meet policy objectives in the most effective and efficient manner.

TASKS

1. Carry out an environmental audit of existing natural resources on the college or university campus or within the context area. Such resources include wetlands, lakes, rivers and other surface waters; floodplains; bottom lands; unique geological features; existing mitigation sites; vegetative communities; nesting or feeding habitats; corridors for animal species; well-field cones of influence; aquifers and aquifer recharge areas. Map findings.
2. Describe and map any hazardous environmental conditions on or adjacent to the campus such as storage sites of hazardous, toxic, or medical waste and chemical waste disposal systems. Identify and map known sources of pollution.
3. Identify available and practical opportunities and methods for protection or restoration of known historic and natural resources on college or university property.
4. Assess the quality of stormwater generated by college or university activities and the resulting impacts to the local watershed.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of task (3). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Brief narrative description to introduce each graphic or table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. Tabular information for tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* C-2.)
5. CAD graphics for tasks (1), (2) and (3). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to provide the planning team with the overall impact of the future academic program upon campus development.	**1.** Summarize the proposed future academic program highlighting significant changes from the existing program. **2.** Report projected student enrollment for the college or university for the five-year target as determined in the *University System of Georgia Board Approved Enrollment Targets*. Project enrollment for a second five-year period based upon a continuation of trends of the first five-year period and/or impact of program changes, projected demographic changes or other significant events. **3.** Project future on- and off-campus students. **4.** Define the future distribution and desired adjacencies of the planned academic programs. **5.** Define the role of continuing education in the future academic program. **6.** Describe future research and/or service-related projections.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1), (2), (5) and (6). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** Tabular information for tasks (3) and (4). (See *Physical Master Planning Template Reference Guide* C-3.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	Complete a detailed study which encompasses the following research and sponsored research elements: i. List future research and service-related projections. ii. Interview appropriate directors of research and/or service divisions regarding mission or goals. Record findings. iii. List current campus planning policies or procedures currently in effect.	i. Narrative description for tasks (i) through (iii). (See *Physical Master Planning Template Reference Guide* B-1.)

OBJECTIVE

The objective of this work element is to assess the projected change in student enrollment and the impact of that change on facilities in existing and proposed academic units.

Refer to the *University System of Georgia Board Approved Enrollment Targets*.

TASKS

1. Project future enrollment by academic unit in five- and/or ten-year increments by full-time equivalent (FTE).
2. Discuss methodology and appropriateness of incremental growth, if anticipated, in task (1).
3. Support enrollment projections with demographic and economic data reflecting occupational demand, the scope of influence of the college or university, and the impact of the HOPE program.
4. Describe impact of distance learning on future student enrollment projections, if any.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. Tabular information for task (1). (See *Physical Master Planning Template Reference Guide* C-1.)

OBJECTIVE

The objective of this work element is for the planning team to project the size of supporting faculty and staff.

TASKS

1. Summarize current number of faculty and staff by academic unit and overall ratios of faculty/staff to students. Identify instructional faculty (corps of instruction), full- and part-time faculty, tenure or tenure track faculty and research faculty.
2. Assess whether the number of current faculty/staff is adequate or inadequate for current demand.
3. Project the future number of faculty/staff by academic unit.
4. Describe disciplines, divisions (including research), departments or colleges which will see increased demand for faculty and staff. Identify disciplines or colleges which will see decreased demand for faculty and staff.
5. Describe impact of distance learning on future faculty and staff projections.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (5). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Tabular information for tasks (1), (2) and (4). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to project future space requirements in order to support the future academic program and projected student enrollment. The University System of Georgia Board of Regents projects new academic programs to five years in the future. Facility requirements to the five- to ten-year levels in the future should be generic by use type and based upon a continuation of population and student enrollment trends. All data shall be projected to satisfy the semester system.	**1.** Summarize current academic space by academic division (gross square feet and assignable square feet) using *The Post-Education Facilities Inventory and Classification Manual* standard classification format. Assess the adequacy of current academic space assignments. **2.** Project future weekly student instructional hours. For distance learning and outreach programs, project instructional hours in a separate table. **3.** Project future academic space requirements (gross square feet and assignable square feet) based on the future instructional hours and assignable square feet distributed by campus or satellite facility by type of space (classroom, laboratory or office). Utilize acceptable national standards such as the CEFPI *Space Planning Guidelines* and the CCHE *Policy Manual*. See Master Plan Resources, Additional Information Sources section. **4.** Define the phasing requirements for development of future academic space for the two- and five-year planning periods. **5.** Define locational criteria (adjacencies) for future academic buildings or expansion of current buildings. **6.** Project requirements for research- and service-related divisions and facilities. **7.** Determine requirements for medical facilities.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1), (4), and (5). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** Tabular information for tasks (1) through (7). (See *Physical Master Planning Template Reference Guide* C-3.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Complete a detailed space use analysis using the *Space Planning Guidelines for Institutions of Higher Education*.	i. Tabular information for task (i). (See *Physical Master Planning Template Reference Guide* C-1.)

OBJECTIVE

The objective of this work element is to project the college's or university's support facility requirements including administrative, physical plant and student support facilities including housing.

All data shall be projected to satisfy the semester system.

Utilize acceptable national space requirement standards such as the CEFPI *Space Planning Guidelines* and the CCHE *Policy Manual*. See Master Plan Resources, Additional Information Sources section.

TASKS

1. Describe existing administrative and physical plant support facilities, summarize the space by gross and assignable square feet and project future space requirements by gross and assignable square feet based upon the future academic program.
2. Describe existing special facilities such as performing arts facilities, museums and conference centers, and summarize the space in gross and assignable square feet. Project any future requirements in gross and assignable square feet.
3. Describe existing student life issues including student residence accommodations by number of beds, and project future change and requirements in terms of beds and type of accommodation. Include fraternities and sororities in the analysis. Summarize the space in gross and assignable square feet. Project future requirements in gross and assignable square feet.
4. Describe existing library facilities. Summarize the space in gross and assignable square feet. Project future needs in gross and assignable square feet.
5. Describe other existing student and faculty facilities including food service, student center, bookstore, student health center and faculty center. Project future requirements.
6. Describe existing institute- or center-related facilities. Summarize the space in gross and assignable square feet. Project future requirements in gross and assignable square feet.
7. Describe existing medical facilities. Summarize the space in gross and assignable square feet. Project future requirements in gross and assignable square feet.
8. Describe existing service-related facilities such as business services offices, public information office, alumni and development, police and public safety and specialty shops. Summarize space in gross and assignable square feet. Project future requirements in gross and assignable square feet.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (8). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. Tabular information for tasks (1) through (8). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to project future parking requirements.	**1.** Analyze future parking needs for students, faculty, staff and visitors, as well as special events. **2.** Estimate the land area required to provide the amount of parking calculated in task (1) in parking lots or parking decks. **3.** Assess alternative parking/traffic management practices to mitigate parking demand including changes in class scheduling, parking fees, policies for on-campus resident students and use of transit. **4.** Assess whether existing parking is configured for greatest efficiency and located adjacent to appropriate uses. **5.** Assess off-campus lands in the context area that may be available for college or university parking. Determine parking capacity of those sites. **6.** Describe the location criteria, size and type of parking facilities to be provided on- or off-campus to meet future college or university needs. **7.** Describe, in further detail, special events parking needs, such as varsity sports, conventions, conferences or community use.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1) through (6). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **4.** Tabular information for tasks (2), (5), (6) and (7). (See *Physical Master Planning Template Reference Guide* C-3.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Prepare an in-depth analysis of alternative parking/traffic management practices including mode and cost.	i. Narrative description of task (i). (See *Physical Master Planning Template Reference Guide* B-1.)

OBJECTIVE

The objective of this work element is to project future open space requirements for athletic and recreational facilities including space for intercollegiate sport programs, scheduled intramural sports and general recreation.

All data shall be projected to satisfy the semester system.

TASKS

1. Describe goals and priorities for existing and future inter-collegiate sports facilities requirements.
2. Assess existing and projected intramural and recreational requirements and project building space and field space requirements to the target years.
3. Define the location criteria for future athletic, recreation and open space facilities on the campus.
4. Compare athletic facilities to NCAA standards/Title IX. Record results.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (4). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. Tabular information for tasks (1) through (3). (See *Physical Master Planning Template Reference Guide* C-3.)

OBJECTIVE

The objective of this work element is to define and project future requirements for supporting infrastructure.

