Introduction

The 2010-2020 Campus Master Plan represents the 5-year update of the plan adopted in 2005 and moves the planning timeframe forward to the year 2020. The update is presented for review and comment by the public and state and local agencies referenced in section 1013.30(6), Florida Statutes.

The Master Plan consists of seventeen (17) elements indicated by a tab and corresponding element number. Each element contains the Master Plan Goals, Objectives and Policies and appropriate figures. Additionally, for reference purposes, the summarized data in the form of the Data Analysis for each element has been included herein in a separate section following the Master Plan Goals, Objectives and Policies section.

Written comments are encouraged and should be directed to:

James K. Davis, AICP
Assistant Director, Planning
Office of Facilities Planning
University of Central Florida
P.O. Box 163020
Orlando, Florida 32816-3020

Upon adoption of this plan by the Board of Trustees, the University will negotiate a Campus Development Agreement (CDA) with the host local government, Orange County. The purpose of the CDA is to identify and help mitigate the University's impacts on public services. Actions delineated in the CDA are contingent upon availablity of funds in the State's Concurrency Trust Fund. Upon completion of the 2005-2015 Campus Master Plan, a campus development agreement was executed and the Florida Department of Education paid $3.8M to Orange County, which constituted UCF's fair share amount.

Academic Mission

The University of Central Florida is a public multi-campus research university, whose mission is to offer opportunities for high-quality undergraduate and graduate education, student development, and continuing education; to conduct research and creative activities; to provide services that enhance the intellectual, cultural, environmental, and economic development of Central Florida; to address state, national, and international issues in key areas; and to contribute to the global community.

Academic Program

The following table shows the projected enrollment growth for the planning period.

Year	Fall Main Campus Headcount
2010	42,150
2011	42,567
2012	42,495

The above figures are based on official enrollment projections. Experience over the past decade indicates that these projections may be low due to:

a. The continued growth of the state population, and concentrated growth in the Central Florida region (particularly, the I-4 high-tech corridor),
b. The dramatic growth of the college-age population,
c. UCF's increased "market share" among college-bound students compared to other universities in the state, and
d. The relatively new and growing emphasis on graduate studies at UCF.

However, we see that the trend may be changing due to a First Time in College (FTIC) enrollment freeze and a decreasing growth trend in the number of Florida high school graduates.

Thank you for your interest in the Campus Master Plan update.

2.1 Academic Mission Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Offer the best undergraduate education available in Florida.

OBJECTIVE 1.1: To provide for the maintenance or modification of the missions of individual colleges within the University over the planning timeframe.

POLICY 1.1.1: The colleges shall continually review and update their missions in relation to the University's mission statement and five goals, and the goals of the academic departments and disciplines within their colleges.

POLICY 1.1.2: Each college and department has established internal procedures for updating and modifying its mission statement.

POLICY 1.1.3: The colleges are expected to develop missions and goals that address university-level goals and are in concert with the overall mission of the University. These mission statements are forwarded to the provost for consideration after they have been approved by the dean of the college.

POLICY 1.1.4: Proposed amendments to the adopted campus master plan shall reflect the most recently approved mission statement for the University.

OBJECTIVE 1.2: To provide for the maintenance or modification of the mission of the University over the planning time frame.

POLICY 1.2.1: The mission of the University was reviewed and revised in Fall 2008.

OBJECTIVE 1.3: To provide for new or modification of existing academic programs and degrees offered.

POLICY 1.3.1: Establishment of new or modification of existing academic programs and degrees offered occur in synchronization with Board of Governors' deadlines within the five-year strategic planning cycle. The Office of Academic Affairs solicits white papers for the development of a new list on a regular basis.

OBJECTIVE 1.4: To establish priorities among the development of new or modified academic programs.

POLICY 1.4.1: Establishment of UCF's internal priorities among the development of new or modified academic programs and degrees offered occurs in synchronization with BOG deadlines. The priorities for developing new academic programs and modifying or terminating existing programs are identified in the strategic plan as described in Academic Program Element Policy 1.3.1.

POLICY 1.4.2: The colleges shall continually review and update their degree offerings according to productivity, demand, relation to the mission, and other pertinent factors.

OBJECTIVE 1.5: To continue its practice of developing a Campus Master Plan, updated at five-year intervals.

POLICY 1.5.1: UCF shall pursue modifications, upgrades, and expansion of its physical facilities and infrastructure that are incorporated into the most recently approved master plan.

POLICY 1.5.2: UCF shall submit to the BOG, within four years from the date of plan adoption and every five years thereafter, an evaluation and appraisal report which:

- lists accomplishments during the implementation of the campus master plan, describing major problems associated with development and land uses, and the degree to which the goals, objectives, and policies have been successfully reached;
- identifies obstacles or problems that resulted in underachievement of goals, objectives, or policies;
- identifies the need for new or modified goals, objectives, or policies required to correct unanticipated and unforeseen problems and opportunities that have occurred since adoption of the campus master plan;
- addresses local government and public participation in the process;
- addresses the effects of changes to the State Comprehensive Plan and to the comprehensive plans of the host local government and any affected local governments;
- identifies proposed and anticipated plan amendments necessary to address identified problems and opportunities; and
- identifies a means of ensuring continuous monitoring and evaluation of the plan during the remainder of the overall planning period.

POLICY 1.5.3: UCF shall submit to the BOG, within five years from the date of plan adoption and every five years thereafter, a proposed plan amendment which incorporates the findings and recommendations

contained in the evaluation and appraisal report, and which contains updated baseline data (as appropriate) and goals, objectives and policies to be accomplished during the remainder of the overall planning period.

POLICY 1.5.4: UCF shall undertake an annual review of the goals, objectives and policies and programmed improvements identified in the most recently approved master plan to determine if amendments modifying the plan are necessary. Should revisions to this master plan, either alone or in conjunction with other amendments, exceed the thresholds established in s. 240.155(9), F.S., said amendments shall be reviewed and adopted under the provisions of s. 240.155(6)-(8), F.S. Amendments to this master plan which do not exceed these thresholds shall be consolidated into a single submittal and sent to the SUS.

GOAL 2: Achieve international prominence in key programs of graduate study and research.

OBJECTIVE 2.1: To be one of the nation's leading research universities, recognized for its intellectual, cultural, technological, and professional contributions and renowned for its outstanding programs, partnerships, and commitment to undergraduate education.

POLICY 2.1.1: Selected graduate programs were targeted in the strategic plan for support in order to achieve or retain international prominence.

POLICY 2.1.2 Academic Mission of the University Element Analysis

a) A description of how the University's mission has changed (or not) since its inception.

UCF at its founding was titled "Florida Technological University," and in keeping with that, its mission was expressly technological. However, the mission has broadened dramatically over the ensuing forty years to the present. Re-titled in the late 1970's as the "University of Central Florida," it has developed into a rapidly-growing, leading research university, with a full complement of undergraduate and graduate programs. It performs cutting-edge research in a wide variety of disciplines that span the academic spectrum.

b) A description of how the Uuniversity's mission has changed since the last master plan was prepared.

The most recently adopted mission for the University of Central Florida has maintained its overall tone and character. UCF remains committed to providing an excellent undergraduate education while offering high-quality graduate and professional programs. The

current mission restates goals and visions predicated in the 1995 Mission, while reinforcing ties to the central Florida geographic region.

GOAL 3: Provide international focus to our curriculum and research programs.

OBJECTIVE 3.1: To identify areas of international strength and potential in support of the teaching, research, and public service missions.

POLICY 3.1.1: The University International Strategic Plan was presented to the Provost in Spring 2004. This plan is currently being updated.

POLICY 3.1.2: The University will explore methods of promoting international programs and opportunities by:

- infusing the undergraduate and graduate curricula with international and cross-cultural perspectives;
- encouraging socially enriching experiences that lead to international and cross-cultural understanding for students, faculty members, and staff members;
- facilitating cross-cultural opportunities for the UCF community and the central Florida metropolitan region; and
- promoting international programs and partnerships that assure prominence for global competence.

GOAL 4: Become more inclusive and diverse.

OBJECTIVE 4.1: To promote diversity among students and employees.

POLICY 4.1.1: UCF will continue to actively recruit and retain minorities and women by following the recommendations of the two presidential commissions: the Commission on the Status of Women; and the Commission on the Status of Racial and Ethnic Minorities.

POLICY 4.1.2: UCF shall comply with established Affirmative Action/Equal Employment Opportunity guidelines and requirements in student, faculty, administrator, and staff searches.

GOAL 5: Be America's leading partnership university.

OBJECTIVE 5.1: To promote partnerships as an area of emphasis at UCF.

POLICY 5.1.1: UCF will endeavor to increase interdisciplinary partnerships within the University.

POLICY 5.1.2: UCF will endeavor to increase partnerships within the community to enrich the educational, artistic, cultural, economic, and professional lives of those it serves in central Florida and beyond.

OBJECTIVE 5.2: To promote outreach programs, volunteerism, and community-based research.

POLICY 5.2.1: UCF shall continue to systematically develop and engage in quality programs that are responsive to the needs of the community, particularly through service learning.

POLICY 5.2.2: UCF shall continue to encourage and support the development of high-quality continuing education programs.

POLICY 5.2.3: UCF shall continue to develop, engage in, and support programs which enhance K-12 education.

2-1 Academic Mission Element
Data and Analysis
2010-2020 Campus Master Plan Update

The Strategic Plan Framing Narrative

UCF has embarked on a bold venture to become a new kind of university, one that leads as well as serves its region, its city-state. That is our goal. Our strategic plan must identify tactics that will enable us to achieve it in a competitive environment. As Florida and our nation confront a new era of economic turmoil and uncertainty, one may question whether this is the time for a new strategic vision that projects the University into such a demanding role. It is our view that this is precisely the time for the larger view that true strategic planning requires. From very humble beginnings, UCF has progressed to become a major metropolitan research university. Today, we stand at a crossroads, and we need your help as we develop the vision and strategies that will define our journey into the future. We will sustain our bedrock capabilities and continue to be "the people's university," offering access to a great university with a clear sense of itself and its role to offer an affordable, high-quality education to those with the ability, energy, and enterprise to pursue it. We will continue to champion and support a wide range of scholarship in the classic disciplines and emerging fields. We will sustain our abiding commitments to inclusiveness, excellence in all endeavors, and opportunity for all. We will be at the forefront of efforts to address the economic, cultural, intellectual, and societal needs of the Central Florida city-state.

This is a challenging, but exciting, time for our University, and your thoughtful support is important to our efforts to capture fully the opportunities afforded by strategic planning. We confidently project UCF as a leader in the Central Florida city-state. Our diverse and talented community of faculty, staff, students, and alumni will enable us to continue to grow in size, quality, and impact on the region and the larger world. Still, finding the pathway to our best future will not be easy. Our current resource challenges are serious, and the road ahead has many obstacles. But as President Kennedy said in announcing the goal of going to the moon within a decade, "We choose to go to the moon…not because it is easy, but because it is hard." UCF people have always risen to a challenge. Join us as we design our path to leadership and service for the Central Florida city-state.

Let us continue our strategic planning work with a brief overview of our University's development as a major metropolitan research university. From its beginnings in 1963 as Florida Technological University, the University of Central Florida has actively sought to align its programs of teaching, research, and service with the needs of the regional economy it serves: to be *of* as well as *in* Central Florida. In its earliest days, this was reflected in its location midway between downtown Orlando and the Kennedy Space Center and in its curricular

focus on engineering, the sciences, and business. As a technological university, it would be well positioned geographically and academically to serve the then-burgeoning aerospace industry.

In 1978, the Florida legislature passed a bill changing the institution's name to The University of Central Florida. This reflected the belief that the region needed a more broadly conceived and comprehensive university. Indeed, its curriculum had from its beginnings included the classic disciplines of the arts and sciences and other fields vital to society, such as teacher education. As the years passed, more academic programs were added, and graduate study became more common, with doctoral programs emerging in key fields. A major, 1000-acre research park was created adjacent to the campus through the joint efforts of the University and Orange County. Throughout, the University held to the pattern of offering programs that met the needs of Central Florida's economy.

With Central Florida's emergence over the past quarter century as a *city-state,* a self-conscious, distinct regional economy and market, this paradigm has been broadened to encompass inclusion of curricular, research, and programmatic emphases designed not only to support existing components of the regional economy, but to foster its diversification in areas that will add to its strength and vitality. Thus, programs in fields as diverse as optics and photonics, hospitality management, digital media, bio-technology, and medicine have been added. Business incubators have been developed, some in partnership with Central Florida counties, all with the aim of stimulating the development of the regional economy.

Throughout its history, UCF has been an institution that works with others to accomplish ambitious goals. Our highly successful and prestigious programs in optics and photonics, which grew from the Center for Research and Education in Optics and Lasers (CREOL), owe much of their initial support to local businesses whose products are based on laser technology. Led by the late Bill Schwartz, industry leaders worked with UCF scientists and engineers to gain recognition of CREOL as a state-wide center of excellence, including ongoing financial support. More recently, the College of Optics and Photonics-CREOL won designation as the Florida Center for Optics and Photonics, which carried with it a multi-million-dollar package of endowment and operating support. The combination of world-class research and a continuing stream of talented graduates assure the vitality of this important high-tech industry in the Central Florida city-state.

In the same way, UCF's Institute for Simulation and Training (IST) has achieved recognition and success through its work in collaboration with the military simulation and training commands located in the adjacent research park. Literally billions of dollars flow through these commands to contractors, many of them with strong presence in the research park. This synergy makes Central Florida the world-wide center of simulation and training, providing remarkable opportunities for interdisciplinary research and development for UCF faculty

members and their students. IST and related academic departments contribute their research capabilities and, through their graduates, a significant portion of the highly educated workforce needed by the simulation and training industry. Combined with facilities funded by the state, these partnerships serve to bind the industry to Central Florida.

In an analogous fashion, the needs of the tourism and hospitality industry of Central Florida have been served by the emergence of the Rosen College of Hospitality Management. Made possible by a gift of more than $18 million by UCF trustee, hotelier Harris Rosen, and generous support from other members of the hospitality industry, the campus is located near the heart of the tourist industry and is the premier facility of its kind world-wide. The 2,400 students of the college represent a strong cadre of future leaders for an industry that has long been the backbone of the Central Florida economy.

In response to a request from Electronic Arts, UCF created the Florida Interactive Entertainment Academy, home to a Master of Science program in electronic game development. Housed in downtown Orlando in facilities donated and remodeled by the City of Orlando and funded jointly by the State of Florida and UCF, it prepares game developers for the burgeoning electronic, interactive game industry.

In recognition of the growing need for additional physicians in Florida and the nation, and in the belief that Central Florida's economy will benefit dramatically from the development of biomedical, life sciences, and biotech businesses that grow to surround medical schools in city-states, UCF sought and obtained approval for the development of a medical school. Through the generosity of the Tavistock Group, the new medical school sits on 50 acres of prime land in Lake Nona, a 7,000-acre green-field development near the Orlando International Airport. With the gift of the land, now valued at about $30 million, and $12.5 million in cash, the Tavistock Group has seeded the formation of a life-sciences cluster around the new medical school. Already committed is construction valued at approximately $2 billion, including the Burnham Institute, VA Hospital, the Nemours Foundation Children's Hospital, a University of Florida research facility, and the research laboratories of the Orlando affiliate of the M.D. Anderson Cancer Center. Current estimates place the annual economic impact of the medical school at $1.7 billion and of the total life-sciences cluster at $7.6 billion.

A common element in each of these success stories is partnership: entrepreneurial faculty members, students, and administrators teamed with leaders from Central Florida business, professional, and governmental communities to apply knowledge in ways that increased opportunity. UCF and its partners invested time, talent, and treasure in ventures that grew and diversified the regional economy and simultaneously expanded research and academic opportunities for students and faculty members. Scholarly capabilities have

grown dramatically through these partnership ventures as research, both pure and applied, has been developed in fields that offer rich promise for enhancing the academic reputation of the University and the quality of life of Central Floridians.

It is also clear that, as a general rule, successful approaches are interdisciplinary. Institutes and centers organized around significant issues, questions, and problems have the ability to assemble teams of scientists and engineers with the interest and ability to support the development of basic and applied knowledge of sufficient quality to confer competitive advantage to Central Florida enterprises. This focus of talent and enterprise, irrespective of academic discipline, is a compelling advantage for the institute or center as an organizational model for universities that embrace leadership in the economic and social development of the city-states in which they reside.

Thus, as we chart UCF's course over the next three to five years, we will favor approaches that feature partnerships and interdisciplinary approaches to problems of significance to the University and the Central Florida city-state. Any university's most strategic resource is its people: talented faculty and staff members and students. We must do all we can to continue to attract and retain the brightest and best to our community. To achieve this objective, especially in challenging times, we must nurture and protect efforts that enable the University to achieve its core academic mission. These include, for example, programs that provide or support admissions and marketing, student success, fund-raising, procurement of research grants and contracts, and campus safety and security.

Strategic planning is a method designed to reveal opportunities to achieve success through the concentration of resources on key endeavors. Today's uncertain times require us to be more agile, adaptive and attuned to changing needs than in the past, making strategic planning and thoughtful implementation a dynamic, ongoing process. As UCF strives to sustain programs in its areas of historic strength—such as engineering, business, computer sciences, the natural sciences, and teacher education—it must, nonetheless, have the confidence and nimbleness to exploit strategic opportunities in areas as diverse as medicine, the performing arts and others in the future. We need and earnestly invite your ongoing contributions to this effort.

University of Central Florida Strategic Plan: Elements

I. Mission

The University of Central Florida is a public multi-campus, metropolitan research university that stands for opportunity. The University anchors the Central Florida city-state in meeting its economic, cultural, intellectual, environmental and societal needs by providing high-quality, broad-based education and experienced-based learning; pioneering scholarship and impactful research; enriched student development and leadership growth; and highly relevant

continuing education and public service initiatives that address pressing local, state, national, and international issues in support of the global community.

II. Vision
UCF has embarked on a bold venture to become a new kind of university that provides leadership and service to the Central Florida city-state. While sustaining bedrock capabilities in the future, the University will purposely pursue new strengths by leveraging innovative partnerships, effective interdisciplinarity, and a culture of sustainability highlighted by a steadfast commitment to inclusiveness, excellence, and opportunity for all.

III. Goals
Goal 1: Offer the best undergraduate education available in Florida.
Goal 2: Achieve international prominence in key programs of graduate study and research.
Goal 3: Provide international focus to our curricula and research programs.
Goal 4: Become more inclusive and diverse.
Goal 5: Be America's leading partnership university.

IV. Challenge
UCF will cultivate an engaging attitude of awareness, innovation, courage, and agile responsiveness in its members to promote discovery and address emerging needs within the University and the Central Florida city-state. The entire University community is empowered to identify, seek, develop, and capitalize on opportunities that arise in the future and meet the vision of the University.

University of Central Florida Strategic Plan: Implementation

I. Units: As units move forward in pursuing UCF's vision using this strategic plan as a guide, an existing program or a new initiative should be rigorously and routinely assessed using the following criteria:

- What are the clear and measurable "value-added benefits" to the university or city-state?
- Is it "central" to the mission of the university?
- Are there compelling "demand" metrics?
- What is the "comparative advantage" it brings to the university or city-state?
- What are the short and long-term "costs" and availability of resources?

II. Education Team: A Strategic Plan Education Team will promote and support an ongoing educational campaign designed to assist the UCF family (internal and external) to understand its future roles and goals in the central Florida city-state. Clarity and consistency of message are key to successful transition over time.

- Education and Approval
    - President and vice presidents
    - Board of Trustees

- Education
    - Roundtable participants
    - Faculty Senate
    - Student Government Association and other University groups (including UCF Foundation board, Alumni Association board, and college advisory boards)
    - Community groups
    - Ongoing educational campaign (print and electronic media)
    - Ad hoc briefings, as required

III. Leadership Responsibilities:

- Articulate
    - How well have we told the “story”?

- Align
    - Are the “story” and day-to-day operations in synchrony?

- Measure
    - Do day-to-day operations fit the university’s vision and goals?
        - Institutional effectiveness program
        - Academic program reports
        - Periodic program reviews
        - Accreditation

- Execute and Assess
    - Who maintains a focus on strategy and monitors performance of key initiatives, processes and outcomes?

APPENDIX A: FIVE-YEAR STRATEGIC PLANNING CYCLE

Five-year Strategic Planning Cycle (SPC): (Timing is offset one year from Board of Governors (BOG)).

Year #1	- obtain approval of new UCF strategic plan in the fall - measure attainment of UCF goals - provide input to BOG for their master plan
Year #2	- measure attainment of UCF goals - receive new BOG master plan
Year #3	- produce mid course correction on existing UCF plan - provide input to BOG for their mid course correction
Year #4	- measure attainment of UCF goal - receive BOG mid course correction
Year #5	- prepare new strategic plan

Departments and colleges will provide updates to their own plans in support of SPC activities.

2.2 Academic Program Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: The University of Central Florida will be one of the nation's leading research universities, recognized for its intellectual, cultural, technological, and professional contributions and renowned for its outstanding programs, partnerships, and commitment to undergraduate education.

OBJECTIVE 1.1: To plan for and support on-campus (Orlando campus only) student enrollments of 27,511 FTE and 44,759 headcount by the year 2019-20.

POLICY 1.1.1: UCF shall plan for and support enrollment based on the following on-campus projections:

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2009-10	26,277	42,150
2010-11	26,324	42,567
2011-12	26,327	42,495
2012-13	26,351	42,708
2013-14	26,390	42,960
2014-15	26,522	43,152
2015-16	26,633	43,326
2016-17	26,871	43,732
2017-18	27,074	44,039
2018-19	27,258	44,347
2019-20	27,511	44,759

* based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen College, Expo Center, and Lake Nona for fundable and non-fundable student credit hours

** headcount represents the number of students taking one or more live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen, College, Expo Center, and Lake Nona for fundable and non-fundable students

POLICY 1.1.2: The FTE and headcount enrollment projections shown above are based on UCF's official enrollment plan *UCF FTE Enrollment Plan 2008-09 – 2013-14 with Projections Through 2020-21*, July 11, 2008, delineated apart from distance education or regional campus enrollments.

Although the FTE reported above is for live (non-Web) course work, the additional impact made by online course offerings must also be considered in the academic planning needs for the Orlando campus. Students enrolled in online coursework make use of the general facility, including lab space, the library, campus dining, administrative and advisement services, and parking on campus. Additionally, online instruction requires office space for faculty members. Currently, about 10 percent of UCF student credits are earned in a fully-online mode, and this number is expected to continue over the planning horizon.

It is crucial for a complex campus such as UCF, which has almost always exceeded funded enrollment growth, to be sufficiently prepared with proper physical facilities.

OBJECTIVE 1.2: To define the future distribution and location of planned and future academic programs.

POLICY 1.2.1: Through an established approval process, UCF shall establish the following academic programs between 2008-09 and 2010-11. The Board of Governors (BOG) has a five-year cycle for new program planning and development. Each year this list is reviewed by UCF's Academic Affairs division and revisions may be submitted to the BOG. It is anticipated that this list will be updated in Fall 2010.

New programs currently scheduled to be implemented at UCF are listed below by college. Additional programs may be implemented.

College of Arts and Humanities
- B.A. in Latin American, Caribbean, and Latino Studies (2010-2011)
- B.A. in Women's Studies (2009-10)

College of Business Administration
- M.S. in Real Estate (2009-10)

College of Education
- M. Ed. in Educational Evaluation (2009-10)

College of Engineering and Computer Science
- B.S. in Construction Management (2010-11)
- M.S. in Energy Systems Engineering (2010-11)

College of Health and Public Affairs
B.S. in Athletic Training (2009-10)
M.S. in Healthcare Informatics (2009-2010)
M.S. in Urban and Regional Planning (2010-11)
M.S. in Public Health (2010-20-11)
Ph.D. in Criminal Justice (2010-11)

College of Nursing
No changes are planned at this time

College of Medicine
No changes are planned at this time

College of Optics and College of Engineering and Computer Science
B.S. in Optics and Photonics (2009-2010)

College of Sciences
Ph.D. in Statistics (2011-12)

Rosen College of Hospitality Management
No changes are planned at this time

OBJECTIVE 1.3: To define the planned student enrollment distribution by college and level.

POLICY 1.3.1: Planned student populations shall be distributed at the Orlando* campus approximately as follows:

Orlando* 2008-09 Prelim FTE	**Lower Undergrad**	**Upper Undergrad**	**Grad I**	**Grad II**	**Total**
Arts & Humanities	3,214	1,405	120	14	4,752
Burnett Honors	25	3	-	-	28
Business Administration	963	3,577	434	29	5,003
Education	563	787	463	141	1,955
Engineering & Comp Sci	440	1,488	241	179	2,348
Graduate Studies	-	-	3	-	3
Health & Public Affairs	101	1,279	377	44	1,801
Medicine	74	687	30	35	825
Nursing	11	256	82	22	371
Optics and Photonics	-	-	27	44	70
Rosen Hospitality Mgmt	166	60	-	-	226
Sciences	4,918	2,411	213	145	7,688
Undergraduate Studies	-	24	-	-	24
University Total	**10,475**	**11,977**	**1,989**	**652**	**25,092**

Orlando* 2014-15 FTE	Lower Undergrad	Upper Undergrad	Grad I	Grad II	Total
Arts & Humanities	3,480	1,392	153	16	5,042
Burnett Honors	27	3	-	-	30
Business Administration	1,043	3,545	552	35	5,175
Education	610	780	589	168	2,148
Engineering & Comp Sci	476	1,475	307	213	2,471
Graduate Studies	-	-	4	0	4
Health & Public Affairs	109	1,268	479	52	1,909
Medicine	80	681	38	41	840
Nursing	12	253	104	27	396
Optics and Photonics	-	-	34	52	86
Rosen Hospitality Mgmt	179	59	-	0	239
Sciences	5,326	2,390	271	173	8,160
Undergraduate Studies	-	24	-	-	24
University Total	**11,343**	**11,870**	**2,532**	**777**	**26,522**

Main* 2019-20 FTE	Lower Undergrad	Upper Undergrad	Grad I	Grad II	Total
Arts & Humanities	3,600	1,451	157	17	5,225
Burnett Honors	28	3	-	-	31
Business Administration	1,079	3,695	568	36	5,378
Education	631	813	607	173	2,224
Engineering & Comp Sci	493	1,538	316	219	2,566
Graduate Studies	-	-	4	0	4
Health & Public Affairs	113	1,321	494	54	1,982
Medicine	83	709	39	42	874
Nursing	12	264	107	27	411
Optics and Photonics	-	-	35	53	88
Rosen Hospitality Mgmt	185	62	-	0	247
Sciences	5,509	2,491	279	178	8,457
Undergraduate Studies	-	25	-	-	25
University Total	**11,732**	**12,373**	**2,606**	**800**	**27,511**

* based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the Orlando campus **excluding** Orlando-off, Rosen, Expo Center, and Lake Nona for fundable and non-fundable student credit hours.

OBJECTIVE 1.4: To establish priorities for distribution of funding for new programs.

POLICY 1.4.1: Besides those funds distributed based on line items, specials, and other considerations, the Office of Academic Affairs shall apply the Pegasus Model for the distribution of funds based on enrollment.

Also, the Office of Academic Affairs works with the colleges to determine the projected cost for new programs. Each new proposal must include the budget tables. Once agreement is reached, the amount of the budget, including that portion expected to come from academic affairs, shall be considered to be the commitment of the University until the third year of implementation. At that time, it is expected that programs will be self-sufficient or fully-funded through the colleges' budgets.

POLICY 1.4.2: The colleges shall continually evaluate the programs they offer in relation to the relevance to and support of University goals. Based upon their findings, colleges may propose to implement new programs or terminate or modify existing programs. All these options are processed in cooperation with the Office of Academic Affairs through the established program review process. Proposed program lists related to UCF's academic priorities shall be developed at the college level throughout their planning processes. Priorities shall be discussed between the deans and provost as appropriate. A university level list of program priorities is produced approximately once every two years. This list is forwarded to the BOG during the academic master plan updating process.

POLICY 1.4.3: Program terminations may be handled through the BOG at any time. The procedure for program modifications varies depending on the magnitude of the proposed changes. Most minor modifications are made through the colleges and do not require BOG action.

POLICY 1.4.4: If a program is not on the BOG five-year program list, the BOG will not accept a new degree proposal for the program. The availability of outside funding alone will not cause the University to consider a new degree program; however, such funding may allow a program to be implemented prior to the previous timeline.

POLICY 1.4.5: Grants awarded to faculty in the University take into consideration space, equipment, and other budgetary needs when they are under development. These budgets must be approved by the faculty members' supervisor. Often grants provide funds for these considerations and serve to reinforce and support the academic mission of the department. The Office of Research and Commercialization (ORC) must review and submit all grant proposals on behalf of UCF. In this role, ORC assures that the University has the capacity to house the grant.

POLICY 1.4.6: Plan amendments which, alone or in conjunction with other plan amendments, exceed the thresholds established in s.1013.30, F.S., shall be reviewed and adopted under the provisions of s.1013.30 F.S. Amendments which do not exceed these thresholds shall be consolidated into an annual submission and submitted for review and approval by the Board of Governors.

2.2 Academic Program Element
Data and Analysis
2010-2020 Campus Master Plan Update

Excluding major new professional or doctoral programs, and within the constraints of the projected enrollment, provide projections of anticipated academic degree programs for Year five and Year ten. Identify existing and proposed new programs.

Anticipated new programs by college are referenced under Policy 1.3.1 of the goals, objectives and policies for this element.

It is important to note that the following list is based on UCF's official degree offerings. Certificate programs are not represented in the following table, but it is noteworthy to mention that the enrollment numbers in certificate programs are contributing to UCF's overall enrollment growth.

UCF Programs by College

UCF Program Name	Degree Level				
College of Arts and Humanities	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Music Education	X				
Teaching English to Speakers of Other Languages		X			
Modern Languages Combination	X				
French	X				
Spanish	X	X			
English	X	X			
Creative Writing		X			
Texts and Technology				X	
Humanities	X				
Philosophy	X				
Religious Studies	X				
Theatre	X	X			
Theatre Studies	X				
Film and Digital Media		X			
Film	X				
Photography	X				
Art	X				
Studio Art and the Computer		X			
Digital Media	X				
Interactive Entertainment		X			
Music	X	X			
Music: Performance	X				
History	X	X			

UCF Program Name	Degree Level				
College of Business Administration	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Sport Business Management		X			
Economics	X	X		X	
Business Administration	X	X		X	
General Business Administration	X				
Management	X	X			
Accounting	X	X			
Business Economics	X				
Finance	X				
Management Information Systems	X	X			
Marketing	X				
Real Estate	X				
Taxation		X			

College of Education	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Applied Learning and Instruction		X			
Education			X	X	
Curriculum and Instruction		X			
Educational Leadership		X	X	X	
Teacher Leadership		X			
Instructional Technology/Media: Educational Technology		X			
Exceptional Education	X				
Exceptional Student Education		X			
Exceptional Student Education K-12/ESOL Endorsement		X			
Counselor Education		X			
Elementary Education	X	X			
Early Childhood Development and Education	X	X			
K-8 Mathematics and Science Education		X			
Art Education	X	X			
English Language Arts Education	X	X			
English Language Arts Education with ESOL Endorsement		X			
Foreign Language Education	X				
Mathematics Education	X	X			
Music Education		X			
Physical Education	X				
Sport and Fitness	X	X			
Reading Education		X			
Science Education	X	X			
Social Science Education	X	X			

Career and Technical Education		X			
Technical Education and Industry Training	X				
School Psychology			X		
Marriage and Family Therapy		X			

UCF Program Name	Degree Level				
College of Engineering and Computer Science	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Computer Science	X	X		X	
Information Technology	X				
Digital Forensics		X			
Aerospace Engineering	X	X			
Civil Engineering	X	X		X	
Construction Engineering	X				
Computer Engineering	X	X		X	
Electrical Engineering	X	X		X	
Environmental Engineering	X	X		X	
Materials Science and Engineering		X		X	
Mechanical Engineering	X	X		X	
Industrial Engineering	X	X		X	
Technology		X			
Electrical Engineering Technology	X				
Engineering Technology	X				
Information Systems Technology	X				
Modeling and Simulation		X		X	

College of Graduate Studies	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Interdisciplinary Studies		X			

College of Health and Public Affairs	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Legal Studies	X				
Criminal Justice	X	X			
Public Administration	X	X			
Social Work	X	X			
Public Affairs				X	
Health Sciences - Pre-Clinical Allied Health	X				
Health Sciences	X	X			
Communication Sciences and Disorders	X	X			
Health Services Administration	X				
Health Care Informatics		X			
Health Information Management	X				
Radiologic Sciences	X				

Cardiopulmonary Sciences	X				
Physical Therapy				X	
Nonprofit Management		X			

UCF Program Name	Degree Level				
College of Medicine	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Biomedical Sciences				X	
Molecular Biology and Microbiology	X	X			
Biotechnology	X	X			
Medical Laboratory Sciences	X				
Doctor of Medicine					X

College of Nursing	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Doctor of Nursing Practice				X	
Nursing	X	X		X	

College of Optics and Photonics	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Optics		X		X	

College of Sciences	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Interpersonal/Organizational Communication	X				
Communication		X			
Journalism	X				
Radio / Television	X				
Advertising / Public Relations	X				
Biology	X	X			
Biomedical Sciences				X	
Conservation Biology				X	
Mathematics	X			X	
Mathematical Science		X			
Statistical Computing		X			
Statistics	X				
International and Global Studies	X				
Chemistry	X			X	
Industrial Chemistry		X			
Physics	X	X		X	
Applied Experimental and Human Factors Psychology		X			
Psychology	X			X	
Clinical Psychology		X			
Industrial and Organizational Psychology		X			
Forensic Science	X	X			

Social Sciences (Interdisciplinary)	X				
Anthropology	X	X			
Political Science	X	X			
Applied Sociology		X			
Sociology	X			X	
Actuarial Science	X				

UCF Program Name	Degree Level				
Rosen College of Hospitality Management	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Hospitality and Tourism Management		X			
Hospitality Management	X				
Event Management	X				
Restaurant and Foodservice Management	X				
Golf and Club Management	X				

UCF Program Name	Degree Level				
Undergraduate Studies	**BAC**	**MAS**	**SPC**	**DOC**	**PROF**
Interdisciplinary Studies	X				
Applied Science	X				

Office of Institutional Research: April 1, 2009

Legend: Bach - Bachelors Degree; Mast - Masters Degree; Spec - Specialist; Doct - Doctoral Degree

2.3 Urban Design Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Create a campus which is a cohesive environment, characterized by appropriate building placements that frame organized open spaces, logical pedestrian circulation to the core of campus, and simplified vehicular circulation.

OBJECTIVE 1.1: To protect, enhance and develop symbolic campus spaces.

POLICY 1.1.1: The Master Planning Committee, together with the Administration, Faculty and the Office of Facilities & Safety, shall review the future campus development for compliance with the Master Plan Urban Design Criteria, as well as all other appropriate master plan goals, objectives and policies.

POLICY 1.1.2: Axial arms of open space framed by buildings in the academic core shall be encouraged as visual corridors in and out of the University.

POLICY 1.1.3: Building edges shall reinforce the pattern of open spaces within academic core and housing areas.

POLICY 1.1.4: Landscaping and covered walkways can be used as tools of enclosure and space makers, as well as elements of continuity.

POLICY 1.1.5: Develop and infill academic quadrangles within the academic core. Preserve internal open spaces.

POLICY 1.1.6: Emphasize sequence of movement from open space to open space to reinforce pedestrian connectivity to the core of campus.

POLICY 1.1.7: Emphasize the inner campus as a pedestrian environment. Future buildings shall not obstruct axial pedestrian pathways. Vehicular access shall be minimized, while providing service access and access for parking for people with disabilities.

POLICY 1.1.8: When feasible, preserve and enhance open space by consolidating on-grade parking areas into parking structures outside the 1200 foot radius.

POLICY 1.1.9: A portion of future building construction budgets and funding shall be allotted to the development of the campus open spaces which they shall define.

POLICY 1.1.10: The University shall consider the redevelopment of older, low-rise structures on campus when determining sites for future projects, in order to more efficiently use land at a higher density.

POLICY 1.1.11: In order to accommodate future program needs and protect open spaces on campus, future buildings shall be constructed at a minimum of six levels as budget and other program factors will allow.

POLICY 1.1.12: The development of the campus spatial environment, as determined by the placement of buildings and open spaces shown on Figure 3-1, shall occur through the timing set forth in the University's Public Education Capital Outlay (PECO) and other funded projects, in coordination with the Office of Facilities and Safety.

POLICY 1.1.13: The University shall encourage beautification of the campus boundaries, especially along Alafaya Trail and the South Connector Road to the Research Park.

POLICY 1.1.14: The University shall consider the use of pedestrian and bicycle paths that connect the campus with the research park, as well as future trail systems in Orange and Seminole counties.

OBJECTIVE 1.2: To organize the placement of service and loading functions to avoid interference with campus open spaces and circulation.

POLICY 1.2.1: Service and loading areas shall be located adjacent to the 400 and 1200 foot rings for academic buildings.

POLICY 1.2.2: In order to minimize the number of sites for service and loading, their locations shall be selected to serve as many buildings as possible from one area.

POLICY 1.2.3: Non-vehicular paths shall be located so as not to cross or be adjacent to service areas.

POLICY 1.2.4: Service and loading areas shall be visually and acoustically screened from their surroundings, through the use of landscaping, fencing, walls and placement of buildings.

POLICY 1.2.5: Vehicular access to service areas shall be minimized and restricted to authorized vehicles only.

POLICY 1.2.6: Golf cart use within the academic circle shall be minimized.

OBJECTIVE 1.3: To ensure compatibility of the University with the host community boundary and context area with respect to building location, orientation, mass and scale, landscape character and ground level character.

POLICY 1.3.1: Principal academic buildings shall be contained within the 1200 foot radius whenever possible.

POLICY 1.3.2: When feasible, a landscape buffer shall be maintained around the perimeter of the campus where not superceded by another element of the master plan.

POLICY 1.3.3: The University will coordinate with the host community regarding issues related to the urban design character of the University with respect to the context area.

POLICY 1.3.4: The University will develop visual and physical links with the community that encourage public transportation and participation in campus activities.

POLICY 1.3.5: The campus shall maintain a relatively dense development pattern to use efficiently University land for future program accommodation.

OBJECTIVE 1.4: To maintain and enhance functional linkages between major campus activities.

POLICY 1.4.1: Campus activities of similar function shall be clustered together.

POLICY 1.4.2: Separation of vehicular and non-vehicular circulation paths will be encouraged.

POLICY 1.4.3: Vehicular and non-vehicular paths with landscaping, grading design, building edges and signage will be articulated.

POLICY 1.4.4: When feasible, permanent parking areas shall be constructed outside of the 1200'radius of the campus central core.

POLICY 1.4.5: Retail and support services will be located close to campus housing (i.e., fast food, laundry, social activity centers, etc.).

POLICY 1.4.6: Parking facilities will be located to support the academic, recreational and housing centers on the campus.

POLICY 1.4.7: The construction or installation of temporary and portable buildings on campus shall be discouraged.

OBJECTIVE 1.5: Campus buildings and facilities shall be energy efficient, as outlined in UCF and SUS Guidelines.

POLICY 1.5.1: Whenever possible, care should be taken to minimize the east and west exposures of buildings.

POLICY 1.5.2: Overhangs and shading of south-facing windows will be provided, when appropriate.

POLICY 1.5.3: The University shall establish and enforce minimum thermal insulation values for exterior walls and roofs of all air conditioned facilities.

POLICY 1.5.4: The University will continue to connect all future and existing campus facilities to the centrally controlled Energy Management System (EMS).

POLICY 1.5.5: Landscaping will be positioned to help shade campus buildings.

POLICY 1.5.6: Windows may have tinting, but the color and reflectance must comply with the UCF Architectural Guidelines and be approved by the Director of Facilities Planning, the Administration, and the University Master Planning Committee (UMPC).

POLICY 1.5.7: New technology that creates energy efficiency shall be used when feasible.

POLICY 1.5.8: Other energy saving features, such as occupancy controls on lighting, shall be considered for future and existing facilities.

POLICY 1.5.9: The University shall encourage water management practices so that post development runoff is less than or equal to pre-development runoff.

2.3 Urban Design Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) Existing Development in the Campus Context Area

Orange County designates the University as Institutional Future Land Use and the area in which the University is situated comprises of a mix of housing, industrial, planned development and commercial uses.

1. Campus Open Spaces Structure

Open space areas on campus are shaped by the building and landscape which surrounds them. The space between the Library and the Administration Building is both defined by the two buildings and landscape features, and has a visual sequence, from the Central Florida Boulevard entrance to the spaces flanking it.

2. Campus Visual Structure

Permanent buildings on campus range in height from one to seven stories. The exteriors of these buildings are predominantly brick. Architectural details, done in concrete and some curtain wall areas, are the only general exceptions. The predominance of brick, accompanied by the relative scale of the buildings on campus, help create a significant level of visual continuity. The campus is shaped by the natural landscape from which it has been carved. It is structured so that all academic and administrative buildings lie within an area (the Academic Core) between the 400' and 1,200' circles radiating from the center of campus. Residential buildings lie outside the 1,200 foot radius and are bounded on the outside by Gemini Boulevard. Intramural athletic facilities lie outside Gemini Boulevard, and are mostly found in the southern part of campus. Intercollegiate athletic facilities are located on the north part of campus, west of Orion Boulevard.

The UCF main campus is defined on most sides by a landscape buffer, with the only visual breaks into it occurring at the entrances into campus; which in turn help define these entrances.

b) High Activity Building and Spaces

- Recreation and Wellness Center
- Student Union
- Phillips Hall Kiosk
- Sidewalk north of Chemistry
- Reflecting Pond between the Library and Administration

- South entrance to the Library
- Breezeway dorm mailboxes
- Entry to Student Center across from activities desk
- Sidewalk between dorms and Oasis
- Green area north of Student Center
- Lake Claire
- Convocation Center area
- Memory Mall

c) Existing Functional Linkages

Automobile
All vehicular access to the campus is through University Boulevard, Alafaya Trail, Research Park, and McCulloch Road. Accessibility to the main campus from the eleven county service area and the area campuses is through various major roadways including I-4, the Beeline Expressway, the East-West Expressway, and State Road 50. University Boulevard is considered to be the main vehicular entry into campus. Centaurus Drive, Gemini Boulevard North, and Central Florida Boulevard are the other important formal entrances. The Central Florida entry displays the most formalized type of entry into the campus, because of its axial relationship. Pedestrian hazards are created whenever vehicular circulation crosses parking lots, as it does in many instances throughout campus.

Bicycle
Bicycle transportation provides many students with an economical and efficient source of transportation, due to the proximity of off-campus housing. There are many bicycle paths found throughout campus including those flanking Libra Drive and Gemini Boulevard North, and going from Alafaya Trail along Central Florida Boulevard to the Administration Building.

Pedestrian
The campus of UCF was planned and developed with the pedestrian in mind, and based on a maximum walking time of eight minutes to the center of campus. The 1,200’ radius outer (Apollo) ring was implemented to serve this purpose, with the 800’ radius inner (Mercury) ring providing a five minute walking trip to the campus center. A third ring (Pegasus) on a 400’ radius is the only one completed, and marks the center of campus. Secondary pedestrian paths provide access between buildings throughout campus (Figure 3.5).

Transit
UCF is meeting time demand for transportation of its students. The UCF Shuttle Transportation System serves many local student residential communities providing safe and convenient transportation services to and

from the main campus of UCF. The transportation service allows students to leave their vehicles at their place of residence. There is no per trip cost to ride and students have the available benefit of central access in the core facilities of the campus. The campus destination points are strategically selected to allow students a short distance to classrooms or campus activities.

d) Character of Existing Context Area

UCF is bordered by areas classified for diverse use. On its southern border lies the Central Florida Research Park, an area designated mainly for high-tech industrial use. Small commercial areas, multi-family housing, and vacant land are found to the west of Alafaya Trail, and south of University Boulevard. A planned development called the Quadrangle exists to the north of University Boulevard. This complex is made up of a mix of offices, commercial areas and hotel facilities. The demand for space will undoubtedly grow as more corporations relocate to the UCF area.

e) An analysis of the evolution of the development pattern of University buildings and open spaces.

1. There has been significant development on campus since 2000. The Convocation Center, student housing, retail space and a football stadium has been built on the north section of campus, adjacent to North Orion Boulevard. The Physical Sciences building and Engineering Building III have been built in the southeast part of the academic core. Parking Garage A is located along Gemini Boulevard at the University Boulevard entrance. A new Psychology building is located on the north end of the academic core adjacent to a new green space known as Memory Mall. Most of this new development has been spreading concentrically from the original campus development.

2. As program needs continue to demand more academic and support space on campus, development should respect the evolution around the circular pattern of the campus, while maintaining a relatively dense pattern. Particular attention should be paid to the creation of attractive open spaces, reinforced by careful site-planning. Of important concern is the preservation and enhancement of axial pedestrian links to and from the center of campus, which work to create long views and facilitate wayfinding on campus.

3. Please refer to the 1995 analysis for further information.

f) An identification of, and assessment of the advantages and disadvantages of alternative spatial configurations by which future

development on the campus may be organized. This analysis shall include consideration of methods to improve energy efficiency and alternatives for coordinating the pattern of buildings and spaces along the University/community boundary (graphic and companion narrative).

1. Buildings should be organized in a way which complement and frame the open spaces around them. The careful creation of open spaces provides the framework for memorable places on campus, and provides a context for future program and the pedestrian experience on campus

2. An opportunity for this type of development is along Memory Mall. Buildings along its edge would reinforce the important axial relation to the center that it has. A parking garage could be placed to the east, providing support to both the new academic area and the new Convocation Center. This axial relationship could be continued across the Student Union and mirrored as the front door to the campus where the Progress Energy University Welcome Center is located.

3. Spatial configurations mentioned above are important for place making and establishing pedestrian importance on a college campus. Axial relationships to the center of campus should be enforced and in fact programmed in future growth framework- while maintaining the circular paths and roadways important to the history of the University of Central Florida.

g) An identification and assessment of alternative future activity location and linkage concepts for the campus and the context area (graphic and companion narrative).

1. The Academic Villages housing complex and the Recreation and Wellness Center south of the Student Resource Center (SRC) created a new activity center. Links to the center of campus from this area should be reinforced, particularly through the SRC. Furthermore, in addition to the proposed northeast academic spine, the area at the north end of Central Florida Boulevard provides an excellent opportunity for future development. Integration of the Progress Energy University Welcome Center and academic buildings around an open green space activate that area of campus and present a collegiate entranceway to the college.

2. Please refer to the 1995 analysis for additional information.

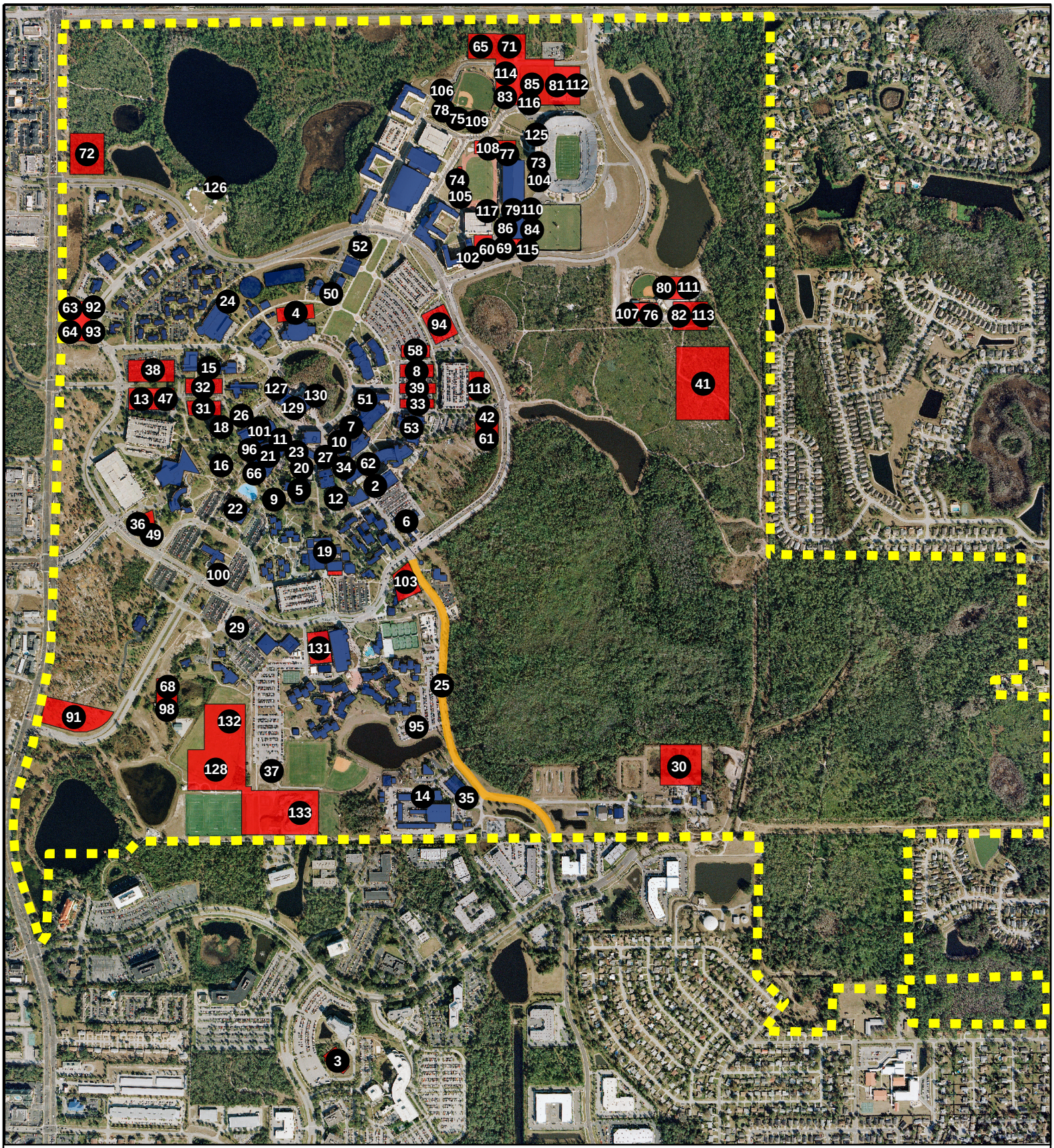

Figure 3-1

Urban Design and Capital Improvements

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Capital Improvements List
- Boundary
- Proposed Building Sites
- Proposed Road Widening
- Existing Buildings

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20091105

0 1,000 2,000 4,000 Feet

2.4 Future Land Use Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Create development patterns that direct future growth to appropriate areas on campus in a manner that promotes the educational mission of the University, the protection of environmentally sensitive areas, and compatibility with the surrounding community.

OBJECTIVE 1.0: To promote future land use development on the campus that provides for a full range of land uses and intensities of use, consistent with the goals, objectives and policies of the campus master plan, the host local government's master plan, and the affected local governments' master plans, and in accordance with the following policies.

POLICY 1.0.1: Land use categories and related intensity of use shown in the Campus Master Plan on the Future Land Use Maps (Figures 4-1 and 4-2) shall be defined as follows:

Academic/Research Use: This land use category shall allow academic/research uses at intensities ranging up to a floor area ratio of 3.0 for new construction or renovation. The academic/research use classification identifies those areas on the campus that, due to topography, soil conditions, adjacent land uses, existing space utilization and utility locations, proximity to existing and planned multimodal transportation systems, and existing development patterns are appropriate for Academic/Research development. This promotes an increase in Floor Area Ratios (FAR) within the academic core areas, supports the cohesive functioning of academic units through space allocation and facilitates the clustering and concentration of existing and emerging academic/research areas on the campus in pedestrian zones within reasonable walking distance of classes.

Support Use: This land use category shall allow support facilities at intensities averaging 1.0 FAR. The Support classification includes administrative and similar nonacademic uses, and identifies those areas on the campus that, due to topography, soil conditions, adjacent land uses, existing space utilization and existing development patterns are appropriate for support facilities. This promotes providing support facilities on the campus within or immediately adjacent to academic/research and housing areas.

Residential Use: This land use category shall allow housing uses at densities ranging from 57.2 to 125 beds/acre. The housing classification identifies those areas on the campus that, due to topography, soil conditions, adjacent land uses, existing space utilization and existing

development patterns are appropriate for housing development. Generally, the housing land use will be promoted outside of the academic core to encourage students to walk to the academic core.

Utility Use: This land use category shall allow utility uses at intensities averaging 1.0 FAR. The utility classification identifies those areas on the campus that, due to topography, soil conditions, adjacent land uses, and existing and proposed development patterns, are appropriate for utility development and telecommunications facilities and can best serve the existing and projected demands for facilities on the campus.

Parking Use: This land use category shall allow parking uses at intensities ranging up to 800 spaces per acre for structured parking. The parking classification identifies those areas on the campus where:

- the location of parking structures should help to direct trips to the campus in a manner that promotes and encourages a pedestrian-friendly academic oriented campus ;
- roadways with adequate capacity and on which heavy traffic will help to minimize impacts on adjacent land uses;
- due to topography, soil conditions, archaeological and historic sites, adjacent land uses, and existing and proposed needs, are appropriate for parking development;
- structured parking facilities can be used to conserve available land; and
- promote the development of the 'intercept' parking concept.

Recreation/Open Space Use: This land use category shall allow active (activity-based) and passive (resource-based) recreation uses as well as general open space areas. A maximum FAR of 2.0 is allowed under this land use designation. The classification includes areas designated for organized sporting events (football, soccer, softball, etc.), gymnasiums such as the Recreation Services Center, workout facilities for University teams such as the Wayne Densch Sports Center, and recreation areas for the passive enjoyment of nature (picnic areas, etc.). These areas are appropriate for recreation and open space uses due to topography, soil conditions, and adjacent land uses.

Conservation Use: This land use category shall allow conservation uses in conformance with the Conservation Element of the Master Plan. Conservation areas are identified in Figures 4-1 and 13-1 of this Plan and include designated preservation areas pursuant to applicable existing water management district permits. This land use category shall allow Conservation uses at an intensity of a 0.05 FAR. There shall be no construction in these areas except for minimal structures and improvements required to provide safe access and essential support functions except pursuant to an amendment to this Plan adopted in

accordance with the requirements set forth in Florida Law and this Plan. The conservation classification identifies those areas on the campus that, due to topography, soil conditions, archaeological and historic sites, plant species and wildlife habitats, wetlands and their required setback buffer areas and instructional uses, are appropriate for conservation use.

Mixed Use: This land use category will allow for a mixture of land uses in a specific area(s) as shown in Figure 4-1. Uses allowable under this designation include academic/research, support, residential, parking, recreation/open space, retail/commercial and utilities at a maximum FAR of 3.0. The purpose of the category is to call out specific areas on campus that shall develop one or more uses that shall be defined through the planning and development process.

OBJECTIVE 1.1: To protect natural resources including surface waters and wetlands.

POLICY 1.1.1: UCF shall allow for Conservation areas as identified on the Future Land Use Map (Figures 4-1 and 4-2) and on the Conservation Element Map (Figure 13-1). No construction is anticipated in these areas except for minimal structures and improvements necessary to ensure safe access and essential support functions. Prior to conducting construction activities within a Conversation area (including without limitation Conservation Easements or on-site mitigation preservation areas), the University will obtain a permit determination from the district.

POLICY 1.1.2: Before any such construction is authorized and a plan of development is approved, UCF shall review all available and economic options (including the costs of mitigation). If this review indicates that development in designated Conservation areas is the only viable option, then UCF shall pursue all reasonable efforts to minimize and mitigate any unavoidable impacts to these areas.

POLICY 1.1.3: Should mitigation be deemed necessary, the Director of Facilities Planning shall be responsible for coordinating any necessary actions with the appropriate UCF departments. The Director shall also coordinate any mitigation requirements through the appropriate cognizant federal, state and regional agencies in accordance with their permitting processes.

POLICY 1.1.4: A definitive campus Arboretum site has been established by the 1996 Hartman survey and shall be maintained for the study and preservation of native plant and animal species. The The Director of Facilities Planning and the Director of Landscape & Natural Resources shall work together to develop the Arboretum into a renowned institution.

Non-native species shall be discouraged within the boundaries of the Arboretum.

POLICY 1.1.5: Prior to clearing the 6.7 acre housing site in the Northwest Corner, the University shall construct a permanent fence along the northern boundary and northern two-thirds of the eastern boundary of the 6.7 acre site in order to separate the residential area from the conservation area.

POLICY 1.1.6: The parking facility to be constructed north of the Arboretum shall not extend significantly beyond the footprint of the existing parking lot as shown in Figure 4-3.

OBJECTIVE 1.2: To minimize land use compatibility problems between the University and the host community.

POLICY 1.2.1: Pursuant to s.1013.30(6) and (9) F.S., any amendment to the adopted Campus Master Plan shall be transmitted to the host and affected local governments and other external review agencies for review if such amendment, alone or in conjunction with other amendments, would:

a. increase density or intensity of use of land on campus by more than 10%;
b. decrease the amount of natural areas, open space, or on campus by more than 10%; or
c. rearrange land uses in a manner that will increase the impact of any future campus development by more than 10% on a road or another public facility or service provided or maintained by the state, the county, the host local government, or any affected local government.

POLICY 1.2.2: Proposed amendments to the adopted campus master plans which do not exceed the thresholds established in s.1013.30(9), F.S., and which have the effect of changing land use designations or classifications, or impacting off-campus facilities, services or natural resources, may be submitted to the host, affected local governments, and external review agencies for a courtesy review. However, if the proposed amendment exceeds 70% of the thresholds established in 1013.30(9), F.S., the host local government shall be notified for a courtesy review.

POLICY 1.2.3: A 200’ natural or landscape buffer shall be maintained around the perimeter of the campus where not superceded by another element of the master plan as shown on Figure 4-1.

