

Addition Arena



# CAMPUS MASTER PLAN UNIVERSITY OF CENTRAL FLORIDA

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#### EVALUATION AND APPRAISAL REPORT



#### UNIVERSITY OF CENTRAL FLORIDA

## **1.0 INTRODUCTION**

2020-30 CAMPUS MASTER PLAN UPDATE

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#### A MESSAGE FROM THE PRESIDENT



The University of Central Florida's master plan reflects who we are and who we will become – a bold model for 21st-century higher education. This master plan provides an opportunity to ensure our resources and amenities closely align with our pursuit of academic excellence.

We are always looking to improve our operations and experiences for the students, faculty and staff who call UCF home. In addition to innovative classrooms and research facilities, this plan includes our commitment to conservation, smart transportation and public safety – our No. 1 priority for everyone on our campus.

At UCF, we like to say that we are "of" our community, not just "in" it. That means working together to create a campus that best serves our region and the state. I look forward to our continued work toward this shared mission.

Dr. Thad Seymour, Jr. Interim President

#### **UCF MAIN CAMPUS**

History of UCF	UCF was founded as "Florida Technological University" in 1963. It was created to support the growing technological industries in Central Florida, primarily those related to engineering and space. When it opened, the school provided other academic programs to give the students a broad-based education.
	Re-named in the late 1970s, the "University of Central Florida," has become a rapidly-growing, leading research university, with a full complement of undergraduate and graduate programs. Cutting-edge research is performed in a wide variety of disciplines that span the academic spectrum.
UCF Now	A 21 <sup>st</sup> Century University
	The University of Central Florida is a thriving university located in metropolitan Orlando. With more than 68,000 students, UCF is one of the largest universities in the U.S. In addition to its impressive size, UCF is ranked as a best-value university by Kiplinger, and as one of the nation's most affordable colleges by <i>Forbes</i> . UCF benefits from a diverse faculty and staff who create a welcoming environment and provide opportunities for all students to grow, learn, and succeed.
	A Foundation for Success
	UCF and its 13 colleges offer more than 220 academic degrees. The Main Campus is 13 miles east of downtown Orlando and is adjacent

to Central Florida Research Park, one of the top research parks in the nation. UCF's fully online programs include bachelor's degrees, master's degrees, PhDs, certificates, and more.

#### **Top-Ranked College Education**

UCF is a leader in many academic and research fields, including optics and lasers, modeling and simulation, engineering and computer science, business administration, education, hospitality management, health care, and video game design. As of May 2019, UCF has awarded more than 335,000 degrees since classes began in 1968.

#### **Knight Life**

Home to Spectrum Stadium and the Additions Arena, UCF hosts a variety of concerts and shows, plus NCAA sports and cultural events. Student housing is abundant, as are on-campus events and activities. UCF offers an array of student services and academic resources to help students succeed, and recognizes hundreds of student clubs and organizations.

UCF has not yet developed its projected enrollment vision for the 10-year planning timeframe, 2020 to 2030.

In Spring 2019, Interim UCF President Thad Seymour charged a strategic enrollment task force with investigating and proposing projected enrollment over the next decade. Their report is to be completed in Fall 2019.

This figure indicates Main Campus enrollment when the 2015-25 and 2020-30 Campus Master Plans (CMP) were prepared.

Academic Year	Annual FTE <sup>1</sup>	Fall Headcount (HC) <sup>2</sup>
2014-15 <sup>3</sup>	22,946	49,923
2018-19 <sup>4</sup>	37,057	54,324

The Housing and Transportation elements rely on enrollment growth projections to meet the Data & Analysis requirements of Board of Governors Chapter 21. In the absence of projected enrollment data, these elements will follow other strategies as described below:

BOG Chapter 21 states that the Housing element "ensures the provision of ... housing facilities... adequate to *meet the needs of the projected university enrollment*."

**UCF Enrollment** 

Figure 1.0-1 Main

Growth-based

**CMP** Elements

Housing Growth

Strategy

**Campus Enrollment** 

2015-25 CMP 2020-30 CMP

<sup>&</sup>lt;sup>1</sup> Full Time Equivalent (FTE) totals are based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live course sections (non-Web) on the UCF Main Campus, for fundable and non-fundable student credit hours.

<sup>&</sup>lt;sup>2</sup> Headcounts (HC) represent the number of students taking one or more live course sections (non-Web) on the UCF Main Campus, for fundable and non-fundable students.

<sup>&</sup>lt;sup>3</sup> 2015-25 Campus Master Plan Update, 2.2 Academic Program Element.

<sup>&</sup>lt;sup>4</sup> UCF Institutional Knowledge Management.

	The 2015-25 Campus Master Plan indicated a bed deficit that remains unaddressed because no beds have been added to the Main Campus during the intervening five years and enrollment has increased.
	During the 10-year planning timeframe, UCF will work to correct the housing deficit identified in the 2015-25 Campus Master Plan and confirmed in the 2020-30 Campus Master Plan (see 3.0 HOUSING, Data & Analysis, Figure 3.0-2).
<ul> <li>Transportation Growth Strategy</li> </ul>	Element 6.0 TRANSPORTATION analyzes UCF's impact on our Host Local Government's transportation infrastructure.
	In previous years, UCF's consulting transportation engineers have used projected enrollment to determine future traffic volumes. This year, VHB Engineering will use the following methodology to predict growth:
	• Comparing traffic counts entering/exiting the Main Campus – The traffic volumes decreased between 2014 (83,551) and 2019 (76,620). This represents a negative traffic growth rate of -0.81%.
	<ul> <li>Comparing anticipated population growth in Orange County – The Bureau of Economic and Business Research (BEBR)<sup>5</sup> projects population growth in Orange County will be 0.88% per year between 2018 and 2030.</li> </ul>
	Therefore, when a negative growth rate is anticipated, VHB has used a minimum traffic growth rate of 1% per year, as required by Orange County on similar traffic studies.
How big is the UCF Main Campus?	The DEP Land Document System ( <u>BTLDS</u> ) shows that the UCF Main Campus is made up of two large parcels of land, totaling 1,420.3225 acres, as follows:
	<ul> <li>Parcel 1 : The historic Main Campus was transferred in 1967 from the Florida Board of Education to the Florida Board of Trustees of the Internal Improvement Trust Fund (TIITF), for use by Florida Technological University, later renamed University of Central Florida. In January 1974, the TIITF leased 1203.0525 acres to the Florida Board of Regents, also known as the "UCF Parent Lease #2721." This property is bounded by:</li> <li>West: Alafaya Trail</li> <li>North: McCulloch Road</li> <li>East: University Estates, Regency Park, 2912 Percival Road</li> <li>South: Central Florida Research Park</li> </ul>
	Parcel 2: The "Eastern Parcel" (aka 2912 Percival Road) was acquired by the TIITF in February 1994. When this undeveloped parcel was leased to UCF in 2007, it was 217.27 acres.

<sup>&</sup>lt;sup>5</sup> BEBR "Projections of Florida Population by County, 2020-2045, with Estimates for 2018"



#### Figure 1.0-2 Easements and Leases along the UCF boundaries

UCF has been working recently with the Florida Department of Environmental Protection (DEP) and the Florida Department of Transportation (FDOT) to confirm the Main Campus acreage and easements; and with the Orange County Property Assessor (OCPA) to ensure that their Interactive Map and Property Records reflect the correct acreage for each parcel.<sup>6</sup>

See element 2.0 Future Land Use & Urban Design, *Figure 2.0-1 Current Land Utilization Table*, showing how many acres of campus are considered developed, developable, or undevelopable.

The following easements and leases are along UCF's west and north borders. These easements and leases reduce developable land, but do not reduce the campus acreage.

	Document	Date	To and Description
• Alafaya Trail <sup>7</sup>	Easement 28221	1989	FDOT, easement along much of the west boundary, incl. two drainage ponds, ±17.431 ac.
	Amendment 28221	1993	FDOT, extends easement 28221 to the north, ±0.602 ac.
	Easement 30952	2002	FDOT, new easement, east of easement 28221, $\pm 0.195$ ac.
	Sub-Lease, Hotel	2016	Pegasus Hotel, LLC. for construction of the Celeste Hotel ±5.24 ac.
McCulloch Road	Easement 28329	1990	Orange Co., 20' roadway easement and 3 drainage ponds, acreage unstated
	Sub-lease, Fire Station	1992	Orange and Seminole Counties, for Fire Station #65, originally ±2.453 ac., corrected <sup>8</sup> to ±1.819 ac.
	Easement 30912	2002	Orange Co., ±4.518 ac., 40' water main easement
Other UCF Parcels	TIITF has acquired of benefit of UCF. The Main Campus. See for " <i>Other TIITF Pro</i>	other par se tracts 2.0 Futu <i>perties v</i>	rcels of land near campus for the are not considered part of the UCF re Land Use & Urban Design, page 16, <i>vithin the Planning Study Area</i> ."
UCF Colleges	UCF has more than	220 deg	ree programs in thirteen (13) colleges.
	Link: https://www.ucf.edu/academics/		
	1. College of Arts &	& Human	ities (CAH)
	2. College of Busin	less Adm	ninistration (CBA)
	3. Burnett Honors	College (	(BHC)
	4. College of Comr	nunity In	novation & Education (CCIE)
	5. College of Engir	eering 8	Computer Science (CECS)
	6. College of Healt	h Profes	sions and Sciences (CHPS)

<sup>&</sup>lt;sup>6</sup> Property records and maps maintained by OCPA do not concur on acreage; but show the two parcels to be 1,180.902 acres and 217.18 acres. UCF is working with OCPA to resolve the acreage issue, by adding back easements and leases that were excluded from the UCF campus acreage.

<sup>&</sup>lt;sup>7</sup> A future easement along Alafaya Trail will be granted to FDOT in 2020 to allow improvements to pedestrian safety, including a new, wider sidewalk, safety barricades, and lighting.

<sup>&</sup>lt;sup>8</sup> The original lease overlapped with one of the pond parcels included in Easement 28329

		7. College of Medicine (COM)
		8. College of Nursing (CON)
		9. College of Optics and Photonics (CREOL)
		10. Rosen College of Hospitably Management (RCHM)
		11. College of Sciences (COS)
		12. College of Graduate Studies (CGS)
		13. College of Undergraduate Studies (CUS)
New Colleges		During the 5-year interim since the adoption of the 2015-25 Campus Master Plan Update, four (4) new colleges were created:
•	College of Undergraduate Studies (CUS)	In 2015, the Office of Undergraduate Studies became the College of Undergraduate Studies, restructured within three areas: Interdisciplinary Studies, Academic Services, and the Division of Teaching and Learning.
•	College of Graduate Studies (CGS)	In 2016, the Office of Graduate Studies and the Office of Research and Commercialization were merged to amplify the impact in graduate education and research programs, grow graduate student enrollment, and increase research funding.
•	College of Health Professions and Sciences (CHPS)	In 2018, the new College of Health Professions and Sciences became part of the newly-created Academic Health Sciences Center, along with the College of Medicine and College of Nursing. It will unify UCF's health-related programs.
•	College of Community Innovation and Education (CCIE)	Also in 2018, the College of Community Innovation and Education was created to focus on the pillars of thriving, modern cities, such as civic engagement and governing, safety and justice, and health and well-being, all of which are grounded in transformative education.

#### **CAMPUS MASTER PLANNING**

History of the UCF Campus Master Plan	<b>2020 is the 25th anniversary of the UCF Campus Master Plan!</b> The UCF 1995-2005 Campus Master Plan (CMP) was the first to be prepared by statutory requirement. Subsequent "Campus Master Plan Updates" were prepared for the planning periods 2000-10, 2005-15, 2010-20, and 2015-25. These "Updates" did not constitute a major departure from the CMP adopted in 1995.	
Purpose and Intent of the UCF Campus Master Plan	<ul> <li>The purpose and intent of the UCF Campus Master Plan (CMP) is threefold:</li> <li>1. Growth Management – planning for future campus development and growth</li> <li>2. Ensuring Compatibility with the surrounding community (context area)</li> <li>3. Concurrency Management</li> </ul>	

Context Area	BOG Regulation 21.201 defines context area as the area surrounding a university within which on-campus development may impact local public facilities and services and natural resources, and within which off-campus development may impact university resources and facilities. See Figure 1.0-3 Context Area Map, at the end of this chapter.
Jurisdiction of the UCF Campus Master Plan	<ul> <li>The extent of the UCF context area is considered to be:</li> <li>North of Campus (Seminole County) to just north of the Little Econlockhatchee River</li> <li>East of Campus (Orange County) to just east of Tanner Road</li> <li>South of Campus (Orange County) to just south of East Colonial Drive (SR 50)</li> <li>West of Campus (Orange County) to just west of Rouse Road</li> <li>The UCF Campus Master Plan applies only to the UCF Main Campus. All satellite campuses are subject to the Comprehensive Plans of the governments in which they are located.</li> </ul>
Concurrency	Concurrency requires that public facilities and services needed to support development be available concurrent with the impacts of that development.
<ul> <li>Statewide Concurrency Requirements</li> </ul>	In accordance with Florida Statute 163.3180 Concurrency, the only public facilities and services subject to the statewide concurrency requirements are: • Sanitary Sewer • Solid Waste • Drainage • Potable Water
<ul> <li>Local Government Concurrency Requirements</li> </ul>	Per the concurrency statute, "additional public facilities and services may not be made subject to concurrency on a statewide basis without appropriate study and approval by the Legislature; however, any local government may extend the concurrency requirement so that it applies to additional public facilities within its jurisdiction."
<ul> <li>Orange County Concurrency</li> </ul>	Orange County facilities and services subject to concurrency requirements include: <sup>9</sup> <ul> <li>Roads and Mass Transit</li> <li>Utilities, including Water, Wastewater, and Stormwater</li> <li>Solid Waste</li> <li>Schools</li> <li>Parks</li> </ul>
<ul> <li>UCF Concurrency</li> </ul>	<ul> <li>UCF extends the concurrency requirement to these facilities and services:</li> <li>Chilled Water</li> <li>Primary Electric Power</li> <li>Natural Gas</li> </ul>

<sup>&</sup>lt;sup>9</sup> Orange County, FL - Concurrency Management

	Stormwater	
Statutes and Regulations	Campus Master Plans are required by Florida Statute and the State University System Board of Governors Regulations.	
	Florida Statute 1013.30 Campus Master Plans and Campus Development Agreements recognizes a unique relationship between university campuses and their host governments.	
	Campus master plans and associated campus development agreements are intended to address this relationship and foster communication between universities and their host local governments.	
	University campuses provide research and educational benefits of statewide and national importance, and further provide substantial educational, economic, and cultural benefits to their host local governments. But, they may also have an adverse impact on the public facilities, services, and natural resources of host governments.	
	Link: Florida Statute 1013.30	
	Florida Board of Governors (BOG) regulation <i>Chapter 21 Campus Master Plans</i> provides further clarification of the required elements and review process.	
	Link: BOG Chapter 21	
	By statute and regulation, each Campus Master Plan (CMP) shall cover a period of at least 10 years and not more than 20 years. UCF has always designated a planning timeframe of 10 years.	
	The CMP is updated every 5 years, and adopted by the UCF Board of Trustees in November of the year prior to the beginning of the planning period.	
Reviews		
<ul> <li>Internal review</li> </ul>	<ul> <li>Prior to publication of the first draft, the CMP is submitted for internal review to the:</li> <li>University Leadership</li> <li>University Master Planning Committee</li> <li>University General Counsel</li> </ul>	
	CMP Element Leaders and Advisory Resources	
<ul> <li>Statutory Review</li> </ul>	Florida Statue 1013.30(6) requires that the draft master plan be sent for review to the host and any affected local governments, the state land planning agency, the Department of Environmental Protection, the Department of Transportation, the Department of State, the Fish and Wildlife Conservation Commission, and the applicable water management district and regional planning council.	
	<ul> <li>UCF submits the draft CMP electronically to the following agencies, as required by statute:         <ul> <li>Orange County (host local government)</li> <li>Seminole County (affected local government)</li> <li>City of Orlando (affected local government)</li> </ul> </li> </ul>	

	<ul> <li>City of Oviedo (affected local government)</li> <li>Florida Department of Economic Opportunity (DEO)</li> <li>Florida Department of Environmental Protection (DEP)</li> <li>Florida Department of Transportation (FDOT)</li> <li>Florida Department of State</li> <li>Fish and Wildlife Conservation Commission</li> <li>St. Johns River Water Management District (SJRWMD)</li> <li>East Central Florida Regional Planning Council (ECFRPC)</li> <li>A printed copy is placed in the John C. Hitt Library.</li> <li>An electronic copy is posted on the UCF Facilities Planning and Construction department's website: fn ucf edu</li> </ul>
	Florida Statute 1013.30 (6) states that the "agencies must be given 90 days in which to conduct their review and provide comments to the university board of trustees." Commencement of the review period is well-advertised to ensure public participation in the planning process.
Public Review	To ensure full public participation in the campus planning process, UCF bases the public comment period on the time allotted to the reviewing agencies. The public is also invited to speak at the meetings, and provide comments by email or US mail.
Courtesy Review	An invitation to review was also sent electronically to the District 5 Orange County Commissioner and to MetroPlan Orlando.
Adoption	Following the first two statutory meetings, and receipt and consideration of all review comments, the Board of Trustees may adopt the CMP at the Third Public Hearing.
Master Plan Elements	
Required CMP Elements	<ul> <li>Florida Statute and Board of Governors Regulations require that the Campus Master Plan include eight (8) elements:</li> <li>Future Land Use</li> <li>Housing</li> <li>Recreation and Open Space</li> <li>Intergovernmental Coordination</li> <li>Conservation</li> <li>General Infrastructure</li> <li>Transportation</li> <li>Capital Improvements</li> </ul>
Optional CMP Elements	Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.
	In past CMP Updates, UCF included nine (9) optional elements to address academic mission, academic programs, urban design, utilities, academic facilities, support facilities, architectural design guidelines, landscape design guidelines, and facilities maintenance.
CMP Format	

<ul> <li>Goals, Objectives, and Policies (GOP)</li> </ul>	<ul> <li>Each element will contain Goals, Objectives, and Policies (GOP) as defined in BOG Regulation 21.201.</li> <li>GOALS are the long-term end toward which programs or activities are ultimately directed.</li> <li>OBJECTIVES are a specific, measurable, intermediate end that is achievable and marks progress toward a goal.</li> <li>POLICIES are the way in which programs and activities are conducted to achieve an identified goal.</li> </ul>	
<ul> <li>Data &amp; Analysis (D&amp;A)</li> </ul>	<ul> <li>Each required element will contain Data &amp; Analysis (D&amp;A) that supports any conclusions or recommendations. Optional Elements may also include D&amp;A.</li> <li>Goals, objectives, policies, standards, findings, and conclusions must be based on data.</li> <li>Data must originate from professionally-accepted sources (best available existing data).</li> <li>Tables, charts, graphs, maps, figures, sources, and their limitations must be clearly described.</li> </ul>	
Maps & Tables	The following maps and tables are required by the Board of Governors regulations, but UCF provides many others.	
	<ul> <li>Future Land Use Map, per BOG 21.204</li> <li>Transportation Element Maps/Tables per BOG 21.205</li> <li>Housing Element Maps, per BOG 21.206</li> <li>General Infrastructure Maps, per BOG 21.207</li> <li>Conservation Element Map, per BOG 21.208</li> <li>Recreation &amp; Open Space Map, per BOG 21.209, aka Athletics, Recreation &amp; Open Space Map</li> <li>A capital improvements schedule, per BOG 21.211, aka UCF 10-Year Schedule of Capital Projects (SCP)</li> </ul>	
What's New?	For this CMP update, UCF has:	
	<ul> <li>Added two new elements, Public Safety and Implementation</li> <li>Combined related elements as permitted by BOG 21 202</li> </ul>	
	When elements have been combined, UCF has provided an explanation as required by BOG 21.202(1)(b)	
	• Retired four (4) elements: Academic Mission, Academic Programs, Architectural Design Guidelines, and Landscape Design Guidelines	
The UCF 2020-30 Elements		
1.0 INTRODUCTION	The INTRODUCTION is not an element, but an over-arching view of the University, its planning process, changes and improvements to the 2020-30 Campus Master Plan Update, and a snapshot of the University administration at the time of adoption.	
2.0 FUTURE LAND USE & URBAN DESIGN	The FUTURE LAND USE element is required by F.S. 1013.30 and BOG 21.204.	

	<ul> <li>Combined Elements         The University of Central Florida cannot consider future land         uses in the absence of urban design principles, or vice versa,         therefore FUTURE LAND USE has been combined with the         optional element, URBAN DESIGN.     </li> </ul>
3.0 HOUSING	The HOUSING element is required by F.S. 1013.30 and BOG 21.206.
4.0 ATHLETICS, RECREATION & OPEN SPACE	The RECREATION & OPEN SPACE element is required by F.S. 1013.30 and BOG 21.209. Athletics has always been a component of this element; and this year UCF has elected to add Athletics to the element name. <sup>10</sup>
5.0 GENERAL INFRASTRUCTURE & UTILITIES	The GENERAL INFRASTRUCTURE element (stormwater, sanitary sewer, potable water, solid waste) is required by F.S. 1013.30 and BOG 21.207.
	<ul> <li>Combined Elements         As UCF must consider its complex infrastructure in its entirety,         GENERAL INFRASTRUCTURE has been combined with the         optional element, UTILITIES (chilled water, electrical power,         natural gas, and telecommunications).     </li> </ul>
6.0 TRANSPORTATION	The TRANSPORTATION element is required by F.S. 1013.30 and BOG 21.205.
7.0 INTERGOVERNMENTAL COORDINATION	The INTERGOVERNMENTAL COORDINATION element is required by F.S. 1013.30 and BOG 21.210.
8.0 PUBLIC SAFETY <sup>11</sup>	UCF has introduced a new element, PUBLIC SAFETY.
	The purpose of this new element is to set goals to ensure the protection of students, faculty, staff, and visitors against threats and dangers to their well-being.
9.0 CONSERVATION	The CONSERVATION element is required by F.S. 1013.30 and BOG 21.208.
	The element includes the conservation of both natural resources and energy.
10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION <sup>12</sup>	The CAPITAL IMPROVEMENTS element is required by F.S. 1013.30 and BOG 21.211.

<sup>&</sup>lt;sup>10</sup> Precedent: The Florida Gulf Cost University 2015-25 Campus Master Plan includes the element "Recreation, Athletics and Open Space."

 <sup>&</sup>lt;sup>11</sup> Precedent: The University of Florida 2015-25 Campus Master Plan includes the element "Public Safety."
 <sup>12</sup> Precedent: The University of Florida 2015-25 Campus Master Plan includes the element "Implementation."

	<ul> <li>Combined Elements         UCF has combined the CAPITAL IMPROVEMENTS element             with a new element, IMPLEMENTATION, which documents the             steps taken to carry a capital improvement project from             "Ideation to Construction," and clarifies the roles of various             departments and committees in campus and capital planning.     </li> </ul>
11.0 ACADEMIC &	The ACADEMIC & SUPPORT FACILITIES element is optional.
SUPPORT FACILITIES	<ul> <li>Combined Elements UCF has combined ACADEMIC FACILITIES and SUPPORT FACILITIES, two optional elements from previous CMP updates.</li> </ul>
12.0 FACILITIES MAINTENANCE	The FACILITIES MAINTENANCE element is optional.
EVALUATION & APPRAISAL REPORT (EAR)	Every 5 years, the University submits an EVALUATION & APPRAISAL REPORT (EAR) to the Board of Trustees. The EAR is a section of the Campus Master Plan required by BOG 21.202. The purpose of the EAR is to evaluate the previous master plan, and:
	<ul> <li>List which goals, objectives and policies have been successfully reached;</li> <li>Identify the need for new or modified goals, objectives, or policies to correct unanticipated and unforeseen problems and opportunities that have occurred since adoption of the campus master plan; and</li> <li>Identify proposed and anticipated plan amendments necessary to address identified problems and opportunities.</li> </ul>
	The EAR for the 2015-25 Campus Master Plan will be submitted with the 2020-30 Campus Master Plan Update.
SUSTAINABILITY	Sustainability was considered for inclusion as a new element in the 2020-30 CMP, but the UCF Sustainability Initiatives department determined that sustainability <i>touches every element</i> , and therefore sustainability has been addressed throughout the Campus Master Plan.
Next steps	
Campus Development Agreement (CDA)	Upon adoption of the 2020-30 CMP by the UCF Board of Trustees, the University will negotiate a Campus Development Agreement (CDA) with Orange County, the host local government. The purpose of the CDA is to identify and help mitigate the University's impact on public services.
	County and UCF to lessen or eliminate deficiencies identified in the Campus Master Plan; and identifies UCF's "fair share" of the cost of all necessary improvements.

The UCF Board of Trustees is responsible for paying UCF's fair share for the measures agreed upon in the CDA.

The last CDA, dated November 29, 2016, outlined the following projects and identified UCF's fair share and deadlines for completion:

- Partner with Orange County on Pedestrian Safety projects
- Develop and implement a Campus Wayfinding Plan
- Develop an on-campus bicycle pathway through the UCF Campus, linking existing trail systems of Orange and Seminole Counties
- Conduct a study regarding on-campus housing or additional online courses
- Jointly evaluate the operability and compatibility of the County's and UCF's traffic control systems
- Work in partnership to secure state funds for concurrency
- Jointly perform annual traffic counts on specific backlogged roads

#### WHO'S WHO at UCF?

Board of Trustees	Beverly J. Seay, Chair
	Alex Martins, Vice Chair
	Ken Bradley
	Joseph Conte
	Danny Gaekwad
	Robert A. Garvy
	John Lord
	William Self
	John Sprouls
	David Walsh
	William Yeargin
	Kyler Gray (SGA 2019-20)
UCF Leadership	Thad Seymour, Jr., Interim President
	Elizabeth A. Dooley, Provost and VP Academic Affairs
	Misty Shepherd, Interim VP for Administration and Finance
	Dennis Crudele, Interim Chief Financial Officer
	Maribeth Ehasz, VP Student Development & Enrollment Services
	Elizabeth Klonoff, VP Research; Dean, College of Graduate Studies
	Deborah C. German, VP Health Affairs; Dean, College of Medicine

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	Joel Hartman, VP Information Technologies & Resources; CIO Mike Morsberger, VP Advancement; CEO, UCF Foundation, Inc. Janet D. Owen, VP Government Relations Daniel J. White, VP and Director of Athletics Grant J. Heston, Chief of Staff; VP Communications & Marketing Rhonda Bishop, VP Compliance, Ethics, and Risk
<b>• •</b>	W. Scott Cole, VP and General Counsel
Colleges and Deans	College of Arts & Humanities – Dean Jeffrey Moore
	College of Business Administration – Dean Paul Jarley
	Burnett Honors College – Dean Sheila Gutiérrez de Piñeres
	College of Community Innovation & Education – Dean Pamela "Sissi" Carrol
	College of Engineering & Computer Science – Dean Michael Georgiopoulos
	College of Health Professions and Sciences – Dean Christopher D. Ingersoll
	College of Medicine – Dean Deborah C. German
	College of Nursing – Dean Mary Lou Sole
	College of Optics and Photonics – Dean Bahaa Saleh
	Rosen College of Hospitably Management – Dean Youcheng Wang
	College of Sciences – Dean Michael Johnson
	College of Graduate Studies – Dean Elizabeth "Liz" Klonoff
	College of Undergraduate Studies – Dean Theodorea Regina Berry
CMP Contributors	Contributors to the 2020-30 CMP are listed in alphabetical order without regard to role, title, or degree of contribution to the effort.
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2.0 Future Land Use & Urban Design	Patrick Bohlen, Landscape and Natural Resources Susan Hutson, Facilities Planning and Construction Bill Martin, Facilities Planning & Construction
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	Written comments are encouraged
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#### 1.0 INTRODUCTION MAPS

Figure 1.0-3: Context Area Map





### 1.0 INTRODUCTION Figure 1.0-3

#### LEGEND



CONTEXT AREA COUNTY LINE UCF CAMPUS BOUNDARY

## UCF CONTEXT AREA

North of Campus (Seminole County) to just north of the Little Econlockhatchee River at Alafaya Trail

East of Campus (Orange County) to just east of Tanner Road

South of Campus (Orange County) to just south of E. Colonial Drive (SR 50)

West of Campus (Orange County) to just west of Rouse Road

FUTURE LAND USE & URBAN DESIGN

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#### UNIVERSITY OF CENTRAL FLORIDA

## 2.0 FUTURE LAND USE & URBAN DESIGN

2020-30 CAMPUS MASTER PLAN UPDATE

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#### INTRODUCTION

#### NARRATIVE



#### RELATED ELEMENTS

**STATUTE & REGULATION** 



The University of Central Florida recognizes that the element of FUTURE LAND USE is intertwined with the element of URBAN DESIGN and its associated guiding principles. Therefore, UCF has combined these two related elements.