TASKS

1. Project future requirements for steam, chilled water, potable water, sanitary, natural gas, electrical, stormwater and communication infrastructure and facilities generated by projected development on the college or university campus.
2. Assess the adequacy of existing facilities for steam, chilled water, potable water, sanitary, natural gas, electrical, stormwater and communication infrastructure, and facilities to meet the projected needs of the college or university, including consideration of any planned improvements and/or increases in the capacity of existing facilities.
3. Assess future impacts for steam, chilled water, potable water, sanitary, natural gas, electrical, stormwater and communication infrastructure and facilities required by the college or university on the natural resources within the college or university campus or the context area.
4. Assess potential effects on college or university development of pending/anticipated changes in local, state or federal regulations governing the provision of storm drainage facilities.
5. Describe timing or phasing requirements to meet future college or university needs.
6. Describe the general locational requirements, size and network of future steam, chilled water, natural gas, potable water, telephone, fiber optics and electrical distribution, sanitary and stormwater facilities required to meet future needs of the college or university.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative description of tasks (1) through (6). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. Tabular information for tasks (5) and (6). (See *Physical Master Planning Template Reference Guide* C-2.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to project future land requirements and to identify potential land parcels for acquisition in order to meet programmatic requirements. Identification of specific properties to acquire or transfer is outside the scope of this Physical Master Planning Template.	**1.** Identify potential direction of the campus' physical growth. **2.** Provide description of future land which may need to be acquired to support potential campus growth as outlined in Task 1, above. Include area, jurisdiction or entity presently in ownership, type of transaction used to acquire land, cost to acquire and use intended for acquired land. **3.** Provide description of land which may need to be transferred from present campus holdings to a non-college or university entity. Include area, jurisdiction or entity to assume future ownership, type of transaction used to transfer land, cost of transaction and use intended for transferred land.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1) through (3). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** CAD graphic for task (1). (See *Physical Master Planning Template Reference Guide* E-9.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Secure appraisals to determine feasibility of an acquisition.	i. Narrative description of task (i). (See *Physical Master Planning Template Reference Guide* B-1.)

OBJECTIVE

The objective of this work element is to test future programmatic requirements for accommodating land and building use and to test conceptual alternative configurations for the campus plan which address the goals and issues identified in Sections II-A and II-B.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. Prepare an initial set (up to three) of concept alternatives that will test strategies and options for land and building use. Issues to address include alternative land use, building use and siting configurations. Include any proposed acquisition or disposition of land. Alternative strategies should address security and safety issues.
2. Prepare a take-off showing areas and programmatic information from the concept alternatives.
3. Present concept alternatives and evaluation information to master plan committee and others as appropriate.

PRODUCTS

1. Short narrative to introduce each alternative. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Tabular information for task (2). (See *Physical Master Planning Template Reference Guide* C-3.)
3. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
4. Presentation of task (3).

OBJECTIVE

The objective of this work element is to test future programmatic requirements for accommodating open space and pedestrian circulation and to explore conceptual alternative configurations which address the goals and issues identified in Section II-A and II-B.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. As part of the land use alternatives, prepare an initial set (up to three) of concept alternatives that will test strategies and options for open space. Issues to address include formal and informal open space and pedestrian access and circulation. Include any proposed acquisition or disposition of land. Alternative strategies should address security and safety issues.
2. Prepare a take-off showing areas and program information and key this data into concept alternatives.
3. Present concept alternatives and evaluation information to master plan committee and others as appropriate.

PRODUCTS

1. Short narrative to introduce each alternative. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Tabular information for task (2). (See *Physical Master Planning Template Reference Guide* C-3.)
3. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
4. Presentation of task (3).

OBJECTIVE

The objective of this work element is to test programmatic requirements for accommodating vehicular circulation and parking in relationship to land use and open space concepts and to explore alternative means to mitigate or accommodate parking demand.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. As part of the land use alternatives, prepare an initial set (up to three) of concept alternatives that will test strategies and options for vehicular circulation and parking. Issues to address include more efficient use of existing parking spaces and/or sites, expansion of existing roadways or proposed new roadways, parking configuration and capacity, structured or surface parking, bicycle accommodation, and faculty/staff, student and visitor parking and circulation. Include any proposed acquisition or disposition of land. Alternative strategies should address security and safety issues.
2. Prepare a take-off showing areas and program information and key this data into concept alternatives.
3. Present concept alternatives and evaluation information to master plan committee and others as appropriate.

PRODUCTS

1. Short narrative to introduce each alternative. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Tabular information for task (2). (See *Physical Master Planning Template Reference Guide* C-3.)
3. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
4. Presentation of task (3).

OBJECTIVE

The objective of this work element is to test programmatic options for accommodating athletic and recreational facilities and to evaluate alternatives for such facilities in the context of overall land use options and to test the most favorable and acceptable planning options.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. As part of land use alternatives, prepare an initial set (up to three) of concept alternatives that will test strategies and options for athletic and recreational space planning. Include any acquisition or disposition of land. Alternative strategies should address security and safety issues.
2. Prepare a take-off showing areas and program information and key this data into concept alternatives.
3. Present concept alternatives and evaluation information to master plan committee and others as appropriate.

PRODUCTS

1. Short narrative to introduce each alternative. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Tabular information for task (2). (See *Physical Master Planning Template Reference Guide* C-3.).
2. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
4. Presentation of task (3).

OBJECTIVE

The objective of this work element is to assess programmatic options for campus utility infrastructure to support the land use alternatives.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. Prepare a concept alternative that will support the land use alternatives along with any options for utilities.
2. Present concept alternatives and assessment to master plan committee and others as appropriate.

PRODUCTS

1. Short narrative to introduce each alternative. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Tabular information for task (1). (See *Physical Master Planning Template Reference Guide* C-2.).
3. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)
4. Presentation of task (2).

OBJECTIVE

The objective of this work element is to prepare preliminary cost estimates for all building, site and infrastructure improvements in order to assess the impact of cost upon the selection of the preferred alternative concept.

Means Cost Estimating Guide is recommended for planning-level cost estimates.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. Prepare a summary list of cost elements including building, site and infrastructure improvements associated with each alternative.
2. Provide planning-level cost estimates for all improvements specified by the Preliminary Physical Master Plan alternatives. For building program elements, give unit costs per square foot for new, renovated or demolished structures. For site program elements, give unit cost per square foot or yard for vegetation, walkways, amenities, grading, drainage and other improvements.
3. Include construction costs of comparable facilities within the state or other applicable region and unit costs derived from *Means Cost Estimating Guide*. Indicate all costs in current year dollars.
4. Present cost estimates and evaluation information to master plan committee and others as appropriate. The findings of Sections V-A, V-B and V-C are expected to be presented simultaneously.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Tabular information for tasks (1) through (3). (See *Physical Master Planning Template Reference Guide* C-1.)
4. Presentation of task (4).

OBJECTIVE

The objective of this work element is to carry out a comprehensive assessment of alternatives and to formulate the basis for selecting a preferred alternative or combination of alternatives.

Tasks specified in Sections V-A, V-B and V-C are interrelated elements and are expected to be carried out simultaneously.

TASKS

1. Prepare an assessment matrix that embodies a comprehensive set of criteria including goals, strategic planning, design and cost.

2. Building use: determine effect on existing patterns of building alignment and land use and capacity of each alternative to effectively accommodate functional changes. Impacts and benefits of optional sites and configurations should be addressed.

3. Open space and pedestrian circulation: determine effect on existing patterns of land use and open space and capacity of each alternative to effectively accommodate functional changes. Impacts and benefits of optimal sites and configurations should be addressed.

4. Vehicular circulation and parking: determine each alternative's impacts on vehicular circulation, parking, service and pedestrian environment, mitigation of vehicular/pedestrian conflicts and quality of environment.

5. Athletic and recreational space: determine ability to accommodate expanding recreational needs such as physical education, intramural and inter-collegiate sports and capacity of each alternative to strengthen the existing landscape setting, including aesthetic contributions.

6. Infrastructure: determine implications of each alternative with respect to utility locations.

7. Campus form: evaluate design, clarity, definition and integration of the campus setting and the extent to which alternatives protect or enhance existing architectural character and memorable spaces on the college's or university's campus.

8. Implementation and phasing: review potential for phasing of capital improvements, required displacements and staging implications of each alternative.

9. Community impact: assess each alternative's impacts upon the surrounding community relating to transportation, utilities, drainage and land use relationships.