POLICY 1.2.4: Prior to adopting any amendments that affect lands designated as conservation, the University shall do the following:

(1) Perform reasonable site specific environmental analyses, including qualitative state and federal listed plant and animal species surveys, water quality impact analyses, and alternative location assessments;

(2) Comply with section 1013.30, Florida Statutes, even for those amendments that fall within the exemptions set forth in Sections 1013.30(9)(a)-(c), Florida Statutes;

(3) Require no less than a two-thirds majority vote of the University's Board of Trustees to approve such amendments;

(4) Notify the Director of Landscape & Natural Resources of any proposed amendments to lands designated as conservation; and

(5) Notify the water management district on proposed impacts to recorded Conservation Easements or previously permitted mitigation preservation areas

OBJECTIVE 1.3: To correct existing land use compatibility problems on the University campus.

POLICY 1.3.1: All permanent academic functions shall be located between the 400' radius (Pegasus Circle) and the 1,200' radius (Apollo Circle) whenever possible. Research functions may be located outside of the main academic area.

POLICY 1.3.2: Academic core areas are important formal open space systems and shall be created by locating academic uses that are linked, similar or adjacent to each other.

POLICY 1.3.3: Surface parking areas shall generally be located outside of the 1,200' radius (Apollo Circle) and inside of Gemini Boulevard, in order to reduce vehicular vs. pedestrian conflicts on campus. Exceptions may be made, based on need.

POLICY 1.3.4: Overflow parking areas may be located outside of Gemini Blvd., but shall never be located within the 1,200' radius (Apollo Circle).

POLICY 1.3.5: Areas identified in the master plan as temporary classrooms, low density areas and parking lots shall remain as such until future projects for those areas are developed.

POLICY 1.3.6: In order to preserve the open space nature of the campus and to minimize impervious surface needs, parking lot areas will continue to be consolidated into structured parking garages, as budgets permit.

POLICY 1.3.7: In order to minimize automobile traffic, and therefore conflicts resulting from high vehicular levels of service, future parking garages shall be placed at strategic points near campus entrances. This will intercept a high volume of vehicles before they penetrate the campus circulation routes.

POLICY 1.3.8: The University Master Planning Committee along with the administration, faculty and the Office of Facilities Planning shall review all development proposals for compliance with the Campus Master Plan's criteria for the Future Land Use Element.

POLICY 1.3.9: All decisions concerning land use and development on campus, especially those specifically mentioned in the Future Land Use Element, must be coordinated with the present Capital Improvements Plan, Urban Design Element, and all other applicable master plan elements.

OBJECTIVE 1.4: To coordinate future land uses with the availability of facilities and services.

POLICY 1.4.1: Projects that propose increases to campus infrastructure, utilities, facilities or services shall be approved only if such facilities are funded and already on-line to accommodate the need or will be on-line prior to occupancy of any structure to be served by such infrastructure, utilities, facilities or services.

POLICY 1.4.2: The following order of priorities shall be implemented concerning coordination of land uses with appropriate facilities and services:

- **Priority 1**
  Eliminate existing system deficiencies which may prevent future development.
- **Priority 2**
  Maintain the existing system as long as it is deemed capable of maintaining immediate needs.
- **Priority 3**
  Expand systems to accommodate needs.

POLICY 1.4.3: Campus development which might increase demands for solid waste collection and disposal shall be approved under provisions delineated in the General Infrastructure Element (2.9).

POLICY 1.4.4: Campus development which might increase amount of required impervious surface areas shall be approved on the provision of a drainage system that adheres to the conditions set forth in the General Infrastructure Element (2.9) and the campus stormwater permit(s) issued by the St. Johns River Water Management District.

OBJECTIVE 1.5: To ensure the availability of suitable land on campus for utility facilities required to support future on-campus development.

POLICY 1.5.1: Within the academic core, utility easements will be reserved along routes of easy access and where future building development is not planned, such as along the three pedestrian radius sidewalks, along radial pedestrian walks and in dedicated radial open spaces.

OBJECTIVE 1.6: To coordinate future land uses with the appropriate topography and soil conditions.

POLICY 1.6.1: Development shall not occur within the present Federal Emergency Management Assistance 100-year flood line.

POLICY 1.6.2: UCF shall maintain a data base of existing topographic and soil conditions, which shall be updated on a regular basis, and as additional data developed for future construction projects become available.

POLICY 1.6.3: Areas containing severe soil constraints such as those that are found in and around wetland sites and Lakes Lee and Claire shall remain undisturbed. In proposed development areas, soil constraints shall be demonstrated through formal studies, and provided to the district for review, prior to development.

POLICY 1.6.4: Future development shall not alter the topographical features and surface water run-off patterns adopted by this Master Plan and the current adopted Campus Stormwater Master Plan approved by the St. Johns River Water Management District.

POLICY 1.6.5: Consistent with policies listed in this Element above, the University shall review future construction projects for consistency with existing topographic and soil data.

POLICY 1.6.6: UCF shall ensure that appropriate methods of controlling soil erosion and sedimentation to help minimize the destruction of soil resources be used during site development and use. Such methods shall include, but not be limited to:

- Phasing and limiting the removal of vegetation.

- Minimizing the amount of land area that is cleared.
- Limiting the amount of time bare soil is exposed to rainfall.
- Use of temporary ground cover on cleared areas if construction or other stabilization is not imminent.
- Special consideration shall be given to maintaining vegetative cover on areas of high soil erosion potential (i.e., steep or long slopes, banks of streams, stormwater conveyances, etc.).

POLICY 1.6.7: UCF shall require the integration of natural topographic and other physical features in project designs in order to develop the campus in harmony with its natural environment.

OBJECTIVE 1.7: To ensure that future campus development projects are consistent with regulations governing development in areas where historically or archaeologically significant resources may be present.

POLICY 1.7.1: In coordination with state and local historic preservation officials, UCF shall maintain an information file which identifies and locates properties under University ownership which may contain historic or archaeological resources which appear to qualify for inclusion in the National Register of Historic Places.

POLICY 1.7.2: The University shall consider the effect of any undertaking on any historic property that is included, or eligible for inclusion, in the National Register of Historic Places. The University shall afford the Department of State's Division of Historical Resources a reasonable opportunity to comment on such an undertaking.

POLICY 1.7.3: The University shall consult with the Department of State's Division of Historical Resources prior to any land clearing, ground disturbing, or rehabilitation activities which may disturb or otherwise affect any property which is included, or eligible for inclusion, in the National Register of Historic Places.

POLICY 1.7.4: Prior to a historic property being demolished or substantially altered in a manner that adversely affects its character, form, integrity, or archaeological value, the University shall consult with the Department of State's Division of Historical Resources to avoid or mitigate any adverse impacts, or to undertake any appropriate archaeological salvage excavation or recovery action.

GOAL 2: Maintain commitment to the protection of the University's ecosystems and lands of significant environmental importance to ensure that these resources are protected for the benefit of present and future

generations, while accommodating the continued development and expansion of the campus' built environment.

OBJECTIVE 2.1: To designate environmentally sensitive lands for protection based on state and regionally determined criteria.

POLICY 2.1.1: The University hereby creates a new future land use designation of "Conservation Easement Lands" for the purposes of environmental protection of lands that are set aside in perpetuity pursuant to a recorded conservation easement. This new designation will allow very-low impact recreational or educational uses such as hiking, non-motorized boating, bird watching, horseback riding, fishing, primitive camping and nature study, that utilize natural amenities of such sites and such other uses that are not in violation of the recorded conservation easement.

2.4 Future Land Use Element
Data and Analysis
2010-2020 Campus Master Plan Update

Land Use Designation Summary

There are currently 1,415 acres of land comprising the University of Central Florida's main campus. A significant portion of these lands are undeveloped, or set aside as conservation lands, while academic and support programmed spaces are growing into a larger proportion of the total amount of land. The current breakdown of the 1,415 total campus acreage is as follows: (based on analysis of January 2009 aerial photograph and the most recent available surveys.):

- 1,018.8 acres in conservation, open space and recreation, and future impervious area
- 382 acres available for future development
- 396 acres currently developed
- 81.3 acres designated for the Arboretum

The allowable land uses for on-campus development are illustrated in Figure 4-1, entitled *Future Land Use Map 2010-2020*. This figure identifies the following land use categories associated with future development sites that will accommodate proposed construction projects identified in the Capital Improvements Element of the Master Plan:

- Academic/Research Land Use
- Residential Land Use
- Utility Land Use
- Conservation Land Use
- Conservation Land Use under St. Johns River Water Management District Conservation Easement
- Recreation and Open Space Land Use
- Ponds and Lakes
- Parking Land Use
- Support Land Use
- Mixed Use

Existing and planned buildings and infrastructure are reflected in Figure 4-1 of the Future Land Use Element. It should be noted that the parcels proposed for development will be flexible, since the University performs a cost/benefit analysis for each set of site alternatives prior to constructing a building. Stormwater, utilities, relative location to other buildings and other criteria are considered to ensure the proposed site is most appropriate for the particular building. A description of proposed future projects is presented in the Capital Improvements Element of the Master Plan.

University policy calls for the preservation of areas of environmental significance and the prudent use of undeveloped land in the future. In order to use efficiently the University's land resources, while allowing for the continuation of natural systems, future development will be relatively dense in character as project budgets permit, and tie into the existing infrastructure on campus. Efforts should be made to minimize the impacts of development on the Arboretum.

Furthermore, the University will approve new development only within the limits of all required permits from the St. Johns River Water Management District and other agencies, as applicable.

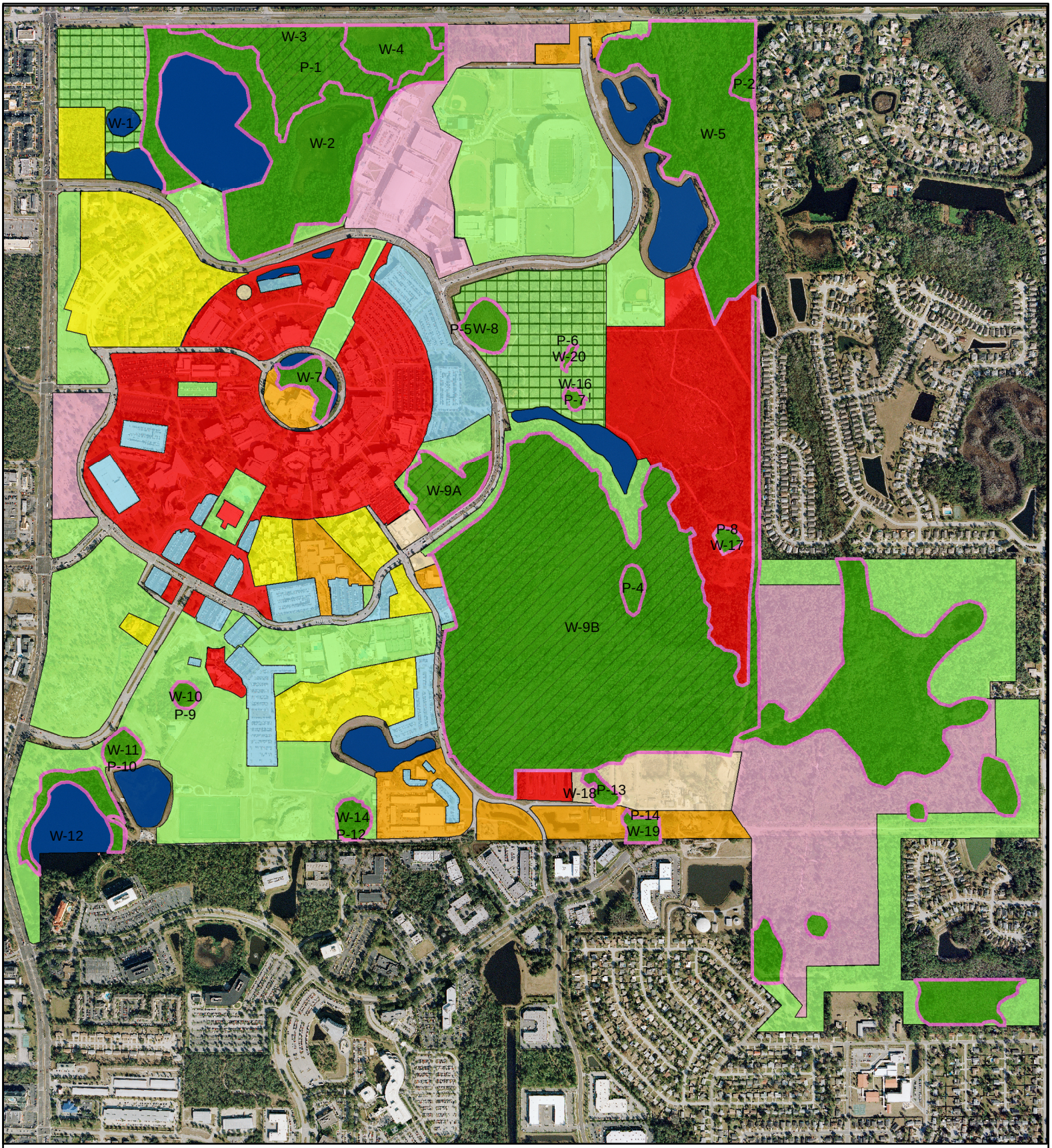

Figure 4-1

Future Land Use

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Parking
- Academic/Research
- Lakes
- Utility
- Support
- Conservation (wetland)
- Conservation (upland)
- Conservation Easements
- Residential
- Recreation/Open Space
- Mixed Use

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,000 2,000 4,000 Feet

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2.5 Academic Facilities Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Provide modern, well-equipped academic facilities on campus sufficient to meet general requirements of state-of the-art instruction in all of its various programs.

OBJECTIVE 1.1: To provide modern, well-equipped classrooms on campus sufficient to meet general requirements of state-of-the-art instruction in all of its various programs.

POLICY 1.1.1: In keeping with its projected main-campus total enrollments of over 42,000 headcount students (26,000 FTE students) by the year 2010, the University will seek to increase its classroom inventory by an average of at least 10,000 net assignable square (NASF) feet per year, thereby achieving an overall classroom inventory by the year 2020 of approximately 300,000 NASF.

POLICY 1.1.2: While keeping pace with enrollment growth via the addition of future classrooms, the University will seek to completely eliminate all use of leased classrooms such as “temporary” and/or modular structures that were never intended to provide a long term approach to the problem of shortages.

POLICY 1.1.3: To determine future classroom building programs and plan renovations of existing classrooms to optimize the overall use of space, the University will continue to apply space-use standards embodied in the long-standing “Space Needs Generation Formula” of the SUS together with the more detailed standards of Florida’s “State Requirements for Educational Facilities” (SREF).

OBJECTIVE 1.2: **To provide teaching laboratories sufficient to meet the specialized requirements of instruction in all of its various programs, at both the undergraduate and graduate levels.**

POLICY 1.2.1: The University will seek to increase its teaching laboratory inventory by approximately 20,000 net square feet per year, thereby achieving an overall teaching laboratory inventory by the year 2020 of approximately 400,000 NASF.

POLICY 1.2.2: As with classroom needs, the University will continue to apply the established state, SUS, and UCF space-use standards to determine future teaching laboratory building programs and to plan renovations of existing teaching laboratories that will optimize existing laboratory space.

OBJECTIVE 1.3: To provide research laboratories sufficient to meet the needs of scholarship by undergraduate and graduate students, as well as faculty, in all of its various programs.

POLICY 1.3.1 The University will seek to increase its research laboratory inventory by an average of at least 25,000 net square feet per year, thereby achieving an overall research laboratory inventory by the year 2020 of more than 500,000 NASF.

POLICY 1.3.2: The University will continue to apply space-use standards in the "Space Needs Generation Formula" of the SUS, together with the more detailed standards of Florida's "State Requirements for Educational Facilities" (SREF), to determine future research laboratory building programs and to plan the renovation of existing teaching laboratories to optimize existing laboratory space.

OBJECTIVE 1.4: To provide state-of-the-art library facilities and library resources sufficient to support the instruction of its undergraduate and graduate students, as well as scholarship by its students and faculty.

POLICY 1.4.1: The University will seek to approximately double its on-campus library space inventory by the year 2020, and in addition it will continue to consider such possibilities as off-campus storage systems.

OBJECTIVE 1.5: **To establish the timing and phasing of development of future academic space on campus.**

POLICY 1.5.1: Final authority for planning is vested in the University President, acting upon advice and counsel of the President's Advisory Staff (PAS). The PAS includes divisional Vice Presidents and the Faculty Senate President. The University President also receives input on all master planning issues from the AVP for Administration & Finance (Facilities & Safety) and from the Chair of the University Master Planning Committee (see Appendix A).

POLICY 1.5.2: With regard to the timing and phasing of developments of future academic space on the main campus, the University will seek to include in its ongoing Capital Improvement Plan at least one future major academic building each year, for at least the next ten years.

OBJECTIVE 1.6: **To set priorities for the development of future academic buildings.**

POLICY 1.6.1: Specific priorities for development of future academic facilities shall be, in essence, those reflected in the draft ten-year Capital

Improvement Plan presented elsewhere in this document (see Section 2.14, “Capital Improvements Element”). While this is subject to any necessary changes depending on circumstances (e.g., the available PECO funding--see next item), the general order in which various projects are listed is expected to be the order of priorities of the corresponding developments.

POLICY 1.6.2: The Capital Improvements Element shall be reviewed annually and amended, as needed, to reflect changes to the timing and phasing requirements and priorities for the construction of academic facilities.

OBJECTIVE 1.7: To estimate the funding necessary for the development of future academic facilities.

POLICY 1.7.1: Allocations of funds for the development of future academic facilities shall be, insofar as possible, those reflected in the draft Capital Improvement Plan (see Section 2.14, “Capital Improvements Element”).

POLICY 1.7.2: Administrative procedures for the integration into the master plan of unforeseen academic facilities that may arise from grant awards, accelerated funding, or other circumstances shall be as described in the following summary. Broadly, final authority for planning is invested in the University President, acting with advice from the President’s Advisory Staff (PAS). The PAS includes divisional Vice Presidents and the Faculty Senate President. The University President also receives input on all master planning issues from the AVP for Administration & Finance (Facilities & Safety) and from the Chair of the University Master Planning Committee (see Appendix A).

OBJECTIVE 1.8: **To define appropriate locations for future academic buildings.**

POLICY 1.8.1: As shown in the Future Land Use and Urban Design Elements, sufficient space exists in the academic core to accommodate future academic buildings for the time horizon of this Master Plan. Future academic facilities shall be shown as identified in Figure 5.1.

POLICY 1.8.2: With regard to the locations for future academic buildings, the University will seek to meet the requirements of growth, while maintaining an environmentally pleasing and inviting place in which all of its faculty, staff, and students can teach, work, and learn.

OBJECTIVE 1.9: **To encourage energy efficiency and conservation techniques in all future facilities.**

POLICY 1.9.1 In order to encourage energy efficiency and conservation techniques in all future facilities, these issues shall be a centerpiece of design processes. Specifics in this regard will be as outlined elsewhere in the present document (cf. Section 2.14, “Capital Improvements Element”). In particular, future buildings shall comply with the criteria and specifications as stated in the Florida Energy Code, Section 8.

2.5 Academic Facilities Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) A projection of future student credit hours distributed by campus or satellite facility (tabular).

Table 2.5(2)a) shows Projected Student Credit Hours (SCH) on the main campus of the University of Central Florida for the academic years 2010-11 and 2020-21. It should be noted that these represent credit hours generated in live sections (i.e., non-web) on the University's main campus only — not including Orlando-area off-campus sites, the Rosen College Campus, the downtown Expo Center, or the Lake Nona campus. On the other hand, the figures represent both fundable and non-fundable SCH combined.

TABLE 2.5(2)a) Projected Student Credit Hours

Main Campus Summary	Lower	Upper	Grad 1	Grad 2	Total
2010-2011	445,840	488,640	72,192	22,592	1,029,264
2020-2021	476,240	497,600	84,096	25,824	1,083,760

b) A projection of future Weekly Student Contact Hours (WSCH) distributed by campus or satellite facility (tabular).

Table 2.5(2)b) shows UCF's projected (WSCH) on the main campus for the two academic years 2010-11 and 2020-21. They are inferred from data in the preceding table on projected student credit hours, together with the history ratios of credit hours to contact hours from our 2007-08 Instruction & Research Data (IRD) file.

It should be noted that, while these two different sorts of hours might, at first glance, be expected to be roughly equal — since one "credit hour" for a lecture course is normally taken to represent exactly one classroom contact hour per week — this is not at all the case for lab courses. For them, one credit hour often reflects three or more hours in the lab each week, while at the same time there are many "combined lecture/laboratory" courses which show all their credit hours associated with the lecture portion alone (though, in that case, usually more than one credit hour per weekly lecture hour) and no explicit credits associated with the lab hours.

Given these variations in the reporting methodology for course credits, our way of estimating the relationship between weekly contact hours and credit hours (at least in statistical terms) has been to use simply the same overall ratio between them as that found from the IRD for the year 2007-08. As one can see, this overall ratio turns out to be a little over 1.4.

TABLE 2.5(2)b) Projected Weekly Student Contact Hours

Main Campus Summary	Total WSCH
2010-2011	1,448,625
2020-2021	1,525,325

c) A projection or assumptions about the future space utilization for the space types identified in the DATA REQUIREMENTS section of this element (tabular).

Impact of Enrollment Growth As shown by the data in Table 2.5(2)a), the University of Central Florida is projecting main campus enrollment growth in the decade 2010-2011 to 2020-21 that amounts to an average of about 150 FTE students annually. At present — i.e., as of 2008-09 — the annual growth is substantially larger, but it is expected to dip to a minimum around 2011-12 and then increase substantially after that. This is based on analysis by UCF's Office of University Analysis and Planning Support, with assistance from the offices of Institutional Research and Enrollment & Academic Services.

Having said that, we recognize that for campus planning such enrollment projections are subject to significant uncertainty. Experience over the past decade indicates that projections for UCF tend to be consistently on the low side, even in the short run, let alone several years out. There are a number of reasons for this, including growth of the state population, much of which has been concentrated in Central Florida, especially the I-4 high-tech corridor from Tampa through Orlando to the space coast; dramatic overall growth of Florida's college-age population, ranging from mid-to-late teens through late twenties, much of which is concentrated in Central Florida; UCF's increasing "market share" among Florida's college-bound students, compared to other universities in the state system; and the relatively new and still growing emphasis at UCF on graduate studies, especially at the doctoral level. However, we see that the trend may be changing due to a First Time in College (FTIC) enrollment freeze and a decreasing growth trend in the number of Florida high school graduates.

In short, our belief is that UCF's official enrollment projections should be viewed as a lower limit on what the true figures may be, rather than a close estimate of the likely figures. In specific terms, we anticipate that enrollments by 2020-21 may be as much as 5% to 10% higher than those projected now — and consequently, it is imperative to cover such a possibility with current planning.

With reference to needs for academic facilities, we estimate that, to serve an added 1000 FTE students annually will require added classrooms amounting to about 7,600 sq. ft. per year — or equivalently 500 classroom seats per

year. This conclusion can be reached by various lines of argument, the simplest of which is based on overall numbers of classrooms and students.

On the main campus, for example, according to 2008-09 inventory figures, the University used about 198,000 sq. ft. of space for "classrooms" (however, see the paragraph below). At that time, the student FTE total on the main campus was around 26,000. This works out to an average of about 7.6 sq. ft. per student, which translates into the quoted figure of 7,600 sq. ft. per 1,000 students.

Efficiency of Classroom Usage At the present time, it is clear that, where classrooms are concerned, UCF's main campus is operating "well above capacity." This is made possible by requiring routine usage of regular academic buildings throughout a weekly schedule nearly 70% greater than what the official SUS space formula calls for (i.e., 69 hours per week versus the official 40 hours per week). In addition we have a certain amount of classroom use in areas designed originally for other purposes (laboratories, theaters, library study areas, etc.).

To put the existing use of facilities in better perspective, one can note that UCF's fall semester figures for weekly hours of use involving general-purpose classrooms show that our *average* use per classroom is typically well over 50 hours per week. This naturally is concentrated in the high-demand Monday through Friday morning and afternoon periods, so during this five-day portion of the week, the average classroom use is over ten hours per day.

Planned Classrooms in Relation to Needs One clear implication of what has been said is that not much relief from shortages can be found via attempts to increase the efficiency of existing classroom use. On the contrary, the University's classrooms are already used essentially to their maximum capacity, as a result of which, the UCF weekly average use figures are among the highest in the SUS.

With the above facts in mind, some attempt has been made to assess the adequacy of classroom space that is apt to come online over the next decade. Ideally, planned new construction would be able to accommodate the assumed new students at current efficiencies of usage. For this to be true, PECO funds for new construction would have to be somewhere near adequate to support the existing plans, but at this time, that is not the case.

Teaching Laboratories Turning from general-purpose classrooms to teaching labs, one finds an enrollment-related problem there also. In terms of the currently existing spaces, teaching labs represent roughly three quarters as much total square footage as classrooms. At face value, this seems not unreasonable, given that weekly hours of lab usage per student are less on the average than those for classrooms—almost exactly five times less,

according to typical data. On the other side of the picture is the fact that square footage per lab seat is typically about twice that per classroom seat, say 30-35 sq. ft., compared to 15-17 sq. ft.

One overall implication might seem to be that while enrollment growth does lead to a need for more teaching labs, this does not rise as steeply as the need for classrooms, at least when couched in terms of square footage per added FTE student (two and one half times less) or seats per added FTE student (five times less). On the other hand, the “efficiency” of laboratory usage in terms of total hours per week is ordinarily a good deal smaller than that for classrooms — which is one main reason why, at present, overall square footages of labs and classrooms are more or less comparable, with the total for labs being actually somewhat greater.

The same result is also reflected in SUS formula results for NASF needs by space type, which show that in every case —which is to say for all the individual SUS universities, excluding only New College of Florida — the NASF needs per overall FTE student are somewhat greater for labs than for classrooms, with the lab excess need ranging from 3% for UWF to 70% for FSU. In this regard, we must emphasize that these results are based on the traditional SUS space formula parameters — which were last updated about fifteen years ago, in the early ‘90s of the last century. At that time UCF’s lab to classroom ratio of NASF per student showed an excess of about 13% for labs.

More recently, however, we at UCF have succeeded (specifically in late 2008, using comprehensive SUS-wide data from the fiscal year 2006-07) in updating all of the system-wide formula parameters for each space type — and by that means, we found, among other things, that UCF’s lab-to-classroom formula ratio of NASF per student FTE has risen to 23%. The reason for this change is simply that, in the 15-year interim, the University experienced relatively greater growth in disciplines with high needs for labs as opposed to classrooms, compared to what the SUS-wide averages might suggest.

In any case, this also means that more flexibility remains in principle for increasing the weekly hours of lab use, if future enrollments made it necessary. To put what is essentially the same point in different terms, there is some possibility of scheduling added sections in existing laboratories, and this persists (at least from the simplistic standpoint of "free hours" in the schedule), long past the point when general purpose classrooms are utilized to the maximum extent feasible.

Research Laboratories In general the needs for added research laboratories are not coupled as closely to enrollment growth as those for classrooms and teaching labs — but nonetheless, there is some relation to enrollments. First,

with growth comes the need for added faculty — and it goes without saying that, in the laboratory sciences, engineering, studio arts, and similar disciplines, new faculty in many cases have needs for their own dedicated labs to support scholarship and other required professional development activities.

Secondly, research labs are essential for thesis and dissertation work by students in disciplines with active graduate programs, especially the sciences and engineering. To that degree, the distinction between research labs and teaching labs breaks down somewhat, inasmuch as instructional functions are intrinsic to both. The difference is one of degree, not of kind. Besides, many cases currently exist on campus where one and the same lab is used both for graduate coursework and thesis and/or dissertation work, not to mention faculty research, as such.

Finally, enrollment growth often comes about, not simply from increasing numbers of students in ongoing programs, but from attracting students to wholly new programs. Some of them bring distinctive laboratory needs that simply are not met by previously existing types of facilities. Good examples are furnished by the University's strong push in recent years toward excellence in key areas such as advanced materials processing and analysis (particularly in regard to "I-4 High Tech Corridor" partnership activities), biomolecular sciences, and most recently, nanosciences. Such developments can only accelerate as the University continues moving toward its strategic goal of achieving national and international prominence in selected areas of research and scholarship.

One final point regarding research labs is that both current and projected UCF needs for this type of space are much greater than what might be inferred from the existing SUS space formula mentioned earlier (see discussion above regarding teaching lab space). That formula, as it stands, would suggest that, as of 2008-09, based on its main-campus enrollment of 25,000 FTE, UCF’s research lab needs would come to about 350,000 NASF (which is to say, based on the traditional figure for such space of 13.87 NASF per FTE).

On the other hand, this result is based on formula parameters fifteen years out-of-date, going back to a time — say, 1993-94 — when the University’s total research funding was not yet $40 million. By now this has increased to about $140 million, so the formula need for research labs has increased to 22.68 NASF per FTE. Accordingly, total research labs needed in 2008-09, based on the updated formula, are over 560,000 NASF.

By the same token, if projected forward to the years 2010-11 and 2020-21, the figures for research lab needs become 597,000 and 630,000 NASF, respectively.

Offices. While offices are not viewed, strictly speaking, as "academic spaces," mention of them is made here for two reasons. First, UCF's continued growth of enrollment over the coming decade will require additional regular faculty and staff, who cannot function properly without added office space. Thus offices for the regular instructional faculty are a necessary adjunct to the added classrooms and labs that will be needed.

Secondly, with reference to the projected main-campus office needs (as opposed to shortages), we estimate that by 2010-11, based on projected enrollment, these will approach 650,000 square feet. By the same token, if actual enrollments were to exceed projections by 10%, office needs would approach 700,000 sq. ft.

To be sure, one must add that these figures represent aggregates of all "office-type" needs for the entire campus, not only faculty and staff offices *per se* in both academic and administrative units, but also related spaces such as conference rooms and "office support" areas, e.g., supply closets.

Study Spaces. Another sort of space to be kept in mind is titled "Study." This is mostly, but not entirely, accounted for via the University Library. In that regard, we should note that Instructional Space-Use Standards for libraries include, besides the usual stack areas for books and journals, reading rooms and study carrels. The latter are classified as Study space, but additional Study areas occur in scattered buildings across the campus — especially now that "computer study rooms" are becoming more widespread. At this point roughly 25% of main campus study areas are outside the Library, and the fraction may increase with the passage of time.

Table 2.5(2)d) shows the projections of future needs for instructional, research, and study space, in terms of Net Assignable Square Footage (NASF).

TABLE 2.5(2)d). Projection of Future Space Needs, Part I

SPACE TYPE	NET ASSIGNABLE SQUARE FOOTAGE (NASF)	
	Year 2010-11	Year 2020-21
Classroom	308,102	325,144
Teaching Laboratory	379,402	400,387
Research Laboratory	594,718	627,612
Office (incl. conference)	635,552	670,705
Study (incl. Library)	358,247	358,247
Total	2,276,021	2,382,094

e) A projection of future academic gross building area needs (tabular).

The gross building area necessary to meet growth demands has been projected for the five- and ten-year planning periods. Table 2.5(2)e) indicates the amount of gross square feet (GSF) required to satisfy the demand for space in the five categories listed. The GSF projections are a result of increasing the assignable square footage for each category by a 1.5 multiplier.

TABLE 2.5(2)E) PROJECTION OF FUTURE SPACE NEEDS (GSF)

SPACE TYPE	GROSS SQUARE FOOTAGE (GSF)	
	Year 2010-11	Year 2020-21
Classroom	462,153	487,715
Teaching Laboratory	569,103	600,581
Research Laboratory	892,077	941,418
Office (incl. conference)	953,328	1,006,057
Study (incl. Library)	537,371	537,371
Total	3,414,031	3,573,141

f) An analysis translating the future net and gross building area requirements into building "increments".

The basis for this analysis shall be fully described and shall be based on considerations of funding, prototypical building sizes, or other logical and replicable method of calculation. The analysis should also consider whether future new space needs would be best accomplished through renovations or additions to existing facilities.

University campuses are typically made up of buildings that house a wide range of uses. At the University of Central Florida many buildings accommodate varying proportions of academic, study and support space within a single structure. Projecting future net and gross building area requirements into building "increments" can be misleading, since it is unlikely that all of the future academic facilities will be accommodated in single-use buildings. It is more likely that new academic facilities will be integrated across the campus in a diverse range of building types. Moreover, the logical building increments will be determined as much by site planning and urban design parameters as they will be by the specific programmatic elements.

In any case, if we assume, for simplicity, that typical new campus buildings will be no more than 100 feet in width, five stories in height, and 300 feet in length, then each one will be able to accommodate at most 150,000 gross square feet of space. Assuming a gross to net square footage ratio of 1.5, the net assignable square footage per building will be 100,000 NASF, so the total number needed to achieve an overall increase of 800,000 NASF (i.e., from the current 1.58 million NASF to a projected 2.38 million NASF) would be eight new buildings.

Of course, if the average dimensions per building turn out to be smaller, the number of buildings required will be larger.

APPENDIX A: THE UNIVERSITY MASTER PLAN COMMITTEE

The University Master Plan Committee (UMPC) is a broadly representative group of faculty, administrators, staff and student government members whose charge is to make recommendations to the President of the University regarding matters of aesthetics and suitability for minor projects and modifications of the campus landscape, utilities, and building exteriors. The UMPC also reviews signage, site furniture, public art, and some temporary installations, at the charge of the Vice President for Administration & Finance and the Associate Vice President for Administration & Finance (Facilities & Safety).

Every five (5) years, the UMPC will review the Campus Master Plan Update and provide comments and will review the Campus Development Plans for compliance with the Campus Master Plan Update.

The UMPC serves as an advisory body only; with all meetings open for public attendance, it is a clearinghouse for communication to the campus community. The committee meets monthly to review project plans. All plans are submitted through the Office of Facilities Improvement, and must be approved by the Associate Vice President for Administration & Finance (Facilities & Safety) and the Vice President for Administration & Finance, before being considered by the committee at large.

The UMPC shall be comprised of:

<u>Voting members</u>:

- Vice President for Administration & Finance
- Associate Vice President for Administration & Finance (Facilities & Safety)
- Two Faculty Senators
- One faculty member from each College
- One faculty member from Biology and one from Environmental Engineering
- One administrator from Academic Affairs, selected by the Provost
- Two administrators selected by the Vice President for SDES
- Director of Facilities Planning
- Director of Physical Plant
- Director of Landscape & Natural Resources
- Emergency Management Coordinator
- Two students representing SGA
- One representative from News & Information

Non-voting members:

- Director of Environmental Health & Safety
- Assistant Director of Facilities Planning

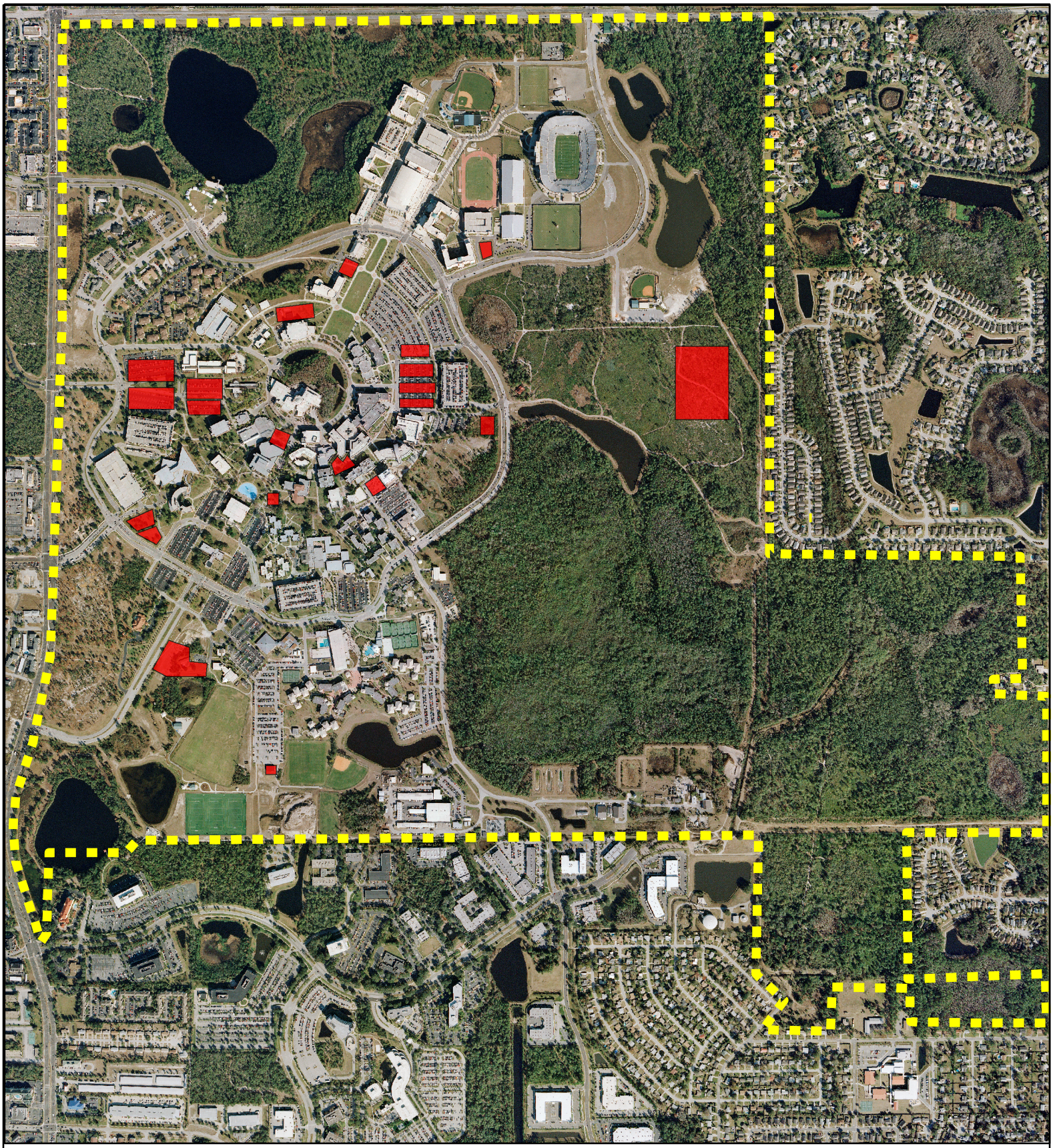

Figure 5-1

Academic Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

Boundary

Proposed Buildings

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090630

0 1,000 2,000 4,000 Feet

2.6 Support Facilities Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Continue to plan and develop support facilities required to meet the needs of the projected future student enrollment.

OBJECTIVE 1.1: To define appropriate locations for future support facilities, including: administrative offices, physical plant facilities, auxiliary facilities, and intercollegiate, intramural and recreational athletic facilities.

POLICY 1.1.1: Future administrative offices shall continue to be placed in and around the academic core area within the Gemini Road loop.

POLICY 1.1.2: Physical plant facilities shall generally be located on the southern portion of the campus.

POLICY 1.1.3: Future intercollegiate athletic facilities shall generally be located on the northeastern part of campus adjacent to the Arena.

POLICY 1.1.4 Support facilities housed in one-story buildings within the core of campus shall be re-developed at a higher density, when feasible.

POLICY 1.1.5 Support space shall continue to be accommodated in mixed-use buildings whenever possible.

OBJECTIVE 1.2: To identify support projects to meet the needs of the campus. The adopted campus master plan shall be amended as needed to reflect the timing and phasing requirements of these projects, as defined in the Capital Improvements Element.

POLICY 1.2.1: Future student service areas shall be implemented as directed by the University's Capital Improvements Element, in conjunction with the urban design plan.

POLICY 1.2.2: Re-development of the Apollo housing area shall be at a higher density in order to provide more beds for students and for other University uses.

POLICY 1.2.3 : Allocation of funds for future support facilities shall follow the Capital Improvements Plan.

2.6 Support Facilities Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) As enrollment continues to grow at the University, support facilities must be provided that parallel those demands created by academic facilities. The amount of space required for support facilities is related to enrollment growth and the type of facilities constructed. The amount of support space needed in the future will be determined by user demand and space needs as reported by support service providers in consultation with Facilities Planning.

b) An analysis of the projected needs for recreation and open space facilities required to meet the needs of the future University population (faculty, staff, and students) based on University standards and calculations or established level of service standards.

The University of Central Florida outdoor recreation facilities are currently limited with regard to student use and number of facilities. Looking at the student population, number of intramural sports offered, number of sport clubs, and ideal standards for use, the number of fields at UCF are over capacity. The future expansion of intramural fields in the south section of the campus will allow increased capacity, and more flexibility for field rotation to avoid compaction and abuse.

Calculations used to assess facility sufficiency take into consideration a number of factors. These factors include variety of fields (club sports, intramural sports, or open recreation), frequency of use, student enrollment, and unique layout diminishing the flexibility for use (i.e., softball field).

The methodology used for determining the number of fields an institution needs for appropriate recreation use is based on a number of factors. The general standards, as recommended by the National Intramural Recreational Sports Association (NIRSA), are 0.94 acre per 1,000 students enrolled. Additionally, the number of fields can be adjusted based on number of teams, type of field (natural or synthetic surface), and appropriate field lighting. Application of this standard is dependent on the extent of land available and can be adjusted based on number of teams, type of field (natural or synthetic surface), appropriate field lighting, and scheduling of nighttime play. Presently at UCF there are 15 intramural sports that use outside fields, some with up to 250 teams, and 9 sport clubs. Current field space includes 15 acres of unlighted grass fields (with the exception of one softball field) and 4.83 acres of lighted turf fields. Natural grass fields should ideally be programmed 18 to 24 hours in any given week, with very few limitations on the turf fields. The current turf fields provide for additional usage, however since their completion, the size of intramural leagues have more than doubled – pushing usage again to the limit. While these new facilities have added

more space, available facilities for softball and sport clubs continue to be insufficient.

Given these conditions, it is clear that UCF needs to build additional fields in the south section of campus. If synthetic fields are used for future facilities, recreation use could be programmed for up to nine hours per day, reducing the impact on existing fields.

In summary, the existing and future facilities at the University do not appear to address the student's current and future needs for recreation space. The construction of additional recreation fields with synthetic surface and lights could provide flexibility for programming and alleviate poor field conditions.

c) An assessment of the adequacy of the existing recreational facilities and open spaces to meet the projected needs of the University.

The 1995 plan highlighted the condition of the swimming pool, the need for an all-purpose recreation facility, the provision of lighting existing fields in order to extend use, additional tennis courts, and a more efficient layout of fields and corresponding support facilities.

The Recreation and Wellness Center, located by the Academic Village, has benefited the campus and helped alleviate many of the shortfalls identified in the 1995 plan. Additionally, the construction of a new leisure pool, repairs made to existing competitive pool, additional tennis courts, and a planned future addition to the Recreation and Wellness Center will also address previous concerns.

2.7 Housing Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Ensure the provision of public and private housing facilities on campus and within the host community is adequate to meet the needs of the projected University enrollment during the planning period.

OBJECTIVE 1.1: To ensure the availability of affordable housing units and support facilities, on campus and through University affiliated housing off-campus, which will meet the projected need for student housing.

POLICY 1.1.1: The University shall provide enough beds to house 80% of the FTIC students and 50% of the retained 2nd year undergraduate students.

POLICY 1.1.2: The University will continue to provide a variety of on-campus housing options for students.

POLICY 1.1.3: University-owned housing shall be built on campus grounds.

POLICY 1.1.4: Parking ratios for student housing shall not be less than one space per 1.85 residents.

POLICY 1.1.5: Future housing sites shall be located on the southern and northwest portions of the campus.

POLICY 1.1.6: Densities for future areas on-campus dormitories shall be relatively dense, similar to the new future Academic Village development, with a minimum of 57.2 and maximum of 125.0 students per acre.

POLICY 1.1.7: Land for privately developed housing on campus shall be sub-leased. This area shall be leased to requesting alumni associations that meet the requirements set forth by the Greek Park Committee and the Division of Student Development and Enrollment Services.

POLICY 1.1.8: The timing and phasing requirements and priorities for future on-campus student housing are identified in the Capital Improvements Element.

POLICY 1.1.9: Sanitary sewer, potable water, stormwater management and solid waste facilities shall be provided at established levels of service prior to occupancy of future housing facilities.

OBJECTIVE 1.2: To ensure the availability of off-campus housing and support facilities, within close proximity to the campus, which will meet the projected student enrollment.

POLICY 1.2.1: University-affiliated housing facilities off-campus shall be provided to ensure the availability of off-campus housing within close proximity to the campus. The University will apply similar rules and regulations to students living in these facilities as on-campus housing, and provide services such as shuttles to create and maintain functional linkages with the main campus.

POLICY 1.2.2: The University shall provide information on projected student enrollment to private developers and local governments to ensure that the off-campus housing stock and support facilities shall continue to meet the demands of the projected student body not to be housed on campus.

POLICY 1.2.3: The University shall continue to provide information to students concerning the availability of off-campus affordable housing within the immediate context area.

POLICY 1.2.4: The University shall establish, in conjunction with Orange and Seminole Counties, a housing coordination office for the purpose of:

- Monitoring the supply, costs and suitability of off-campus housing;
- Establishing a registry of off-campus housing providers;
- Monitoring factors pertaining to safety, transit utilization, pedestrian access, etc.;
- Ensuring that future off-campus student-oriented housing opportunities are located within walking or bicycling distance to campus; and
- Ensuring that convenient service and shopping opportunities for students exist near off-campus student-oriented housing units.

OBJECTIVE 1.3: To prevent sub-standard housing and to provide resources for remodeling to an acceptable condition for student use.

POLICY 1.3.1: Preventive maintenance programs shall be established consistent with the policies below and with the Facilities Maintenance Element policies and will be reviewed on a periodic basis.

POLICY 1.3.2: Plumbing and HVAC units shall be inspected on a periodic basis, kept in reasonably good repair, and replaced as need and available funding dictate.

POLICY 1.3.3: On-campus housing shall be reviewed on a regular basis during the second quarter of every year in order to determine possible disrepair. These inspections shall be conducted by qualified University personnel.

POLICY 1.3.4: Routine maintenance shall be conducted on campus housing facilities' exterior walls, windows and doors as needed. Routine roof maintenance shall be done every year.

POLICY 1.3.5: Campus housing interiors shall receive the following maintenance: walls shall be painted every 8 years or as needed; carpets (where

applicable) shall be replaced every 7 years or as needed; and ceilings shall be replaced every 10 years, or as needed.

POLICY 1.3.6: The University shall identify ground level housing units that may be adapted for use by people with disabilities. The adopted campus master plan shall be amended as needed to reflect the timing and phasing requirements and priorities for adapting these units.

2.7 Housing Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) Inventory of Beds (Design Capacity)

Building	Location	Design Capacity	Utilization Capacity
Apollo Community			
Lake Hall	Main Campus	109	108
Osceola Hall	Main Campus	109	98
Polk Hall	Main Campus	109	104
Volusia Hall	Main Campus	109	108
Libra Community			
Brevard Hall	Main Campus	122	121
Orange Hall	Main Campus	160	158
Seminole Hall	Main Campus	164	162
Citrus Hall	Main Campus	116	116
Sumter Hall	Main Campus	232	232
Flagler Hall	Main Campus	232	232
Lake Claire Courtyard Apartments			
Building 55	Main Campus	47	47
Building 56	Main Campus	47	47
Building 57	Main Campus	47	47
Building 58	Main Campus	47	47
Building 59	Main Campus	47	47
Building 60	Main Campus	47	47
Building 61	Main Campus	47	47
Building 62	Main Campus	47	47
Building 63	Main Campus	47	47
Building 64	Main Campus	43	39
Building 65	Main Campus	47	47
Building 66	Main Campus	47	47
Building 67	Main Campus	47	47
Building 68	Main Campus	47	47
Building 69	Main Campus	47	47
Building 70	Main Campus	47	47

Building	Location	Design Capacity	Utilization Capacity
Academic Village			
Building 101	Main Campus	143	143
Building 102	Main Campus	151	151
Building 103	Main Campus	169	169
Building 104-105	Main Campus	176	176
Building 106-107	Main Campus	180	180
Building 108	Main Campus	143	143
Building 109	Main Campus	151	151
Building 110	Main Campus	169	169
Building 111-112	Main Campus	176	176
Building 113-114	Main Campus	180	180
BPW House	Main Campus	17	15
Towers Apartments	Main Campus	2004	2004
Tower 1	Main Campus	508	508
Tower 2	Main Campus	510	510
Tower 3	Main Campus	478	478
Tower 4	Main Campus	508	508
Total	Main Campus	5822	5793

b) Graduate Student Housing

The University does not currently provide housing specifically designated for graduate students

c) Married Student Housing

The University does not currently provide housing specifically designated for married students.

d) Other On-Campus Student Housing

Fraternity/Sorority	Capacity
Zeta Tau Alpha Soro.	40
Delta Delta Delta Soro.	52
Pi Beta Phi Soro.	30
Alpha Tau Omega Frat	31
Alpha Xi Delta Soro.	30
Alpha Delta Pi Soro.	32
Kappa Delta Soro.	28
Building #409	38
Building #411	44
Sigma Chi Fraternity	33
Kappa Sigma Fraternity	24
Total	373

e) Historically Significant Housing on Campus

The University does not own any historically significant housing on campus.

f) Description of On-Campus Housing

The University's first housing project was opened in the fall of 1968. This project has a design capacity of 436 student spaces and consists of four residence halls (Volusia, Lake, Osceola, and Polk Halls) that are two story structures with suite-style living units. Each suite consists of two double rooms, a common living area and bath, and in some cases, a single room. This area is known as the Apollo Community.

The second housing project was built in 1980 (the Libra Community), with a design capacity of 445, and consists of three residence halls (Brevard, Orange, and Seminole Halls) and a commons building. Orange and Seminole Halls are four-story buildings, with Brevard Hall being a three-story building. All rooms in this area are suite style with two double rooms sharing one bathroom.

In 1994, the on-campus housing options for students were further diversified with the opening of the Lake Claire Courtyard Apartments. This facility, which consists of fifteen three-story buildings and a commons building, has a design capacity of 697. The apartments were designed to meet the needs of single upper-level undergraduates and graduate students. Aside from offering cooking facilities, which the residence halls

do not have, each apartment has four single bedrooms, two bathrooms, and a living room.

Phase II of the Libra Community opened in the spring of 1999. Citrus, Sumter, and Flagler Halls, with a capacity of 580, were designed to meet the continued demand to house lower level students on–campus. All rooms are double occupancy suite-style, with four students sharing a bathroom. The rooms are configured around a common lounge/student space. Additional commons space was added to the Libra Community with this project.

The Academic Village project (design capacity of 1,634) was constructed in two phases. Phase I opened in 2001 and Phase II opened in 2002. Each phase consists of a combination of double occupancy suite-style residence halls where four students share a bathroom and single occupancy apartments that house either two or four students. The student-to-bathroom ratio in the apartments is two students to one bathroom. The residence halls are three story structures with the apartment building ranging from two to four stories in height. Student programming space is included in both phases of the project.

The Towers at Knight's Plaza project (design capacity of 2004) was constructed in three phases. Phase I opened in 2006. Phase II opened in 2007. Phase III opened in 2008. Each phase consists of a combination 4 bedroom/2 bath, 4 bedroom/4 bath, and 1/1bath apartments. All bedrooms are single occupancy. The residence halls are seven-story structures. A small study lounge is included on six of the seven floors. The ground floor lobbies and adjacent courtyards provide student programming space.

Note: Bed counts below do not include student staff member accommodations.

1967 Project		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Lake Hall	12	48
Volusia Hall	12	48
Osceola Hall	12	48
Polk Hall	12	48

1980 Project		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Brevard	0	60
Orange	0	80
Seminole	0	82

1993 Student Apartment Facility		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Building 55	46	0
Building 56	46	0
Building 57	46	0
Building 58	46	0
Building 59	46	0
Building 60	46	0
Building 61	46	0
Building 62	46	0
Building 63	46	0
Building 64	42	0
Building 65	46	0
Building 66	46	0
Building 67	46	0
Building 68	46	0
Building 69	46	0
Building 70	46	0

1998 Residence Hall Facility		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
Citrus Hall	0	56
Flagler Hall	0	112
Sumter Hall	0	112

2001 Academic Village		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
101	0	70
102	0	74
103	0	82
104-105	172	0
106-107	176	0

2002 Academic Village		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
108	0	70
109	0	74
110	0	82
111-112	172	0
113-114	176	0

2006, 2007, 2008 Towers		
Building	**Single Occ. Rms.**	**Double Occ. Rms.**
129	497	0
130	499	0
132	467	0
133	497	0

g) University Owned Off-Campus Housing

The University does not own any housing facilities that are located off-campus but refers students to University-affiliated housing when on–campus facilities have reached full capacity. Affiliated properties include Pegasus Landing (2,525 beds) and Pegasus Pointe (1,224 beds). The University provides UCF Residence Life services at Pegasus Landing and UCF Police-provided services at both Pegasus Landing and Pegasus Pointe.

h) Estimates of University Housed Students by Classification

Undergraduate students:	5,784 (including student staff members)
Graduate students:	45
Married Students	0

i) Full-Time Students Living in Non-University Rental Housing

Considering current occupancy rates, there are approximately 10,000 students living off-campus along the Alafaya Trail corridor and University Blvd. immediately adjacent to UCF in privately owned, non-affiliated apartments that offer individual leases. Approximately 3,500 students live in privately owned affiliated housing.

j) Host Community's Rental Stock by Rental Range

Apartment facilities that offer individual student leases	
Rental Range (per person)	**Rental Supply**
$401 to $499/mo	600
$545 to $640/mo	3,756 (UCF affiliated housing)
$500 to $993/mo	7,296

Private Apartment Facilities	Rental Range/person	Num. of beds
Boardwalk Apartments	$560/mo	480
Campus Crossing College Station	$565/mo	304
Collegiate Village Inn	$545-$749/mo	600
Gatherings Apartments	$560/mo	394
The Edge Apartments	$489-$990/mo	930
The Lofts	$559-$1075/mo	730
Northgate Lakes	$550-$599/mo	706
Riverwind Apartments	$515-$615/mo	442
Campus Crossing Alafaya	$430-$545/mo	896
Village Alafaya Club	$599-$615/mo	840
Village at Science Drive	$605-620/mo	732

University Affiliated/Private Apartment Facilities	Rental Range/person	Num. of beds
Pegasus Landing	$545-$640/mo	2,532
Pegasus Pointe	$489-$630/mo	1,224

k) An analysis of existing University policies regarding the percentage of students for which on-campus housing is provided.

The 2000 plan, recognizing the need to provide on-campus housing for students at a comparable rate of other Florida public universities established the goal of providing on-campus housing for 15% of enrollment. In 2008, a new goal was approved. The new goal strives to provide on-campus housing for 80% of FTIC students. This policy responds to the University's goal of enhancing the first-year experience of UCF's students and the overall collegiate environment. Additionally, the University desires to provide beds for 50% of the retained 2nd year undergraduate students.

All housing on campus today contains handicap-accessible units, and future housing will continue to provide such provisions. More on-campus housing will continue to strengthen the University community and alleviate the impact on neighborhood surrounding UCF.

l) A projection of the number of students to be housed on-campus in University-provided facilities based on the existing policies for provision of on-campus housing. This projection shall include a description of handicap-accessible beds/units. Projections of the number of students to be housed on-campus are based upon the University's goal of providing housing for 80% of FTIC students and 50% of retained 2nd year undergraduate students .

Table 2.7(2)a Bed Demand based on FTIC (80%)/2nd year (50%) demand goals

Main Campus On-Campus Housing Needs	Fall 2009	Fall 2010	Fall 2014
Headcount Enrollment	42,609	42,891	43,371
Bed Demand (80% of FTIC ½ of 2nd year)	7,938	8,192	7,840
University-owned beds	5,784	5,784	7,384
Greek-owned beds	287	287	287
University-owned Greek Beds	86	86	586
Total Beds on Campus	6,157	6,157	8,257
Total Beds Deficit	(1,781)	(2,035)	417
Beds Available in University Affiliated Housing	3,750	3,750	3,750

In addition to the housing supply mentioned above, this plan has identified three sites for potential housing expansion. Those areas include the south portion of campus surrounding the existing Academic Village (1,600 beds), the vacant Greek Park lot (100 beds), and development of a Greek village on the northeast corner of campus (400 beds) If built, these sites would provide an additional2,100 beds to the campus, as indicated in these projections.

m) A projection of the number of students to be housed in non-University provided facilities on-campus (fraternities, sororities, etc.). There are currently eleven fraternity and sorority houses on campus, accommodating 373 students. Nine houses are privately owned, housing 287 students. It is anticipated that 12 to 14 more Greek groups (500 beds) will have the opportunity to live on-campus in Greek Park II. However, this housing will be developed by the University.

n) An analysis of the existing housing provided on campus, including:

1. Age of buildings that house students and programs to retrofit or replace aged structures;
    - Lake, Volusia, Osceola, and Polk Halls were built in 1967
    - Brevard, Orange and Seminole were built in 1980
    - Lake Claire facility (15 buildings) was built in 1993
    - Citrus, Flagler and Sumter Hall were completed in 1998
    - Academic Village Buildings 101, 102, 103, 104, 105, 106 and 107 were completed in 2001.
    - Academic Village Buildings 108, 109, 110, 111, 112, and 114 were completed in 2002.

- Tower I (129) was completed in 2006. Tower II (130) and Tower IV (133) were completed in 2007. Tower III (132) was completed in 2008.

2. Physical condition of those buildings; UCF addresses maintenance needs as they arise. Issues concerning life safety are constantly being addressed and remediated. Presently, all of the facilities on campus are considered to be "clean and acceptable" housing. As a result, there are currently no difficulties in renting existing buildings. Major renovations of the1968 project (Volusia, Lake, Osceola, and Polk Halls) were completed in 2009.