FUTURE LAND USE addresses the long-range vision for land use on campus in coordination with future land use plans of the host and/or affected local governments.

URBAN DESIGN is the process by which UCF shapes the physical features of campus to provide a quality campus experience. It addresses the character of the University and the unified vision for future campus development, such as building groupings, patterns of streets and sidewalks, and features of public spaces. The ultimate goal is to create urban areas that are attractive, functional, and sustainable.

The University's commitment to sustainability and the protection of the environment is evident throughout this element. The original 1995-2000 Campus Master Plan established the academic core as a pedestrian-friendly environment. As development continues, the University will continue to preserve natural lands through careful consideration of developmental densities and adjacent lands.

See 4.0 ATHLETICS, RECREATION & OPEN SPACE for information on activity-based recreation, resource-based recreation, and open space.

See 9.0 CONSERVATION regarding UCF's commitment to maintain conservation lands.

See 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION for capital projects projected for the campus within the 10-year planning time frame.

2.0 FUTURE LAND USE & URBAN DESIGN is a combined element. Combining related elements is permitted under BOG 21.202(1)(b); which states that "the campus master plan shall contain an explanation of such combinations. See 1.0 INTRODUCTION for the explanations of combined elements.

• The Future Land Use Element is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.

BOG 21.204 states the purpose of the element as follows:

"This element designates existing and future development as reflected in the goals, objectives and policies of the campus master plan, and describes how future development will be

coordinated with land uses planned by the host and/or affected local governments in the planning study area."

• Urban Design is an optional element. Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.

#### 2.1 FUTURE LAND USE

NARRATIVE	The Future Land Use Element sets forth the existing and future land use patterns at the University of Central Florida. This element addresses how land use patterns correlate to those planned by the host and affected local governments in the planning study area.
	Future Land Use on the UCF Campus shall be consistent with this Campus Master Plan, and the master plans of the Host Local Government <sup>1</sup> and the affected local governments.
	The 2010-2030 Orange County Future Land Use Map, designates only four (4) land use categories for the UCF Main Campus. They are: Institutional, Conservation, Water Body, and Industrial (the Eastern Reserve). Link: <u>Orange County, Florida Future Land Use Map</u>
	The Board of Governors allows universities the option of using either the land uses established in their host local government's comprehensive plan or using their own land use categories. UCF has established its own land use categories delineated in Figure 2.0-1 Future Land Use Map, along with standards of use for each:
	<ul> <li>Academic Use (includes Research Use)</li> <li>Support Use</li> <li>Residential Use</li> <li>Utility Use</li> <li>Parking Use</li> <li>Mixed Use</li> <li>Athletics, Recreation &amp; Open Space Use</li> <li>Conservation Use – Conservation Easements, Wetlands, and Uplands<sup>2</sup></li> <li>Lakes – natural and man-made (stormwater retention)</li> </ul>
GOALS, OBJECTIVES, & POLICIES	
GOAL 1: To create develo areas on campus, promote environmentally-sensitive	pmental patterns that direct future growth to appropriate e the educational mission of the University, protect areas, and ensure compatibility with the community.

OBJECTIVE 1.1: The Campus Master Plan shall define Future Land Use POLICY 1.1.1: The University shall designate Future Land Use categories (See Figure 2.0-1 Future Land Use Map.

<sup>&</sup>lt;sup>1</sup> UCF's host local government is Orange County, and the affected local governments are Seminole County, Orlando, and Oviedo.

<sup>&</sup>lt;sup>2</sup> Riparian buffers are included in the conservation areas on Figure 2.0-1 Future Land Use Map, and delineated around the borders of areas in Figure 9.0-1 Conservation Map (see 9.0 CONSERVATION).

Categories and related density/intensity of use.	An explanation of each land use category, and the associated standards for density/intensity of use, including the Floor Area Ratio (FAR), are designated below.
Academic Land Use	The Academic Land Use category supports academic and research uses and is largely concentrated within the Academic Core of campus. For clarity, it may also be referred to as the Academic/Research category. This category includes buildings with classroom, research, and office spaces for faculty, staff, and administration that support academics.
	The Academic Land Use classification identifies campus areas where topography, adjacent land uses, existing space utilization, utility locations, proximity to multimodal transportation systems, and existing development patterns will support academic and research facilities.
	The higher Floor Area Ratio (FAR) allowed within the Academic category concentrates existing and emerging academic and research facilities within reasonable walking distance to classes, and facilitates the cohesive functioning of academic units.
	<ul> <li>Density/Intensity: target FAR 3.0</li> </ul>
Support Land Use	The Support Land Use category identifies campus areas where topography, soil conditions, adjacent land uses, existing space utilization, and existing development patterns are appropriate for administrative, student support, facilities support, and similar nonacademic support spaces. Careful planning allows support facilities to be within, or immediately adjacent to, academic/research and housing areas.
	Density/Intensity: target FAR 1.0
Residential Land Use	The Residential Land Use category identifies campus areas where topography, soil conditions, adjacent land uses, existing space utilization, and existing development patterns are appropriate for housing development. Future Residential Land Use will be promoted outside of the academic core to encourage students to walk to the academic core.
	<ul> <li>Density/Intensity: target 57.2 to 125 beds per acre</li> </ul>
Utility Land Use	The Utility Land Use category identifies campus areas where 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 campus.
	<ul> <li>Density/Intensity: target FAR 1.0</li> </ul>
Parking Land Use	The Parking Land Use category identifies campus areas where parking lots or parking structures are appropriate.
	<ul> <li>Parking structures will be sited to promote a pedestrian-friendly, academic-oriented campus.</li> </ul>

## 2.0 FUTURE LAND USE & URBAN DESIGN GOALS, OBJECTIVES, & POLICIES UCF will endorse development of an "intercept garage" concept in the future to relieve traffic congestion in the campus core.

	<ul> <li>in the future to relieve traffic congestion in the campus core.</li> <li>Adjacent land uses and projected needs will be considered when selecting appropriate sites for parking development.</li> <li>Structured parking facilities will be used to conserve available land.</li> <li>Roadways must have adequate capacity to effectively fill and empty garages and lots and minimize impact.</li> </ul>
	Density: target 800 spaces per acre for structured parking
Mixed Land Use	The Mixed Land Use category allows for an assortment of facility types in a specific area. Land uses allowed under this designation include academic, research, support, residential, parking, recreation/open space, and utilities.
	The purpose of this category is to identify specific areas where it is advantageous to combine one or more uses during the planning and development process.
	<ul> <li>Density/Intensity: target FAR 3.0</li> </ul>
Recreation & Open Space Land Use	The Recreation & Open Space Land Use category shall allow active and passive recreation uses, as well as general open space areas.
	Intensity shall be …based on a target number of Recreation & Open Space acres per 1,000 FTE students on the Main Campus.
	<ul> <li>Density/Intensity Target: 14.75 acres minimum per 1,000 FTE students</li> <li>Density/Intensity Actual: 14.73 acres per 1,000 FTE students<sup>3</sup></li> </ul>
Active Recreation	Active Recreation or Activity-based Recreation includes:
	Intercollegiate Athletics: sporting event venues (football, soccer, softball, etc.) and training facilities for University teams, e.g., Wayne Densch Sports Center
	Intramural and Recreational sports: indoor and outdoor recreation facilities, e.g., intramural sports facilities and clubs (softball, soccer, tennis, etc.), gymnasia (including Recreation & Wellness Center), and the UCF Band Practice Facility
Passive Recreation	Passive Recreation or Resource-based Recreation includes recreation areas for the passive enjoyment of nature (picnic areas, hiking trails, lakes, etc.)
Open Space	Open Space includes man-made landscapes (malls, courtyards, plazas, quadrangles, parks, etc.) and passive recreational facilities (nature trails, uplands, etc.)
Conservation Land Use	The Conservation land use category shall allow conservation uses in conformance with the Conservation Element of the Campus Master

<sup>&</sup>lt;sup>3</sup> Calculation: 545.81ac / 37.06 FTE (x1,000)

<sup>•</sup> Acreage Data: 4.0 Athletics Recitation & Open Space, page 12 (545.81 Acres)

<sup>•</sup> Student Data: 1.0 Introduction, page 2 (37,057 FTE 2018-2019)

	2.0 FUTURE LAND USE & URBAN DESIGN GOALS, OBJECTIVES, & POLICIES
	Plan. Conservation areas are shown in Figure 2.0-1 Future Land Use Map and Figure 4.0-1 Athletics, Recreation & Open Space Map (some open space is conservation area) and Map 9.0-1 Conservation.
	The Conservation classification identifies campus areas where topography, soil conditions, archaeological and historic sites, plant species, wildlife habitats, wetlands, required setback buffer areas, and instructional uses are appropriate.
	<ul> <li>Density/Intensity: target FAR 0.00</li> </ul>
OBJECTIVE 1.2: Protect natural resources, including surface waters and wetlands.	POLICY 1.2.1: The University shall allow for conservation areas as identified on Figure 2.0-1 Future Land Use Map and Figure 9.0-1 Conservation Map. Construction these areas is limited as described in 9.0 CONSERVATION, Policy 1.1.1.
	POLICY 1.2.2: The University shall review all available and economical options, including the costs of mitigation, before any construction is authorized and a plan of development is approved. If an intensive 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 1.2.3: Should mitigation be deemed necessary, Facilities Planning and Construction (FPC) shall be responsible for coordinating any necessary actions with the appropriate UCF departments, and with federal, state, and regional agencies, in accordance with their permitting processes.
	POLICY 1.2.4: The Arboretum site, established by the 1996 Hartman Survey, shall be maintained for the study and preservation of native plant and animal species. The Landscape and Natural Resources (LNR) Director and the FPC Director shall work together to develop the Arboretum into a renowned institution.
OBJECTIVE 1.3: Minimize land use compatibility issues between the University and the Host Community.	POLICY 1.3.1: Pursuant to Florida Statue 1013.30(6)-(9), any amendment to the adopted UCF 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:
	<ul> <li>Increase density or intensity of use of land on campus by more than 10%;</li> <li>Decrease the amount of natural areas or open space on campus by more than 10%; or</li> </ul>
	• Rearrange land uses in a manner that will increase the impact of 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 1.3.2: Proposed amendments to the adopted Campus Master Plan which do not exceed the thresholds established in Florida Statue 1013.30(9), and which have the effect of changing land use designations or classifications, or impacting off-campus facilities,

services or natural resources, do not require host and affected local government review; however, they may be submitted for a courtesy review.

POLICY 1.3.3: The University shall maintain a buffer between the campus and any Low-Density Residential Land Use (LDR) associated with the Orange County Comprehensive Plan, as delineated on the Figure 2.0-1 Future Land Use Map.

Options for buffers between conservation land and LDR include:

- 200-foot-wide natural buffer
- 100-foot-wide natural buffer (may include conservation land as part of the buffer) and a six-foot tall barrier

Options for buffers between developable campus land and LDR include:

- 200-foot-wide natural buffer
- 50-foot-wide natural or landscaped buffer and a six-foot tall barrier

In order to maintain the effectiveness of the buffers, only non-invasive native plant species will be used for landscaping purposes.

POLICY 1.3.4: The University shall safeguard compatibility between UCF and the LDR areas on the University's borders, e.g. University Estates, Regency Park, Ginger Creek, and Bonneville, by providing buffers, fences or walls, building setbacks, and stormwater retention areas to meet the needs of any new development.

POLICY 1.3.5: Prior to adopting any amendments that affect lands designated as conservation, the University shall:

- 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;
- Comply with Florida Statute 1013.30, even for those amendments that fall within the exemptions set forth in Florida Statue 1013.30(9)(a)-(c);
- Require no less than a two-thirds majority vote of the University's Board of Trustees to approve such amendments; and
- Notify the LNR Director of any proposed amendments to lands designated as conservation.

POLICY 1.4.1: Permanent academic functions shall be located in the Academic Core, an area between the 400-foot radius (Pegasus Circle) and the Gemini Boulevard. Research functions may be located inside or outside of the Academic Core.

POLICY 1.4.2: Academic Core areas are defined by important formal open space systems, and shall be created by locating academic uses that are linked, similar, or adjacent to each other.

OBJECTIVE 1.4: Correct existing land use compatibility problems on the University campus.

POLICY 1.4.3: Surface parking areas shall be located outside of the 1,200-foot radius (Apollo Circle), in order to reduce vehicular versus pedestrian conflicts on campus.

POLICY 1.4.4: Overflow parking areas may be located outside of Gemini Boulevard.

POLICY 1.4.5: Temporary buildings, low density areas, and grade parking lots may remain until future projects for those areas are developed.

POLICY 1.4.6: Parking shall be consolidated into structured parking garages, in order to preserve the open space nature of the campus and minimize impervious surfaces.

POLICY 1.4.7: "Intercept garages" shall be placed at strategic points near campus entrances to minimize traffic. These garage locations will intercept a high volume of vehicles before they penetrate the campus and cause congestion.

POLICY 1.4.8: The University Master Planning Committee (UMPC), along with University Administration and FPC, shall review all development proposals for compliance with the UCF Campus Master Plan's criteria for element 2.0 FUTURE LAND USE & URBAN DESIGN.

POLICY 1.4.9: The University shall coordinate all decisions concerning land use and development on campus, especially those specifically mentioned in element 2.0 FUTURE LAND USE & URBAN DESIGN, with the present Capital Improvements Plan and all other applicable Campus Master Plan elements.

POLICY 1.5.1: Projects that propose increases to campus infrastructure, utilities, facilities, or services shall be approved for construction only if such facilities are funded to address concurrency with infrastructure, utilities, facilities, or service needs.

POLICY 1.5.2: The University shall prioritize coordination of land uses with appropriate facilities and services:

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

POLICY 1.5.3: Campus development that might increase demands for solid waste collection and disposal shall be approved under provisions delineated in element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.4: Campus development that may increase the quantity of impervious surface areas shall be approved upon provision of a drainage system that adheres to the conditions set forth in element

OBJECTIVE 1.5: Coordinate future land uses with the availability of facilities and services.

5.0 GENERAL INFRASTRUCTURE & UTILITIES, and the campus stormwater permit issued by the St. Johns River Water Management District (SJRWMD).

POLICY 1.5.5: Within the academic core, utility easements shall be reserved along routes of easy access and where future building development is not planned, e.g., along the three (3) radius sidewalks (Pegasus, Mercury, and Apollo), along radial pedestrian walks, and in dedicated open spaces.

POLICY 1.6.1: The University shall request roadway improvements along Alafaya Trail and McCulloch Road as they become warranted.

POLICY 1.6.2: The University shall underscore the compatibility between land use and transportation.

POLICY 1.6.3: The University shall continue to review and upgrade multimodal transportation services and facilities supporting the ongoing development of the University.

POLICY 1.7.1: The University shall not plan development within the Federal Emergency Management Agency (FEMA) 100-year flood zone.

POLICY 1.7.2: The University shall maintain a database of existing topographic and soil conditions which shall be updated on a regular basis.

POLICY 1.7.3: Areas containing severe soil constraints, such as those that are found in and around wetland sites and Lakes Lee and Claire, shall remain undisturbed. Soil constraints shall be demonstrated through formal studies prior to development.

POLICY 1.7.4: Future development shall not alter the topographical features and surface water run-off patterns adopted by this Campus Master Plan and the current Campus Stormwater Master Plan approved by the SJRWMD.

POLICY 1.7.5: The University shall review future construction projects for consistency with existing topographic and soil data, consistent with policies listed in this element.

POLICY 1.7.6: The University shall ensure that appropriate methods of controlling soil erosion and sedimentation are used during site development and final use, to help minimize the destruction of soil resources. 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;
- Using temporary ground cover on cleared areas if construction or other stabilization is not imminent; and
- Giving special consideration to maintaining vegetative cover on areas of high soil erosion potential, e.g., steep or long slopes, banks of streams, stormwater conveyances, etc.

OBJECTIVE 1.6: Minimize off-campus constraints which limit future development on campus, e. g., traffic, utilities, and minimize on-campus conflicts with land uses within the context area.

OBJECTIVE 1.7: Coordinate future land uses with the appropriate topography and soil conditions.

POLICY 1.7.7: The University 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.

POLICY 1.8.1: In coordination with state and local historic preservation officials, the University shall maintain an information file, development is consistent identifying and locating properties under University ownership that may contain historic or archaeological resources which appear to with regulations regarding gualify for inclusion in the National Register of Historic Places.

> POLICY 1.8.2: 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.

> POLICY 1.8.3: The University shall consult with the State's Division of Historical Resources prior to any land clearing, ground disturbance, 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 1.8.4: The University shall consult with the State's Division of Historical Resources prior to demolishing or substantially altering an historic property in a manner that adversely affects its character, form, integrity, or archaeological value. The intent is to avoid or mitigate any adverse impacts, or to undertake any appropriate archaeological salvage excavation or recovery action.

GOAL 2: Maintain a commitment to the protection of campus ecosystems and lands of significant environmental importance, and ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the man-made environment of the campus.

**OBJECTIVE 1.8: Ensure** 

that future campus

historically- or

archaeologically-

significant resources.4

**OBJECTIVE 2.1:** POLICY 2.1.1: The University shall continue to reserve Conservation Designate Easement Lands in perpetuity pursuant to a recorded conservation environmentally-sensitive easement. This designation shall allow very low-impact recreational lands for protection based or educational uses, such as hiking, non-motorized boating, bird on state and regional watching, horseback riding, fishing, primitive camping, nature study, and such other activities which do not violate the recorded criteria. conservation easement. See also element 9.0 CONSERVATION.

<sup>&</sup>lt;sup>4</sup> It is important to note that UCF is aware of no historically significant resources or archaeologically significant resources. However, UCF has always included this Objective in the Campus Master Plan because the University could one day encounter archaeologically significant resources or qualify as having historically significant resources.

#### 2.2 URBAN DESIGN

NARRATIVE	The URBAN DESIGN Element of the UCF Campus Master Plan gives an overview of the existing concepts and principles guiding development on campus.
	The desired campus character is achieved by the placement of buildings; the organization of open spaces; the celebration of symbolic and memorable places; the approach to pedestrian and vehicular circulation; linkages to and from campus; public safety; and the campus visual structure.
	It is important to use the existing framework as a foundation and guide for conceptual principles involved in the structuring of future campus development.
GOALS, OBJECTIVES & POLICIES	
GOAL 1: Create a cohesiv building or landscape place pathways, and simplified	ve campus environment characterized by appropriate cement, framing organized open spaces, logical pedestrian vehicular circulation.
OBJECTIVE 1.1: Protect, enhance, and develop meaningful campus exterior spaces.	POLICY 1.1.1: FPC, together with the University Master Planning Committee (UMPC) and the Administration, shall review proposed campus development for compliance with the Campus Master Plan.
	POLICY 1.1.2: Within the academic core, UCF shall encourage radial "spokes" of open space framed by buildings to serve as visual corridors in and out of the University.
	POLICY 1.1.3: Building facades shall reinforce the edges of interstitial open spaces within the Academic Core and housing areas.
	POLICY 1.1.4: Landscaping and covered walkways shall be used as tools of enclosure and space makers, as well as elements of continuity.
	POLICY 1.1.5: Academic quadrangles shall be developed within the academic core. Internal open spaces shall be encouraged and preserved.
	POLICY 1.1.6: Physical connections and movement from open space to open space shall be emphasized to reinforce pedestrian connectivity to the Academic Core.
	POLICY 1.1.7: The Academic Core shall be emphasized as a pedestrian environment. Future buildings shall not detract from established or planned exterior settings, or obstruct pedestrian pathways. Vehicular access to the campus core shall be minimized, while providing service access and access to disabled parking.

	2.0 FUTURE LAND USE & URBAN DESIGN GOALS, OBJECTIVES, & POLICIES
	POLICY 1.1.8: When feasible, UCF shall preserve, enhance, and develop new open spaces by consolidating parking lots within the campus core into parking structures.
	POLICY 1.1.9: The University shall consider the redevelopment of older, low-rise structures when determining sites for future projects, to use land more efficiently and at a higher density.
	POLICY 1.1.10: UCF shall prioritize the use of infill construction sites over developing vacant land on the periphery of campus.
	POLICY 1.1.11: The development of the campus spatial environment, as determined by the placement of buildings and open spaces shall occur in coordination with construction projects.
	POLICY 1.1.12: The University shall encourage beautification of the campus boundaries, especially along Alafaya Trail and entrances such as Libra Drive.
	POLICY 1.1.13: The University shall pursue the development of pedestrian and bicycle paths that link to trail systems in Orange and Seminole counties, as required by a 2016 Campus Development Agreement between UCF and Orange County.
	POLICY 1.1.14: The University shall employ Crime Prevention Through Environmental Design (CPTED) strategies in all new building designs and major renovations to promote a secure and safe campus.
OBJECTIVE 1.2: 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 within the 1,200-foot radius (Apollo Circle) shall be located to serve multiple buildings to minimize the number of sites.
	POLICY 1.2.2: 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 1.2.3: Vehicular access to service and loading areas shall be restricted to University vehicles and properly-registered vendor vehicles.
OBJECTIVE 1.3: Preserve Pedestrian Safety on- and off-campus.	POLICY 1.3.1: To avoid pedestrian safety issues, vehicular and non-vehicular traffic (bikes, golf carts, etc.) should be isolated from pedestrian traffic, when feasible.
	POLICY 1.3.2: Golf cart use within the academic core shall be minimized.
	POLICY 1.3.3: The UCF Police, Administration, Environmental Health and Safety (EHS), and Facilities Management shall work together to improve and promote Pedestrian Safety.
OBJECTIVE 1.4: Ensure the compatibility of the University with the host	POLICY 1.4.1: Consider bordering neighborhood context with respect to new project building location, orientation, mass and scale, landscape character, and ground level character.
	-

community and abutting neighborhood context.	POLICY 1.4.2: A landscape buffer shall be maintained where the campus borders low-density residential neighborhoods, as detailed in 2.0 FUTURE LAND USE, Policy 1.2.3.
	POLICY 1.4.3: The University shall coordinate with the host and affected local governments regarding issues related to the urban design character within the context area.
	POLICY 1.4.4: Visual and physical links with the community shall be developed to encourage public participation in campus activities.
	POLICY 1.4.5: The University shall maintain a dense development pattern to use land efficiently for future programming.
OBJECTIVE 1.5: Maintain and enhance functional linkages between major campus activities.	POLICY 1.5.1: Campus activities of similar function shall be clustered together.
	POLICY 1.5.2: Principal academic buildings shall be contained within the Academic Core, within Gemini Boulevard and generally inside of the 1,200-foot radius sidewalk (Apollo Circle).
	POLICY 1.5.3: Separation of vehicular and non-vehicular circulation shall be encouraged.
	POLICY 1.5.4: Vehicular and non-vehicular paths shall be articulated and distinguished with landscaping, surface paving materials, striping, grading design, building edges, and signage.
	POLICY 1.5.5: Retail and support services shall be located near campus residential areas.
	POLICY 1.5.6: Parking facilities shall be located to support the academic, recreational, and housing centers on campus.
OBJECTIVE 1.6: Develop energy-efficient campus facilities, as detailed in the UCF Standards. <sup>5</sup>	POLICY 1.6.1: Whenever possible, UCF shall minimize the east and west exposures of building facades.
	POLICY 1.6.2: South-facing windows shall be constructed to minimize sun exposure and thermal transmittance by the provision of window tint, shading devices (internal and external), etc.
	POLICY 1.6.3: All future and existing campus facilities shall continue to connect to the centrally-controlled Energy Management System (EMS). See element 5.0 GENERAL INFRASTRUCTURE & UTILITES.
	POLICY 1.6.4: Landscaping shall be positioned in a manner that provides shade to campus buildings.
	POLICY 1.6.5: Windows may have tinting, but their color and reflectance shall comply with the UCF Design, Construction, and Renovation Standards, and be approved by the FPC Director.
	POLICY 1.6.6: Lighting shall be high-efficiency.
	POLICY 1.6.7: Other energy-saving features, such as occupancy controls on lighting, shall be required for future and existing facilities.

<sup>&</sup>lt;sup>5</sup> <u>UCF Design, Construction, and Renovation Standards</u>
# 2.0 FUTURE LAND USE & URBAN DESIGN GOALS, OBJECTIVES, & POLICIES

POLICY 1.6.8: The University shall encourage stormwater management practices to ensure that post-development runoff is less than or equal to pre-development runoff.

POLICY 1.6.9: All new UCF buildings shall be LEED-certified (Leadership in Energy and Environmental Design), and each new project shall achieve LEED Gold certification as defined by the U.S. Green Building Council.

POLICY 1.6.10: The construction or installation of temporary and portable buildings on campus shall be discouraged.

#### 2.1 FUTURE LAND USE

#### DATA & ANALYSIS

#### **Inventory and Analysis of Existing Conditions**

a) Existing and Projected Vacant, Open, Or Underdeveloped Land	<ul> <li>There are approximately 1,420 acres of land that make up the University of Central Florida's Main Campus.</li> <li>1.0 Introduction, page 3, "How big is the UCF Main Campus" describes the two parcels that make up the campus.</li> <li>Figure 2.0-1 indicates how UCF's land is distributed between developed, developable, and undevelopable lands.</li> <li>While developed areas have grown to nearly 600 acres, an even larger area has been set aside as perpetual and long-term conservation land.</li> <li>Nearly 150 acres of the Main Campus is underdeveloped, vacant, or open land that UCF considers developable. This acreage will</li> </ul>	
	well into	the future.
Figure 2.0-1	Current	Land Utilization Table
DEVELOPED LAND	594.8	Acres
Developed land with infill sites available	215.0	The Campus Core is that part of the campus inside of Gemini Boulevard. The area inside of the 1,200-foot radius sidewalk (Apollo Circle) is known as the Academic Core. Outside of Apollo Circle are student housing, parking garages and lots, student services, and the Arboretum (see undevelopable land).
	164.0	South Campus lies between Libra Drive and Central Florida Bvd and is home to Recreation and Wellness Center facilities and intramural fields, student housing, the UCF Band Facility, the Facilities and Safety Complex, and a few academic buildings.
	68.9	The Kenneth G. Dixon Athletics Village in the northeast area of campus is home to UCF Athletics facilities on both sides of N. Orion Bvd.
	24.9	Ara Drive is a research and campus support neighborhood on the southeast edge of campus.
Fully developed land with no infill sites	25.0	The existing Greek Park is a neighborhood of fraternity and sorority houses.
	5.9	Lake Claire Recreation Area is a park on Lake Claire at the north edge of campus.
	26.0	The Knights Plaza area, once known as UpTown UCF has a mix of student housing, intercollegiate sports facilities, and retail venues.
	65.1	Roads, etc.
DEVELOPABLE LAND	147.8	Acres
Large tracts of undeveloped or underdeveloped land	47.0	Parcel A – a parcel on the east side of campus, set aside for a future UCF president, also known as the Partnership Campus or the President's Reserve.