10. Financial impact: assess potential capital outlays or significant premium costs that may be inherent in a given plan concept.

11. Review findings with master plan committee and others as appropriate.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)

2. Narrative information for tasks (1) through (10). (See *Physical Master Planning Template Reference Guide* B-1.)

3. Tabular information for tasks (1) through (10). (See *Physical Master Planning Template Reference Guide* C-3.)

4. Presentation of task (11).

OBJECTIVE

The objective of this work element is to prepare a preliminary draft physical master plan based upon the selection of a preferred alternative or combination of alternatives.

TASKS

1. Select preferred alternative using methodology established in Section V-C tasks.
2. The preferred plan may be a set of alternative components which must be coordinated. Prepare a new preliminary draft physical master plan refining the overall land and building use, open space and pedestrian circulation, vehicular circulation and parking, athletic and recreational space and campus infrastructure.
3. Review preferred alternative with master plan committee and others as appropriate.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative information as needed for task (2). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Tabular information as needed for task (2). (See *Physical Master Planning Template Reference Guide* C-3.)
4. Interim CAD physical master plan for task (2). (See *Physical Master Planning Template Reference Guide* E-1.)
5. Review of task (3).

OBJECTIVE

The objective of this work element is for the University System of Georgia Board of Regents to confirm their understanding of the college's or university's preliminary physical master plan and its relationship to the institution's Mission Statement and Institutional Strategic Plan. In addition, the University System of Georgia Board of Regents may have an opportunity to relate issues of physical planning to issues of academic planning.

The University System of Georgia Board of Regents cross team will include members of the professional staff appointed by the Senior Vice Chancellors.

TASKS

College or University Staff:

1. Invite the University System of Georgia Board of Regents cross team (cross team) to participate in the final on-campus meeting for the preliminary physical master plan work program. Present and discuss preliminary master plan alternatives and supporting information. Make available to the cross team the college or university materials prepared in Sections I, II, III, IV and V. Copies of documentation should be presented in two three-ring binders and include the following products:

- Narrative information
- Mapping
- Tabular information
- Preliminary cost estimates

University System of Georgia Board of Regents Cross Team:

2. Attend the presentation and discussion of the college's or university's preliminary physical master planning process. Confirm the appropriateness of process and procedures or propose additional dialogue between the cross team and college or university to clarify goals and issues. At the conclusion of the review, report findings and recommendations to the Senior Vice Chancellors at the University System of Georgia Board of Regents.

PRODUCTS

1. Materials in paper form described in task (1).

2. Letter confirming procedures and projections or requesting revisions.

OBJECTIVE

The objective of this work element is twofold: to give the president of the college or university the opportunity to make an informational presentation to the members of the University System of Georgia Board of Regents Building and Grounds Committee, and second, to facilitate an understanding by the Board of Regents of the issues that have guided the physical master planning process.

This presentation may occur during work program V or VI according to appropriateness.

TASKS

1. Following the completion of Sections I through V of the Physical Master Planning Template, the President of the college or university shall make an informational presentation to the University System of Georgia Board of Regents Building and Grounds Committee.
2. The team should make available copies of pertinent information and documentation for incorporation as an "information item" for the Board of Regents' consideration.
3. The college or university shall submit pertinent information to the Board of Regents staff for incorporation into the agenda of the next meeting of the Board of Regents. Note: the timing of submissions for Board meetings is critical and must be considered in the overall scheduling of the project.

PRODUCTS

1. Informal presentation by the President to the Board of Regents.

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to refine and document the physical master plan.	**1.** Describe proposed land use and building use, proposed development density, future development zones, recommended land acquisitions or owner partnerships, etc. **2.** Prepare an overall land and building map including building index, recommended direction of expansion (land acquisitions) prominent campus features, proposed building demolition and proposed building renovation.	**1.** Short narrative to introduce Section. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **2.** Short narrative to introduce CAD graphic. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **3**. Tabular information for task (1). (See *Physical Master Planning Template Reference Guide* C-3.) **4.** CAD graphic depicting information found in task (2). (See *Physical Master Planning Template Reference Guide* E-10.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Prepare illustrative site development plans of principal campus districts showing existing buildings, proposed new buildings, landscape concepts, parking walkways and preliminary grading.	i. CAD graphic of task (i). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE

The objective of this work element is to document the vehicular circulation and parking plan.

TASKS

1. Define the layout and characteristics of the proposed vehicular circulation system for the campus, including service access, and specify the arrangement and location of parking.
2. Prepare a vehicular circulation map showing proposed vehicular circulation, proposed bicycle circulation, locations and capacities of structured and surface parking, proposed roadway improvements and cross-sections of major vehicular roads.

PRODUCTS

1. Short narrative to introduce Section. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Narrative for task (1). (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Short narrative to introduce CAD graphic. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
4. CAD graphic depicting information found in task (2). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE

The objective of this work element is to document the open space and pedestrian circulation system.

TASKS

1. Define and illustrate the campus open space structure including natural environmental systems, quadrangles and greens.
2. Define the system of pedestrian walkways defining hierarchy, important arrivals, focal points and critical points of grade changes. Prepare pedestrian circulation map including proposed pedestrian routes, wheelchair accessible routes, sectional drawings of key pathways and links to community walkway systems.

PRODUCTS

1. Short narrative to introduce Section. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
2. Short narrative to introduce CAD graphic. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. CAD graphic depicting information found in tasks (1) and (2). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE

The objective of this work element is to refine and document the physical master plan for athletic and recreational facilities including building facilities and play-fields.

TASKS

1. Prepare recreation and athletic facility map including existing and proposed building facilities and play-fields distinguishing between intercollegiate and intramural and recreational facilities. If facilities are shared, note in a separate table the percentages of use by intercollegiate, intramural and recreational facilities.

PRODUCTS

1. Short narrative to introduce CAD graphic. (See *Physical Master Planning Template Reference Guide* A-3.)
2. Tabular information for task (1), if needed. (See *Physical Master Planning Template Reference Guide* C-1.)
3. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to refine and document the physical master plan for utility infrastructure.	**1.** Prepare map of primary utility corridors (steam, chilled water, natural gas, potable water, telephone, and electrical distribution, communications, sanitary and stormwater) showing the location of existing and proposed infrastructure.	**1.** Short narrative to introduce Section. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **2.** Short narrative to introduce CAD graphics. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **3.** CAD graphics depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-1.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	Complete a detailed campus infrastructure study to address specific issues, including: i. Size of existing and proposed infrastructure lines or networks. ii. Quantity of existing and proposed accompanying infrastructure such as chillers, wells, meters. iii. Feasibility of a central energy plant.	i. Tabular information for tasks (i) through (iii). (See *Physical Master Planning Template Reference Guide* C-2.)

OBJECTIVE

The objective of this work element is to prepare a comprehensive and illustrative physical master plan.

TASKS

1. Prepare a single comprehensive physical master plan which illustrates land and building use, vehicular circulation and parking, open space and pedestrian circulation, athletic and recreational facilities and campus infrastructure elements as shown in Section VI-A through VI-E.

PRODUCTS

1. CAD graphic depicting information found in task (1). (See *Physical Master Planning Template Reference Guide* E-12.)

COST ESTIMATES FOR BUILDING, INFRASTRUCTURE AND SITE IMPROVEMENTS

OBJECTIVE

The objective of this work element is to document preliminary cost estimates for building, site and infrastructure improvements.

Means Cost Estimating Guide is recommended for planning-level cost estimates.

TASKS

1. Prepare final preliminary cost estimates for building, infrastructure and site improvements by element.
2. Provide cost back-up delineating all improvements specified by the physical master plan. For building program elements, give unit costs per square foot for new structure, renovated structure and demolition. For site program elements, give unit cost per square foot or yard for vegetation, walkways, amenities, grading, drainage and other improvements utilizing *Means Cost Estimating Guide* in present-day dollars.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Brief narrative description to introduce each table. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.)
3. Tabular information for tasks (1) and (2). (See *Physical Master Planning Template Reference Guide* C-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to (1) prepare a capital budget by phased five-year increments based upon the cost estimates (VII-A) and, (2) to prepare phasing plans for five-year increments to the target year. The phasing plan will be developed in concert with the college or university to address likely annual budgets for capital improvements and will reflect priority projects as well as likely short- and long-term improvements and projects.	**1.** Prepare phased capital improvement budget for five-year increments illustrating specific improvements and their costs for buildings, site improvements and infrastructure. **2.** Prepare phasing plans at five- to ten-year intervals showing land use, building use, vehicular circulation, open space, recreational facilities and infrastructure improvements for the college or university.	**1.** Short narrative to introduce Section. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **2.** Short narrative for tasks (1) and (2). (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **3.** Short narrative to introduce CAD graphic. (See *Physical Master Planning Template Reference Guide* B-1 or B-2.) **4.** Tabular information for task (1). (See *Physical Master Planning Template Reference Guide* C-3.) **5.** CAD graphic depicting information found in task (2). (See *Physical Master Planning Template Reference Guide* E-11.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Prepare phasing plans at three- to five-year intervals showing land use, building use, research- and service-related use, vehicular circulation and parking, pedestrian circulation, open space, recreational facilities and infrastructure improvements for the college or university.	i. CAD graphic for task (i). (See *Physical Master Planning Template Reference Guide* E-1.)