3. The existing rate structure charged for on-campus housing.

Table 2.7(2)b) 2009 - 2010 RENTAL RATES

Room	Price per semester
Double Room in Lake, Volusia, Osceola, Polk	$2,250
Brevard, Orange, Seminole	$2,470
Double room in Citrus, Flagler, and Sumter Halls	$2,470
Double room in Academic Village	$2,630
Single Room in Lake, Osceola, Polk, and Volusia Halls	$2,545
Single Room in Lake Claire Courtyard Apartments	$2,760
Single Room in Academic Village Apartments	$3,120

o) An estimate of the number of additional on-campus housing units, by type, necessary to meet the goal (apartment, suite, dormitory, etc.). To meet the goal of providing on-campus housing for 80 % of FTIC students and 50% of retained 2nd year undergraduate students, 2,035 beds are needed. This need will be met with a combination of suites and apartment-style accomodations.

p) An analysis of potential on-campus sites and of the capacity of these sites (beds). This analysis shall describe the method used to translate total beds required into building and site requirements. With the exception of one lot, the existing Greek Park is built-out, with all lots occupied. Future Greek housing developments should be constructed at a level more dense than the current Greek Park (9.6 beds/acre) over the next ten years as the University responds to the housing shortfall projected in 2.7(2)a) above. Comparatively, the Lake Claire complex has 73.9 beds/acre and the Libra facility has 150.8 beds/acre. Maintaining density will allow the University to fulfill the goal of providing more housing as enrollment expands and will contribute to

development which will sustain the University's land reserves. The ability to plan and develop future housing on campus is limited due to the availability of revenue bonds, which is the typical funding mechanism used for on-campus housing. Therefore, future housing sites have been identified; however, all potential sites are not fully described and/or associated with a funding source in the Capital Improvements Element.

q) A projection of the number of students that will be housed off-campus in facilities provided by others (private market housing).
Based on the housing supply reference in Table 2.7(2) a) above, projections of the number of students that will be housed off- campus are as follows:

Table 2.7(2)c) Projection of Students Housed Off-Campus			
	Fall-2009	**Fall-2010**	**Fall 2015**
Off campus	39,410	39,639	40,466

r) An assessment of the student impacts on the occupancy of the host community's rental stock.

Approximately 25% of students who live off-campus find housing along the Alafaya corridor adjacent to the campus. The University is committed to developing both new housing on the UCF campus in an effort to increase the overall number of student's on-campus and to working within the community to foster the growing neighborhood.

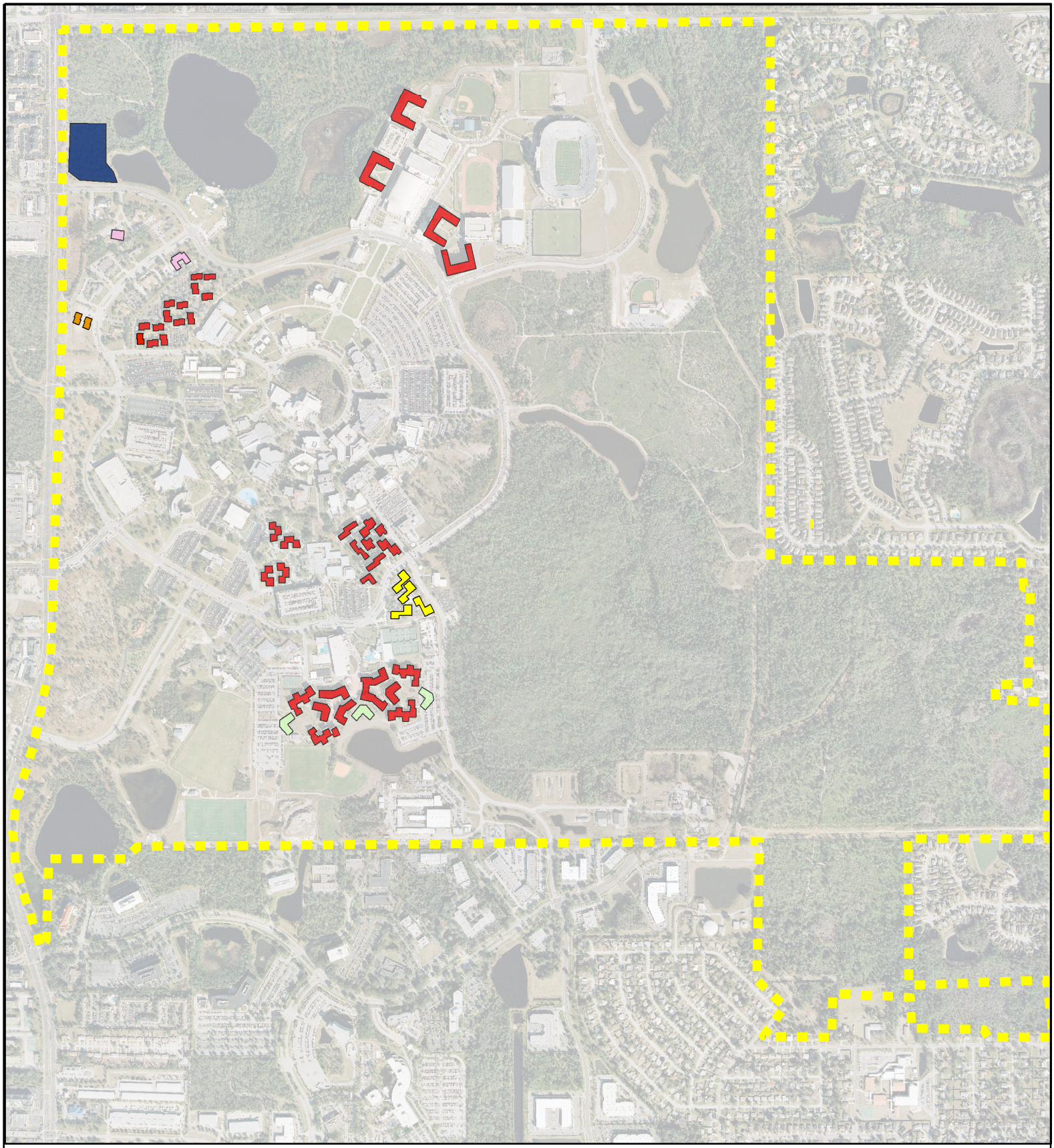

Figure 7-1

Existing and Planned Housing

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Boundary
- Existing Campus Housing
- Academic Village Expansion
- Libra Drive Housing
- Greek Park I - Two New Houses
- Greek Park I - Two Existing Houses
- Greek Park II

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

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2.8 Recreation and Open Space Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Provide a variety of safe, efficient and enjoyable on-campus recreation and intercollegiate athletics facilities, physical education laboratories and open space areas which promote the health, welfare and campus aesthetic ambience for the students, faculty and staff.

OBJECTIVE 1.1: To rely upon a variety of public and private funding sources and programs to ensure the development and availability of recreation facilities, championship caliber intercollegiate athletics and physical education laboratories for campus students and other user groups.

POLICY 1.1.1: The University's Student Development and Enrollment Services (SDES) and Physical Education Departments shall be responsible for the provision of adequate facilities for quality recreational and academic programs for all students of the University. The development of such programs and facilities shall be based upon existing and prospective student demand and user interest and on the availability of funds from such sources as student and user fees.

POLICY 1.1.2: The University's Athletics Department shall be responsible for the provision of adequate facilities for participants in intercollegiate athletic programs, consistent with the adopted campus master plan. The need and phasing for specific facilities shall be based upon specific programming studies and the availability of funds from private and public sources, such as spectator and user fees, alumni donations, etc.

POLICY 1.1.3: As necessary, the University shall continue to rely upon service contracts and other contractual relationships with off-campus private and public facility providers to meet recreation, physical education or intercollegiate athletic needs.

OBJECTIVE 1.2: To rely upon a variety of continuing in-house planning and facility development programs to ensure that high quality recreation, intercollegiate athletic facilities, physical education laboratories and open space areas are adequately and efficiently provided.

POLICY 1.2.1: UCF shall continue to maintain and develop functional and aesthetically pleasing open spaces between structures and throughout the campus. This shall be accomplished through the application of building development and land use intensity guidelines consistent with the Urban Design and Future Land Use Elements and the open space preservation areas and policies, as identified in the Conservation Element of this Plan.

POLICY 1.2.2: While future planning recognizes the distinct need that the Recreation, Intercollegiate Athletics, and the Physical Education programs have separate facilities, program representatives shall coordinate and attempt to share facilities wherever feasible.

POLICY 1.2.3: Future facilities shall continue to be developed in the south and northeast portions of campus, consolidating and strengthening recreation and athletic facilities. As these options become maximized, additional space should be explored.

POLICY 1.2.4: To the extent practical, future on-campus development which impacts recreation and athletic land, shall occur in phases to coincide with the efficient relocation of recreational, intercollegiate athletic and academic program laboratories. In order to implement this policy, the University's Office of Facilities Planning, SDES, Intercollegiate Athletics and Physical Education Departments shall initiate a study to provide for the orderly phased relocation of field and building facilities whenever such development occurs. The adopted campus master plan shall be amended, as needed, to incorporate the results of this study and should also incorporate space planning guidelines, as recommended by the National Intramural-Recreational Sports Association (NIRSA).

POLICY 1.2.5: As future campus development programs progress into the programming and design stage, the University's Office of Facilities Planning, SDES, Intercollegiate Athletics and Physical Education Departments shall consider those facilities and programs which could be maintained in these areas as part of the campus open space scheme.

POLICY 1.2.6: An academic support facility will be located in the northeast corner of campus. This building will serve all student-athletes participating in intercollegiate athletics. It will also include office and meeting space for UCFAA administration and support staff.

POLICY 1.2.7: The timing and phasing requirements and priorities for improvements to athletic, recreation and open space facilities necessary to correct existing deficiencies and meet the future demands are identified in the Capital Improvements Element.

POLICY 1.2.8: An intercollegiate Tennis Center will be built on the north end of campus. Intercollegiate Athletics currently shares a nine-court tennis facility with UCF Recreation & Wellness, located on the south end of campus.

POLICY 1.2.9: Additional Intercollegiate Athletics facilities include a phased expansion of Jay Bergman Field (baseball stadium), a clubhouse to serve UCF's intercollegiate soccer and track programs, and additional dedicated field space for the sports of baseball, softball, and soccer. Also being contemplated is the expansion of Bright House Networks Stadium. This would include an expansion

of the *Roth Tower* facility to provide additional premium seating and operational space. Also planned is an expansion of the main seating bowl. Major expansion is not anticipated during this phase.

OBJECTIVE 1.3: To promote unrestricted or managed public access to all campus recreation and athletics facilities or open space areas, to the maximum extent feasible.

POLICY 1.3.1: Campus open space areas shall be developed and maintained as areas of unrestricted public access wherever feasible. Such provisions for access would include those special provisions or design criteria necessary under federal regulations to provide for people with disabilities. Access to certain areas of environmentally sensitive habitat may be restricted (on occasion) if it is determined by the University to be necessary in order to protect the local animal and plant species.

POLICY 1.3.2: The University shall establish the priority use of campus athletic and recreational facilities for campus faculty, staff, and students. Non-campus user populations of campus facilities will be accommodated on a fee basis, to the extent that campus user demands are adequately met, while allowing for reasonable maintenance and restoration periods for the particular facility.

POLICY 1.3.3: The UCF Athletics Association, Inc. shall establish the priority use of intercollegiate athletics facilities.

OBJECTIVE 1.4: To protect and enhance present campus open spaces.

POLICY 1.4.1: The University shall protect from encroachment the existing conservation areas and maximize the retention of open space by strictly enforcing the future placement of buildings, parking facilities, infrastructure and other man-made improvements consistent with sites selected and adopted in the Urban Design and Future Land Use Elements. The pattern of open spaces established in Figures 3-1 and 8-1 shall not be subject to encroachment without amending the adopted Campus Master Plan.

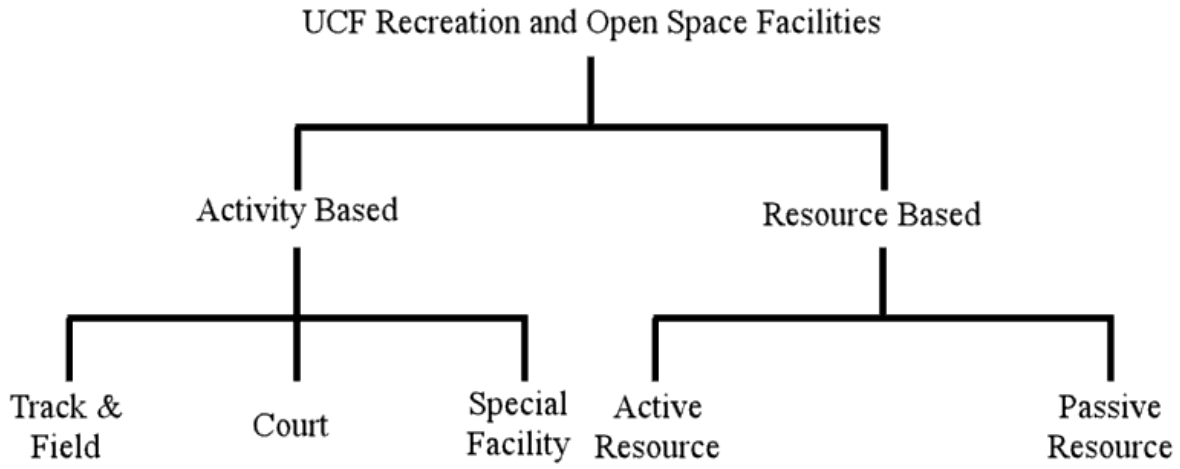
POLICY 1.4.2: The University shall maintain densities and intensities for the development of the campus which maximize the retention of on-campus open space as identified in the Future Land Use Element.

POLICY 1.4.3: The University shall select sites for infrastructure and academic and support facilities which are designed to maximize the retention of campus open space.

POLICY 1.4.4: The University shall create new formal open spaces, or "greens" through the careful placement of buildings as adopted in Figure 8-1.

2.8 Recreation, Intramural Athletics, Physical Education Laboratories and Open Space Element
Data and Analysis
2010-2020 Campus Master Plan Update

In order to provide a comprehensive count of all existing recreation and open space facilities, an inventory of such facilities is organized based on the following chart.



Activity-based facilities are defined as those facilities designed, constructed and designated for specific sports or recreation activities, such as ball fields and tracks. Resource-based facilities refer to those facilities that are primarily used for general recreation or organized social functions. These resource-based facilities are open to all and not specifically designated for specific sports or recreational activities. Resource-based facilities may include open fields, public parks, nature trails or conservation areas.

Resource-based facilities can be further defined and categorized as active and passive resources. Active resource-based facilities are generally accessible open spaces or parks where recreation activities are not specific. Examples of active resource-based facilities include open fields, picnic areas, nature trails and public parks. Passive resource-based facilities refer to those areas that are relatively inaccessible to any types of recreation activities and may include conservation and environmental mitigation areas. Although these are not accessible, they provide visual and climatic enhancements to the campus.

Facility Inventory

Off-Campus Recreation, Intercollegiate Athletics, Physical Education Facilities and Open Spaces

Non-university-owned or -managed recreation and physical education facilities used by the University are listed below:

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1) The UCF Golf Practice Facility is located at Twin Rivers Golf Course.

2) Oviedo Bowling Lane. Located approximately three miles from campus and within the City of Oviedo, this facility is privately owned. UCF uses this facility for physical education classes.

3) Econlockhatchee River Park and Canoe Trail, State Park. This facility is a resource-based recreation facility open to the public. The size of this regional facility is not available. The Trail provides access to the Econlockhatchee River.

4) Valencia East Campus facilities. These facilities are used primarily for physical education, intramural and intercollegiate sports and on-campus residential recreation. The facilities are also periodically rented and/or open to public use, as noted in the use column.

(1) FACILITY CODE #	DESCRIPTION	(2) Activity Based (in acres)			RESOURCE BASED (IN ACRES)		ESTIMATED USAGE
		TRACK & FIELD	COURT	SPECIAL FACILITY	ACTIVE	PASSIVE	
	Facilities Primarily Used by Intercollegiate						
1-1	Athletics Dept.	0.45					Varsity Team Fall & Spring & Youth Camps (13 Wks) +Community Rental Fall/Spring Practice + Youth Camp (7Wks.) Fall/Spring Practice + Youth Camp (2 Wks) Fall/Spring Practice + Youth Camp (2 Wks.) Varsity Practice Varsity Games + Community Rental
1-2	Varsity	1.28					
2-1	baseball field	6.33					
2-2		2.72					
3-1	Varsity baseball	3.46					
3-2	practice field	9.20					
4	Varsity football field #1	Included in 3-2					
5	Varsity football field #2			2.30			
	Varsity (lower) soccer practice field						
	Varsity soccer game field						
	Competition track						
	Arena courts (5 basketball or 5 volleyball)						

							Track & Cross Country Practice + Varsity Meets + Rental Men & Women Varsity Basketball practice & Home Games + Varsity Volleyball & Games + Youth Camps (10 Wks.)
	SUBTOTAL	29.44	0.00	2.30	0.00	0.00	
6 7 9-1 9-2 11 13 15 18	Facilities Primarily used for Recreation Recreation & Wellness Center Lake Claire recreation area Intramural softball field #1 (lighted) Intramural multi-purpose grass field (5 football or 4 soccer) Outdoor basketball courts 3 (lighted) Sand Volleyball courts 4 (lighted) Swimming Pool	 2.75 9	 1.5 1.00	 2.00	 4.45		Campus Recreation Scheduled reservations for Campus & Research Park Groups + Individual Use Year-round Campus Recreation Use + Intramural Tournament & Community Use Year-round Reservations + Intramural Football/Soccer (16 Wks.) + Sport club Games & Practice Campus Recreation Use

	(lighted) Sport Club field RWC Park Turf Field Challenge Course	2.72	0.90	4.83 need			Campus Recreation Use + Campus & Intramural Tournaments Open Space and Recreation Special Events Sport Club Areas and Practices Intramural Sports, Sport Club, Campus Recreation and Community Reservation Use Student group and community reservations
	SUBTOTAL	17.07	32.4	3.02	20.37	0.00	

21 23 24	Facilities shared by physical education, recreation and intercollegiate athletics Tennis courts ~~6~~ 9 (lighted) Education building A. gymnasium (basketball, volleyball and scheduled events (3) B. Multi-purpose room (3) C. Weight room (3) Recreation Building		2.43	2.66 0.84 4.42			Varsity Practice & Meets Fall & Spring + Intramural Tournaments + Campus Recreation + Youth Tennis Camp (2Wks.) + tennis club practice & Meets Sports + Clubs +Intramural Sports + Varsity Volleyball Practice & Games + P.E. Classes P.E. Classes (40 +hrs./Wk.) + Combat Arms Club (12 Hrs./Wk.) P.E. Classes
	SUBTOTAL	0.00	2.43	7.92	0.00	0.00	

Level of Service Standard

Based on a review by the National Intramural Recreational Sports Association (NIRSA) the following level of service standards are presented for comparison purposes:

Field Space: 0.94 acre of space per 1000 students

Indoor Space Example: Total Fitness Equipment Space: 1,008 sq. ft. per 1,000 students

Collegiate College Comparisons (Indoor Recreation Space)

A. National schools similar in size

• University of Texas at Austin	50,006	370,000 sq. ft.
• Ohio State University	53,715	725,000 sq. ft.
• Texas A & M	48,029	346,000 sq. ft.

B. Florida Schools

• Florida State University	39.047	136,000 sq. ft.
• University of Florida	51,413	136,000 sq. ft.
• University of Miami	15,323	114,000 sq. ft.
• University of South Florida	46,174	125,000 sq. ft.

UCF 2008 Fall Headcount: 50,254 students
1 acre per 2,680 students (Field Space)
85,000 sq. ft. (indoor recreation space)
10,000 sq. ft. of Total Fitness Equipment Space
(200 sq. ft. per 1000 students)

Analysis Requirements

This section discusses the problems, constraints and opportunities to provide recreation and open space facilities which meet the future demand of the University. As indicated by the Level of Service standards, UCF currently has a lower existing level of service for recreation space than do the NIRSA standards or other universities with similar enrollment. In addition to the LOS standard, it is important to look at the Recreation planning principles outlined by the NIRSA and Society of College and University Planning through a joint effort. The planning principles include:

- Establish recreation as a pillar of the University's comprehensive plan
- Create and maintain a vision of physical development of recreational facilities, a vision which supports the mission and master plan
- Instill a real sense of community and enrich the experience of all who come to campus
- Foster a safe and secure environment

Summary

The 85,000 sq. ft. Recreation and Wellness Center (RWC) along, with the leisure pool, tennis courts, and sand volleyball complex, challenge course, RWC Park playing fields, artificial turf fields and support facilities help to support the recreation needs of the UCF community. Additionally, current expansion plans to add approximately 45,000 sq. ft. of indoor space on the south end, 4 acres of additional turf field space, and additional

enhancements at Lake Claire will help to bring the Recreation space closer to the level that is desired, based on national standards, use demands, and comparisons to other universities.

Existing recreation facilities still remain insufficient to support the current and future needs of UCF and its student enrollment. Various student groups are unable to use facilities due to the lack of, or overuse of, them.

In addition to the number of facilities available, several other factors need to be considered to increase facility sufficiency. These include scheduling, extension of playing time, seasonal demand, recovery time and flexibility of fields or courts to be used for various kinds of activities.

Overall, UCF is currently below the national guidelines and standards for activity-based recreation facilities. This can be supported in comparison to schools with similar enrollment that have much larger facility space. As the campus continues to grow, more land will be needed for buildings, parking and activity-based recreation facilities. Future resource-based recreation and open space must be carefully developed utilizing spaces formed between buildings.

Recommendations for Improvement

Based on UCF observations, student surveys, and data available through the “Space Planning Guidelines for Campus Recreational Sport Facilities,” published by NIRAS, the following specific list of problems, constraints and opportunities were identified:

1. The Lake Claire Recreation Area is in need of repair and enhancement. Boathouse storage space at the Lake Claire Recreation Area is currently not adequate to hold the equipment stored. A total overhaul of the boathouse facility there is needed to assure proper gear and boat storage techniques; to create more secure storage space; and to create a boathouse that is both fitting to the area’s aesthetics and that allows its staff to serve students more efficiently.

   Current event space is inadequate for Lake Claire’s growing participant use. Larger covered meeting space with appropriate seating and restrooms is required to meet the growing needs of the student population. Structures such as the pump structure, gazebo, and sidewalk must be removed or relocated to open up the field space. Increased efforts must also be placed toward the landscaping of the recreation area, not limited to introducing more flora and replacing the current sod in the grassy space.

   Currently, the parking lot at the Lake Claire Recreation Area is composed of dirt and gravel, bordered by movable blocks of wood. To pave and paint this lot would be to eliminate the constant fixing of potholes, and to create an efficient and defined parking system.

There are a few unmaintained trails through the woods behind Lake Claire. The condition of these trails is questionable, and they are not regularly maintained. To keep with the progress and aesthetics of the trails created by the Arboretum, these trails would need to be extended, maintained, and connected with current on-campus trails.

2. The Recreation and Wellness Center helps to serve the recreation needs of the UCF community. The 85,000 sq. ft. facility will be expanded by 2010 to add 45,000 sq. ft., including more fitness space, multipurpose court space, racquetball courts, a new lap pool, and an outdoor adventure center. These additions are welcome, but still leave UCF with inadequate square footage. The current site will need to be built out with a completion of the footprint to serve the needs of the UCF community.

3. Nine (9) tennis courts shared by the entire campus are insufficient. Additional courts should be provided and determined by the number of users. NIRSA standards indicate .41 tennis courts per 1,000 students, which would make UCF 12 courts short of the 21 needed.

4. The total number of current fields has improved with the addition of multipurpose artificial turf. Planned expansion of additional fields will get UCF closer to recommended standards and allow for maximized playing time. Future space must remain protected to allow for additional fields for sport clubs, as multiple outdoor teams currently share one space that is not adequate and not lighted.

5. It must be noted that UCF currently has a severe shortage of softball fields. UCF currently has one (1) field, and NIRSA standards call for 8 (.15 fields per 1000 students). As recent as 2000, UCF had three (3) fields, but that has decreased to one (1) due to various construction projects. Due to the unique size of a softball field and space requirements, space for more than one (1) additional field on the current RWC park footprint does not exist. Additional space on campus or adjacent to campus should be identified.

6. A gateway building is desired at the RWC park location to provide additional indoor administration and storage space, as well as to provide a central access point to enter the park.

7. Concern is expressed for any gap in reduction in service during expansion. This is a result of the severe need for recreational space for a residential campus.

    a) An analysis of the projected needs for recreation and open space facilities required to meet the needs of the future University population (faculty, staff, and students) based on University standards and calculations or established level of service standards.

The University of Central Florida outdoor recreation facilities are currently limited with regard to student use and number of facilities. Looking at the student population, number of intramural sports offered, number of sport clubs, and ideal standards for usage, the number of fields at UCF are over capacity. The future expansion of intramural fields in the south section of the campus will allow increased capacity, and more flexibility for field rotation to avoid compaction and abuse. Calculations used to assess facility sufficiency take into consideration a number of factors. These factors include variety of fields (club sports, intramural sports, or open recreation), frequency of use, student enrollment, and unique layout diminishing the flexibility for use (i.e., softball field). The methodology used for determining the number of fields an institution needs for appropriate recreation use is based on a number of factors. The general standards, as recommended by the National Intramural Recreational Sports Association (NIRSA), are .94 acre per 1000 students enrolled. Additionally, the number of fields can be adjusted based on number of teams, type of field (natural or synthetic surface), and appropriate field lighting. Presently at UCF there are 15 intramural sports that use outside fields, some with up to 250 teams, and nine sport clubs. Current field space includes 15 acres of unlighted grass fields (with the exception of one softball field) and 4.83 acres of lighted turf fields. Natural grass fields should ideally be programmed 18 to 24 hours in any given week, with very few limitations on the turf fields. The current turf fields provide for additional usage, however since their completion, the size of intramural leagues have more than doubled – pushing usage again to the limit. While these new facilities have added more space, available facilities for softball and sport clubs continue to be insufficient.

b) An assessment of the adequacy of the existing recreational facilities and open spaces to meet the projected needs of the University (on-campus, and off-campus), including a description of the extent to which off-campus facilities may meet some or all of the University projected needs.

   The 1995 plan highlighted the condition of the swimming pool, the need for an all-purpose recreation facility, the provision of lighting existing fields in order to extend use, additional tennis courts, and a more efficient layout of fields and corresponding support facilities. The Recreation and Wellness Center, located by the Academic Village, has benefited the campus and helped alleviate many of the shortfalls identified in the 1995 plan. Additionally, the construction of a new leisure pool, a new lap pool, the addition of turf fields, and additional tennis courts, also help to address previous concerns

c) An assessment of opportunities for alternative future facility siting in order to conserve the supply and character of campus open space.

The south end of campus, near the Academic Village, is an appropriate site for the expansion of future recreation facilities and allows for the consolidation of support facilities. The existing footprint of the Recreation and Wellness Center can hold up to 200,000 sq. ft. and should continue to be built out in phases as funding is available. There is also a desire to add indoor recreation to the north end of campus to serve that population, once the south side is built out completely.

d) An analysis of planned future recreation and open space facilities, as adopted by the host community in their comprehensive plan or other best available data.

Orange County Parks and Recreation Division is in the process of finalizing its two-year Capital Improvements budget, which includes the expansion of the Little Econ Greenway Trail. The next planned phase, subject to Board of County Commissioners' approval, will extend east from its current terminus at Blanchard Park, then north to the south entrance of the University (Central Florida Blvd.). The University will coordinate with Orange County regarding specific alignment and amenity details of the trail.

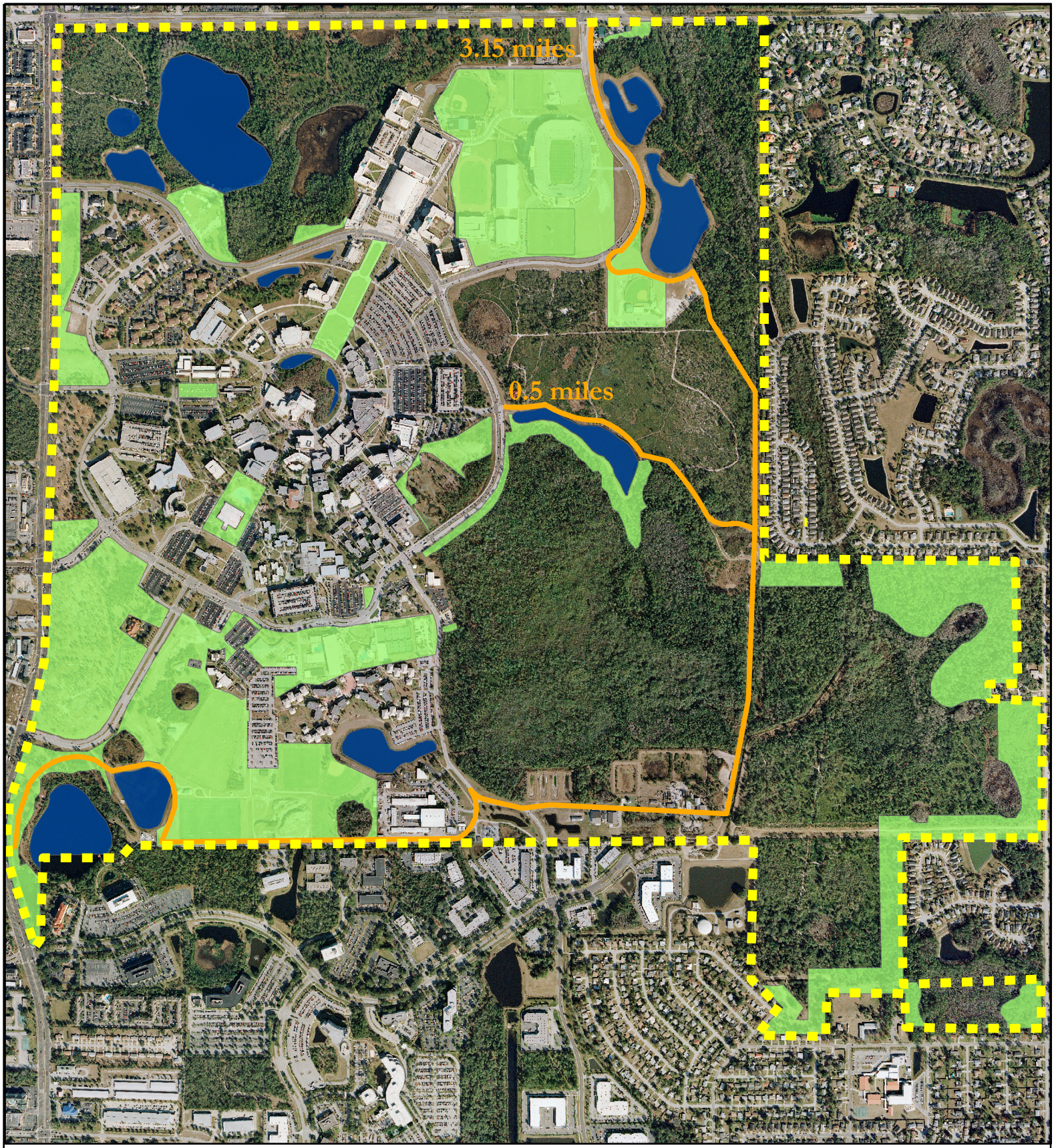

Figure 8-1

Recreation and Open Space

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Recreation and Open Space
- Lakes
- Proposed Little Econ Greenway Trail
- Boundary

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,000 2,000 4,000 Feet

Rev 20091102

2.9 General Infrastructure Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

STORMWATER MANAGEMENT

GOAL 1: Base the future development of the UCF campus on the provision of an on-site stormwater management system which, to the extent possible, provides for adequate system capacity to protect campus populations and facilities, while remaining sensitive to the natural functions and environmental attributes of the campus' native plant and animal communities.

OBJECTIVE 1.1: To correct existing stormwater permitting deficiencies, if any by modifying the existing St. Johns River Water Management District (SJRWMD) stormwater master permit.

POLICY 1.1.1: The University shall continue to implement the SJRWMD approved UCF Stormwater Master Plan. The University's Facilities Planning Department shall be responsible for the continued permitting of the stormwater management system. The plan shall continue to recognize a variety of implementation priorities to (1) eliminate existing system deficiencies, if any; (2) maintain the existing system; and (3) expand the system to accommodate new drainage needs. A stormwater permit data bank shall be maintained to monitor modifications and additions to the permit from ongoing design and construction projects. Such monitoring data shall be electronically maintained and provided to all staff, consultants and reviewing agencies, as requested.

POLICY 1.1.2: UCF shall design and construct stormwater management ponds, as necessary, during the planning period. The proposed location of these ponds is identified in the master stormwater permit. The timing and phasing requirements and priorities for these stormwater management improvements are driven by the Capital Improvements Element.

OBJECTIVE 1.2: To base future development on the UCF campus on a finding of adequate stormwater management system capacity to accommodate the proposed development.

POLICY 1.2.1: Any future development on the UCF campus which increases the amount of impervious surface area shall be approved per the provision of an on-site drainage system which serves the proposed development area under one or more of the SJRWMD permitted level of service standards:

1. Building finished floor elevations shall be a minimum 1' above the measured/calculated 100 floodwater elevation.
2. Stormwater quality treatment shall be on a basin-by-basin basis. Basin stormwater ponds will provide treatment per the following: greater of (a) 2.5” times the area of impervious surface; or (b) the calculated first 1” of runoff for the basin. Post development stormwater discharge from the campus shall be less than the predevelopment discharge rate for the 25 year / 24 hour storm event as determined per the approved SJRWMD Master Stormwater Plan. Since the campus is located within the Econlockhatchee River Basin, the post development peak rate of discharge shall also be less than or equal to the mean annual 24 hours storm event that occurred at the time of the initial SJRWMD permit.

POLICY 1.2.2: Any proposed increase in campus impervious surfaces shall be implemented only upon a finding that existing facility capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the time of need. In this respect, the University shall maintain a record of existing and committed impervious surface areas relative to the agency approved permit maximums, as amended.

POLICY 1.2.3: Pursuant to the SJRWMD regulatory permit requirements, the University's Stormwater Management Sub-Element shall continue to take into account those off-site stormwater flows which travel through the campus' wetlands and drainage basins.

POLICY 1.2.4: The University shall rely upon the stormwater system permitting criteria and processes of the SJRWMD to coordinate drainage issues with off-campus entities.

OBJECTIVE 1.3: To protect natural drainage system functions by (1) generally prohibiting development within the campus' existing jurisdictional wetland areas; (2) by maintaining a common pre-post development rate and volume of stormwater discharge for newly developed areas; and (3) by maintaining or reestablishing normal wetland hydro-period elevations through the year 2020.

POLICY 1.3.1: The UCF Facilities Planning Department shall be charged with reviewing all proposed development projects to ensure that increases in impervious surface can be accommodated in the capacity of the existing and/or committed drainage system.

POLICY 1.3.2: It shall be the policy of UCF that no stormwater discharges may cause or contribute to a violation of water quality standards in waters of the state.

POLICY 1.3.3: UCF shall continue to mitigate University-generated stormwater and to minimize stormwater-borne pollutants through the implementation of a system of Best Management Practices (BMPs), which includes, but is not limited to:

- Incorporating stormwater management retention and detention features into the design of parks, trails, commons and open spaces, and building rooftops where such features do not detract from the recreational or aesthetic value of a site.
- Using of slow release fertilizers and/or carefully managed fertilizer applications timed to ensure maximum root uptake and minimal surface water runoff or leaching to groundwater.
- Educating maintenance personnel about the need to maintain motor vehicles to prevent the accumulation of oil, grease and other fluids on impervious surfaces, where they might be conveyed to surface and groundwaters by runoff, and the need to collect and properly dispose of yard debris regularly.
- Avoiding the widespread application of broad spectrum pesticides by involving only purposeful and minimal application of pesticides, aimed at identified targeted species.
- Coordinating pesticide application with irrigation practices to reduce runoff and leaching to groundwater.
- Incorporating features into the design of fertilizer and pesticide storage, mixing and loading areas that are designed to prevent/minimize spillage.

POLICY 1.3.4: The University shall seek out every opportunity to prioritize the use of stormwater, as follows:

1. Irrigation from existing stormwater ponds
2. Reclaimed water from the Iron Bridge
3. Minimization/elimination of ground water usage

POTABLE WATER SUB-ELEMENT

GOAL 2: Negotiating obtaining potable water from Orange County Utilities (OCU) for the entire campus. This will occur through the existing connection for Alafaya Trail to the Booster Pump Station located next to the International Student Center. This connection currently serves the Academic Villages, Recreation & Wellness Center, International Student Center and the Barbara Ying Center.

OBJECTIVE 2.1: To ensure that adequate potable water supply and distribution piping is available for both new- and re-developed facilities.

POLICY 2.1.1: The University shall periodically design and construct potable water system improvements to (1) eliminate existing system deficiencies; (2) maintain/improve the existing system characteristics; and (3) expand the system to accommodate increased fire flow and/or consumptive needs until an agreement can be reached with OCU. Upon final agreement, the University will continue to correct deficiencies in the piping system and maintain that piping system and its associated valves.

POLICY 2.1.2: The campus water system shall have redundancy built into the supply and distribution network. This can be achieved by multiple water plant sources (i.e., Orange County and the Central Florida Research Park) and by multiple raw water wells. Interconnects with various utilities are desired for their capability to be used in emergencies.

POLICY 2.1.3: Future increases in campus consumptive uses, whether residential or non-residential-related, shall be approved only upon a finding that existing potable water treatment and distribution facility capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecast future time of need.

OBJECTIVE 2.2: **To meet adopted levels of service for potable water system fire flow and consumptive capacity to accommodate the proposed demand for future development on-campus.**

POLICY 2.2.1: Future development on the UCF campus which increases the demand for potable water shall be approved on the provision of a potable water distribution system which serves the proposed development under one or more of the following level of service standards:

1. Fire flow pressures of 20 psi residual for 2 hour sprinkler system flow
2. Fire flow volumes of approx. 1,000 gpm (ordinary to light hazard buildings) to 2,500 gpm (assembly occupancies and higher hazard buildings) Note: This is occupancy specific and must be accounted for in the design phase of all new projects.

3. Category demands according to the following:

Offices	0.03 gpd/sf
Classrooms	0.06 gpd/sf
Common areas	0.11 gpd/sf
Res. Halls	70 gpd/bed
Frat./Sororities	0.25 gpd/sf

OBJECTIVE 2.3: To maintain the current quality and quantity of raw water available in the campus' potable water well field.

POLICY 2.3.1: The UCF potable water treatment and distribution system shall be primarily oriented to the needs of the campus and secondarily oriented to the needs of off-campus consumers. The University shall make every effort to cooperate with the SJRWMD with respect to the consideration and implementation of existing and future regional groundwater management strategies.

POLICY 2.3.2: UCF shall continue to require low-flow and low-flush plumbing appurtenances in all new building construction.

POLICY 2.3.3: The use of "xeric" landscaping techniques, including the maintenance or installation of selected vegetation species, low volume irrigation and compact hydra-zone concepts, shall be a required element of all new building and ancillary facility construction by the year 2015.

POLICY 2.3.4: The University shall comply with the water conservation plan, the re-use practices, the landscape irrigation plans, and all other conditions in accordance with its consumptive use permit.

SOLID WASTE SUB-ELEMENT

GOAL 3: The future development of UCF shall be based on the provision of a solid waste on-campus collection and off-campus disposal system which adequately serves the future campus population needs and to the maximum extent feasible, protects the function and quality of the surrounding natural environment.

OBJECTIVE 3.1: Ensure that future development on the UCF campus is based on a finding of adequate solid waste collection and disposal capacity to accommodate the future demand, which may call for new systems to be evaluated and installed, if necessary, such as to accommodate a composting system.

POLICY 3.1.1: Future development on the UCF campus which increases the demand for waste collection and disposal shall be approved under the provision of a solid waste collection and disposal system which serves the future development under one or more of the following level of service standards:

1. Multiple weekly collections,
2. Approximately one pound per day per FTE student,

POLICY 3.1.2: As necessary and appropriate, UCF shall continue to participate in the regional solid waste management waste reduction and facility planning strategies undertaken by Orange County. Such activities will include continued recycling efforts for paper, glass, metal and plastics as currently collected on-campus.

POLICY 3.1.3: The University shall continue to rely upon private vendors to collect and convey the campus' solid waste to area disposal sites. As part of the campus development process, the University's Office of Facilities Planning or the Physical Plant shall be responsible for coordination with the waste vendor to establish the appropriate dumpster sizing and pick-up scheduling for new campus development areas. This coordination activity shall also include the appropriate planning actions for the siting and scheduling of recyclable materials dumpsters.

POLICY 3.1.4: UCF shall continue to rely upon Orange County's solid waste facility planning efforts for plant expansion.

POLICY 3.1.5: Future increases in campus generating uses - whether residential or non-residential related - shall be approved only upon a finding by the University that existing solid waste disposal capacity is already on-line to accommodate the increased need, or that additional capacity will be funded and on-line at the forecasted future time of need. The University offices of Facilities Planning and Physical Plant shall be responsible for the review of all development proposals and perform the appropriate periodic coordination efforts with Orange County to determine that solid waste capacity is available.

SANITARY SEWER SUB-ELEMENT

GOAL 4: Ensure that the future development of UCF is based on the current configuration of a combination of gravity and forced main sewer system that adequately serves the current and future campus population.

OBJECTIVE 4.1: To maintain its current sewer system and upgrade the mechanical and electrical components, as needed and as funds are available.

POLICY 4.1.1: The University shall establish as implementation priorities to (1) upgrade existing sewer infrastructure as new structures are constructed; (2) maintain the existing collection & distribution system; and (3) expand the system to accommodate increased demand.

STORMWATER ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:

1) Existing conditions, based on the facility design capacity and the current demand on the facility capacity:

The University is divided into four major drainage basins (Basins 1 through 4). Each of these basins is further divided into sub-basins as shown in Figure 9-1. The master plan and subsequent stormwater permit were generated in the early 1990s, based on projected development within the campus. Modifications have been made to the master permit as a result of changes in the projected growth and development of the campus.

The University currently maintains a master stormwater permit from the St. Johns River Water Management District (SJRWMD). This master permit allows for development within designated stormwater basins as it relates to an approved additional impervious area within each basin. Currently, the permitted impervious impacts are monitored by University staff and an independent consultant to insure that the capacities listed in the permit are not exceeded. The University will maintain a current record in plan and table format of existing stormwater facilities and the current permitted impacts. These documents would be made available to any staff, consultant or regulatory agency, as requested, to review existing conditions and plan for future development. Attached is a current table (March 2007) showing the drainage sub-basins and the available impervious area in each sub-basin that is still available for development. This information, along with plan data, is maintained by the University's civil engineer, and is updated as new developments impact the current data.

Per recommendation of SJRWMD and public input, the University has reviewed existing development on campus and has updated the amount of impervious area coverage on campus. The required changes to the

SJRWMD permit will be implemented through a permit modification to the Master Permit.

2) The end of the planning time frame, based on the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

b) The general performance of existing stormwater management facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources:

The current stormwater system is functioning in accordance with the existing master permit. Stormwater quality treatment shall be on a basin-by-basin basis. Basin stormwater ponds will provide treatment per the following: greater of (a) 2.5” times the area of impervious surface; or (b) the calculated first 1” of runoff for the basin. Post development stormwater discharge from the campus shall be less than the predevelopment discharge rate for the 25 year / 24 hour storm event as determined per the approved SJRWMD Master Stormwater Plan. Since the campus is located within the Econlockhatchee River Basin, the post development peak rate of discharge shall also be less than or equal to the mean annual 24 hours storm event that occurred at the time of the initial SJRWMD permit. Currently, several major construction projects are in-progress which are permitted under the master stormwater system. These projects will impact data on the attached table and will require additional reviews of future developmental impacts not discussed in this report.

The existing stormwater system is in good condition. The life expectancy of the structural elements of the stormwater system is expected to exceed 25 years. Routine maintenance of stormwater facilities is required to meet this life span.

The discharge points for this master system were selected based on pre-developed conditions in an effort to minimize impacts to adjacent natural resources. The University has made extensive efforts to reduce impacts to adjacent resources, including reducing the allowable impervious area of any sub-basin to levels below permitting thresholds, maintaining and enhancing existing wetlands systems by incorporating them into the master drainage

system, and restricting post development discharge rates to pre-1985 rates, while providing water quality control.

c) An analysis of the problems and opportunities for stormwater management facility expansion or replacement to meet projected needs of the University.

The University may need to modify the existing master permit to accommodate for future expansion in several sub-basins. The modifications may include the transfer of available impervious areas from one sub-basin to another. The water management district has been receptive to this transfer, provided the final outfall conditions remains the same and additional treatment is provided in higher pollutant-loading areas.

d) Analysis of existing regulations and programs which govern land use and development of natural stormwater management features, including the strengths and deficiencies of those programs and regulations in maintaining the functions of natural stormwater management features.

The existing stormwater permit (MSSW) from SJRWMD was modified in 2004 under ERP number 4-095-20026-29, which was subsequently modified in December 2004 under ERP number 4-094-200-26-31; January 2005 under ERP number 4-095-20026-39; and July 2007 under ERP number 4-095-20026-66 to accommodate proposed construction not anticipated in the original application. Due to changes in SJRWMD regulations, the March 2004 modification included changing the MSSW permit to an Environmental Resource Permit (ERP). The entire process for the modification took approximately nine (9) months. One outcome of the revised March 2004 permit was that SJRWMD will no longer accept letter modifications for individual projects on campus, and all projects are now required to obtain a General ERP.

Current regulations require stormwater runoff to be “treated” prior to discharging into any natural wetland or water body. The University has maintained a stormwater management facility which accommodates these requirements and exceeds SJRWMD criteria for preservation. The stormwater system was also designed to maintain pre-permitted drainage patterns, providing natural hydration to each wetland system, therefore supporting appropriate biological functions. Because the biological function of the existing wetlands was considered in the original permitting design, the University should also consider habitat enhancements for these wetlands and

other transitional (buffers) areas. These enhancements may potentially be done as a part of an academic study program.

UCF STORMWATER MASTER PLAN
IMPERVIOUS AREA STATUS REPORT

Date: 3/12/2009

Overall Plan Status:

Basin (1) I.D.	Drainage Area (2) (AC)	Existing Imperv. Area (3) (AC)	Impervious Area This Submittal (4) (AC)	Total Imperv. Area Allowed (5) (AC)	Remaining Imperv. Area Allowed (6) (AC)
1-B	1.45	0.44		0.44	0.00
1-C	0.61	0.00		0.00	0.00
1-D	64.74	24.63		29.82	5.19
1-F	15.81	5.99		7.92	1.93
1-G	57.82	0.00		0.00	0.00
2-B	2.81	1.80		1.80	0.00
2-C	0.57	0.00		0.00	0.00
2-D	23.24	0.00		0.00	0.00
2-E	23.57	0.00		0.00	0.00
2-H	164.52	72.75		74.00	1.25
2-H3	32.53	0.00		16.50	16.50
2-Z	50.62	0.00		0.00	0.00
3-A & 3-Aa	130.04	38.79		51.00	12.21
3-Z	13.95	0.00		0.00	0.00
4-B(Pond)				34.13	
4-B(provided in 4-R)				3.02	
4-B Totals	65.34	35.65		37.15	1.50
4-F	35.24	20.51	0.04	26.61	6.06
4-L	122.86	48.79	0.01	53.09	4.29
4-M	12.97	8.17		8.17	0.00
4-R	115.84	30.53		56.00	25.47
4-S	4.83	2.07		2.34	0.27
4-Z	221.69	6.32		0.00	(6.32)
4Z-a	5.67	1.95		3.05	1.10
FDOT	2.50	1.20		1.20	0.00
TOTALS	1169.22	299.59	0.05	366.07	69.45

Completed ponds permitted and or proposed to be entirely constructed:

Ponds 1-F, 2-H, 4-B, 4-M, 4-S & 3-A have been completely constructed. Impervious areas may be constructed up to the amount noted, without additional permitting.

Portions of Ponds Permitted and Completed or Under Construction:

Ponds 4-L and 4-R have been partially constructed. The area of each pond and impervious area allowed prior to additional expansion or permitting is as follows:

Pond ID	Existing Pond Permitted Maximum Imp. Area (ft)	Existing Imp. Area Constructed (ac)	Imp. Area This Submittal (ac)	Revised Imp. Area (ac)	Future Imp. Area Allowed prior to Lake expansion (ac)
1-D	26.25	24.63	0.00	24.63	1.62
2-H3	0.00	0.00		0.00	0.00
4-M	5.52	8.20	0.00	8.20	0.00
4-R	43.83	30.53	0.00	30.53	
4-B(provided in 4-R)	3.02	2.13	0.00	2.13	
4-R Totals	46.85	32.66		32.66	14.19

Note: Existing impervious under basin 4R includes excess impervious area built in basin 4-B

NOTES:

(1) Basin I.D. as indicated in the Approved stormwater master plan permit dated 3/9/04
(2) Proposed drainage area as indicated in Approved stormwater master plan permit dated 3/9/04
(3) Indicates the permitted impervious area (as of June 2004) which exist within each basin.
(4) Impervious area proposed (not to exceed values in Approved stormwater master plan permit dated 3/9/04)
(5) Total impervious area allowed for basin based on the stormwater master plan pond design.
(6) Remaining impervious area allowed within basin based on the 2010 stormwater pond design.
(7) Pond 4-M is proposed to be expanded with this application to meet SJRWMD regulations.

PREPARED BY HARRIS CIVIL ENGINEERS

O:\PROJ\60000005\UCF Permits\Permit Mods\2009-04 Impervious Area Status Report Libra Turn Lane.xls

1 of 1

POTABLE WATER ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity.

   UCF operates and maintains its own potable water distribution system that serves most of the main campus. There are four wells that pump water from the Floridian aquifer to a storage tank at the utility plant. Each well has a capacity of approximately 500 gpm. The design capacity of this system is approximately 1,500 gpm based on using three of the four wells during normal operating conditions. The system uses a series of high service water pumps and an above ground storage tank to maintain consistent pressure and provide fire flows when necessary. UCF upgraded its potable water distribution system by installing 16 inch looped water mains in 2000-2002. This improved the capacity of the system to meet fire- and potable-demands. Also, the upgrade included connecting to the Orange County Utilities system for water supply that feeds the Academic Villages and the Recreation & Wellness Center (buildings # 88 and 101-115). These buildings are supplied potable water via an OCU 24” main on the south of the campus. Appropriate pressure is supplied by the OCU system and is augmented by the booster pump station (building # 307) that contains 4 high volume pumps, a generator, and automated controllers. A corrosion control system was eliminated in 2002, along with the gaseous chlorine injection system used for disinfection. It was replaced with a liquid sodium hypochloride injection system and therefore eliminated the need for a corrosion control system.

2. The end of the planning time frame, based on the projected demand at the current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

   St. Johns River Water Management District has issued a Consumptive Use Permit (3202) based on current and projected demands for water through 2013. The permit will expire October 14, 2013.

At the end of the planning time frame, the irrigation water demand from the potable system should be negligible. UCF is in the process of removing irrigation water from this system and providing reuse water from the Iron Bridge Waste Water Treatment Plant for all the irrigation needs on campus. The removal of this demand from the potable system will create the excess capacity within the already upgraded system to provide domestic and fire flow demands for expansions shown in this planning period or until the University receives its entire potable water form OCU.

By year 2010, the projected water demand, based on student populations, is as follows:

40,800 on-campus students x 5 gal/day per student = 204,000 gpd

7,200 off-campus students x 85 gal/day per student = 612,000 gpd

TOTAL DEMAND IN YEAR 2010 = 816,000 gpd

The UCF water plant has a daily capacity of approximately 1,500 gpm x 1,440 min./day = 2,160,000 gpd. Because of the magnitude of this distribution system and the fact that irrigation water should be removed by year 2010, a peak factor of close to three times the actual daily use is sufficient for the period being evaluated.

Seminole County provided a portion of the funding used to construct the necessary apparatus to increase the on-campus capacity of effluent water to two million gallons per day. This has decreased the potable water demand for irrigation, while increasing the potable water availability to the campus.

b) The general performance of existing potable water facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.

Existing potable water facilities will be more than sufficient until 2015 or until the University obtains its potable supply from OCU. The UCF water plant was constructed in 1968 but has received periodic upgrades since then. A project to upsize the water feed lines from the wells was completed in 2002. The booster station (bldg. 307) was constructed in 2001 and should not need

significant repair or upgrades throughout the planning period. When practical, as new construction expands the existing distribution facility, water main dead ends should be extended to a second tie-in point to provide two directions of service for any given point in the system.

In addition, the existing system consists primarily of PVC piping which has a life span in excess of 50 years. Isolated, older sections of piping will require replacement within the study period; however, the location and extent of replacement will need to be studied in more detail based on maintenance records.

c) An analysis of the problems and opportunities for potable water facility expansion or replacement to meet projected needs of the University.

Potable water facility expansion or replacement should be considered with each new building constructed. Potable water supplies remain generally available on the main UCF campus through the 2010-2015 planning period. However, some areas of campus still do not have water piping in the immediate vicinity. Also, some future buildings will likely require more water volumes at higher pressures than is currently available. Engineering studies on the campus as a whole, and on project-specific water requirements, should continue. For building construction of three (3) stories or more, the need for additional booster pumps may be required to meet the necessary fire flows.

d) A description of the campus underground hydrology, including its potential for use as a potable water source:

> The drinking water for the UCF campus originates from the vast Floridian aquifer, which supplies about 60 percent of Florida's drinking water. This source of drinking water is common within the Central Florida area. This source will be able to provide the required water needs during this study period.

In addition, UCF, as a part of the past upgrade, tied the existing distribution system into an offsite water main. This tie-in provides the additional water needed for water supply to Academic Villages, Recreation & Wellness, and the Multi Cultural building. Currently it is a backup for emergency fire fighting if campus water drops below 25 psi. This additional source of potable water will

reduce the University's dependence on campus well water as the only source for drinking water.

e) An analysis of existing local, state and federal regulations governing potable water systems:

> The current drinking water system is regulated by the Florida Department of Environmental Protection under Chapter 175 of the Florida Administrative Code and Section 403 of the Florida Statues. The state regulations are in addition to the federal "Safe Drinking Water Act," which establishes national standards for drinking water.

The water treatment plant operator at UCF is certified by the state. In addition, the Department of Environmental Protection oversees and regulates the water treatment facility. DEP requires that UCF send in a monthly report which details daily chlorine residuals at the plant and remote areas, number of gallons produced, and bacteriological results of well's and building's water samples.

As additions are made to the water distribution system, permits are required from the Florida Department of Environmental Protection. These permits insure that the new distribution piping meets current regulations regarding quality construction, water and long term maintenance. The University has been routinely acquiring these permits as needed.

SANITARY SEWER SYSTEM ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies.

1) The University pumps all campus effluent to the Iron Bridge Waste Water Treatment Plant. This allows the University to increase the available wastewater capacity without additional expenditures. The Master Lift Station has the capacity of 1.728 mgpd.

2) Existing lift stations will need to be analyzed as projects are implemented to determine the need to upgrade the pumps within the system. These stations may also be upgraded during routine maintenance procedures in

order to increase efficiency and expand available capacity within the existing system.

a) GENERAL PERFORMANCE

The existing gravity and pumping systems are functioning as designed. Both systems appear to be in good condition and only periodic maintenance is anticipated based on current flows.

b) PROBLEMS AND OPPORTUNITIES

The lift station servicing the Arena area has been upgraded as a result of the growth in this vicinity. The wet well for this station was oversized to accommodate larger pumps required for this growth. Individual projects should analyze their impact on the system to determine the need to upgrade both gravity and pump station systems.

Additional pump stations and gravity sewer systems will be required for future growth, particularly in areas where there currently doesn't exist any such system. This would include the northwest corner of campus and the northeast corner, east of the Arena. These systems can be designed and installed on a project by project basis.

c) STATE AND FEDERAL REGULATIONS

The wastewater collection and transmission system is currently regulated by the Florida Department of Environmental Protection. On-site septic systems are regulated by the Florida Department of Community Affairs (through local Health Departments). Authority is granted these agencies by Chapter 17 of the Florida Administrative Code. The University is currently in compliance with all applicable codes under these agencies review.

SOLID WASTE ANALYSIS

a) A facility capacity analysis, by geographic service area, indicating surpluses and deficiencies for:

1) Existing conditions, based on the facility design capacity and the current demand on facility capacity.
The University provides for the collection of solid waste through service areas and solid waste dumpsters. Servicing of the dumpster system is through a private vendor under a continuing contract renewable at the discretion of the University.

The University also maintains a series of dumpsters designated for recycled materials. These materials include paper, glass, metals and plastics. Typically these dumpsters are co-mingled with standard trash dumpsters.

Virtually all of the University's solid waste is disposed of at the Orange County Landfill. This is a class 1 landfill which uses the "high-rise" method of layering the refuse material above the groundwater table. This landfill services Orange County and some smaller municipalities outside the county.

2) The end of the planning time frame, based the projected demand at the current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility capacity.

The size and location of waste disposal facilities will be determined on individual project requirements. These requirements should be then incorporated into the master collection and disposal program under the existing contract. There is no limit on the amount of refuse going to the landfill since the producer pays as they generate the waste.

b) The general performance of existing solid waste collection and disposal facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.

Current waste collection sites on campus are removed, to the extent possible, from pedestrian traffic and visual contact. Collection sites are typically screened or removed from view for aesthetic purposes. Vehicular access to

the collection sites should be multipurpose in that additional parking, deliveries and emergency access and storage areas are incorporated along this route.

The system of using outside vendors has been satisfactory over the previous five years and is meeting current expansion needs. The continued out-servicing of this contract for waste collection appears to be in the University's best interest

c) An analysis of the problems and opportunities for solid waste collection and disposal facility expansion or replacement to meet projected needs of the University.