	57.9	Parcel B – a parcel on the southeast side of campus from Ara Drive to Percival Road, also known as the Eastern Parcel or 2912 Percival Rd.
	28.8	Parcel C – the parcel bounded by University and Central Florida Boulevards, Alafaya Trail, and Gemini Boulevard. The only development in this parcel is Burnett House, the President's home.
	6.8	Parcel D – a parcel of Alafaya Trail frontage north of Gemini Boulevard North at Alafaya, has been set aside for an extension to Greek Park.
	7.3	Parcel E – two parcels of Alafaya Trail frontage, north and south of Centaurus Bvd.
UNDEVELOPABLE	677.7	Acres (includes the UCF Arboretum)
Perpetual conservation	217.2	Conservation Easements (SJRWMD) & buffer
easements and lands	240.4	Wetlands & buffer
set aside for long-term	46.8	Upland Conservation & buffer
	71.6	Lakes and Ponds
	23.5	Buffers between UCF and Low-Density-Residential
	78.2	Undevelopable areas (landlocked, etc.)
MAIN CAMPUS	1420.3	Total Acres
Other TIITF Properties Within The Planning Study Area	See 1.0 INTRODUCTION for more detail on the Orange County land parcels that make up the UCF Main Campus. Title interest for these parcels is held by the Board of Trustees of the Internal Improvement Trust Fund (TIITF). In addition to the parcels comprising the Main Campus, UCF controls the following TIITF parcel within the Context Area:	
	not c	considered part of the UCF Main Campus.
Surplus Lands	There are no surplus lands on campus. While conservation lands cannot be used for future development, they are not surplus. They serve as living laboratories for research and study by campus departments such as Biology, as well as for passive recreation spaces as defined in element <u>4.0 ATHLETICS, RECREATION &amp; OPEN</u> <u>SPACE</u> .	
Use of Underdeveloped Land	University policy calls for the prudent use of underdeveloped land in the future, and the preservation of areas of environmental significance. In order to use the University's land resources efficiently and allow for the continuation of natural systems, future development will be relatively dense in character. Efforts will be made to minimize the impact of future development on the UCF Arboretum and other natural lands.	
Existing Natural, Archeological, or Historic Resources	There are no known existing Areas of Critical State Concern , e.g., natural, archeological, or historic resources within the planning study area.	

UCF Main Campus			
Future Land Uses for the UCF Main Campus	The allowable land uses for on-campus development are illustrated in Figure 2.0-1 Future Land Use Map. This figure identifies the land use categories associated with future development sites which will accommodate proposed construction projects identified in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.		
	Land Uses shown on Figure 2-1 Future Land Use Map: Academic/Research Support Residential Utility Mixed Use Parking Recreation & Open Space (includes Athletics) Wetland Upland Conservation Easement (under SJRWMD) Ponds and Lakes		
	Existing and planned buildings and infrastructure on the UCF Main Campus are indicated on Map 10.3 CAPITAL IMPROVEMENTS found in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.		
	The University performs a cost/benefit analysis on site alternatives prior to constructing a building. Stormwater, utilities, proximity to related buildings, and other criteria are considered to ensure that the proposed site is the most appropriate.		
Context Area: Orange County			
Future Land Uses and Zoning for the Orange County Context Area	UCF is bordered by Orange County on its east, south, and west sides. Orange County is UCF's host local government. The <u>Orange County</u> <u>Comprehensive Plan 2010-30</u> includes the <u>Future Land Use Map</u> <u>2010-30</u> , designating future land uses (FLUM) for all property in unincorporated Orange County.		

On the FLUM, the UCF Campus is located within Range 31 East and Township 22 South, and is designated for Institutional, Industrial, and Conservation land uses.

There are six (6) future land uses bordering UCF in Orange County:

- East Low-density Residential
- South Industrial (the Research Park)
- West Medium-density Residential; Planned Development; Commercial; and Office

Within the Context Area, there are other designated land uses farther to the east, south, and west in unincorporated Orange County.

•	Institutional (INST)	Institutional is the primary land use designation for the University of Central Florida.
		Density/Intensity: Maximum FAR 2.0
•	Industrial (I)	Industrial uses are permitted south and southeast of campus, and include manufacturing light assembly. Both the Central Florida Research Park and the easternmost Main Campus area, bordering Percival Road, are designated for Industrial land use.
		Density/Intensity: Maximum FAR 0.75
•	Commercial (C)	West of campus, along University Boulevard, Commercial uses include neighborhood-scale commercial and office developments serving community needs (e.g., neighborhood centers, community centers, and village commercial).
		<ul> <li>Density/Intensity: Maximum FAR 1.5<sup>6</sup></li> </ul>
•	Office (O)	West of Alafaya Trail and north of University Boulevard, Office uses include professional office and office-park developments.
		<ul> <li>Density/Intensity: Maximum FAR 1.0<sup>7</sup></li> </ul>
•	Low-density Residential (LDR)	LDR is located east of campus. This category generally includes suburban single family to small lot single family development.
		<ul> <li>Density/Intensity: Maximum 4 dwelling units per acre (du/ac)</li> </ul>
•	Medium-density Residential (MDR)	MDR is located south of University Boulevard and west of Alafaya Trail, and includes urban-style multifamily residential.
		Density/Intensity: Maximum 20 du/ac
•	Conservation	This use recognizes lands designated for conserving natural resources.
		<ul> <li>Density/Intensity: 0.01-1.0 Impervious Surface Area Ratio (ISAR)</li> </ul>

#### **Context Area: Seminole County**

T

Future Land Uses for the	UCF is bordered by Seminole County to the north.	
Context Area within	The <u>Seminole County Comprehensive Plan</u> webpage has links to the	
Seminole County	Comprehensive Plan and the Future Land Use Maps.	
	There are three (3) future land uses bordering UCF, immediately north of McCulloch Road: Commercial (COM), Higher-Intensity Planned Development (HIP), and Planned Development (PD).	

<sup>&</sup>lt;sup>6</sup> Commercial Floor Area Ratio amended in 2017, reducing the FAR from 3.0 to a FAR of 1.5. <sup>7</sup> Office Floor Area Ratio amended in 2017, reducing the FAR from 3.0 to a FAR of 1.0.

Se La	minole County Future nd Uses	
•	Commercial (COM)	These areas are primarily along Alafaya Trail and provide a variety of neighborhood and community shopping areas.
		Density/Intensity: Maximum 0.35 FAR.
•	High Density Residential (HDR)	These residential areas are predominantly along McCulloch Road, Alafaya Trail, and Lockwood Boulevard.
		<ul> <li>Density/Intensity: Maximum 20 du/ac.</li> </ul>
•	Higher Intensity Planned Development-	These areas, bordering McCulloch Road, provide strategic locations to accommodate employment centers and higher-intensity mixed uses.
	(HIP)	<ul> <li>Density/Intensity: Maximum 20 du/ac and 0.35 FAR.</li> </ul>
•	Planned Development (PD)	These areas are primarily located east of Lockwood Boulevard and bordering McCulloch Road.
		<ul> <li>Density/intensity: TBD per Policy FLU 5.16.</li> </ul>
•	Low Density Residential (LDR)	Low-density residential areas are located north of the Higher Density (HDR, HIP) and Planned Development (PD) uses bordering McCulloch Road. The remaining single-family neighborhood (Creekwood) bordering McCulloch Road is designated as future HDR.
		<ul> <li>Density/Intensity: Maximum 4 du/ac (Max.7 du/ac Affordable Housing)</li> </ul>
•	Medium Density Residential (MDR)	Medium Density residential areas are located north of the Higher Density (HDR, HIPT) and Planned Development (PD) uses bordering McCulloch Road.
		<ul> <li>Density/Intensity: Maximum 10 du/ac (Max. 12 du/ac Affordable Housing)</li> </ul>
<ul> <li>Industrial (IND)</li> </ul>	Industrial (IND)	These areas, located east of Alafaya Trail and northwest of the MDR area, provide locations for a variety of heavy commercial and industrial land uses.
		<ul> <li>Density/Intensity: Maximum 0.65 FAR.</li> </ul>
•	Preserved/Managed Lands (PML)	This land use, east of Old Lockwood Road, consists of protected natural lands in public ownership.
		<ul> <li>Density/Intensity: Maximum 0.10 FAR.</li> </ul>

#### **Central Florida Research Park**

Impact of Surrounding Land Use in Meeting Future Needs of UCF



The Central Florida Research Park (Research Park) is a campus-like environment for business, located directly south of UCF.<sup>8</sup>

"The Central Florida Research Park is a campus-like environment for business, located adjacent to the University of Central Florida. Businesses that desire a 'university relationship' can purchase land in the Research Park on which to construct a facility or can lease space for office, office/lab, or light manufacturing uses.

Research Park tenants form relationships with the University of Central Florida through technology transfer, research, faculty consultations, graduate and undergraduate internships and part-time employment programs. Research Park tenants can also contract with the University for use of computer resources and laboratory facilities.

Employees in the Research Park can pay the appropriate fee and obtain UCF parking decals and UCF ID cards, which allow for the use of recreational facilities and the UCF library."

The Research Park consists of 1,027 acres of land with 65 buildings, housing 145 companies with approximately 10,000 employees. The Research Park is designated for Industrial and Conservation land use by Orange County.

UCF owns buildings in the Research Park, and also leases space from the UCF Foundation for a variety of activities, e.g., incubator space, research labs, the College of Nursing, the Nanoscience Technology Center, Human Resources and Purchasing offices, Regional Campus offices, and more.

Name (Acronym)	Bldg. #	Own/Lease
Research Pavilion (PVL)	8102	Owned, Leased to Others
University Tech Center (UTC)	8110	Privately Owned/Not Leasing
Partnership 1 - Center for Public Safety (CPS)	8111	State-Owned
Innovative Center (IC)	8112	Owned, Leased to Others
Orlando Tech Center (OTC3)	8113	Owned, Leased to Others
Biomolecular Research Annex (BMRA)	8114	Owned, Leased to Others
University Tower (UTWR)	8118	Owned, Leased to Others
Partnership 2 (P2)	8119	State-Owned
Orlando Tech Center Bldg. 500 (OTC5)	8120	Owned, Leased to Others
Orlando Tech Center Bldg. 600 (OTC6)	8121	Owned, Leased to Others
Simulation Training Center Bldg. 700 (STTC)	8125	Owned, Leased to Others

<sup>8</sup> Description and data below are taken verbatim from the Research Park website <u>http://cfrp.org/about-cfrp/</u>

Partnership 3 (P3)	8126	State-Owned
Bennett Building 3	8129	State-Owned
Bennett Building 4	8130	State-Owned
USGS Facility	8150	Leased
Partnership 4	8151	State-Owned
Partnership 5	8152	State-Owned
Digital Learning Center	8155	Owned, Leased to Others

#### 2.2 URBAN DESIGN

#### DATA & ANALYSIS

#### **1. EXISTING CONTEXT**

Narrative	UCF's Main Campus is located in Orange County, 13 miles east of downtown Orlando; and just south of Seminole County and the City of Oviedo.
	The Academic Core of campus is located within Gemini Boulevard, centered around a cypress wetland in the heart of the campus adjacent to the Student Union.
	<ul> <li>Pegasus Circle, the 400-foot radius path, surrounds the cypress wetland core and the Student Union</li> <li>Mercury Circle is an 800-foot radius path</li> <li>Apollo Circle is a 1,200-foot radius path</li> <li>Gemini Boulevard comprises the outermost border of the Academic Core</li> </ul>
	The campus outside of Gemini Boulevard serves Residential, Recreational, Intercollegiate Athletic, and Support areas; as well as an extensive, forested wetland system in the southeastern portion of the campus that eventually drains into the Econlockhatchee River.
	The Central Florida Research Park borders the southern edge of campus.
	A wide, natural buffer borders much of the nearly 8-mile campus perimeter boundary, including:
	<ul> <li>Nearly a mile and a quarter of conservation and wetland along McCulloch Road;</li> <li>Nearly two miles of natural land along the eastern boundary of campus, adjacent to residential areas and Percival Road; and</li> <li>Much of the western border of campus along Alafaya Boulevard; however, this area is likely to succumb to development within the next ten to twenty years.</li> </ul>

#### Character of Existing Context Area

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

UCF is bordered by areas classified for diverse uses. On its southern border lies the Central Florida Research Park, whose designation is predominately 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 comprises a mix of offices, commercial areas, and hotel facilities. The demand for space will undoubtedly grow as more corporations relocate to the UCF area.

#### 2. BUILDING PLACEMENT



The UCF Landscape Master Plan and Design Guidelines includes a map explaining the organization of the campus (see Figure 2.0-2 Urban Design Map).

The Student Union is at the heart of the Academic Core of campus, encircled by concentric circle sidewalks at radii of 400, 800, and 1,200 feet, and then by Gemini Boulevard.

The campus is bisected from southwest to northeast by a dominant linear axis that links some of the most prominent campus landmarks. The axis starts at the head of Central Florida Boulevard and extends northeast, connecting the Duke Energy University Welcome Center, Millican Hall, the Reflecting Pond, John C. Hitt Library, the Student Union, Memory Mall, Knights Plaza and the Additions Arena.

Academic functions are located primarily between the 400-foot and 1,200-foot radius circles, an area known as the Academic Core.

Certain identifiable districts have developed within the Academic Core. For example, Engineering, Mathematics, Sciences, CREOL, Technology, Chemistry, and Research I are concentrated in the southeastern quadrant.

Grouping similar functions and areas of study into districts is encouraged, since it places similar resources in close proximity to one another. This leads to greater efficiency and accessibility and a reduction of vehicular trips.

Outside the 1,200-foot radius circle but within Gemini Boulevard, there are a few academic buildings; but mostly student housing, parking garages and lots, and support facilities.

Intramural Fields and Student Recreation are concentrated in the south of campus and north of the Research Park, along with some Support facilities and Housing.

Student housing in the northwest area of campus includes the Lake Claire Community Apartments, and Greek Park, a neighborhood for sorority and fraternity housing.

Intercollegiate fields and facilities are outside of Gemini Boulevard to the northeast of campus in the area recently named the Kenneth G. Dixon Athletics Village.

#### 3. ORGANIZATION OF OPEN SPACES

Significant, high-activity buildings and open spaces:	Open spaces on campus are shaped by the buildings and landscapes that surround them. Open spaces range from the formal to the natural, from the public to the intimate.
	They serve a variety of functions, such as places for gathering, recreation, reflection, and study; and they provide visual and sound buffers.
	Open spaces can serve as nodes of diverse activities and functions, and they should be linked in a logical and sequential way. These linkages can be the glue that binds together corresponding districts, as well as the cohesive force connecting the various areas of the campus.
	Open space can also be characterized as a setting which features soft, suburban, curvilinear, green, and passive components.
<ul> <li>Reflecting Pond and Surrounding Lawn</li> </ul>	The open space between Millican Hall and the John C. Hitt Library is part of the University's Central Axis (see Figure 2.0-2 Urban Design Map). The focal point of this greenspace is the Reflecting Pond, a campus landmark that plays host to a UCF Homecoming tradition, "Spirit Splash", and other memorable events.
<ul> <li>Memory Mall</li> </ul>	This Mall is a formal, linear open space flanked by academic buildings. It functions as a stage for campus activities, such as tailgating during football games and ROTC formations, as well as casual and spontaneous activities.
Arboretum	The UCF Arboretum provides opportunities for students, faculty, staff, and visitors to explore and learn about the plant life and other natural wonders of our beautiful campus. It serves as an outdoor living laboratory that enables students to engage in relevant, experience- based learning.
<ul> <li>Recreation and Wellness Center</li> </ul>	Located near a large portion of UCF housing, this facility is a hub for health and wellness, and a vibrant node of student activity.
<ul> <li>Student Union</li> </ul>	Located at the center of the campus, natural boardwalks hover over the wetlands and meander between the bearded cypress trees, leading to the Student Union.
<ul> <li>John C. Hitt Library</li> </ul>	The Library serves as an active space for study, socializing, and meetings.

- The signature sky-lit, covered breezeway is an outdoor gathering place John T. Washington flanked by the UCF Barnes & Noble Bookstore, credit union, Student Center Walkway restaurants, and student services. Raised planters with grassy berms and arching palms, provide an oasis Greenspace at South Memory Mall where students relax in hammocks, sit and talk, and walk along the adjacent, brick-paved Pegasus circle. This beautiful recreation facility offers activities such as kayaking, Lake Claire Recreation canoeing, and picnicking; as well as hiking or strolling in the adjacent Area natural areas. Addition Arena and This lively civic hub hosts large, public activities both in the Addition Knights Plaza Financial Arena and on the beautiful Knight's Plaza.
- East and West Plaza Drive Shopping, dining, and housing activities make these corridors into energetic urban ways. West Plaza Drive winds around the north edge of Kenneth G. Dixon Athletics Village and connects Gemini Boulevard to North Orion Boulevard.

#### 4. CAMPUS VISUAL STRUCTURE

Permanent buildings on campus range in height from one to seven stories. The exteriors of these buildings are predominantly brick. Additional exterior materials include concrete, metal panels, and glazing. The predominance of brick, accompanied by the relative scale of the buildings on campus, helps create a significant level of visual continuity.
The campus is shaped by the natural landscape from which it has been carved. The concentric organization gives further structure to the visual environment. Pegasus Circle (400-foot radius), Mercury Circle (800-foot radius), Apollo Circle (1,200-foot radius), and Gemini Boulevard

#### **5. EXISTING FUNCTIONAL LINKAGES**

Automobile	Primary vehicular access to the campus is through University Boulevard, Alafaya Trail, Research Park, and McCulloch Road.
	Vehicular access to the Main Campus from the eleven-county Service Area and other UCF campuses uses various major roadways, including I-4, the Beachline Expressway (SR 528), the East-West Expressway (SR 408), and Colonial Drive (SR 50).
Campus Entrances	Of UCF's six (6) entrance roads, four (4) enter from Alafaya Trail (SR 434):
	<ul> <li>University Boulevard is the main vehicular entrance into campus, serving more than 21,000 vehicles per day.</li> </ul>

help students with visual wayfinding.

	<ul> <li>Central Florida Boulevard displays the most formalized type of entry into the campus, because of its axial relationship to campus landmarks. However, it is the least used entrance.</li> <li>Gemini Boulevard North is heavily used by more than 16,000 vehicles per day. It is bordered on the north by Conservation Land and the Lake Claire Recreation Area.</li> <li>Centaurus Boulevard will eventually be the cultural entrance to campus, as it will align with a future Performing Arts Center.</li> </ul>
	The remaining two entrances are from the north and south:
	<ul> <li>North Orion Boulevard enters from Seminole County to the north, and wraps around the entire east border of the Kenneth G. Dixon Athletics Village.</li> <li>Libra Drive is the only southern entrance, entering from the Central Florida Research Park. It is the most convenient means to travel to UCF after exiting SR 408.</li> </ul>
Pedestrian	The UCF campus was planned and developed with pedestrians in mind, based on a maximum walking time of eight minutes to the center of campus from the 1,200-foot outer radius (Apollo Circle). The 800-foot radius (Mercury Circle) provides a five-minute walking trip to the campus center, and the 400-foot radius Pegasus Circle frames the center of campus. A network of secondary pedestrian paths with corresponding offshoots provides access between buildings throughout campus.
<ul> <li>Pedestrian Safety</li> </ul>	Pedestrian hazards are created whenever vehicular circulation and pedestrian ways cross, or when vehicular circulation crosses parking lots, as it does in many instances throughout campus. UCF has been working to identify and mitigate existing hazards, and to limit future hazards through effective planning and design. UCF is also working on various projects with Orange County to improve pedestrian safety along Alafaya Trail (SR 434).
Bicycle	Bicycles provide many students with an economical and efficient source of transportation, due to the proximity of off-campus housing. There are bicycle paths found throughout campus, including those on Libra Drive and Gemini Boulevard North, and along Central Florida Boulevard.
	Bicycle racks are currently provided for approximately 6,500 bicycles on campus. Bicycling is a healthy and environmentally-supportive alternative and should be encouraged as a means of reducing vehicular traffic on campus.
Transit	UCF is meeting the demand for student transportation by offering both on-campus and off-campus shuttle service (see 6.0 TRANSPORTATION). Shuttles provide free, safe and convenient transportation services to and from the main campus, including to nearby housing communities, and satellite campuses (Rosen College, Health Sciences, and Downtown Campus. Strategically located

shuttle stops minimize the walking distance to classrooms or campus activities.

ANALYSES			
The evolution of the development pattern of University buildings and open spaces	There has been significant development on campus since the first Campus Master Plan in 1995. Much of the original campus development spread concentrically from the heart of campus.		
	As program needs continue to demand more academic and support space, development should respect our historic 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.		
Facilities	Not all facilities are named here. See 3.0 HOUSING for more on the dates and development of housing communities. Support facilities were also provided, but most are not listed.		
• Pre-1995	Millican Hall, John C. Hitt Library, Chemistry, Theatre, Ferrell Commons, Mathematical Sciences, Technology Commons, Howard Phillips Hall, Colbourn Hall (demolished), Biological Sciences, Education, John T. Washington Center, Wayne Densch 1 and 2 (demolished), Engineering I, Business Administration I, UCF Arena (now Addition Arena), Visual Arts, and housing.		
• 1995-2000	The Student Union, CREOL Building, College of Sciences, Barbara Ying Center, College of Arts & Humanities, Health & Public Affairs I, the Nicholson School.		
• 2000-2005	Classroom Building, I, Recreation and Wellness Center, Health & Public Affairs II, Engineering II, Burnett Honors College, Teaching Academy, Business Administration II, and housing.		
• 2005-2010	Fairwinds Alumni Center, Health Center, Nicholson Field House, Harris Engineering Center, the Towers, Psychology Building, UCF Stadium (Now Spectrum Stadium), Knights Plaza.		
• 2010-2015	Performing Arts Center, Physical Sciences Building, Classroom Building II, Public Safety Building, Visitor and Parking Information, and housing.		
• 2015-2020	Wayne Densch Center for Student-Athlete Leadership, Student Health Center Expansion, UCF Global, Research I, Trevor Colbourn Hall, CREOL expansion.		

Advantages and Disadvantages of Alternative Spatial Configurations	UCF will continue to coordinate the pattern of buildings and spaces leading to the center of campus and those along the university/community boundaries. Buildings should be organized in a way that complements and frames the open spaces around them. The deliberate planning and preservation of open spaces creates memorable landmarks and improves the pedestrian experience, and the importance of these spaces cannot be overstated.
	Axial relationships to the center of campus should be enforced and programmed in the future growth framework, while maintaining the circular paths and roadways important to the history of the University.
The Central Axis	Memory Mall is an example of central axis development, as buildings along its edge reinforce the connection between the Student Union and Knights Plaza.
	This axis continues across the Student Union and is mirrored at the front door to the campus, where the Duke Energy University Welcome Center is located at the head of Central Florida Boulevard. See Figure 2.0-2 Urban Design Map for a diagram of the Central Axis.
South of the Campus Core	A new activity hub was formed, south of Gemini Boulevard, when the Academic Villages housing complex, the Recreation and Wellness Center (RWC), and the RWC Intramural fields were created. Links to the campus core from this area should continue to be reinforced.
Alternative location and linkage concepts for the campus and the context area	Gateway configurations tie the campus to its neighboring communities, define the perimeter access to campus, and create a lasting first impression for visitors.
UCF Entrances	UCF has six entrances, each of which represents an opportunity to tie UCF to its host and affected communities.
Main Campus Entrance	The main entrance to UCF is University Boulevard, entering off of Alafaya Trail. This entrance does not make a strong entrance statement despite being 4 lanes wide with a narrow median. UCF intends to improve this entrance, concurrent with an upcoming partnership project with Orange County to improve pedestrian safety along Alafaya Trail.
<ul> <li>Secondary Campus Entrances</li> </ul>	Other entrances to campus are understated, but at this time, there are no plans to improve them. They include: • North Orion Boulevard (north entrance) • Gemini Boulevard North (west entrance) • Centaurus Boulevard (west entrance) • Central Florida Boulevard (west entrance) • Libra Drive (south entrance)
West University/Community Boundary	The campus frontage along Alafaya Trail has long remained an undeveloped buffer between UCF and the burgeoning urban retail and residential areas west of Alafaya Trail.

The construction of the Celeste Hotel,<sup>9</sup> on the UCF frontage north of University Boulevard, crosses the buffer and links UCF to the Plaza on University, a popular urban retail and residential development at the northwest corner of Alafaya Trail and University Boulevard.

The campus frontage along McCulloch Road will remain an undeveloped buffer between UCF and Seminole County, because it predominately comprises Conservation land.

Further, McCulloch Road is not user-friendly or safe for pedestrians:

- Both sides of the road lack continuous sidewalks. There is a sidewalk on the north side of the road from Alafaya to Lockwood, and on the south side from North Orion to Tanner Road.
- There are no street lights, except for a few decorative ones near the entrance to Carillon.
- No midblock crossing is available between Alafaya and Lockwood, a distance of nearly a mile.
- "Beaten paths" through the natural areas just south of McCulloch Road invite students to cross the street and enter campus at random locations.

The natural areas on the north border of campus must be improved for the safety and welfare of students coming from the apartment complexes north of campus.

UCF will work with Seminole County to improve the safety of this campus border road.

North University/Community Boundary

<sup>&</sup>lt;sup>9</sup> The Celeste Hotel was originally known as the Pegasus Hotel.

# 2.0 FUTURE LAND USE & URBAN DESIGN MAPS

# 2.0 FUTURE LAND USE & URBAN DESIGN Figure 2.0-1

Figure 2.0-1 Future Land Use Map





# 2.0 FUTURE LAND USE & URBAN DESIGN Figure 2.0-2



Figure 2.0-2 Urban Design Map



# **CAMPUS DISTRICTS**

The UCF campus is divided into ten districts, defined by their geographic location and/or predominant use.

- UCF Landscape Master Plan and Design Guidelines 2016

1. CAMPUS STREETSCAPES

2. CENTRAL AXIS

3. CAMPUS CIRCLES

4. GENERAL CAMPUS

5. RESIDENTIAL AREAS

6. RECREATION & WELLNESS (RWC) AREAS

7. ATHLETICS AND KNIGHTS PLAZA

8. NATURAL AREAS

9. CAMPUS SUPPORT AND RESEARCH AREAS

10. RWC PARK AND OUTDOOR RECREATION





UNIVERSITY OF CENTRAL FLORIDA

# **3.0 HOUSING**

2020-30 CAMPUS MASTER PLAN UPDATE

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GOALS, OBJECTIVES, & POLICIES	3
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# 3.0 HOUSING INTRODUCTION

#### INTRODUCTION

#### Live.

Learn.

### Charge On.



The college experience doesn't only happen in a classroom. Learning takes place everywhere, and living on campus provides the convenience and resources students need to:

- learn about themselves
- learn about others
- learn about their community
- and learn to be a Knight

The Department of Housing and Residence Life (DHRL) is a comprehensive program that provides housing for 11,224 students on the Main Campus and within the context area, in University-owned, -managed, and -affiliated properties.

Student housing is an integral part of student retention efforts at UCF. The department strives to integrate learning in the residence halls to support academic and co-curricular programs. Learning is guided by a residential curriculum that focuses on three concepts:

- Community Engagement
- Self-Awareness
- Equity and Inclusion

As a result of living on campus, students will have the opportunity to explore and address their personal and social responsibility in an interconnected world, thus becoming engaged global citizens.