OBJECTIVE	TASKS	PRODUCTS
The objective of this work element is to prepare site and architectural design standards to guide the design of proposed new facilities, site improvements and infrastructure in the physical master plan.	**1.** Document the existing campus and community urban design, architectural and site design character. **2.** Establish general architectural and site design standards to guide project design.	**1.** Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.) **2.** Narrative description of tasks (1) and (2). (See *Physical Master Planning Template Reference Guide* B-1.) **3.** CAD graphics (plans and sections) for task (1). (See *Physical Master Planning Template Reference Guide* E-1.)

ADDITIONAL TASKS FOR PHYSICAL MASTER PLANNING (DISCRETIONARY)

	i. Complete detailed landscape and site furnishings study. ii. Complete detailed wayfinding study.	i. Narrative description and CAD graphics for tasks (i) and (ii). (See *Physical Master Planning Template Reference Guide* B-1 and E-1.)

OBJECTIVE

The objective of this work element is to create a planning and design review process on campus in order to ensure implementation of the plan in accordance with site and architectural design standards and to deal with the process of change.

See Master Plan Resources, Physical Master Plan Monitoring Process section.

TASKS

1. Assemble an appropriate design review group. A typical design review group includes the Chief Financial Officer, Director of Campus Planning, Director of Physical Plant, representative(s) from the faculty senate, Board of Regents program manager, additional representative(s) from the Board of Regents, if appropriate, and outside professional(s).
2. Define goals, objectives, review criteria, administrative procedures, submittal dates, period of reviews and periods of submission for planning and design review process.
3. Document results of review process.

PRODUCTS

1. Narrative introduction to Section. (See *Physical Master Planning Template Reference Guide* B-1.)
2. Narrative of tasks (1) through (3). (See *Physical Master Planning Template Reference Guide* B-1.)
3. Tabular information for task (2). (See *Physical Master Planning Template Reference Guide* C-3.)

MASTER PLAN RESOURCES

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MATERIALS CHECKLIST

The following is a list of materials that should be available to the physical master plan team/planning consultant prior to beginning the physical master plan.

BASE MAPPING

Materials which would be helpful to the master planning consultant include, but may not be limited to, the following:

Campus-Based Maps

- Base map of the campus which accurately shows buildings, walkways, roadways, parking areas, vegetation (including 24-inch caliper and larger trees) and the surrounding neighborhood radiating at least 300 feet from all campus property lines.
- Property map of the campus or multiple campuses.
- Land use plans.
- Topographic base map with two- or five-foot contour intervals showing buildings, site improvements, primary landscape elements and utilities.
- Utility maps showing the locations and sizes of major lines including steam, chilled water, natural gas, potable water, telephone, electrical, communications (data, voice and CATV), sanitary and stormwater.
- Parking map showing location, number and assignment of parking spaces.
- Campus sports and recreational facilities (building and non-building) and any community-owned land which is used by the college or university.
- Floor plans, building sections, streetwalls and mechanical and electrical drawings for all buildings which may be part of an inventory report or may be considered for renovations or additions.
- Previously completed campus physical master plans and updates.
- Aerial photographs of the campus and context area.

Regionally-Based Maps

- Map showing any surface or subsurface geologic conditions or features on the campus or within the context area that may affect future planning.
- GIS maps and information.
- Context map showing the area surrounding the campus. The area contained in this map should be adequate to show existing neighborhoods, housing stock used by students, public transportation routes and stops (if applicable), open space, commercial areas, recreational areas, roadways, institutions affiliated with the college or university within a reasonable radius, major gathering areas, landmark buildings, historical buildings or sites and other significant features.
- Regional access map showing approaches to the campus from major highways, regional roadways and local roadways. Where applicable, show regional airports, railroad or other public transportation access routes. This map should also contain the location of signage which directs visitors to the campus.

The final product for all mapped material will be AutoCAD formatted drawings. Presentation drawings shall range in scale according to the size and needs of the individual campus. Scales smaller than 1"=200' are not recommended except for regional or community-wide plans. Drawings to be included in the physical master planning document(s) prepared for submittal and described by the Template should be scaled to fit within an 8.5" x 11" format or as described in the *Physical Master Planning Template Reference Guide.*

Campuses which have existing information formatted in CAD, Microstation or drawing exchange files (DXF) can transfer this information into the prescribed Template layout (see P*hysical Master Planning Template Reference Guide*). Campuses which have material in paper (print) form only should ascertain that these plans, diagrams or drawings are scaled and of good readable line quality. Inputting these drawings into an AutoCAD format requires a significant time investment; the master planning consultant should be notified of this condition prior to the completion of a Scope of Services for master planning services.

TABULAR OR WRITTEN MATERIAL (MOST RECENT COPIES)

College or University Information Sources

- ADA transition plans, accessibility studies and/or surveys
- Admissions Policy Phase-in Plan
- Building project procedures and/or criteria
- Campus long-range capital projects and priorities plan(s)
- Statistics and location of crime occurring on campus or within the context area
- Current, past and projected enrollment (Term Enrollment Report(s), Ten-Year Enrollment Report and Enrollment Target)
- Current and projected faculty and staff
- Delineation of all college or university land as leased, owned or operated
- Documentation of existing utilities infrastructure
- Environmental survey
- Existing protocol for planning and design review
- Information digest/fact book
- Information on any major community-related construction planned for the community which could also potentially serve the campus
- Information on continuing education and other outreach programs
- Institutional Strategic Plan
- List of buildings or sites on the National or Regional Historic Register
- List of major campus research programs and any linkages with other public or private research entities
- Material generated from previous physical master plans for the campus
- Mission Statement
- Parking supply and demand (faculty, staff, students, visitors and special events users)
- Previous parking or traffic studies (including parking policies and procedures and accident occurrences at major vehicular intersections)
- Quality/condition of existing buildings
- Quality/condition of roadways, walkways and parking areas
- Quality/condition of sports and recreational facilities
- Terms and conditions of all leases
- Usage/level of service of existing recreational facilities
- Written histories of campus development

University System of Georgia (USG) Information Sources

- USG approved enrollment targets
- *USG Building Project Procedures and Design Criteria*
- *USG Environmental Evaluations for Projects within the University System of Georgia*
- *USG Facilities, Curriculum and Room Utilization Annual Summary*
- USG Faculty Information Report
- *USG Information Digest and Fact Book*
- USG Institutional Strategic Planning Guidelines
- USG Instructions for Preparation of Five-Year Capital Outlay Funding Requests
- *USG Physical Master Planning Template Reference Guide*
- USG Principles for Capital Resources Allocation
- USG Real Property Inventory System (institution data)
- *USG Comprehensive Plan*
- USG Environmental Health and Safety Policy

Other Information Sources

- Americans with Disabilities Act (ADA and ADA/AG) Title II
- Council for Educational Facility Planners International (CEFPI) *Space Planning Guidelines for Institutions of Higher Education*
- Colorado Commission on Higher Education (CCHE) *Policy Manual*
- Local codes and agency requirements
- *Means Cost Estimating Guide*
- Municipal zoning and regulations
- *Post-Education Facilities Inventory and Classification Manual*

SELECTING A MASTER PLANNING CONSULTANT

A master planner is a professional consultant and shall be selected through a qualifications-based--not a bid--process. The appointment of a master planning firm shall follow the Professional Services Procurement Procedure of the University System of Georgia Board of Regents, similar to the selection process for other design consultants.