As the University grows, the solid waste collection system needs to be studied further to identify areas of opportunity to combine facility locations and thus reduce the overall number of collection sites on campus. In addition, as a possible research program for recycled waste, the University should encourage the available academic community to study possible recycle and resource recovery systems, such as composting and material sorting, to reduce offsite disposal volume and costs associated with this disposal method.

d) An analysis of existing local, state and federal regulations governing waste disposal systems.

UCF currently contracts with a third party to collect and dispose of waste generated by the University. This contract addresses the need for the vendor to dispose of these materials in accordance with current laws. Hazardous wastes generated by the University are collected and disposed of under separate contracts specifically for the removal of this material.

UCF also has in place a recycling program in accordance with state and federal laws mandating such programs. The recyclable materials include paper, plastic, glass and metals. Special dumpsters also recycle cardboard materials for off-site disposal.

e) An assessment of opportunities or available and practical technologies for the reduction, recycling and re-use of solid waste generated by the University.

Investigation of emerging technologies to address this issue is encouraged.

With the rapid expansion of computer network systems, the use of electronic data transmission and storage should significantly reduce the amount of solid paper waste on campus. The University should study opportunities to reduce other forms of waste generation through the use of current technologies.

f) An analysis of the terms of any agreements for the collection and/or disposal of University-generated solid waste, including allocated capacity and duration of service.

Identify any future limitations on University development resulting from these factors.

The existing contracts provide the University with collection, transmission and disposal of solid waste. The contract allows the University to renew or terminate based on satisfactory performance of the vendor. As recycling of new waste products becomes available to the public, the University will want to re-negotiate the existing contract or include these items in future contracts.

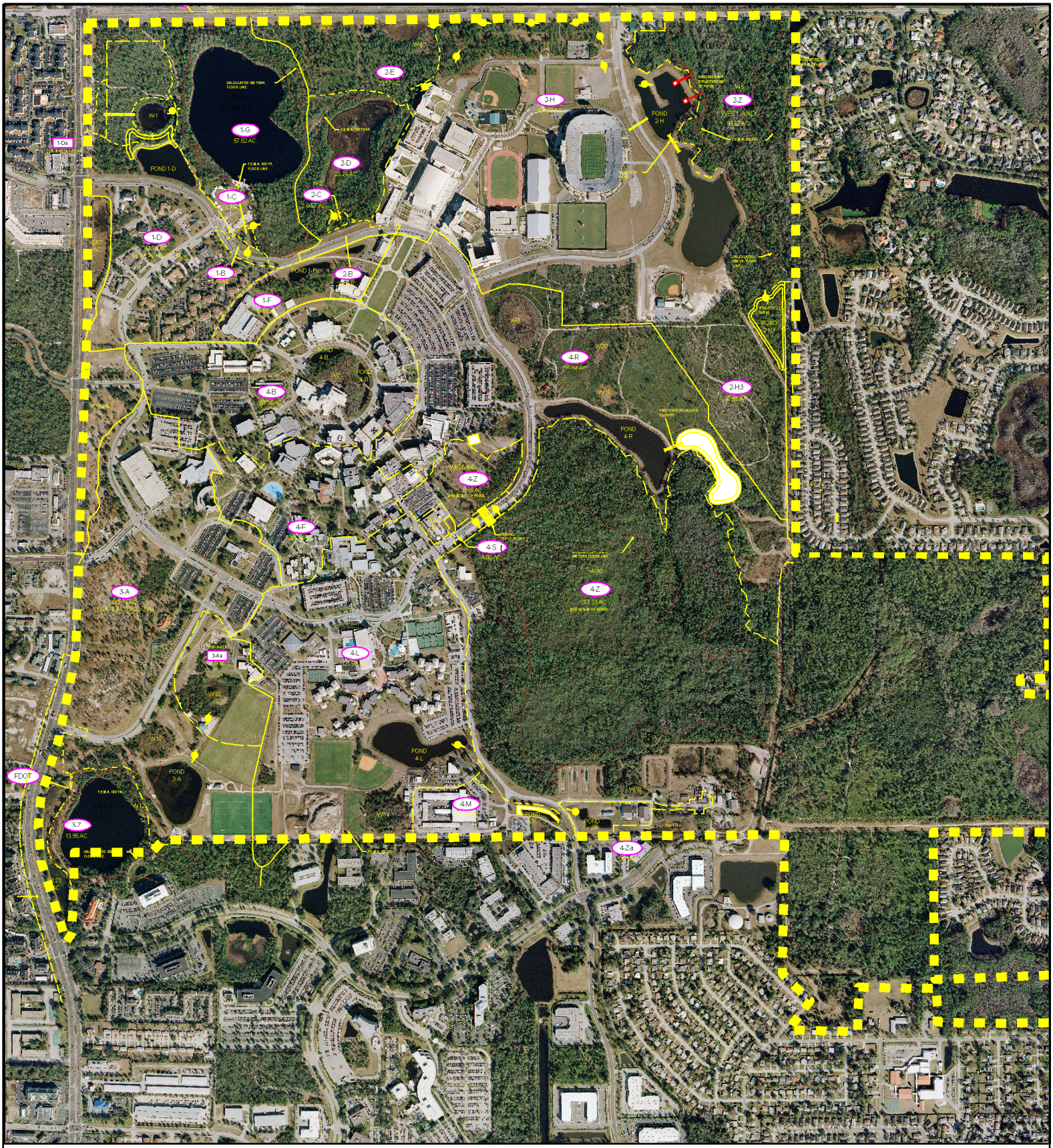

Figure 9-1

Stormwater Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- 3-Aa — Sub-basin
- 4-L — Basin
- Boundary
- Existing Stormwater Structures/Culverts
- Drainage Sub-basin Divides
- Drainage Basin Divides
- Direction of Surface Flow
- Drainage Divides
- Proposed Stormwater Structures/Culverts
- F.E.M.A. 100 Yr. Flood Line
- Calculated 100 Yr. Flood Line

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20091030

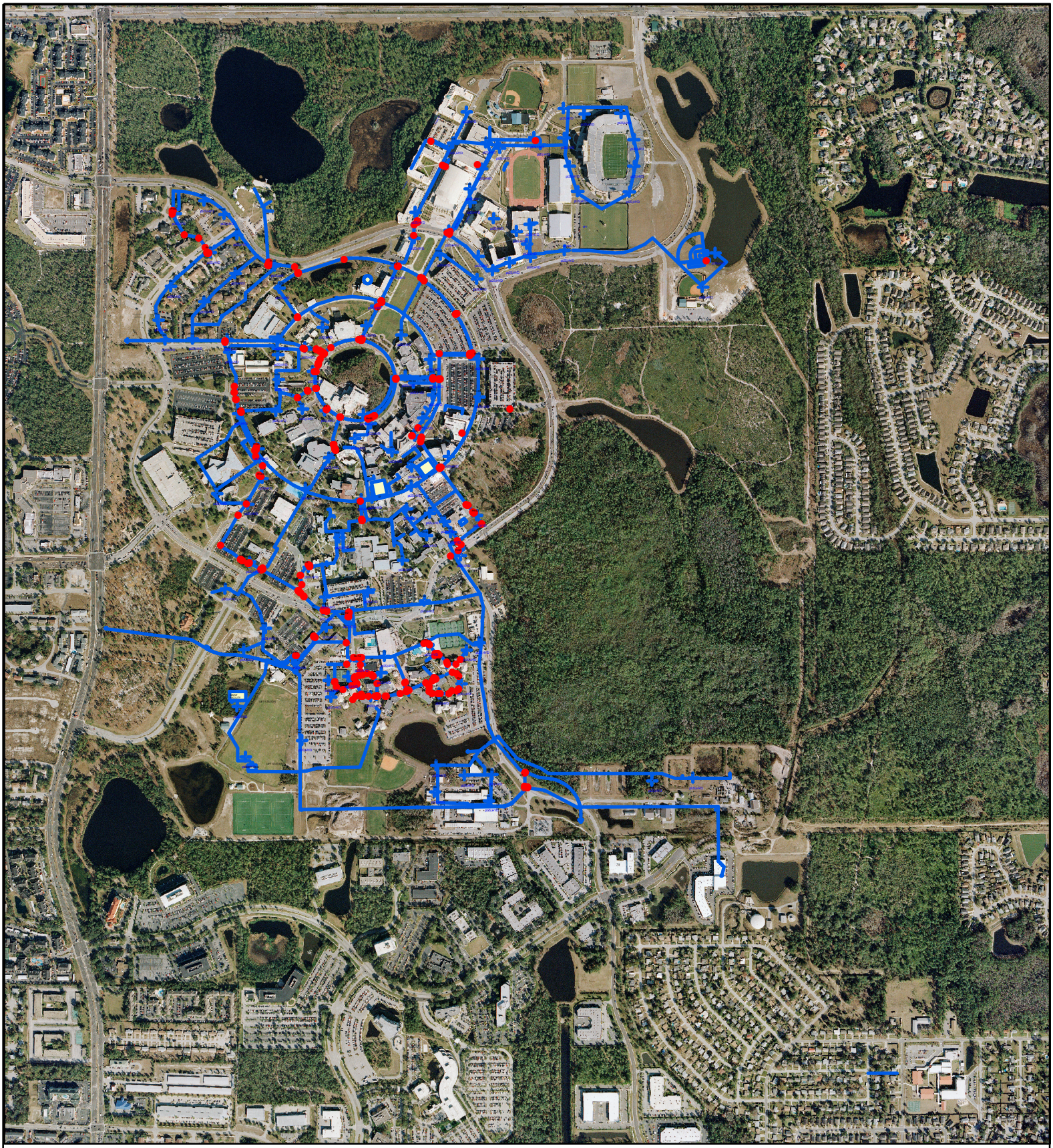

Figure 9-2

Potable Water Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Existing Water System
- Hydrant

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090617

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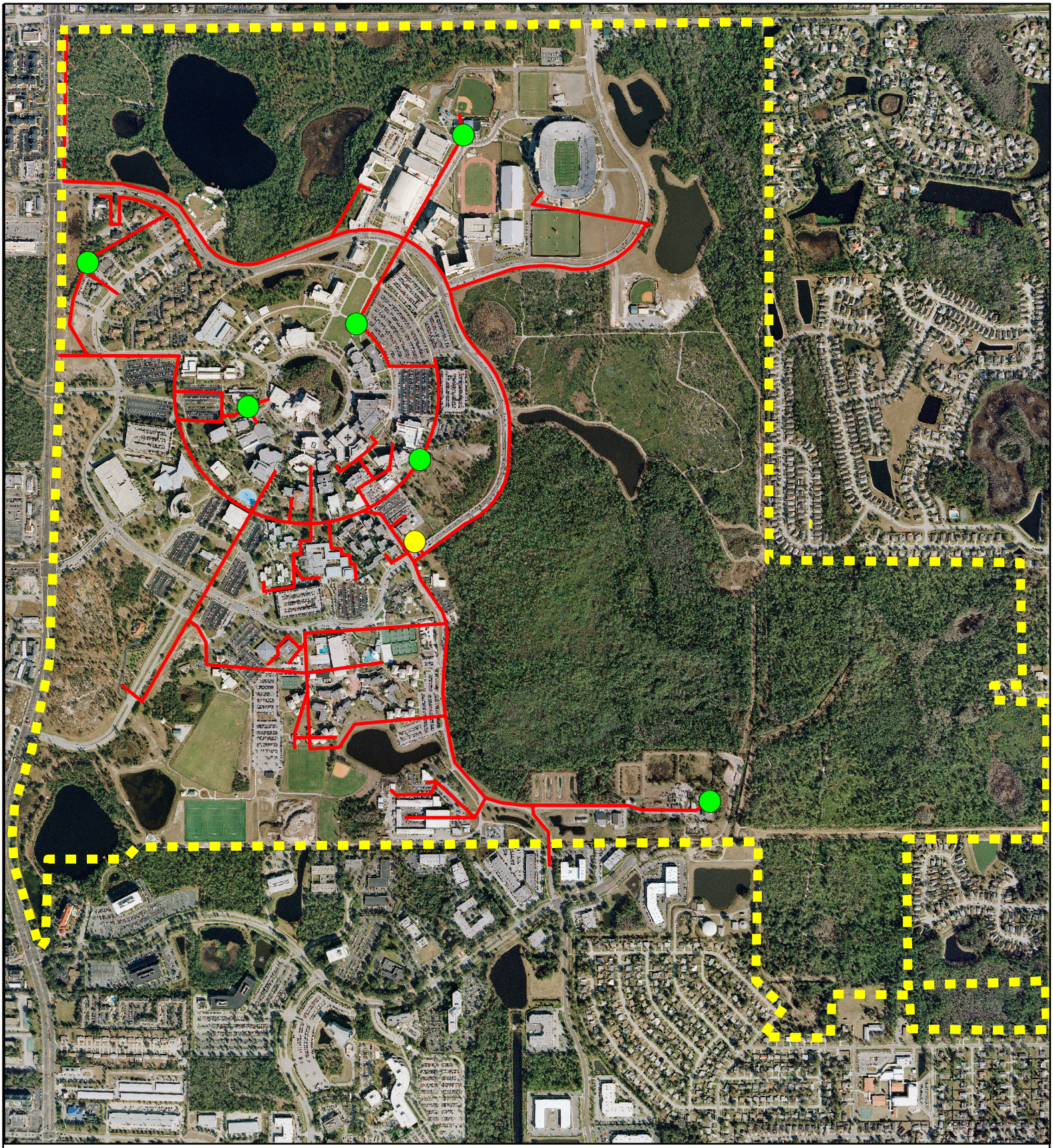

Figure 9-3

Sanitary Sewer Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Lift Station
- Master Lift Station
- Boundary
- Existing Sanitary Sewer Line

0 1,000 2,000 4,000 Feet

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090622

2.10 Utilities Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

CHILLED WATER SUB-ELEMENT

GOAL 1: Ensure that the future development of UCF is based on the provision of an on-campus chilled water generation and distribution system, which adequately serves the future campus population needs.

OBJECTIVE 1.1: To base future development on the UCF campus on a determination that there is an adequate chilled water generation and distribution system capacity to accommodate the proposed demand.

POLICY 1.1.1: Future development on the UCF campus which increases the demand for chilled water generation and distribution capacity shall be approved under the provision of a system which serves the future development under the following level of service standards:

1. Under the existing campus-wide average service conditions, one (1) ton of plant capacity per 250 square of building floor area, or

2. A finding that future additional building design loads might be accommodated under the available generation and distribution system parameters.

POLICY 1.1.2: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas; (2) the maintenance of 1,000 tons of residual plant capacity for emergency back-up purposes; (3) expansion of the existing plant generation and distribution system capacity in order to serve more efficiently the existing demand; (4) maintenance of sufficient capacity to provide for the orderly and balanced equipment maintenance; and (5) expansion of a plant and distribution system capacity to serve new development areas/buildings.

POLICY 1.1.3: UCF shall be solely responsible for the provision, maintenance and continued operation of a chilled water system to serve the campus building needs.

POLICY 1.1.4: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan and in Capital Plans/Programs to stage the construction of an expanded chilled water system, such that the expanded system is on-line at the time of the projected increased demand. This process shall be the responsibility of

the Facilities & Safety, AVP Office. It shall be the responsibility of the Physical Plant Chilled Water Production Unit to determine that sufficient plant and distribution system capacity is/will be available at such time any new building is proposed for construction.

POLICY 1.1.6: The University shall implement improvements to the chilled water distribution system as Capital Improvements and additional facilities are added.

POLICY 1.1.7: Based on a balancing of other competing objectives, the University shall continue to subscribe to a variety of active and passive energy management/conservation strategies. As currently practiced, such strategies may include building site orientation design, stringent building insulation standards and, as appropriate, variable air volume systems within buildings. The responsibility for administering these strategies shall fall to the Facilities & Safety departments of Sustainability & Energy Management, Facilities Planning and Physical Plant.

POLICY 1.1.8: The University is maintaining utilities CAD drawings and load spreadsheets in order to track existing loads and understand impacts of future building projects.

ELECTRICAL POWER AND OTHER FUELS SUB-ELEMENT

GOAL 2: Ensure that the future development of UCF is based on the provision of an on-campus electrical power and natural gas distribution system which adequately serves the future campus population needs.

OBJECTIVE 2.1: To identify and resolve any deficiencies in the servicing of electrical and natural gas power distribution systems through ongoing inspection and coordination efforts with service providers.

POLICY 2.1.1: The University shall coordinate with Progress Energy and Tampa Electric Company (TECO) Gas for the replacement of outmoded or deteriorating service linesand equipment.

OBJECTIVE 2.2: To ensure the provision of adequate electrical and natural gas services through the continued internal funding and coordination with external service providers.

POLICY 2.2.1: Facilities Planning and Physical Plant shall be responsible for the continued coordination of power supply services with Progress Energy and TECO Gas. To the extent feasible, it shall be the responsibility of these offices to determine that adequate plant and distribution system capacity is available to serve expanded needs and to avail promptly the

University funding officer of any needs for UCF funds for maintenance, expansion or replacement.

POLICY 2.2.2: Future development on the UCF campus which increases the demand for electrical power and/or natural gas or other fuels shall be monitored for maximum efficiency.

POLICY 2.2.3: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas; (2) maintenance of UCF owned power manhole and conduit system; and (3) expansion of the existing line distribution system capacity in order to serve existing demand more efficiently.

POLICY 2.2.4: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan, and on Capital Plans/Programs, to coordinate a staged expanded electrical system such as the expanded system on-line at the time of the projected increased demand. This process shall be the responsibility of the Associate Vice President for Administration and Finance (Facilities & Safety). It shall be the responsibility of the Physical Plant office to determine that sufficient plant and distribution system capacity is/will be available at such time any new building is proposed for construction.

POLICY 2.2.5: The University shall implement improvements to the electrical power and natural gas distribution system as additional facilities are added. The timing and phasing requirements and priorities for the provision of future electrical power and natural gas distribution system improvements are driven by elements identified in the Capital Improvements Element.

POLICY 2.2.6: Based on a balancing of other competing objectives and policies, the University shall, to the maximum extent feasible, continue to administer a variety of active and passive energy conservation strategies. As currently practiced, these strategies include appropriate building site design techniques, stringent building insulation standards and, as appropriate, zonal airflow and lighting systems. The responsibility for administering these strategies shall fall to Facilities Planning and Sustainability & Energy Management.

POLICY 2.2.7: The University shall install energy efficient equipment (i.e., electronic ballasts for fluorescent lighting fixtures, T-8 or T-5 lamps, etc.) in new buildings and when retrofitting existing buildings.

TELECOMMUNICATIONS SUB-ELEMENT

GOAL 3: Ensure that the future development of UCF is based on the provision of an on campus telecommunications system which adequately serves the future campus population needs.

OBJECTIVE 3.1: To continue to identify and resolve any deficiencies in the servicing of telecommunications systems through ongoing inspection and coordination efforts with service providers..

POLICY 3.1.1: The University shall continue to identify, upgrade, repair, and/or replace existing encased duct banks and telecommunications copper and fiber cables as additional facilities are added.

POLICY 3.1.2: The timing and phasing requirements and priorities for the provision of future telecommunication system improvements are driven by the Capital Improvements Element.

OBJECTIVE 3.2: To ensure the provision of adequate telecommunications facility services through continued internal funding of improvements and coordination with external service providers.

POLICY 3.2.1: The University's Offices of Computer Services and Telecommunications shall be responsible for the continued coordination of telecommunications infrastructure and services with off-site vendors and user groups. To the extent feasible, it shall be the responsibility of this office, the Facilities Planning Office and the Physical Plant to determine jointly that service capacity is available to serve expanded needs and to avail promptly the University funding officer of any needs for UCF funds for maintenance, expansion or replacement of such systems.

POLICY 3.2.2: The University shall establish as overall implementation priorities the following: (1) continued servicing of the existing campus built areas; (2) maintenance of the UCF owned TelecommunicationsUtility Vault (TUV) and duct bank system; (3) expansion of the existing telecommunications distribution system capacity in order to more efficiently serve existing demand; and (4) expansion of the telecommunications distribution system capacity, including the designation of future demarcation sites to link new development areas/buildings with on- and off-campus systems.

POLICY 3.2.3: The University shall rely upon the land use and building programs identified in the Comprehensive Master Plan, and on Capital Plans/Programs, to coordinate a staged expanded telecommunications system such the expanded system is on-line at the time of the projected increased demand. This process shall be the responsibility of the

Associate Vice President for Administration and Finance (Facilities & Safety).

2.10 Utilities Element
Data and Analysis
2010-2020 Campus Master Plan Update

CHILLED WATER PRODUCTION SUB-ELEMENT

a) The total plant capacity, including redundant systems is more than 13,000 TONS.

A new chiller, a new thermal storage tank and associated chiller piping are being installed as new buildings are added to the campus.

ELECTRICAL POWER AND OTHER FUEL SUB-ELEMENT

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies for:

1. Existing conditions, based on the facility design capacity and the current demand on facility capacity:

Progress Energy currently serves the majority of the campus via an underground loop system originating in the substation located at the south entrance of the campus.

Only a few buildings located on the north-west side of the campus (Lake Claire apartments and the fraternity/sorority houses) and the 475' tower located on the Southwest side of campus are not on this loop system, and are fed from the existing overhead distribution lines that Progress Energy PE owns along Alafaya Trail (SR 434).

Progress Energy also owns a substation toward the northeast side of campus on North Orion Blvd. and McCulloch Rd. This substation currently serves the entire northern part of campus and provides a total of four (4) "feeder" lines into the campus. Progress Energy has organized our power grid in that, if any feeder into campus is interrupted, automatic switch gears will shift to a different feeder to provide power to that area of campus affected by the loss.

2. The general performance of existing electrical power and other fuel facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility upon adjacent natural resources.

Progress Energy service appears to be performing well. No limitations on expected equipment life are known at this time.

3. An ongoing assessment of opportunities or available and practical technologies to reduce University energy consumption.

The University has been proactive in its approach to energy efficiency through lighting efficiency, occupancy sensors and remote capability for classroom lighting control in new facilities. Existing facilities are being retrofitted as quickly as possible. One new technology that is being used at the University is dimmable fluorescent lighting. This technology dramatically reduces the energy use in classrooms and eliminates lighting fixtures.

TELECOMMUNICATIONS SYSTEMS SUB-ELEMENT

a) A facility capacity analysis, by geographic service area, indicating capacity surpluses and deficiencies

1. Existing conditions, based on the facility design capacity and the current demand on facility

The telecommunications infrastructure consists of an underground network of encased duct banks and Telecom Utility Vaults (TUVs) interconnecting the majority of the buildings on campus, as well as the satellites hubs or nodes.

The main copper telephone trunk originates from existing Siemens and VOIP telephone switches located in the Library Building and other buildings (nodes) to all the existing and new facilities. The data systems are connected to the Computer Science Building (CSB) and other buildings (nodes) via fiber optics cable.

2. The end of the planning time frame, based on the projected demand at current level of service standards for the facility, projected student populations and land use distributions, and any available existing surplus facility

As the campus continues to grow, the demand for additional copper lines and fiber optic cables will rise, and the need for additional copper and fiber nodes throughout campus will have to be reviewed with the Computer Services and Telecommunication's Department. Also as technology keeps constantly changing, the need to review standards increases in the same fashion.

b) The general performance of existing telecommunications systems and facilities, evaluating the adequacy of the current level of service provided by the facility, the general condition and expected life of the facility, and the impact of the facility’s surroundings.

The level of service provided by the telecommunications appears to be quite high. This is a great accomplishment considering the rapid changes in this field.

c) An assessment of potential electromagnetic hazards resulting from facilities required to meet future telecommunications needs of the University, and an analysis of practical ways to mitigate such.

No hazards are known at this time.

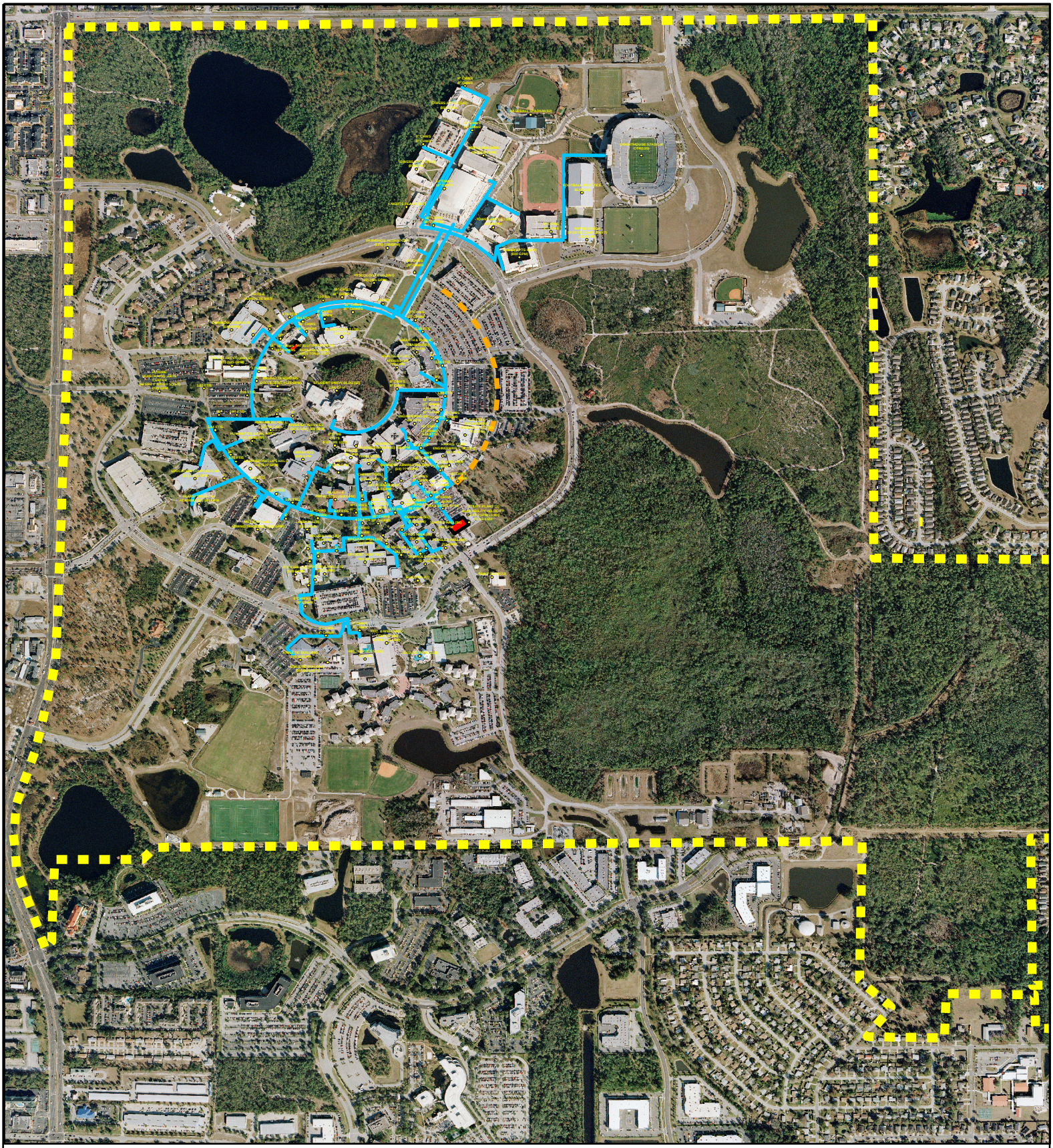

Figure 10-1

Chilled Water Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Boundary
- Proposed Chilled Water Line
- Chilled Water Lines
- Chilled Water Plant Buildings

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,000 2,000 4,000 Feet

Rev. 20090622

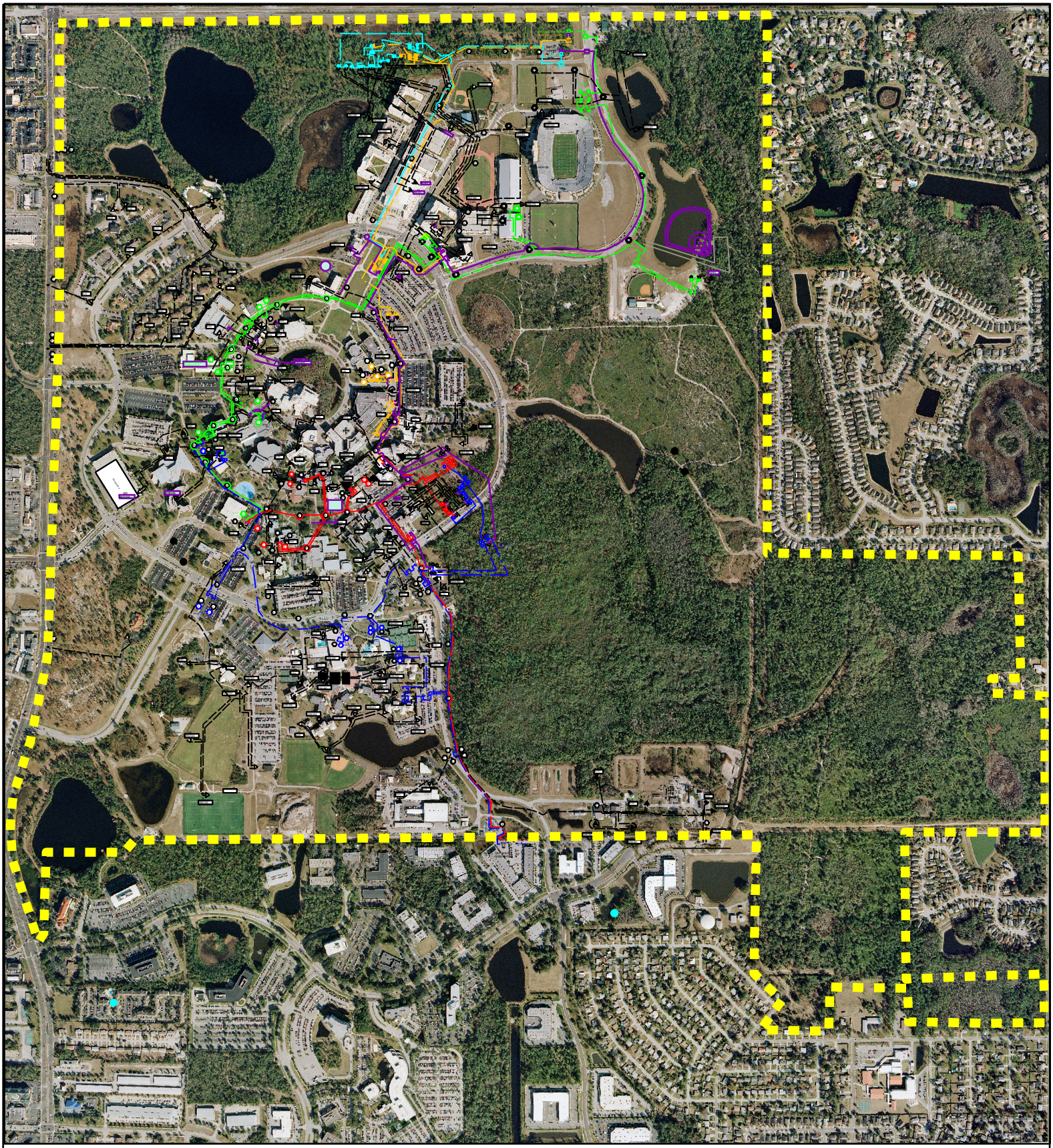

Figure 10-2

Electric Power Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

FEEDER 0940 — 0940 – VFI #1 — 0940 – VFI #2
FEEDER 0942 — 0942 – VFI #1 — 0942 – VFI #2
FEEDER 0982 — 0982 VFI #1 — 0982 VFI #2
FEEDER 1014 — 1014 VFI #1 — 1014 – VFI #2
FEEDER 1016 — 1016 – VFI #1 — 1016 – VFI #2
FEEDER 0989
FUSED CABLE SERVING TRANSFORMER
FUTURE CABLE

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

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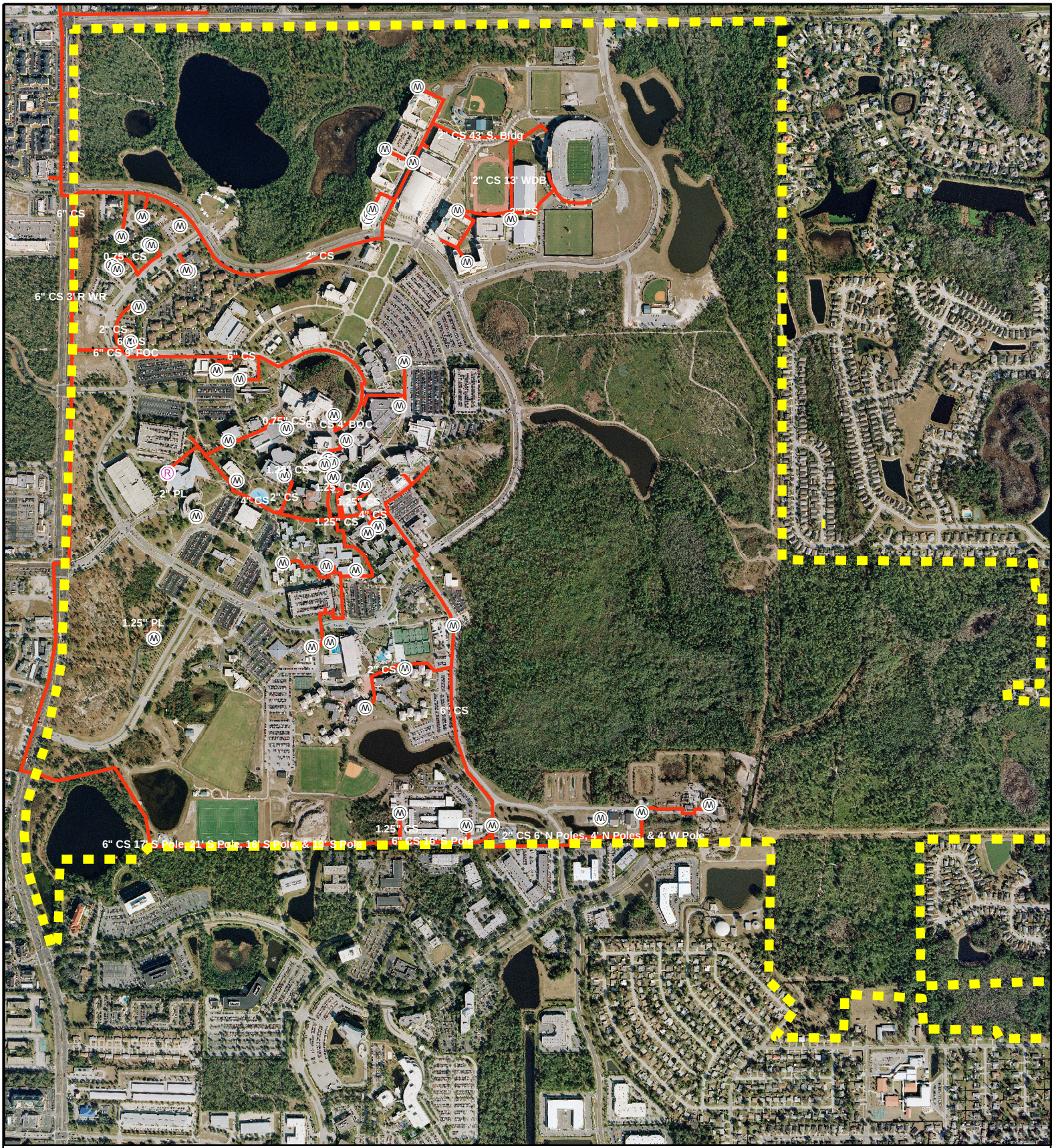

Figure 10-3

Natural Gas Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- 125' psi Existing Natural Gas Line
- 35' psi Existing Natural Gas
- Ⓜ Main
- Ⓡ Regulator
- Boundary

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090617

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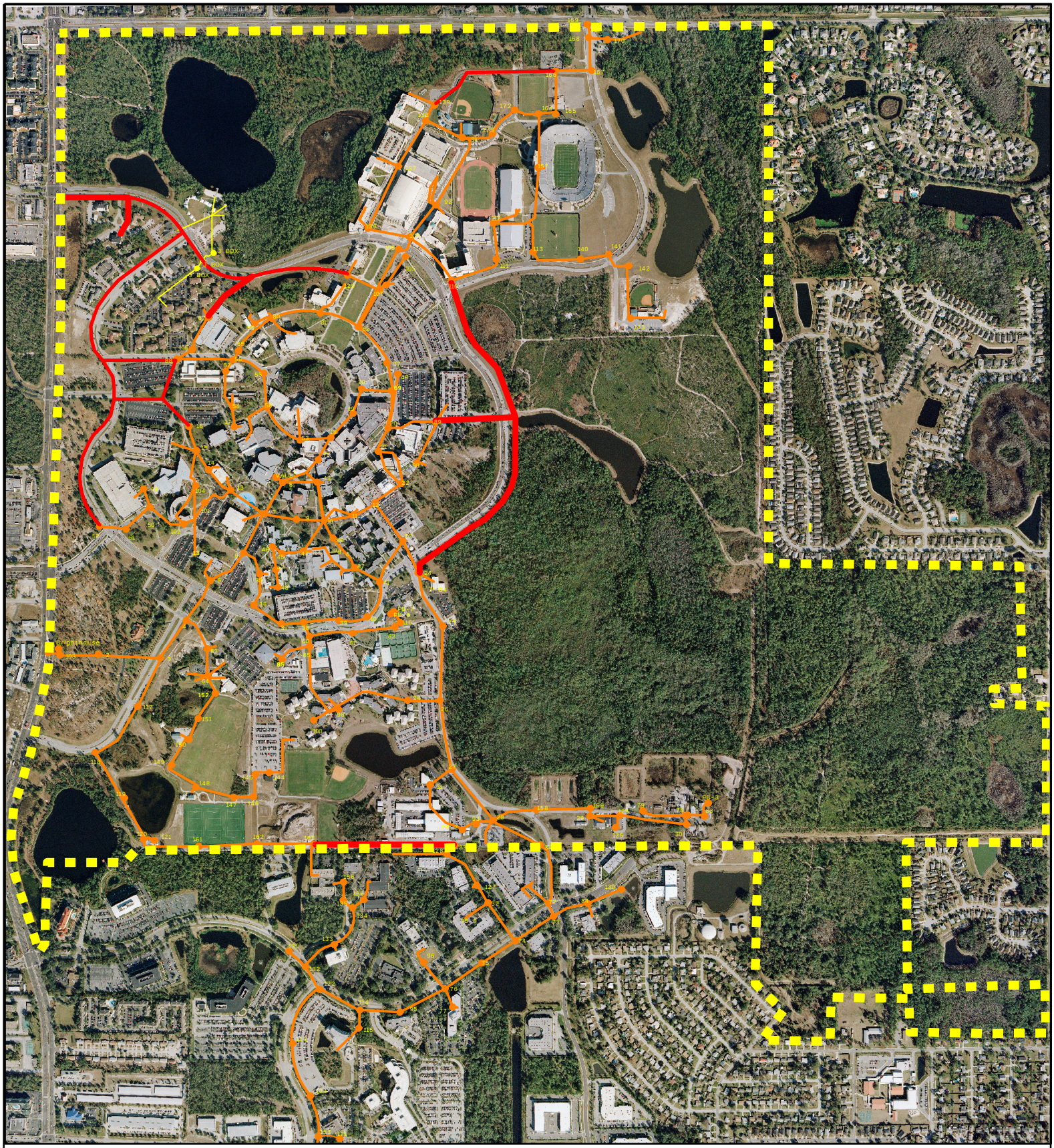

Figure 10-4

Telecommunications Facilities

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

Future Duct Bank

Boundary

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090622

0 1,000 2,000 4,000 Feet

2.11 Transportation Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: To plan for future motorized and non-motorized traffic circulation systems to ensure the provision of adequate transit, circulation, and parking facilities to meet future transportation needs.

OBJECTIVE 1.1: The University shall annually inventory and report parking demand, traffic demand, and traffic operating conditions.

POLICY 1.1.1: Parking utilization and parking space ratios shall be annually monitored by the University to determine that adequate parking is being provided.

POLICY 1.1.2: The University shall collect and report traffic data for on-campus roadways during the 5 year Master Plan Update process or as necessary

POLICY 1.1.3: On-campus traffic accident and safety-related data would be collected and reported as necessary. This information would continue to serve as a basis for identifying improvements necessary to reduce the number of accidents and improve campus safety.

POLICY 1.1.4: Every five years, the University Master Planning Committee and Office of Facilities Planning, together with appropriate faculty and administration, shall review all campus development plans for compliance with the Master Plan's criteria for parking, circulation, and access, as described in the Transportation Element.

POLICY 1.1.5: When financially feasible, the prioritization and timing of on-campus transportation infrastructure improvements shall be concurrent with the construction of campus land uses which impact existing and proposed campus infrastructure. All necessary on-campus roadways and parking facilities required to support the Campus Master Plan development program must be in place and operating with available capacity to accommodate new development impacts without degradation in operations below the minimum levels of service, as defined and adopted by the University.

POLICY 1.1.6: The University shall not widen any existing campus roadway beyond four lanes, and shall not widen existing two-lane roads within the 1,200-foot Radius Sidewalk, as defined in this Transportation Element.

POLICY 1.1.7: When financially feasible, the University shall maintain a minimum level of service of ”E” for all campus roadways, except when that level of service could only be accomplished by widening that campus roadway beyond the lane-widening limits identified in *Policy 3.3.2*.

POLICY 1.1.8: The University shall improve the internal circulation of the University. If acceptable and found to be consistent with the University's Capital Improvements Plan (CIP) and Future Land Use Element (FLUE), the University may widen Libra Drive to four lanes from Gemini Boulevard South to Research Parkway. Any impacts to designated environmentally sensitive areas shall be mitigated consistent with Conservation Element policies, the St. John's River Water Management District (SJRWMD) regulations, and any applicable state and local environmental regulatory agencies.

POLICY 1.1.9: The University shall encourage limited vehicular access to Gemini Boulevard and North Orion Boulevard by limiting the number of new driveways and attempting to consolidate access points, through the creation of cross-access and shared-access points between adjacent driveways.

POLICY 1.1.10: The University shall explore opportunities with the host local government, affected local governments, and the Florida Department of Transportation, as appropriate, to ensure that signalization and signal synchronization is available when needed to support roadway improvements or traffic operations.

POLICY 1.1.12: The northern connector road shall be limited to use for bicycles, pedestrians and the University's public transportation service, except during large sporting events or other special events on campus, during which time the University will permit vehicular traffic on this road.

OBJECTIVE 1.2: The University shall provide safe, adequate, accessible, and effective campus parking facilities.

POLICY 1.2.1: The University shall maintain effective lighting at parking facilities and locate landscaping with an emphasis on safety through the use of Crime Prevention Through Environmental Design (CPTED) standards.

POLICY 1.2.2: The University shall annually monitor campus parking through 2015 to maintain a student to parking space ratio range of 3.10:1 to 4.00:1.

POLICY 1.2.3: The University shall annually monitor visitor parking to establish and maintain sufficient visitor parking on-campus.

POLICY 1.2.4: Replacement parking budgets shall be an integral part of new construction budgets if the new construction displaces existing parking spaces. Funds allocated for replacement parking shall be considered on a case by case basis and included in the total construction costs.

POLICY 1.2.5: The University shall provide an additional 5,070 parking spaces through 2015, as identified in Figure 11-2. The timing, phasing requirements, and priorities for additional parking will be identified annually in the Capital Improvements Element.

GOAL 2: To create logical patterns of pedestrian and non-vehicular circulation systems which enhance the overall urban and social-academic quality of the campus.

OBJECTIVE 2.1: To continue to provide adequate on-campus pedestrian and non-vehicular circulation systems designed to meet the current and future needs of the University.

POLICY 2.1.1: Pedestrian crosswalks shall continue to be located, and enforced, at all points where pedestrian and other non-vehicular circulation crosses Gemini Boulevard, as well as at all access routes into campus. These crossings will continue to be evaluated by the University Administration and Facilities Planning to determine the appropriate level of pedestrian safety (traffic calming measures to pedestrian signalization) that should be provided.

POLICY 2.1.2: By 2015, the University shall study and generate feasible options for parking permits that restrict students from parking outside of residential parking areas in order to encourage increased pedestrian, cyclist, and transit usage.

OBJECTIVE 2.2: To annually review future pedestrian and non-vehicular circulation facilities for consistency with the Campus Safety Plan.

POLICY 2.2.1: The Offices of the Facilities Planning, Physical Plant, Environmental Health & Safety and the Chief of Campus Police and the Parking Services Director shall meet on a regular basis to ensure that provisions concerning pedestrian and non-vehicular circulation facilities are incorporated into the Campus Safety Plan and associated programs.

POLICY 2.2.2: The Offices of the Facilities Planning, Physical Plant, Environmental Health & Safety and the Chief of Campus Police and the Parking Services Director shall coordinate the development of programs and procedures to improve the safety of persons using pedestrian and non-vehicular facilities on campus. The adopted campus master plan shall be amended as needed to incorporate these new and revised programs and procedures.

OBJECTIVE 2.3: To annually review the need for additional lighting along pedestrian and non-vehicular circulation routes consistent with the recommendations contained within the Campus Safety Plan.

POLICY 2.3.1: The University shall include recommendations for type and location of future lighting requirements into the part of the Campus Safety Programs that addresses pedestrian and non-vehicular circulation systems.

POLICY 2.3.2: The Director of Facilities Planning, the Chief of Campus Police and the Physical Plant Director shall review all future plans for lighting along proposed

pedestrian and non-vehicular systems to ensure compliance with both the Campus Safety Plan and the adopted UCF Architectural Design Guidelines.

POLICY 2.3.3: Appropriate lighting systems shall be constructed concurrent with pedestrian and non-vehicular circulation systems.

GOAL 3: To develop a financially feasible multi-modal transportation system that integrates services provided by the public transit system (e.g.: the Central Florida Regional Transit Authority, a.k.a. LYNX) and the private transit system (UCF Knights Shuttle Service).

OBJECTIVE 3.1: To encourage the use of alternative modes of transportation and reduce dependence on the personal automobile.

POLICY 3.1.1: UCF shall continue active participation in the University/Alafaya Corridor Transportation Association (UACTA) to promote Transportation Demand Management (TDM) techniques both on-campus and in the context area around campus.

POLICY 3.1.2: The University shall implement, as appropriate, TDM strategies including, but not be limited to:

- Improved utilization of public or University-provided transit services;
- Improved pedestrian and non-vehicular facilities;
- Increasing the number of students living on or within walking/biking distance of campus;
- Academic scheduling modifications; and
- Operational improvements to the on-campus roadway system, such as additional signalization.
- Implementation of the Split Cycle Offset Optimization Technique (SCOOT) system on the on-campus roadway system, consistent with the operations of existing SCOOT system operation on off- campus roadways and through coordination with the affected local jurisdictions.

POLICY 3.1.3: By 2020, the University shall study the effectiveness of providing a high-occupancy vehicle parking incentive program that provides preferential parking treatment for automobiles carrying two or more persons.

POLICY 3.1.4: By 2020, the University shall coordinate with the host local government, LYNX, and affected local governments to establish campus-wide ridesharing and carpool programs for UCF students, faculty and staff.

POLICY 3.1.5: The University will continue to study the effectiveness of distance learning (Internet and Satellite campuses) as a technique to reduce the need for students to travel to the University.

POLICY 3.1.6: The University will continue to refine class scheduling, when feasible, as a method of mitigating peak-hour traffic conditions and to maximize utilization of existing transportation infrastructure investment.

POLICY 3.1.7: The University shall coordinate with the host local government and affected local governments concerning campus infrastructure development by submitting notice of development for review by the host community, as described in the Intergovernmental Coordination Element policies for reciprocal review, as appropriate.

POLICY 3.1.8: The University will coordinate with the Orlando-Orange County Expressway Authority (OOCEA) regarding future transportation improvements, as appropriate.

POLICY 3.1.9: The University will continue to coordinate with support completing an east-west parallel route to reduce congestion on University Boulevard.

POLICY 3.1.10: The University shall work with the host local government, affected local governments, and LYNX to evaluate other mobility options for reducing the dependence on the personal automobile, such as enhanced transit service from businesses and residences off-campus, and enhanced pedestrian and bicycle facilities. If any of these proves to be economically feasible and practical, the University shall amend the adopted Campus Master Plan, as needed, to incorporate these strategies into the overall transportation plan.

OBJECTIVE 3.2: To continue to improve future mobility options for UCF students, faculty, staff, and visitors by improving linkages between modes of travel.

POLICY 3.2.1: The University shall continue to encourage transit, bicycle, and pedestrian modes as a means of travel from residential areas and parking lots to other on-campus destinations.

POLICY 3.2.2: Visitor parking shall be connected to present and future walkways as well as the existing campus transit system.

OBJECTIVE 3.3: The University shall continue to facilitate safe and efficient multi-modal access to, from, and within the Campus, with an emphasis on maintaining traffic flow while minimizing conflicts.

POLICY 3.3.1: The University shall continue to monitor and improve ridership on its Shuttle Service through 2015.

POLICY 3.3.2: The University shall protect the restriction of general vehicular access to the campus core, as defined by the 1,200-foot Radius Sidewalk, unless vehicular access is deemed necessary to accommodate the University’s parking demand.

POLICY 3.3.3: The University shall continue to minimize campus vehicular and non-vehicular conflicts by continuing to explore opportunities for the siting of additional multi-modal centers, particularly in conjunction with major new parking facilities.

POLICY 3.3.4: The University shall continue to include provisions for bicycle lanes on newly constructed or improved on-campus roadways, where feasible.

OBJECTIVE 3.4: The University shall implement measures to improve transit service to, from and within the campus.

POLICY 3.4.1: The University shall continue to plan for future campus intermodal transportation terminals in conjunction with proposed parking facilities, as identified in Figure 11-2. The timing and phasing requirements and priorities for terminals would be identified in the Capital Improvements Element.

POLICY 3.4.2: The University, in conjunction with area public transportation systems and organizations, shall continue to enhance campus transit service to, from, and within the University.

POLICY 3.4.3: The University shall continue to identify residential concentrations of students to provide convenient transit routes used most by campus patrons and increase transit service on these routes by decreasing bus headways, developing additional new routes, or modifying existing routes, as deemed appropriate by the University.

POLICY 3.4.4: The University shall continue to provide bicycle racks on transit vehicles serving the University.

POLICY 3.4.5: The University shall survey students every five years through 2020 regarding transit, bicycle, and pedestrian services.

GOAL 4: To provide adequate access (vehicular and transit) to the Campus while continuing to coordinate required transportation improvements with local communities and appropriate planning agencies, as detailed in the Intergovernmental Coordination Element**.**

OBJECTIVE 4.1: To ensure the continued coordination of the University's transportation system improvements with the master plans and transportation improvement plans of the host local government, affected local governments, METROPLAN ORLANDO (the local Metropolitan Planning Organization), and the Florida Department of Transportation (FDOT).

POLICY 4.1.1: The University will continue to coordinate with the host local government and affected local governments regarding their proposed transportation improvement projects.

POLICY 4.1.2: The University shall continue to coordinate with the FDOT, the host local government, and affected local governments, and METROPLAN ORLANDO to evaluate strategies and improvements to meet the projected need for additional access to the UCF campus. The adopted Campus Master Plan shall be amended, as needed, to incorporate the results and of their evaluations.

POLICY 4.1.3: Proposed on-campus traffic circulation improvements are identified in the Capital Improvements Element.

OBJECTIVE 4.2: To continue to coordinate pedestrian and non-vehicular circulation systems with those developed by the host local government and affected local governments by reviewing their local comprehensive plans, bicycle plans, or pedestrian circulation plans and meeting with local governments, as necessary.

POLICY 4.2.1: The University shall continue to coordinate with the host local government and affected local governments regarding the implementation of sidewalk, bicycle paths and lanes, and safety-enhanced pedestrian crosswalks along all vehicular corridors adjacent or leading into and out of campus.

POLICY 4.2.2: The University shall continue to coordinate with the host local government, affected local governments, and the FDOT, as appropriate, to ensure that signalization and signal synchronization is available when needed to reduce pedestrian and non-vehicular traffic conflicts. Any new signals shall be interconnected with adjacent signals, as appropriate.

Table A

UCF Campus Roadway Level of Service Capacities
Average Daily Traffic

No. Lanes	Level of Service (for NON-STATE other signalized roadways[1])				
	A	B	C	D	E
2L	N/A	6,240	10,010	10,725	***
4LD	N/A	19,045	23,075	23,855	23,855

(1) FDOT Quality/Level of Service Handbook, 2009

Table B

UCF Campus Roadway Level of Service Capacities
Peak Hour Peak Direction

No. Lanes	Level of Service (for NON-STATE other signalized roadways[1])				
	A	B	C	D	E
1	N/A	332	533	572	572
2	N/A	1,014	1,228	1,274	1,274

(1) FDOT Quality/Level of Service Handbook, 2009

1.0 INTRODUCTION

Since its inception in 1963 as the Florida Technical University, the University has experienced tremendous growth to the point where it is now the second largest state university in Florida, based on enrollment. During the 2008 academic year the University had a total enrollment, including all campuses and web students of over 50,000 students. Current projections show the University's fundable headcount enrollment approaching 53,000 students at build-out by 2021.

This growing student population results in increased infrastructure demands in the form of new and improved roads, pedestrian walkways, bicycle facilities, transit improvements, and parking in the form of surface lots and garages. The University has already added significant transportation infrastructure to accommodate this growth. However, additional improvements will be required in order to keep pace with the University's growth.

The Transportation Element supports the Transportation Goals and Objectives and provides the collection and analysis of existing data. This analysis becomes the basis for measurable performance standards for the Goals, Objectives, and Policies. This supporting documentation is broken into three major sections. This first section inventories the existing transportation facilities within and surrounding the University, including roadway, transit and bicycle/pedestrian facilities, and documents the current operating conditions of these facilities. The second section details planned transportation infrastructure improvements within the University Campus, as well as those planned in the surrounding host community and state agencies. The second section also projects future operating conditions of the transportation system. The final section details recommended mobility strategies to mitigate projected impacts. The multimodal mobility plan will address the long-term horizon YR 2020.

The purpose of this, and all Transportation Elements, as stipulated by Florida Statute, is to plan and provide for a multi-modal transportation system, with an emphasis on the integration and coordination of transportation modes. The University of Central Florida maintains a network of internal roadways, as well as a fleet of nearly 30 shuttle buses that provide a critical transit mode to and from the campus. In addition, the University also maintains an extensive network of pedestrian and bicycle facilities on campus. The increasing demands placed on all of these systems by the rapid growth of the student population creates an even greater need to integrate and coordinate all available modes of transportation within and surrounding the campus. The area that will be examined by this transportation element is shown in the context area map in Figure 2.11-1.

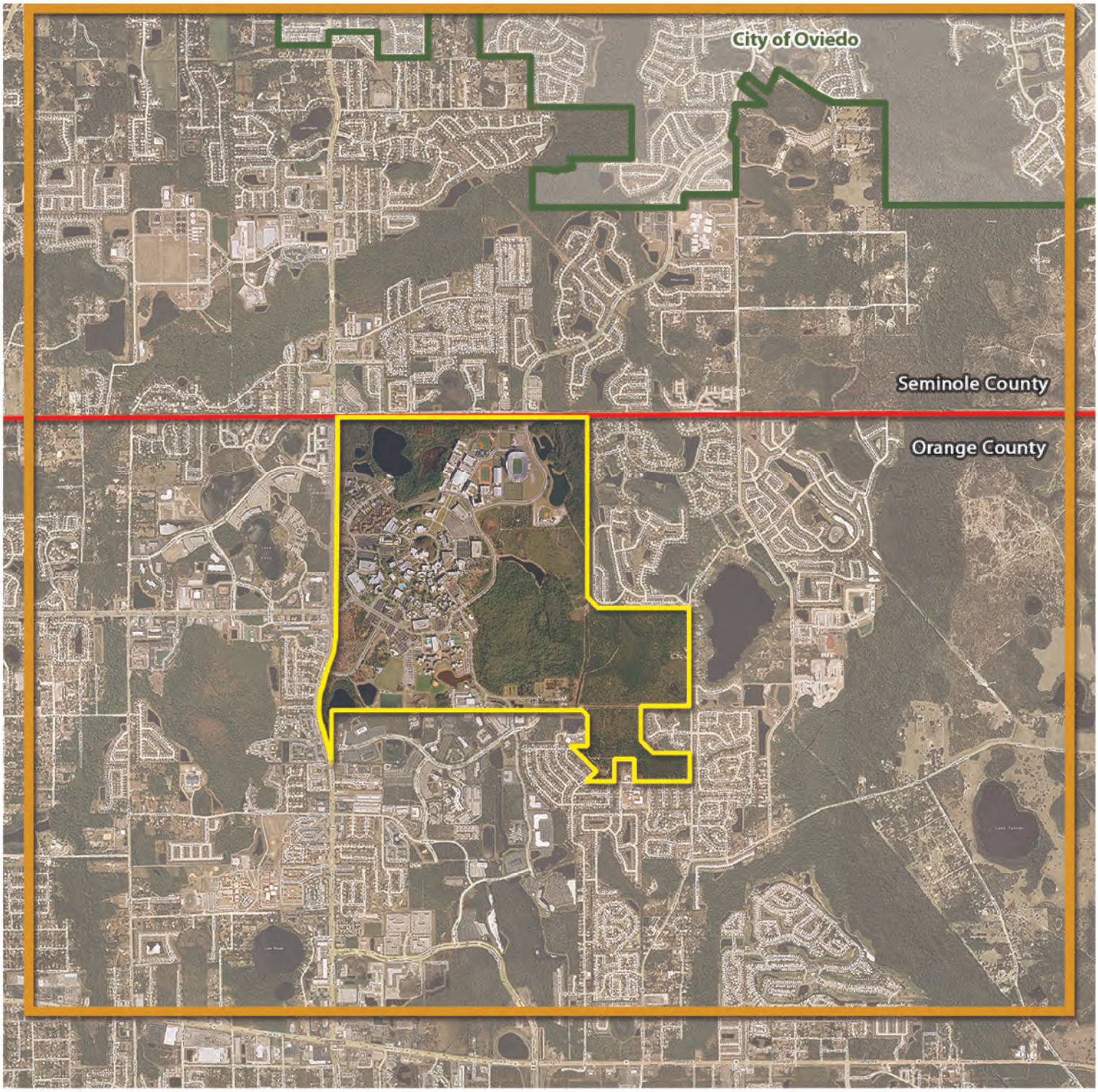

Figure 2.11-1

Context Area Map

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Legend

- County Boundary
- UCF Campus Boundary
- Study Area
- Oviedo City Limits

0 120 240 480 Feet

Rev. 20090321

2.0 EXISTING CONDITIONS

In order to evaluate the existing conditions of the transportation facilities within the UCF campus, as well as those external facilities and systems located within the context area, an inventory of the existing transportation systems and campus demographic data was performed.