#### Housing and Residence Life Vision Statement

Department of Housing and Residence Life will be a premier experience for students to live, learn, and become tomorrow's global citizens.

#### Housing and Residence Life Mission Statement

The mission of the Department of Housing and Residence Life is to provide students living in University housing with safe, wellmaintained facilities and programs that are conducive to student learning and success.

#### Statement on Diversity and Inclusiveness

Department of Housing and Residence Life values the diverse community of the University of Central Florida. We strive to engage students, staff, and campus partners in fostering an experiential learning community that is focused on diversity, inclusion, and social justice education. DHRL will achieve this through supporting a culture that encourages the exploration of social identities, articulates the value of inclusive communities, and practices effective cross-cultural

#### INTRODUCTION engagement. DHRL will continue to uphold our commitment to cultural competence through our residential priority of global citizenship. The University's commitment to sustainability through the protection of the environment is evident in the Housing element. New construction considerations, such as bed density and building location, could impact the use of campus natural lands. The operations and maintenance of the existing buildings impacts the amount of water and energy that are consumed on a daily basis. **RELATED ELEMENTS** See 1.0 INTRODUCTION for projected University enrollment over the 10-year planning timeframe. See 2.0 FUTURE LAND USE & URBAN DESIGN, Figure 2.0-1 Future Land Use Map, for areas of campus that are intended for housing. See 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION for housing projects projected in the 10-year planning timeframe. **STATUTE & REGULATION** The Housing Element, 3.0 HOUSING, is required by Florida Statute 1013.30. The purpose of the element is described in Florida Board of Governors regulation Chapter 21, Section 21.206, as follows: "The intent is to ensure the availability of housing facilities on the university campus and within the host and/or affected communities, that are adequate to meet the needs of the projected university enrollment; and eliminate substandard student housina." The specific requirements for the element are also in BOG 21.206.

3.0 HOUSING

# **3.0 HOUSING** GOALS, OBJECTIVES, & POLICIES

GOALS, OBJECTIVES, & POLICIES

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

POLICY 1.1.1: The University shall provide enough beds to house **OBJECTIVE 1.1: Ensure** 75% of the FTIC students and 50% of the retained 2nd year the availability of undergraduate students. affordable housing units and support POLICY 1.1.2: The University shall continue to provide a variety of facilities on-campus on-campus housing options for students. Mixed-use developments and through Universityshall be considered. managed and -affiliated POLICY 1.1.3: University-owned housing shall be built on campus housing properties to grounds. meet the projected POLICY 1.1.4: Parking ratios for student housing shall not be less need for student than one space per 1.85 residents. Parking space consideration housing. should be included in the cost of new construction. POLICY 1.1.5: Future housing sites shall be located on the southern and northwest portions of the campus. These locations shall be amended upon completion of a comprehensive housing master plan. POLICY 1.1.6: Density for on-campus residences shall be relatively compact, similar to that of the 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 subleased to requesting Greek alumni associations that meet the requirements set forth by 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 shall be identified in the Capital Improvements & Implementation Element and shall be amended upon completion of a comprehensive housing development study. POLICY 1.1.9: Sanitary sewer, potable water, stormwater management, and solid waste facilities (waste and recycling facilities) shall be provided at established levels of service prior to occupancy of future housing facilities. **OBJECTIVE 1.2: Ensure** POLICY 1.2.1: University-managed and -affiliated off-campus housing shall be provided to ensure availability of housing within the availability of offclose proximity to campus. The University shall apply similar rules campus housing and and regulations to students living in these facilities as to on-campus support facilities within housing, and shall provide services (e.g., shuttles) to create and close proximity to the maintain functional connections to the Main Campus. campus to meet the POLICY 1.2.2: The University shall provide information on projected projected student student enrollment to private developers and local governments, to enrollment. ensure that the off-campus housing stock (beds) and support

# 3.0 HOUSING GOALS, OBJECTIVES, & POLICIES



OBJECTIVE 1.3: Provide structural and aesthetic improvements of existing student housing to prevent or eliminate substandard student housing. facilities continue to meet the demands of the student body projected not to be housed on campus.

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

POLICY 1.2.4: The University, in conjunction with Orange and Seminole Counties, shall establish a housing coordination office to:

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

POLICY 1.3.1: Preventative maintenance programs shall be established and reviewed periodically. Programs shall be consistent with the policies listed under Objective 1.3 and the Facilities Maintenance Element.

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

POLICY 1.3.3: On-campus housing facilities shall be inspected by qualified University personnel during the second quarter of every year to determine if repair or replacement is necessary.

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 completed every year.

POLICY 1.3.5: Campus housing interior walls shall be painted every three to five (3-5) years, or as needed, and carpet/flooring shall be replaced every seven (7) years or as needed.

POLICY 1.3.6: The University shall identify housing units that may be adapted for use by individuals with accessibility needs. The adopted Campus Master Plan shall be amended as needed to reflect the timing and phasing requirements and priorities for adapting these units.

#### DATA & ANALYSIS

HOUSING			
Description of On-Campus Housing	UCF has numerous on-campus housing communities built between 1968 and 2013. The bed counts for the housing described below are listed in Figure 3.0-1 Inventory of beds on the Main Campus.		
ADA Compliance	UCF Housing complies with ADA Accessibility Guidelines (ADAAG)		
Apollo Community	The University's first housing project, the Apollo Community, opened in the fall of 1968. It 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.		
Libra Community	UCF's second housing project, the Libra Community, was built in 1980 to accommodate 446 student spaces. It consists of three residence halls (Brevard, Orange, and Seminole Halls) and a Commons building. Orange and Seminole Halls are four-story buildings, and Brevard Hall is a three-story building. All rooms in this community are suite-style, with two double rooms sharing one bathroom.		
Lake Claire Community Apartments	In 1994, the on-campus housing options for students were further diversified with the opening of the Lake Claire Community Apartments. This community consists of fifteen, three-story buildings and a Commons building. The apartments were designed to meet the needs of upper- level, single undergraduates and graduate students. In addition to offering cooking facilities, which the residence halls do not have, each apartment has four single bedrooms, two bathrooms, and a living room.		
Libra Community II	Phase II of the Libra Community opened in the spring of 1999. Citrus, Sumter, and Flagler Halls were designed to meet the continued demand to house freshmen and sophomores 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 common area spaces were added to the Libra Community with this project.		
The Academic Village	This project was constructed in two phases. Phase I opened in 2001 (Nike), and Phase II in 2002 (Hercules). Academic Village consists of suite-style residence halls where four students share a bathroom, and apartments that house either two or four students, with two students sharing 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.		
Academic Village II	Academic Village II (Neptune) opened in August 2013. This project consists of three buildings, ranging in height from four to five stories. The living units are in a suite configuration, with four single bedrooms		

sharing two bathrooms. Every residential floor has a communal kitchen, TV lounge, study room, and laundry room. Community amenities include a 60-seat classroom, a large multipurpose room and kitchen, two large group study rooms, a grab-and-go food store, a mail center, a large outdoor patio space with wireless internet, and offices for residence life staff, an academic advisor, and a counselor.

The Towers, four seven-story buildings with a combined design capacity of 2,004 student spaces, was constructed in three phases, opening in 2006, 2007, and 2008 respectively. Students may choose from a combination of 4 bedroom/2 bath, 4 bedroom/4 bath, and 1bedroom/1bath apartments. All bedrooms are single occupancy. Small study lounges are included on six (6) of the seven (7) floors. The ground floor lobbies and adjacent courtyards provide student programming space for educational and social events.

UCF manages three (3) properties<sup>1</sup> located off-campus, of which only NorthView serves the Main Campus.

When all UCF-owned and UCF-managed facilities have reached full capacity, students are referred to University-affiliated housing.

UCF-Affiliated properties include Knights Circle and The Pointe at Central. The University provides UCF Residence Life services at Knights Circle, and the UCF Police provides services at both Knights Circle and The Pointe at Central.

Community	Building	Туре	Beds
APOLLO COMMUNITY			
	Lake Hall	Suite	108
	Osceola Hall	Suite	103
	Polk Hall	Suite	108
	Volusia Hall	Suite	108
Apollo Total E	Apollo Total Beds		427
LIBRA COMM	UNITY		
	Brevard Hall	Suite	121
	Orange Hall	Suite	156
	Seminole Hall	Suite	162
	Citrus Hall	Suite	116
	Sumter Hall	Suite	232
	Flagler Hall	Suite	232
Libra Total Beds		1,019	
LAKE CLAIRE COURTYARD APARTMENTS			
	Building 55	Apartment	47
	Building 56	Apartment	47
	Building 57	Apartment	47

<sup>1</sup> Three UCF-managed properties are NorthView, UnionWest (UCF Downtown) and Rosen Apartments (RCHM).

The Towers at Knights Plaza (UCF-Managed On-Campus)

UCF-Managed and UCF-Affiliated Housing Off-Campus

Figure 3.0-1a Inventory of Beds on the Main Campus





	Building 58	Apartment	47
	Building 59	Apartment	47
	Building 60	Apartment	47
	Building 61	Apartment	47
	Building 62	Apartment	47
	Building 63	Apartment	47
	Building 64	Apartment	43
	Building 66	Apartment	47
	Building 67	Apartment	47
	Building 68	Apartment	47
	Building 69	Apartment	47
	Building 70	Apartment	47
Lake Claire To	tal Beds		701
ACADEMIC VI	LLAGE		
Nike	Building 101	Suite	143
Community	Building 102	Suite	151
	Building 103	Suite	169
	Buildings 104-105	Apartment	176
	Buildings 106-107	Apartment	176
Hercules	Building 108	Suite	139
Community	Building 109	Suite	151
	Building 110	Suite	169
	Buildings 111-112	Apartment	176
	Buildings 113-114	Apartment	180
Neptune	Building 156	Suite	204
Community	Building 157	Suite	210
	Building 158	Suite	254
Academic Villa	age Total Beds		2,298
TOWERS AT K	NIGHTS PLAZA (Managed Housin	g)	
	Tower 1	Apartment	502
	Tower 2	Apartment	510
	Tower 3	Apartment	474
	Tower 4	Apartment	506
Towers Total E	Beds		1,992
Total Main	Campus Beds		6,437
GREEK (State	owned buildings)		
	Alpha Ensilon Phi	Greek	30
	Kappa Alpha Thata	Graak	55 15
		Greek	40
	Kappa Kappa Camma	Greek	40
	nappa nappa Gamma	GIEEK	40



3.0-1b Inventory of Greek Beds on the Main Campus

	GREEK (Other building owners)				
	Zeta Tau Alpha Sorority G	reek	40		
A A A A A A A A A A A A A A A A A A A	Delta Delta Delta Sorority G	reek	52		
	Pi Beta Phi Sorority G	reek	39		
GREEK DADK DE	Alpha Tau Omega Fraternity G	reek	34		
CHEEN PARK DR.	Alpha Xi Delta Sorority G	reek	21		
	Alpha Delta Pi Sorority G	reek	32		
	Kappa Delta Sorority G	reek	28		
	Sigma Chi Fraternity G	reek	33		
	Kappa Sigma Fraternity G	reek	24		
	Total Greek Beds		467		
	Total Main Campus Beds, incl. Greek Housing6,904				
Main Campus	students to enhance students' first-year experience and the over collegiate environment. Additionally, 50% of second-year students be provided on campus housing in an effort to support Universi- retention efforts.				
	Additional on-campus housing will continue University community, increase retention and alleviate the University's impact on neighborhood area.	to strengt I progress Is within th	then the ion, and e context		
Figure 3.0-2 Main Campus Bed Demand	In the absence of enrollment projections <sup>2</sup> for the planning timeframe, UCF will strive to address the deficit shown in the 2015-25 CMP and confirmed in the 2020-30 CMP.				
	Main On-Campus Housing Needs	2014	2019		
	Headcount Enrollment	49,923	54,867		
	2014 Total Beds Needed - 80% FTIC & 50% 2nd Year	8,220			
	2019 Total Beds Needed - 75% FTIC & 50% 2nd Year		7,713		
	Global UCF Program		250		
	Athletics		300		
	Inclusive Education	-	16		
	Total Beds Needed	8,220	8,279		
	Main Campus Beds, incl Greek beds	6,933	6,904 <sup>3</sup>		
	Total Beds Deficit	(1,287)	(1,375)		
	UCF-Affiliated Beds (Knights Circle, The Pointe at Central)	3,756	3,756		
	UCF-Managed Beds (NorthView)	598	594 <sup>4</sup>		

<sup>2</sup> Enrollment Projections are being studied by a presidential committee as described in 1.0 INTRODUCTION.

<sup>3</sup> Discrepancy, because 29 beds are used for professional staff and not counted as student beds.

<sup>4</sup> Discrepancy, because 4 beds are used for a model apartment.

F

Meeting Housing Need	<ul> <li>With a deficit on the Main Campu UCF-Managed Housing</li> <li>UCF-Affiliated Housing</li> <li>UCF Managed Housing</li> <li>Privately-owned Apartme</li> <li>Private Rental Homes in</li> </ul>	s, UCF relies on other means to meet of on Satellite Campuses ent Complexes and near the Context Area	demand:
Figure 3.0-3 Inventory of	NORTHVIEW (Main Campus)		597
UCF-Managed Main Campus Beds	Total UCF-Managed Beds servi	ng the Main Campus	597
Figure 3.0-4 Inventory of	KNIGHTS CIRCLE (Main Campu	s)	2,507
UCF-Affiliated Main	THE POINTE AT CENTRAL (Mai	n Campus)	1,216
Campus Beus	Total UCF-Affiliated Beds servi	ng the Main Campus	3,723
	GRAND TOTAL (including	Greek, Affiliated, and Managed)	11,244
Figure 3.0-5 Satellite Campus Housing, UCF-Managed	Housing on satellite campuses has the potential to offset demand on the Main Campus for students who take coursework on both campuses and choose to live on the satellite campus.		
	ROSEN (Rosen College of Hospitality Management)		388
	UNIONWEST (UCF Downtown)		639
	Total UCF Managed Beds on Satellite Campuses		1.027
Figure 3.0-6 Off-Campus Non-University	Housing in nearby apartment communities offsets UCF's housing need.		
Controlled Facilities	Private Apartment Facilities	Rental Range per person/month	# Beds
	Boardwalk	\$675	480
	College Station	\$660	304
	Crossing at Alafaya	\$640	895
	HUB	\$809 - \$857	745
	The Lofts	\$678 - \$1,288	730
	The Marquee	\$700 - \$1,115	1,527
	Mercury 3100	\$717 - \$740	840
	Northgate Lakes	\$744 - \$819	710
	Orion on Orpington	\$713	624
	The Plaza on University	\$810 - \$888	1,300
	The Quad	\$765	384
	The Retreat	\$765 - \$793	894
	Riverwind	\$650	440
	The Station on Alafaya	\$869 - \$920	750
	University House	\$782 - \$1,215	995
	The Verge	\$782 - \$1,215	930
	Village at Science Drive	\$729 - \$789	732

Off-Campus Homes	Rental homes within and near the Context Area offset UCF's housing need. The quantity of students renting houses or rooms in houses varies by semester.	
Potential On-Campus Housing Sites	In order to address the on-campus housing deficit reported in Figure 3.0-2, UCF has identified potential sites for future housing:	
	<ul> <li>The former site of Wayne Densch Buildings 38 and 39, on Gemini Boulevard, has been set aside by the BOT for the future "Dining, Housing, and Residential Life Facility."</li> </ul>	
	<ul> <li>A Specialty Housing area, at the northwest corner of Alafaya Trail and Gemini Boulevard North, has been set aside by the BOT as the future "Greek Park Extension."</li> </ul>	
	<ul> <li>East and west of the existing Academic Village, there are two infill sites that could support more housing.</li> </ul>	
	Based on the results of a future <i>Housing Master Plan</i> , projected housing projects and sites may be revised from those shown in 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION. Any revisions will require a Minor Amendment to the 2020-30 Campus Master Plan Update.	

# 3.0 HOUSING MAPS

Figure 3.0-7 Exiting On-Campus Housing Map





# 3.0 HOUSING Figure 3.0-7

#### EXISTING ON-CAMPUS HOUSING

- A. Apollo Community
- B. Libra Community
- C. Lake Claire Community Apartments
- D. Academic Villages
- E. The Towers at Knights Plaza
- F. Greek Park

Figure 3.0-8 Off-Campus Housing Map (Context Area)





# 3.0 HOUSING Figure 3.0-8

#### **OFF-CAMPUS HOUSING**

- 1. Boardwalk
- 2. College Station
- 3. Crossing at Alafaya
- 4. HUB
- 5. Knights Circle (UCF Affiliated)
- 6. The Lofts
- 7. The Marquee
- 8. Mercury 3100
- 9. Northgate Lakes
- 10. NorthView (UCF managed)
- 11. Orion on Orpington
- 12. The Plaza on University
- 13. The Pointe at Central (UCF Affiliated)
- 14. The Quad (outside of Context Area)
- 15. The Retreat
- 16. Riverwind
- 17. The Station Alafaya
- 18. University House
- 19. The Verge
- 20. Village at Science Drive

# ATHLETICS, RECREATION & OPEN SPACE

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#### UNIVERSITY OF CENTRAL FLORIDA

# 4.0 ATHLETICS, RECREATION & OPEN SPACE

2020-30 CAMPUS MASTER PLAN UPDATE

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# 4.0 ATHLETICS, RECREATION & OPEN SPACE INTRODUCTION

#### INTRODUCTION

#### NARRATIVE



This element ensures the provision of adequate and accessible recreation facilities and open space to meet the future needs of the University.

Intercollegiate athletics facilities (courts, fields, specialty facilities) have always been part of the Recreation & Open Space Element. For the 2020-30 CMP, UCF has changed the name of the element to clearly include Athletics.

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



Activity-based Facilities

#### **Resource-based Facilities**



Activity-based facilities are defined as those facilities designed, constructed, and designated for specific sports or recreation activities, including intercollegiate, intramural, and recreational tracks and sports fields, multipurpose courts, and special facilities (fitness centers, ropes courses, pools).

**Resource-Based** refers to those facilities that are primarily used for general recreation or organized social functions. Resource-Based facilities are open to all and not designated for specific recreational activities or sports. Resource-Based facilities may include open green space, public parks, nature trails, conservation areas. Resource-Based facilities are 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, such as open fields, picnic areas, nature trails, public parks
- **Passive Resource-Based Facilities** refer to those areas that are relatively inaccessible to any types of recreation activities; and although not publicly accessible, they provide visual and climatic enhancements to the campus. They include conservation and environmental mitigation lands.
# 4.0 ATHLETICS, RECREATION & OPEN SPACE INTRODUCTION

RELATED ELEMENTS	See 2.0 FUTURE LAND USE for additional information on conservation, wetlands and open space.
	See 6.0 TRANSPORTATION for Figure 6.0-18 Cycling Map.
	See 9.0 CONSERVATION for additional information on open space.
	See 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION for athletics and recreation capital projects projected for the planning timeframe.
STATUTE & REGULATION	UCF's name for the required element RECREATION & OPEN SPACE is 4.0 ATHLETICS, RECREATION & OPEN SPACE. The element is required by Florida Statue 1013.30(3); and must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.
NERSITY SYSTEM 25	BOG 21.209 states the purpose of the RECREATION & OPEN SPACE element as follows:
TIORIDA - STATE	"This element ensures the provision of adequate and accessible recreation facilities and open space to meet the future needs of the university."
THE OF GOVERNO	BOG 21.209 (2)(c.)(2) indicates that athletics facilities are included as recreation & open space facilities.

GOALS, OBJECTIVES, & POLICIES	
4.1 Recreation & Open	Space
	<ul> <li>Goals, Objectives &amp; Policies (GOP) are stated here for "Activity-Based Recreation"</li> <li>Indoor and outdoor recreation facilities. e.g. intramural sports facilities and clubs (softball, soccer, tennis, etc.), gymnasia (including those in Recreation &amp; Wellness Center and the Education Building), and the UCF Band facility.</li> <li>GOP for sporting event venues (football, soccer, softball, etc.) and training facilities for UCFAA teams, will be discussed further under Intercollegiate Athletics.</li> <li>And for "Resource-Based Recreation"</li> <li>Open fields, picnic areas, nature trails, boating lakes, and public parks. This category may also include on-campus man-made landscape features (malls, courtyards, plazas, quadrangles, parks) where students, faculty, and staff gather for casual interaction or play.</li> <li>Conservation and environmental mitigation areas that provide visual and climatic enhancements to the campus.</li> <li>See Nature Trails maps at the end of this element: Figure 4.0-14 The Arboretum Nature Trails Map Figure 4.0-16 The East Parcel Nature Trails Map</li> </ul>
Goal 1: Provide a variety of and educational laborator well-being, and campus vi	of safe, efficient, and enjoyable on-campus recreation ies, and open space areas which promote the health, sual aesthetic for students, faculty, staff, and visitors.

Objective 1.1: Pursue a variety of public and private funding sources and programs to ensure the development and availability of recreational facilities and educational laboratories for students and other user groups. Policy 1.1.1: Student Development and Enrollment Services (SDES) and the College of Community Innovation and Education (CCIE) shall be responsible for the provision of adequate recreation and open space facilities for quality recreational and sports programs for all students of the University. The development of such programs and facilities shall be based upon existing and prospective student demand, user interest, and the availability of funds from such sources as student and user fees.

POLICY 1.1.2: Landscape & Natural Resources (LNR) and the Arboretum shall be responsible for the creation and maintenance of all trails and trail systems in the campus natural lands. We shall be responsible for the encouragement of the campus and surrounding communities use of our natural lands

as an outdoor living, learning laboratory and recreational space for both physical and mental wellness. Additionally, the Arboretum will pursue funding opportunities for the development of the core Arboretum site as a park like setting for recreational opportunities for students, faculty, staff and outside community members.

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 or physical education needs.

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 elements 2.0 FUTURE LAND USE & URBAN DESIGN and 9.0 CONSERVATION.

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

POLICY 1.2.3: Future recreation facilities shall continue to be developed, consolidating and strengthening recreation. As planned location options in the south area of campus become maximized, additional space must be explored.

POLICY 1.2.4: When designing and programming future campus development of open spaces, Facilities Planning and Construction (FPC), Student Development and Enrollment Services (SDES), and the College of Community Innovation and Education (CCIE) shall consider which recreation programs and facilities could be maintained in these spaces as part of the campus open space scheme.

POLICY 1.2.5: The University shall continue to identify priorities for improvements to recreation and open space facilities in order to correct existing deficiencies and meet future demands. Facilities projected within the planning period are indicated in the Schedule of Capital Projects (SCP), found in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

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 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

OBJECTIVE 1.2: Pursue a variety of continuing inhouse planning and facility development programs to ensure that *high quality* recreation, educational laboratories, and open space areas are adequately and efficiently provided.

OBJECTIVE 1.3: Promote unrestricted or managed public access to all campus recreation and open space areas to the maximum extent feasible.

occasion) or limited if it is determined necessary to protect animal and plant species.

POLICY 1.3.2: The University shall establish the priority use of campus recreational facilities for UCF students, faculty, and staff. Once student demands are adequately met, faculty, staff, and non-campus users will be accommodated, on a fee basis. Allowances will be made for reasonable maintenance and restoration periods for any particular facility.

POLICY 1.4.1: The University shall protect all existing conservation lands from encroachment and maximize the retention of open space by strictly enforcing the future placement of buildings, parking facilities, infrastructure, and other manmade improvements consistent with sites selected and adopted in elements 2.0 FUTURE LAND USE & URBAN DESIGN, 9.0 CONSERVATION, and 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

The pattern of open spaces established in Figure 2.0-1, Future Land Use Map and Figure 4.0-11, Athletics, Recreation and Open Space Map, 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 elements 2.0 FUTURE LAND USE & URBAN DESIGN and 9.0 CONSERVATION.

POLICY 1.4.3: The University shall select sites for infrastructure and academic and support facilities that ensure the retention of campus open space, to the extent feasible.

POLICY 1.4.4: The University shall create new, formal open spaces, or "greenspaces," through the careful placement of buildings as adopted in Figure 2.0-1, Future Land Use Map, and Figure 10.0-1 Capital Improvements Map.

## 4.2 Intercollegiate Athletics

MISSION

VISION

To positively transform the lives of our students academically, athletically, and personally through a nationally competitive intercollegiate athletics program that enhances the reputation and visibility of the University of Central Florida.

To be Florida's preeminent intercollegiate athletics program, representing UCF and our community with distinction on the national stage as *"Orlando's Hometown Team."* 

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



CORE VALUES	<u>Student-Athlete Success</u> : In support of UCF's commitment to student success, we invest in our student-athletes as individuals and maintain an environment that encompasses their holistic development, empowering them to achieve their personal best in all facets of life.
	<u>Integrity</u> : In support of UCF's commitment to excellence, we maintain an unwavering commitment to the highest standards of character and sportsmanship in all we do.
	<u>Partnership</u> : In support of UCF's role as America's Partnership University, we are committed to fostering teamwork on campus and engaging the community through collaboration and mutually beneficial relationships.
	<u>Inclusion</u> : In support of UCF's commitment to inclusion, we embrace diversity and champion a welcoming and supportive environment for all members of our community.
	<u>Accountability</u> : In support of UCF's commitment to excellence, we set high standards, are reliable, and hold ourselves responsible for our actions and results.
PRIORITIES	<u>Resources</u> : Our goal is to enhance our resources to allow our coaches and student-athletes to compete at the highest levels by engaging all stakeholders.
	<u>Competitive Success</u> : We will create a championship culture that propels UCF to compete successfully at the highest level in all facets of athletics.
ORLANDOS HOMETOWN	<u>Culture</u> : We will recruit and retain highly talented individuals with strong character to enhance our team-oriented, innovative, and creative environment.
TEAM	Student-Athlete Success: We will enhance the student-athlete experience through the promotion of health and safety, experiential learning, and academic achievement.
GOALS, OBJECTIVES, & POLICIES	
OBJECTIVE 1.1: Design and pursue a world-class athletics master facilities development plan.	POLICY 1.1.1: The UCF Athletics Association (UCFAA), in consultation with UCF Facilities Planning and Construction (FPC), will review and assess athletics facilities needs and prioritize future construction, enhancements, and expansion projects for competition, training, nutrition, academic, and personal development and administration.
	POLICY 1.1.2: Intercollegiate Athletics facilities, projected for the 10-year planning timeframe, shall be listed on the Schedule of Capital Improvements (SCP) included in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

POLICY 1.1.3: UCFAA shall establish the priority use of intercollegiate athletics facilities.

POLICY 1.1.4: UCFAA will seek external creative assistance with conceptualizing capital projects and facilities enhancements to obtain donor support for the facilities development campaign.

POLICY 1.1.5: UCFAA will establish an annual facilities maintenance and reinvestment budget for new capital projects and existing facilities.