Selecting a consultant to undertake physical master planning services should be an individual process tailored to the specific needs of each college or university. The following are suggestions to clarify the selection process:

- Identify unique characteristics or issues within your mission statement/strategic plan that may affect the physical master plan of your campus. Draft a list of these characteristics.
- Evaluate the physical planning factors required to support or advance the strategic plan and identify measures that must be addressed to improve the campus and/or remedy known planning needs such as infrastructure in disrepair, inadequate space or needed renovations.
- Determine your institution's internal capacity and resources to undertake a physical master planning effort and assess the level of consultant expertise necessary to assist in advancing the effort.
- Compile a list of consultants who have experience in campus master planning. In addition to public advertisement, the following are some sources: University System of Georgia Board of Regents at 404-656-2249; Society for College and University Planning (SCUP) at 313-998-7832; American Institute of Architects (AIA) at 202-626-7528; American Planning Association (APA) at 312-431-9100; American Society of Landscape Architects (ASLA) at 202-686-2752; Institute for Urban Design at 212-741-2041. See also Master Plan Resources Bibliography section.

  Select consultants that match the areas of expertise required by the specific needs of your college/university and campus. This is usually accomplished through a Request for Qualifications (RFQ) process which is prepared and distributed to selected consultants and others, as appropriate. The RFQ typically gives campus statistics, vision for future planning, statement of planning needs, available fee (if known) and a brief overview of deliverables. It asks the consultant to provide specific information about the firm's master plan experience including names and type of colleges/universities for which physical master plans were prepared; resumes of the planning team members; identification of prospective sub-consultants; timeline of campus master planning projects; references, specifically those contact people who have supervised a campus master planning effort similar to your own.
- Review RFQs: This process typically is performed by a technical evaluation team. This evaluation team will determine scoring criteria prior to the beginning of the evaluation based on level of experience, quality of response to the RFQ, ability of consultant to complete each task and deliverable and other criteria. Often, a score is assigned for each portion of the RFQ and tallied. From this tally, the evaluation team will select between three and six consultants (typically referred to as the "short list").
- Send a Request for Proposals (RFP) to the short-listed firms. The RFP packet typically provides additional information specifically relating to the master plan goals, and asks each consultant/firm to prepare an in-depth proposal, including:

  --Understanding of the Project: statement of the consultant's understanding of the specific issues related to the campus. The consultant also should provide a brief description of the consultant's planning philosophy and how this philosophy directly relates to physical master planning work of this type.

  --Technical: detailed information explaining how the consultant proposes to accomplish each task and deliverable. Also included should be an implementation schedule for each deliverable, and other relevant information.

--Management and Qualifications: summary of how the consultant proposes to manage and execute the project and the qualifications of the consultant to perform the project. This section of the proposal also should include the consultant's plan for interfacing with campus master planning committees and officers; names and assignments of the firm's key project participants; firm's composition including organization and number of employees; proof of the firm's financial responsibility and professional liability insurance; name(s) of proposed subcontractor or subconsultant along with resumes of such key personnel, description of services and role in team organization.

--Past Experience: submission of physical master planning projects which are similar in size and complexity to the RFP physical master plan. The consultant typically provides a project description, budget, project start and end dates, list of individuals involved, and a point of contact for each project submitted. In addition, the consultant should outline the firm's current workload, listing all current and active projects for the upcoming year.

- Review RFPs: assemble the evaluation team and assess RFPs. It often is helpful to require each consultant on the short-list to make a brief presentation before an appropriate panel. This will give panel members (usually the vice president of business, physical plant director, members of a faculty senate and others) an opportunity to ask specific questions about each consultant's response to the RFP. Revise scores on short-listed firms based on the consultant's ability to support the assertions of its proposal and the pertinence of the proposal to the specific needs of the institution, and evaluate the oral presentation by the consultant, reference checks and documentation reviews.

- Select Final Consultant: negotiate a contract based on mutual accord in the project description (scope of services), budget and schedule.

WRITING AN EXECUTIVE SUMMARY

At the conclusion of the physical master plan, an executive summary should be prepared for widespread dissemination. As described in Preface--The Physical Master Planning Process, the executive summary abridges and cites findings from the technical memoranda.

While it can take a variety of forms, the purpose of the executive summary is to give an overview of the campus' existing conditions, to project needs and to determine the physical impact of those needs on the campus framework.

There are four major topics which should be addressed in the executive summary. These topics should be described through narrative, tabular and graphic tools. See *Physical Master Planning Template Reference Guide* for more information on formatting the executive summary.

1. Existing Conditions

Provide information on total land area of the campus, total enrollment, location of the campus and typological characteristics, and describe the form of the existing campus and problems to be overcome.

2. Projected Needs

Include changes in enrollment, space program needs (in general form), projected area of new or renovated space, specific changes to be accommodated and other needs to be accommodated in the future.

3. Summary of Planning Goals, Objectives and Principles

Describe how the goals, objectives and principles can reconcile or accommodate indicated needs.

4. Summary of Principal Aspects of Physical Master Plan

Promote key issues, features, systems or strategies of the master planning process.

Other information which may be addressed in the executive summary includes:

- Intent
- Background
- Process
- Pivotal issues addressed
- Primary physical master plan objectives
- Future campus development
- Pilot programs anticipated
- Summary of recommendations

Key date and numerical information may also be noted:

- Target date for physical master plan build-out
- Target dates for intermediate build-out or projected completion dates for major projects on-campus
- Projected area of additional academic and research space to be added, removed or renovated into new uses
- Target student enrollment
- Capital outlay required for improvements

Readability should be a primary driver of the executive summary. Use of simple, bold headings, bulleted or numbered points, and hierarchical listing of issues or recommendations will contribute to an understandable vision of the physical master planning process.

Finally, reference to past studies, inventories, reports, official statements and/or System-wide policies should be provided if they have contributed to the physical master plan framework.

PHYSICAL MASTER PLAN MONITORING PROCESS

The structure, governing officers or committees, size, student characteristics, campus context and priorities vary widely among academic institutions. The following are some guidelines and suggestions for orchestrating a design review process which may be tailored to the needs of each institution.

REASONS TO REVIEW A PHYSICAL MASTER PLAN

- Recent or proposed land acquisition
- Proposed building improvement
- Proposed capital improvement
- Grant awards given to college or university for improvements
- External circumstances in the community that directly impact the physical master plan such as construction of a new road, change of regulations or proposed adjacent development
- Other changes that were unanticipated at the time of the physical master planning process

CONDUCTING A REVIEW AT THE COLLEGE OR UNIVERSITY LEVEL

1. The college or university may appoint administrative and academic staff (Group) to periodically review the status of land use and facilities program development on the campus. The review process and Group typically are administered through the college's or university's office of physical planning or physical plant. The Group is responsible for the "civic" mission of a project, ensuring that the proposed amendment is consistent with the mission statement, institutional strategic plan and physical master planning guidelines, and emphasizing the relationship of the proposed amendment to the larger campus context. The Group is charged with monitoring the efficacy of the physical master plan.
2. The Group often (1) identifies trends or needs for change in use patterns, density, program affinities and relationships to open space, circulation and utility patterns that might affect the land use plan, and (2) determines whether such circumstances should be corrected to maintain the integrity of the land use plan and constraining factors, or cause the plan to be altered or amended to reflect valid needs. The review may identify opportunities to meet college or university facilities needs more effectively by:
    - Identifying ways that a project can serve multiple needs
    - Combining proposed projects
    - Coordinating activities relative to leasing, acquisition, disposition and project development
3. In the review process, the Group will assess proposed projects (amendments) by comparing them with the land uses, densities and open space provisions of the physical master plan. Upon determination of appropriate location, and consistency with use and density guidelines, the college or university may review the proposed improvements (amendments) and make recommendations as necessary to ensure the project's consistency with the intent of the physical master plan.

   Note that the design review process is separate from the monitoring process and that it typically is the responsibility of a separate committee. While the monitoring Group described herein determines the extent to which a proposed project or program might cause the physical master plan to change, the design review committee ensures that specific projects are in compliance with design and development guidelines.
4. The Group should assess proposed projects in a comprehensive manner that takes into account the suitability of the site and the cumulative consequences of development in regards to on- and off-campus development constraints, conflicts or limits such as traffic, infrastructure and drainage. Site suitability will address topography, soils conditions, drainage, utilities and infrastructure, vehicular and service access and program affinities.

5. The college or university also may form a committee or delegate responsibilities to the Group to undertake an annual review of the schedule of capital improvements to ensure that they are consistent with the land use, density and development factors as described in the physical master plan.