A. *Campus Population and Employment*

The University of Central Florida has several campuses in the Central Florida area. The population chart below reflects the existing and projected population on the Main Orlando campus. As shown below, the number of students attending the University steadily increases over the fourteen (14) year period from 2007 to 2021, with a 9.2% increase in student population.

Table 2.11-1: UCF Projected Attendance for the Main Orlando Campus

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2009-10	26,277	42,150
2010-11	26,324	42,567
2011-12	26,327	42,495
2012-13	26,351	42,708
2013-14	26,390	42,960
2014-15	26,522	43,152
2015-16	26,633	43,326
2016-17	26,871	43,732
2017-18	27,074	44,039
2018-19	27,258	44,347
2019-20	27,511	44,759

Source: UCF FTE Enrollment Program

The number of students attending the University will place an increasing demand on University facilities, as well as on the surrounding transportation infrastructure, transit and pedestrian systems. Typically on-campus students use forms of transportation other than cars to move around campus. However, many faculty, staff, and students live off campus and currently drive automobiles to reach the campus. There is a correlation between an increase of students and the increase in number of additional faculty and staff to accommodate the students.

Without planned and scheduled improvements to the transportation and transit systems, there is the possibility that campus and surrounding roads could

become congested, increasing delays and the potential for increased conflicts between pedestrians, bicyclists and vehicular traffic.

B. *Roadway Circulation*

For the purposes of this transportation element, the roadway, or traffic circulation system, will be defined as all roadway facilities within the University Campus boundaries, as well as the external facilities located within the context area, as shown in Figure 2.11-1. An inventory of the existing roadway facilities located within the context area is shown in Table 2.11-2. This inventory includes the following roadway characteristics: roadway name, segment limits, number of lanes, jurisdiction, adopted level of service (LOS), and functional classification.

Functional Classification System

The Florida Department of Transportation (FDOT) defines functional classification as, "the organization of roadways into a hierarchy based on the character of service provided. Typical classifications include arterial, collector, and local roadways." Roadways provide two functions within the classification noted above by providing varying levels of access and mobility. On the lower end of the spectrum, a local road essentially serves as total, direct access to the adjacent land uses. At the opposite end of the spectrum is the limited access freeway, which provides total mobility and no access. Generally speaking, as mobility increases, access decreases, and vice versa. Figure 2.11-2 shows the relationship between access and mobility. Figure 2.11-3 shows the relationship of the various roadway types to one another. The functional classification of a roadway is used to set level of service standards and to evaluate operational characteristics. Generally speaking there are six major classifications:

- Expressway Freeway,
- Principal Arterial,
- Minor Arterial,
- Collector (Major and Minor), and
- Local

Table 2.11-2 Roadway Facility Inventory

Road Name	From	To	No. of Lanes	Jurisdiction	Functional Classification	Adopted LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	State	Minor Arterial	E
	Science Drive	University Boulevard	6LD	State	Minor Arterial	E
	University Boulevard	McCulloch Road	6LD	State	Minor Arterial	E
	McCulloch Road	Chapman Road	6LD	State	Principal Arterial	E
Central Florida Boulevard	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	UCF	Minor Collector	E
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	UCF	Minor Collector	E
Chapman Road	Aloma Avenue	Alafaya Trail (SR 434)	2L*	Seminole County	Major Collector	E
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (SR 434)	4LD	State	Principal Arterial	E
Discovery Drive/Libra Drive	Research Parkway	Gemini Boulevard	2L	UCF	Minor Collector	E
Gemini Boulevard	Central Florida Boulevard	University Boulevard	4LD	UCF	Minor Collector	E
	University Boulevard	Centaurus Drive	4LD	UCF	Minor Collector	E
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	UCF	Minor Collector	E
	Greek Park Drive	N. Orion Boulevard	4LD	UCF	Minor Collector	E
	N. Orion Boulevard	Libra Drive	4LD	UCF	Minor Collector	E
Greek Park Drive	Centaurus Drive	Gemini Boulevard North	4LD	UCF	Minor Collector	E
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	Orange County	Major Collector	E
	Percival Road	S. Tanner Road	2L	Orange County	Major Collector	E
Lokanotosa Trail	Rouse Road	Alafaya Trail (SR 434)	2L	Orange County	Minor Collector	E
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	Seminole County	Minor Collector	E
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	Seminole County	Minor Collector	E
	Lockwood Boulevard	Old Lockwood	2L	Seminole County	Minor Collector	E
N. Orion Boulevard	McCulloch Road	Gemini Boulevard	4LD	UCF	Minor Collector	E
Percival Road	Tanner Road	Lake Pickett Road	2L	Orange County	Minor Collector	E
Rouse Road	Colonial Drive (SR 50)	Lokonatosa Trail	2L*	Orange County	Minor Collector	E
	Lokonatosa Trail	University Boulevard	2L*	Orange County	Minor Collector	E
	University Boulevard	Seminole County Line	2L*	Orange County	Minor Collector	E
University Boulevard	Rouse Road	Alafaya Trail (SR 434)	6LD	Orange County	Minor Arterial	E
	Alafaya Trail (SR 434)	Gemini Boulevard	6LD	UCF	Minor Collector	E

Note: This table only includes those roadway segments included within the context area, as shown in Figure 2-1.

* Programmed to be widened to 4LD

Roadways within the context area for the University's Campus Master Plan include the following classifications:

• Principal Arterial – This is the highest level of arterial and generally has restricted access, and serves longer distance through trips servicing larger metropolitan areas. The facility type connects minor arterials and freeways as well as other principal arterials.

• Minor Arterial – This type of roadways provides connections between principal arterials and collectors. It typically serves moderate lengths with less emphasis on mobility than a principal arterial and with a greater level of access to adjacent land parcels.

• Collector (Major and Minor) – The collector street system provides a combination of land access and mobility, generally within residential neighborhoods or larger industrial or commercial developments and joins with other collector systems. Collectors distribute traffic from arterials to the local street system and their final destinations.

• Local – According to the AASHTO "Greenbook", the local street system comprises all facilities that do not fall into one of the higher roadway classifications. The primary function of a local street is to provide direct access to adjacent land uses and to connect to the collector roadway system.

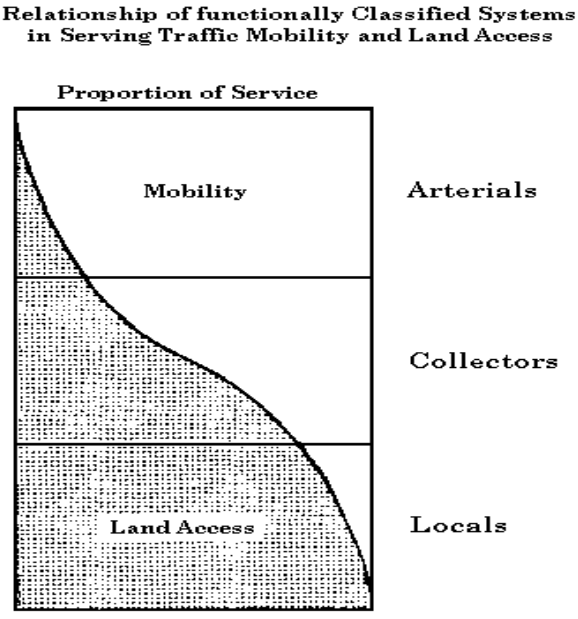

Figure 2.11-2 Mobility – Land Access Relationship

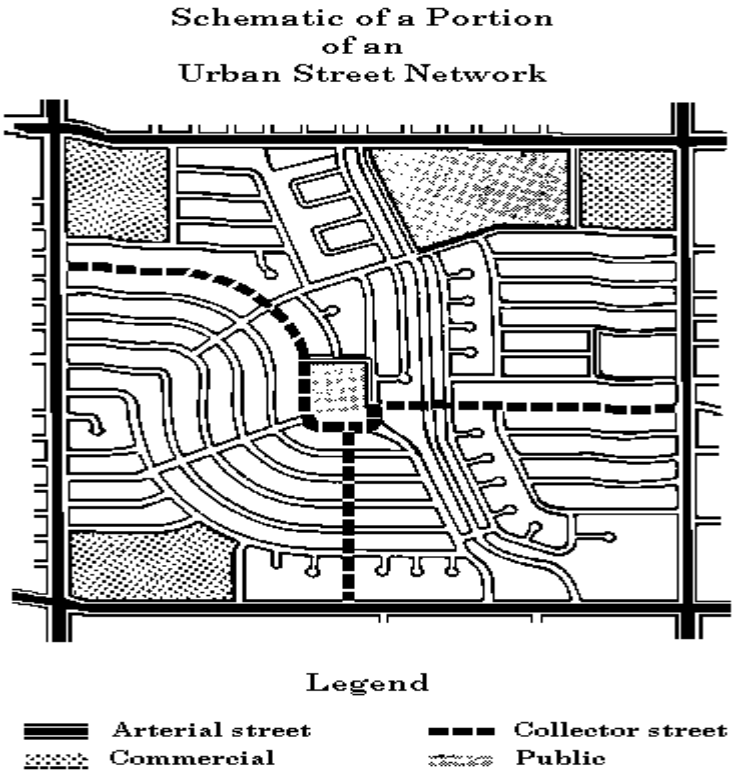

Figure 2.11-3 Roadway Functional Classification

Figure 2.11-4 details the functional classification of all study roadways within the context area.

Level of Service Standards

Level of service (LOS) is used to describe a qualitative measure of the operational performance of a roadway under existing or projected traffic conditions. There are six, alphabetical level designations used to describe the operating conditions of a roadway. These LOS designations range from the best, LOS “A”, representing free-flow conditions, to the worst, LOS “F”, representing breakdown conditions with significant delays. For the purposes of this update, this element will follow the LOS standards developed and adopted by the FDOT in the 2009 version of their Quality/Level of Service Manual. These standards are based on the research and analysis codified in the Highway Capacity Manual (HCM) developed by the Transportation Research Board (TRB) These standards delineate the threshold traffic volumes at which the perceived LOS changes from one designation to another, for a given roadway classification and area type. These threshold volumes are calculated using a variety of common traffic data, including number of lanes, free flow speed, intersection spacing, percentage of heavy vehicles, as well as a host of other traffic variables.

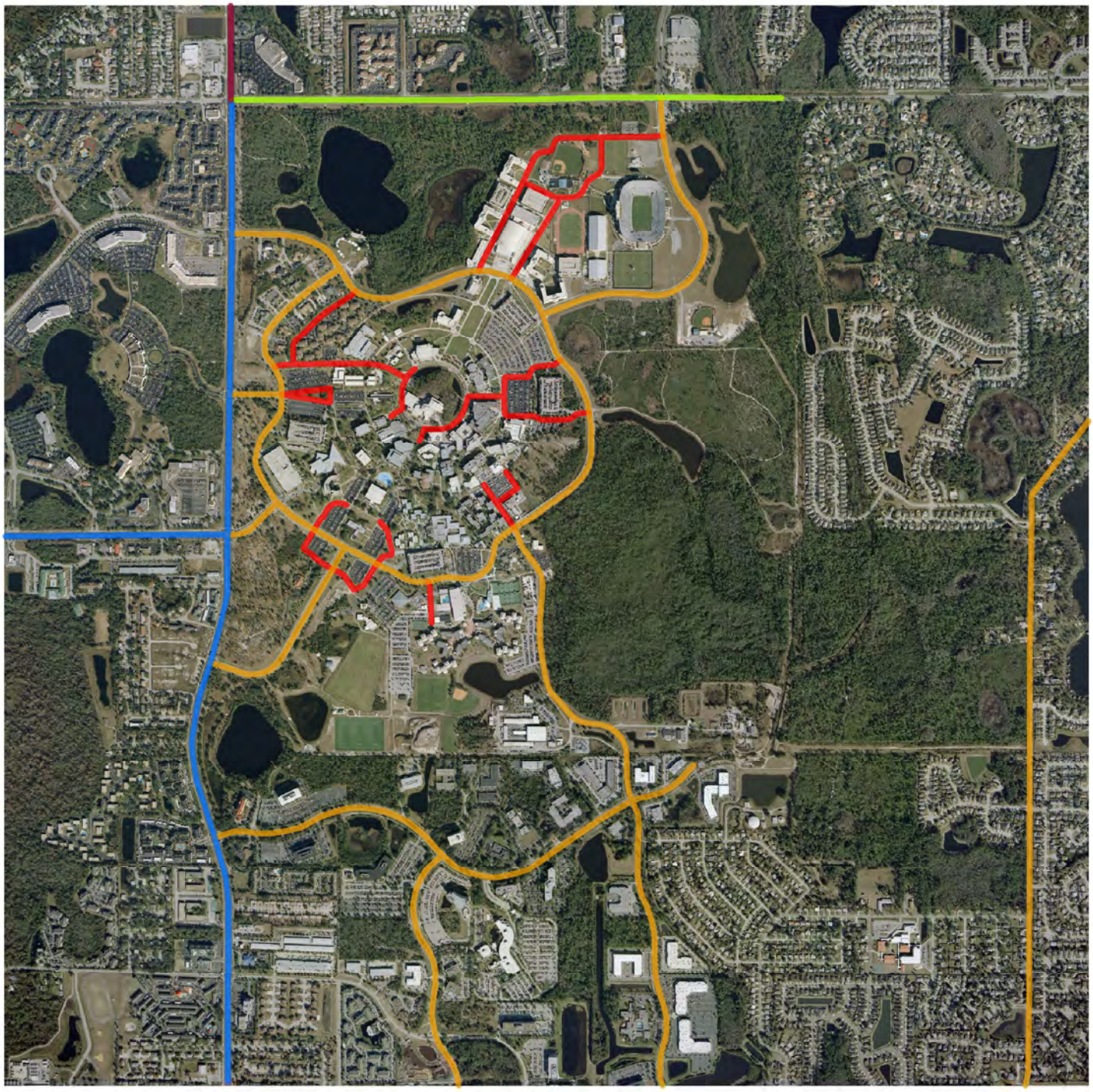

Figure 2.11-4

Campus Area Roadway's by Functional Classification

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Roadway

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 19,000 38,000 76,000 Feet

Rev. 20090321

Table 2.11-3 details an analysis of existing conditions of the roadways shown in Table 2.11-2 and contained within the context area. The existing conditions documented in Table 2.11-3 include the following information: number of lanes, adopted level of service (LOS) standard, peak hour adopted level of service (LOS) standard, current peak hour volumes, and current LOS.

A copy of Table 7 from the FDOT 2009 Quality/Level of Service is shown below as Figure 2-11.5. Figure 2.11-6 shows the existing (2008/2009) traffic volumes, roadway geometry and Level of Service (LOS) for roadways within the Context Area.

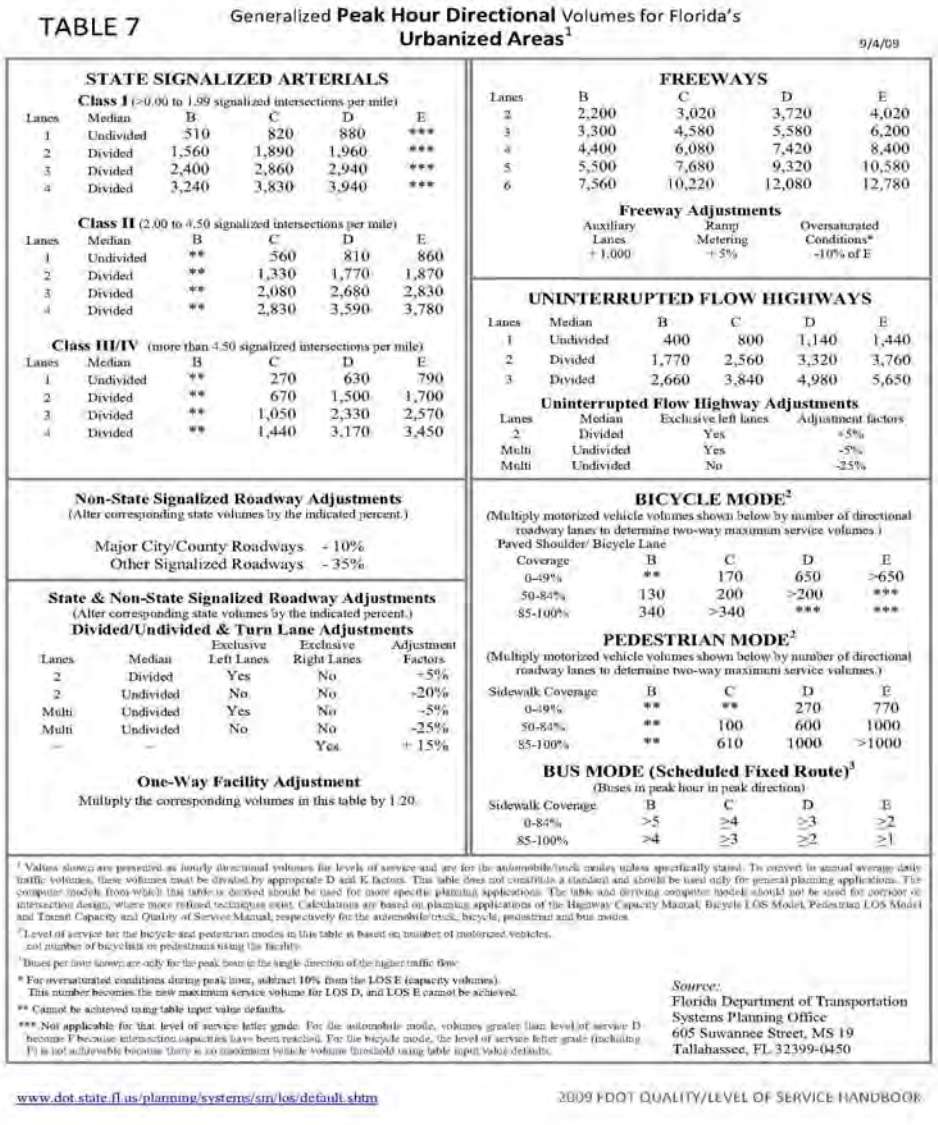

TABLE 7

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**[1]

9/4/09

STATE SIGNALIZED ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Median	B	C	D	E
1	Undivided	510	820	880	***
2	Divided	1,560	1,890	1,960	***
3	Divided	2,400	2,860	2,940	***
4	Divided	3,240	3,830	3,940	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Median	B	C	D	E
1	Undivided	**	560	810	860
2	Divided	**	1,330	1,770	1,870
3	Divided	**	2,080	2,680	2,830
4	Divided	**	2,830	3,590	3,780

Class III/IV (more than 4.50 signalized intersections per mile)

Lanes	Median	B	C	D	E
1	Undivided	**	270	630	790
2	Divided	**	670	1,500	1,700
3	Divided	**	1,050	2,330	2,570
4	Divided	**	1,440	3,170	3,450

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)

Major City/County Roadways - 10%
Other Signalized Roadways - 35%

State & Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Divided/Undivided & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
—	—		Yes	+ 15%

One-Way Facility Adjustment
Multiply the corresponding volumes in this table by 1.20.

FREEWAYS

Lanes	B	C	D	E
2	2,200	3,020	3,720	4,020
3	3,300	4,580	5,580	6,200
4	4,400	6,080	7,420	8,400
5	5,500	7,680	9,320	10,580
6	7,560	10,220	12,080	12,780

Freeway Adjustments

Auxiliary Lanes	Ramp Metering	Oversaturated Conditions*
+ 1,000	+ 5%	-10% of E

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	400	800	1,140	1,440
2	Divided	1,770	2,560	3,320	3,760
3	Divided	2,660	3,840	4,980	5,650

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

BICYCLE MODE[2]
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	B	C	D	E
0-49%	**	170	650	>650
50-84%	130	200	>200	***
85-100%	340	>340	***	***

PEDESTRIAN MODE[2]
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	**	**	270	770
50-84%	**	100	600	1000
85-100%	**	610	1000	>1000

BUS MODE (Scheduled Fixed Route)[3]
(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	>5	≥4	≥3	≥2
85-100%	>4	≥3	≥2	≥1

[1] Values shown are presented as hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for portion of intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* For oversaturated conditions during peak hour, subtract 10% from the LOS E (capacity volumes). This number becomes the new maximum service volume for LOS D, and LOS E cannot be achieved.

** Cannot be achieved using table input value defaults.

*** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

www.dot.state.fl.us/planning/systems/sm/los/default.shtm

2009 FDOT QUALITY/LEVEL OF SERVICE HANDBOOK

Figure 2-11.5 FDOT Level of Service Table

Table 2.11-3 Existing Roadway Conditions

Road Name	From	To	No. of Lanes	Adopted LOS	AADT	K100	D	Adopted Pk Hr. LOS Capacity	PM Pk Hr./Dir. Volume	Source	2008/2009 LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	63,837	0.0767	0.5753	2,940	2,460	Orange Co. Annual Counts	C
	Science Drive	University Boulevard	6LD	E	61,672	0.0737	0.5313	2,940	2,593	Orange Co. Annual Counts	C
	University Boulevard	McCulloch Road	6LD	E	47,564	0.0844	0.6649	2,940	2,539	Orange Co. Annual Counts	C
	McCulloch Road	Chapman Road	6LD	E	37,500	0.0909	0.5241	2,940	1,787	FDOT Annual Counts	B
Central Florida Boulevard	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	10,195	-	0.5049	1,274	855	GMB Study	B
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Boulevard	4LD	E	8,303	-	0.7223	1,274	747	GMB Study	B
Chapman Road	Aloma Avenue	Alafaya Trail (SR 434)	2L*	E	18,889	0.1106	0.6055	792	1,259	Seminole Co. Annual Counts	F
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (SR 434)	4LD	E	50,683	0.0693	0.5117	1,960	1,791	Orange Co. Annual Counts	C
Discovery Drive/Libra Drive	Research Parkway	Gemini Boulevard	2L	E	13,509	-	0.5401	572	1,460	GMB Study	F
Gemini Boulevard	Central Florida Boulevard	University Boulevard	4LD	E	14,435	-	0.5180	~~1,320~~ (1)	1,363	GMB Study	E
	University Boulevard	Centaurus Drive	4LD	E	10,338	-	0.6538	1,274	1,027	GMB Study	C
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	12,734	-	0.5404	~~1,320~~ (1)	1,120	GMB Study	D
	Greek Park Drive	N. Orion Boulevard	4LD	E	14,386	-	0.5397	~~1,320~~ (1)	1,412	GMB Study	D
	N. Orion Boulevard	Libra Drive	4LD	E	19,937	-	0.6136	~~1,320~~ (1)	2,009	GMB Study	D
Greek Park Drive	Centaurus Drive	Gemini Boulevard North	4LD	E	6,773	-	0.6483	1,274	727	GMB Study	B
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	12,516	0.0824	0.6103	880	590	Orange Co. Annual Counts	C
	Percival Road	S. Tanner Road	2L	E	7,115	0.1387	0.8457	1,440	700	Orange Co. Annual Counts	C
Lokanotosa Trail	Rouse Road	Alafaya Trail (SR 434)	2L	E	9,301	0.1208	0.5592	880	629	Orange Co. Annual Counts	C
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	E	17,649	0.1040	0.5795	1,764	1,064	Seminole Co. Annual Counts	B
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	E	27,774	0.0880	0.6528	1,764	1,596	Seminole Co. Annual Counts	C
	Lockwood Boulevard	Old Lockwood	2L	E	18,364	0.0829	0.6271	792	955	Seminole Co. Annual Counts	F
N. Orion Boulevard	McCulloch Road	Gemini Boulevard	4LD	E	12,852	-	0.7413	1,274	1,001	GMB Study	B
Percival Road	Tanner Road	Lake Pickett Road	2L	E	6,733	0.0856	0.5809	704	335	Orange Co. Annual Counts	B
Rouse Road	Colonial Drive (SR 50)	Lokonatosa Trail	2L*	E	15,547	0.0935	0.5420	860	874	Orange Co. Annual Counts	F
	Lokonatosa Trail	University Boulevard	2L*	E	16,790	0.1060	0.5145	860	923	Orange Co. Annual Counts	F
	University Boulevard	Seminole County Line	2L*	E	11,844	0.1106	0.6204	860	712	Orange Co. Annual Counts	D
University Boulevard	Rouse Road	Alafaya Trail (SR 434)	6LD	E	55,296	0.0860	0.5491	2,940	2,571	Orange Co. Annual Counts	C
	Alafaya Trail (SR 434)	Gemini Boulevard	6LD	E	22,883	-	0.5484	2,940	1,155	GMB Study	B

Note: This table only includes those roadway segments included within the context area, as shown in Figure 2-1.

LOS service volumes based on the 2009 FDOT Quality/Level of Service Manual, Seminole County CMS, Orange County CMS

Traffic Volumes taken from latest Orange County and Seminole County count programs
Traffic Volumes obtained from the GMB Study reflect 2009 conditions

* Programmed to be widened to 4LD

(1) ATS level of service thresholds obtained from the 2009 FDOT Quality/LOS Handbook

L.O.S. ATS Thresholds (mph)			
B	C	D	E
>28	>22	>17	>13

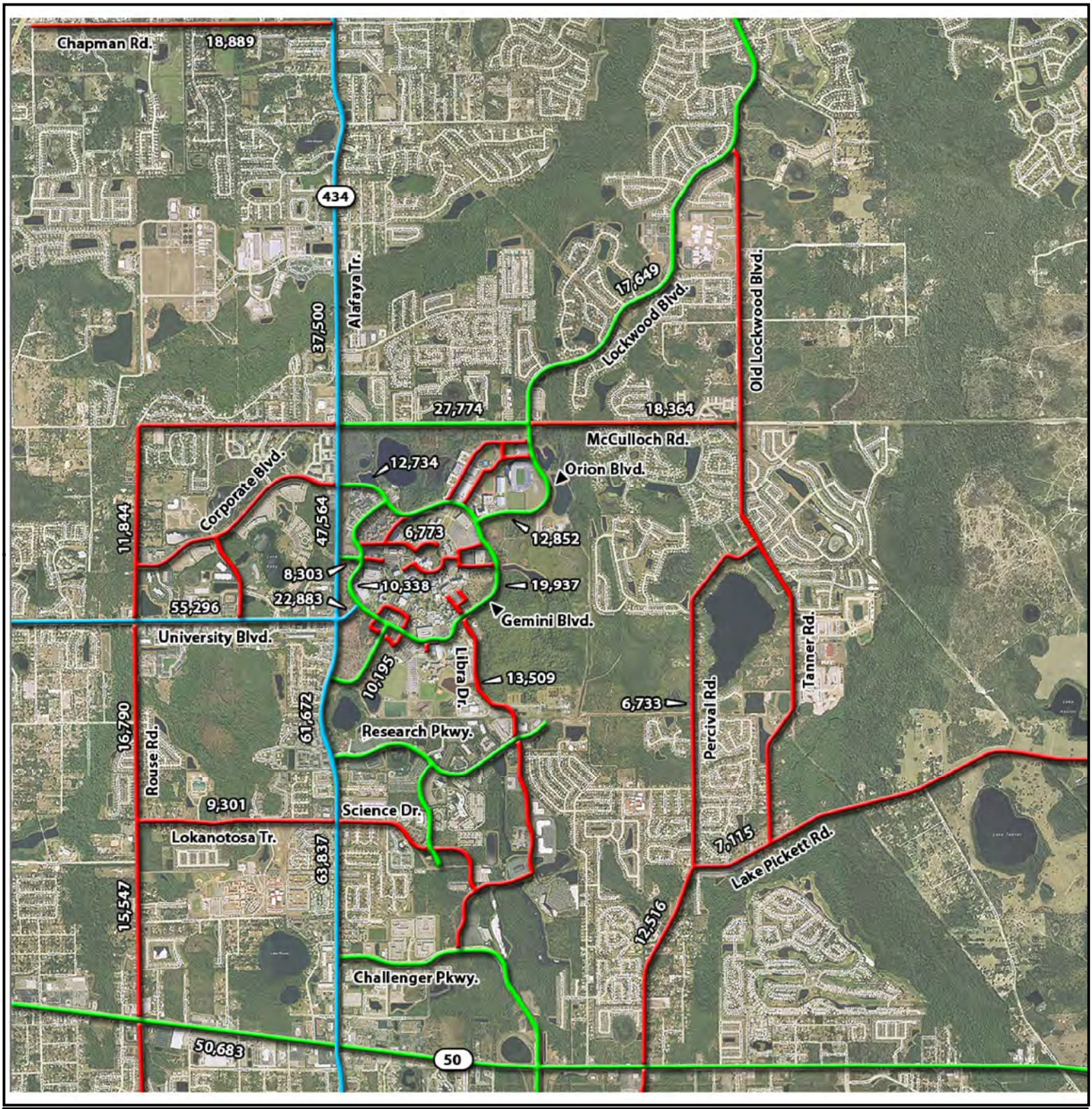

Figure 2.11-6

Existing Roadway Network and Daily Traffic Volumes

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- 2 - Lane Roadway
- 4 - Lane Roadway
- 6 - Lane Roadway
- 16,790 Average Daily Traffic

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

N

0 115 230 460 Feet

Rev. 20090422

C. *Parking System*

Since the majority (approximately 87%) of UCF's students commute to campus, as well as hundreds of staff and faculty members, the need for a large capacity of well-distributed parking is paramount. To accommodate parking demands, both permanent and temporary parking facilities are provided on campus. UCF has invested a great deal into providing this parking supply to form permanent and temporary parking facilities.

Parking is currently provided on the UCF campus in a variety of means such as surface lots, parking garages, metered spaces, and special locations, see Figure 2.11-7. There are currently five parking garages primarily used for student parking located around the perimeter of the campus and accessed by Gemini Boulevard. These include Garages A, B, C, D and H. Garages B, C, D, and H hold a maximum of approximately 1,300 vehicles, while Garage A has a capacity of approximately 1,650, for a total of 6,850 parking spaces in structured parking.

In addition to the structured parking, there are over forty (40) other surface parking lots spread throughout the campus. These surface lots are a combination of permanent and temporary spaces and are used by staff, faculty, students and others, including specialty users such as motorcyclists. In total, the parking garages and surface lots add up to over 16,900 parking spaces available on campus. A detailed breakout of UCF's available parking supply is shown in Table 2.11-4.

Figure 2.11-7 Existing UCF Campus Parking Facilities

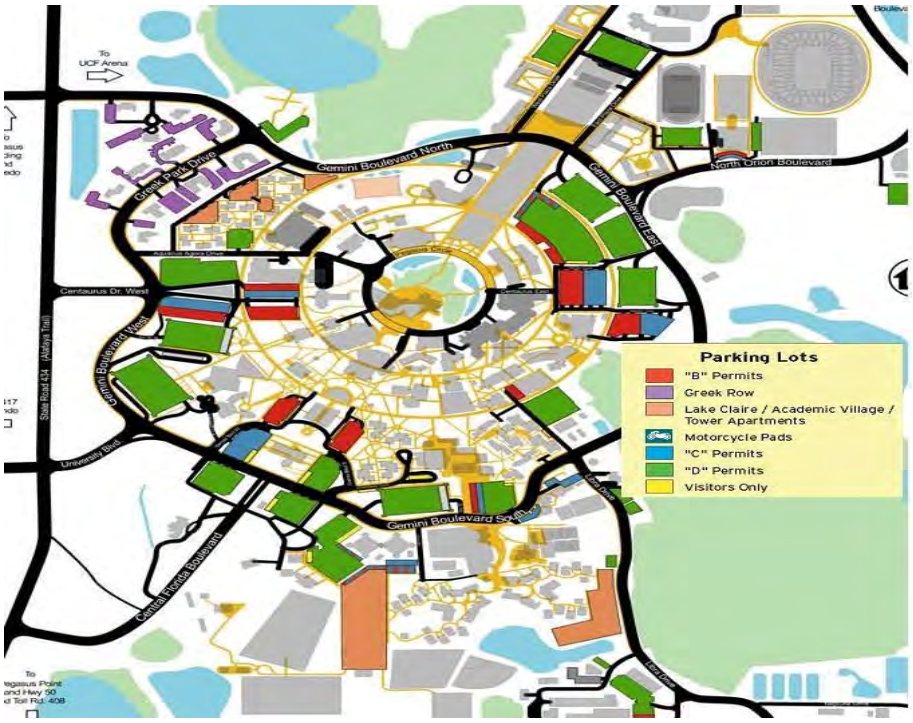

Table 2.11- 4 UCF Campus Parking Facilities

LOT	Reserved	Faculty	Staff	Student	Disabled	Meters	Service	Motor Cycle	Housing	Greek Park	Event Parking	Other	Total
AlphDeltPi					2					60			62
AlphXiDelt					2					56			58
Andromeda					4	16	3						23
ATO										43			43
B1	43	45			10	5	5	14					122
B2	19	71			18	6	6	14					134
B3	1		182		2	17							202
B4				175	2	17							194
B5				138									138
B6				152	2		1					20	175
B7	3		36	243	6	12	4						304
B8	1		31		10			6	669			1	718
B9	6		24	193	6	3	10						242
B10			18		1		2						21
B11			38		1		2	2				10	53
B12			6	69	1		4	10				5	95
B13				46									46
B14				40			1						41
B15	1				7		1	6	380				395
B16			28		2			7				24	61
B17		5		161	6			7				1	180
B18				67									67
Bookstore					4		5						9
BPW					1				20			1	22
C1	39	134	276		10			19					478
C2	13		103				3					5	124
C3	20			154	2		19	5				10	210
CL					11								11
Classroom 1	1						14						15
Comm. Bldg.	5						6					10	21
D1	1		67	542	22	6							638
D2				286									286
E1	1		45		2			6				3	57
E2				56									56
E4				101	4								105
East Plaza	3					26	8	2					39
Engineering							2					4	6
Event Park.													0
Fairwinds					2		2					24	28
Garage A				1,623	10		2	12					1,647
Garage B				1,244	5		7	15				11	1,282
Garage C				1,272	2		4	14					1,292
Garage D				1,294	8		6	16					1,324
Garage E					14			2	678				694
Garage F					14						664		678
Garage G					14			2	679				695
Garage H				1,246	12		15	15					1,288
H1	9	105			11	5	5	16					151
H2	4		148		5								157
H3			266										266
H4				375	8								383
H5				66	8								74
H6	1				1		2		25				29
H7					2				55				57
H8					3			2	128			3	136
H9					2			3	119				124
H10				66	2								68
HCL					9			12					21
HPA	2						4	12					18
Kap Delta										90			90
Kappa Sig										40			40
Lake Claire												110	110
LIB					12		7						19
Marketplace							4					2	6
OTC				121	2								123
Partner. 2				172									172
Pi Beta Phi										35			35
PiKapAlph										26			26
Psychology	1				2		4					9	16
Rec & Wellness							12						12
Sig Alph Ep										60			60
Sig Phi Ep										50			50
Sigma Chi										40			40
Student Union	2												2
TA	1						2					12	15
T-200			34										34
Theatre Svc.					1		4						5
Tri Delta										60			60
VAS							4						4
West Plaza					4	26	13					2	45
Zeta					2					86			88
											Sub-Total		**16,915**

UCF's parking supply is also segregated by user, i.e., faculty, staff, student, disabled, etc. Table 2.11-5 shows a detailed breakout of the Campus' parking supply by user type.

Table 2.11-5 Parking by User

Type of Parking	Number of Spaces	Percentage of Total (16,915)
Student	9,902	58.54%
Greek Park	646	3.82%
Academic Village	1,049	6.20%
BPW	20	0.12%
Lake Claire	327	1.93%
Garage E	678	4.01%
Garage G	679	4.01%
Overflow	110	0.65%
Staff	1,302	7.70%
Disabled	293	1.73%
Metered	139	0.82%
Faculty	360	2.13%
Specialty Parking	157	0.93%
Motorcycle	219	1.29%
Reserved	177	1.05%
Event Parking	664	3.93%
Service	193	1.14%

As Table 2.11-5 clearly shows, the majority of the parking is allocated for students, with slightly over 58% of the total spaces on campus. Faculty and staff total approximately 10% of the total number of spaces allocated on the campus. Some types of parking spaces could be used by all users, including faculty, staff, and students. These types of parking include disabled, overflow, event parking, and motorcycle and comprise roughly 8% of the total number of spaces. Residential areas, such as the Academic Village, Greek Park, BPW House, Garage E, Garage G, and Lake Claire comprise 20% of the parking. These spaces may be used by students who keep their cars on campus not for the purpose of traveling to class, but for other means, such as trips off campus for tasks or to travel to and from their work.

Approximately 2,000 spaces on campus service "specialty" uses. These uses include: event parking, disabled, motorcycle, reserved, service, metered, overflow, and pay by space parking. Table 2.11-6 shows a breakout of these spaces.

Table 2.11-6 Specialty Parking

Event Garage (F)	664
Disabled	293
Motorcycle	219
Reserved	177
Service	193
Metered	139
Overflow	110
Pay by Space	20
Other (Visitor, Health Center, etc.)	137
Total	**1,952**

According to the number of spaces allocated for students (9,902) and the number of students attending the University in 2008 (42,693), there are parking spaces for approximately 25% of the total student body.

University staff performed a detailed parking utilization study for all of the major facilities on Campus. The report lists number of vehicles parked in each lot, utilization of the parking areas by location and time, average lot counts by location and time of day, and parking capacity by type. The data collected by the University spans five (5) days in September 2008. The information is detailed to the lot location, time of day, and capacity of the lot.

Table 2.11-7 shows a breakout of parking utilization by user type for several periods during an average weekday. In summary, a review of the table shows that, in general, the faculty, staff, student, and housing parking lots are more than 80% occupied during most periods of the day, and several are at capacity (i.e., full). Based on the number of occupied spaces, the peak time period on an average weekday is between 10 am and 12 pm. During this time period, faculty and student lots were approximately 97 and 89 percent occupied, respectively. Availability in the faculty and student parking lots was seen after 4 pm on most days. A copy of the most recent study, dated September 2008, is included in Appendix A.

Table 2.11- 7 Parking Utilization by User Type (Average Weekday)

Lot Type	Capacity	8:00 AM		10:00 AM		12:00 PM		2:00 PM		4:00 PM		6:00 PM		Average	
		Occupied Spaces													
FACULTY	360	263	72.94%	354	98.22%	353	98.17%	344	95.56%	279	77.56%	252	70.11%	308	85.43%
STAFF	1302	614	47.14%	1,030	79.11%	1,065	81.80%	1,009	77.51%	904	69.46%	853	65.51%	913	70.09%
STUDENT	9902	6,469	65.33%	8,777	88.64%	8,969	90.58%	8,683	87.69%	7,745	78.21%	7,606	76.81%	8,041	81.21%
DISABLED	293	87	29.83%	141	48.12%	146	49.90%	135	46.14%	117	40.00%	93	31.81%	120	40.97%
OVERFLOW	110	55	50.36%	57	51.82%	59	53.82%	60	54.18%	59	53.64%	57	51.82%	58	52.61%
HOUSING	2753	2,234	81.16%	2,233	81.12%	2,207	80.18%	2,171	78.86%	2,185	79.38%	2,224	80.77%	2,209	80.24%
GREEK PARK	646	271	41.95%	336	52.04%	416	64.46%	397	61.52%	416	64.33%	436	67.46%	379	58.63%
MOTORCYCLE	219	47	21.37%	85	38.72%	89	40.46%	80	36.35%	75	34.16%	62	28.22%	73	33.21%
EVENT PARKING	664	171	25.81%	186	28.04%	197	29.70%	196	29.46%	189	28.46%	185	27.89%	187	28.23%
TOTAL	16249	10,212	62.85%	13,199	81.23%	13,503	83.10%	13,075	80.46%	11,969	73.66%	11,768	72.42%	12,287	75.62%
AVAILABLE		**6,037**	**37.15%**	**3,050**	**18.77%**	**2,746**	**16.90%**	**3,174**	**19.54%**	**4,280**	**26.34%**	**4,481**	**27.58%**	**3,962**	**24.38%**

D. *Transit Circulation*

Two transit systems; one public and one private currently serve the University. LYNX is the regional, public transit service provider that connects the University to greater Orlando area, including Downtown Orlando. The bus service enters the campus via University Boulevard and utilizes the UCF/LYNX Super Stop, located near a parking garage, a large surface parking lot and outer perimeter pedestrian walkways.

It is important to note that the LYNX bus routes also have stops near several residential clusters where they may serve students. The following three LYNX routes currently serve the UCF Campus:

Link #13: This route is specific to the University, and it services the following areas:

- Commencement at the Downtown Bus Station
- Colonial Plaza Market Center
- Fashion Square Mall
- VA Clinic
- Winter Park Hospital
- Winter Park Pines
- Goldenrod
- University Boulevard
- The UCF/LYNX Super Stop at the University.

Primary stops for the link include the following:

- Downtown bus station
- SR 436 & University Boulevard
- Colonial Plaza Market Center
- Corrine Drive & General Rees Avenue
- University Boulevard & Dean Road
- Lakemont Avenue & Aloma Avenue
- The UCF/Lynx Super Stop

Link #30: This is a very long route that stretches from far western Orange County at the West Oaks Mall, all the way to the UCF campus traveling almost entirely on SR 50, Colonial Drive.

Primary stops for this link include:

- West Oaks Mall
- SR 436 & Colonial Drive
- Colonial Drive & Hiawassee Road
- Valencia Community College (VCC)
- East Colonial Dive & Pine Hills Road

- SR 50 & Dean Road
- Colonial Drive & John Young Parkway
- SR 50 & Alafaya Trail
- Colonial Drive & Magnolia Avenue
- The UCF/Lynx Super Stop.

Link #434: This route which will replace Link #47 in December 2009 offers a flex service within the City of Oviedo. The route originates at the Rosemont Super Stop and commences at the University, serving SR 434 in the following areas: University of Central Florida, Oviedo, Winter Springs, Longwood, and Forest City.

Primary stops for the link include:

- UCF/Lynx Super Stop
- Oviedo Marketplace
- Winter Springs City Hall
- Orlando Regional S. Seminole Hospital
- Lake Brantley High School
- Rosemont Super Stop

All three Lynx routes circle areas where off-campus student housing exists, as well as running along the edge of single family residential and commercial/retail areas in Orange and Seminole Counties. The routes provide the opportunity for the transit service to alleviate congestion on roadways potentially created by student vehicles going from off-campus areas to the University or associated service areas. Figure 2.11-8 shows all of the existing Lynx routes.

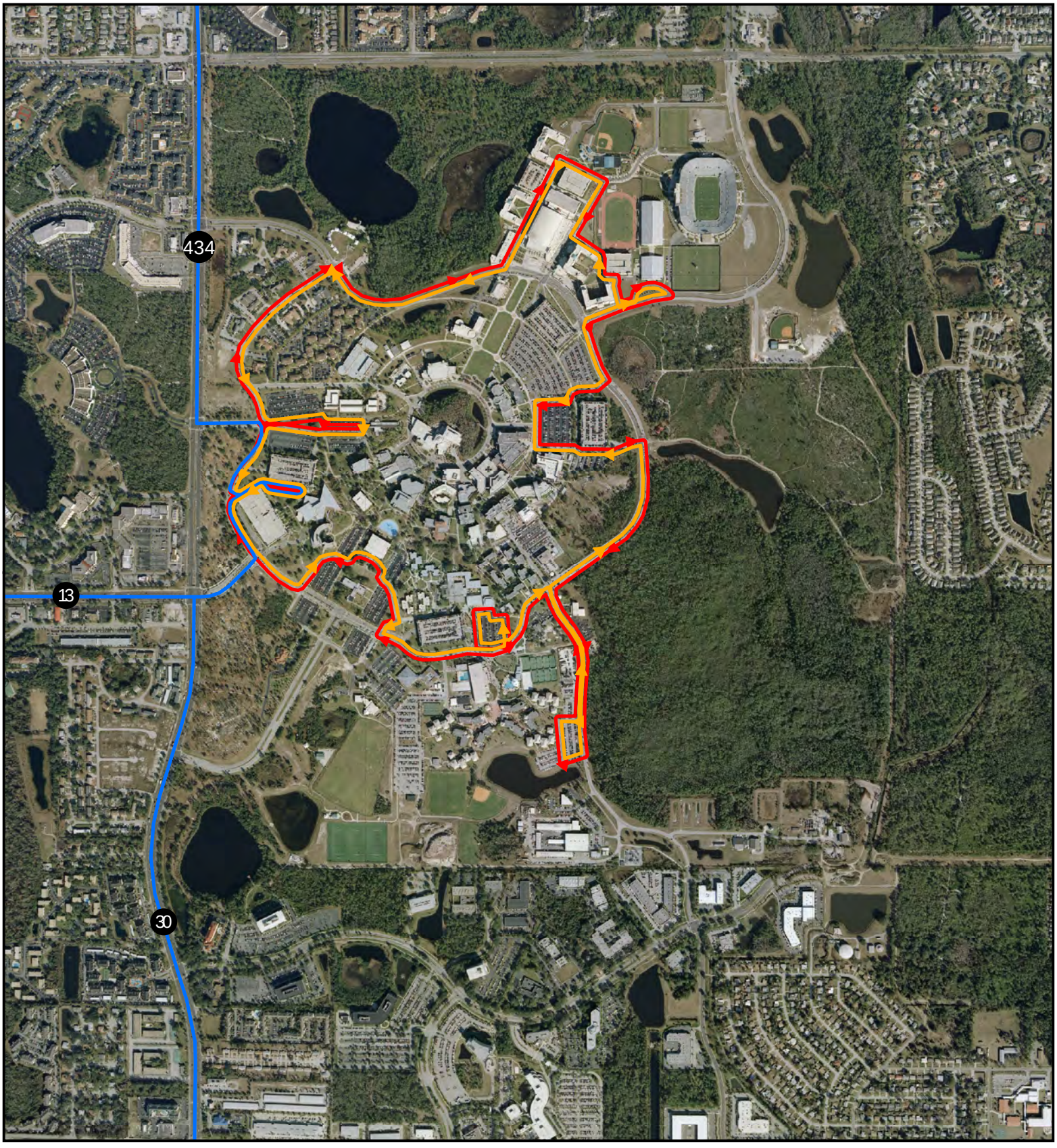

Figure 2.11-8

Existing Campus Transit Service

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

13 Existing LYNX Routes
Black Shttle Routes
Gold Shuttle Routes

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

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12,500 25,000 50,000 Feet

In addition to the three Lynx routes that service the UCF Campus, the University also maintains a fleet of approximately thirty (30) shuttle buses that service ten (10) off-campus transit routes to the surrounding student housing, two (2) on-campus routes and one (1) route to the Rosen College of Hospitality. These buses are air-conditioned and can carry a maximum of forty (40) passengers. The UCF Shuttle system provides a significant transportation alternative to the single passenger automobile. The UCF shuttle system carries approximately 10,000 riders per day during the 2009 spring semester. This equates to approximately 900 riders per day, per route. The ten (10) off-campus routes that currently serve the surrounding student housing developments include:

Route #1 Pegasus Landing Shuttle
Five buses serve this route. They travel through each of the two separate phases in Pegasus Landing, making six numbered stops, and proceed to UCF via Corporate Boulevard and Gemini Boulevard North. They turn right on Greek Park Drive, left onto Aquarius Agora Drive, and proceed to the designated on-campus pick-up/drop-off point at the Student Union terminus on Pegasus Circle. They return to Pegasus Landing via the same route, reversed.

Route #2 Pegasus Pointe/College Station/Addison Place
There are three buses serving this route. Pegasus Pointe and Addison Place have two designated pick-up/drop-off points each. College Station has one stop. From campus, the shuttles travel south along Alafaya Trail, turn right through Addison Place to its two stops, then proceed back onto Alafaya Trail, continuing south to Pegasus Pointe where they pause at each designated stop therein. They proceed back onto Alafaya Trail and turn south again. Two blocks down, they reverse direction for the return trip, stopping first inside the College Station property at the pick-up/drop-off location there. They enter the UCF campus via Central Florida Boulevard, and terminate at the front steps of Millican Hall.

Route # 3 Pegasus Connection/Arbour Apartments/Khayaan Drive
Two buses serve this route. They travel from the Transit Center at the front of the campus (located between the Education Building and the West Parking Garage), and proceed outbound onto Alafaya Trail. They turn south to Mackay Boulevard, and turn right to get to the Arbour Apartments. They make two designated stops within the property, then travel back to Alafaya, stopping enroute at the bus shelter on Mackay Boulevard between Pegasus Connection Phases 1 and 2. From there, they continue onto Alafaya Trail and turn right into Pegasus Connection Phase 2. They make three designated stops inside the property and return to the UCF campus on a northerly route back to the Transit Center.

Route # 4 Boardwalk/Campus Crossings/Village at Alafaya Club
This route also is served by two buses. They begin at the one Village at Alafaya Club stop near the front entrance then turn left onto Lokanotosa Trail from there.

They turn right into the University House property and pause at the one UH stop near the front of the clubhouse. Proceeding back onto Lokanotosa Trail, they turn left on Alafaya Trail and return to the UCF campus, making their stop enroute at the Boardwalk Apartments. They then enter the campus via Central Florida Boulevard and proceed to their stop at the front steps of Millican Hall. From there, they proceed back to the three apartment complexes, commencing their trip back to UCF from Village at Alafaya Club, in a repeat manner.

Route # 5 Village At Science Dr./Human Resources
Two buses serve this route. They travel from the on-campus stop near the Student Health Center and depart the campus via Libra Drive, stopping at the Human Resources stop if any rider(s) desire. The buses turn right onto Research Parkway, left onto Technology Parkway, then right onto Science Drive. They enter VSD from Science Drive, and make the three designated stops therein. From VSD, the shuttles continue west on Science Drive into the Knights Landing property where there are two stops. They return to UCF via the same route, reversed, without stopping at VSD again. However, they will pick up and/or off-load passengers at the Human Resources stop on Libra Drive, if necessary.

Route # 6 Northgate Lakes/Tivoli Apartments
There are two buses on this route. They travel from the E1 Parking Lot stop located near the HPA, Engineering, and Business Administration buildings. They exit between Parking Lot E3 and the East Parking Garage onto to Gemini Boulevard, and turn left at the light. They continue east, and turn right onto North Orion Boulevard, then proceed to McCulloch Rd., where they turn left. Off McCulloch Rd, they make their first stop on this route inside the Northgate Lakes Apartments. From there, they turn right onto McCulloch Rd., then right again into the Tivoli Apartment complex, where there are two designated stops near the clubhouse. The shuttles return to UCF via McCulloch Rd. and North Orion Boulevard, back to E1 Parking Lot stop, approaching on Star Drive East.

Route # 7 Collegiate Village Inn
One bus serves the Collegiate Village Inn (CVI) route. Its on-campus stop is the Transit Center. From there, it travels outbound onto Alafaya Trail, proceeding south on University Boulevard. It turns left into CVI on Collegiate Drive, making its stop at the one designated pick-up/drop-off point at the entrance to the main office building and apartments. The shuttle then returns to the UCF Transit Center via the same route, reversed.

Route # 8 Riverwind Apartments
One bus serves this route. It uses the same on-campus stop as the Route 6 Shuttle, traveling from the E1 Parking Lot stop via Gemini Boulevard East and North Orion Boulevard onto McCulloch Rd. After turning left on McCulloch Rd, the shuttle proceeds west to Alafaya Trail and turns right. It then travels on to the Riverwind Apartments approximately one mile to the north. The shuttle stops inside the center of the property there, as well as at the entrance, as necessary.

It returns to UCF via the same route, reversed, to the E1 Parking Lot stop, making its approach on Star Drive East.

Route # 9 Research Park, Knights Landing

This route uses one bus, and is the only route that is dedicated exclusively to Central Florida Research Park (CFRP). Nine stops in CFRP serve seven (7) entities there. They include the stop at UCF Human Resources on Libra Drive. The on-campus pick-up/drop-off point for this route is co-located with the Route 5 Stop at the Libra Drive terminus near the Student Health Center. The other CFRP stops are the Orlando Tech Center (OTC) (3 stops), and one each at Partnership Buildings I and II (PI & PII), the Institute for Simulative Training (IST), the Research Pavilion (RP), and the Bio-molecular Research Annex (BRA).

From campus via Libra Drive, the shuttle will stop at HR, if necessary, before turning right onto Research Parkway. It then makes its three stops at OTC, as necessary, before proceeding on to the IST stop. From there, it begins its return trip to UCF, stopping enroute at PI on Technology Parkway, PII and RP on Research Parkway, and BRA at the intersection of Research Parkway and Discovery Drive. It will also stop at HR on Libra Drive, as necessary.

Route # 10 The Lofts and Jefferson Village (Trial Route for Spring 2009)

Two shuttles serve this route. They travel from the on-campus Transit Center located between Garages A and H, and depart the campus via University Boulevard. Shuttles will first pick up from the front on Jefferson Village and then proceed to the Lofts. There are two stops within the Loft complex, which are located on either side of Loft Way Street. The ridership of these complexes would help dictate the route's future operation.

UCF also maintains two on-campus routes, the Black and Gold Lines, and the Rosen School of Hospitality shuttle. The Black and Gold Lines remain on campus and travel primarily on Gemini Boulevard. The Black Line travels counter-clockwise while the Gold Line travels clockwise. The Rosen School of Hospitality route consists of five (5) round trips each day, Monday through Thursday. The shuttle bus departs and returns on the main campus at the convergence of Pegasus Circle and Aquarius Agora Drive. Drop-off at RCHM is at the front of the main entrance, and return trips to UCF commence from the RCHM main parking lot.

Figure 2.11.9 shows all seven of the UCF Off-Campus Shuttle Routes.

Table 2.11-8 Average UCF Shuttle Ridership, Spring, 2009

	Month	January	February	Total	Average Daily Ridership Per Route
Route #	Route				
1	Pegasus Landing	71,556	81,843	153,399	**4,037**
2	Pegasus Pointe/College Station/Addison Place	6,328	6,331	12,659	**333**
3	Pegasus Connection/Arbour Apartments	16,491	17,479	33,970	**894**
4	Alafaya Woods/University House/Boardwalk	31,908	33,549	65,457	**1,723**
5	Village at Science Drive	11,056	9,641	20,697	**545**
6	Northgate Lakes/Tivoli	19,975	22,174	42,149	**1,109**
7	Collegiate Village Inn	3,048	3,415	6,463	**170**
8	Riverwind of Alafaya	4,890	5,373	10,263	**270**
9	Knights Landing/Research Parkway	5,432	6,274	11,706	**308**
10	Jefferson Village/The Loft	4,949	5,426	10,375	**273**
	Black and Gold Line	5,027	5,956	10,983	**289**
	Rosen College of Hospitality	6,616	7,095	13,711	**361**
Totals		187,276	204,556	391,832	
# of Days of Service Per Month		18	20	38	
Average Daily Ridership		10,404	10,228	**10,311**	

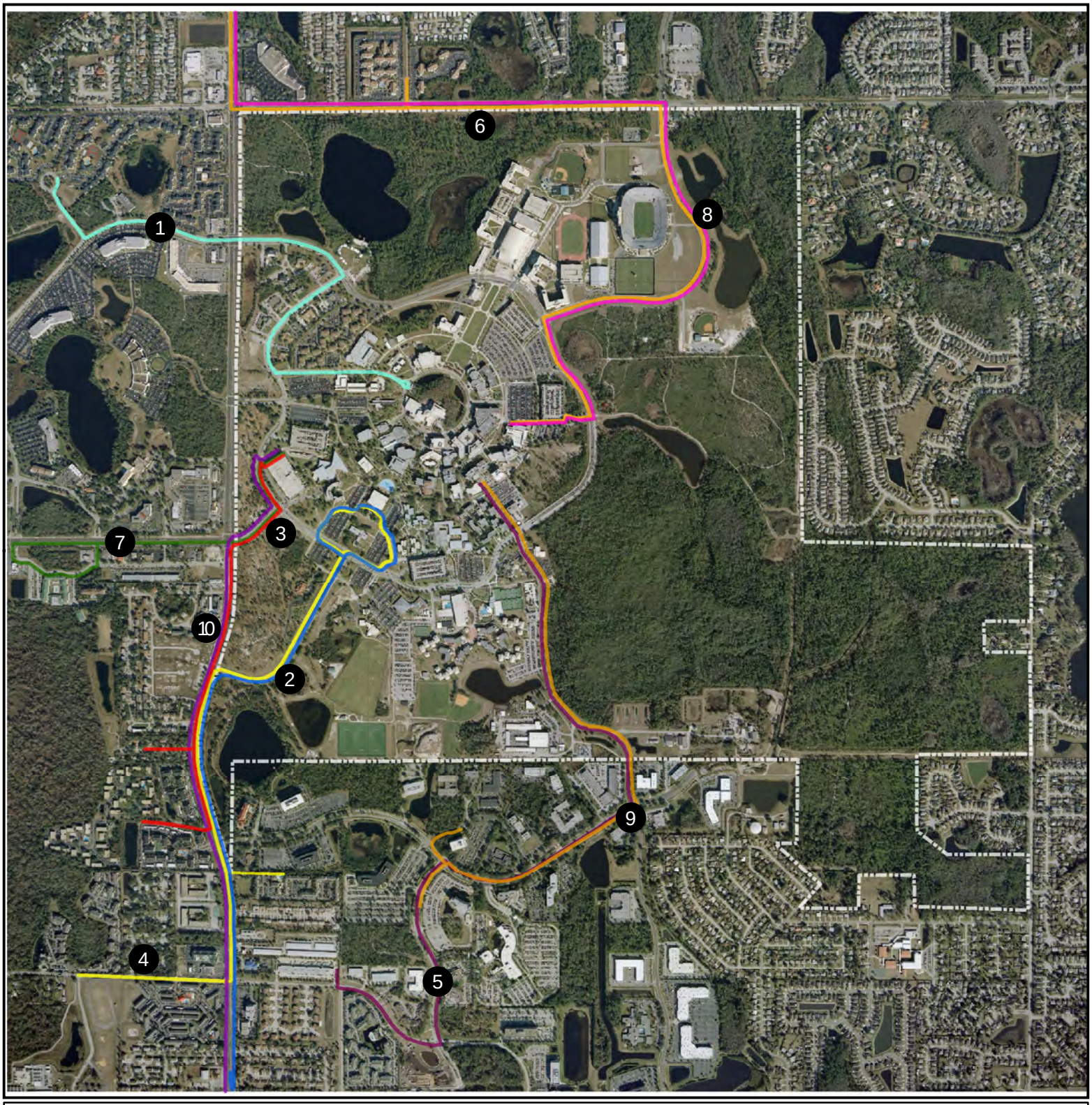

Figure 2.11-9

Off-Campus UCF Shuttle Map

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- 1 Pegasus Landing Shuttle
- 2 Pegasus Pointe/College Station Shuttle
- 3 Jefferson Commons/Arbour Apartments Shuttle
- 4 Village at Alafaya Club/University House /Board Walk Shuttle
- 5 Village at Scenic Drive
- 6 Northgate/Tivoli/Riverwind Shuttle
- 7 Collegiate Village Inn Shuttle
- 8 Collegiate Village Inn
- 9 Research Parkway/Knights Landing
- 10 The Lofts and Jefferson Village

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Table 2.11-8 details the average ridership of all UCF shuttles for the 2009 spring semester. A review of Table 2.11-8 clearly shows that a significant portion of the University's faculty, staff and students arrive each day via the shuttle system. This transit option significantly reduces the overall impact of the University on the surrounding roadway network.