## **DATA & ANALYSIS**

Nicholson Field House

(2005)

F

2.05

0

0

0

0

## 4.0 Athletics, Recreation & Open Space Facilities Inventory

INVE UNIV AND FACI	NTORY OF ERSITY OWNED MANAGED LITIES	<ul> <li>Academic classes within the College of Community Innovation and Education (CCIE) and College of Health Professions and Sciences (CHPS)</li> <li>Recreation and Wellness Center (RWC) programs including Intramural Sports and Sport Clubs</li> <li>Intercollegiate Athletics programs sponsored by the UCF Athletics Association (UCFAA)</li> <li>On-campus residential recreation</li> <li>Outdoor, nature based, active recreational programing and activities supported by the Natural Resources and Arboretum departments.</li> <li>UCF facilities are periodically rented and/or open to public use as noted in the <b>Typical Uses</b> column in the following figures.</li> </ul>									
Figu Cam Facil	re 4.0-1 On- pus UCFAA lities	University Owned and Managed Facilities (acres) used primarily by Intercollegiate Athletics Keys refer to Figure 4.0-13 UCFAA Current Facilities Inventory Map.									
Key	Description	Activ	ity-Base	d Acres	Resource-	Based Ac.	Typical Uses				
A	Addition Financial Arena (2007)	0	3.15	0	0	0	Men's and Women's				
							and competition, Commencement ceremonies, and Special Events. Managed by UCF Convocation Corporation				
В	The Venue (1991)	0	0.93	0	0	0	and competition, Commencement ceremonies, and Special Events. Managed by UCF Convocation Corporation Intercollegiate Women's Volleyball training and competition, and Special Events Managed by UCF Convocation Corporation				
B	The Venue (1991) John Euliano Park (2001)	0	0.93	0	0	0	and competition, Commencement ceremonies, and Special Events. Managed by UCF Convocation Corporation Intercollegiate Women's Volleyball training and competition, and Special Events Managed by UCF Convocation Corporation Intercollegiate Baseball (Spring home games). Youth Camps				
B C D	The Venue (1991) John Euliano Park (2001) Track and Soccer Complex (1991, Stadium added 2010)	0 4.7 4.63	0.93	0 0 2.22	0	0	and competition, Commencement ceremonies, and Special Events. Managed by UCF Convocation Corporation Intercollegiate Women's Volleyball training and competition, and Special Events Managed by UCF Convocation Corporation Intercollegiate Baseball (Spring home games). Youth Camps Intercollegiate Women's Track, Men's Soccer, and Women's Soccer training and competition. Limited University community use				

Indoor conditioned training.

Regulation football field

H	Wayne Densch Sports Center (2004)	0.99	0	0	0	0	Student-Athlete Training Facility, Football Staff Offices, Sports Medicine, Strength and Conditioning, Equipment Operations
I	Spectrum Stadium (2007)	10.12	0	0	0	0	Intercollegiate Football games (Fall), and Special Events
J	Wayne Densch Center for Student-Athlete Leadership (2016)	0	0	0.25	0	0	Student-Athlete dining and nutrition, and Special Events
К	Garvy Center for Student-Athlete Nutrition (2018)	0	0	0.25	0	0	Student-Athlete dining and nutrition, and Special events
L	Football Practice Fields (2006)	4.57	0	0	0	0	Fall/Spring Practice, and Youth Camps
N	Softball Complex (2006)	1.65	0	0	0	0	Fall/Spring Practice, Home Games, and Youth Camps
	UCF Tennis Courts						See Figure 4.0-4 Shared On- Campus Facilities
	Subtotals	31.08	4.08	2.72	0	0	

Figure 4.0-2 Off-Campus<br/>UCFAA FacilitiesUniversity Owned and Managed Facilities (acres) used primarily<br/>by Intercollegiate Athletics

Description	A	Activity-Based Acres		Resource-Based Acres		Typical Uses
	Field	Court	Specialty	Active	Passive	
UCF Evans Family Rowing Center (Lake Pickett)	)		5.0			Varsity Fall/Spring Home Games, Practices, Youth Camps
Subtotals			5.0			

### Figure 4.0-3 On-**Campus Recreation**

University Owned and Managed Facilities (acres) used primarily for Recreation

Code	Description	Activity-Based Acres Resource-Base					Typical Uses
oouc	Beschption	Field	Court	Specialty	Active	Passive	
1	Recreation and Wellness Center (RWC)	0	0	2.41	0	0	Recreation Use for Students and Faculty/Staff.
1.1	RWC Lap Pool	0	0	0.23	0	0	Recreation Use for Students and Faculty/Staff
1.2	RWC Leisure Pool	0	0	2.06	0	0	Recreation Use for Students and Faculty/Staff
2	William E. and Mary Jo Davis Lake Claire Recreation Area	0	0	0	44.2	0	Scheduled Reservations for Student Organizations and General Community Use
3	RWC Park Turf Fields & Support Facilities	14.81	0	0	0	0	Intramural Leagues, Sport Club Practices and Games, Rentals
3.1	RWC Park Sport Club Field	3.87	0	0	0	0	Sport Club Practice and Games
3.2	RWC Park Softball Field	2.02	0	0	0	0	Recreation Use and Intramural Tournaments

	Subtotals	24.85	0.78	4.89	44.2	0	
8	RWC @ Ferrell Commons	0	0	0.15	0	0	Sport Club Practices
7	RWC @ Knights Plaza	0	0	0.22	0	0	University Recreation Use for Students and Faculty/Staff
6	Sand Volleyball Courts (4 lighted)	0	0.35	0	0	0	Campus Recreation Use, Intramural tournaments
5	Outdoor Basketball Courts (3 lighted)	0	0.43	0	0	0	Campus Recreation Use, Student Groups and community reservations
4	Challenge Course	0	0	4.52	0	0	Student Groups, UCF Depts, Community Reservations
3.3	RWC Park North Grass Field	4.15	0	0	0	0	Reservations, Sport Clubs Games and Practices

### Figure 4.0-4 Shared On-Campus Facilities

University Owned and Managed Facilities (acres) shared by UCFAA CCIE, CHPS, and Recreation & Wellness<sup>1</sup>

Code	ode Description		ivity-Bas	sed Ac.	Resource-Based Ac.		Typical Uses
		Field	Court	Specialty	Active	Passive	
9	Tennis Courts Qty 9, lighted	0	1.62	0	0	0	Varsity Practice, Intramurals, Campus Recreation, Youth Tennis Camp, Tennis Club
10	Disc Golf	0	0	37.15	0	0	Campus Community Use
11	Band Field	1.79	0	0	0	0	UCF Marching Knights, and Campus Recreation Use
12	Education Building <sup>2</sup>						Sport Clubs, Academic Classes, UCFAA Practice
12.1	Gymnasium (ED 176)						Academic Classes
12.2	Multipurpose (ED 174)						Strength and Conditioning Lab
12.3	Wellness Research Center (ED 179)						Kinesiology Lab
	Subtotals	1.79	1.62	37.15	0	0	

## Figure 4.0-5 Open Space University Owned and Managed Open Space (acres)

Description	Activity-Based		Resource-Based		Typical Uses	
	Field	Court	Specialty	Active	Passive	
Nature Trails	0	0	0	16.85	0	Hiking, biking, nature observation
Wetlands	0	0	0	0	273.37	
Upland Preservation	0	0	0	0	25.36	

<sup>&</sup>lt;sup>1</sup> UCF Athletics Association (UCFAA), the College of Community Innovation and Education (CCIE), and the College of Health Professions and Sciences (CHPS).

<sup>&</sup>lt;sup>2</sup> Figure 4.04, Items 12.0-12.3: The Physical Education program is housed in the School of Teacher Education in CCIE. The Division of Kinesiology is housed in the School of Kinesiology and Physical Therapy in CHPS. Both PE and Kinesiology use the gymnasium (12.1) and manage activity courses within the facility.

Upland Riparian Habitat Preservation Zone	0	0	0	0	39.39	
Lakes	0	0	0	0	32.68	
Subtotals	0	0	0	16.85	370.8	

### Figure 4.0-6 Total Acres of UCF Owned and Managed Recreation & Open Space

University Owned/Managed Intercollegiate Athletics Facilities, Recreation/Education Facilities, and Open Space

0 0 0 0	pace						
		A	Activity-E	Based	Resou	rce-Based	
		Field	Court	Specialty	Active	Passive	Recreation & Open Space
Sı	ubtotals	57.72	6.48	49.76	61.05	370.8	
T	OTAL		113.96		431.85		545.81

#### INVENTORY OF NON-UNIVERSITY OWNED AND MANAGED RECREATION AND OPEN SPACE

Golf



Existing privately-owned, state-owned, or local government-owned sports facilities, recreation facilities, and open space are available within and near the Context Area.

UCFAA, Intramural Sports, Education, and Sport Clubs utilize Non-University Owned/Managed facilities for Golf, Tennis, and Bowling.

UCFAA uses the Intercollegiate Golf Training Facility at Twin Rivers Golf Club for intercollegiate men's and women's golf training. The facility is owned and managed by the City of Oviedo.

Several local golf courses are used by Intramural Sports and education classes; and UCF entities pay a use fee. These par 72, 18-hole courses are near UCF, but outside of the Context Area:

- Twin Rivers Golf Club 6,600 Yards
- Stoneybrook Golf Club 6,842 Yards
- Eastwood Golf Club 7,176 Yards

UCFAA uses the Collegiate Center (12 courts, clubhouse, and stadium) at the U.S Tennis Association (USTA) National Campus in Lake Nona for intercollegiate men's and women's tennis training and competition.

In addition to UCF's on-campus courts, UCF faculty, staff, and students have access to many other tennis courts outside of the Context Area.

- The City of Orlando has courts at thirteen parks and centers, including the Orlando Tennis Center.
- Orange County has courts at eleven parks and recreation complexes.
- The City of Oviedo has courts at three parks: Riverside, Round Lake, and Sweetwater.
- Seminole County has courts at four parks: Red Bug Lake, Sanlando, Sylvan Lake, and Greenwood Lakes.

Tennis



Bowling	Local bowling lanes are used f classes by Intramural Sports a privately owned and managed • Boardwalk Bowl (80 lar • Oviedo Bowling Center	or events as well as academic nd Sport Clubs. The facilities are and are used on a fee basis. nes) (24 lanes).
Hiking, Canoeing, Kayaking, Cycling, Birding, etc.	State Parks and Natural Areas Resource-Based facilities that and RWC adventure trips, and accessible to the public. Locat include, but are not limited to: • Wekiva Springs State F • Orlando Wetlands Park • Little Big Econlockhatc • Hal Scott Regional Pre • Seminole-Wekiva Recr • Econ River Wilderness	s: There are many off campus are used by academic programs l even more that are open and ions in the Central Florida area Park hee State Forest serve and Park eational Trail Area
LEVEL-OF-SERVICE STANDARD (LOS)	UCF is abounding in <b>Resourc</b> recreation space (see Figure 4 Recreation & Open Space acr	<b>e-Based</b> active and passive 4.0-6 for the total Resource-Based eage).
	A review of <b>Activity-Based</b> recreation space illustrates a deficit of space to serve the campus community's needs (see Figure 4.0-6 for the total Activity-Based based Recreation & Open Space acreage). The following comparisons to other institutions and to recognized space-planning guidelines further illuminate the need for additional Activity-Based recreation space.	
	Several projects specific to the Center have been undertaken indoor, outdoor, and fitness re-	UCF Recreation and Wellness to address this deficit; but more creation spaces are needed.
Figure 4.0-7 Recreational Sports Space Planning Guidelines	Based on a review of the Nation Association's (NIRSA) "Space Recreational Sport Facilities," presented for comparison purp	onal Intramural Recreational Sports Planning Guidelines for Campus the following LOS standards are poses.
	Recreation Facility Type	National Standard per 1,000 students
	Playing Field Space	0.94 acres
Peer Comparisons	Based on total enrollment, <sup>3</sup> the assessment of UCF against pe	e following figures are an eer institutions of similar size, as well
	The figures demonstrate UCF' Recreation Space (Figure 4.0- (Figure 4.0-9), and Indoor Fitn	s comparative lack of Indoor 8), Outdoor Recreation Space ess Space (Figure 4.0-10).

<sup>&</sup>lt;sup>3</sup> Comparable data was unavailable to support a comparison of other Universities Main Campuses to UCF 's Main Campus only.

Figure 4.0-8 Comparison	Peer Institutions and	Fall 2018	Indoor Space	Indoor Space
Indoor Recreation Space	other State Universities	Enrollment	(SF)	SF/Student
	The Ohio State University	68,100	725,000	10.64
	University of Texas Austin	51,832	500,000	9.64
	Texas A&M	64,126	413,000	6.44
	Florida State University	46,733	180,000	3.85
	University of South Florida	50,755	185,000	3.64
	University of Florida	55,862	183,100	3.27
	UCF	68,558 <sup>4</sup>	158,700	2.31
Figure 4.0-9 Comparison	Peer Institutions and	Fall 2018	Field Space	Acres/1,000
Outdoor Playing Field	other State Universities	Enrollment	(acres)	students
Recreation Space	Florida State University	46,733	53.87	1.15
	The Ohio State University	68,100	54.98	.80
	University of Texas Austin	51,832	35.67	.68
	University of Florida	55,862	28.56	.51
	Texas A&M	64,126	30.36	.47
	University of South Florida	50,755	22.75	.44
	UCF	68,558	24.85	.36
Figure 4.0-10 Comparison	Peer Institutions and	Fall 2018	Indoor Fitness	SF/1,000
Indoor Fitness Space	other State Universities	Enrollment	Space (SF)	students
	University of Texas Austin	51,832	36,000	694
	University of Florida	55,862	35,000	626
	Florida State University	46,733	28,000	599
	The Ohio State University	68,100	39,500	580
	University of South Florida	50,755	28,000	551
	Texas A&M	64,126	32,000	499
	LICE	68 558	32 545	474

## 4.1 Recreation & Open Space – Current & Future Facilities

Analysis – Recommendations for Improvement



UCF continually investigates the problems, constraints and opportunities to provide recreation and open space facilities which meet the future demand of the University.

For locations of Recreation facilities on-campus facilities, see Figure 4.0-14 Current Recreation Facilities Inventory Map.

As indicated by the Level of Service (LOS) standards, UCF currently has a lower existing level of service for recreation space than the NIRSA standards or other universities with similar enrollment.

In addition to the LOS standard from NIRSA, it is important to consider current NIRSA Facilities and Construction Reports such as *"Facility Construction & Renovation at NIRSA Member*"

<sup>4</sup> Source: <u>UCF IKM Enrollment</u>

*Institutions, 2016-2020,*" and other publications such as "*Physical Space on Campus*" from the ACUI 2012 Summit on Building Community, and *Recreation Planning Principles*, outlined by the NIRSA and Society for College and University Planning (SCUP) through a joint effort, that 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; and
- Foster a safe, secure, and accessible environment

The UCF Recreation and Wellness Center (RWC) comprises many programs, such as Intramural Sports, Sport Clubs, Outdoor Adventure, Fitness, and Aquatics. The RWC is open to all students; paid memberships are available for non-students. The RWC offers a vast array of state-of-the-art facilities, including:

- Recreation and Wellness Center the main facility (156,111 gross square feet), includes:
  - Track (1/8 mile)
  - Multipurpose Courts (6)
  - Racquetball Courts (4)
  - o Fitness Space
  - Custom Climbing Wall
- Outdoor Adventure Center, includes:
  - o Challenge Course
  - Equipment Rentals
  - Climbing Tower
  - Lake Claire Recreation Area
  - o Adventure Trips
- Leisure Pool (186,000 gallon)
- Lap Pool (9-lane regulation)
- Tennis Courts (9)
- Disc Golf Course (nine-hole)
- Sand Volleyball Courts (4) 5
- Outdoor basketball courts (3)
- Knights Plaza satellite fitness facility (8,700 square feet)
- RWC Park (Sport fields complex that includes multipurpose sport fields, softball fields, and the Challenge Course)

These facilities support the recreational needs of the UCF community. Additional enhancements and expansion at the Recreation and Wellness Center, RWC Park, and Lake Claire would help to offset the space deficit and bring recreation space

### SUMMARY



<sup>&</sup>lt;sup>5</sup> The sand volleyball courts (4) will eventually be moved to RWC Park, to provide space for one more tennis court, and because the sand is a maintenance and safety issue for the Leisure Pool and tennis courts.

closer to the level that is desirable based on national standards, usage demands, and comparisons to other universities.

Past expansion of the RWC and the addition of the Knights Plaza facility in 2013 have greatly improved the indoor facility inventory. Existing recreation facilities still remain insufficient to support the current and future needs of UCF and its student enrollment.

Overall, UCF is currently below the national guidelines and standards for **Activity-Based** recreation facilities. The vision of the UCF Recreation and Wellness center strives to both set and stay ahead of national standards for university recreation programs and facilities. 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 and the protection and expansion of natural areas.

Based on observation, student satisfaction surveys, and data published by NIRSA, the following specific list of problems, constraints, and opportunities were identified. They are not in priority order.

The Mary Jo and William E. Davis Recreation Area at Lake Claire has become a thriving natural recreation facility on campus, with a highly visible location on the northwest corner of campus near Greek Park.

The facility was redeveloped in 2012 to include new picnic pavilions (3), new sand volleyball courts (2), and a lighted playing field. Exercise stations and an ADA accessible dock and restroom have also been added to enhance the facility.

- Boathouse storage space at the Lake Claire Recreation Area is currently not adequate to store the necessary equipment. A total renovation of the boathouse is needed to create a boathouse that is both fitting to the area's aesthetics and allows its staff to serve students more efficiently as well as to assure proper gear and boat storage techniques; and create more secure storage space. A master plan for the facility was created in 2010.
- Currently, the parking lot at the Lake Claire Recreation Area is composed of dirt and gravel, bordered by movable blocks of wood. There is a need to renovate this lot to create an efficient and defined parking system. UCF will consider porous paving options, to offset an increase to impervious surfaces.
- There are a few under-maintained trails through the woods behind Lake Claire. To keep up with the progress and aesthetics of the trails created by the Arboretum, these trails

### Improvements to Recreation Facilities

Lake Claire Recreation Area



on-campus trails.

The Recreation and

Wellness Center (RWC)

should be extended, maintained, and connected with current

The Recreation and Wellness Center helps to serve the recreation

needs of the UCF community. The 85,000 square foot facility was

	opened in 2002 and expanded in 2010 to add 65,000 square feet, including more fitness area, multipurpose courts, racquetball courts, a new lap pool, and an outdoor adventure center. These additions have been successful, but still leave UCF with inadequate square footage compared to peer institutions and national standards.
	• The intent is for the current site, south and west of the existing facility, to be built out to serve the needs of the UCF community. A master plan exercise in 2007 indicates that the site could be expanded to over 200,000 square feet and include additional court space, multipurpose rooms, functional fitness space, and an expansion to the outdoor adventure center.
	The RWC @ Ferrell Commons facility was renovated in 2015 to provide a dedicated space for Sport Club martial arts clubs to practice, however it decreased the overall space available for Sport Clubs, as the facility was divided to accommodate the Lead Scholars Academy. For operational purposes, dedicated indoor Sport Club space should be included in the expansion of the Recreation and Wellness Center.
RWC Outdoor Facilities	
RWC Park	The RWC Park encompasses all of the outdoor playing field facilities in a park-like environment on the south side of campus. The Park was master planned to include state-of-the-art artificial turf fields and support facilities.
	• The first phase of the redevelopment of the park was completed in 2006, and added three (3) lighted artificial turf fields to the existing softball fields, sport club fields, and multipurpose fields.
	• Phase II construction was completed in 2009, and added three (3) additional lighted turf fields, a support and restroom facility (building 320), and a maintenance facility (building 321).
Other RWC Outdoor Facilities	Additional outdoor facilities include a 9-court tennis complex, 3 outdoor basketball courts, and a 9-hole disc golf course.
	-

Softball Fields	Future phases of RWC Park must address the shortfall of softball fields, the addition of lighted fields dedicated to Sport Clubs, and a support facility for safety, security, and access.
	<ul> <li>UCF currently has a critical shortage of softball fields. UCF currently has one (1) softball field, and NIRSA standards call for 9.9 (0.15 fields per 1000 students). As recently as 2000 UCF had three (3) softball fields, but expansion of University Housing decreased the quantity. There is only enough space to add one (1) softball field within the current RWC park footprint, due to the size parcel required. Additional space for softball fields should be identified elsewhere on campus or adjacent to campus.</li> </ul>
	<ul> <li>Recreational fields in the south area of campus need to be expanded to increase student capacity and provide opportunities for field rotation to avoid compaction and abuse. During expansion, a resulting temporary reduction in service is a concern, because of the critical need for recreational space on a residential campus.</li> <li>Calculations used to assess facility sufficiency take into consideration a number of factors, including variety of fields (sport clubs, intramural sports, or open recreation), frequency of use, student enrollment, and unique layout that diminishes the flexibility for use (i.e. softball field).</li> </ul>
	<ul> <li>RWC Park needs a Support Facility to provide additional security and a severe weather shelter, along with restrooms and indoor programming space.</li> </ul>
	<ul> <li>The RWC Park area needs additional parking. This can be accommodated by expanding the current parking lot. It is recommended that UCF assess the access roads and parking near the RWC Park, as these are currently ineffective.</li> </ul>
Challenge Course	The RWC Park also includes the Challenge Course. The Challenge Course contains high and low ropes course elements fo team development and leadership training.
	<ul> <li>Future phases of the Challenge Course should include additional high and low elements to provide new program resources and accommodate larger groups.</li> </ul>
	• The open space around the Challenge Course must also be preserved, as the facility is intended to be secluded within a natural area and any encroachment on its buffer would lessen

its effectiveness.

Tennis Courts	UCF has an inadequate quantity of tennis courts. The current tennis complex, west of Libra Garage, has nine (9) courts that are shared by the entire campus, including UCF Athletics. Additional courts should be provided to serve the UCF student body.	
	<ul> <li>NIRSA standards indicate 0.41 Tennis Courts per 1,000 students, which would indicate that UCF needs 27 courts (deficit of 18 courts).</li> </ul>	
	<ul> <li>The current tennis complex can accommodate one additional court, for a total of ten (10), after the relocation of the four sand volleyball courts to RWC Park.</li> </ul>	
	<ul> <li>UCF Athletics is considering adding intercollegiate tennis courts near the Softball Complex. This will relieve a great deal of strain on the existing tennis complex.</li> </ul>	

# 4.2 Intercollegiate Athletics – Current & Future Facilities

NARRATIVE	UCF Athletics is committed to making the Kenneth G. Dixon Athletics Village the best of its kind in collegiate athletics.	
Planning Objective	On a continual basis, review and assess athletics facility needs and prioritize future construction, enhancements, and expansion projects.	
Priorities	• Student-athlete competition, training, nutrition, academic, and personal/career development	
	Fan experience	
	Revenue development	
	Administration and support	
CURRENT FACILITIES	MAIN CAMPUS FACILITIES	
	For locations of UCFAA on-campus facilities, see Figure 4.0-13 UCFAA Current Facilities Inventory Map.	
	A. Addition Financial Arena	
	B. The Venue	
	C. John Euliano Park	
	D. Track and Soccer Complex	
	E. Soccer Practice Field	
	F. Nicholson Field House	
	G. Wayne Densch Sports Center	
	H. Spectrum Stadium	
	I. Wayne Densch Center for Student-Athlete Leadership	
	J. Garvy Center for Student Athlete Nutrition	

- K. Football Practice Fields
- L. Softball Complex

The Roth Athletics Center is under construction; and is shown on Figure 4.0-14 as M.

**OFF-CAMPUS FACILITIES** 

- UCF Evans Family Rowing Center (University-managed)
- Intercollegiate Golf Training Center at Twin Rivers GC, Oviedo
- USTA National Campus Intercollegiate Tennis Center, Lake Nona

### FUTURE FACILITIES



Although major expansion is not anticipated during this planning period, UCFAA will begin to complete their portion of this Campus Master Plan, as funding becomes available.

Consistent with POLICY 1.1.2 of this element, Intercollegiate Athletics Facilities, projected for the 10-year planning timeframe, are listed on the Schedule of Capital Improvements (SCP) included in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.

Those projects include:

- Spectrum Stadium Steel Re-coating
- Basketball Excellence Center
- Soccer Stadium & Parking
- Tennis Complex
- McNamara Cove (aka Recovery Cove)

## 4.0 ATHLETICS, RECREATION & OPEN SPACE

MAPS

Figure 4.0-11 Athletics, Recreation & Open Space Map





- Athletics, Recreation and Open Space
  - Proposed Little Econ Greenway Trail
    - Uplands



## Figure 4.0-12 **Recreation and** Wellness Facilities **Inventory Map**

## **RECREATION FACILITIES (South Campus)**

- A. Recreation and Wellness Center
- B. Lap Pool
- C. Leisure Pool
- D. Tennis Courts (9)
- E. Sand Volleyball Courts (4)
- F. Outdoor basketball courts (3)
- G. RWC Park Multipurpose Sport Fields, Softball Field
- H. Outdoor Adventure Center Challenge Course, Disc Golf Course





Not shown



**RECREATION FACILITIES (North Campus)** 

• Lake Claire Recreation Center • Knights Plaza fitness facility

Figure 4.0-13 UCFAA Current Facilities Inventory Map





### MAIN CAMPUS FACILITIES

- A. Addition Financial Arena
- B. The Venue
- C. John Euliano Park
- D. Soccer Practice Field
- E. Track and Soccer Complex
- F. Nicholson Field House
- G. Wayne Densch Sports Center
- H. Football Practice Fields
- I. Garvy Center for Student-Athlete Nutrition
- J. Spectrum Stadium
- K. Wayne Densch Center for Student-Athlete Leadership
- L. Softball Complex
- M. Roth Athletics Center (under construction 2019)
- N. MacNamara Cove (in design 2019)

## **OFF-CAMPUS FACILITIES** (not shown)

- UCF Evans Family Rowing Center (UCF-Managed)
- Intercollegiate Golf Training Center at Twin Rivers GC, Oviedo
- USTA National Campus Intercollegiate Tennis Center, Lake Nona

### Figure 4.0-14 The Arboretum Nature Trails Map

Just east of the Arboretum, where Scorpius Street intersects Gemini Blvd., the Timothy R. Newman nature pavilion is a great place to gather with a group and grill some food (requires a reservation) ;and take a hike through Scrubby and Mesic Flatwoods. These flatwoods are dominated by an open canopy of pine sand a dense, ground layer of shrubs and grasses.





## Figure 4.0-15 The Lake Claire Nature Trails Map

In the northwest corner of campus, a loop around Lake Claire will take you through communities of scrub and baygall. Baygall is a low-lying tract of boggy or spongy land.





## Figure 4.0-16 The **East Parcel Nature Trails Map**

From the Arboretum trails, you can access the East Parcel trail system which is UCF's most remote area.





## 4.0 ATHLETICS, RECREATION & OPEN SPACE Figure 4.0-16

**5.0 GENERAL INFRASTRUCTURE & UTILITIES** 

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### UNIVERSITY OF CENTRAL FLORIDA

## **5.0 GENERAL INFRASTRUCTURE & UTILITIES**

2020-30 CAMPUS MASTER PLAN UPDATE

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## INTRODUCTION

NARRATIVE	The state land planning agency shall help communities find creative solutions to fostering vibrant, healthy communities, while protecting the functions of important state resources and facilities, in accordance with Florida's Growth Policy [Florida Statutes Title XI, Chapter 163, Part II – Growth Policy; County and Municipal Planning; Land Development Regulation (ss. 163.2511-163.3253)].
	These plans are also intended to ensure that growth does not negatively impact the environment, and that infrastructure and University-provided utility services are not overwhelmed by unplanned development.
	As such, future development at UCF shall be based on the provisions that optimizes the use of UCF's existing utility infrastructure and utility generation assets. Furthermore, conserving UCF's precious water resources through on-going collaborative and integrated planning will avoid technical and financial risks, and capacity constraints associated with overburdening the University's generation, distribution, and transmission systems.
	Campus development shall adhere to higher-density development best practices, while meeting, or exceeding the University's prescriptive green-building requirements to effectively minimize heat gain and energy consumption, and reduce dependence on the region's potable water. These practices will inevitably reduce utility demands and the need for additional infrastructure and capacity.
	UCF shall continue to follow ASHRAE high-performance building standards and apply engineering rigor to all design considerations for energy and water efficiency initiatives implemented in UCF's campus facilities. Therefore, all building systems shall be treated as "utility system assets" in all new expansion and renovation projects. This will result in more effective and efficient use of the University resources to reduce regional resource impacts, campus operational expenses, and UCF's overall environmental impact.
RELATED ELEMENTS	See 9.0 CONSERVATION for utility use reduction strategies (such as energy and water) and for information on the advanced microgrid technology.
	See 9.0 CONSERVATION for Conservation Easements.
	See 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION for projected capital improvements during the planning timeframe.
	See 12.0 FACILITIES MAINTENANCE for indoor utility service and maintenance objectives.