6. The Group typically reports its findings from items one through five, if applicable, to the college or university president, governing board, committee or other appointed officer and recommends circumstances when and how an amendment of the land use plan may be merited or where projects should be limited or amended.

7. After the decision to amend a physical master plan has been made, the college or university president, governing board or committee or other appointed officer may consult with the staff of the University System of Georgia Board of Regents on circumstances deemed by the college, university or University System of Georgia Board of Regents' regulations, to merit consideration. These discussions will outline the terms by which the plan or projects may need to be altered.

8. The Group then may determine the more detailed impact of this amendment on the current physical master plan, conducting reports, surveys, analysis, drawings or other studies to adequately assess the future effects of this amendment.

9. The Group then may present these impacts to the college or university president, governing board or committee or other appointed officer for their assessment. Depending upon the nature of the amendment and its effect on the surrounding community, discussions and presentations may be held with community groups.

10. Modifications to the amendment shall be made according to discussions above, and re-drafted for approval by the appropriate college or university official(s). Appropriate timetables, funding and development coordination measures associated with the prospective amendment should be drafted and presented.

11. Amendments to the campus physical master plan then may be consolidated into an annual submission to appropriate officers or divisions within the college or university, if applicable, and to the University System of Georgia Board of Regents.

MASTER PLAN RESOURCES

University System of Georgia (USG) Information Sources

General information relating to the University System of Georgia is available at http://www.peachnet.edu

General questions relating to the Physical Master Planning Template may be directed to Linda Daniels, Director of Facilities Planning, University System of Georgia Board of Regents at 404.656.2249 (tel), 404.657.7433 (fax) or ldaniels@mail.regents.peachnet.edu

The Georgia Library Learning Online (GALILEO) is available at http://galileo.gsu.edu/Homepage.cgi

Microsoft Word®, Excel® and Access® software applications are available to all colleges and universities within the University System of Georgia. For more information, contact Larry Pounds at lpounds@uga.cc.uga.edu. To order software applications, contact the Microcomputer Software Distribution Center (MSD) at University Computing and Networking Services; University of Georgia; Athens, Georgia 30602 or msd@uga.cc.uga.edu or http://www.uga.edu/~ucns/msd/

To order one copy of the University System of Georgia documents listed in the Template's Materials Checklist, contact Robby Pinder, Administrative Secretary for Facilities Planning, University System of Georgia Board of Regents at 404.656.2246 (tel) or rpinder@mail.regents.peachnet.edu

To obtain electronic (ArcInfo format) plan graphics of each college/university including building footprints, hydrology, sidewalks, streets, building name and number, contact Craig Tomlinson, GIS Project Manager, University of Georgia at craig@itos.uga.edu

Questions related to facilities, curriculum and room utilization data should be directed to Sheila Kelley, OIIT, University System of Georgia Board of Regents at 706.369.6436 (tel) or skelley@mail.rath.peachnet.edu

Information on the University System of Georgia Real Property Inventory is available by contacting Peter Hickey, Assistant Vice Chancellor for Facilities, University System of Georgia Board of Regents at 404.656.2245 (tel) or phickey@mail.regents.peachnet.edu

Questions related to environmental safety may be directed to Mark Demyanek, Director of Environmental Safety, University System of Georgia Board of Regents at mdemyane@mail.regents.peachnet.edu

A list of campus buildings which are included on or have been nominated for the National Historic Register may be obtained by contacting Sheila Kelley, OIIT, University System of Georgia Board of Regents at 706.369.6436 (tel) or skelley@mail.rath.peachnet.edu

Questions related to posting final master plan documents on the Internet should be directed to the OIIT representative at the college or university. Additional questions may be directed to Brad Bacon, Webmaster, OIIT, University System of Georgia Board of Regents at brad_bacon@oit.peachnet.edu

Template formatting is explicitly outlined in both the *Physical Master Planning Template* and the *Physical Master Planning Template Reference Guide* documents. Graphic details specific to the college or university such as logos, images, etc., should be obtained from or authorized by the college or university media and publications office. Questions related to graphics for the University System of Georgia may be directed to the University System of Georgia Office for Media and Publications at 404.656.2250.

Outside Information Sources

For space needs analysis, the *Space Planning Guidelines for Institutions of Higher Education* is available by contacting the Council of Educational Facility Planners International (CEFPI) at 602.948.2337 (tel) or 602.948.4420 (fax). For two-year institutions, the Colorado Commission on Higher Education *Policy Manual* contains specific lab space standards which are available by contacting Kirk Mlinek at the Colorado Commission on Higher Education (CCHE) at 303.894.2935 or at kirk.mlinek@state.co.us

Information on current codes and regulations for the State of Georgia are available by contacting the Georgia Department of Community Affairs at 404.656.3836

The State of Georgia currently maintains a GIS data clearing house in the Web. Topographic information for portions of the State of Georgia is available at http://www.GIS.State.Ga.US/

The Society for College and University Planning (SCUP) Planning Pages are located at http://www.umich.edu/~scup/

BACKGROUND INFORMATION

The Internet allows different types of organizations to interact with others electronically to meet their objectives. Governments, businesses and institutions are able to, and do, collaborate, communicate and meet on the "net" to do business. It is more common today to receive e-mail via the Internet than a fax or a letter delivered by the US Postal Service.

The University System of Georgia is well positioned to take advantage of the Internet as a means of inter-university communications. The Internet (WWW) and Intranets (Peachnet) currently are being used to retrieve and deliver information to members both within and outside the system. One of the goals of the Template is to provide a system that fits well into the existing infrastructure and systems and allows for seamless correspondence during the physical master planning process. The use of the Internet to deliver the Physical Master Planning Template and completed physical master plans will be an efficient and cost effective method to access college and university physical master plan information.

USING THE TEMPLATE ON-LINE

The Physical Master Planning Template is uploaded as a read-only document to the University System of Georgia Board of Regents' web site for viewing, downloading and printing as a single source document by end-users. The Template's address is http://www.peachnet.edu/BORWEB/capres/plantemp/
Adobe Acrobat Reader®, a free viewing tool from Adobe Software that is compatible with Windows®, Macintosh® and Unix®, can be used to download the Template in its native format: Microsoft Word for narrative portions, EPS format for sample graphics to allow input following the recommended Template format. When downloading, the contents of the Template will be saved to the user's default drive, and will not appear on-screen. Printing may be accommodated by opening the Template file from the user's default drive.

POSTING THE COMPLETED PHYSICAL MASTER PLAN

The consultant and college or university are responsible for posting *all* final physical master plan material to the official University System of Georgia Board of Regents repository following the final presentation to the University System of Georgia Board of Regents. The repository is found on an ftp site, and its address is ftp.peachnet.edu

In addition, the Template process anticipates that each college/university will post a comprehensive subset of the completed physical master plans to their respective web sites. Useful portions of the plan may include the mission statement, goals and projected improvements. Campus plans/maps also provide relevant graphic information about the campus, its building locations and relation to the surrounding landscape. These master plan subsets can then be linked to the University System of Georgia's main web site by contacting w3admin@oit.peachnet.edu If a college or university changes the location of the master plan subset within their individual web site, they should notify w3admin@oit.peachnet.edu so that the change may be accommodated system-wide. See Master Plan Resources, Additional Information Sources for more guidance.

Wherever the Internet publishing kit is used to post drawings, colleges and universities should include a link to the AutoCAD® Internet Publishing Kit with Netscape® plug-in end-user download. This will enable end users to zoom and pan within a CAD drawing/campus plan independent of AutoCAD®.

Universities/colleges may also choose to visit the Ohio State University web site http://www.ohio-state.edu for an example of a web site that incorporates a large portion of its physical master plan.