E. *Bicycle and Pedestrian Circulation*

A key part of the University's multi-modal transportation system is the pedestrian and bicycle network. Since most faculty, staff and students walk between their destinations once on campus, it is important that a highly developed network exist that will allow for this circulation. To that end, the University has developed an intricate network of walkways throughout the Campus. Figure 2.11-10 illustrates the location of pedestrian and bicycle walkways on campus. This network is anchored with three concentric paths, as well as connecting paths that crisscross the campus and connect at significant pedestrian generators, such as academic buildings, parking facilities and on-campus residential units.

The pedestrian and bicycle network is key to ensuring that all of the other modes that access the Campus, such as personal vehicles (via parking facilities) and transit are utilized to their fullest extent.

To that end, the University has made significant investments in ensuring that the facilities necessary to encourage pedestrian and bicycle activity are in place, are aesthetically pleasing and are safe to use. These facilities see a great deal of use due to the large student population, as well as the active group of bicycle enthusiasts who enjoy the campus' scenic environment.

<u>Other Bicycle Facilities</u>
As noted above, bicyclists are able to use the walkway network throughout campus. In addition, most of the buildings that have significant student involvement also have one or more bicycle racks located at their entrances.

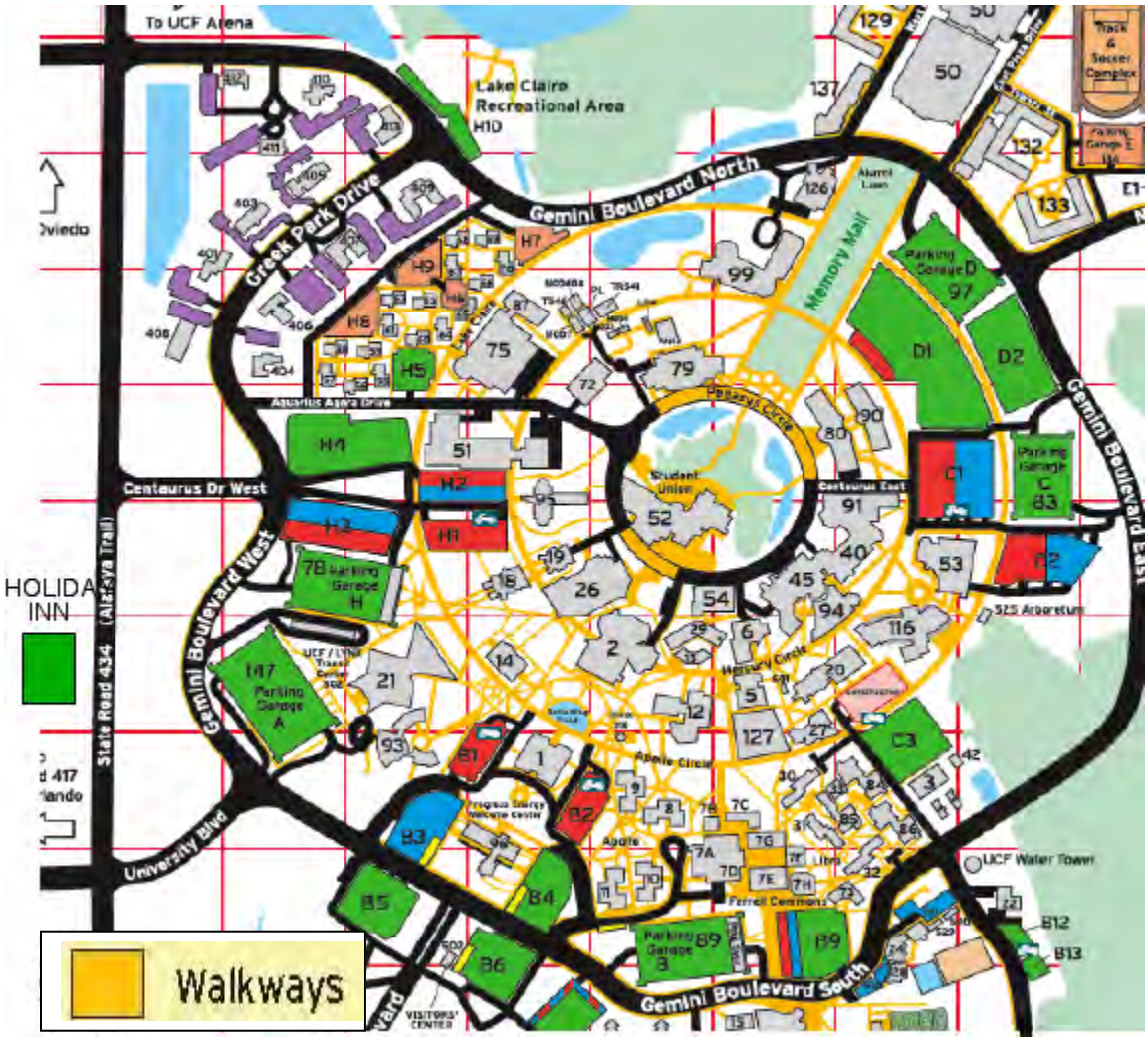

Figure 2-11.10 UCF Campus Map Detailing Pedestrian Walkways

F. *Other Mobility Options*

The University has been developing various mobility options to the use of the single-occupant vehicle and has been working to increase the student housing-to-enrollment balance within the context area. The primary mobility options and strategies to reduce the dependence upon the personal automobile offered by the University include enhanced transit service from businesses and residences off-campus and enhanced connectivity on-campus via pedestrian and bicycle facilities. One popular mobility option is the University's campus shuttle, with on-campus headways of 10 minutes or less during peak-periods and special events and off-campus headways of 15 minutes to University-affiliated housing in the context area. The University has identified residential concentrations of students in need of convenient transit routes, increased transit service, decreased bus headways, developing additional new routes, or modifying existing routes, as deemed appropriate by the University. Detailed data and charts collected and summarized by the University are located in the Appendix of this section.

The University has also implemented park and ride lots within the context area. UCF shuttles continuously transport passengers every 15 minutes from Partnership II and the Orlando Tech Center to the University Health Services parking lot stop, with return shuttles approximately every 15 minutes. Furthermore, the University provides high-quality transit, bicycle, and pedestrian options for travel between residential areas and parking lots to other on-campus destinations. The University, in conjunction with LYNX continues to improve regional and campus transit service to, from, and within the University. The data collected shows the ridership throughout the academic school year, as well as the routes and locations of stops. Dormitories, visitor parking area, and campus parking lots are also connected to other campus destinations via a network of pedestrian walkways and bicycle paths as illustrated in Figure 2.11-10. Additionally, the University provides bicycle racks adjacent to classroom buildings and prohibits all non-service vehicles within the 1,200' Radius Sidewalk. The University has also adjusted class scheduling to mitigate peak-hour traffic conditions and maximize utilization of existing transportation infrastructure.

The University actively promotes Transportation Demand Management (TDM) techniques both on-campus and in the context area. The University has implemented, where appropriate, TDM strategies, including, but not be limited to:

- Flex scheduling for University staff;
- Improved utilization of public or University-provided transit services;
- Improved pedestrian and non-vehicular facilities;
- A higher number of students living on or within walking/biking distance of campus;
- Academic scheduling modifications; and

- Traffic operational improvements to the on-campus roadway system, such as additional signalization and implementation of the SCOOT system.

The University also plans to study the effectiveness of distance learning (cable or internet classes) as a technique to reduce the need for students to travel to the University. The University has also opened a satellite campus, the Rosen School of Hospitality Management, which significantly reduces the commute from the tourist-related areas of the community to the campus.

G. *Intercollegiate Athletic Complex*

The Intercollegiate Athletic Complex is a mixed-use development located on the northern end of the campus. The Intercollegiate Athletic Complex was a major investment in on-campus athletic facilities to improve the quality of UCF's athletic programs and includes a 45,000 seat stadium which hosts UCF football games six to seven times a year. Although the football stadium is a special trip generator which does not occur in peak hour conditions, the impacts of the Intercollegiate Athletic Complex have been incorporated in the previous sections of this element,

Also in the north area, the convocation center includes three parking garages, 2,000 student residential units, and various retail and commercial spaces that generate traffic on a daily basis.

For the purposes of accommodating traffic generated by the stadium, the University has taken several measures to improve the flow of traffic entering and exiting the campus on game days. These techniques include guide signing programs, post game activities to decrease traffic peaks, and the reversal of travel lanes, which doubles the capacity of a roadway by restricting traffic flow in all lanes to one direction.

3.0 FUTURE CONDITIONS

H. *Future Socioeconomic Conditions*

The main campus of the University of Central Florida has been growing at a rapid pace over the last ten years and the enrollment numbers are anticipated to continue growing for the near and mid-term planning horizons, although actual growth has slowed due to enrollment caps and decreasing growth trends in Florida high school graduates. Based on current projections, the student population on the main UCF Campus is projected to approach 47,000 full time students on the Main Orlando Campus by 2020. Table 2.11-1 (shown below) illustrates the current growth projections for the main campus.

Table 2.11-1 UCF Projected Attendance for the Main Orlando Campus

Year	Orlando Campus Annual FTE*	Orlando Campus Fall Headcount**
2009-10	26,277	42,150
2010-11	26,324	42,567
2011-12	26,327	42,495
2012-13	26,351	42,708
2013-14	26,390	42,960
2014-15	26,522	43,152
2015-16	26,633	43,326
2016-17	26,871	43,732
2017-18	27,074	44,039
2018-19	27,258	44,347
2019-20	27,511	44,759

Source: UCF FTE Enrollment Program

I. *Committed Transportation Improvements*

Future Roadway Improvements

Based on the Metroplan Orlando Transportation Improvement Program (YR 2008/2009 – 2012/2013) and the Seminole County Public Works Department, two external facilities located in the context area are programmed to be improved. The segment of Rouse Road (Colonial Drive to Seminole County Line) is programmed to be widened from two lanes to four lanes and has an anticipated completion date of YR 2011. Likewise, the segment of Chapman Road (Aloma Avenue to Alafaya Trail) is programmed to be widened from two lanes to four lanes and has an anticipated completion date of YR 2012. The widening of these roads will increase the maximum service volumes and alleviate the current capacity deficiencies shown previously in the existing conditions

analysis.

The University has also been proactive in constructing on-campus roadway improvements as they have become needed. Recent roadway improvements to University facilities include the realignment of Gemini Boulevard West, between Libra Drive and North Orion Boulevard, which eliminated the “wishbone” roadway geometry configuration in place of a smoother, curvilinear alignment that improves traffic flow and reduces vehicle pedestrian conflict points; the construction of the North Connector roadway which connects the north side of the athletic facilities and the Convention Center to North Orion Boulevard; and the signalization of the intersections of Gemini Boulevard West at Central Florida Boulevard and the intersection of Gemini Boulevard at the UCF/Lynx Transit Center.

As such, there are few new projects currently planned for construction. The University is in the process of developing a study to evaluate the impacts of widening Libra Drive between Gemini Boulevard South and Discovery Drive. This road is part of a known cut-through route and has significant right-of-way constraints due to existing facilities specifically at the southern end of Libra Drive approaching the intersection at Discovery Drive and conservation land on the east side of the road. The feasibility of a potential widening will be closely evaluated. Figure 2.11-11 details the constraints on the widening of Libra Drive.

Figure 2.11-11 Libra Drive between Gemini South and Discovery Drive



Future Parking Facilities

UCF has recently constructed several new parking facilities, including a mix of garages and surface lots on the northern end of campus to accommodate the newly constructed residential units and Intercollegiate Athletic Complex. In an effort of seeking to accommodate the growth of the campus as well as making the most efficient use of the University’s property, UCF is also planning to construct two (2) additional parking facilities.

Parking Garage I is a 1,300-1,400-space parking garage, planned to be located west of the Psychology Building. This garage will be served by Gemini Boulevard, and operation will be controlled by a traffic signal.

Figure 2.11-12 shows a detail of the proposed Parking Garage I.



Figure 2.11-12 Proposed Parking Garage I

Figure 2.11-13 illustrates the existing and planned parking structures on the UCF Campus.

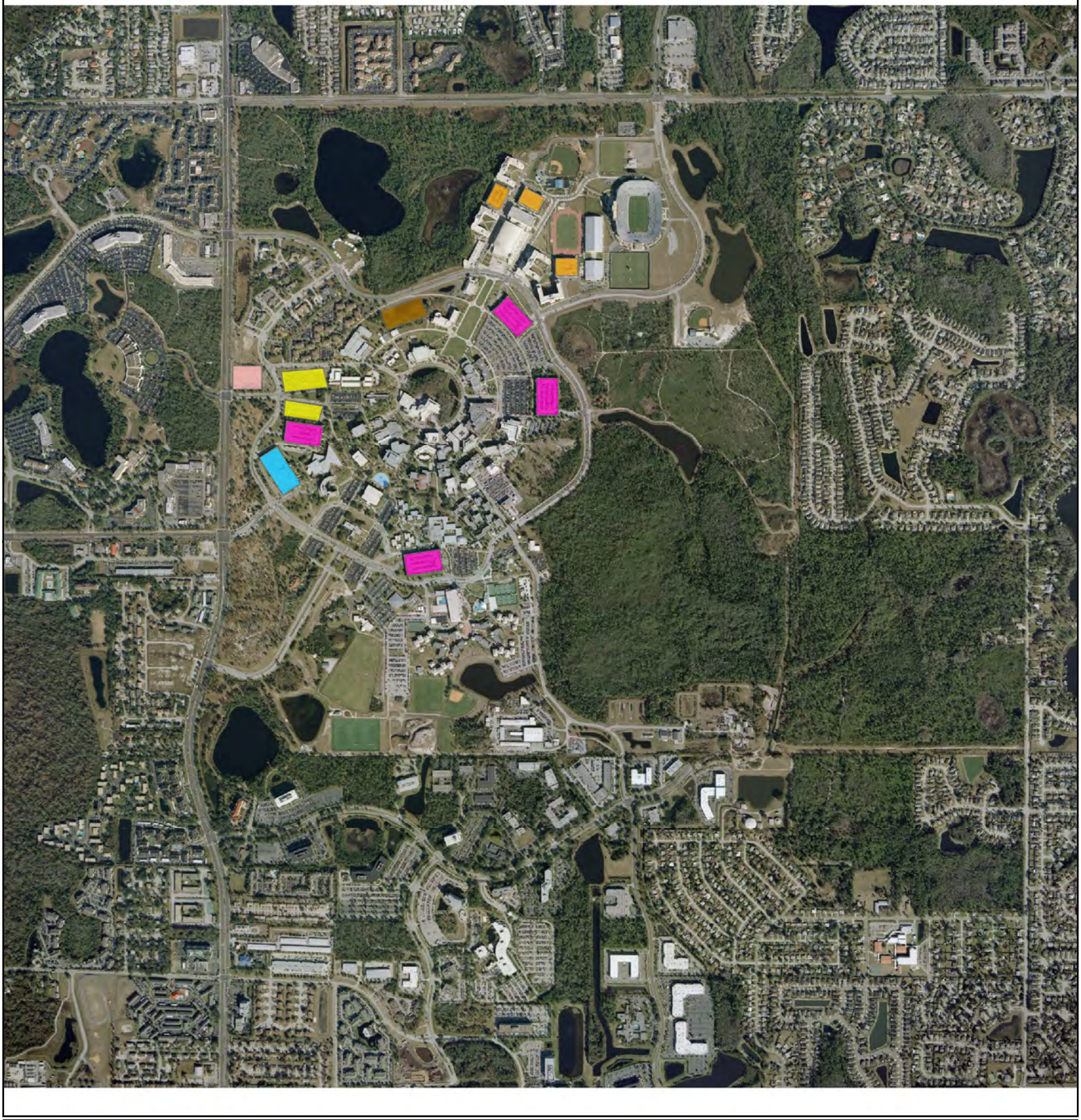

Figure 2.11-13

Existing and Planned Parking Structures

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University of Central Florida
Orlando, Florida
2010-2020

Legend

- Planned Performing Arts Center (Will Replace Existing 266 Car Lot)
- Existing 1,200-1,300 car garage
- Existing 1,650 car garage
- Existing 700 car garage
- Planned 1,300 car garage
- Planned 400 car temporary surface lot

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All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

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J. *Horizon YR 2020 Roadway Conditions*

YR 2020 Offsite Roadway Analysis

Pursuant to Florida Statutes (FS) 1013.30(3) an analysis of the projected impacts of development on offsite infrastructure was conducted for horizon YR 2020. Similar to the existing roadway analysis, the YR 2020 Roadway Analysis was conducted for all offsite roadways within the context area. Growth rates were derived based on a comparison of historical traffic counts obtained from either the Orange County or Seminole County Annual Count Programs and growth rates obtained from the Orlando Urban Area Transportation Study (OUATS) model. Growth rates were then applied to the existing traffic counts to project future traffic volumes. The minimum and maximum growth rates used for this area are 2% and 5%, respectively.

As shown in the Table 2.11-9, several roadways are projected to operate under adverse conditions based on the maximum service volumes provided in the 2009 FDOT Quality/Level of Service Handbook. It should be noted that these roadways will operate adversely with or without the anticipated trips generated by the campus student population growth; hence the growth of the University will not create any additional backlogs. As the University and the surrounding area continue to grow, the appropriate measures should be taken to ensure that the roadway facilities are concurrent with the traffic demands. The surrounding jurisdictions will monitor these roadways through the concurrency management systems, and if deemed necessary, conduct more detailed roadway analyses utilizing FDOT ARTPLAN software which provides a roadway specific maximum service volume.

Table 2.11-9 Horizon YR 2020 Offsite Roadway Conditions

			Roadway Characteristics						YR 2020 Background Traffic				UCF Trips Generated by Growth		YR 2020 Total Trips				YR 2020 Traffic Conditions Comparison		
Road Name	**From**	**To**	**No. of Lanes**	**Adopted LOS**	**Adopted Pk Hr. LOS Capacity**	**K100**	**D**	**Growth Rate**	**Daily**	**PM Peak**	**v/c**	**Backlogged Facility (Yes/No)**	**Daily**	**PM Peak**	**Daily**	**PM Peak**	**v/c**	**Deficiency (Yes/No)**	**YR 2020 Background v/c**	**YR 2020 Total v/c**	**Additional Backlog Created (Yes/No)**
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	2,940	0.090	0.575	2.00%	79,158	4,099	1.39	Yes	5,792	300	84,950	4,398	1.50	Yes	1.39	1.50	No
	Science Drive	University Boulevard	6LD	E	2,940	0.090	0.531	5.00%	98,675	4,718	1.60	Yes	7,551	361	5,079	5,079	1.73	Yes	1.60	1.73	No
	University Boulevard	McCulloch Road	6LD	E	2,940	0.090	0.665	3.18%	65,714	3,932	1.34	Yes	5,693	341	4,273	4,273	1.45	Yes	1.34	1.45	No
	McCulloch Road	Chapman Road	6LD	E	2,940	0.091	0.524	3.40%	52,800	2,515	0.86	No	4,641	221	2,737	2,737	0.93	No	0.86	0.93	No
Chapman Road	Aloma Avenue	Alafaya Trail (SR 434)	4LD	E	1,764	0.111	0.606	5.00%	30,222	2,024	1.15	Yes	-1,085	-73	1,951	1,951	1.11	Yes	1.15	1.11	No
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (SR 434)	4LD	E	1,960	0.090	0.512	2.00%	62,847	2,894	1.48	Yes	1,320	61	2,955	2,955	1.51	Yes	1.48	1.51	No
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	880	0.090	0.610	4.81%	19,740	1,084	1.23	Yes	0	0	1,084	1,084	1.23	Yes	1.23	1.23	No
	Percival Road	S. Tanner Road	2L	E	1,440	0.139	0.846	2.00%	8,823	1,035	0.72	No	0	0	1,035	1,035	0.72	No	0.72	0.72	No
Lokanotosa Trail	Rouse Road	Alafaya Trail (SR 434)	2L	E	880	0.121	0.559	2.00%	11,533	779	0.89	No	339	23	802	802	0.91	No	0.89	0.91	No
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	E	1,764	0.104	0.580	2.00%	21,885	1,319	0.75	No	1,188	72	1,391	1,391	0.79	No	0.75	0.79	No
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	E	1,764	0.090	0.653	5.00%	44,438	2,611	1.48	Yes	0	0	2,611	2,611	1.48	Yes	1.48	1.48	No
	Lockwood Boulevard	Old Lockwood	2L	E	792	0.090	0.627	5.00%	29,382	1,658	2.09	Yes	925	52	1,711	1,711	2.16	Yes	2.09	2.16	No
Percival Road	Tanner Road	Lake Pickett Road	2L	E	704	0.090	0.5809	2.00%	8,349	436	0.62	No	647	34	470	470	0.67	No	0.62	0.67	No
Rouse Road	Colonial Drive (SR 50)	Lokonatosa Trail	4LD	E	1,960	0.094	0.542	2.00%	19,278	977	0.50	No	720	36	1,013	1,013	0.52	No	0.50	0.52	No
	Lokonatosa Trail	University Boulevard	4LD	E	1,960	0.106	0.515	2.00%	20,820	1,135	0.58	No	1,058	58	1,193	1,193	0.61	No	0.58	0.61	No
	University Boulevard	Seminole County Line	4LD	E	1,960	0.111	0.620	5.00%	18,950	1,300	0.66	No	0	0	1,300	1,300	0.66	No	0.66	0.66	No
University Boulevard	Rouse Road	Alafaya Trail (SR 434)	6LD	E	2,940	0.091	0.549	2.00%	68,567	3,430	1.17	Yes	4,419	221	72,986	3,651	1.24	Yes	1.17	1.24	No

Notes:
Growth Rate obtained by comparing Historical Growth Rates versus Model Growth Rates (2<Rate<5)
2020 Background Daily Trips = Existing Background Trips grown at the respective Rate per year

Alternative Analysis and Multimodal Mobility Plan

An alternative analysis was conducted which utilizes the existing multimodal capture to determine the necessary projections of future alternative modes of travel that would be necessary to reduce the traffic volumes generated by the University. These modal capture considerations include UCF shuttle ridership, Lynx Bus ridership, pedestrian and bicycle trips, park and ride areas, and high occupancy vehicle proposed parking. The projections for these considerations are based on existing data collected by UCF and consistent with the Goals, Objections, and Policies of the University to incorporate and promote the use of future alternative modes of transportation.

As shown on Table 2.11-10, the existing internal and multimodal capture can be estimated as 14.78%. This percentage was derived using the equations listed in the ITE Trip Generation Manual, 8th Edition and traffic counts conducted at each entrance of the campus in the 2009 Spring semester. As shown in Table 2.11-10, the University currently generates 80,476 daily trips.

Based on the YR 2020 enrollment projections and as shown in Table 2.11-11, the University is anticipated to generate 100,253 daily trips by the YR 2020. Therefore, comparing the ITE trip generation, it is anticipated that the trips being generated by the University will increase by 5,818 daily trips. In order to not further exacerbate the traffic conditions on the surrounding roadways, the University has proposed to monitor and implement as necessary a multimodal mobility plan that encourages alternative modes of travel. In order to accommodate the traffic generated from the increased enrollment the University targeted a multimodal capture rate of 20% (currently 14.78%).

Table 2.11-10 Trip Generation Summary and Existing Mulitmodal Capture

ITE Code	Land Use	Size / Units		Daily Trips
550	University / College	42,150	Students	94,435
	EXISTING DAILY TRIPS (Collected Spring 2009)			80,476
	EXISTING MULTIMODAL CAPTURE			**14.78%**

Notes:
Trip generation equation is based on the Institute of Transportation (ITE) Trip Generation Manual 8th Edition.

Multimodal Capture based on known total external generation of campus (80,476 trips)

Table 2.11-11 Trip Generation Summary and Projected Mulitmodal Capture

ITE Code	Land Use	Size / Units		Daily Trips
550	University / College	44,759	Students	100,253
	EXISTING DAILY TRIPS (Collected Spring 2009)			80,476
	PROJECTED INTERNAL AND MODAL CAPTURE			**19.73%**

Notes:
Trip generation equation is based on the Institute of Transportation (ITE) Trip Generation Manual 8th Edition.

Internal and Multimodal Capture Projections

In an effort to offset the additional trips generated by the growth of the University the multimodal capture will need to be increased to approximately 20% by the horizon YR 2020. Currently, the capture can be estimated to be approximately 14.78%. As necessary, the following initiatives and strategies will be implemented by the University to aid the increase multimodal capture. Table 2.11-12 shows the existing and proposed percentages of students accounted for by each mode. As discussed below, the University does not currently monitor all multimodal modes; therefore, the information presented below will be validated through the process of monitoring, surveying and conducting traffic counts as necessary.

On Campus Housing

Currently, approximately 13% of the student population resides on campus. As the University approaches its goal of providing on campus housing for 15% of the student enrollment, the internal capture for the University will also increase. Based on the student housing goals, it is anticipated that the increased internal capture rate will account for a reduction of approximately 1% of the external vehicular trips generated by the University by the YR 2020.

Shuttle Ridership

Currently, UCF has a fleet of nearly 30 shuttle busses that account for an average daily ridership of approximately 10,000 riders per day. Based on the existing enrollment, this can be equated to 23% of students attending the campus and 8.2% of the average daily vehicles. Under existing conditions, shuttle occupancy is nearly 100%, therefore, it is anticipated that an increase of shuttle busses will not only reduce headway for students, but also increase the ridership as the surrounding area continues to grow with new student housing developments in close proximity to the campus. The University will strive to increase shuttle ridership to 25% of students, which would result in a capture rate of approximately 10% of daily trips. This can be achieved by adding an additional shuttle to Route #1: Pegasus Landing (average daily ridership of 3,975), Route #4: Alafaya Woods/University House/Boardwalk (average daily ridership of 1,773), and Route #6: Northgate Lakes/Tivoli (averaged daily ridership of 1,110).

Lynx Ridership

The University, in conjunction with LYNX continues to improve regional and campus transit service to, from, and within the University. To provide enhanced service, Link 47 will be replaced with a new route for Link 434 in December 2009. This route will service the area north or the campus and the City of Oviedo specifically. The University will monitor ridership and develop a methodology for determining the optimal routes to serve the campus through surveys of current patrons and origin and destination studies. It is estimated that LYNX ridership accounts for approximately 3.5% modal capture under existing conditions. It is recommended that the University, in coordination with LYNX, provide the appropriate transportation plan to monitor, maintain, or potentially increase the 3.5% capture rate.

Table 2.11-12 Future Multimodal Capture Derivation

Existing Multimodal Strategy	# of Students	Estimated Vehicular Trips	Existing Capture of Students	Proposed Multimodal Strategy	Proposed Capture of Students	Increase
UCF Shuttle	5,155	7,970	8.2%	Increase Fleet	10.0%	1.8%
LYNX*			3.5%	Monitor and Maintain	3.5%	-
Bike and Pedestrian*			3.1%	Increased Facilities	4.5%	1.4%
Onsite Park and Ride*			0.0%	Offsite Park and Ride	1.0%	1.0%
High Occupancy Vehicle Preferred Parking*			0.0%	Establish HOV parking program	1.0%	1.0%
Internal and Modal Capture			**14.8%**		**20.0%**	

* These modes of travel are not currently monitored by the University. The University shall monitor these modes annually to insure that the proposed reduction in traffic is achieved.

Pedestrian/Bicycle Facilities

At the current time the University does not monitor or quantify the existing amount of multimodal trips captured by pedestrians and cyclist. However, based on the 14.78% capture rate outlined in Table 2.11-12, it can be estimated that bike and pedestrian trips account for approximately 3.1% of multimodal capture. It is also expected that the Little Econ Greenway (LEG) Extension project will provide a potential boost to this mode of travel. The existing Phase I of the LEG trail extends 4 miles from Blanchard Park to Goldenrod Road and features riverside recreation, picnicking, wildlife and horse and canoe trails. There are available parking areas on Harrel Road and Econlockhatchee Trail, just north of Colonial Drive. There is also a paved trailhead on the north side of 50, just east of Goldenrod Road. The LEG will eventually extend 10 miles linking the University of Central Florida to the Cady Way Trail, then to the Cross Seminole Trail system, through the City of Oviedo and back to Blanchard Park. While plans have not been completed, it is anticipated that the LEG extension will enter the UCF campus just south of Central Florida Boulevard and will skirt the southern edge of the existing recreational fields before joining the Libra Drive corridor. The trail will then follow the Libra Drive corridor north until it intersects with North Orion Boulevard, where it will turn north to McCulloch Road and out of the UCF Campus. Figure 2.11-14 shows all of the significant existing and planned pedestrian and bicycle facilities on the UCF campus.

The University should aide the development of the LEG project by provided increased on campus facilities for cyclist and a pedestrian friendly sidewalk network. As necessary, the University will survey students and conduct bike and pedestrian counts at campus entrances to quantify the percentage of students which use this mode of travel. At a minimum, it is anticipated that this mode of travel will account for a 4.5% rate of capture by the horizon YR 2020.

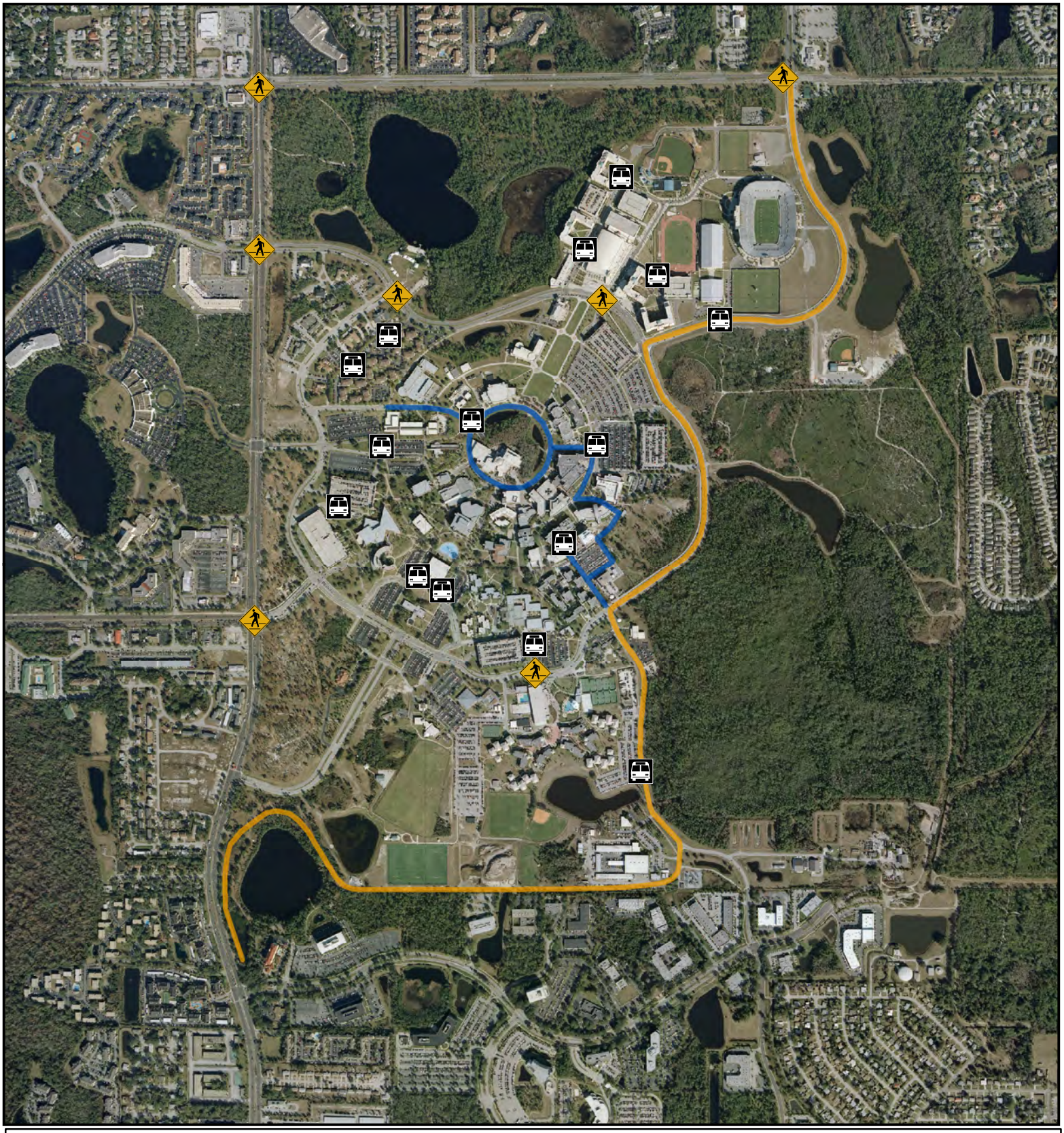

Figure 2.11-14

Pedestrian Bicycle Network

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Proposed Little Econ Trail
- Pedestrian Activity Corridor
- Shuttle Stops
- Major Corssing Movements

N

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

Rev. 20090321

0 12,500 25,000 50,000 Feet

Park and Ride
As discussed in Section 2.0 of the Transportation Element, the University has implemented a park and ride area in Research Park for students, faculty, and staff to park their car and ride on the Black and Gold shuttle lines into the main campus. For the purposes of eliminating the number of vehicles that enter and exit the campus on a daily basis, the University will explore offsite park and ride opportunities. As vehicle trips will still exist when using this strategy, the modal capture rate by the YR 2020 can be assumed to be 1.0%.

High Occupancy Vehicle Preferred Parking
High Occupancy Vehicle (HOV) Preferred Parking should also be considered by the University as an initiative for students, faculty, and staff to travel to the campus with one or more passengers. The reduction of single occupant vehicles entering the campus can create a large impact on the surrounding area transportation network. Although a methodology for the HOV preferred parking program has not been established, it is estimated that such an initiative could account for a 1% reduction in the number of students traveling to the campus in single car vehicles.

Multimodal Mobility Plan
The University will play an integral role in ensuring that various modes of travel exist for the purposes of reducing the number of single occupant vehicles entering the campus, which in turn will reduce the number of vehicles utilizing the capacity of the surrounding offsite roadway network. The University will validate the assumptions made in this report and exemplify the results through the process of monitoring, surveying and conducting traffic counts as necessary. The University will also continue to coordinate with local jurisdictions and transportation authorities, while providing expansion of on campus and vicinity housing, and providing improved facilities to encourage multimodal travel (shuttle fleet, bike lanes, bike racks on campus, pedestrian networks). Based on the reduction of trips generated as a result of the multimodal mobility plan, the horizon YR 2020 Offsite Roadway Analysis is provided on Table 2.11-13.

Table 2.11-13 Horizon YR 2020 Offsite Roadway Conditions (With Multimodal Mobility Plan)

			Roadway Characteristics						YR 2020 Background Traffic				UCF Trips Generated by Growth		YR 2020 Total Trips				YR 2020 Traffic Conditions Comparison		
Road Name	**From**	**To**	**No. of Lanes**	**Adopted LOS**	**Adopted Pk Hr. LOS Capacity**	**K100**	**D**	**Growth Rate**	**Daily**	**PM Peak**	**v/c**	**Backlogged Facility (Yes/No)**	**Daily**	**PM Peak**	**Daily**	**PM Peak**	**v/c**	**Deficiency (Yes/No)**	**YR 2020 Background v/c**	**YR 2020 Total v/c**	**Additional Backlog Created (Yes/No)**
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	2,940	0.090	0.575	2.00%	79,158	4,099	1.39	Yes	-371	-19	78,787	4,079	1.39	Yes	1.39	1.39	No
	Science Drive	University Boulevard	6LD	E	2,940	0.090	0.531	5.00%	98,675	4,718	1.60	Yes	-460	-22	4,696	4,696	1.60	Yes	1.60	1.60	No
	University Boulevard	McCulloch Road	6LD	E	2,940	0.090	0.665	3.18%	65,714	3,932	1.34	Yes	1,110	66	3,999	3,999	1.36	Yes	1.34	1.36	No
	McCulloch Road	Chapman Road	6LD	E	2,940	0.091	0.524	3.40%	52,800	2,515	0.86	No	1,142	54	2,570	2,570	0.87	No	0.86	0.87	No
Chapman Road	Aloma Avenue	Alafaya Trail (SR 434)	4LD	E	1,764	0.111	0.606	5.00%	30,222	2,024	1.15	Yes	-1,255	-84	1,940	1,940	1.10	Yes	1.15	1.10	No
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (SR 434)	4LD	E	1,960	0.090	0.512	2.00%	62,847	2,894	1.48	Yes	-539	-25	2,869	2,869	1.46	Yes	1.48	1.46	No
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	880	0.090	0.610	4.81%	19,740	1,084	1.23	Yes	0	0	1,084	1,084	1.23	Yes	1.23	1.23	No
	Percival Road	S. Tanner Road	2L	E	1,440	0.139	0.846	2.00%	8,823	1,035	0.72	No	0	0	1,035	1,035	0.72	No	0.72	0.72	No
Lokanotosa Trail	Rouse Road	Alafaya Trail (SR 434)	2L	E	880	0.121	0.559	2.00%	11,533	779	0.89	No	64	4	783	783	0.89	No	0.89	0.89	No
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	E	1,764	0.104	0.580	2.00%	21,885	1,319	0.75	No	-491	-30	1,289	1,289	0.73	No	0.75	0.73	No
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	E	1,764	0.090	0.653	5.00%	44,438	2,611	1.48	Yes	0	0	2,611	2,611	1.48	Yes	1.48	1.48	No
	Lockwood Boulevard	Old Lockwood	2L	E	792	0.090	0.627	5.00%	29,382	1,658	2.09	Yes	-8	0	1,658	1,658	2.09	Yes	2.09	2.09	No
Percival Road	Tanner Road	Lake Pickett Road	2L	E	704	0.090	0.5809	2.00%	8,349	436	0.62	No	-105	-5	431	431	0.61	No	0.62	0.61	No
Rouse Road	Colonial Drive (SR 50)	Lokonatosa Trail	4LD	E	1,960	0.094	0.542	2.00%	19,278	977	0.50	No	571	29	1,006	1,006	0.51	No	0.50	0.51	No
	Lokonatosa Trail	University Boulevard	4LD	E	1,960	0.106	0.515	2.00%	20,820	1,135	0.58	No	443	24	1,160	1,160	0.59	No	0.58	0.59	No
	University Boulevard	Seminole County Line	4LD	E	1,960	0.111	0.620	5.00%	18,950	1,300	0.66	No	0	0	1,300	1,300	0.66	No	0.66	0.66	No
University Boulevard	Rouse Road	Alafaya Trail (SR 434)	6LD	E	2,940	0.091	0.549	2.00%	68,567	3,430	1.17	Yes	-154	-8	68,413	3,422	1.16	Yes	1.17	1.16	No

Notes:
Growth Rate obtained by comparing Historical Growth Rates versus Model Growth Rates (2<Rate<5)
2020 Background Daily Trips = Existing Background Trips grown at the respective Rate per year

Table 2.11-14 Comparison of Traffic Generated by UCF

Road Name	From	To	No. of Lanes	Existing Dist (%)	Existing UCF Trips	YR 2020 Dist (%)	Prior to Multimodal Mobility Plan		With Multimodal Mobility Plan	
							YR 2020 UCF Trips	Net Increase	YR 2020 UCF Trips	Net Increase
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	31.62%	25,447	31.16%	31,239	5,792	25,075	-371
	Science Drive	University Boulevard	6LD	41.07%	33,051	40.50%	40,602	7,551	32,591	-460
	University Boulevard	McCulloch Road	6LD	21.79%	17,536	23.17%	23,229	5,693	18,646	1,110
	McCulloch Road	Chapman Road	6LD	16.27%	13,093	17.69%	17,735	4,641	14,236	1,142
Chapman Road	Aloma Avenue	Alafaya Trail (SR 434)	4LD	2.42%	1,948	0.86%	862	-1,085	692	-1,255
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (SR 434)	4LD	10.07%	8,104	9.40%	9,424	1,320	7,564	-539
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	0.00%	0	0.00%	0	0	0	0
	Percival Road	S. Tanner Road	2L	0.00%	0	0.00%	0	0	0	0
Lokanotosa Trail	Rouse Road	Alafaya Trail (SR 434)	2L	1.31%	1,054	1.39%	1,394	339	1,119	64
Lockwood Boulevard	McCulloch Road	Oviedo City Limits	4LD	9.10%	7,323	8.49%	8,511	1,188	6,832	-491
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Boulevard	4LD	0.00%	0	0.00%	0	0	0	0
	Lockwood Boulevard	Old Lockwood	2L	4.73%	3,807	4.72%	4,732	925	3,798	-8
Percival Road	Tanner Road	Lake Pickett Road	2L	3.93%	3,163	3.80%	3,810	647	3,058	-105
Rouse Road	Colonial Drive (SR 50)	Lokonatosa Trail	4LD	0.04%	32	0.75%	752	720	604	571
	Lokonatosa Trail	University Boulevard	4LD	2.56%	2,060	3.11%	3,118	1,058	2,503	443
	University Boulevard	Seminole County Line	4LD	0.00%	0	0.00%	0	0	0	0
University Boulevard	Rouse Road	Alafaya Trail (SR 434)	6LD	23.31%	18,759	23.12%	23,178	4,419	18,605	-154

Through the implementation of the University's Multimodal Mobility Plan and as shown on Table 2.11-14, the traffic generated by the growth of the University by the horizon YR 2020 will be less than the existing traffic generated by the University on most of the offsite roadways within the context area.

In summary, the University will establish a multimodal mobility plan which encourages alternative modes of travel and reduces the single occupant vehicles entering and exiting the campus. Where feasible, the effectiveness of the plan should be monitored and strategies should be optimized to achieve a multimodal capture rate of at least 20% by the horizon YR 2020. The University in coordination with Orange County will develop an acceptable plan to be implemented in the Campus Development Agreement which outlines the following tasks:

- UCF Shuttle reports including ridership counts, route descriptions, headways, and daily schedules
- Coordination with Lynx to provide similar information as above
- Origin and Destination surveys of students and employees
- Pedestrian and bike surveys to determine the capture percentage
- Pedestrian safety evaluations at major pedestrian crossing areas on campus
- Coordination of off-campus student housing
- Establish and monitor park and ride areas
- Establish and monitor HOV preferred parking areas

2.12 Intergovernmental Coordination Element Goals, Objectives and Policies 2010-2020 Campus Master Plan Update

GOAL 1: Achieve the goals, objectives, and policies of the University Master Plan through the use and promotion of intergovernmental coordination with local, regional, state, and federal government entities.

OBJECTIVE 1.1: To promote land use compatibility between the University and host local government through the coordination of the University's Master Plan with the comprehensive master plans of the host community.

POLICY 1.1.1: If appropriate, UCF may request that proposed amendments to the Comprehensive Policy Plan of Orange County which have the effect(s) of changing land uses or policies that guide the development of land within the context area, affect the provision of local services, or which otherwise impact University facilities or resources be submitted to the University Director of Facilities Planning for review and comment.

POLICY 1.1.2: The University shall establish, in conjunction with Orange County, a process for reciprocal review of comprehensive plans.

POLICY 1.1.3: Proposed amendments to the adopted Campus Master Plan which exceed the thresholds established in Chapter 1013.30(9), F.S., shall be transmitted to the Orange County, any affected local government, East Central Florida Regional Planning Council, St. Johns River Water Management District, Florida Game and Fresh Water Fish Commission, Florida Department of Transportation, Florida Department of State, Florida Department of Environmental Protection, Florida Land Management Advisory Council, the State of Florida Department of Community Affairs and other applicable governing bodies for review, in accordance with the procedures established in Chapter 6C-21, Part 1, Florida Administration Code.

POLICY 1.1.4: Proposed amendments to the Campus Master Plan which do not exceed the thresholds established in Chapter 1013.30(9), F.S., and which have the effect of changing the manner in which development on campus may occur or impacting off-campus facilities, services or natural resources, shall be transmitted to Orange County for a courtesy review.

POLICY 1.1.5: The University shall meet with appropriate government entities, as needed, for their review and comment on enrollment projections in the UCF Campus Master Plan, and for review of appropriate elements of local government comprehensive plans by the University.

POLICY 1.1.6: Every effort shall be made to formalize the terms and conditions of the reciprocal plan review process through an interlocal agreement or memorandum of understanding.

POLICY 1.1.7: The University may work with Orange County to seek additional opportunities for joint use facilities.

OBJECTIVE 1.2: To establish administrative procedures and coordination mechanisms for the reciprocal review of campus and host community development plans.

POLICY 1.2.1: It shall be the policy of UCF will request that proposed development within the context area which has the potential to impact or affect University facilities or resources shall be submitted to the University's Director of Facilities Planning for review.

POLICY 1.2.2: Whenever practical and reasonable, the UCF Director of Facilities Planning shall meet with local officials to establish the criteria and thresholds for development proposals which would be subject to review by the University. The construction or renovation of single-family homes, and other small-scale developments are to be excluded from review by the University.

POLICY 1.2.3: Except when otherwise stated in Section 1013.30, F.S., the provisions of the Campus Master Plan and associated campus development agreement supersede the requirements of Part II of Chapter 163, F.S.

POLICY 1.2.4: University officials shall participate and cooperate with local officials in the review of proposed campus enrollment projections to assess potential impacts on local, regional, and state resources and facilities.

POLICY 1.2.5: Once the campus development agreement is formalized, all campus development may proceed without further review by the host local government if it is consistent with the adopted Campus Master Plan and associated campus development agreement.

POLICY 1.2.6: University officials shall participate and cooperate with local officials in the review of proposed development within the context area to assess potential impacts on University resources and facilities.

POLICY 1.2.7: When it has been determined that enrollment projections on campus would have an adverse impact on local services, facilities or natural resources, University officials will participate and cooperate with Orange County and other pertinent regional and state agencies in the

identification of appropriate strategies to mitigate the impact consistent with the terms and conditions of the interlocal agreement.

POLICY 1.2.8: When practical and reasonable, UCF shall seek to execute a memorandum of understanding with Orange County to ensure that UCF receiver from Orange County a copy of any application for Development Order or Construction Permit within the designated context area surrounding the University which is subject to review under policy above regarding establishment of criteria and thresholds for review of development proposals.

POLICY 1.2.9: When it has been determined that proposed development within the designated context area would have an adverse impact on the University's facilities and resources, UCF officials will participate and cooperate with local, regional or state officials in the identification of appropriate strategies to mitigate the impacts on UCF facilities and resources.

POLICY 1.2.10: Any dispute between the University and a host or affected local government regarding the assessment or mitigation of impacts shall be resolved in accordance with the process established in Subsection 1013.30 (8), F.S.

POLICY 1.2.11: The University will work with Orange County in working groups to share and discuss planned infrastructure improvements.

OBJECTIVE 1.3: To assess and mitigate the impacts of on-campus development on the surrounding community, host and affected local governments, and service providers.

POLICY 1.3.1: As provided for in s. 1013.30, F.S., within 270 days after adoption of the Campus Master Plan by the State University System, a draft Campus Development Agreement shall be transmitted to appropriate host and affected local governments. This Agreement must:

- Identify geographic area covered by the Agreement;
- Establish the duration of the Agreement (5-10 years);
- Identify LOS Standards for public services and facilities, the entity to provide these services and facilities and any financial arrangements between the State University System and the service providers;

- Determine impact of proposed campus development on identified public services and facilities and any deficiencies likely to occur as a result;

- Identify facility improvements to correct deficiencies;

- Identify the State University System' "fair share" of the costs of needed improvements; and

- Be consistent with adopted Campus Master Plan and host local government comprehensive plan.

POLICY 1.3.2: The State University System and host government shall execute the Campus Development Agreement within 180 days after receipt of the draft agreement.

POLICY 1.3.3: Once the Campus Development Agreement is executed, all campus development may proceed without further review by the host local government if it is consistent with the Campus Development Agreement and the adopted Campus Master Plan.

POLICY 1.3.4: Once the State University System pays its "fair share" for capital improvements as identified in the Campus Development Agreement, all concurrency management responsibilities of the University and State University System are deemed to be fulfilled.

POLICY 1.3.5: Any dispute between the University and host local government which arises from the implementation of the Campus Development Agreement shall be resolved in accordance with the process established in s. 1013.30 (16), F.S.

OBJECTIVE 1.4: To use University facilities and resources as shelters and for the staging of emergency services for an emergency event.

POLICY 1.4.1: The University shall work closely with the Orange and Seminole Counties' Offices of Emergency Management, the Sheriff's Departments, the American Red Cross, and other relevant organizations to develop standards and operating procedures for the activation and operation of emergency shelters on campus to house on-campus and near-campus faculty, staff and students.

POLICY 1.4.2: The University shall participate in emergency exercises to evaluate management plans and procedures.

POLICY 1.4.3: Consistent with the pertinent Coastal Management Element Policy, the University will make available to the Orange County

Emergency Management office annually a listing of available public shelters on the UCF campus.

OBJECTIVE 1.5: **To ensure the provision of adequate public services and facilities necessary to support development on campus and to meet the future needs of the University.**

POLICY 1.5.1: The University shall coordinate the provision of additional stormwater management facilities consistent with the General Infrastructure Element.

POLICY 1.5.2: The University shall coordinate the provision of additional potable water facilities consistent with the General Infrastructure Element Policy.

POLICY 1.5.3: The University shall coordinate the provision of additional sanitary sewer facilities consistent with the General Infrastructure Element Policy.

POLICY 1.5.4: The University shall coordinate the provision of additional solid waste collection facilities consistent with the General Infrastructure Element.

POLICY 1.5.5: The University shall coordinate the provision of additional electrical power and natural gas service consistent with the Utilities Element.

POLICY 1.5.6: The University shall coordinate with appropriate authorities, such as the Expressway Authority, for transportation system improvements consistent with Future Land Use Element and the Transportation Element.

POLICY 1.5.7: The University shall coordinate pedestrian and non-vehicular circulation improvements consistent with the Transportation Element.

POLICY 1.5.8: The University shall coordinate the provision of affordable housing off-campus consistent with Housing Element.

POLICY 1.5.9: The University will participate in the development of updates to the District's water supply assessment and *District Water Supply Plan* and any other water supply development-related initiatives facilitated by the District that affect the University.

OBJECTIVE 1.6: **To ensure the protection of natural, historical and archaeologically significant resources from the adverse impacts of development on campus.**

POLICY 1.6.1: The University shall coordinate the protection of environmentally sensitive areas, species, and natural resources consistent with Future Land Use Element, Conservation Element and Landscape Design Guidelines Element Policies.

POLICY 1.6.2: The University shall coordinate the protection of historical and archaeologically significant resources consistent with Future Land Use Element.

OBJECTIVE 1.7: The University shall work cooperatively with Orange County to eliminate or minimize land use compatibility problems and constraints between the University and Orange County.

POLICY 1.7.1: The University and Orange county may work cooperatively to develop shared design and signage guidelines to ensure compatibility of on-campus development with the surrounding community

POLICY 1.7.2: Where the acquisition of additional lands is necessary for the continued growth and expansion of university facilities, the University shall work cooperatively with Orange County on any required amendments to the CPP.

POLICY 1.7.3: The University shall work with Orange County to establish additional opportunities for increased coordination.

2.12 Intergovernmental Coordination Element Data and Analysis 2010-2020 Campus Master Plan Update

The University of Central Florida Intergovernmental Coordination Element promotes proper communication and coordination between the University and affected state and local governments. The rapid growth of the University means that increased development and infrastructure coordination with the host community and other governmental bodies, particularly Seminole County, will be vital to meet future needs in a planned and effective way. Per Florida law, "affected state and local governments" include the following entities:

- Orange County
- Seminole County
- City of Oviedo
- City of Orlando
- St. Johns River Water Management District
- Florida Department of Community Affairs
- East Central Florida Regional Planning Council
- Florida Department of Transportation
- Florida Department of State
- Florida Department of Environmental Protection
- Florida Freshwater Fish and Wildlife Conservation Commission

Intergovernmental Coordination and the Campus Master Plan Outreach Program

As reflected in the Goals, Objectives and Policies, the University will continue to develop and implement its community outreach program with respect to the Campus Master Plan. Currently, the University presents the Plan at various phases throughout the update process in the form of public hearings, informal information sessions, and neighborhood groups. The coordination process with local governments throughout the Plan update is critical to ensure that all input is considered prior to the Plan's final adoption.

Intergovernmental Coordination and the Campus Development Agreement

Pursuant to Section 1013.30 Florida Statutes, the University is required to enter into a campus development agreement(s) (CDA) with local government(s) that addresses the impacts of University development on local government support infrastructure. Negotiation of the CDA occurs in conjunction with every five-year update to the Campus Master Plan and includes the identification of a process whereby the impacts of development are assessed. The primary purpose of the CDA is for the University and local government to identify areas of impact from University-generated development on the local infrastructure system and to calculate the University's proportionate share of the impacts. The CDA typically

includes one or more specific concurrency projects, along with the estimated project cost, which is essentially a request to the State for Concurrency Trust Fund monies. Every project requested must be supported by adequate data and analysis in order to access Trust Fund dollars. The Campus Master Plan updates and the CDA are coordinated closely with local government representatives to ensure consistency with state and local comprehensive plans.

Intergovernmental Coordination and the UCF Facilities Planning Website

The above referenced website (www.fp.ucf.edu) houses the current and former Campus Master Plans, in addition to a wealth of support documentation for the plan update. The website is a critical tool the University uses to communicate with state and local governments, the on-campus community and the public. The University will continue to utilize this electronic medium to provide easy access to the Campus Master Plan in order to streamline the local and state review process.

Intergovernmental Coordination and Transportation

In the area of transportation, the University may participate in the regional transportation planning body, MetroPlan, which seeks to address the overall transportation challenges of the rapidly growing area in which the University itself is growing rapidly. The University participates with the local area public transportation entity, Lynx, and through that participation, has developed a public transportation mall adjoining the west parking garage to facilitate use of public transportation facilities by students, faculty and staff. Finally, the University will continue to coordinate with localities looking to interconnect multiuse trail systems through and/or around the campus.

The University will continue to implement its policy of close coordination with effected state and local governments with regard to transportation issues resulting from University-generated development, including impacts on area and on-campus roadways, transit, parking and bicycle/pedestrian facilities. Please refer to section 2.11 for University policies regarding transportation.

Intergovernmental Coordination and Fire Protection

The University partnered with Orange County by providing land in its northeast corner for a fire station serving the University and the adjoining neighborhoods.

Intergovernmental Coordination and Stormwater Master Planning

The St. Johns River Water Management District approved the update to the Campus Stormwater Master Plan in March, 2007, thus providing adequate and environmentally sound stormwater management and capacity for the past and future growth of the campus. The update significantly reduces University-

generated offsite stormwater impacts on the surrounding community as discussed in the Stormwater sub-element of this plan. The University will continue to coordinate with state and local governments as it develops within the parameters of the approved Stormwater Master Plan. In addition, the University intends to sponsor public symposiums addressing this issue with local stormwater officials and the public.

Intergovernmental Coordination and Potable Water and Sanitary Sewer

The University has secured a long-term ability to meet potable water needs through coordination with Orange County by providing an easement through its southern property for a new regional water service line that replaces the on-site wells previously used. In addition, the University has coordinated with the host government and has upgraded its sanitary sewer infrastructure by sending its sanitary waste to City of Orlando's Iron Bridge facility for processing and re-use. As part of that agreement, the University will receive treated effluent from Iron Bridge for non-potable uses.

Intergovernmental Coordination and Environmental Protection

The cumulative effect of growth of the University and the surrounding community has been to change the nature of the University and its environs from a semi-rural, suburban area to an increasingly urban center. This increases the need to coordinate environmental monitoring and conservation efforts. Overall the impact of University and community growth is to increase the importance and necessity for joint planning and coordination of growth management efforts. As a center of learning, the University occupies an important position in this partnership. As part of its mission, it should provide critical knowledge and expertise and demonstrate its commitment to beneficent growth management.