## STATUTE & REGULATION



## 5.0 GENERAL INFRASTRUCTURE & UTILITIES INTRODUCTION

5.0 GENERAL INFRASTRUCTURE & UTILITIES is a combined element. Combining related elements is permitted under BOG 21.202(1)(b); which states that "the campus master plan shall contain an explanation of such combinations." See 1.0 INTRODUCTION for the explanations of combined elements.

• The General Infrastructure Element is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.

BOG 21.207 states the purpose of the element as follows:

"This element ensures the provision of adequate capacity for stormwater management, potable water, sanitary sewer and treatment, and solid waste facilities required to meet the future needs of the university. The General Infrastructure Element shall consist of a Stormwater Management Sub-Element, a Sanitary Sewer Sub-Element, a Potable Water Sub-Element, and a Solid Waste Sub-Element."

• UTILITIES is an optional element. Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.

### CONCURRENCY

Concurrency Management Systems, as defined in Florida Statute 163.3180, require systems for monitoring and ensuring adherence to the adopted level-of-service standards, including the schedule of capital improvements and the availability of public facility capacity. For the purpose of concurrency under F.S. 163.3180, public facilities (utilities) and services include sanitary sewer and potable water.

UCF has elected to make additional public facilities and services subject to the concurrency management system under Florida Statue that include chilled water, primary electric power, natural gas, and stormwater.

## **GENERAL INFRASTRUCTURE Goals, Objectives, & Policies**

## 5.0 Utility Infrastructure Overview

NARRATIVE	The cost of utilities, and associated infrastructure to provide utility services, is significant and may even exceed the cost of the buildings themselves over their useful life. <sup>1</sup> The objective of utility system and infrastructure master planning is to guide decision-making to ensure that utility cost savings are realized over the life of buildings and systems.
	According to the <i>UCF Collective Impact Five-Year Institutionalization Plan</i> <sup>2</sup> , UCF must align its facilities planning, infrastructure development, and project prioritization to advance Collective Impact, per the UCF Collective Impact Strategic Plan <sup>3</sup> . This Plan launched a process to set UCF's trajectory for the next 20 years to make a greater impact on lives and livelihoods at UCF, throughout the region, and beyond.
GOALS, OBJECTIVES, & POLICIES	

GOAL 1: Develop and manage UCF's utility production, distribution infrastructure, and associated capital assets to support campus needs.

OBJECTIVE 1.1: Ensure that there is adequate and reserve capacity and infrastructure for distribution, transmission, and generation to accommodate growth.	POLICY 1.1.1: Expansion of UCF's Utility Infrastructure
	Utility infrastructure costs shall be considered as a component of a new building and renovation project budgets.
	POLICY 1.1.2: Distribution, Transmission, and Generation Capacity Factor
	No development may be permitted if utility generation, infrastructure, and/or capacity is not available concurrent with the impacts of the development.
	Fiscal obligations for projects that increase campus capacity of infrastructure will be addressed in the "Utility Master Service-Level Disclosure." <sup>4</sup>
	POLICY 1.1.3: Density Development
	The University shall transition towards higher-density new construction and renovation practices, seeking to maximize existing space, reduce energy-intensive mixed-use space, and implement alternative lower-carbon and resource-efficient expansion to reduce the capital required to adequately expand utility infrastructure University generation capacity.

5.0	GENERAL INFRASTRUCTURE & UTILITIES GOALS, OBJECTIVES, & POLICIES
	POLICY 1.1.4: Utility Infrastructure and Plant Capital Renewal Funding (CRF)
	The University shall identify funding for utility infrastructure and plant capital renewal, as ongoing capital renewal is necessary to provide continued reliable utility distribution services to the campus.
	POLICY 1.1.5: Utility Master Planning and Building Renewal Plans Should Refrain from Piecemeal or Response-based Projects
	To reduce reconfiguration of existing utility distribution infrastructure in buildings, the University shall limit energy-intensive mixed-use spaces.
	POLICY 1.1.6: First Right of Refusal to Provide University Utility Services
	To reduce the impact on greenhouse gas emissions, building operations, and utility costs, Utilities and Energy Services (UES) <sup>5</sup> shall have first-right of refusal for utility services where production and infrastructure capacity is available, and to all categories of end users and public-private-partnerships. Commodities include natural gas, electric, water, wastewater, chilled water, and heating-hot water.
	POLICY 1.1.7: Infrastructure Compatibility
	UES is the single point of contact and liaison for all utility distribution design, interconnection, disconnection, expansion, and construction of utility facilities.
OBJECTIVE 1.2: Monitor and inventory infrastructure assets using smart technologies.	POLICY 1.2.1: The University will use GIS mapping to track, maintain, and protect its infrastructure distribution systems.
	POLICY 1.2.2: The University will implement and maintain smart infrastructure technologies to monitor reliability and efficiency of infrastructure distribution and production systems.

### 5.1 Stormwater Management Sub-Element

### NARRATIVE

The University's stormwater system is located in the St. Johns River basin and is regulated by the St. Johns River Water Management District (SJRWMD). As defined by SJRWMD, stormwater is rainwater that runs off of hard surfaces into the nearest body of water, both natural lakes and/or man-made retention ponds. A stormwater system is a tool for managing that runoff.

As UCF continues to grow, stormwater management becomes exponentially crucial as new development increases the risk of disruption to natural hydrological systems and watersheds.

## GOALS, OBJECTIVES, & POLICIES

GOAL 1: Manage stormwater by replicating natural site hydrology to protect campus populations and facilities, and remain sensitive to the environment.		
OBJECTIVE 1.1: Pursue low-impact development practices to prevent increases to stormwater runoff.	POLICY 1.1.1: Stormwater management retention and detention features shall be incorporated into the design of parks, trails, commons and open spaces, and building roof tops where such features do not detract from the recreational or aesthetic value of a site.	
	POLICY 1.1.2: Native vegetation and/or xeriscaping shall be employed, where feasible, to reduce peak runoff downstream through infiltration and storage.	
	POLICY 1.1.3: Techniques such as infiltration, storage and reuse, bio retention, open-grid pavement, and the reduction of impervious areas shall be used in attempt to reduce runoff.	
	POLICY 1.1.4: Any future development which increases the amount of impervious surface shall report the change in total volume of runoff (in cubic feet) relative to the existing site performance of stormwater runoff, assuming the 95 <sup>th</sup> percentile of rainfall events.	
	POLICY 1.1.5: The University shall investigate funding mechanisms for stormwater infrastructure and environmental stewardship.	
OBJECTIVE 1.2: Use Green Industry Best Management Practices (BMPs) to minimize University-generated stormwater pollutants.	POLICY 1.2.1: The University shall use slow release fertilizers and/or carefully-managed and timed fertilizer applications to ensure maximum root uptake and minimal surface water runoff or leaching into groundwater.	
	POLICY 1.2.2: The University shall perform routine maintenance on its motor vehicle fleet to prevent oil, grease, and other fluids from leaking onto impervious surfaces, where they might be conveyed to surface and ground waters by runoff. The University shall regularly collect and properly dispose of yard debris.	
	POLICY 1.2.3: The University shall avoid the use of broad-spectrum pesticides, using the least-toxic and minimal applications, aimed at targeted species, when possible.	
	POLICY 1.2.4: The University shall coordinate pesticide application with irrigation schedules to reduce runoff and leaching into groundwater.	
	POLICY 1.2.5: The University shall incorporate features into the design of fertilizer and pesticide storage, mixing, and loading areas that are designed to prevent/minimize spillage.	
OBJECTIVE 1.3: Oversee UCF's stormwater management.	POLICY 1.3.1: LNR shall maintain all rainwater management facilities, perform monthly inspections, and resolve any issues within three months of identification.	

POLICY 1.3.2: UES shall perform all subsurface maintenance pertaining to stormwater management including, but not limited to, inlets, manholes, and pipes connecting stormwater movement and drainage.

POLICY 1.3.3: Landscape and Natural Resources (LNR) shall perform all above-ground maintenance pertaining to stormwater, including but not limited to areas of erosion, retention and detention ponds, storm inlets, and environmental permitting.

### **5.2 Sanitary Sewer Sub-Element**

NARRATIVE	The University operates and maintains its own sanitary sewer collection facilities <sup>6</sup> and transportation network comprising basins, lift stations, force mains, gravity lines, pump stations, and appurtenant equipment to collect and transport effluent to the Iron Bridge Water Pollution Control Facility (Iron Bridge), a regional wastewater treatment plant in Seminole County.
GOALS, OBJECTIVES, & POLICIES	
GOAL 1: Ensure that the sanitary sewer system adequately serves current and future campus needs.	

the sanitary sewer system and upgrade its mechanical and electrical	sewer system improvements to eliminate system deficiencies, maintain and improve system characteristics, and expand the system to accommodate demand from proposed growth.
components.	POLICY 1.1.2. The wastewater pumping stations shall employ backup systems in case of power or pump failures.
	POLICY 1.1.3. Analyze future development to determine if current wastewater capacity is available. If capacity is not available, funding will be provided so that additional capacity can be purchased from Seminole County in advance of need.

## 5.3 Potable Water Sub-Element

NARRATIVE	When UCF was first constructed in the 1960s, no municipal water services or infrastructure were available in the area. Consequently, the University had to construct its own water treatment facilities, distribution infrastructure, and ground wells to meet its potable water needs.
	While significant renovations have occurred as a result of more stringent drinking water standards mandated by Florida's Department of Environmental Protection (FDEP), UCF's elevated

	and ground water storage tanks are original, including much of the buried ductile iron distribution pipe on campus.
GOALS, OBJECTIVES, & POLICIES	
GOAL 1: Provide quality	potable water to the campus with reliable backup sources.
OBJECTIVE 1.1: Ensure that adequate potable water supply and distribution piping is available for new and renovated facilities.	POLICY 1.1.1: The University shall rely upon land uses, the Campus Master Plan (CMP), and Building Programs to address potable water capacity as limited by the SJRWMD. The concurrency management system establishes the statutory mechanism that ensures campus facilities and services needed to support development are available in relation to the impacts of such development.
	POLICY 1.1.2: The campus water system shall have redundant supply and distribution networks. Supply redundancy can be achieved by multiple water plant sources, e.g., Orange County and the Central Florida Research Park, and by multiple raw water wells.
OBJECTIVE 1.2: Maintain the current quality and quantity of raw water available in the campus' potable water well field.	POLICY 1.2.1: The University shall perform annual reviews of major system components of the water supply and distribution system. Review shall include wells, well pumps, water treatment plant components, storage tanks, distribution pumps, backup generators, distribution piping and valves, etc. The University shall identify needed improvements on the Schedule of Capital Projects (SCP), and complete improvements as funds become available.
OBJECTIVE 1.3: Conserve potable water for human health and advancing research.	POLICY 1.3.1: Regardless of first cost, all new construction and renovations that increase water use shall adhere to the mandatory provisions in the latest <i>high-performance building standard</i> <sup>7</sup> , and follow the appropriate compliance paths to ensure campus water efficiency and conservation measures are implemented.
	POLICY 1.3.2: The University shall first use all available lower-quality sources of water, including reclaimed water, surface water, and stormwater, before using higher-quality water sources, <sup>8</sup> when possible, pursuant to SJRWMD rules and applicable state laws. <sup>9</sup>

## 5.4 Solid Waste Sub-Element

NARRATIVE	UCF Recycling has made tremendous strides, diverting more than 30% of solid waste from entering landfills, compared to baseline data of a 5% recycling rate in 2006. UCF implements a single-stream recycling program.
GOALS, OBJECTIVES, & POLICIES	
GOAL 1. Plan future cam	nus development to ensure that solid waste collection and

GOAL 1: Plan future campus development to ensure that solid waste collection and disposal, and recycling efforts adequately serve campus needs.

OBJECTIVE 1.1: Ensure that future development is based on a finding of adequate solid waste collection and disposal capacity to accommodate future demand.	<ul> <li>POLICY 1.1.1: The University shall continue to assume one or more of the following level-of-service standards:</li> <li>Multiple weekly waste collections</li> <li>Approximately 1 pound per day per person of landfill</li> <li>Approximately 3 pounds per day per person of recyclables</li> <li>POLICY 1.1.2: Future increases in campus waste generation shall be approved only if existing solid waste disposal capacity is already on-line to accommodate the increased need, or additional capacity will be funded and on-line at the forecasted time of need.</li> </ul>
	POLICY 1.1.3: As necessary and appropriate, UCF shall continue to participate in the regional solid waste management and waste reduction strategies undertaken by Orange County.
	POLICY 1.1.4: The University shall continue to use commercial vendors to collect and transfer solid waste to area disposal sites.
	POLICY 1.1.5: UCF Recycling shall identify the location of waste and recycling areas, dumpster sizes, and pick-up schedules for new construction.

### Goal 2: UCF will continue to develop a robust recycling program

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# OBJECTIVE 2.1: Promote recycling through education and outreach.



OBJECTIVE 2.2: The University shall strive to reach the statewide recycling goal of 75%<sup>10</sup> to reduce the volume of solid waste entering the landfill. POLICY 2.1.1 The University shall promote ongoing education, awareness, and student involvement to establish practices that align with UCF's waste diversion and recycling initiatives, and the implementation of large-scale recycling programs.

POLICY 2.1.2: UCF Recycling shall continue to establish relationships with student working groups and organizations to brainstorm ideas, gather data, and create recycling initiatives.

POLICY 2.1.3: UCF Recycling shall continue to actively participate on UCF committees and engage with community groups to increase awareness and increase the campus recycling rate.

POLICY 2.2.1: UCF shall continue to promote recycling by strategically placing receptacles at campus facilities (inside/outside).

POLICY 2.2.2: UCF Recycling shall continue to work with departments to properly recycle or repurpose materials that would otherwise be discarded; and promote responsible purchasing plans that minimize waste generation and reduce chemical waste.

POLICY 2.2.3: UCF shall construct a Recycling Center (as funding becomes available) to centralize recycling efforts, house compactors and equipment, and increase the efficiency of our recycling collection process.

POLICY 2.2.4: UCF will continue to work closely with contracted haulers and local Recycling Centers to promote remanufacturing and the use of recyclables as a source of raw material.

### **UTILITIES ELEMENT Goals, Objectives, & Policies**

### **5.5 Chilled Water Production Sub-Element**

NARRATIVE	Chilled water for campus cooling is produced at centralized district energy plants, rather than being produced on site at individual campus buildings. Chilled water produced in the district cooling system is distributed through over 15-miles of underground pipes to cool student residence halls, academic, research, administrative, and athletic facilities. UCF's district plants are strategically placed to efficiently service the needs of core campus buildings and reduce building energy consumption. The remaining campus buildings are currently supported by less-efficient, stand-alone chilled water systems, direct expansion HVAC units, and ground source heat pumps.
GOALS, OBJECTIVES, & POLICIES	
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GOAL 1: Promote district cooling with energy and economic efficiency where appropriate within the district energy loop.

OBJECTIVE 1.1. Invest in energy technologies that facilitate economies of scale, otherwise infeasible on a single-building basis. POLICY 1.1.1: All new construction and renovation projects shall connect to UCF's thermal district energy systems based on the results of a life cycle cost analysis and where geographically feasible.

## **5.6 Electrical Power and Other Fuel Sub-Element**

NARRATIVE	Primary power to the University is provided by Duke Energy Florida.
	The University also produces cost-effective electricity to offset purchased electricity.
GOALS, OBJECTIVES, AND POLICIES	

GOAL 1: Provide cost-effective, reliable, and resilient electric utilities.

<b>OBJECTIVE 1.1. Maintain</b>	POLICY 1.1.1: The University will make every effort to collaborate
and extend reliability and	with the utility service provider to configure the campus electric grid
resiliency of the University	in ways to maintain and extend its reliability and resiliency.
electric grid.	
# 5.0 GENERAL INFRASTRUCTURE & UTILITIES GOALS, OBJECTIVES, & POLICIES

	POLICY 1.1.2: Investigate opportunities to implement distributed generation and smart grid technologies to provide reliable and resilient electrical services to campus buildings.
OBJECTIVE 1.2. Continue to evaluate and implement distributed technologies that provide the lowest cost of energy and achieve carbon targets.	POLICY 1.2.1: Reduce purchased energy cost through conservation, demand side management, fuel-switching and renewable energy initiatives.
	POLICY 1.2.2: The University shall evaluate lower-carbon distributed generation technologies with higher efficiencies with intent to reduce energy costs, improve infrastructure efficiency, and provide portfolio diversity.

## 5.7 Natural Gas Sub-Element

NARRATIVENatural gas provides heating for building domestic water and HVAC<br/>systems, as well as fuel for electricity production. The University<br/>owns and maintains the natural gas infrastructure, and purchases<br/>wholesale natural gas on the open market.GOALS, OBJECTIVES,<br/>& POLICIESOutput<br/>Description

GOAL 1: Provide the campus with an eco-friendly fuel to reduce utility expenditure and achieve greater heating efficiencies.

OBJECTIVE 1.1. Provide a natural gas system to reliably serve the University. POLICY 1.1.1: Continue to reduce purchased natural gas costs by leveraging competition among natural gas marketers and suppliers through contract negotiations on the open market.

POLICY 1.1.2: The University shall use existing and developing technologies to provide additional safety and reliability for the campus systems.

## **5.8 Telecommunications Systems Sub-Element**

### NARRATIVE



UCF IT is an operating unit within the Information Technologies and Resources (IT&R) Division at UCF. The mission of UCF IT is to support our students, faculty, and staff in achieving their teaching, learning, research and service objectives by:

Providing innovative technology solutions and services.

Providing responsive and reliable IT infrastructure and support.

Continually assessing and improving our service offerings

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES GOALS, OBJECTIVES, & POLICIES

	As the main provider of information technology resources, UCF IT is responsible for providing all telecommunications services (voice and data), enterprise administrative systems, and support to the UCF community including: Campus telephone system Campus local area network Campus wide area network Campus wireless network Cable TV Computer labs Computer labs Computer Store Web hosting services Email Document imaging services Enterprise administrative data processing services Online instruction support PeopleSoft Enterprise Resource Planning (ERP) development Identity management/ domain services Research computing Data Center operations and system administration All telecommunications infrastructure systems shall comply with UCF Policies Section 4 – Technology and Communications, 4- 001.1 through 4-017. Link: http://policies.ucf.edu/
GOALS, OBJECTIVES, & POLICIES	
GOAL 1: Provide an on-caserves future campus po	ampus telecommunications system, which adequately pulation needs.
OBJECTIVE 1.1: Through ongoing inspection and coordination efforts with service providers, UCF shall continue to identify and resolve deficiencies in telecommunications systems.	<ul> <li>POLICY 1.1.1: The University shall continue to identify, upgrade, repair, and/or replace existing Encased Duct Banks and telecommunications copper, fiber, and Coaxial cables as additional facilities are added or renovated.</li> <li>POLICY 1.1.2: The timing and phasing requirements and priorities for the provision of future telecommunication system improvements shall be driven by element 10.0 Capital Improvements &amp; Implementation.</li> </ul>
OBJECTIVE 1.2: Ensure the provision of adequate	POLICY 1.2.1: UCF IT shall be responsible for the continued coordination of telecommunications infrastructure and services with

off-site vendors and user groups.

telecommunications

of improvements and

service providers.

facility services through

continued internal funding

coordination with external

To the extent feasible, it shall be the responsibility of UCF IT and the Facilities Planning and Construction (FPC) department to determine jointly that service capacity is available to serve expanded needs in order to inform the University of any need for

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES GOALS, OBJECTIVES, & POLICIES

UCF funding for maintenance, expansion, or replacement of such systems.

POLICY 1.2.2: The University shall establish the following overall implementation priorities:

(1) continued servicing of the existing built areas of campus,

(2) maintenance of the UCF-owned Maintenance Holes 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 1.2.3: The University shall rely upon the land uses identified in the 2020-30 CMP, and Capital Project projections identified in the SCP and the Capital Improvements Plan (CIP), to coordinate a staged expansion of telecommunications systems to ensure that an adequate system is on-line at the time of projected increased demand.

This process shall be the shared responsibility of UCF IT, FPC, and the Office of the Vice President for Administration & Finance.

## **GENERAL INFRASTRUCTURE Data & Analysis**

## 5.0 Utility Infrastructure Overview

#### NARRATIVE

To reduce utility distribution infrastructure re-work on existing buildings, the University shall limit energy-intensive mixed-use space, thus focusing on a transformation that delivers financial gains through aggregating energy and water efficiency beyond the sum of the project's space. This may require re-evaluating existing space, performing energy and water audits, investing in technology that maximizes space utilization, taking full advantage of distance learning initiatives to reduce on-campus headcounts, and amending infrastructure capital improvement beyond the minimum statutory requirements, to achieve economies of scale.

UES is the single point of contact and liaison for all campus utility distribution design, interconnection, disconnection, expansion, and construction of utility facilities. The University has the authority to prohibit or restrict external users from providing utility services within the campus based on regulations, adequate and reserve, flow, isolation, pressure, means, methods, size, make, materials, and available capacity. Utilities and interconnection to campus distribution or collection streams related to new building construction, renovations, remodels, additions, and alternations, whether performed by internal or external entities, must be reviewed and approved by the UES in writing prior to new construction, or renovation project charter approval.

In 2015, UES launched a 2D-mapping effort to better manage its assets and gain additional intelligence regarding the utility systems, and adopted pipe inventory and replacement planning and programming.

Portions of UCF's central core infrastructure and facilities are nearing 50 years old.<sup>11</sup> Conditional needs warrant for dedicated cost centers phased in over time to prevent a continuing increase in backlog of infrastructure deferred maintenance.<sup>12</sup> Funding for plant renewal (excluding considerations for non-building infrastructure needs) should be earmarked at 1.5% to 2.0% of the total plant replacement costs.<sup>13</sup> Capital Renewal Funding (CRF) is needed to keep the generation assets in good condition for its present use, based on facility life cycles. Plant adaptation funding (building code and standard compliance as well as changing programmatic requirements) should be planned at 1% to 1.5% of the total plant replacement cost.<sup>14</sup>

DATA & ANALYSIS

## 5.1 Stormwater Management Sub-Element

NARRATIVE

Stormwater is of concern for two main issues: one related to the volume and timing of runoff water and the other related to potential contaminants and high nutrient content within the water. Stormwater management is intended for flood prevention and water drainage, but also for managing water through efficient infrastructure and low-impact strategies.

Campus stormwater is currently managed by LNR (above ground) and UES (subsurface); and retention ponds are cleaned annually. In the first quarter of 2019, the condition of the campus stormwater system was evaluated, issues were repaired, and pipes were flushed. The basin and pond locations are currently maintained within the ArcGIS system. In the unlikely event that additional stormwater ponds are needed, alternative methods of storage may be used, such as the exfiltration system under Garage H.

The Stormwater Master Plan and subsequent stormwater permit were generated in the early 1990s based on projected development within the campus. The University is divided into four major drainage basins and three sub-basins, as shown on Figure 5.1-2. Modifications have been made to the master permit as a result of changes in projected growth and development.

The University currently maintains a master stormwater permit (No. 20026) from the 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 the University and an independent consultant to ensure that permit capacities are not exceeded. The University maintains a current record in plan and table format of existing stormwater facilities and the current permitted impacts. These documents are available to review existing conditions and plan for future development. The drainage sub-basins and the available impervious area in each sub-basin that is still available for development is shown in Figure 5.1-4 and Figure 5.1-5. This information, along with plan data, is maintained by the University and updated as new development impacts the current data.

The stormwater system functions in accordance with the existing master permit. No adverse impacts have occurred as a result of discharges leaving University property through the stormwater management system.

The UCF stormwater system is in good condition, and its life expectancy is anticipated to exceed 25 years with routine maintenance.

The system's discharge points were selected to minimize impacts to adjacent natural resources. The University has made extensive efforts

## STORMWATER ANALYSIS



to reduce impacts to adjacent resources, including construction or stormwater ponds, maintaining and enhancing existing wetland systems by incorporating them into the master drainage system, restricting post development discharge to less than pre-1985 rates, and providing required water-quality treatment.

The University may need to modify the existing master permit to accommodate future expansion in several sub-basins, including the transfer of available impervious areas from one sub-basin to another. SJRWMD has been receptive to transfers, provided the final outfall conditions remain the same and additional treatment is provided in higher pollutant-loading areas.

The last major modification to the master stormwater permit was for the proposed widening of Libra Drive from two to four lanes; and created a new basin and pond 4-P and reconfigured the limits on Basins 4-L and 4-M. SJRWMD regulations require stormwater runoff to be treated prior to discharge into any natural wetland or water body, and to maintain a discharge rate less than pre-development condition.

The University has maintained a stormwater management facility which accommodates and exceeds SJRWMD criteria for preservation, except for Basin 4-F which is allowed to discharge directly into Wetland W-9. This condition was grandfathered by SJRWMD when the master stormwater system was developed and permitted in 1994. The stormwater system enhances the existing wetlands by providing natural hydration to each system to maintain its biological function. Because the biological function of the existing wetlands was considered in the original permitting design, the University should also consider habitat enhancements for wetlands and other transitional areas (buffers). Habitat enhancements may be part of an academic study program.

Stormwater Figures at the end of this element include: Figure 5.1-1 Stormwater Infrastructure Map Figure 5.1-2 Basins, Ponds, and Wetlands Map Figure 5.1-3 UCF 2012 Wetlands Map Figure 5.1-4 UCF 2014 Stormwater Master Plan Figure 5.1-5 Stormwater Master Plan Impervious Area Report

#### DATA & ANALYSIS

## **5.2 Sanitary Sewer Sub-Element**

#### NARRATIVE

Wastewater on campus is collected through various-sized gravity sewer mains that feed from student residence halls, concessions, athletics, academic and research facilities, and retail establishments as well as campus thermal and electrical generation facilities. The effluent is then discharged into underground pumping or lift stations through dedicated force mains on campus, ultimately discharging to the Seminole County/City of Orlando Iron Bridge Water Pollution Control Facility (Iron Bridge).

Twenty-three pump stations collect and lift the effluent out of the low points on campus. The effluent is then pumped through 16" force mains to a demarcation point located at the corner of McCulloch Road and S.R. 434 prior to being pumped to Iron Bridge. The University also has an extended wastewater collection service area,<sup>15</sup> collecting and transporting effluent outside of the main campus. Municipal wastewater services were not available in the early 1980's.<sup>16</sup> and as a result, the University provides sanitary sewer collection and transportation utility services to Central Florida Research Park (1200-acre campus), a subsidiary of the Orange County Research Development Authority (OCRDA) (1981),<sup>17</sup> and Siemens Quadrangle I (1983)<sup>18</sup>. The University has a bulk wholesale agreement (2018) with Seminole County to transfer an annual average limit of 1,100,000 gallons per day (GPD) of wastewater to Iron Bridge. UCF may also purchase up to an additional 700,000 GPD until December 31, 2040.19 The expansion of the existing utility distribution network is directly influenced by the location of new buildings on campus. Because the final locations of proposed buildings are unknown, a sanitary sewer hydraulic study and resulting performance model will be necessary.<sup>20</sup> This model will allow the campus and future design engineering teams to evaluate the hydraulic performance of the campus under a variety of load scenarios and peak conditions. **Existing Conditions** Conditional needs warrant for dedicated cost centers, phased in over time, to prevent a continuing increase in backlog of deferred maintenance for sanitary sewer infrastructure.<sup>21</sup> In the event of a power grid interruption or loss of power, sanitary spills could occur. carrying negative risk and consequences from both regulatory and environmental perspectives, as well as public perception.