CIP CODE GROUPS

CIP CODE (first two)	CIP CODE GROUP NAME
01	Agricultural Business and Management, General
02	Agriculture/Agricultural Sciences, General
03	Natural Resources Conservation
04	Architecture
05	African Studies
08	Apparel/Accessories Marketing Operations, General
09	Communications, General
10	Educational/Instructional Media
11	Computer and Information Sciences, General
13	Education, General
14	Engineering, General
15	Architectural Engineering Technology/Technician
16	Foreign Langues and Literatures
19	Home Economics, General
20	Comprehensive Consumer/Homemaking Education
21	Technology Education/Industrial Arts
22	Law (LLB, JD)
23	English Language and Literature, General
24	Liberal Arts and Sciences/ Liberal Studies
25	Library Science/Librarianship
26	Biology, General
27	Mathematics
28	Air Force ROTC/Air Science
29	Military Technologies
30	Biological and Physical Sciences
31	Parks, Recreation and Leisure Studies
32	Basic Skills, General
33	Citizenship Activities, General
34	Birthing and Parenting Knowledge and Skills
35	Interpersonal and Social Skills, General
36	Leisure and Recreational Activities, General
37	Self-Awareness and Personal Assessment
38	Philosophy
39	Biblical/Theological Languages and Literatures
40	Physical Sciences, General
41	Biological Technology/Technician
42	Psychology, General
43	Corrections/Correctional Administration
44	Community Organization
45	Social Sciences, General
47	Electrical/Electronics Equipment Installer/Repair
48	Drafting, General
49	Aviation and Airway Science
50	Visual and Performing Arts
51	Chiropractic (DC, DCM)
52	Business, General

SELECTED BIBLIOGRAPHY

APPA. *Comparative Costs and Staffing Report for College and University Facilities*. Alexandria, Virginia: APPA, biennial.

----------. *Facilities Stewardship in the 1990s*. Alexandria, Virginia: APPA, 1991.

----------. *Operations and Maintenance*. Critical Issues in Facilities Management series, no. 9. Alexandria, Virginia: APPA, 1992.

----------. *Planning for Improved Campus Facilities*. Alexandria, Virginia: APPA, 1992.

----------. *Planning, Design and Construction*. Critical Issues in Facilities Management series, no. 7. Alexandria, Virginia: APPA, 1990.

----------: The Association of Higher Education Facilities Officers. *Capital Renewal and Deferred Maintenance*. Critical Issues in Facilities Management series, no. 4. Alexandria, Virginia: APPA, 1990.

Beck, Mark W. "Campus Facility Site Selection and Matrix Evaluation of Weighted Alternatives: A Methodology." *Planning for Higher Education*, 17:4, 1989.

Biehle, James. "Successful Master Planning." *Planning for Higher Education*, 19:4, 1991.

Blackett, Anthony and Brenda Stanfield. "A Planner's Guide to Tomorrow's Classrooms." *Planning for Higher Education*, 22:3, 1994.

Blumenthal, D., N. Causino, E. Campbell et al. "Relationships between Academic Institutions and Industry in the Life Sciences: An Industry Survey." *The New England Journal of Medicine*, Feb. 8, 1996, 334(6).

Boles D. Urban Design and Planning. *Progressive Architecture*. Jan 1988; 69(1) and 124(16).

Boyer, Ernest L. "Facilities and the Academic Mission." *Facilities Manager*, Winter 1988.

Brant, Robert B. and Leevi Kiil. "Design Approaches to the Special Challenges of Academic Facilities." In *Proceedings of the 76th Annual Meeting of APPA*, Alexandria, Virginia: Association of Physical Plant Administrators, 1989.

Brase, Wendell. "Integrating Physical Planning with Academic Planning." *Planning for Higher Education*, 16:4, 1988.

Braver, Roger L. *Facilities Planning*. Washington, D.C.: American Management Association, 1986.

"Campus." *Progressive Architecture*. March 1992; 73(3) and 93-(11).

Chapman, M. Perry. "The American Campus and the Age of Limits." *Architectural Record Review*. November, 1991.

Chapman, M. Perry. "Planning for the Future Campus." *Architecture*. February 1995, p. 53(1).

Chapman, M. Perry. "Social Change and American Campus Design." *Planning for Higher Education*, 22:3, 1994.

The Christner Partnership, Inc. "Master Planning." Roundtable panel discussion at 1994 annual meeting of the APPA: The Association of Higher Education Facilities Officers, San Antonio, Texas.

The Christner Partnership, Inc. "Planning for Master Planning." APPA workshop, March 1-2, 1995, Indianapolis, Indiana.

Clotfelter, Charles et al. *Economic Challenges in Higher Education*. Chicago: University of Chicago Press, 1991.

Colorado Commission on Higher Education. *Policy Manual*. July, 1987.

Council of Educational Facility Planners International. *Space Planning Guidelines for Institutions of Higher Education*. July 1985. New edition upcoming.

Daigneau, William A. "At the Crossroads." *Facilities Manager*, Winter 1995.

Day, Duane and Tim Lewis. "Establishment and Application of a University Standards Policy." In Proceedings of the 79th Annual Meeting of APPA. Alexandria, Virginia: APPA, 1992.

Dews, E.A. "Value Analysis of Competitive Bids for Consultant Services." In Proceedings of the 1993 Educational Conference and Annual Meeting of APPA. Alexandria, Virginia: APPA, 1993.

Dill, David. "Rethinking the Planning Process." *Planning for Higher Education*, 22:2, 1994.

Dillow, Rex O., ed. *Facilities Management: A Manual for Plant Administration*, second edition. Alexandria, Virginia: Association of Physical Plant Administrators, 1989.

Dober, Richard. "About Campus Lawns." *Planning for Higher Education*, 20:4, 1992.

Dober, Richard. *Campus Design*. New York: John Wiley & Sons, Inc., 1992.

Dunn, John A., Jr. *Financial Planning Guidelines for Facility Renewal and Adaptation*. Ann Arbor, Michigan: Society of College and University Planning, 1989.

Eaton, Judith. "The Coming Transformation of Community Colleges." *Planning for Higher Education*, 21:1, 1992.

Eckstut, Stanton and Ezra Ehrenkrantz. "Dos and Don'ts of Historic Preservation on Campus." *Planning for Higher Education*, 23:2, 1995.

Einhorn, Steven and Jim McKinney. "Adapting Old Buildings for New Uses." *Facilities Manager*, Winter 1992.

Freeman, Alan Charles, William D'Elia and Kimberly Woodard. "New Town-Gown Planning." *Planning for Higher Education*, 21:1, 1992.

Gaines, Thomas A. *The Campus as a Work of Art*. New York: Praeger Publishers, 1991.

Gaskins, Wain. "Selecting a Campus Planning Consultant." *Facilities Manager*, Spring 1992.

Glazner, Steve, ed. "Planning, Design and Construction." *Facilities Manager*, Summer 1995.

Goncalves, Karen. "Those Persons Who Do Your Planning." *Planning for Higher Education*, 20:2, 1991.

Harvard University, Department of Landscape Architecture. College Hill *Campuses: Historic and Visual Analyses*. Cambridge, Massachusetts, 1968.

Hewitt, Clinton N. "Facilities Planing and Space Management." *Facilities Management: A Manual for Plant Administration*, second edition. Alexandria, Virginia, 1989.

Hodges, Chris. "Understanding the Life Cycle of Buildings and Structures." In Proceedings of the 1994 Educational Conference and Annual Meeting of APPA. Alexandria, Virginia: APPA, 1994.

Hughes, K. Scott and Daryl Conner, eds. *Managing Change in Higher Education: Preparing for the 21st Century*. Washington, D.C.: College and University Personnel Association, 1989.

Johnson, Carol. "Approaches to Contemporary Campus Landscape Design." *Planning for Higher Education*, 22:2, 1994.

Kaiser, Harvey H., ed. "Managing Facilities More Effectively." *New Directions for Higher Education Quarterly*. San Francisco: Joseey-Bass, 1980.

Kaiser, Harvey H. *The Facilities Audit: A Process for Improving Facilities Conditions*. Alexandria, Virginia: APPA, 1993.

Knipe, Edward C. "Utilities Master Planing in the Campus Setting." In Proceedings of the 77th Annual Meeting of APPA. Alexandria, Virginia: APPA, 1990.

Lewis, James Jr. *Long-Range and Short-Range Planning for Educational Administrators*. Boston: Allyn and Bacon, 1983.

Love, William R., Jr. "Master Planning Techniques for Success." In Proceedings of the 79th Annual Meeting of APPA. Alexandria, Virginia, 1992.

Mayer, Frederick W. "Campus Infrastructure." *Facilities Management: A Manual for Plant Administration*, second edition. Alexandria, Virginia: Association of Physical Plant Administrators, 1989.

McFaul, Thomas R, Richard J. Wilders, Paul H. Loscheider and Richard J. Luzeze. "Pro-active Planning in a Small College Setting: Using a Computerized Planning Model to Project Alternative Futures." *Planning for Higher Education*, 16:3, 1988.

Milgrom, Gail and Elizabeth Sisam. "Bridging the Gap between Space Standards and Space Allocation: A Methodology." *Planning for Higher Education*, 16:2, 1987.