<u>Identification of Opportunities for Increased Coordination</u>

The University will explore the following opportunities for increased intergovernmental coordination through the year 2015 planning horizon:

2.1	Academic Mission	
	Sub-issue	**Partnership campuses**
	Sub-issue	**Community outreach**
2.2	Urban Design	
	Sub-issue	**Compatible urban fabric interface**
2.6	Support Facilities	**Joint-use of facilities (Union, etc.)**
2.7	Housing	
	Sub-issue	**Availability and proximity**

2.8	Recreation & Open Space	**Joint-use of facilities**
2.12	Intergovern'l. Coord. Sub-issue	**Community safety**
2.14	Capital Improvements Sub-issue	**Funding of joint-use facilities**

2.13 Conservation Element
Goals, Objectives and Policies
2010 – 2020 Campus Master Plan Update

GOAL 1: Maintain a commitment to the protection of the University's ecosystems and lands of significant environmental importance to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the campus's built environment.

OBJECTIVE 1.0: To use the UCF Landscape & Natural Resources as an oversight department for the conservation element of the Master Plan. Changes to the master plan will be reviewed by the Landscape & Natural Resources.

OBJECTIVE 1.1: To designate environmentally sensitive lands for protection based on state and regionally determined criteria.

POLICY 1.1.0: As established by the adoption of this Plan, the University shall maintain, in a managed natural state, all of those sites identified for conservation on the Future Conservation Areas Map (Figure 13-1). Consistent with Future Land Use Element, except for minimal structures and improvements necessary to ensure safe access and essential support functions, there shall be no construction in these areas except pursuant to an amendment to this Plan adopted in accordance with the requirements set forth herein

POLICY 1.1.1: As established by the adoption of this Plan, the University shall maintain, in a natural state, all of those sites identified as conservation on the Future Conservation Areas Map (Figure 13-1). New areas shall be considered for potential designation as Conservation Areas based on documented conservation values, e.g., presence of imperiled or vulnerable species or natural communities or other features of state, regional, or local concern, due to declines or vulnerability to further losses. Consistent with the Future Land Use Element, except for minimal structures and improvements necessary to ensure safe access and essential support functions, there shall be no construction in these areas except pursuant to an amendment to this Plan adopted in accordance with all applicable state and local requirements.

POLICY 1.1.2: The University shall continue to coordinate with appropriate state and regional environmental agencies, such as St. Johns River Water Management District (SJRWMD), Florida Fish and Wildlife Conservation Commission and Division of Forestry, to manage appropriately the designated Conservation areas. The scope of the work shall include, but is not limited to:

1. A Geographic Information System (GIS) database that includes digital overlays depicting the location of vegetative communities and management units within designated Conservation areas;
2. Digital overlays depicting documented locations of imperiled or vulnerable species of communities (e.g., ranked as G1-G3 or S1-S3 by the Florida Natural Areas Inventory);
3. A written management plan including management and restoration techniques; Monitoring and evaluation schedule and a description of compatible uses;
4. Implementation of UCF's Weed Management Plan, which details the methods for the removal and control of exotic plants in the designated Conservation Areas; and
5. Development of specific guidelines to ensure the protection of the Arboretum.

The adopted Campus Master Plan shall be amended, as needed, to incorporate the results and recommendations contained in the management study.

POLICY 1.1.3: The University hereby continues to use the future land use designation of "Conservation Easement Lands" for the purposes of environmental protection of lands that are set aside in perpetuity pursuant to a recorded Conservation Easement. This designation will allow very-low impact recreational or educational uses such as hiking, non-motorized boating, bird watching, horseback riding, fishing, primitive camping and nature study, that use natural amenities of such sites and such other uses that are not in violation of the recorded Conservation Easement.

POLICY 1.1.4: The University shall require that appropriate methods of controlling soil erosion and sedimentation, as outlined in the University's Department of Environmental Protection (DEP) National Pollution Detection of Erosion and Sediment (NPDES) permit, to help minimize the destruction of soil resources be used during site development and use. Such methods shall include, but not be limited to:

- Phasing and limiting the removal of soil;
- Minimizing the amount of land area that is cleared;
- Limiting the amount of time bare land is exposed to rainfall; and
- Using temporary ground cover on cleared areas if construction or other stabilization is not imminent.

Special consideration is to be given to maintaining vegetative covered areas of high soil erosion (i.e., banks of streams, steep or long slopes, stormwater conveyances, etc.). Environmental Health & Safety will be responsible for updating the NPDES permit and coordinating NPDES activities.

POLICY 1.1.5: The University shall minimize stormwater-borne pollutants generated as a result of University operations and maintenance practices through adherence to General Infrastructure Element policies (see section 2.9).

OBJECTIVE 1.2: To conserve, appropriately use, and protect native vegetative communities and wildlife habitat. To restrict University activities known to threaten the habitat and survival of imperiled and vulnerable species (inclusive of threatened and endangered species and species of special concern, as defined by Florida Fish and Wildlife Conservation Commission).

POLICY 1.2.1: The University shall maintain the natural areas within the campus as a system of interconnected wetlands and upland preserves, as shown on the Conservation Areas Map (Figure 13-1).

POLICY 1.2.2: The University shall use plant species that are indigenous to the natural plant communities of the Central Florida area. In cases where non-invasive exotic plants are used to enhance the landscape, plantings shall be limited to those non-invasive species that are able to resist periods of drought and which require little fertilization and the use of pesticides.

POLICY 1.2.3: It is the intent of the University to remove all non-native invasive plants (whether grasses, shrubs or trees) which are identified on the Exotic Pest Plant Council's "Florida's Most Invasive Species List" from the campus grounds. The Department of Landscape & Natural Resources will periodically survey campus lands for the presence of such species and will properly remove and dispose of these exotic species as defined in UCF's Weed Management Plan. If the exotic species fall within a Conservation Easement, approvals and/or permits for removal will be obtained from SJRWMD.

POLICY 1.2.4: The University shall establish a buffer of at least 50 feet for upland areas adjacent to identified on-campus wetland areas located within the Riparian Habitat Protection Zone (RHPZ) of the Little Econlockhatchee River. Where feasible, the buffer will be widened to conserve wetland function.

POLICY 1.2.5: Before any encroachment into the buffer established in above referenced Policy is authorized and a plan of development approved, the University shall review all available environmental and economic options (including the costs of mitigation). If this review indicates that encroachment into the buffer is the only viable option, then the University shall pursue all reasonable efforts to minimize and mitigate any unavoidable impacts, and acquire appropriate permit modifications from SJRWMD.

POLICY 1.2.6: Any proposed development adjacent to a designated conservation area shall be carefully sited and integrated into the existing landscape to have minimal visual impact on the area. Landscape treatment shall preserve significant existing vegetation to allow a gradual transition from developed areas to undeveloped areas to preserved areas. The existing vegetation shall serve to buffer proposed development in order to maintain the natural and undeveloped character of the area. Biological and hydrological impacts to designated conservation areas shall be avoided or minimized.

POLICY 1.2.7: Copies of land development criteria and standards that reflect the policies contained in the adopted Campus Master Plan shall be provided to design consultants and appropriate University staff. The University shall standardize the construction review process to ensure adherence to appropriate master plan policies.

POLICY 1.2.8: In order to consider the feasibility of plant or animal species relocation elsewhere on the campus, the University's Facilities Planning Director or Physical Plant Director shall provide the Landscape & Natural Resources department and the Department of Landscape & Natural Resources four (4) weeks minimum written notice of the pending development of an undeveloped natural vegetation site.

POLICY 1.2.9: Periodic prescribed burns of selected preserve areas of fire-maintained native habitat (i.e., sandhill, upland pine, pine flatwoods, etc.) shall be conducted as budgets allow, provided that such activities follow well-accepted ecological guidelines for prescribed burning, comply with all applicable regulatory guidelines, and include direct coordination with the UCF Administration, offices of UCF Facilities Planning, Landscape & Natural Resources, Physical Plant, Environmental Health & Safety, Community Relations, the Florida Department of Agriculture and Consumer Services' Division of Forestry, and the fire department of Orange counties. The Department of Landscape and Natural Resources will be responsible for conducting and coordinating the prescribed burn program. Prescribed burns planned within Conservation Easements, or previously permitted mitigation areas, will be reviewed and authorized by SJRWMD.

POLICY 1.2.10: The University shall continue to require the use of best management construction practices, including the use of soil stabilizers, silt screens, surface moisture applications and other techniques to reduce the impact of development activities.

POLICY 1.2.11: The University shall continue to protect and conserve imperiled and vulnerable species, including threatened and endangered species of plants and animals, and species of special concern, as required

by the Endangered Species Act of 1973, as amended, Chapter 39, F.A.C., and federal and state management policies relating to the protection of threatened and endangered species, and species of special concern.

POLICY 1.2.12: The University shall coordinate with the Florida Fish and Wildlife Conservation Commission to maintain and manage gopher tortoise populations located within the campus' natural areas and designated conservation areas (Figure 13.1). The upland preserve located in the north portion of the campus will continue to serve as the gopher tortoise relocation area for tortoises, until the carrying capacity has been reached for that parcel (as defined by the Florida Fish and Wildlife Conservation Commission). Fencing to prevent the tortoises from entering nearby roadways will be established, contingent upon availability of funds. The University shall explore the future protection of upland habitat to serve as a gopher tortoise relocation and managment site.

POLICY 1.2.13: During the initial planning phase of any physical changes to the campus, the University shall perform a census of wildlife and plants in the area to be affected. Plants or animals identified in the "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida," which is updated annually by the Florida Fish and Wildlife Conservation Commission, or otherwise afforded protection by the host communities and state and federal agencies, or ranked as G1-G3 (critically imperiled globally, imperiled globally, or vulnerable globally) or S1-S3 (same, but assessed as state scale) shall be noted. Protection plans for those identified species shall be formulated consistent with those of the host communities and appropriate state and federal agencies.

POLICY 1.2.14: University personnel shall, when encountering listed species, follow procedure and seek consultation with the appropriate agencies as identified in the Florida Fish and Wildlife Conservation Commission "Wildlife Methodology Guidelines," dated January 15, 1988.

POLICY 1.2.15: The University shall implement the Restoration Plan for the Conservation Easement within the Arboretum, created by the University with assistance from SJRWMD that details efforts to reestablish the appropriate ecological managed landscape in the 7.85-acre Conservation Easement.

OBJECTIVE 1.3: To conserve, appropriately use, and protect the quantity and quality of projected water sources.

POLICY 1.3.1: The University shall move forward with the plan of replacing potable water irrigation with the reclaimed water connection to the Iron Bridge Treatment plant in Seminole County.

POLICY 1.3.2: The University shall explore every opportunity to plant wetland species around existing and future ponds on campus throughout the planning period.

POLICY 1.3.3: The University shall explore the idea of developing a wildlife corridor connecting the wildlife habitat from the southeast portion of campus to the preserve areas on the north side.

POLICY 1.3.4: The University shall continue to monitor and test raw well water, destined for potable use, on a daily and monthly basis per DEP requirements.

POLICY 1.3.5: The University shall continue to monitor and test treated potable water on a daily and monthly basis per DEP requirements.

POLICY 1.3.6: The University shall continue to monitor Lake Claire for compliance with existing surface water quality standards. The Department of Landscape and Natural Resources will monitor for parameters identified under the University's NPDES program. The Department of Environmental Health & Safety will monitor Lake Claire for human health-based water quality criteria.

POLICY 1.3.7: The University shall continue to implement a comprehensive water conservation program, to include the use of:

1. treated wastewater effluent for an expanded campus irrigation system and chilled water system make-up water;
2. automated timers and other irrigation flow monitoring mechanisms
3. xeriscape landscape treatments for new building construction and new campus common areas; and
4. the use of low flow and low flush fixtures in new building construction.

POLICY 1.3.8: The University shall not undertake activities on campus that would contaminate groundwater sources or designated recharge areas, unless provisions have been made to prevent such contamination or otherwise provide mitigation for such activities so as to maintain established water quantity and quality standards.

NOTE: Details concerning the physical operation of the University's potable, waste- and storm-water systems are found in the General Infrastructure Element (Section 2.9).

OBJECTIVE 1.4: To maintain or improve existing air quality on campus.

POLICY 1.4.1: The University shall continue to participate in, and consider, those programs that will maintain or improve existing air quality on campus lands. Such programs include: the area apartment shuttles, the on-campus Black and Gold-line shuttles, participation in local transportation management associations, LYNX connections and the promotion of bicycle and pedestrian circulation improvements. This includes the development of bicycle paths that would connect to existing Orange and Seminole County networks to accommodate faculty, staff and student access. The Parking and Traffic and Master Planning Committees, along with designated University departments (such as Landscape & Natural Resources, Sustainability & Energy Management, and the Landscape & Natural Resources) shall hold joint annual meetings to evaluate this subject.

POLICY 1.4.2: The University shall reduce mobile sources of air pollution through Transportation Element policies designed to discourage dependence on personal automobiles as the primary transportation mode on campus, and to encourage alternative modes of transportation on campus (i.e., public transit, bicycles, etc.) and alternative fuels and means of vehicular power (e.g., solar cells, hydrogen fuel cells, bio-fuels, hybrids).

POLICY 1.4.3: The University shall minimize emissions of air pollutants by minimizing the storage and use of volatile and hazardous materials in campus buildings, as established by the Department of Environmental Health & Safety.

POLICY 1.4.4: The University shall determine the potential impacts on air quality before construction of parking facilities. Parking structures shall be designed to facilitate rapid ingress and egress of vehicles to minimize idling time, and to maximize air flow through them to eliminate pockets of stagnation where pollutant levels can build up.

POLICY 1.4.5: The University shall continue its indoor air quality program and shall implement a program for the monitoring outdoor air quality. The Civil & Environmental Engineering Department shall advise the Environmental Health & Safety Department of ambient air quality conditions on campus. Grants or in-house programs to periodically monitor ambient outdoor air should be sought. Failure to meet federal or state air quality standards shall result in an assessment of the probable cause and the preparation and implementation of a plan to improve and maintain air quality.

OBJECTIVE 1.5: To maximize on-campus reclamation of hazardous materials and consumer products.

POLICY 1.5.1: All University buildings shall be designed with facilities to accommodate collection, storage and disposal of recycled materials.

POLICY 1.5.2: The University shall coordinate on-campus recycling programs with those of local government in regard to materials collected, and disposal/collection procedures.

POLICY 1.5.3: The University shall provide on-campus facilities for the collection and storage of hazardous materials used in University operations, as required by federal, state and local regulations.

POLICY 1.5.4: The University shall implement academic programs that promote awareness of environmental impacts of resource recycling.

POLICY 1.5.5: The University shall continue to enforce hazardous materials handling and storage procedures per the recommendations of UCF Environmental Health & Safety.

POLICY 1.5.6: The University shall use only licensed hazardous waste transportation and disposal companies.

GOAL 2: To maintain a commitment to the conservation of the University's energy resources to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the campus's built environment.

OBJECTIVE 2.0: **The University shall continue to implement a variety of existing programs and conserve the use of energy on the campus through the Department of Sustainability & Energy Management.**

POLICY 2.1.1 Energy-conserving fixtures, air conditioning and lighting systems and other building-specific energy use and management techniques shall continue to be a required element of all new buildings constructed on the campus.

POLICY 2.1.2: Where feasible, existing buildings shall be retrofitted with energy conservation lighting fixtures.

POLICY 2.1.3: UCF's Department of Sustainability & Energy Management will serve as the University's principal advisor and approval authority for ensuring that the standards and practices for design, construction, and operation of all UCF facilities are consistent with LEED practices.

2.13 Conservation Element
Data and Analysis
2010-2020 Campus Master Plan Update

(a) For each of the resources identified in (1) a) identify existing commercial, recreational, or conservation uses

From the Conservation Element analysis in the Master Plan approved in January 2003 by the UCF Board of Trustees, the following sub-elements were included: Air Quality, Surface Water Quality, Underground and Aboveground Tanks, Toxic Waste and Hazardous Materials, Surface and Groundwater Hydrology. Additionally, though not designated by number, a section on natural areas was included. Little specific, new information on these sub-elements was identified. If there has been no update, readers are referred to the Conservation Element Analysis section from the prior plan.

(b) For each of the resources identified in (1) a) assess the available and practical opportunities and methods for protection or restoration of those resources on University property.

The UCF campus contains an abundance of significant natural resource areas, many of which are protected from future development. Areas of interest include the Arboretum, Lakes Lee and Claire, as well as an extensive forested wetland system within the southeastern portion of the campus, which ultimately outfalls into the Little Econlockhatchee River. This campus was designed around a cypress wetland system located at the center of the campus adjacent to the student union. The majority of the campus development activity occurs around this cypress stand in order to protect the natural beauty of this area.
These areas provide not only habitat to a substantial wildlife population, but also offer attractive campus assets and recreational opportunities. The preservation of both the quantity and quality of these resources is vital to the function of these resources, and to ensure the continued attractiveness of the campus.

The University has independently developed conservation strategies for wetlands, floodplains, mitigation sites, water quality, etc., as the need has arisen over the last twenty years. As a consequence, there are over 320 acres of natural uplands and wetland habitats preserved in conservation easements to the St. Johns River Water Management District. There are over 200 additional acres of natural areas on campus that have verbal commitments for long-term preservation, such as the arboretum and smaller isolated wetland areas. In addition, the campus contains an extensive network of stormwater ponds. These areas, in combination with the large area occupied by wetlands, constitute a large percentage of the land occupied by the UCF campus.

The University should, as a priority, develop a long-term strategy for the conservation and management of these lands. Objectives for this conservation plan should include:

1. Conservation of biodiversity within the myriad of upland and wetland communities on-site,
2. Measures to ensure the ability to manage (preferably including fire) these lands,
3. Ways to capitalize on the research and educational opportunities afforded by these lands,
4. Decisions on how protection will be guaranteed,
5. Ways to capitalize on the recreational community and aesthetic benefits of conservation lands and,
6. Measures to ensure the conservation of a viable, interconnected network of natural lands in perpetuity.

To initiate this plan, the University has proceeded with the following steps:

1. Developed a detailed map of existing conservation lands that depicts natural communities of uplands and wetlands as well as stormwater ponds and lakes,
2. Determined what level of protection for their lands is currently in place (i.e., owned by the St. Johns River Water Management District (SJRWMD), conservation easements in place, verbal commitments for UCF administration, jurisdictional wetlands, etc.),
3. Identified those lands necessary for active use by the arboretum, for stormwater storage, etc.,
4. Mapped the extent of habitat occupied by, and suitable for, protected species,
5. Defined the area within the 100-year floodplain that is occupied by native communities,
6. Mapped the regional linkages of natural communities off of the UCF campus,
7. Assigned a leader to develop the conservation strategy through analysis and consensus among interested parties,
8. Organized a committee that includes representatives from UCF administration, UCF ecologists, environmental interest groups, arboretum personnel, recreation specialists, planners, and others, as appropriate. to outline issues and prepare maps of the overall conservation strategy, and
9. Prepared management plans for the overall proposed conservation plan.

(c) For each of the resources identified in (1) a) identify known sources and rates of discharge or generation of pollution.

1. Air Quality

At this time, there is no available quantitative monitoring data with regard to ambient outdoor air quality on the UCF campus. Ozone alerts for the Central Florida area have been issued by the State Health Department on an occasional basis since the summer of 1998. The University is a small player in terms of overall contribution to smog in our region. However, the institution will assist the Health Department and other agencies whenever possible to address this region-wide issue.

2. Surface Water Quality

Although formal water quality monitoring is not required by a specific regulatory agency, the Environmental Initiative, in coordination with Environmental Health and Safety, has initiated the informal testing of water quality in campus surface waters and compilation of data by students. Data was collected over a 12-month period, beginning in 2007.

The University of Central Florida's water features include approximately ten (10) man-made and natural pond and stream systems. These water bodies are monitored regularly by the Environmental Initative staff and volunteers to observe the health of each pond. Sampling is done onshore to reduce disturbance caused by a water vessel. The meters that are being used are Oakton conductivity meter, and Oakton PD 300 pH, Oakton dissolved oxygen and temperature meter. Samples are collected at varied depths, depending on the location and access to each water feature.

Measurements for each water body include dissolved oxygen, temperature (both air and water), acidity (pH), conductivity, and turbidity (Table 1).

Table 1: Average Data (at outflow points) for UCF Water Bodies

Surface water	Air Temperature (C)	Water Temperature (C)	pH	D.O. (Mg/l)	Conductivity (µs)	Turbidity-Secchi Depth (m)
Lake Claire	35	25.7	6.9	8.8	222	1.18
4L	34	29.3	6.9	9	264	0.72
1D	27	23.5	7.4	8.6	245	0.95
2H	22	22.9	7.4	9.71	251.4	0.98
2Hx	21	23.6	7.5	8.8	221.5	9.7
3A	23	22.5	7.8	11.64	268.7	9.7
Lake Lee	28	28.5	6.6	8.22	139.3	1.69
4B1	26	28	7.1	8.4	199	1.23
4B2	26	27.5	6.9	8.5	211	1
CREOL	24	19	7.06	8.34	222	1.13
BD	22.5	21.1	1.2	1.2	1.2	1.2

3. Underground and Aboveground Tanks

The University has a number of above-ground storage tanks associated with diesel generators, motor vehicle oils, and used oils. The University's regulated diesel generators have double-walled above-ground fuel tanks as large as 4500 gallons. The oil and used oil storage tanks are also double-walled and range from 250 gallons to 500 gallons. The University remediated and closed several old underground storage tanks in 1990 and the 140,000 gallon above-ground heating oil tank in 2003 (see tanks map in the Data Report). Also shown on this map is the current fuel island that was installed in 1995 at the Facilties & Safety compound. This underground tank has a capacity of 20,000 gallons and is FDEP-compliant.

4. Hazardous Materials and Waste

By virtue of its academic and research activities, the University is a user of hazardous materials. All such materials are carefully monitored and regulated such that there is no indication of any prior or current toxic waste problems on the campus property.

Though there is no specific update, readers are referred to the section on the UCF Environmental Management below.

The Environmental Management Program is responsible for ensuring the University's compliance with local, state, and federal environmental laws and regulations. Areas covered include hazardous materials storage, hazardous waste management, environmental assessments, site remediation, the investigation and cleanup of contaminated media on state-owned property, storage tanks, environmental health, and regulatory monitoring to track changes to environmental regulations as they relate to environmental compliance.

By virtue of its academic and engineering research activities, the University is a user of hazardous materials. All such materials are carefully monitored and regulated such that there is no indication of any prior or current toxic waste problems on the campus property.

With respect to the campus ' prior land use history as a rangeland, there is no evidence that cattle dipping vats or arsenic pollution were ever present. Construction debris was also deposited into a small depressional "borrow pit" area located near the east property line of the campus in late 1960 (see the hazmat location map in the Data Report for detail). However, no evidence exists which would indicate that toxic materials were placed in this area as it has since been claimed as a jurisdictional wetland by the SJRWMD. The area was monitored from January 2007 to June 2008 as part of the State Owned Lands

Cleanup Survey. Two contaminants exceeding cleanup criteria were identified during initial monitoring, but concentration declined to below clean-up criteria during monitoring period. A “No Further Action” determination was recommended for the site.

The UCF Department of Environmental Health & Safety (EH&S) is responsible for the safe and legal disposal of all hazardous chemicals and wastes generated by the University. Various campus departments, particularly those involved in engineering, science, or health-related research, generate hazardous waste. EH&S contracts with licensed contractors for final disposal of these wastes, after they are collected, profiled, and safely characterized at the Chemical Storage Building (#48). This building is shown on the attached hazmat map, as is the location of other labs and stores where stocks of hazardous materials are located.

The UCF Chemical Storage Building was built in 1989 at a cost of $214,500. Its original size was 1,824 GSF. A laboratory addition of 200 square feet was completed in 1994. The Chemical Storage Building is currently on the PECO funded expansion to what is now the Laboratory and Environmental Spp A Building was completed in 2009. This project added 4,500 GSF at a cost of $2,000,000. The expansion provides storage space for additional materials and waste associated with new research efforts and increased increasing amounts of laboratory space on campus.

Summary of UCF Natural Areas Surveys

As part of a series of ongoing class assignments for a biology graduate course, Landscape Ecology (PCB 5328C), natural areas of the UCF lands were digitized from aerial photographs from 1939, 1967, 1972, 1984, 1994, and 1999. The data from the 1999 map showed 45% of the main 1,415-acre part of the UCF campus (not including the 135-acre MacKay Tract or 218-acre eastern area designated as a golf course in the previous plan) to consist of natural areas. Over half (54.7%) of this area was classified as wetlands (e.g., lakes, pond pine and cypress-dominated communities); the remaining area was uplands (e.g., scrub, sandhill, and pine flatwoods communities).

Also, since the development of the previous plan, multiple natural areas surveys were conducted on campus. The first was conducted from September 2001 to May 2002 and was resurveyed from June through August 2003. The Environmental Initiative has surveyed all the green space on campus semi-annually since 2005. The surveys focused on determining the status, and location (if possible) of endangered, threatened, and invasive exotic species. Gopher tortoises were also included.

As a result of the 2001-2002 study, four endangered and seven threatened plant species were identified and 347 plants species were recorded on campus. As a

result of the 2005-2009 surveys, 14 listed plant species (Table 1), one mammal species (Table 2), three reptilian species (Table 3), and 11 bird species (Table 4) have been recorded and mapped on campus.

Table: 1 University of Central Florida Main Campus Listed Plant Species

Species Name	Common Name	Family	Florida Status
Garberia heterophylla	Gaberia	Asteraceae	T
Tillandsoa fasciculata	Wild Pine	Bromeliaceae	E
Tillandsia utriculata	Giant Wild Pine	Bromeliaceae	E
Centrosema arenicola	Pineland Butterfly Pea	Fabaceae	E
Dicerandra thinicola	Titusville Balm	Lamiaceae	E
Pinguicula caerulea	Blue Butterwort	Lentibulariaceae	T
Pinguicula lutea	Yellow Butterwort	Lentibulariaceae	T
Lilium catesbaei	Pine Lily	Liliaceae	T
Calopogon multiflorus	Grass Pink	Orchidaceae	E
Pteroglossaspis ecristata	Giant Orchid	Orchidaceae	T
Pogonia ophioglossoides	Rose Pogonia	Orchidaceae	T
Sacoila lanceolata	Leafless Beaked Orchid	Orchidaceae	T
Sarracenia minor	Hooded Pitcher Plant	Sarraceniaceae	T

Table 2: University of Central Florida Main Campus Listed Mammal Species

Species Name	Common Name	Family	Florida Status
Sciurus niger shermani	Sherman's Fox Squirrel	Sciuridae	SSC

Table 3: University of Central Florida Main Campus Listed Reptiles Species

Species Name	Common Name	Family	Florida Status
Alligator mississippiensis	American Alligator	Alligatoridae	SSC
Pituophis melanoleucus mugitus	Florida Pine Snake	Colubridae	SSC
Gopherus polyphemus	Gopher Tortoise	Testudinidae	T

Table 4: University of Central Florida Main Campus Listed Bird Species			
Species Name	**Common Name**	**Family**	**Florida Status**
Haliaeetis leucocephalus	Bald Eagle	Accipitridae	T
Pandion haliatetus	Ospery	Accipitridae	SSC
Aramus guarauna	Limpkin	Aramidae	SSC
Egretta caerulea	Little Blue Heron	Ardeidae	SSC
Egretta thula	Snowy Egret	Ardeidae	SSC
Egretta tricolor	Tricolored Heron	Ardeidae	SSC
Mycteria americana	Wood Stork	Ciconiidae	E
Falco sparverius paulus	Southern American Kestrel	Falconidae	T
Grus Canadensis pratensis	Florida Sandhill Crane	Gruidae	T
Eudocimus ablus	White Ibis	Threskiornithidae	SSC

The UCF Environmental Initiative conducted an invasive species study in 2007-2008 and compiled an invasive species management plan. Invasive species are known to have a wide range of effects on habitats, disturbing the ecosystem's structure and function. Many invasive species have proved extremely difficult or impossible to eradicate and costly to control once established. Thus, stringent measures to avoid unwanted species are justified both ecologically and economically. The University has 53 known species of exotic plants on-site, of which 25 species are listed as Florida Exotic Plant Pest Council (FLEPPC) Category I, ten species as Category II, and the remaining not categorized (table 5). Existence of these species on the site greatly interferes with management goals of the University. Additional data on locations and densities of exotic species is available from the Enviromental Initiative.

Table 5: University of Central Florida Exotic Species

Species Name	Common Name	Category	Pop. Status
Ardisia crenate	Coral Ardisia	I	Stable
Asparagus densiflorus	Asparagus Fern	I	Stable
Cinnamomum camphora	Camphor Tree	I	Increasing
Colocasia esculenta	Taro	I	Increasing
Dioscorea bulbifera	Air Potato	I	Increasing
Eichhornia crassipes	Water Hyacinth	I	Stable
Eugenia uniflora	Surinam Cherry	I	Decreasing
Hydrilla verticillata	Hydrilla	I	Stable
Imperata cylindrica	Cogon Grass	I	Increasing
Lantana spp.	Lantana	I	Increasing
Ligustrum sinense	Chinese Privet	I	Stable
Lionicera japonica	Japanese Honeysuckle	I	Stable
Lygodium japonicum	Japanese Climbing Fern	I	Increasing
Lygodium microphyllum	Old World Climbing Fern	I	Increasing
Melia azedarach	Chinaberry	I	Stable
Nandina domestica	Heavenly Bamboo	I	Decreasing
Nephrolepis cordifolia	Boston Fern	I	Stable
Paegeria foetida	Skunk Vine	I	Stable
Panicum repens	Torpedo Grass	I	Stable
Rhoeo spathacea	Oyster Plant	I	Decreasing
Ruellia tweediana	Mexican Petunia	I	Stable
Sapium sebiferum	Chinese Tallow	I	Increasing
Schefflera actinophylla	Umbrella Tree	I	Decreasing
Schinus terebinthifolius	Brazilian Pepper	I	Increasing
Urochloa mutica	Paragrass	I	Stable
Begonia cucullata	Begonia	II	Stable
Cocos plumosa	Queen Palm	II	Stable
Melinis repens	Natal Grass	II	Increasing
Panicum maximum	Guniea Grass	II	Increasing
Ricinus communis	Castor Bean	II	Increasing
Solanum viarum	Tropical Soda Apple	II	Increasing
Sesbania punicea	Purple Sesban	II	Decreasing
Urena lobata	Caesar Weed	II	Increasing
Wedelia trilobata	Wedelia	II	Stable
Xanthosoma sagittifolium	Elephant Ear	II	Decreasing
Albizia julibrissin	Mimosa		Stable
Bambusa spp.	Bamboo		Stable

Canna x generalis	Garden Canna		Stable
Carica papaya	Papaya		Decreasing
Crotalaria spp.	Rattlebox		Stable
Cucurbita sp.	Squash		Decreasing
Enterolobium contortisiliquum	Earpod Tree		Increasing
Gladiolus spp.	Gladiolus		Stable
Gloriosa spp.	Flame Lilly		Stable
Indigofera hirsuta	Hairy Indigo		Stable
Ipomoea spp.	Morning Glory		Decreasing
Ludwigia peruviana	Peruvian Primrose		Stable
Luffa aegyptiaca	Smooth Luffa		Stable
Momordica charantia	Balsam Apple		Decreasing
Musa spp.	Banana		Stable
Nephrolepis biserrata	Fishtail Fern		Stable
Senna occidentalis	Senna		Decreasing
Zingiber spp.	Ginger		Stable

The locations of tortoise burrows were mapped and classified as being active, inactive or old. Active burrows are burrows currently being used as determined by indicators such as footprints, feces, food matter, and habitation. Inactive burrows are burrows not currently inhabited, but retain a complete shaft and open mouth. Old burrows are burrows which the mouth and shaft have collapsed leaving only the mound. The 2008-2009 campus survey found: 135 abandoned, 94 active, and 141inactive burrows. The majority of the active burrows are located in the Arboretum Natural Areas and in the area south of the softball field. Based on these findings, it is estimated that UCF has a tortoise population of 144.29 individuals. Campus green space will continue to be monitored and surveyed every other year, and reports will be stored with the UCF Environmental Initiative.

5. Surface and Groundwater Hydrology

All surface waters have been mapped by the UCF Environmental Initiative. In addition, current topography maps have been created for the campus

(d) For each of the resources identified in (1) a) assess opportunities or available and practical technologies to reduce pollution or its impacts generated by University activities. Investigation of emerging technologies to address these impacts is encouraged.

Please see answer to question (f) below.

(e) An analysis of current and projected water needs and sources, based on the demand for industrial, agricultural and potable water use and the

quantity and quality available to meet those demands. The analysis should consider existing levels of water conservation, use and protection, and applicable policies of the water management district.

St. Johns River Water Management District has issued Consumptive Use Permit 3202 based on current and projected demands for water throughout 2013. The permit will expire October 14, 2013.

(f) An assessment of opportunities or available and practical technologies to reduce the University's energy consumption. Investigation of emerging technologies (i.e., solar) to address this issue is encouraged.

The University adopted policies in 2008, which outline plans to conserve energy campus wide.

Environmental Performance Evaluation (EPE) for UCF

A. Principal environmental aspects for each life-stage

Stage 1a: Site and Infrastructure Development
All aspects of the development of the site

- Ecological disturbances
- Provisioning of infrastructure
- Slope and drainage modification

Stage 1b: Facility development/ Service provisioning
All aspects of the construction of the building itself

- Choice of materials
- Choice of equipments
- Their delivery to the site
- Techniques and equipment used in construction
- Design of buildings (master planning and architectural elements)
- Site cleanup

Stage 2a: Facility Operations- Indoors
Activities taking place within the facility

- Energy consumption
- Water use
- Choice and use of office supplies
- Choice of food supplies
- Choice and operation of heating, ventilation, and air-conditioning equipment
- Recycling and disposal of paper
- Recycling and disposal of food waste

- Recycling and disposal of other debris

Stage 2b: Facility Operations- Outdoors
Activities taking place outside the facility

- Energy consumption
- Water use
- Maintenance of vegetation and plantings
- Any other activities having potential ecological impact

Stage 3: Facility Refurbishment, Transfer, and Closure

- Refurbishment for new uses
- Recovery of materials; components for reuse/ recycling

Maintenance and Operations Requirements

Background

To help reduce growing energy costs, promote sustainable energy practices and help protect our environment, the University of Central Florida has created an extensive energy policy. The policy will be reviewed periodically, with a goal of continual improvement, as public awareness, management techniques, and technology change. The policy has been developed and will be updated periodically by the Department of Sustainability & Energy Management. The department welcomes comments and suggestions on this policy, and requests that input be submitted to www.energy.ucf.edu.

Maintenance

It is the intent of Physical Plant, Landscape & Natural Resources, and Facilities Planning to adopt and incorporate all aspects of the University of Central Florida's Energy and Sustainability Policy into the ongoing maintenance operations programs within Physical Plant and Landscape & Natural Resources. These programs will include modification and renovation to existing buildings or structures, routine maintenance, preventive maintenance, and capital renewal. Incorporation of this policy will enhance the effective and efficient use of all resources needed for operations.

Operations

All UCF buildings and facilities, regardless of the sources of funding for their operation, will be operated in the most energy efficient manner, without endangering public health and safety, and without diminishing the quality of education, research and service. That said, the goal is to reduce energy consumption by 20% in existing Educational and General facilities within a five year period (no later than 2011). The baseline year will be the 2005-2006 fiscal year. With a 20% reduction in energy consumption, UCF will save more than 32

million kWh annually, resulting in cost avoidance in excess of $2 million per year (using 2005-2006 energy costs). Additionally, attainment of a 20% reduction in energy consumption will result in annual carbon dioxide emissions being reduced by approximately 50 million lbs. Together, attainment of these goals will both enhance our efforts to achieve energy sustainability and significantly improve our environment.

Indoor Environmental Conditions

To maintain reasonable comfort and lower energy expenditures, the University has established the following standard for cooling, heating, humidity control, and ventilation rates.

OCCUPIED HOURS

- When cooling, normal building temperature setpoints will be 74º F, and, upon request, can be lowered, but not below 70º F. When heating, normal building temperature setpoints will be 68º F, and upon request, can be raised, but not above 70º F.
- Thermostat set points for corridors and large common spaces will be set at 78º F when cooling and 68º F when heating.
- Outdoor air ventilation will be set at ASHRAE 62.1 guidelines or such other higher limits as prescribed by state law or regulations.

UNOCCUPIED HOURS

- When cooling, normal building temperature setpoints will be 82º F (or HVAC OFF), and, upon request, can be lowered, but not below 78º F. When heating, normal building temperature setpoints will be 60º F (or HVAC OFF), and, upon request, can be raised, but not above 68º F.
- Intermittent operation of the A/C system during humid weather conditions on weekends and holiday periods will be permitted to maintain indoor relative humidity control.
- Thermostat setpoints for corridors and large common spaces will be set at 78º F when cooling and 68º F when heating.
- Outdoor air ventilation will be shut OFF. HVAC system start-up will begin 30 to 60 minutes prior to occupancy in order to flush accumulated air contaminants prior to occupancy.

These rules may be relaxed, as necessary, if special operating conditions, such as scientifically critical areas, so require.

Data processing and server rooms are to be conditioned to within 10% of the maximum recommended space temperature, as stated by the original equipment manufacturer. All new data centers located within the range of the central chilled water distribution loop shall have dedicated chilled water fan coil units to provide adequate space conditioning. If a new data center is not located within the

chilled water loop, the space shall be conditioned utilizing a dedicated direct expansion unit without ventilation.

All exterior windows and building doors will be kept closed when cooling systems are operating.

Indoor Lighting

All members of the University community should assume responsibility for turning off lights when leaving a room. Lighting levels inside buildings will always be maintained at an appropriate level in order to ensure security. All lighting, except what is required for security purposes, will be turned off when buildings are unoccupied, such as at the end of the workday. Housekeeping will turn lights back on only for the time actually required for custodial work.

All indoor lighting will be fluorescent or LED type, unless an exemption is specifically authorized for designated low usage fixtures. All indoor lighting levels will be surveyed and recorded. The lighting levels will be adjusted to the appropriate Illumination Engineering Societies' (IES) recommendation for the given task being performed in the space.

Occupancy sensors will be installed in all offices, classrooms, conference rooms and utility rooms to reduce and/or turn off lights in unoccupied areas. New energy saving fixtures, lamps, and ballasts will be used to replace existing, less efficient lighting wherever appropriate. Existing incandescent lamps for general-purpose lighting will be phased out, and future incandescent lamps will not be installed unless exempted for extremely limited and specialized tasks. Personal desktop task lights should be fluorescent or LED type.

Outdoor Lighting

Outdoor lighting levels will always be maintained at an appropriate level in order to ensure security. Outdoor illumination will be high pressure sodium, metal halide, LED, or fluorescent type, with the efficacy of the lighting system being no less than 85 lumens per watt. Outdoor lighting shall be dark-sky compliant, as indicated by manufacturer. Low wattage landscape and step lighting is exempted from the dark-sky requirement. The average lighting level will be two (2) foot candles (FC), and the minimum lighting level will be 1 FC. Purely decorative lights beyond reasonable display lighting, inside or outside, will not be used anywhere on campus.

Convenience Appliance Use

Portable electric heaters and fans are prohibited in UCF facilities, unless specifically required by occupants because of medical conditions, failure of the building heating, ventilating or air conditioning systems, or when building heating,

ventilating or air conditioning systems cannot be adjusted to achieve minimum comfort levels within the provisions established by the indoor environmental conditions requirements. If a member of the campus community feels that a space heater is necessary for adequate warmth, this may indicate that the central heating system needs repair. Physical Plant should be notified through the work order system if the central cooling or heating system is incapable of meeting comfort requirements.

All staff and faculty members are requested not to use personal refrigerators. Departmental refrigerators should be located in common areas, eliminating the need for individual units in personal offices. All other personal appliances, such as coffee pots, clocks, radios, and all other peripheral office items should be kept to a minimum and turned off or unplugged at night and during weekends and holidays. UCF community members are asked to take personal responsibility for turning off and unplugging all appliances when not in use.

Office Equipment

All faculty, staff and students should turn off personal computers when left unoccupied for extended periods of time. Additionally, all personal computers shall be configured to automatically engage low power sleep mode in times of inactivity. Directions for implementation of this procedure are available at www.energy.ucf.edu. All peripheral computer items should be left in the OFF position until needed. Computers should be shut down over the weekends, evenings, and holidays.

All new office equipment must meet or exceed the Energy Star ratings for high efficiency operation. Remaining legacy equipment should be replaced with energy efficient equipment as funding becomes available.

Monitoring of Energy Consumption

Energy conservation programs will be most successful if progress is monitored on a regular basis. Most buildings on campus have metering devices installed. Meter readings can be used to track utility consumption to locate problem areas, as well as to determine if conservation goals are being met.

Additionally, each member of the UCF community has the opportunity to view on-line energy consumption data for specific buildings on campus through the Open Energy Information System. Each new building on campus will include a monitoring system which can be viewed on the Open Energy Information System. The Department of Sustainability & Energy Management will maintain appropriate monitoring of all energy consumption throughout the campus.

Space Scheduling

Scheduling of all spaces on campus is controlled through the Space Resource Allocation Office. During the weekends and holiday periods, there is an opportunity for significant reduction in energy consumption on campus by setting back comfort settings. Buildings which are not occupied should be placed into a set-back mode. In the set-back mode, lighting levels are reduced to minimal safety levels, and set points for cooling, heating, and ventilation systems are adjusted to a less energy intensive level.

The Space Resource Allocation Office shall strive to consolidate classes and meetings to only core campus locations, especially during weekends and holiday periods. Classroom and meeting assignments should be made in such a way as to maximize the use of a few buildings, while leaving the majority of buildings unoccupied and available for set-back conditions.

Alternative Fuel Vehicles

Alternative fuel vehicles (AFVs), as defined by the Energy Policy Act of 1992 (EPAct), include any dedicated, flexible-fuel, or dual-fuel vehicle designed to operate on at least one alternative fuel. Alternative fuel vehicles come in a variety of vehicle models, such as sedans, pickup trucks, sport utility vehicles, vans, shuttle buses, medium-duty vehicles (such as delivery trucks), heavy-duty buses, and heavy-duty trucks. As vehicles are purchased, the University is required to purchase a new vehicle fleet with at least 75% being alternative fuel vehicles. When replacing existing fleet vehicles or adding to the fleet, the University shall seek out alternative fuel, flex fuel or hybrid fueled vehicles. The Department of Sustainability & Energy Management will maintain a list of appropriate vehicles which meet the State of Florida mandates for such purchases. The list can be found at www.energy.ucf.edu.

Awareness and Education

The Department of Sustainability & Energy Management will foster and support the establishment and continued growth of heightened energy awareness on campus. Educational publications, promotional materials, updated websites, and programs for students, staff and faculty will keep the entire UCF community involved in the ongoing efforts of energy conservation. The department shall solicit and evaluate feedback from faculty, staff and students, to monitor the effects of energy conservation efforts. Training on new energy management concepts and programs will be provided, as necessary.

The Department of Sustainability & Energy Management will maintain the Energy Sustainability Plan, and notify the UCF community when significant changes occur. Submit suggestions for additional energy saving initiatives at www.energy.ucf.edu.

Building Construction and Renovation Requirements

Background

As a leader in higher education, the University of Central Florida has made a commitment to being excellent stewards of environmental resources. The construction of new facilities, renovation of existing facilities, and continued maintenance operations must demonstrate high standards of environmental stewardship. Therefore, the requirements outlined below represent the minimum acceptable standards for any UCF facility in order to achieve desired levels of energy stewardship.

Implementation

It is the responsibility of the architect/engineer (A/E) to insure the requirements established within the “Construction Requirements” of the Energy and Sustainability Policy are achieved. It is expected that the A/E be both knowledgeable of, and in full compliance with, the “Construction Requirements.” The A/E should contact the Department of Sustainability & Energy Management to review these requirements and to address any questions.

The A/E should identify and make recommendations to incorporate construction design, techniques, products, or other design or construction related methods and principles, which will further enhance operational sustainability and reduce energy consumption of the construction project. The A/E will forward any recommendations to the Department of Sustainability & Energy Management, which will then coordinate a review with the Vice President (VP) and Associate Vice President (AVP) of Administration and Finance, the Director of Facilities Planning, the Director of Landscape & Natural Resources, the Director of Environmental Health & Safety, and the Director of Physical Plant to determine which recommendations, if any, will be incorporated within the design.

At the completion of schematic design, conceptual design, 50% construction document and 90% construction document phases, the A/E will provide UCF with a comprehensive report detailing the accomplishment of the “Construction Requirements” within each phase of the design process. In preparing the report, the A/E will follow the format provided by Facilities Planning.

The A/E will forward the report to the Department of Sustainability & Energy Management, which will coordinate a review of the report with the VP and AVP of Administration and Finance, the Director of Facilities Planning, the Director of Landscape & Natural Resources, the Director of Environmental Health & Safety, and the Director of Physical Plant. Where the report is incomplete or the “Construction Requirements” are not fully incorporated within the design phase, the A/E will (at their cost) complete the report and make revisions, to the design

phase being reviewed, incorporating any missing items in the “Construction Requirements.”

All new construction shall be registered with the US Green Building Council (USGBC) and meet a minimum Leadership in Energy and Environmental Design (LEED) Silver rating, utilizing the NC 2.2 rating (or the most current). Once the project is completed, it must receive a minimum of Silver certification.

Furthermore, the following LEED credits are required (not optional), as they have been identified as crucial to meeting UCF’s goal to construct more energy efficient and sustainable buildings:

1. Credit SS 6.1	Storm water management, rate and quantity
2. Credit SS 6.2	Storm water management, treatment
3. Credit SS 7.2	Heat island effect, roof
4. Credit WE 1.1	Water efficient landscaping
5. Credit WE 1.2	Water efficient landscaping
6. Credit WE 3.1	Water use reduction 20%
7. Credit WE 3.2	Water use reduction 30%
8. Credit EA 1	Optimize energy (minimum 5 points must be achieved)
9. Credit EA 3	Additional commissioning
10. Credit EA 5	Measurement and verification
11. Credit IE 1	Carbon dioxide monitoring
12. Credit IE 7.1	Thermal comfort
13. Credit IE 7.2	Thermal comfort, permanent monitoring

The remaining credits needed to achieve the Silver rating will be determined by the design team for each project, and approved by the Department of Sustainability & Energy Management.

Physical Plant plays a vital role in the implementation and maintenance of the standards and practices established by the Energy and Sustainability Policy. Inclusion of these standards and practices for design and construction specified within the policy will ensure attainment of energy and sustainability standards throughout the process of building modifications or renovations performed as minor projects or Facilities Improvements projects. The use of proactive routine maintenance, preventive maintenance and capital renewal programs will enhance and continue the benefits derived from energy and sustainability practices incorporated by this policy.

Recommendations

The Master Plan already has all the elements that represent each of the five areas of the built environment identified above. These elements include:

- Built Environment
- Urban Design
- Academic Facilities
- Housing
- Architectural Design Guidelines
- General Infrastructure
- Transportation
- Land Use
- Recreation and Open Space
- Conservation
- Landscape Design Guidelines

The focus needs to be analyzing the five to six major categories of environmental impact for each of these elements. In order to do this, indicators should be established and data continued to be gathered and analyzed. After the analysis, changes in or addition of policies and objectives should be considered.

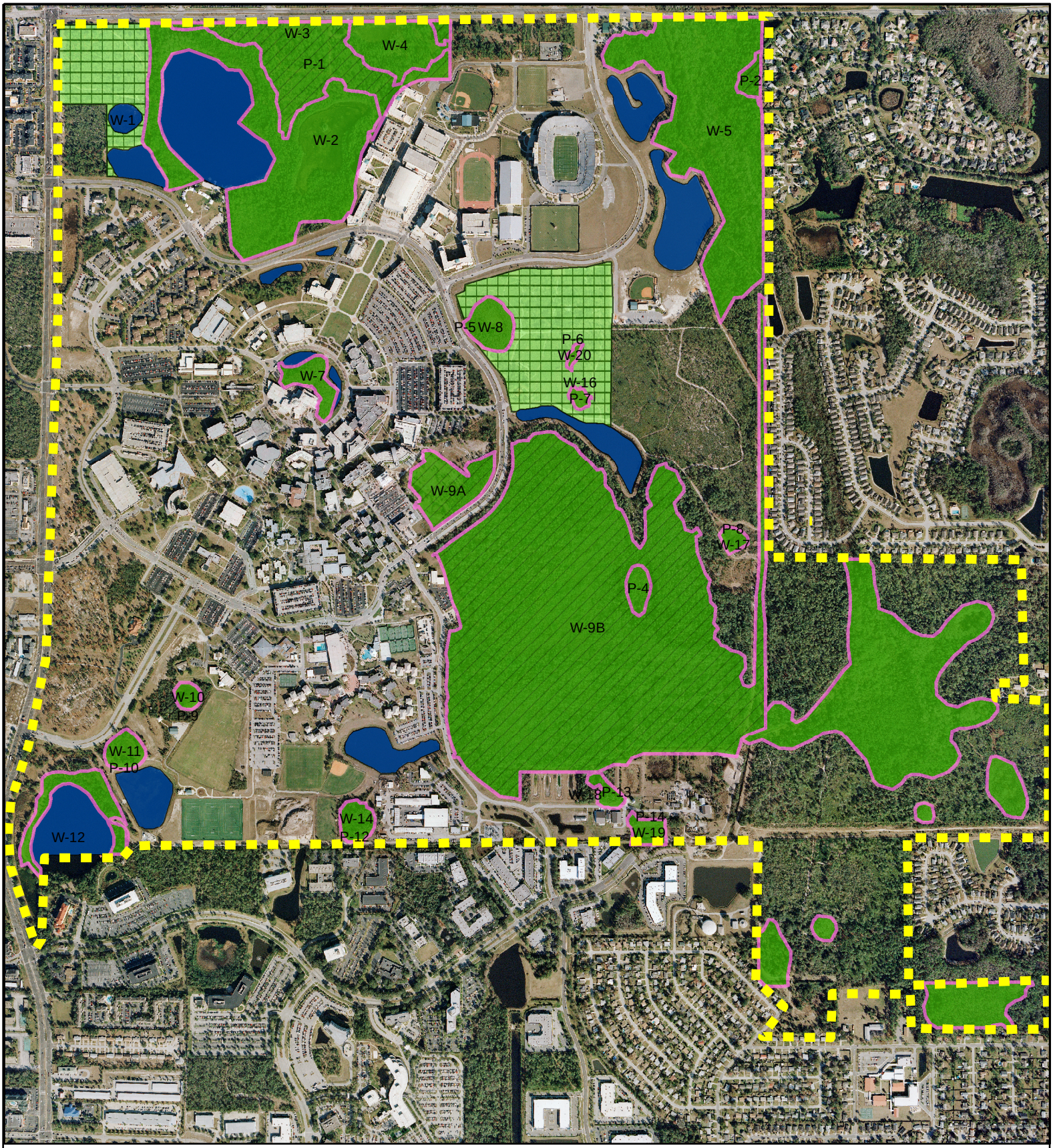

Figure 13-1

Conservation

Comprehensive Master Plan Update
University of Central Florida
Orlando, Florida
2010-2020

Legend

- Boundary
- Lakes
- Conservation (upland)
- Conservation (wetland)
- Conservation Easements

All maps are diagrammatic and conceptual. The various areas shown are approximate and not to survey accuracy. The intent of these maps is to illustrate general areas of existing or potential use.

0 1,000 2,000 4,000 Feet

Rev 20091102

2.14 Capital Improvements Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: Provide facilities to meet the academic needs of student enrollment as projected in the Academic Program element and space needs assessments.

OBJECTIVE 1.1: To seek a reasonable share of state capital construction funds to construct teaching, research, and support facilities.

POLICY 1.1.1: The University shall prepare a capital improvement plan yearly, requesting planning, construction, and equipment funds for all proposed capital projects within the next five (5) year time frame. The CIP shall include need justification for all projects.

OBJECTIVE 1.2: **To include as a part of all capital construction activities and planning, provision for the renovation, repair, upgrading, and, in some cases, elimination of existing and aging facilities that do not serve existing or future needs.**

POLICY 1.2.1: Funding for building renovations will be requested to coincide with and compliment the construction of new buildings. In this way, areas which are vacated when a new building is completed are immediately renovated for the new occupants. The University will seek space to accommodate faculty, staff and students displaced by renovation.

OBJECTIVE 1.3: To coordinate land use decisions and available resources to maintain level of service standards adopted in the campus master plan and meet existing and projected facility needs.

POLICY 1.3.1: Construction project priorities will be reviewed each year by the administration.

POLICY 1.3.2: Criteria for the setting of priorities for new construction, renovations, and infrastructure will be established and will be the responsibility of the Facilities & Safety, working with the University Administration. Primary criteria used in setting priorities for new construction include enrollment growth in the specific academic areas, expanded research needs, auxiliary and Capital Improvement Trust Fund (CITF) projects required by enrollment growth, sustained funding support from external sources through contracts and grants, and earmarked construction as a result of private donations.

POLICY 1.3.3: All final decisions on priorities for new construction, renovations and infrastructure rest with the President of the University and the Board of Trustees, as appropriate.

POLICY 1.3.4: The campus 10-year project list provides a schedule of committed and projected campus capital improvements, by year, along with the estimated cost of those improvements. The projects included are those which the academic master plan indicates will be needed to serve the expected program mix of students who will be enrolled.

Projected costs of projects which will be state funded, and the yearly distribution of those projects, are within the estimated resource guidelines projected by the Board of Governors. Funding for non-PECO funded projects depends on private donations, student fee collections, campus auxiliary funding sources, and the sale of revenue bonds. Non-PECO projects shown are those which may be funded in the timeframe shown in the 10-year project list.

Site locations for all planned projects shown on the 10-year project list will be reflected on the Urban Design and Capital Improvements element map.

OBJECTIVE 1.4: To complete studies and review enrollment patterns, classroom needs, research laboratory needs, faculty and staff office needs, and infrastructure needs in relation to projected capital improvements funding to assure that adequate facilities and supporting infrastructure will be available when needed.

POLICY 1.4.1: All campus structures will be reviewed on an annual basis to determine the need for repairs, renewal, or renovations to meet on-going and changing needs of the campus.

POLICY 1.4.2: Campus infrastructure needs will be reviewed annually to determine if electric, water, waste water treatment, and telecommunications utilities are adequate to meet the needs of the campus for the next five years.

OBJECTIVE 1.5: **To be prepared to limit on-campus enrollment if adequate capital construction, including infrastructure, cannot be provided or funded.**

POLICY 1.5.1: Capital budget requests each year will be consistent with the provisions of the campus master plan and with campus development agreements entered into with external agencies.

GOAL 2: **Provide support facilities, including utility plants, student services buildings, libraries, computer services buildings, food services buildings,**

auxiliary services buildings, and other buildings to meet the needs of students who live on or near campus.

OBJECTIVE 2.1: To seek additional funds to augment state capital construction funds.

POLICY 2.1.1: The University will work with the UCF Foundation to seek external funds in the form of gifts and donations which can be matched by state funds to provide campus facilities.

POLICY 2.1.2: The University will obtain funding through the selling of revenue bonds to continue construction and renovation of student housing, on-campus healthcare facilities and parking structures on campus.

POLICY 2.1.3: The University will earmark funding in auxiliary enterprises budgets that can be set aside for specific construction needs, such as parking lots, parking garage structures, expansion of the bookstore, and other auxiliary support space needs.

POLICY 2.1.4: The University will seek funding through the SUS Concurrency Trust Fund to meet off-campus construction requirements that may be needed as part of the Campus Development Agreement.

POLICY 2.1.5: The University will seek funding through local sources, with the backing of the UCF Foundation and the UCF Research Foundation, to construct research and special purpose facilities on campus.

2.14 Capital Improvements Element
Data and Analysis
2010-2020 Campus Master Plan Update

The University uses the best available data to determine the needs, estimated costs, and priorities for renovation and construction of facilities. A Critical Needs Assessment will be completed yearly, and input will be solicited from faculty, staff, and students.

Proposed academic space needs and changes will be coordinated with Space Planning, Analysis, and Administration (SPAA), and projects which will impact energy consumption, operations and maintenance costs, security, environmental health and safety, or natural resources will be coordinated within Facilities & Safety.

Capital Improvements prioritization will be reviewed yearly by the Board of Trustees prior to submission to the Board of Governors.