Funding for lift station renewal (excluding considerations for nonbuilding infrastructure needs) should be earmarked at 1.5% to 2.0% of equipment replacement costs.<sup>22</sup> Capital Renewal Funding (CRF) is required to keep the infrastructure and lift station assets in good condition for its present use, based on facility life cycles.



Figure 5.2-1: Exclusive Bulk Wholesale Wastewater Capacity 2018

#### DATA & ANALYSIS

## 5.3 Potable Water Sub-Element

## NARRATIVE



Today, the University owns and operates a water treatment plant that can process up to 3.2 million GPD. The existing system consists of four wells that pump from the Floridan aquifer to elevated storage tanks (200,000 gal) and ground water storage tanks (100,000 gal), with pump capacity of 2,200 gallons per minute (GPM). The maximum annual ground water withdrawal from the Floridan aquifer system for commercial, industrial, and institutional use is limited to 256.5 million gallons per year (MGPY).<sup>23</sup> The University is approaching the limit of its existing Consumptive Use Permit (CUP permit No. 2-095-3202-11) based on historical and permitted peak capacities.

UCF needs a larger groundwater storage tank for furnished water, due to potable water capacity constraints and increasingly-stringent regulation changes in water quality parameters, as monitored by the Environmental Protection Agency (EPA).

The domestic water system serving UCF is monitored, controlled, and maintained by the University, and is held to the same rigorous testing standards as municipal water systems under Florida Department of Environmental Protection (FDEP) drinking water standards. Each year, the University provides a Consumer Confidence Report to inform the public about water quality and services delivered.

As regulation requirements continue to become more stringent, the University must prepare for additional advanced treatment to meet the unfunded mandates from the EPA. Over the last several years, the EPA has required UCF to monitor unregulated contaminants through the *Unregulated Contaminant Monitoring Rule*<sup>24</sup>. This necessitates additional capital investment into infrastructure, technology, and treatment systems to monitor and collect data and fulfill these requirements.

The University employs an Inter-local Emergency Interconnection Agreement with Orange County Utilities. A control valve (24") allows UCF to switch to Orange County potable water during emergencies.<sup>25</sup> Orange County water is then provided through the UCF-owned and -operated booster pumping station, to provide supplemental system pressure.

The University also purchases water from Orange County, with capacity charges paid for the use of up to 145,453 GPD. The Hercules and Nike residence halls are supplied by this municipal water service.<sup>26</sup>

Campus water pipe distribution extends over 21 miles of the Main Campus, serving the majority of the University along with Siemen's Quadrangle I, and as an emergency interconnection supply to the Central Florida Research Park.

Existing Conditions – Water Infrastructure

The expansion of the existing utility distribution network is directly influenced by the location of new buildings on campus. Because the final locations of proposed buildings are unknown, a potable water hydraulic study and resulting performance model are recommended prior to approval of any new construction.

The University should continue to rely upon land use density<sup>27</sup>, highperformance building programs as identified in the CMP, and ongoing implementation of Capital Plans and Programs to address the limited potable water capacity as constrained by SJRWMD. Strategic focus should adhere to the latest green building industry standards to treat water "efficiency first" with respect to conservation initiatives. UCF must holistically evaluate indoor, outdoor, and specialized water uses, while deploying advanced metering<sup>28</sup> to protect the Floridan Aquifer and the state's precious water resources.

Moreover, the SJRWMD has made an aggressive effort to conserve and protect the Floridan Aquifer since 2001. The University will have to continue to re-prioritize growth needs, and capital means to supply these future water demands,<sup>29</sup> as UCF and the Central Florida region have experienced rapid growth since the mid 2000's and the SJRWMD has reduced UCF's CUP capacity 37% since 2006.

Pursuant to the CUP, the SJRWMD authorizes UCF to use 256.5 MGPY of groundwater to be drawn from the Floridan Aquifer for commercial, industrial, and institutional use; 20.0 MGPY for aquaculture use; and 23.8 MGPY for back-up landscape irrigation use.<sup>30</sup>



Potable water usage in buildings constitutes a large portion of freshwater consumption at the University. As campus growth continues to increase, existing campus buildings will require mechanical, electrical, and plumbing renovations and reprogramming in pursuit of pre-eminence. The installation of new plumbing fixtures (urinals, private lavatory faucets, and showerheads) that meet or exceed the EPA WaterSense Label<sup>32</sup> will

Figure 5.3-1 LEED-Certified Projects demonstrating the Water Efficiency Credit reduction in water use over a codecompliant building<sup>31</sup>

# Indoor Water Use Reduction

Environmental Stewardship and Sustainability

significantly reduce consumption by as much as 20-50%, when compared to code compliant fixtures.<sup>33</sup>

Since 2009, UCF has further reduced fixture and fitting water use from the calculated baseline (code-compliant building) adhering to the latest version of the U.S. Green Building Council's (USGBC) Leadership in Energy and Environment Design (LEED) Indoor Water Use Reduction Water Efficiency credit, achieving 20-52% reduction over the baseline in all new capital projects that are eligible to participate in the program requirements.

The University has transitioned irrigation for much of the campus from potable to reclaimed water; with the exceptions of the Arboretum, where food is harvested for human consumption, and the Recreation and Wellness Center pool perimeter (as required by health codes). Irrigation practices had previously consumed large quantities of the campus's potable water.

LNR has adopted industry best management practices for landscaping. Responsible landscape designs and the use of native, adapted, and drought-tolerant plants have dramatically reduced, and in some cases eliminated, the need for irrigation, while integrating building sites into their surroundings more effectively. Native plants also tend to require less fertilizer and fewer chemical pesticides, which degrade water quality when carried away in stormwater runoff.



Figure 5.3-2 Main campus reclaimed water use (millions of gallons) dating back to 2008

Outdoor Water Use Reduction (Irrigation)

Specialized Water Use Reduction (Cooling Tower Water Use) The campus district energy network (chilled water) provides centralized cooling to 54 buildings on the main campus, servicing five million square feet of space. It employs a refrigeration system that removes heat by an evaporative process through the use of multiple cooling towers located at each of the generation facilities.<sup>34</sup> The water used in the cooling towers accounts for over 50% of the University's annual CUP allocation.

The University determined that reclaimed water can be used to augment the potable water supply required in the cooling towers, thus reducing water consumption against the CUP.<sup>35</sup>

With this intention, the Seminole County – UCF Bulk Wholesale Wastewater and Reclaimed Water Service Agreement was approved by the Seminole County Board of Commissioners. UCF can now receive up to two million gallons of reclaimed water per day for specialized uses (such as the evaporative cooling process) until December 31, 2040.

Water efficiency and conservation efforts at UCF will require continuous evaluation to identify and implement alternatives to potable water in response to stringent changes made by the Florida water management districts, FDEP's changes in drinking water quality standards, water conservation, changes to the Florida Building Codes, and aggressive reduction efforts championed by national green building standards. Most importantly, water conservation is a mandatory operating condition of the CUP that expires in 2036.

**DATA & ANALYSIS** 

## **5.4 Solid Waste Sub-Element**

#### NARRATIVE

The University's goal is to develop an environmentally- and economically-sustainable materials-recovery program and become a Zero Waste Campus through campus-wide promotions and recycling opportunities. Although great progress has already been made, UCF has also partnered with Orange County to work toward a greater impact than just UCF.

Just the Facts...



Non-Hazardous Recycling

The average person generates about 4 pounds of trash every day. The EPA estimates that 75% of waste is recyclable, and UCF currently recycles approximately 30%. Recycling one aluminum can saves enough energy to power a TV for 3 hours. One ton of recycled paper:

- Saves 7,000 gallons of water
- Saves between 17 and 31 trees
- Prevents 60 pounds of pollutants from entering the atmosphere

Several campus entities contribute to the effort to reach our recycling goals. UCF Recycling Services, Environmental Health and Safety (EHS), and UCF Surplus Property work together as follows:

UCF Recycling Services, a unit of Facilities Operations, operates a robust recycling program. The UCF recycling program includes:

- Plastics #1 through #7 (tubs, jugs, jars, bottles, etc.)
- Mixed Paper (office paper, books, magazines, phonebooks, newspaper, cereal boxes, paper egg cartons, paper bags, milk cartons, juice cartons, etc.)
- Corrugated cardboard
- Glass (bottles and jars)

	<ul> <li>Scrap metal (steel cans, aluminum cans, loose metal lids, steel bottle caps, clean balled aluminum foil, empty aerosol cans)</li> </ul>			
Hazardous Recycling	<ul> <li>EHS recycles hazardous materials that are ignitable, corrosive, toxic, or reactive, specifically:</li> <li>Batteries</li> <li>Light bulbs and ballasts</li> <li>Chemicals (laboratory, housekeeping, landscaping, antifreeze)</li> </ul>			
Specialty Recycling	<ul> <li>UCF Surplus Property handles the transfer or disposal of property, equipment, or other assets for which the originating department no longer has a justifiable use. UCF Surplus Property collects and repurposes: <ul> <li>UCF Logo items</li> <li>Electronics (E-waste)</li> <li>Furniture and large items</li> <li>Burn boxes</li> </ul> </li> </ul>			
	Surplus property recycling is governed by statutes and regulations including three (3) Florida statutes (F.S. 273.04 Property Acquisition F.S. 273.05 Surplus Property, and F.S. 273.055 Disposition of State- Owned Tangible Personal Property) and one UCF regulation (7.302 Surplus Property).			
Figure 5.4-1 Recycling &				
Solid Wasto Data	UNIVERSITY OF CENTRAL FLORIDA	7/2/2018		
Solid Waste Data FY July 2017- June 2018	Recycling & Solid Waste Figures FY July 2017- June 2018	7/2/2018 Running Total		
Solid Waste Data FY July 2017- June 2018	Recycling & Solid Waste Figures FY July 2017- June 2018	7/2/2018 Running Total Weight (lbs)		
Solid Waste Data FY July 2017- June 2018	Recycling & Solid Waste Figures FY July 2017- June 2018 Mixed Recycling/Construction Debris (lbs)	7/2/2018 Running Total Weight (lbs) 607,860.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)	7/2/2018 Running Total Weight (lbs) 607,860.00 427,165.38		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)	7/2/2018 Running Total Weight (lbs) 607,860.00 427,165.38 416,570.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)	7/2/2018 Running Total Weight (lbs) 607,860.00 427,165.38 416,570.00 666,440.00		
Solid Waste Data FY July 2017- June 2018	Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)	7/2/2018 Running Total Weight (lbs) 607,860.00 427,165.38 416,570.00 66,440.00 28,681.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures FY July 2017 - June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00         10,642.80		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017 - June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)         Antifreeze (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         66,440.00         28,681.00         20,820.00         10,642.80         7,607.50		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017 - June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)         Antifreeze (lbs)         Batteries (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00         10,642.80         7,607.50         6,544.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)         Antifreeze (lbs)         Batteries (lbs)         Lamps (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00         10,642.80         7,607.50         6,544.00         5,836.76		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures         FY July 2017- June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)         Antifreeze (lbs)         Batteries (lbs)         Lamps (lbs)         Pallets - Wood (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00         10,642.80         7,607.50         6,544.00         5,836.76         3,984.00		
Solid Waste Data FY July 2017- June 2018	ONIVERSITY OF CENTRAL FLORIDA         Recycling & Solid Waste Figures FY July 2017 - June 2018         Mixed Recycling/Construction Debris (lbs)         Surplus (lbs sold)         Cardboard (lbs)         Scrapmetal - Tin (lbs)         Documents/Secured Media Destruction (lbs)         Scrapmetal - Mixed Iron (lbs)         Oils (lbs)         Antifreeze (lbs)         Batteries (lbs)         Lamps (lbs)         Pallets - Wood (lbs)         Printer Toner/Ink Cartridges (lbs)	7/2/2018         Running Total         Weight (lbs)         607,860.00         427,165.38         416,570.00         666,440.00         28,681.00         20,820.00         10,642.80         7,607.50         6,544.00         5,836.76         3,984.00         3,481.74		

Figure 5.4-2 Monthly Recycling Rate FY 2017-2018 The recycling rate is the monthly percentage of solid waste diverted from the landfill and recycled.

July 2017	55.04%
August 2017	37.67%
September 2017	29.10%
October 2017	37.11%
November 2017	32.52%
December 2017	32.36%
January 2018	23.99%
February 2018	23.22%
March 2018	39.89%
April 2018	30.93%
May 2018	20.78%
June 2018	25.21%
Recycle percentage FY 2017-2018 (Rounded)	32.50%

# **UTILITIES ELEMENT** Data & Analysis

#### DATA & ANALYSIS

## 5.5 Chilled Water Production Sub-Element

NARRATIVE	Chilled water demand is evaluated in terms of capacity (tons of refrigeration) and flow, measured in GPM. Historically, the peak summer demand (August and September) for refrigeration (cooling) of campus is approximately 20,000 GPM and 15,000 tons, serving the energy needs of 54 campus buildings with approximately five million gross square feet.
	A prioritized program for long-term guidance for building, expanding, and upgrading the district system is dependent on additional campus load growth, as such District Energy Plant (DEP) IV cooling and heating capacity was built incrementally to add up to 4,000 tons of additional cooling capacity and 7,885 MBh <sup>36</sup> of heating capacity for future needs. <sup>37</sup>
Environmental Stewardship and Sustainability	A robust district energy system is both necessary and integral to UCF's Collective Impact Strategic Plan and Climate Action Plan, providing the necessary flexible platform to integrate multiple resources (renewable energy, combined heat and power, and thermal-energy storage) to provide the University with a more resilient, efficient, and sustainable campus and support the core missions of research and education.
	The District Energy approach of generating chilled water centrally is more energy-efficient than using in-building equipment; thus, environmental impacts are reduced. <sup>38</sup> Greater efficiencies are possible when using larger, more efficient equipment and with the

ability to stage equipment to match the load while remaining within its highest efficiency range. The district cooling system allows UCF to incorporate peak shifting technologies such as thermal energy storage, to reduce the cost of energy purchased from Duke Energy Florida.<sup>39</sup>

As UCF centralizes its approach to cooling campus buildings, and phases out in-building equipment, there will be less use of refrigerants that can potentially affect the ozone layer and contribute to global warming. Additionally, the University must inventory, manage, and track refrigerants for regulatory and compliance purposes. Many refrigerants are being commercially phased out as part of the Montreal Protocol.<sup>40</sup>

The University's district energy plants provide economic benefits, including, but not limited to:

- realizing fiscal economies of scale, when compared to the more conventional, decentralized approach;
- achieving higher thermal and emission efficiencies than standalone equipment;
- reducing and eliminating the need for building engineers and operators for in-building HVAC systems;
- reducing property and liability insurance costs with the elimination of in-building equipment;
- reducing noise associated with in-building equipment;
- freeing up space for the building's intended use; and
- providing asset redundancy to ensure campus cooling.

District energy operations at UCF function in an N+2 paradigm to provide greater asset availability. The criteria for evaluating this paradigm is to allow for one machine to be out of service for maintenance, and for a second machine to fail during campus peak cooling demand. This is commonly referred to as having a firm capacity of N+2, where "N" is the number of machines available for use, and N+2 is the total number of machines. By having such redundancy, one chiller can fail, and one can be down for scheduled service at any time of year, without impacting cooling to the campus.

Description	Plant Capacity	Build-Out Capacity
DEP I	8,000	8,000
DEP II	4,000	4,000
DEP III	4,000	4,000
DEP IV Cooling Capacity	4,000	8,000
DEP IV Heating Hot Water Capacity Installed	5,257MBh	10,514 MBh
DEP IV Heating Hot Water Capacity Available	2,628MBh	
Peak Cooling Demand	15,000	
Available Cooling Capacity (N+2)	490	
Subscribed Cooling Capacity	510	
Total Refrigerated Tons (RT)	20,000 RT	24,000 RT

## **Economic Benefits**



#### Figure 5.5-1 District Energy Plant (DEP) Capacities

Existing District Energy System

The campus is served by four (4) central chilled water generation facilities through a network of below-ground district chilled water piping systems that spans 15 miles on campus. District Energy Plants (DEP) I-IV were built in 1966, 1994, 2008, and 2018, respectively.

The district piping systems are circuitous in nature, following the circular configuration of the campus topography, roads, and walkways. Pipes are composed of high-density polyethylene (HDPE) and ductile iron, with the majority of the piping being asbestos-insulated wrapped concrete.

Cooling energy from the DEPs and thermal energy storage tank (TES) is distributed through district piping systems to the buildings on campus. The majority of campus buildings are also equipped with tertiary pumps, piped in series with the DEP distribution pumps. The tertiary (building) pumps respond through local controls unique to each respective building's piping circuit. Building pipe pressure is monitored to increase or decrease flow rates corresponding to the cooling demands of each building.

A small number of campus buildings are not equipped with tertiary pumps, but rely on the district piping system pressure, which is generated through the distribution pumps.

The University constructed a three-million-gallon thermal energy storage tank in 2009, which stores and cools water at less-costly off-peak electric rates (at night). The water is discharged during the on-peak hours. This allows the University to realize considerable savings by shifting approximately two megawatts of electricity from on- to off-peak, and storing 42-degree water for peak period campus cooling demands.<sup>41</sup>

In 2017, to improve the reliability metrics of chilled water distribution, UCF and Duke Energy Florida partnered to separate the distribution feeders at each chilled water generation facility into three (3) separate feeds. In the event of a momentary outage or power outage on the commercial grid, this reduces the negative risk associated with interruption of environmentally-sensitive cooling and dehumidification of campus buildings.

The original underground system, much of which was built in the 1970s with additional phases added through the early 2000s, is connected through several underground vaults. The University will need to secure dedicated capital to move toward eliminating these vaults over the next five years, as they pose significant risk to operations (flooding) and the environment (asbestos). New technology has also evolved that allows for more robust and larger pipe-seated isolation valves, thus eliminating the need for the capital necessary to maintain the vaults.

Much of the original chilled water distribution from the 1970s contains asbestos-insulated wrapped concrete that should be phased out over the next five (5) years due to age, surface corrosion, operator safety,

#### Infrastructure Improvements

and deterioration (see Figure 5.5-4 Chilled Water Infrastructure Map - Containing Asbestos).

Hydraulic modeling engineering illustrates the current water pressure challenges within the core of campus and northeastern quadrant during peak cooling demands (see Figure 5.5-2 Chilled Water Distribution Map – Pressure Challenges). Performance metrics include peak summer cooling demand, winter tank charge during peak, and winter tank discharge during peak.

To prevent HVAC equipment from fouling and organics from forming in the evaporative distribution network, distribution flow rate must be a minimum of 5 feet/sec. As illustrated in Figure 5.5-1 Chilled Water Infrastructure Map – Current Pressure Deficiencies, several portions of campus are well below the desired flow rate. To combat this issue, right-size piping<sup>42</sup> is necessary to replace existing pipe, in addition to adding hydraulic flow relief through new infrastructure to support the system's peak cooling loads.

Chilled Water Figures at the end of this element include:

- Figure 5.5-1 Chilled Water Infrastructure Map Current Pressure Deficiencies
- Figure 5.5-2 Chilled Water Distribution Map Pressure Challenges
- Figure 5.5-3 Chilled Water Infrastructure Map Pipe Age
- Figure 5.5-4 Chilled Water Infrastructure Map Mains Containing Asbestos

## DATA & ANALYSIS

## 5.6 Electrical Power and Other Fuel Sub-Element

### NARRATIVE



The University purchases electricity from Duke Energy Florida through a Time-of-Use (TOU) tariff for General Service Time of Use (GSDT-1) (a general service demand rate class) and Stand by Service (SS-1). As such, the energy and demand components of the University electric billing is further apportioned by an on-peak period and a base period, and is categorized according to season: April to October (summer) and November to March (winter).

An important operating characteristic of TOU rates is that electric utilities target or define certain hours by season, month, and period, with the intent to incentivize customers to reduce energy consumption and/or demand with tiered price signals (rates). Weekends and select holidays are considered base hours, the lowest rates.

The University owns and operates a 5.5 megawatt (MW) combined heat and power plant (CHP), employing a natural gas combustion reciprocating engine to provide on-site electrical and thermal generation. Due to overall efficiency of the CHP, lower (historic) natural gas price signals, and generation of power on campus (which reduces line loss), UCF has avoided purchasing more of its electricity from Duke

	Energy. At present, the CHP is electrically connected to the Duke Energy substation (UCF South), feeder W1016, reducing the purchased load from Duke Energy when the CHP is operating.
	The rapid growth of distributed solar generation and utility-scale solar has the potential to influence retail electricity price structures. Prior to the emergence of renewable installations, rates were structured and designed to make utilities whole by relying on volumetric tariffs. UCF is a top-15 customer in the Duke Energy Florida Territory based on annual electric sales. With volumetric designs in mind, large customers such as UCF with higher consumption contribute more to recovery of utility infrastructure subsidized through the commercial rate base.
Existing Conditions of the Electrical Infrastructure	Duke Energy Florida feeds power to UCF through two of its owned and operated substations: UCF South (near Facilities and Safety) and North (near Spectrum Stadium). The high-side operating voltage of both substations is 69 kilovolts (kV) and voltage is transformed (stepped down) to 12.47 kV. From the substations, six UCF feeder lines distribute the power to all campus locations. UCF North feeds four circuits labeled as W0940, W0942, W0982 and W0989, while UCF South feeds the remaining two circuits, W1014 and W1016.
	The UCF-Duke Energy commercial grid distribution system was designed with multiple redundancy features. Manual switching options allow for each substation (and its respective circuits) to carry the full UCF electric load. The switching capabilities also facilitate maintenance functions and minimize the duration of electrical outages.
	The University leases equipment from Duke Energy, including approximately 70 medium voltage distribution switches and approximately 122 distribution transformers. Duke Energy charges UCF approximately \$82k per month (\$988k annually). The lease fee covers existing Duke Energy equipment (distribution switches and transformers) and new equipment as required (or as requested by UCF) to meet electrical power and distribution requirements. The lease is periodically adjusted based on equipment changes (new additions, replacement / repairs and removals).
Environmental Stewardship and Sustainability	The University must shift its paradigm toward carbon-free distributed generation facilities with higher efficiencies; thereby reducing energy cost; improving infrastructure resiliency through grid-strengthening projects; and providing portfolio flexibility with campus energy mixes deploying both smart and microgrid applications. More information on smart and microgrid applications can be found in element 9.0 CONSERVATION.

Both substations (South and North) also serve non-UCF feeder circuits, so the total capacity of the substation is not dedicated to UCF (see Rated Capacity). Therefore, all projections of available and excess capacity in this Section are dependent on Duke's forecasts for their rate base. It is certain that UCF's planning for future load growth must be conducted in concert with Duke Energy's planning staff.

Figure 5.6–1 Substation Peak Loading	Substation	Feeder	Summer Peak Load (MW)	Rated Capacity (MW)	Percent Utilized
-	UCF South	W1014	2.4	13.3	18%
	UCF South	W1016	9.5	13.3	71%
	UCF North	W0942	2.6	13.3	20%
	UCF North	W0989	0.6	13.3	5%
	UCF North	W0940	0.2	13.3	1%
	UCF North	W0982	6.7	13.3	50%
	UCF South	TOTAL	11.9	26.6	45%
	UCF North	TOTAL	10.1	53.2	19%
	growth of 0.3 per year <sup>43</sup> .	3% per year a	and an annual e	electric rate incre	ase of 2.0%
Figure 5.6–2 UCF's Purchased and Produced Energy and Demand Load Profile	S.6–2 Purchased and iced Energy and ind Load Profile Monthly Electricity Sources and Peak Demand				25 22 Thousands Teak Demand (kW)



## **DATA & ANALYSIS**

## 5.7 Natural Gas Sub-Element

### NARRATIVE

UCF owns, operates, and maintains a natural gas distribution network on campus, and distributes gas supplied by TECO Peoples Gas through more than 24,000 linear feet of low-, medium-, and highpressured pipeline.44 The system serves academic and research buildings, food service operations, and the combined heat and power plant.45 A secondary service supplied, owned and operated by TECO Peoples Gas includes much of Greek Park, Knights Plaza, Towers I-IV, Additions Arena, and UCF Athletics on the north end of campus.

Because natural gas is deregulated in Florida, UCF has been able to reduce its natural gas costs by leveraging competition among natural gas marketers and suppliers through contract negotiations on the open market.

Natural gas provides greater efficiencies than electricity when comparing their use for the same applications. Due to its lower cost, natural gas is used as a primary fuel source to power UCF's combined heat and power plant; feed boilers for domestic hot water heating, building heating and dehumidification processes; and to operate gas appliances in kitchen and concession areas.

The University's natural gas system is designed and sized to service only the UCF campus, but may be expanded to serve the demands created by its future growth.<sup>46</sup> Based on a life cycle cost analysis and geographical location, it is strongly recommended that all future buildings and renovations on campus either employ hot water heating through hydronic means fueled by natural gas, or through the District Energy Plant IV's centralized hot water heating loop.<sup>47</sup>

The expansion of the existing gas utility distribution network is directly influenced by the location of new buildings on campus. Because the final locations of proposed buildings and renovations are unknown, a natural gas analysis shall be completed using GasWorks<sup>48</sup> to understand the distribution pressure relationships and system performance scenarios prior to approval of any new construction.



NARRATIVE

## 5.8 Telecommunications Sub-Element

A facility capacity analysis, by geographic service area indicates 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 Maintenance Holes interconnecting the majority of the buildings on all campuses, including but not limited to: Main Campus, Health Sciences Campus at Lake Nona, UCF Downtown, Rosen School of Hospitality Management, and several satellite campuses. This interconnection of Telecommunications utility pathways serves all buildings and major Nodes.

All Telecommunications infrastructure and services are distributed over the campus fiber optic backbone throughout the encased duct bank system. Services such as Voice, CATV, emergency services, data network (wired and wireless) are all delivered over the fiber backbone along with associated network electronic equipment.

These systems are maintained through a fiber mesh topology that terminates at several geographical nodes on all campuses. Each



of these nodes connects to main entry points on each campus and they interconnect in a ring topology around the greater Orlando area.

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:

In 2014, UCF IT Telecommunications created a master campus plan for all fiber optic and copper cabling on campus. This level of planning includes a secure and robust main backbone that accounted for ten to twenty years' worth of Telecommunications services growth. In addition, UCF IT created a formula-based system for all new buildings with regard to the amount of fiber, copper and other backbone cabling required for each building. This plan included the location or "Node area" that each building would cable back to on each campus. This design allowed other teams to be prepared for growth on systems and various telecommunications services as additional buildings interconnect to each node.

UCF IT Telecommunications expects to continue the use of the existing fiber optic cabling and reduce the overall amount of copper cabling between a Node and building. However, technology advancements or new service requirements cannot always be predicted and may involve a change in current plans. The encased duct bank does allow for a low-cost change of cable media between buildings.

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 upon adjacent natural resources, will continue to be evaluated.

UCF IT Telecommunications continues to design, install, and support this infrastructure throughout all campus locations. The level of service provided is high. With the addition of 811 service to UCF campus locations, Telecommunications remains the only owner-provided locator on campus and there is no reason to change this methodology in the foreseeable future.

In addition, UCF maintains detailed sub-system CAD and map drawings. Recently the department has been mapping GPS coordinates for maintenance holes and encased duct bank paths. UCF IT Telecommunications purchased locator equipment that maps each cable to which a device is connected. This locator equipment allows the department to continue mapping the campus in real time.