Nanus, Burt. "Visionary Leadership: Creating the New Tomorrow." *Facilities Manager*, Winter 1995.

"New Campus For the Military." *Architectural Record*. March 1993, 181(3).

Norris, Donald M. and Nick L. Poulton. *A Guide for New Planners*. Ann Arbor, Michigan: Society for College and University Planning, 1991.

Owu, Michael. "Classrooms for the 21st Century." *Planning for Higher Education*, 20:3, 1992.

Purcell, James and Frank Schmidt. "Coping with the Changing Student Population In the 1990s." In Proceedings of the 78th Annual Meeting of APPA. Alexandria, Virginia: APPA, 1991.

Reeve, John R. and Marion B. Smith. "Planning for Master Planning." *Facilities Manager*, Fall 1993.

Schmertz M.F., ed. *Campus Planning and Design*. New York: McGraw-Hill 1972.

Schmidtlein, F.A. and T.H. Milton. *Adapting Strategic Planning to Campus Realities*. San Francisco: Jossey-Bass, 1990.

Schmidtlein, Frank A. and Toby H. Milton. "College and University Planning: Perspectives from a Nation-Wide Study." *Planning for Higher Education*, 17:3, 1989.

Turner Paul. *Campus: An American Planning Tradition*. Cambridge, Massachusetts: MIT Press, 1990.

Womack, Farris W. and Richard S. Podemski. "Criteria for Effective Planning in Multi-Campus Systems." *Planning for Higher Education*, 13:2, 1985.

GLOSSARY

The following is a selective glossary defining terms relevant to the Physical Master Planning Template process. Refer also to the Glossary of Terms and Abbreviations found in the Facilities/Curriculum/Room Utilization Report produced by the University System of Georgia Board of Regents

- **Academic Program**: Instructional program of a professional or non-occupationally specific nature leading toward an associate's, bachelor's, master's, doctor's or first-professional degree or resulting in credits that can be applied to one of these degrees.

- **Assigned Square Feet** (ASF): Also called net assignable square feet. Sum of the space allocated to the major room use categories: classrooms, laboratories, offices, study areas, special use space, general use areas, support rooms, health care, residential and unclassified space. Area is measured within the interior walls of the room. Assignable square feet does not include building service area (cleaning and public hygiene), circulation area or mechanical area.

- **Building Inventory:** Process of inventorying structures which are under the jurisdiction or control of the institution's governing board to determine the amount of space that can be assigned to people or programs.

- **Building Survey:** Detailed assessment of current condition of buildings including exterior and interior surfaces, structure, HVAC, lighting and outlets, etc.

- **Building Ownership Status:** Type of ownership and relation of title holder to institution, including:

  - Fee simple
  - Title vested in the institution and being paid for on an amortization schedule
  - Title vested in a holding company or building corporation to which payments are being made by the institution (includes lease-purchase agreements)
  - Not owned by the institution but leased or rented to the institution at a typical local rate
  - Not owned by the institution but made available to the institution either at no cost or at a nominal rate
  - Not owned by the institution but shared with an educational organization that is not a post-secondary institution
  - Not owned by the institution, but shared with another post-secondary educational institution
  - Not owned by the institution but shared with a non-educational institution

- **Capital Improvement:** Construction, addition, expansion, removal or renovation of buildings, utilities, roads, walks and other site features on the campus.

- **Classification of Instructional Programs** (CIP): National Center for Educational Statistics publication that classifies instructional programs by standard terminology for curriculum and instruction in local and state school systems and post-secondary institutions. The system includes 52 academic, vocational, ROTC and personal improvement and leisure programs listed by double-digit codes. These CIP codes are grouped for the purposes of this Template. See Master Plan Resources CIP Code Groups section for more information.

- **Curriculum Inventory Report** (CIR): Report generated annually by the University System of Georgia Board of Regents from curriculum data submitted by individual colleges and universities.

- **Conservation Area:** Any area on or around campus property which contains environmentally, ecologically and/or historically sensitive features or habitats such as wetlands, lakes, rivers, other surface waters, flood plains, bottom lands, well-field cones of influence, aquifers, aquifer recharge areas, unique geological features, archaeological artifacts, existing mitigation sites, protected flora or fauna, protected wildlife species and nesting or feeding habitats.

- **Context Area:** Area surrounding the main or continuous campus of the college or university. For purposes of this Template, the context area usually includes the area extending one-half to two miles from any property boundary of this main or continuous campus.
- **Design Standards or Guidelines:** Principles which are directed toward the goal of creating building and site improvements that contribute to the quality of life on campus and the quality of the environment and character of the campus
- **Environmental Audit:** A systematic evaluation or assessment of an institution's natural or environmental resources and its overall compliance status in relation to federal, state and local regulatory requirements.
- **Floor Area Ratio:** Total floor area on land parcel divided by the area of that land parcel.
- **Full-time Equivalent** (FTE/EFT): Statistic that adds credit hours of all students, part- or full time, and then divides by a standard number of credits which a full-time student is expected to carry during a term or semester.
- **Future Development Zones:** Potential areas on- or off-campus which are specified in the physical master plan for future campus development.
- **Gross Square Feet** (GSF): Total floor area of the structure measured from the outside faces of the exterior walls.
- **Headcount:** Total number of students enrolled in the college or university.
- **Historic Register:** Legal document which lists buildings and/or areas which have significant historic value. Buildings/areas on this list are covered under regulations governing their use and renovation, and often cannot be demolished or altered.
- **Historic Survey:** Assessment of historic buildings, sites or monuments. This survey is required before applying for historic register status.
- **Instruction Hours:** Time and duration in which instructional activity is scheduled for a given classroom, lecture room, laboratory or other space assigned for instructional purposes. It is commonly used as a basis for determining the utilization of such space.
- **Institutional Mission Statement:** Document prepared by each college or university which addresses the institution's academic goals. Statement is submitted to the University System of Georgia Board of Regents.
- **Land Survey:** Survey of property lines by compass points and supporting tax maps, deed information, etc.
- **Land Use Plan:** Base map depicting land use.
- **Land Use:** Purpose for which land is used, including academic/academic support, residential, athletic/recreation, research/allied institutes, medical/health services, natural resources, support facilities, open or transitional and other uses.
- **Level of Service--building** (LOS): Number of students, faculty and visitors who utilize a building compared to the capacity for which the building was intended.
- **Level of Service--traffic** (LOS): Measure of traffic flow. LOS ranges from "A": free flow operation to "F": forced flow operation where "E": represents the theoretical capacity of an intersection or roadway. Design usually focuses on LOS "C" as a maximum.
- **Physical Master Plan:** Investigation and documentation of existing and proposed conditions and objectives (including curricula and program) that contribute to a proposed set of recommendations (narrative, tabular and graphic) for future campus development.
- **Net Usable Area:** Aggregate interior area of a building which is the sum of assignable area and non-assignable area.
- **Non-assignable Area:** Sum of building service area, circulation area and mechanical area.

- **Performance Standards:** Functional level of performance or impact intended in the design or development of a given facility. Examples include: positioning of a building to avoid casting shadows on an important space, provision of adequate visibility for security purposes, maximum amount of energy in BTUs/hour that should be expended in the operation of a building or of an area to be served by a district heating/cooling facility, area and direction of emission of site lighting to avoid glare on adjacent facilities, etc.
- **Replacement Cost** (Estimated): Estimated cost to replace the building at the time of the inventory (current dollars).
- **Strategic Plan:** Document prepared by each college or university which describes both the structure and operating characteristics of the institution's strategic planning process. Please refer to the *University System of Georgia Institutional Strategic Plan and Assessment Summary Guidelines* drafted by the Board of Regents of the University System of Georgia.
- **Structural Area:** Difference between the exterior or gross area and the interior or net usable area.
- **Structured Parking:** Parking which is located in parking garages rather than surface parking lots.
- **Topographic Survey Map:** Configuration of the earth's surface and terrestrial relief.
- **Traffic Count:** Number of vehicles using a particular roadway or intersection during a specified observation time.
- **Unit Cost:** Cost per unit of measurement such as square foot, cubic yard, linear foot, etc. Measured in dollars.
- **Walk-through:** Abbreviated building survey performed by an architect, engineer or other qualified design professional to assess the general condition of facilities within the campus including structure, envelope and systems to ascertain the general condition of facilities within the campus.
- Zoning Type: One of the categories into which a parcel of land may fall. Examples include residential (R-1, R-2, etc.), commercial, industrial, institutional, recreational, agricultural, public, vacant.