UNIVERSITY OF CENTRAL FLORIDA

CAPITAL IMPROVEMENTS LIST

	MAIN CAMPUS FTE	42,570	42,498	42,710	42,963	43,155	43,329	43,735	44,042	44,350	44,762			
	PROJECT LIST Revised 06/26/2009	2010-2011 YR #1	2011-12 YR #2	2012-13 YR #3	2013-14 YR #4	2014-15 YR #5	2015-16 YR #6	2016-17 YR #7	2017-18 YR #8	2018-19 YR #9	2019-20 YR #10	Net	Gross	Total Estimated Cost ($M)
	(July 1, 2010 - June 30, 2020)													
	PECO													
1	UTILITIES, INFRASTRUCTURE	$5,231,102	$11,685,748	$9,003,372	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	$14,000,000	N/A	N/A	123,920,222
2	PHYSICAL SCIENCES II COMPLETION	$1,077,500	$637,000									30,000	45,000	1,714,500
3	PARTNERSHIP III BUILDING COMPLETION	$546,750	$1,332,355									78,294	117,442	1,879,105
4	CLASSROOM BUILDING II		$5,039,088	$18,436,513								63,643	91,464	23,475,601
5	MATH & PHYSICS BLDG. REMODELING AND RENOVATION			$1,544,527	$6,211,263							100,289	106,523	7,755,790
6	MAIN UTILITY PLANT RENOVATION			$879,756								14,220	14,420	879,756
7	ENGINEERING BLDG. I RENOVATION			$753,110	$6,488,335							118,186	130,885	7,241,445
8	INTERDISC. RESEARCH & INCUBATOR FAC.				$5,924,183	$33,852,470						78,676	118,013	39,776,653
9	MULTI-PURPOSE RESEARCH AND EDUCATION BUILDING				$2,268,726	$23,254,438	$2,835,907					47,310	75,384	28,359,071
10	BUSINESS ADMINISTRATION RENOVATION				$7,118,804							118,624	121,074	7,118,804
11	LIBRARY RENOVATION				$14,212,564							222,387	226,506	14,212,564
12	CHEMISTRY RENOVATION				$2,864,067							43,265	49,073	2,864,067
13	ARTS COMPLEX PHASE II (PERFORMANCE)					$6,750,000	$62,250,000	$6,000,000				100,396	150,594	75,000,000
14	FACILITIES AND SAFETY COMPLEX RENOVATION					$4,856,238						96,763	103,286	4,856,238
15	VISUAL ARTS RENOVATION					$4,724,007						79,373	85,000	4,724,007
16	HOWARD PHILLIPS HALL RENOVATION					$3,551,427						56,903	64,619	3,551,427
17	COLLEGE OF NURSING						$3,476,712	$27,813,698	$3,476,712			119,206	170,684	34,767,122
18	COLBOURN HALL RENOVATION						$4,968,246					73,511	83,957	4,968,246
19	FERRELL COMMONS (E AND G SPACE) RENOVATION						$5,418,854					86,149	93,860	5,418,854
20	COMPUTER CENTER I RENOVATION						$489,218					9,372	10,779	489,218
21	LIBRARY EXPANSION							$44,114,399	$40,471,926	40471926		319,302	465,542	125,058,251
22	MILLICAN HALL RENOVATION							$802,291	$6,418,326	$802,290		87,742	88,680	8,022,907
23	COMPUTER CENTER II RENOVATION							$123,161	$985,286	$123,160		25,282	33,370	1,231,607
24	COLLEGE OF SCIENCES BUILDING RENOVATION							$317,437	$2,539,494	$317,436		49,580	54,644	3,174,367
25	LIBRA ROAD WIDENING											N/A	N/A	0
26	REHEARSAL HALL RENOVATION							$48,007	$384,055	$48,006		9,322	10,743	480,068
27	THEATER BLDG. RENOVATION							$142,801	$1,142,404	$142,800		22,064	29,469	1,428,005
28	FACILITIES BUILDING AT LAKE NONA								$600,000	$4,800,000	$600,000	26,666	40,000	6,000,000
29	SOUTH CAMPUS RENOVATION								$551,385			10,581	11,857	551,385
30	RECYCLING CENTER								$2,300,000	$18,400,000	$2,300,000	26,666	40,000	23,000,000
31	HUMANITIES & FINE ARTS II								$2,772,353	$17,060,631	$2,772,353	58,362	87,543	22,605,337
32	FILM - ARTS & HUMANITIES II BLDG.								$1,107,260	$8,600,076	$1,107,260	27,364	41,045	10,814,596
33	SIMULATION AND TRAINING BUILDING								$2,370,336	$18,410,374	$2,370,336	39,950	59,924	23,151,046
34	BUSINESS ADMIN. III BLDG.								$1,584,527	$12,307,012	$1,584,527	41,118	61,677	15,476,066
35	EMERGENCY OPERATIONS CENTER (EOC) RENOVATION								$43,629	$349,034	$43,629	19,883	29,613	436,292
36	MORGRIDGE INTERNATIONAL READING CENTER PHASE II (EDUCATION)								$2,062,348	$15,594,083	$2,062,348	51,479	77,219	19,718,779
37	BAND BUILDING								$455,045	$2,800,279	$455,045	10,024	13,529	3,710,369
38	ARTS COMPLEX PHASE III								$1,210,857	$7,627,447	$1,210,857	25,447	38,171	10,049,161
39	INTERDISC. RESEARCH BLDG. II								$2,370,336	$17,330,596	$2,370,336	40,543	60,815	22,071,268
40	JOINT USE FACILITY								$1,000,000	$9,000,000	$1,000,000	26,904	40,356	11,000,000
41	PARTNERSHIP CAMPUS											N/A	N/A	0
42	SUSTAINABILITY CENTER								$5,000,000			5,000	7,500	5,000,000
43	CENTER FOR EMERGING MEDIA BUILD OUT								$6,360,339			16,544	24,816	6,360,339
44	CAPITAL IMPROVEMENT RESERVE											N/A	N/A	0
	COURTELIS													
45	LABORATORY INSTRUCTION BUILDING PHASE I	$9,483,350	$9,407,634									11,670	16,338	18,890,984
46	BURNETT BIO-MEDICAL SCIENCE CTR	$2,528,605										132,000	198,000	2,528,605
47	ARTS COMPLEX II ENHANCEMENT	$500,000										N/A	N/A	500,000
48	MEDICAL SCHOOL LIBRARY	$4,000,000										10,572	15,760	4,000,000
49	MORGRIDGE INTERNATIONAL READING CENTER	$2,064,149										50,000	75,000	2,064,149
50	PSYCHOLOGY BUILDING	$80,540										N/A	N/A	80,540
51	ENGINEERING III ENHANCEMENT	$1,284,970	$1,099,493									13,291	17,783	2,384,463
52	ALUMNI CENTER/JOHN & MARTHA HITT LIBRARY	$7,049										N/A	N/A	7,049
53	OPTICS AND PHOTONICS ENHANCEMENT	$69,085										1,537	2,305	69,085
54	RESEARCH LAB, LAKE NONA	$6,412,845	$97,268,758	$9,180,000								11,099	16,648	112,861,603
55	CARACOL in BELIZE		$350,000									49,570	72,555	350,000
56	COLLEGE OF NURSING		$3,871									1,750	2,625	3,871
57	BURNETT BIO-MEDICAL SCIENCE CTR INFRASTRUCTURE		$7,500,000									6,271	9,407	7,500,000
58	CIVIL AND ENVIRONMENTAL ENGINEERING		$1,160,667	$14,508,333	$1,741,000							50,000	75,000	17,410,000
59	ORLANDO REPERTORY THEATRE III RENOVATIONS		$75,000	$75,000	$75,000							8,000	12,000	225,000
60	ATHLETIC ACADEMIC PERFORMANCE CENTER		$12,000,000									45,418	68,127	12,000,000
61	SUSTAINABILITY CENTER			$250,000	$2,000,000	$250,000						5,000	7,500	2,500,000
	PRIVATE													
62	SCIENCE ANNEX ENHANCEMENT	$5,000,000										N/A	N/A	5,000,000
63	SPECIAL PURPOSE HOUSING AND PARKING GARAGE I	$25,000,000										106,667	160,000	25,000,000
64	SPECIAL PURPOSE HOUSING II	$8,000,000										21,333	32,000	8,000,000
65	PARKING DECK (ATHLETIC COMPLEX)	$5,000,000										112,000	168,000	5,000,000
66	LIBRARY EXPANSION	$113,472,000										109,703	164,554	113,472,000
67	STRATEGIC LAND AND PROPERTY	$100,000,000										N/A	N/A	100,000,000
68	GRADUATE HOUSING	$50,000,000										100,000	150,000	50,000,000
69	ATHLETIC ACADEMIC PERFORMANCE CENTER	$12,000,000										45,418	68,127	12,000,000
70	REFINANCE UCF FOUNDATION PROPERTIES	$37,410,000										288,167	432,250	37,410,000
71	NORTHEAST CAMPUS MIXED USE DEVELOPMENT	$50,000,000										133,333	200,000	50,000,000
72	STUDENT HOUSING	$150,000,000										149,333	224,000	150,000,000
73	BRIGHTHOUSE NETWORKS STADIUM TOWER EXPANSION	$5,000,000										14,225	21,337	5,000,000
74	TRACK/SOCCER STADIUM	$1,000,000										N/A	N/A	1,000,000
75	EXPANSION OF JAY BERGMAN FIELD PHASE I	$500,000										3,800	5,700	500,000
76	TENNIS COMPLEX	$500,000										4,980	7,470	500,000
77	TRACK/SOCCER CLUB HOUSE	$850,000										2,800	4,200	850,000
78	EXPANSION OF JAY BERGMAN FIELD PHASE II	$4,500,000										3,800	5,700	4,500,000
79	WAYNE DENSCH SPORTS CENTER EXPANSION	$4,000,000										12,000	18,000	4,000,000
80	SOFTBALL PRACTICE FIELD	$250,000										N/A	N/A	250,000
81	ATHLETICS PRACTICE FIELD	$500,000										N/A	N/A	500,000
82	WOMENS COMPETITION/PRACTICE FIELD	$2,000,000										N/A	N/A	2,000,000
83	BASEBALL PRACTICE FIELD	$400,000										N/A	N/A	400,000
84	BASKETBALL PRACTICE FACILITY	$12,000,000										32,000	48,000	12,000,000
85	AQUATICS CENTER	$20,000,000										5,200	7,800	20,000,000
86	EAST ATHLETICS CENTER	$15,000,000										11,706	17,559	15,000,000
87	RESEARCH LAB, LAKE NONA	$112,861,603										132,018	198,027	112,861,603
88	CLASSROOM/LAB BUILDING, LAKE NONA	$23,475,601										60,976	91,464	23,475,601
89	LIFE SCIENCES INCUBATOR, LAKE NONA	$30,000,000										36,667	55,000	30,000,000
90	EXPO CENTER HOUSING	$16,000,000										68,667	103,000	16,000,000
91	HOTEL/CONFERENCE CENTER	$60,000,000										190,000	250,000	60,000,000
	BOND													
92	SPECIAL PURPOSE HOUSING AND PARKING GARAGE I	$25,000,000										106,667	160,000	25,000,000
93	SPECIAL PURPOSE HOUSING II	$8,000,000										21,333	32,000	8,000,000
94	PARKING GARAGE VII	$20,000,000										242,667	364,000	20,000,000
95	PARKING DECKS	$17,000,000										112,000	168,000	17,000,000

96	**LIBRARY EXPANSION**	$113,472,000										109,703	164,554	113,472,000
97	**STRATEGIC LAND AND PROPERTY**	$100,000,000										N/A	N/A	100,000,000
98	**GRADUATE HOUSING**	$50,000,000										100,000	150,000	50,000,000
99	**REFINANCE UCF FOUNDATION PROPERTIES**	$37,410,000										288,167	432,250	37,410,000
100	**VISITOR INFORMATION CENTER**	$900,000										2,200	3,300	900,000
101	**BOOKSTORE EXPANSION**	$8,000,000										20,000	30,000	8,000,000
102	**ATHLETIC ACADEMIC PERFORMANCE CENTER**	$12,000,000										45,418	68,127	12,000,000
103	**STUDENT HOUSING**	$150,000,000										149,333	224,000	150,000,000
104	**BRIGHTHOUSE NETWORKS STADIUM TOWER EXPANSION**	$5,000,000										14,225	21,337	5,000,000
105	**TRACK/SOCCER STADIUM**	$1,000,000										N/A	N/A	1,000,000
106	**EXPANSION OF BASEBALL STADIUM PHASE I**	$500,000										3,800	5,700	500,000
107	**TENNIS COMPLEX**	$500,000										4,980	7,470	500,000
108	**TRACK/SOCCER CLUB HOUSE**	$850,000										2,800	4,200	850,000
109	**EXPANSION OF BASEBALL STADIUM PHASE II**	$4,500,000										3,800	5,700	4,500,000
110	**WAYNE DENSCH SPORTS CENTER EXPANSION**	$4,000,000										12,000	18,000	4,000,000
111	**SOFTBALL PRACTICE FIELD**	$250,000										N/A	N/A	250,000
112	**ATHLETICS PRACTICE FIELD**	$500,000										N/A	N/A	500,000
113	**WOMENS COMPETITION/PRACTICE FIELD**	$2,000,000										N/A	N/A	2,000,000
114	**BASEBALL PRACTICE FIELD**	$400,000										N/A	N/A	400,000
115	**BASKETBALL PRACTICE FACILITY**	$12,000,000										32,000	48,000	12,000,000
116	**AQUATICS CENTER**	$20,000,000										5,200	7,800	20,000,000
117	**EAST ATHLETICS CENTER**	$15,000,000										11,706	17,559	15,000,000
118	**GARAGE EXPANSION**	$5,000,000										33,891	50,837	5,000,000
119	**RESEARCH LAB, LAKE NONA**	$112,861,603										132,018	198,027	112,861,603
120	**CLASSROOM/LAB BUILDING, LAKE NONA**	$23,475,601										60,976	91,464	23,475,601
121	**LIFE SCIENCES INCUBATOR, LAKE NONA**	$30,000,000										36,667	55,000	30,000,000
122	**FACILITIES BUILDING AT LAKE NONA**	$6,000,000										13,866	20,799	6,000,000
123	**EXPO CENTER HOUSING**	$16,000,000										68,667	103,000	16,000,000
124	**REGIONAL CAMPUSES MULTI-PURPOSE BUILDINGS**	$100,000,000										40,000	60,000	100,000,000
125	**BRIGHTHOUSE NETWORKS STADIUM EXPANSION - SEATING**	$14,000,000										N/A	N/A	14,000,000
	CITF													
126	**LAKE CLAIRE RENOVATION**	$3,000,000										100,000	150,000	3,000,000
127	**STUDENT UNION II**	$14,000,000										37,800	56,700	14,000,000
128	**RECREATION AND WELLNESS FIELDS**	$2,000,000										N/A	N/A	2,000,000
129	**STUDENT UNION II PHASE II**	$6,000,000										17,000	25,500	6,000,000
130	**STUDENT UNION II PHASE III**	$21,000,000										60,000	90,000	21,000,000
131	**RWC EXPANSION**	$15,000,000										60,000	90,000	15,000,000
132	**RWC II, NORTH END**	$3,000,000										N/A	N/A	3,000,000
133	**RWC PLAYING FIELDS**	$2,000,000										N/A	N/A	2,000,000
134	**SOFTBALL COMPLEX**	$5,000,000										32,000	32,000	5,000,000
TOTAL														

New Campus Sq. Ft.			
Off Campus Sq. Ft.			

Funding sources denote probable building completion year
Projects in green denote projects planned **off-campus.**
Projects in blue denote renovation and/or remodeling projects

2.15 Architectural Design Guidelines Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: **Develop a campus which recognizes a legacy of consistency and excellence in the architecture already in place, and sets a standard of excellence for future design endeavors.**

OBJECTIVE 1.1: To define the elements of consistency (materials, massing, color, detailing, etc.) that exist in the current campus so as to derive the principals to govern future designs and development.

POLICY 1.1.1: Buildings in the academic core are generally between three (3) and four (4) stories in height; however, buildings can exceed four (4) stories in height based on the height of adjacent structures, functional characteristics and aesthetic considerations. Exceeding six (6) stories in height must be approved by the Administration during the programming or initial design process.

POLICY 1.1.2: Buildings outside the core are generally between one (1) and four (4) stories in height; buildings can also exceed six (6) stories in height, if approved by the Administration during the programming or initial design process.

POLICY 1.1.3: Brick is the predominant building material on campus. Masonry and glass are secondary materials of enclosure.

POLICY 1.1.4: Architectural details are generally rendered in masonry.

OBJECTIVE 1.2: To create a palette of materials, textures, colors and scale that will continue the traditions of the existing architecture.

POLICY 1.2.1: Future campus buildings shall emulate the established qualities described in objective 1.1.

POLICY 1.2.2: The predominant masonry material on campus building facades shall continue to be brick.

POLICY 1.2.3: Architectural details shall generally be done in masonry, in order to provide visual interest and relief.

POLICY 1.2.4: The blend of brick materials that produces the "UCF Blend" shall be emphasized as the preferable blend, and brick that is not of a reddish tone or color, not currently used on campus, will be disallowed.

POLICY 1.2.5: The use of reflective glass has been discontinued as of July 1995.

POLICY 1.2.6: The maximum height of buildings shall not normally exceed six (6) stories. Buildings can exceed six (6) stories in height, if approved by the Administration during the programming or initial design process.

POLICY 1.2.7: Screen walls and service area enclosure materials, colors and finishes shall be consistent with the exterior elevations of the buildings which they serve.

POLICY 1.2.8: Project proposals shall comply with the UCF Design Guidelines published by the Office of Facilities Planning.

POLICY 1.2.9: The final judgment on matters concerning aesthetics and architectural character, for campus project proposals, shall be reserved for the President of the University.

POLICY 1.2.10: The Director of Facilities Planning shall review each design proposal for individual merit. Provisions shall be made so that unique or innovative design solutions appropriate to the atmosphere of a thoughtful academic community shall not be discouraged by campus policies or guidelines.

POLICY 1.2.11: The Office of the Director of Facilities Planning shall review each newly constructed, renovated or remodeled facility six months after completion so that any necessary adjustments may be made to the UCF Design Guidelines.

POLICY 1.2.12: The designs for buildings on satellite campuses shall be afforded a courtesy review by the Office of the Director of Facilities Planning, for comment on the ways in which the quality of those designs may reflect the standards set forth by the UCF Design Guidelines.

OBJECTIVE 1.3: To adhere to existing guidelines and minimum standards for the campus graphics and signage program that will be harmonious with the architecture and landscape, and will stress permanence.

POLICY 1.3.1: Campus building graphics and signage shall comply with the UCF Design Guidelines. Building names will be displayed on the building near their respective main entrances.

OBJECTIVE 1.4: To establish guidelines and minimum standards for energy efficiency and life cycle costing.

POLICY 1.4.1: New buildings shall comply with the UCF Design Guidelines.

OBJECTIVE 1.5: To establish guidelines and minimum standards for site lighting, plaza, sidewalk and other hardscape materials, furniture, building illumination, and landscape materials and design, and other elements that contribute to the overall environment and safety of the campus.

POLICY 1.5.1: Hardscape materials for plazas and sidewalks shall be medium broom-finished and poured-in-place concrete. Exceptions may be made in special areas, such as campus entrances, where a specific contrast or effect is desired.

POLICY 1.5.2: Primary walkways (400', 800' and 1200' radii) shall be 16 feet in width. Secondary walkways (all others) shall be a minimum of 6 feet in width.

POLICY 1.5.3: Site lighting and furniture, hardscape materials and design shall conform with the UCF Architectural Guidelines.

POLICY 1.5.4: New building construction shall consider the use of Crime Prevention Through Environmental Design (CPTED) concepts and principles to improve campus safety.

OBJECTIVE 1.6: To establish guidelines and standards for building siting and linkages that give consideration to campus safety issues.

POLICY 1.6.1: When applicable, future academic core buildings shall be sited so that their pedestrian entrances face the 800 foot radius (Mercury Circle) and their service entrances occur on the opposite end. Such siting will segregate vehicular and service traffic away from major pedestrian zones.

POLICY 1.6.2: When applicable,future academic buildings situated inside the 800 foot radius (Mercury Circle) shall be serviced from the 400 foot radius (Pegasus Circle). Academic buildings which fall outside of the 800 foot radius (Mercury Circle) will be serviced off of Gemini Blvd, when applicable.

POLICY 1.6.3: Projects enhancing campus safety and disabled accessibility shall be prioritized according to the following order:

- **Priority 1**
  Projects which reduce pedestrian vs. vehicular conflicts.

- **Priority 2**
  Projects which reduce bicycle vs. vehicular conflicts.

- **Priority 3**
  Projects which remove barriers to people with disabilities.

- **Priority 4**
  Projects which enhance lighting conditions on campus.

- **Priority 5**
  Projects which reduce bicycle vs. pedestrian conflicts.

OBJECTIVE 1.7: To establish guidelines and minimum standards for architectural treatments along the campus edges that coordinate with the host community.

POLICY 1.7.1: An information kiosk, made of brick, may be located at each (existing or proposed) vehicular entrance into campus.

POLICY 1.7.2: Campus entrances shall be kept as open corridors looking into and out of campus.

POLICY 1.7.3: Campus entrances shall be further articulated with unique or contrasting landscape and/or architectural elements that distinguish them from campus edge treatments.

OBJECTIVE 1.8: To include references in the UCF Design Guidelines to standards mandated by State Legislation and Standards for the State University System developed by the Office of Capital Programs.

POLICY 1.8.1: The Director of Facilities Planning shall establish procedures for the review of all project proposals to ensure compliance with the UCF Design Guidelines.

2.15 Architectural Design Guidelines Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) General Description of the Campus Architectural Character

Since they reside within the Academic Core, in close proximity to one another, the major academic buildings need to be engaging in architectural relationships. The core is meant to act as a frame for the architectural compositions it encapsulates. It should be natural for the core buildings to relate to one another in mass, form, and style.

The inherent symbolic content of the campus plan should not be ignored. The rings of the Academic Core carry astronomical and astrological names. The "helix shaped" roadway which was to circumnavigate the core is symbolic of the basic structure of life, the double helix. All of the roadways are named after constellations. The apses of the roadways were to contain "academic villages" that were directly connected to the core, which in turn contained all of the major academic buildings. It could be argued that the original campus plan represents an encapsulated universe. Some architectural schemes have responded to this symbolic content in plan and in form. For example, the CREOL Building, which has a long curved wall on its principal façade, creates a large circular landscape island floating beyond the building that looks, in plan, like a planet in orbit.

b) Architecturally Significant Historic Buildings

Because the University is 40 years old, no building could be described as being historically significant. It is, however, important to note that the Library was the first building to be constructed on campus, followed by the Administration Building.

c) Aesthetics

1. Materials

The predominant exterior building material throughout the campus is brick, occasionally accented by certain architectural elements that are rendered in either stucco or exposed concrete.

2. Color

In the Academic Core there are approximately nine different shades of brick. They vary from dark brown to dark red. One particular blend of brick has been defined as the "UCF blend", which is the brick of choice for buildings. Natural mortar has now become the standard for campus buildings since it tends to define the brick with a wall surface. On the North End of campus,

the architectural style deviates from the traditional university standard that is found in the Academic Core. A wide variety of colors and modern building systems are used.

3. Style

The style of the campus can be described as multifaceted. A variety of styles are represented, which define and place buildings in a particular architectural period. The Library, Administration Building, and Health and Physics Building all relate, in that they exhibit a similar architectural element, the “UCF Arch”. This grouping is also similar in form and shape.

4. Siting

Buildings within the academic Core are directly affected by a concentric sidewalk system. The architecture within the core has responded to this condition by attempting to create at least two facades, facing each concentric sidewalk system. Since the core is the most dominant central geometric element on the campus, it would be natural that siting of buildings outside the core should be affected by the core’s “lines of force.”

d) Design Trend

An assessment of the degree to which existing building designs are coordinated, and the degree to which they contribute to or detract from the present visual or functional quality of the University.

1. Refer to the 1995 Analysis.

2. In addition, it is noted that there has been a trend in the design of campus facilities since that update in which designs have begun to introduce other materials, colors and design details which deviate noticeably from the original, more aesthetically cohesive campus aesthetic. Whereas the older campus buildings were more consistently covered in the “UCF blend” of reddish-brown brick, many newer facilities have introduced increasing amounts of cream, or yellow colored brick. Also, newer structures have started to introduce metal, usually in a silver-metallic finish, as a significant exterior material. There is a noticeable trend in the newer designs to emphasizing horizontal lines. In design details the older facilities were more austere, using brick as a largely unarticulated exterior surfacing with simple, punched opening. Newer designs have relied on different trim materials or varying brick coursing/corbelling/coloring to articulate openings. Generally, the trend in the newer designs is to reflect contemporary design aesthetic as opposed to reflecting the aesthetic of the era of the older buildings.

3. The current trends, while moving away from the earlier aesthetic, show an awareness of modern architectural aesthetic that is more reflective of the high-tech, increasingly diverse world in which the University exists and of the more recent research-oriented, diversity-enhanced mission of the University. From the point of view of the current student and research-oriented faculty, the newer facilities as individual designs may create an aesthetic more reflective of the University's contemporary mission. That being said, when viewed together with the older designs, the newer designs, unless they have clearly identifiable visual connectivity with the older designs, may create a frenetic campus visual image. It is a matter of degree and interpretation, both very difficult, if not impossible to judge, since "beauty is in the eye of the beholder". If the design diversity reaches the threshold of visual schizophrenia for a significant number of the students and faculty, it may have an overall negative impact on the University mission.

4. The challenge for the designers and design directors/reviewers is to build a design bridge between 1) the older campus aesthetic with the traditional values it connotes and the resulting aesthetic consistency; and 2) the more contemporary, progressive aesthetic. This should be a major goal of the University's architectural design guidelines.

5. Another major issue of concern is the degree to which the "vertical" facilities reinforce the campus radial planning organization. The radial plan works well as an organizational element to create a pedestrian-only academic core. On the other hand, since most users are overwhelmingly acclimated to an off-campus world of orthogonal urban planning, the radial plan creates great challenges in wayfinding. New students and visitors are particularly worthy of consideration, as their level of comfort with the campus environment will certainly affect their initial and perhaps overall impression of the campus. The University clearly values retention of freshman as four-year-plus students as reflected in its policy of providing on-campus housing for 75% of freshman. Ease of wayfinding is critical in the adjustment of new students and visitors to the large, potentially intimidating environment of a major university.

6. What is recommended to improve on the current situation is 1) clearly defined urban design and future land use goals and objectives; and 2) policies which establish a means of achieving these goals and objectives. The goals and objectives should clearly state design principles which are to be achieved. The policies should establish procedures for communicating these principles and means for directing and monitoring progress toward achieving these principles.

e) ADA Accessability

1. Refer to the 1995 Analysis.

2. The University has an active process of 1) requiring adherence of new designs to disabled accessibility requirements; 2) providing disabled student ombudsman review of all projects; and 3) identifying and prioritizing disabled accessibility deficiency correction concurrent with remodelings and renovations of existing facilities. Because of the relative youth of the campus, the backlog of existing deficiencies is of less impact than older universities. Nonetheless, the importance of accessibility to mission and to admission policy makes it a priority.

3. By policy all new facilities are to meet all accessibility requirements.

4. Deficiencies have been identified and cataloged for correction with scheduled remodeling or renovation.

2.16 Landscape Design Guidelines Element
Goals, Objectives and Policies
2010-2015 Campus Master Plan Update

GOAL 1: Create an exemplary and unique campus environment that promotes outdoor comfort, security, sustainability, and a regional "sense of place." Create a rich and horticulturally diverse visual landscape exemplifying the unique composition of Central Florida's native environments, as well as the region's historical and cultural tradition, and link these to educational opportunities.

OBJECTIVE 1.1: To develop and implement a Landscape Master Plan for the University of Central Florida campus by 2010.

POLICY 1.1.1: UCF will reinforce the important landscape elements defined in the Master Plan by developing landscape themes supportive of educational, cultural and recreational programs designed to enhance the collegiate experience. This landscape will be characterized by:

- Creating shaded quads, plazas and common areas for student interaction and places for gathering and recreation; and by enhancing vehicular roadways with defining tree plantings, and with colorful shrub islands at decision points.

- Planting species that are indigenous to the natural plant communities of Central Florida, where appropriate to the particular situation, and recreating a semblance of the original pine flatwoods, scrub, sandhill and wetland ecosystems. These native plant areas are, by definition, areas where soil disturbance has been minimal, no turf is envisioned, and any irrigation is temporary rather than permanent. All introduced horticultural species are to be grouped by their similar soil and water requirements. Whether native or introduced, all installed plantings will be designed and installed to comprise multi-stratum, or "layered" landscapes, with plants forming canopy, subcanopy/shrub stratum, and ground cover layers.

- Encouraging a vertical growth structure that improves canopy tree resistance to hurricane force winds, and provides a continuous and contiguous canopy over all pedestrian pathways.

- Planting trees to highlight and identify various campus signatures or other landscape treatments, which shall be typically spaced at 25' on center, and never more than 40' on center.

- Limiting the use of exotic plants to exceptional landscape situations. Any non-invasive, exotic plants will be able to resist periods of drought and require little use of fertilizer and pesticides.

- Designating removal of non-native invasive plants (whether grasses, trees or shrubs) if such exotics are listed on the Exotic Pest Plant Council's list of "Florida's Most Invasive Species." Landscape & Natural Resources (LNR) will coordinate the removal of plants with the UCF Arboretum.

- Strictly limiting areas of turf grass to only functionally necessary locations and extent. In keeping with guidelines for the University of Florida IFAS Extension Service, and following the example of the City of Oviedo, no St. Augustine species or cultivar will be approved for installation. Existing St. Augustine is to be converted by incremental removal or by overseeding with Argentine Bahia, Bermuda, or Seashore Paspalum cultivars and selected legumes. All landscape plans associated with new construction are to use, preferentially, perennial groundcovers and shrubs to further reduce areas of high-input turf.

- Incorporating, to the greatest extent possible, Xeriscape and Integrated Pest Management principles and practices for landscape design and maintenance.

- Removal of invasive plane species within Conservation Easements, or previously permitted mitigation areas, will be reviewed and authorized by SJRWMD.

POLICY 1.1.2: The University will develop the campus landscape outside of the institutional zone (Campus Core) with the following criteria outlined and action items stated within a Landscape Master Plan:

- Plant a palette of primarily indigenous plant material selected for durability, beauty, and low maintenance requirements.

- Where appropriate, small groupings of three (3) to five (5) trees of like species should be used, and larger irregular groupings where space permits. These larger groves shall be underplanted with shrubs or groundcovers, so that mulch is concealed by healthy plant growth.

- Formal groupings of plants can be used to accentuate or establish unique areas of landscaping outside the institutional zone.

- Shrub masses will identify and celebrate special areas designated to support specific collegiate activities, and to enhance the pedestrian experience. Such shrub plantings will NOT be power-sheared during maintenance, but instead shall be hand-pruned to maintain desired size, structure, flowering, and plant health.

POLICY 1.1.3: The University will develop a “signature” landscape treatment for all of the campus entrances, edges and corners which will reflect the presence and character of the University of Central Florida. The signature treatment shall include selection of plants that represent the campus’s diverse native landscape.

POLICY 1.1.4: The University will reinforce and improve circulation hierarchy by developing distinct landscapes for each road type, intersections and any pedestrian/tram/service loop.

Entrance Roads: Medians will be landscaped with Sabal palms, low profile flowering perennials, shrubs and ground covers. Any annual plant displays will be limited to areas of high visibility, and budgeted by the specific building or user group rather than LNR

Campus Edge: A canopy of native trees (semi-random placements of Oaks, Pines, Palms, Sweet Gum, etc.) and other indigenous materials is to be established. A more structured understory will comprise masses of flowering shrubs.

Primary Loop Road (Gemini Blvd.): The median will be landscaped with a combination of native low-profile shrubs and flowering groundcover, and accented with stands of Sabal palms and occasional upright trees. As turf is removed from the median, the soil surface will be lowered so that rainwater is captured rather than shed into the roadway, bringing mulch and debris. Where necessary, unobtrusive saw-cuts in the median curbs will allow excess water to drain during the rainy season.

Landscape Edges Adjacent to Developed Areas: Surface parking lots will be screened with low mounds, where appropriate, and when the proposed slope is maintainable without erosion. Mounds will be planted in curvilinear (not geometric) layouts of flowering and evergreen shrubs, with occasional trees for screening or sight-line delineation. In general, turf that requires mowing shall not be installed on mounds and berms..

Edges Adjacent to Preserve/Natural Areas: Existing native vegetation will be preserved and enhanced with indigenous plant material. Restoration of the appropriate community structure with prescribed burns, mechanical clearing, or chemical control may be necessary to rehabilitate degraded areas. In edges adjacent to Conservation Easements, or previously permitted mitigation areas, proposed enhancement methods will be sent to SJRWMD for review.

Campus Core Loop and Connector: The internal connectors will be lined with closely-space (25’ on center) groups amd seeps of Live,Laurel, Nuttall, or Shumard Oaks. Accent tree plantings set back into turf areas, or highlighting important nodes for pedestrian decision-making, will include plantings of Crape

Myrtles, Tabebuia species, Peltophorum, large palms, Juniper, Parkinsonia, Clerodendron, Oleander, and various Citrus species.

Secondary roads will be lined with different street tree species to contrast with Primary Loop Road species.

Pedestrian and Service access roads will be lined small oaks, winged elm, Yaupon holly cultivars, and large native Florida shrubs. East Palatka Hollies will no longer be planted, as they are susceptible to nematode decline in early maturity. Likewise, no Loblolly or Red Bays will be planted, as the Ambrosia beetle infestation nears the Orlando area. Drake elms will be replaced by native Winged Elms, as Drakes are weak and very susceptible to wind-throw.

POLICY 1.1.5: The University will follow best practices endorsed by the State of Florida to preserve and enhance existing native vegetation in all areas to rmain in conservation easement or designated open space. This will include both mechanical clearing and limited use of prescribed fire, and the re-introduction of appropriate trees, shrubs, grasses, and wildflowers.

POLICY 1.1.6: The University will manage and protect the existing natural preserves and Arboretum and facilitate appropriate pedestrian access to these areas. More academic and recreational visitors to the conservation and natural areas will enhance the overall educational and collegiate experience.

POLICY 1.1.7: Tree canopy within islands of no less that 144 sq. ft. in all surface parking lots will be provided, and adequate sight lines for visibility and efficient security lighting will be maintained, No less than three (3) footcandles of illumination on average throughout parking areas.

POLICY 1.1.8: The University will select and locate trees to promote safety and security, enhance natural environment, provide shade for vehicles and pedestrians, and minimize maintenance requirements.

POLICY 1.1.9: The University will reinforce, integrate and improve existing Memory Mall and other proposed landscape axes, so that pedestrians experience the campus as a defined sequence of unique landscapes. Edges of malls and courtyards will be defined and shaded with plant materials specified for the appriate design effect and user requirements.. The inner portions of the Memory Mall will be enhanced with plantings of shade trees and palms to improve pedestrian comfort.

POLICY 1.1.10: Appropriate "theme courtyards" will be integrated as an opportunity to enhance the overall education and collegiate experience by creating memorable spaces. These themed courtyards have begun (2008) with the relocation of horticultural species from the biogeographic collections of the UCF Arboretum.

POLICY 1.1.11: The University will develop landscape in housing areas, including courtyards, with colorful and scented landscape plants and hardscape supportive of residence life programs and activities. These auxiliary units must reimburse LNR for such installations, and preferably contract for ongoing maintenance.

POLICY 1.1.12: The location of future building footprints and adjacencies will be located to indicate and reinforce the open spaces depicted in the Landscape Master Plan. Pedestrian connectivity, and the coherent relation of walks to entries between and among buildings, shall be an important discussion at the commencement of all Facilities Planning projects and improvements.

POLICY 1.1.13: Bicycle rack style and placement will be standardized to achieve simplicity and uniformity. Selection of bicycle racks shall be based on efficiency, ease of use, tamper resistance, maintenance, and accessibility. Bicycle facilities shall be located convenient to academic and housing areas, in secure locations. Landscape treatment shall consist of adjacent canopy trees for shade, and a durable, paved surface under each bicycle rack. Abandoned bicycles will be monitored, tagged and removed by the Police Dept, with assistance from student groups, to ensure that such bikes are removed in a timely manner for sale to benefit the SGA. Annual site surveys will determine the need and location of additional bike racks.

POLICY 1.1.14: On-campus public transportation facilities will be sited to allow for visibility and ease of access, both pedestrian and vehicular. All shelter designs shall be consistent with UCF's architectural guidelines. Landscape treatment should provide shade, if not provided by shelter.

POLICY 1.1.15: Emergency access will be kept clear of any impeding landscape or hardscape installations.

POLICY 1.1.16 All trash collection facilities will be screened from pedestrian or vehicular traffic with either fences, walls, or plants consistent with UCF's architecture guidelines.

POLICY 1.1.17: Maintenance facilities will be screened from pedestrian or vehicular traffic with fences, walls (preferably with vines on vertical surfaces) or other plant material consistent with UCF's architectural guidelines.

POLICY 1.1.18: All building construction projects will be coordinated with an associated public art budget within the design review process and with the University of Central Florida's Public Art Committee to facilitate location, theme, and integration.

POLICY 1.1.19: The University will use the summary analysis of existing landscape and hardscape conditions and quality prepared within the Landscape Master Plan to determine deficiencies. These will be added to University's Landscape & Natural Resources' improvement projects list.

OBJECTIVE 1.2: **To modify and adopt a revised landscape design guideline upon Master Plan adoption.**

POLICY 1.2.1: In concurrence with the Landscape Master Plan, landscape materials will complement and blend with the natural, native surrounding plant palette.

POLICY 1.2.2: As necessary,the campus master plan will be amended to include the revised plant material list and additional treatments, as stated within Landscape Design Guidelines.

POLICY 1.2.3: The University will monitor conformance of future construction projects with revised Landscape Design Guidelines and Landscape Master Plan through University design review procedures.

POLICY 1.2.4 The University will develop a comprehensive maintenance manual for all campus landcape, not just for E&G areas, but for all auxiliaries and DSOs as well. The manual will ensure best management practices, reduce inputs of irrigation and chemicals, and promote a unified aesthetic across campus.

POLICY 1.2.5 The University will develop a policy manual and mechanism for compliance in landscape management and materials that will support sustainability and unity in the campus landscape.

OBJECTIVE 1.3: Adopt standards for overall campus furnishings, lighting fixtures and graphics depicted within the Landscape Master Plan.

POLICY 1.3.1 Projects which may enhance campus safety, and handicap accessibility shall be identified and prioritized according to:

1. Visibility and wayfinding
2. Pedestrian/vehicular/bicycle conflicts;
3. Enhanced lighting; and
4. Removal of barriers, where necessary, and installation of barriers where required for public safety.

POLICY 1.3.2 In coordination with the University of Central Florida's Directors of Facilities Planning and Physical Plant, LNR will establish administrative procedures within the University's administrative structure (e.g., a design review process) to ensure the coordination of the landscape, furnishings and graphics

on the campus are in accordance with the adopted guidelines. As necessary, the Campus Master Plan shall be amended to include these procedures.

OBJECTIVE 1.4: To adopt standards for campus edge treatments.

POLICY 1.4.1 In accordance with the Conservation and Landscape sections of this Master Plan, the University shall manage and enhance the existing natural buffer areas along campus edges. In edges adjacent to Conservation Easements, or previously permitted mitigation areas, proposed enhancement methods will be sent to SJRWMD for review. The University shall discourage development within the 200' buffer area,and shall re-establish understory (e.g., shrubs and groundcover) plantings of indigenous plant material in natural arrangements in areas where appropriate.

POLICY 1.4.2 The University will create a signature architectural and landscape entry statement that enhances and an institutional entrance that contrasts and complements the naturalistic buffer/campus edge.

OBJECTIVE 1.5: To adopt standards for landscape edge treatments surrounding ponds, lakes and stormwater features.

POLICY 1.5.1: The University will conform to the requirements of the local water management district regarding side slopes for retention basins, drainage elements, and wetland mitigation areas.

POLICY 1.5.2: Retention lakes will be configured to be natural and curvilinear in outline. Rectilinear and pure geometric forms are not permitted. Wherever possible, side slopes shall vary and provide smooth transitions to existing grades. Gentle landforms around the lake shall reinforce the “natural" context. “Shelves” of varying depths within littoral zones will be provided to promote diversity of aquatic emergent plants.

POLICY 1.5.3: Whenever possible, multiple small retention areas will be incorporated into one single larger basin. Larger basins are more efficient in volume-to-surface area. Single basins also avoid the appearance of project areaa surrounded by “depressed moats."

POLICY 1.5.4: For landscape treatment around retention lakes, maintenance and access setbacks but will otherwise create natural, existing vegetative communities, or will be simply respectively planted with native materials.

OBJECTIVE 1.6: To implement the landscape concept plan by allocating proportional campus landscape costs to programmed building costs, and by seeking supplemental funding allocated for landscape improvements.

POLICY 1.6.1: Landscape budgets shall be an integral and inviolate portion of new construction budgets, and shall be based upon a percentage of total construction costs and taken on a case by case basis. Funds allocated for landscape improvements shall not be redirected to fulfill funding shortages in other areas of the construction project.

POLICY 1.6.2: Landscape improvements that are independent from new building construction shall be considered as stand-alone or independent projects with respect to funding and capital expenditure programming.

POLICY 1.6.3: The University will apply these descending priorities for implementing components of the Landscape Master Plan:

- **Priority 1**
  Entrances, walkways, intersections and connectivity
- **Priority 2**
  Malls and Courtyards
- **Priority 3**
  Service/Pedestrian/Tram Loop
- **Priority 4**
  Loop Road
- **Priority 5**
  Parking Lots

POLICY 1.6.4: The University will establish policies and procedures to retain landscape architects independently of architects for campus building, and for the design and implementation of components of the Landscape Master Plan. The adopted campus master plan shall be amended to include these procedures.

POLICY 1.6.5: The University will seek separate funding mechanisms and revenue sources specifically targeted for landscape improvements as outlined in Master Plan.

OBJECTIVE 1.7 To establish standards for materials and maintenance procedures for all levels of landscape installation and across all E&G, DSO, and Auxiliary grounds.

POLICY 1.7.1 A family of site furnishings (lighting, seating, trash receptacles, plant containers, water fountains, bike racks, bollards, barriers, etc.) will be established and will be incorporated into all building projects. Such a policy will reduce purchase, maintenance, and replacement costs, while unifying campus design.

POLICY 1.7.2 Pruning standards for all plant material will be defined, to promote plant health, longevity, and hurricane resistance. Training for all landscape personnel will be instituted.

POLICY 1.7.3 Permanent groundcovers will be planted in ALL mulched areas, both to reduce maintenance costs and to promote water infiltration. Mulch shall be considered a desirable but temporary application.

POLICY 1.7.4 Temporary or short-seasonal plantings of annual plants will be avoided, except in containers or for special events. Seasonal changeouts are expensive to install and replace, and are labor-intensive while in place.

POLICY 1.7.5 Use of nitrogen fertilizers will be reduced where practicable, and mixed turf species will be introduced to all monospecific lawn areas. Only sports turf would be exempt from reductions of irrigation and fertilizers.

POLICY 1.7.6 The University will plant vines on windowless walls to reduce solar gain within buildings, and reduce reflected heat on the exterior.

OBJECTIVE 1.8 To incorporate Green Screens (free-standing mesh structures to support vines) in new construction.

OBJECTIVE 1.9 To implement green roof installations on all new construction where practicable, both to reduce runoff velocity and to improve runoff quality, and to prolong the life of roofing membranes.

OBJECTIVE 1.10 To plan fountains and water features carefully to enhance landscape quality.

POLICY 1.10.1 The University will design fountains to be basin-less, that is, were the re-circuation collection and pumping is concealed beneath a grate.

POLICY 1.10.2 Water features will be designed to be low-flow and evaporation resistant through reduced surface area.

OBJECTIVE 1.11 To articulate special events policies are to be articulated in the Golden Rule, Student Activities Guidelines, and in collaboration with DSO and Auxiliary entities on campus.

2.16 Landscape Design Guidelines Element
Data and Analysis
2010-2020 Campus Master Plan Update

a) Assessment of Coordination of Landscape Features and the Degree to which they Contribute to, or Distract from, the Visual Quality of the Campus.

1. Through 2005, the University maintained the image of campus community built within a natural environment. The natural environment, composed of sand pine scrub, pine flat woods, forested and non-forested wetlands, is the unique vegetative communities that create that sense of place for the University. We have since recognized that a combination of mechanical maintenance and/or prescribed fire is essential to keeping these areas in proper ecological balance, and to reduce the risk of wildfire.The existing development has successfully maintained the diverse tree canopy at the core of the campus. To maintain this unique identity of a landscaped campus built within its own natural environment, the landscape communities that have been replaced need to be restored or enhanced, with the campus core landscape.

2. Current landscape treatments, hardscape installations, signage, and site furnishings have been designed to reflect, as closely as possible, the standards established by the University. Campus quads, greens and plazas also bring organization,a sense of way-finding and destination to the campus. Landscape spaces must be identified and recognized as equally important to architecture projects. It is these landscape spaces that unify all current and future architecture facilities. Standardization and blending of all the elements mentioned is critical to the overall image of the campus. A continued emphasis on a strong landscape spaces and a coordinated landscape palette will re-inforce a sense of unity and way-finding to the University. Integration and understanding of urban design elements, such as gateways, landmarks, campus corners, campus edge conditions, roadway character, and pedestrian treatments will further enhance a sense of arrival, destination and place.

b) Assessment of Existing Treatments with Regard to their Impacts on Campus Safety

1. Vehicular Circulation Routes

   A standardized plant palette for the streetscape is not necessary to the overall landscape theme of the University. Landscape & Natural Resources continues to reflect the diverse UCF vegetative communities with the installation of Pines, Oaks, Palms and Cypress that complement the remnant native ecosystems and provide a unique driving experience through a series of Central Florida's natural environments.

2. On-grade Parking Facilities

The implementation of gradual berming adjacent to Gemini Boulevard has allowed enough visibility for location and access to parking lots and ramps. Depending on future land use designations for surface parking lots, long term faculty and student interior parking lots can integrate tree canopy through the use of designated tree islands in accordance with the landscape standards. Coordination of tree islands around future facilities and in parking areas, will promote a more continuous tree canopy across campus.

3. Pedestrian Circulation Routes

The three 16' wide concentric ring walks are intended to be shaded with a contiguous tree canopy. Campus maps have been strategically placed along the 16' concentric rings walks to enable way-finding and destination of the walk. The ring walks contribute to the University's overall sense of way-finding. Within the concept of the urban design plan, the walks serve as the essential links to the campus green areas and the Memory Mall.

Pedestrian circulation volumes and patterns for the entire campus must respond to the constantly changing physical environment of the campus, thus changing the need for, and location of, walks. Consideration for pedestrian behavior of students must guide design and location of walks.

4. Bicycle Facilities

Currently, the number of bicycle facilities must be increased to be consistent with the amount of users on campus. The number of bicyclists will increase as the University creates stronger connections to the future development of housing along the edges of campus and within UCF. Locations of current and future facilities need to be coordinated with proposed regional bicycle routes. Aesthetically, bicycle parking areas must be organized and located at strategic places around campus rather than along the entrances or facades of buildings. Abandoned bikes must be tagged and removed in a timely manner.

5. Public Transportation Facilities

With the addition of proposed intermodal stations, transit stops have been integrated and organized into the overall circulation system. Signs and graphics are being updated and improved in 2009-2010. Further investigation of the facilities, furnishings and circulation routes is underway to complete this part of the analysis.

6. Emergency Access Facilities

Emergency access appears to be adequate, and a new emergency notification system is currently being designed and implemented across campus.

7. Planted Areas

Landscape malls, plazas and parks are being enhanced and improved as the framework for accommodating pedestrian patterns, security, way-finding and connectivity between existing buildings and future building projects. The creation of additional planted areas within the campus core will unify individual building architecture. Further investigation of soil types and vegetative communities will dictate the landscape palette for additional planted areas. Ornamental plantings will comprise both native Florida species, and introduced specimens adapted to our climate and soils. All plantings will be accessioned and labeled in cooperation with the UCF Arboretum, to promote the educational component landscape sustainability.

8. Site Furnishings

Compliance with the University's standards for benches, light poles, or signs will continue to enhance the overall quality and way-finding of the campus. A unified family of all site furnishings shall be developed to enable individual project designers to comply with the themes and materials chosen for the campus, and to avoid visual clutter. The family of furnishing will also reduce the high costs for maintenance and replacements that are associated with having unique furnishings for each new building project.

9. Lighting Location and Type

Lighting fixtures throughout campus must be consistent. An organized lighting system with uniform colors and fixtures creates a feeling of improved safety and enhances the experience of night-time visitors. A family of related fixtures will be chosen for use by Facilities & Safety as well as by individual project engineers and architects. These fixtures will also be chosen to reduce light pollution, and to meet LEED criteria for site development.

10. Trash Collection Areas

The use of compactors has eliminated most trash dumpsters from the core of the campus. In areas where the teaching process or building functions requires specialized trash collection, containers are to be placed within screened or landscaped enclosures.

11. Maintenance Facilities

Loading docks along Pegasus are generally exposed to pedestrian and vehicular circulation. Hardscape screening of these areas shall be reviewed as a method to conceal the activities attractively in the loading dock area. The loading needs of individual facilities should be considered.

12. Campus Edge

The campus edges and six roadway entrances serve as the primary visual image of the campus. Improving campus woodland edges, corners and entrances will have several benefits, including creating a sense of arrival and making a strong first impression on visitors.

Although the intent of the “naturalistic” buffer was to reduce the need forl maintenance, stewardship of all Florida woodlands is a requirement for ecosystem function and health. A natural fire regime controls invasive understory and exotic species. The urban edge of our native buffer zone precludes our use of precrbied burns in management along Alafaya McCullough. With a limited mechancial maintenance program, and augmenting the understory with new indiginous plantings that have ornamental value, the University can create a visual connection to University architecture from outside the campus and still screen the unwanted automobile traffic on Alafaya Trail. Design concepts for the edges, corners and entrances are currently under development to address the visual image of the University.

c) Assessment of the Ease or Difficulty of maintaining Existing Landscape Features

Overall the maintenance of the constructed portions of the UCF landscape is moderately difficult. The soil is very low in organic content and does not retain moisture well. The pH of the native soil is at 7.8 to 8.0 in most areas of campus. The ideal pH range for most non-native species is 5.5 to 6.5., and most native species prefer 6.5 to 7.5.

Herbicides and insecticides have proven to be less effective due to the soil and water pH. This is addressed during spray applications by utilizing a pH buffer that is mixed with the insecticides and herbicides.

Compaction of soil and general wear and tear of the turf grass areas for campus also creates problems with maintenance. Cart and other vehicular traffic stress the turf grasses in most of the campus core. The result of this compaction prohibits heatlhy growth of turf, thus allowing weeds to germinate and spread. Regular manual aerating is required to allow for growth, and in some instances, installing new turf is required. We are currently investigating spray adjutants that

will reduce the compaction and help the turf sustain periods of high use and drought. We are phasing out the use of high-maintenance, low-durability St. Augustine grasses and will introduce a mixed species turf to all but specialized lawn areas. We are converting to the use of reclaimed water instead of well or potable water for all campus irrigation.

The American of Higher Education Facilities Officers (APPA) standards are currently being used by members of L-NR to benchmark maintenance activities and schedules of landscape. Upon completion of the project we will have established existing environmental issues, training requirements, and will have determined grounds staffing levels, and appropriate levels of maintenance.

d) Assessment of the Physical Condition of Existing Landscape

In general, the overall physical condition of the campus appears to be in adequate to excellent condition. Water and chemical inputs have been reduced 30 to 50% from 2007 to 2009. Reclaimed water will replace potable water for all landscape irrigation. Turf areas are being reduced in the campus core, and are being replaced with perennial and woody plants with much lower maintenance requirements.

e) Assessment of Accessibility of the Campus to Disabled Persons

New building projects require approval from the University ADA personnel and are quite thorough. A campus-wide assessment of accessibility shall be conducted as a subsequent activity. Individual buildings and facilities shall be evaluated and improved, as necessary, as renovations occur over time with scheduled maintenance and upgrades.

2.17 Facilities Maintenance Element
Goals, Objectives and Policies
2010-2020 Campus Master Plan Update

GOAL 1: To implement planned and routine maintenance programs which will extend the useful life of all buildings and prevent premature capital outlay for replacement. Through managed maintenance, the Physical Plant Department will support the University facilities to provide the University community with a safe environment conducive to teaching and research.

OBJECTIVE 1.1: To establish the acceptable use and capacity of each building.

POLICY 1.1.1: The use and capacity of each building will be determined by the vice president in charge of the facility, the Vice President for Administration and Finance and his or her staff. The Space Planning Anaylsis and Assessment team shall maintain documentation on the use and capacity of all facilities in the UCF Space Report.

POLICY 1.1.2: The vice president in charge of a facility desiring to change the use and/or capacity of that facility shall meet with the Vice President of Administration and Finance and his or her staff to determine that the use is acceptable to the University and the capacity meets the minimum SUS standards.

OBJECTIVE 1.2: To establish the desired level of performance for building elements.

POLICY 1.2.1: The exterior walls, windows, and doors of campus buildings are expected to last the life of the building with maintenance, as scheduled in Objective 1.3 below. Roofs are expected to last 20 years under normal weather conditions, with maintenance as scheduled in Objective 1.3 of this Element.

POLICY 1.2.2: The interior walls, floors, stairs, doors, windows, and frames of campus buildings are expected to last the life of the building, with maintenance as scheduled in Objective 1.3 of this Element.

POLICY 1.2.3: The structural, plumbing, and electrical systems of campus buildings are expected to last the life of the building, with maintenance as scheduled in Objective 1.3 below. HVAC systems are expected to last 15 years, and elevators are expected to last 20 years, with maintenance as scheduled in Objective 1.3 of this Element.

POLICY 1.2.4: The exterior walls of buildings shall be brick that has been waterproofed, or masonry with a sealer and primer applied before a stucco finish. Exterior doors and windows frames shall be metal.

POLICY 1.2.5: HVAC ducts shall not be internally lined with fiberglass or fibrous materials.

POLICY 1.2.6: Roofs are to be sloped and shall be single ply Fibertite or modified Bitumen Systems manufactured by GAF, Soprema or Siplast for new construction and spray on polymer coatings with a sustainable warranty should be considered for re-roofing projects.

OBJECTIVE 1.3: To establish a maintenance schedule for campus facilities.

POLICY 1.3.1: Physical Plant shall be responsible for the operation, maintenance of the buildings, and utilities for the E&G and Housing areas of campus in accordance with UCF Maintenance Standards. Physical Plant will provide oversight to the operation, and maintenance of auxiliary buildings as needed.

POLICY 1.3.2: Auxiliary units shall be responsible for the operation, maintenance, and cleaning of auxiliary buildings on campus in accordance with UCF Maintenance Standards. These units include but are not limited to Student Development and Enrollment Services, Business Services, and Athletics.

POLICY 1.3.3: Leased trailers on campus will be the responsibility of the Vice Provost for Academic Affairs.

POLICY 1.3.4: The University shall assure that campus standards are met when renovating, remodeling or constructing buildings on campus. The UCF Design & Construction Procedures, UCF Design Guidelines, UCF Cost Containment Guidelines, the Florida Building Code shall be adhered to and UCF Maintenance Standards.

POLICY 1.3.5: Exterior walls, windows, doors and exposed metal structures shall receive routine maintenance every 8 years. Roofs shall receive routine maintenance every year.

POLICY 1.3.6: Interior walls shall be repainted, carpet shall be replaced, and suspended acoustical ceilings shall be replaced on an as needed basis as funding becomes available.

POLICY 1.3.7: Systems: HVAC systems shall receive monthly maintenance. Lab hoods and exhaust fans shall be maintained every 6 months. Lab showers and eyewashes shall be tested quarterly. Backflow

preventers shall be tested yearly. Electrical systems shall receive maintenance every 5 years.

POLICY 1.3.8: Elevators shall receive a basic inspection monthly. Mandated changes will be done as funding is available. A renovation will be done once in the life of the elevator.

OBJECTIVE 1.4: To establish priorities for maintenance and improvement projects.

POLICY 1.4.1: Physical Plant will identify maintenance and improvement projects on an ongoing basis. A master list of prioritized Critical Deferred Maintenance projects will be maintained and, as PECO funding becomes available, strategies will be devised to make corrections.

POLICY 1.4.2: In the first quarter of every year, 15 buildings shall be inspected by Physical Plant, Environmental Health & Safety, Facilities Planning, and Student Disability Services.

POLICY 1.4.3: Physical Plant will maintain buildings through a computerized system that will address preventive maintenance items by issuing work orders on a scheduled basis. This system will identify scheduled service, maintenance and inspection of mechanical systems, life safety systems and building components. Building cleaning maintenance will be based on task assignments for daily, semester or annual project work.

POLICY 1.4.4: Physical Plant, in conjunction with Housing Administration, will identify and prioritize major repair and renovation projects for the residence halls on campus. Corrections will be made as funding becomes available.

POLICY 1.4.5: Immediate and serious threats to the health, safety, and welfare of students, faculty, and staff as identified by the State Fire Marshall, the Office of Environmental Health & Safety, Physical Plant, or Facilities Planning shall receive immediate attention.

POLICY 1.4.6: Buildings scheduled for major interior renovations shall not receive minor interior improvements within 12 months prior to the renovation.

OBJECTIVE 1.5: To establish a schedule for eliminating deficiencies relating to current standards.

POLICY 1.5.1: At least 90 percent of E&G facility related life safety code violations shall be corrected within one year of being identified, as funding becomes available.

POLICY 1.5.2: A minimum of 2 buildings every year for the next 20 years shall be reroofed, as funds allow.

POLICY 1.5.3: Fire code violations shall be corrected within one year of being identified, as funding becomes available.

POLICY 1.5.4: Building code violations shall be corrected within one year of being identified, as funding becomes available.

POLICY 1.5.5: All asbestos abatement shall be completed, as funding becomes available.

POLICY 1.5.6: All lead based paint in buildings to be renovated shall be identified and removed, as funding becomes available.

2.17 Facilities Maintenance Element
Data and Analysis
2010-2020 Campus Master Plan Update

Physical Plant maintains the University's facilities in support of the academic mission of the University. By establishing proactive routine, preventive and planned facility maintenance programs, the department will extend the useful life of all buildings and prevent premature capital outlay for replacement. On an annual basis, each building on campus is surveyed to evaluate its "Building System Condition." This ongoing assessment is critical in providing a cost-effective operation and is essential in deterring the accumulation of deferred maintenance on campus. Routine data gathered includes: building name, building number, age, exterior and interior materials, roof and structural systems, as well as the condition of the building envelope, HVAC, elevator, electrical and plumbing systems.

As new construction is funded, Physical Plant assists in assessing the needs, planning and construction of future facilities so that the University is in a positive position to meet future challenges and opportunities effectively. Our role is to focus on the new buildings' systems to insure they are consistent with University standards. The buildings must have sound, proven engineering designs with standard building systems components, so they are able to be integrated into the existing maintenance programs on campus.

As building deficiencies are identified, Physical Plant works in corroboration with Facilities Planning and Environmental Health & Safety to address issues. Subject to the availability of funding, issues regarding State Requirements for Educational Facilities (SREF), life safety codes, ADA compliance, hazardous materials (including asbestos, lead-based paints and other environmental or hazardous materials), roof management, and energy efficiency are prioritized and addressed.