## **ENDNOTES – Technical Information & References**

- <sup>5</sup> Per UCF Policy 3-303, University Controlled Utilities and Interconnection.
- <sup>6</sup> UCF Collection Facilities is defined in the Seminole County / University of Central Florida Exclusive Bulk Wholesale Wastewater and Reclaimed Water Service Agreement as the equalization basin, gravity lines, pipes, pump stations, force mains, meters, and appurtenant equipment owned, operated, and maintained by UCF to collect sewage and to transmit it to Iron Bridge.
- <sup>7</sup> ANSI / ASHRAE / USGBC /IES Standard 189.1 Standard for the Design of High-Performance Green Buildings.
- <sup>8</sup> Pursuant to Consumptive Use Permit Number 2-095-3202-11.
- <sup>9</sup> St. Johns River Water Management District Consumptive Use Permit Number 2-095-3202-11.
- <sup>10</sup> The Florida Legislature, through the Energy, Climate Change and Economic Security Act of 2008, established a statewide weight-based recycling goal of 75% by 2020. The Act instituted the 75% recycling goal, directed the Florida Department of Environmental Protection (DEP) to establish a reporting protocol and directed counties to report annually.

#### 5.0 Utility Infrastructure Overview

- <sup>11</sup> Site corrosivity was evaluated in 2017 on the oldest sections of the water distribution system (~51 years old). Soil resistivity testing was conducted using the 4-pin Wenner method. Many of the selective samples were categorized as moderately to mildly corrosive (2,300 15,000 Ohm-cm). The soil statistical analysis conducted also yielded at 7.4% change of severely corrosive soil within the campus limits. Soils found deeper were more corrosive. Additionally, the predicted corrosion rate of metallic buried pipe in the soil of the UCF campus was generally low. Corrosion coupons (pre-weighed and measured metal strips mounted in the existing pipes) were used to evaluate the extent of corrosion, showing minimum corrosion after 15 years of service. Direct examination of the oldest pipe known (~49 years in service) showed general corrosion.
- <sup>12</sup> As the UCF campus grows, an expanded distribution network will also be required to connect campus water utilities to the new building locations. The existing piping network is configured overall in a loop with some dead-end legs. A looped piping network is beneficial because it allows portion of the campus to receive potable water if part of the network is isolated or taken out of service.
- <sup>13</sup> ASHRAE District Cooling Guide Comprehensive Reference 2.14.
- <sup>14</sup> ASHRAE District Cooling Guide Comprehensive Reference 2.14. Best management practices through the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASRHAE) suggest that 2.0% - 3.0% of the total energy cost is required to alter UCF's utility generation facilities to comply with changing regulations in order to meet new University expectations, and serve changing programmatic needs.
- <sup>15</sup> UCF Service Area is defined in the Seminole County / University of Central Florida Exclusive Bulk Wholesale Wastewater and Reclaimed Water Service Agreement as the service area serving UCF and Central Florida Research Park, hereby referenced as the Orange County Research and Development Authority, and Siemens Corporation in the Quadrangle.
- <sup>16</sup> These partnerships, established in the early 1980's, were determined critical to the success of UCF's strategic partnerships with the space program's research, optics, aerospace, and mechanical engineering disciplines. As a result, they were connected to UCF's sanitary system.
- <sup>17</sup> Utility Service Contract Orange County Research Park Development Authority (ORDPA): executed March 13 1981, with addenda in 1984, 1985, 1991, 1996, and 2004. *Note: several attempts to modify the contract have been considered since 2015 with no prevail. Perpetual term, OCRPDA load growth, and capacity is of concern.*

<sup>&</sup>lt;sup>1</sup> ASHRAE District Cooling Guide – Comprehensive Reference.

<sup>&</sup>lt;sup>2</sup> UCF Collective Impact 5-year Institutionalization Plan

<sup>&</sup>lt;sup>3</sup> UCF Collective Impact Strategic Plan 2016

<sup>&</sup>lt;sup>4</sup> The Utility Master Service-Level Disclosure is currently under review by UCF Administration.

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES ENDNOTES

<sup>18</sup> The original 1983 agreement was terminated and a new Service Level Water and Wastewater Agreement between University of Central Florida and Siemens Corporation and FT-Orlando Property LLC was executed on 6/16/2017.

<sup>19</sup> 2018 Seminole County – UCF Bulk Wholesale Wastewater and Reclaimed Water Service Agreement.

### 5.2 Sanitary Sewer Sub-Element

- <sup>20</sup>UES strongly recommends that all future campus growth be entered into a hydraulic model such as SewerCAD, or a similar modeling program. This model would be used to further develop distribution design parameters, including the sizing of lift station pumps, and would serve as a baseline tool that the campus can use going forward as expansion continues. Hydraulic modeling will allow the campus to optimize the size and routing of the distribution system and provide the highest level of efficiency and operational flexibility possible. It will also identify distribution limitations in the sanitary sewer piping network, such as pinch points and capacity issues, and identify and model potential system improvements.
- <sup>21</sup> As the UCF campus grows, expanding the wastewater transportation and collection network must be considered, including additional lift stations and back-up generators for additional resiliency and reliability in the event the commercial power grid goes down.
- <sup>22</sup> ASHRAE Fundamentals of Building Operation Maintenance and Management.

## 5.3 Potable Water Sub-Element

- <sup>23</sup> Maps of the potable water well locations have been removed from the CMP for security purposes.
- <sup>24</sup> EPA uses the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act (SDWA).
- <sup>25</sup> Bona-fide emergency is classified as when the UCF water treatment plant suffers a loss of system pressure, and is unavailable, and/or unable to augment system campus fire suppression capacity. Additionally, a 16-inch looped water main system was connected to the Orange County Utilities (OCU) to provide fire suppression backup water.
- <sup>26</sup> Capacity is expressed in the Emergency Potable Water Supply Interconnect Agreement between Orange County and University of Central Florida. Orange County Utilities stated in January 2019 that the east Orange County treatment facilities do not have additional CUP capacity to support any additional growth at UCF.
- <sup>27</sup> Floor Area Ratio (FAR) is the ratio of a building's total floor area (gross floor area) to the size of the piece of land upon which it is built. Walkable urbanism and healthy transit require FARs to be at least 1.5 to 3.0.
- <sup>28</sup> Advanced water metering supports the University's water management and identifies opportunities for additional water savings by tracking water consumption.
- <sup>29</sup> St. Johns River Water Management District -November 2006 CUP 2-095-3202-7, capacity of 440.14 MGPY.
- <sup>30</sup> St. Johns River Water Management District Consumptive Use Permit Number 2-095-3202-11.
- <sup>31</sup> Projects that are eligible for LEED BD&C Certification, includes LEED Versions 3.1 and 4.
- <sup>32</sup> The WaterSense Label was developed by the U.S. Environmental Protection Agency.
- <sup>33</sup> Water Efficiency is addressed in the LEED Reference Guide for Building Design and Construction and LEED Reference Guide for Operations and Maintenance.
- <sup>34</sup> Evaporative cooling systems remove heat from air to cool interior building spaces. This heat is expelled into the atmosphere through campus cooling towers. A cooling tower or evaporative condenser removes heat in part by evaporating water; as the water absorbs heat it changes from a liquid to a vapor. As the water evaporates, however, dissolved solids become more concentrated in the remaining water and eventually begin to deposit scale on the cooling towers or evaporative condenser elements, making such systems less efficient. To prevent building of deposits, cooling tower and evaporative condenser systems remove a portion of the water through a process called blowdown. Make up water is then added to replace evaporative losses and blowdown volume. The University has third-party chemical treatment contract with U.S. Water Services Corporation which calls for ~ 3.0- 3.5 cycles of concentration before blowing down the cooling tower to the sanitary sewer.
- <sup>35</sup> U.S. Water Services Corporation (2018): Reclaimed water requires advanced water treatment chemical monitoring to include pH adjustment to ~8.2, conductivity, inhibitors, autonomous chemical pump activation, injecting 50% acid to help control calcium phosphate, ORP control and flow monitoring for upset condition(s). Additionally, using reclaimed water will increase the cycles of concentration from 3 – 5 cycles using a 50% acid concentrate.

#### 5.5 Chilled Water Production Sub-Element

<sup>36</sup> MBh is 1000 BTU / hr.

- <sup>38</sup> Water-cooled district energy systems employ cooling towers, resulting in higher efficiency than air-cooled chillers. Water-cooled chillers are more efficient because they condense depending on the ambient temperature bulb temperature, which is lower than the ambient dry bulb temperature. The lower the ambient temperature at which a chiller condenses, the more efficient it is.
- <sup>39</sup> UCF's thermal energy storage tank provides an electrical peak shifting strategy based on its time-of-use (TOU) tariff with Duke Energy Florida. The GSDT-1 tariff is based on time of day, and includes seasonal peak periods (summer and winter) where the energy and demand charges are higher than off-peak. This serves to incentivize large customers, including UCF, to reduce peak demand and electrical production from Duke Energy Florida.
- <sup>40</sup> The Montreal Protocol (MP) was established and ratified by the U.S. in 1988. The MP global agreement protects the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances.
- <sup>41</sup> The thermal energy storage tank is equivalent to approximately 2,000 tons of refrigeration while discharging, and requires over 3,000 tons of refrigeration while charging. This capacity does supplement the available refrigeration capacity, but is dependent on available capacity to charge on a daily basis.
- <sup>42</sup> Same volumetric flow at larger diameter would reduce flow velocity.

#### 5.6 Electrical Power and Other Fuel Sub-Element

<sup>43</sup> Duke Energy Florida has filed for rate increases every four to five years to earn its allowed rate of return. The most recent filing was in 2017 for approximately 8.5%. Burns and McDonnel has conservatively assumed a 2% average annual base rate increase over the 25-year forecast; however, it is expected that rate increases will occur every four to five years. Fuel-related costs in Duke's tariffs are expected to increase 1% per year over the next five years, based on forward price curves for Florida.

### 5.7 Natural Gas Sub-Element

- <sup>44</sup> Typical natural gas operating pressures are 5-130 pounds per square inch (PSI).
- <sup>45</sup> Peoples Gas System Index of Rate Schedules. Interruptible Service Rate Schedule (IS) -Seventh Revised Sheet No. 7.603 for customers using 4,000,000 – 49,999,999 Therms per year.
- <sup>46</sup> Infrastructure Agreement between University of Central Florida and Peoples Gas System (2018).
- <sup>47</sup> ASHRAE District Heating Guide Comprehensive Reference Guide: Generating heat in a central plant is normally more efficient that using in-building equipment, and thus, the environmental impact is normally reduced. Greater efficiencies are possible due to the larger equipment and the ability to stage that equipment to closely match the load, while remaining with the equipment range of highest efficiency. District heating systems may take advantage of diversity of demand across all users in the system, and may also implement technologies such as thermal storage more readily than individual building heating systems.
- <sup>48</sup> GasWorks Model Development and Scenario Analyses will prepare and model established parameters and data collection of existing operating conditions, provide verification and validation that additional demands will not disrupt peak system performance, and identify system and capital improvements necessary to support future load growth.

<sup>&</sup>lt;sup>37</sup> ASHRAE District Cooling Guide: Energy Table 2.1 Approximate Unit-Area Cooling-Load Values for college campuses range from 400 (low) – 240 (high) ft<sup>2</sup>/ ton (non-laboratory space).

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES MAPS & TABLES

## The following UCF Maps are restricted for security purposes:

Figure 5.3-1 Potable Water Infrastructure Map - Distribution Layout & Age

Figure 5.8-1 Telecommunications Map

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES Figure 5.1-1

Figure 5.1-1 Stormwater Infrastructure Map





## **Blind Junction**

- \* Cracked Pavement
- -->> Direction Change
- + Pipe Size or Material Change

## Manhole Type

- Storm Marker Point
- D Cylindrical Manhole
- J\_ Junction Box

## Pond Outlet Type

- O Horizontal Pipe Through Berm
- 🖸 Riser
- Spillway
- 📕 Weir

### Inlet Lid Type

- 🔤 Grate
- Manhole Cover
- O No Lid

## Channel

- Channel / Drainage Ditch
- ------ Spillway
- Swale
- ----> Flow\_Ln
- ----- Pipes

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES Figure 5.1-2

Figure 5.1-2 Stormwater Basins, Ponds & Wetlands Map







Stormwater Ponds

Wetlands

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES Figure 5.1-3

## Figure 5.1-3 UCF 2012 Wetlands Map

This map is intended only to show the Jurisdictional Wetlands

See 9.0 CONSERVATION, Figure 9.0-4 for Conservation Easements (SJRWMD)



WETLAND	AREA (Ac)	
NUMBER		
W-01	1.92	
W-02	61.56	
W-03	1.74	
W-04	8.10	[
W-05	38.89	
W-07	3.39	
W-08	3.82	
W-09A	7.85	
W-09B	157.40	
W-10	1.44	
W-11	1.15	
W-12	12.34	
W-14	1.05	*
W-16	0.80	
W-18	0.93	
W-20	0.58	
W-21	1.50	*
W-22	1.12	*
W-24	0.63	*
W-25	4.16	*
W-26	0.41	
W-26	48.31	*
W-27	0.16	*
W-28	0.01	*
W-A	1.45	
W-A2	0.05	
	a	

 the area is calculated in ArcMap

SURFACE WATER AREA TABLE				
SURFACE WATER	AREA (SqFt)	AREA (Ac)		
A	4,328	0.10		
В	48,916	1.12		
С	18,569	0.43		
D	18,171	0.42		
ш	18,250	0.42		
F	17,262	0.40		
G	4,463	0.10		
H1	1,902	0.04		
H2	3,555	0.08		
H3	3,665	0.08		
I	17,323	0.40		
J	292	0.01		
LAKE CLAIRE	937,271	21.52		

DRAINAGE AR (AC.) 5.79

217.41









# **5.0 GENERAL INFRASTRUCTURE & UTILITIES** Figure 5.1-4

UCF STORMWATER MASTER PLAN DRAINAGE TABLE SUMMARY							
AINAGE AREA (AC.)	TOTAL PROPOSED IMPERVIOUS AREA (AC.)	TOTAL POND SIZE at NWL (AC.)	POND NWL ELEV. (FT.)	POND CONTROL ELEV. (FT.)	25YR/24YR DHW (FT.)	100YR/24HR DHW (FT.)	WATER QUALITY VOLUME (AC-FT)
5.79	2.94	0.61	64.70	65.80	66.23	66.32	0.61
64.74	30.56	3.30	65.50	67.21	68.69	68.99	6.34 ***
16.81	11.11	1.03	66.00	68.10	69.33	70.06	3.01 **
57.82	0.00	23.20	63.70	-	65.28	65.53	-
1.81	1.80	0.10	66.90	67.80	69.16	69.31	-
0.57	0.00	0.10	64.70	66.50	66.58	66.59	-
23.24	0.00	-	-	-	64.24	64.27	-
23.57	0.00			-	62.61	62.65	-
164.52	74.00	13.10	50.00	51.40	53.49	54.09	19
32.53	16.50	3.00	53.00	54.10	55.87	56.36	3.44
50.62	0.00			-	46.52	47.79	-
130.04	51.00	5.00	65.00	67.10	68.13	68.56	10.93
13.95	0.00	8.67		-	56.9	57.2	-
2.50	1.20	•	٠	•	•	٠	•
65.34	37.15	2.00	68.00	70.42	72.06	72.7	7.11
35.24	26.61			-	-		-
116.14	53.09	4.44	58.00	60.30	61.43	61.87	11.06
13.80	8.17	0.69	57.75	59.92	61.07	61.74	1.7
10.37	8.10	0.50	60.00	62.00	62.69	62.82	0.98
115.84	56.00	8.00	58.98	60.42	62.3	62.67	14.49
3.75	3.10		61.00	N/A	64.79	64.91	0.51
217.41	7.01			-	57	57.5	-
6.85	3.50	0.70	58.00	59.00	60.02	60.49	0.73
1173.25	391.84	74.44					
		·			<u> </u>		

\* SEE CENTRAL FLORIDA BLVD. CALCULATIONS ON THE FILE WITH THE SJRWMD \*\* 0.61 AC-FT WQ VOLUME PROVIDED FOR BY UNDERGROUND EXFILTRATION VAULT \*\*\* 0.31 AC-FT WQ VOLUME PROVIDED FOR BY DRY RETENTION POND.

OVERALL BASIN BREAKDOWN				
AL DRAINAGE AREA	1173.25	acres		
ITE AREA NOT INCLUDED	26.07	acres		
SITE AREA INCLUDED	(1.62)	acres		
AL UCF BOUNDARY AREA	1197.70	acres		

Figure 5.1-5 Stormwater Master Plan Impervious Area Status Report

#### UCF STORMWATER MASTER P IMPERVIOUS AREA STATUS REF

#### Proposed development this submission:

UCF Cell Tower & Building 92 Renovation 1.0 acres 4-R & 4-Za 0.11 acres

Construction of a new cell tower in Basin 4-R, impervious area increase of 0.09 acres. Building 92 Renow increase of 0.02 acres

#### **Overall Plan Status:**

Information:

Basin (1)	Drainage Area (2)	Existing Imperv. Area (3)	Impervious Area This Submittal (4)	Total Imperv. Area Allowed (5)	Remaining Imperv. Area Allowed (6)	Ponds 1-F, 2-H, 4-B, 4-? Impervious areas may b additional permitting.
ID.	(AC)	(AC)	(AC)	(AC)	(AC)	Pond 1-BC is proposed
1-BC	5 70	1 28	1	2.04	1.66	Portions of Ponds P
1-B (7)	3.13	1.20		2.54	1.00	Tornons of Tonds T
1-C (7)		-				Ponds 1-D & 4-R have h
1-D	64 74	25 70		30.56	4 10	impervious area allowed r
1-D Dry Pond	1.21	0.74		0.74	0.00	_ mper tions area anowed p
1-D Pond	63.53	25.63		29.82	4.19	
1-F	16.81	11.01		11.11	0.10	Pond 2-H3 has not been o
1-F Vault	2.52	2.52		2.52	0.00	7
1-F Pond	14.29	8.49		8.59	0.10	
1-G	57.82	0.00		0.00	0.00	
						Pond
2.B	1 91	0.97		1.80	0.02	LD (nond)
2-0	0.57	0.00		0.00	0.00	2.43
2.0	23.24	0.00		0.00	0.00	2-11.5
2-F	23.57	0.00		0.00	0.00	
2-H	164 52	71.86		74.00	2.14	4-R
2-113	32.53	0.00		16 50	16 50	4-B(provided in 4-B)
2-Z	50.62	0.00		0.00	0.00	4-R Totals
3-A & 3-Aa	133.58	48.28		53.00	4.72	Note: Existing imperviou
3-Z	13.95	0.00		0.00	0.00	
						Basin 4-L Underdra
( D/Den d)				34.13		Allowable (ac)
4-B(Pond)				4.52		5.96
4-B(provided in 4-R)						
4-B(provided in 4-R) 4-B Totals	65.34	37.57		38.65	1.08	Note: Basin 4-L underdra and underdrain elevation
4-B(Pond) 4-B(provided in 4-R) 4-B Totals 4-F	65.34 35.24	37.57		38.65	1.08	Note: Basin 4-L underdra and underdrain elevation
4-B(Pond) 4-B(provided in 4-R) 4-B Totals 4-F 4-L	65.34 35.24 116.14	37.57 21.43 51.54		38.65 26.61 53.09	1.08 5.18 1.55	<ul> <li>Note: Basin 4-L underdra and underdrain elevation:</li> <li>NOTES:</li> </ul>
4-B(Pond) 4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-M	65.34 35.24 116.14 13.80	37.57 21.43 51.54 8.40		38.65 26.61 53.09 8.55	1.08 5.18 1.55 0.15	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ul> <li>(1) Basin LD, as indicated</li> </ul> </li> </ul>
4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-P	65.34 35.24 116.14 13.80 10.37	37.57 21.43 51.54 8.40 4.59		38.65 26.61 53.09 8.55 8.10	1.08 5.18 1.55 0.15 3.51	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ul> <li>(1) Basin ID. as indicated</li> <li>(2) Proposed drainage are</li> </ul> </li> </ul>
4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-M 4-P 4-R	65.34 35.24 116.14 13.80 10.37 115.84	37.57 21.43 51.54 8.40 4.59 31.76	0.09	38.65 26.61 53.09 8.55 8.10 56.00	1.08 5.18 1.55 0.15 3.51 24.15	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ul> <li>(1) Basin I.D. as indicated</li> <li>(2) Proposed drainage are</li> <li>(3) Indicates the permitted</li> </ul> </li> </ul>
4-B(provided in 4-R) 4-B Totals 4-F 4-F 4-L 4-M 4-P 4-R 4-S	65.34 35.24 116.14 13.80 10.37 115.84 3.75	37.57 21.43 51.54 8.40 4.59 31.76 2.69	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10	1.08 5.18 1.55 0.15 3.51 24.15 0.41	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ul> <li>(1) Basin LD. as indicated</li> <li>(2) Proposed drainage are</li> <li>(3) Indicates the permitted</li> <li>(4) Impervious area proposed</li> </ul> </li> </ul>
4-B(provided in 4-R) 4-B Totals 4-F 4-F 4-F 4-L 4-M 4-P 4-R 4-S 4-Z	65.34 35.24 116.14 13.80 10.37 115.84 3.75 211.23	37.57 21.43 51.54 8.40 4.59 31.76 2.69 5.66	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10 7.01	1.08 5.18 1.55 0.15 3.51 24.15 0.41 1.35	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ul> <li>(1) Basin I.D. as indicated</li> <li>(2) Proposed drainage are</li> <li>(3) Indicates the permitted</li> <li>(4) Impervious area proposition</li> <li>(5) Total impervious area</li> </ul> </li> </ul>
4-B(provided in 4-R) 4-B (provided in 4-R) 4-B Totals 4-F 4-F 4-L 4-M 4-P 4-R 4-R 4-S 4-Z 4-Z Bidz 154	65.34 35.24 116.14 13.80 10.37 115.84 3.75 211.23 2.08	37.57 21.43 51.54 8.40 4.59 31.76 2.69 5.66 1.03	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10 7.01 1.03	1.08 5.18 1.55 0.15 3.51 24.15 0.41 1.35 0.00	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ol> <li>Basin I.D. as indicated</li> <li>Proposed drainage are</li> <li>Indicates the permitted</li> <li>Impervious area propo</li> <li>Total impervious area</li> <li>Remaining impervious</li> </ol> </li> </ul>
4-B(provided in 4-R) 4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-M 4-P 4-R 4-P 4-R 4-S 4-Z 4-Z Bidg 154 -Z Recycle Center(11)	65.34 35.24 116.14 13.80 10.37 115.84 3.75 211.23 2.08 4.10	37.57 21.43 51.54 8.40 4.59 31.76 2.69 5.66 1.03 1.15	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10 7.01 1.03 1.58	1.08 5.18 1.55 0.15 3.51 24.15 0.41 1.35 0.00 0.43	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ol> <li>Basin LD. as indicated</li> <li>Proposed drainage are</li> <li>Indicates the permitted</li> <li>Impervious area propo</li> <li>Total impervious area</li> <li>Remaining impervious (7) Basins 1-B and 1-C w</li> </ol> </li> </ul>
4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-P 4-R 4-P 4-R 4-P 4-R 4-Z 4-Z Bidg 154 -Z Recycle Center(11) 4Z-a	65.34 35.24 116.14 13.80 10.37 115.84 3.75 211.23 2.08 4.10 6.85	37.57 21.43 51.54 8.40 4.59 31.76 2.69 5.66 1.03 1.15 3.07	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10 7.01 1.03 1.58 3.50	1.08 5.18 1.55 0.15 3.51 24.15 0.41 1.35 0.00 0.43 0.41	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES:         <ol> <li>Basin I.D. as indicated</li> <li>Proposed drainage are</li> <li>Indicates the permitted</li> <li>Impervious area propo</li> <li>Total impervious area</li> <li>Remaining impervious (7) Basins 1-B and 1-C w</li> <li>Dry Pond 1-D at Gree</li> </ol> </li> </ul>
4-B(provided in 4-R) 4-B(provided in 4-R) 4-B Totals 4-F 4-L 4-M 4-P 4-R 4-P 4-R 4-S 4-Z 4-Z Bidg 154 -Z Recycle Center(11) 4Z-a FDOT	65.34 35.24 116.14 13.80 10.37 115.84 3.75 211.23 2.08 4.10 6.85 2.50	37.57 21.43 51.54 8.40 4.59 31.76 2.69 5.66 1.03 1.15 3.07 1.20	0.09	38.65 26.61 53.09 8.55 8.10 56.00 3.10 7.01 1.03 1.58 3.50 1.20	1.08 5.18 1.55 0.15 3.51 24.15 0.41 1.35 0.00 0.43 0.41 0.00	<ul> <li>Note: Basin 4-L underdra and underdrain elevation</li> <li>NOTES: <ol> <li>Basin LD. as indicated</li> <li>Proposed drainage are</li> <li>Indicates the permitted</li> <li>Indicates the permitted</li> <li>Indicates the permitted</li> <li>Total impervious area propo</li> <li>Total impervious area</li> <li>Remaining impervious</li> <li>Basins 1-B and 1-C w</li> <li>Dry Pond 1-D at Greet</li> <li>Basin &amp; Pond 4-P add</li> </ol> </li> </ul>

PORT				Date:	4/30/2019
			SJRWN	ID Permit No.:	40-095-20026-152
vation includes construc	tion of outdoor air l	handler, exhaust blov	wers & emergency gene	rator with an impervio	ous area increase of 0.02
				•	
Completed ponds p	permitted and/o	r proposed to b	e entirely constru	cted:	
onds 1-F, 2-H, 4-B, 4-	M, 4-S & 3-A have	been completely co	onstructed. d. without		
dditional permitting.			,		
ond 1-BC is proposed ortions of Ponds I	under this applica Permitted and (	tion. Completed or U	nder Construction	1:	
or tions of 1 onds 1	er mitteu anu c	sompleted of C	nuer construction	1.	
onds 1-D & 4-R have b	been partially constru	ucted. The area of e	ach pond and		
apervious area allowed	prior to additional e	xpansion or permitti	ng is as follows:		
ond 2-HB has not been	constructed and no i	mprovements can be	e made in that basin unt	il the pond is built.	
	Existing Pond	Existing	Imm Area		Future Imm Area
	Maximum	Imp Area	This	Revised	Allowed prior to
Pond	Imp Area	Constructed	Submittal	Imp Area	Lake expansion
D	(ft)	(ac)	(ac)	(ac)	(ac)
1-D (pond)	26.25	25.70	0.00	25.70	0.55
2-H3	0.00	0.00		0.00	0.00
4.0	43.22	21.76	0.00	21.05	
4-K 4 R(provided in 4.P)	42.55	31./0	0.09	31.85	
4-R Totals	46.85	35.20	0.00	35.20	11.56
+ic lotab	10.00	55.20		22.22	11.50
	is under basin 4R in	cludes excess imper	vious area built in basir	14-B	
lote: Existing imperviou					
Note: Existing imperviou					
lote: Existing imperviou	ained Fields				
lote: Existing imperviou Basin 4-L Underdr	ained Fields	This			
lote: Existing imperviou Basin 4-L Underdr	rained Fields	This Submittal (ac)	Pamaining (ac)		
Note: Existing imperviou Basin 4-L Underdr Allowable (ac) 5.96	Existing (ac)	This Submittal (ac)	Remaining (ac)		
Note: Existing imperviou Asin 4-L Underdr Allowable (ac) 5.96 Note: Basin 4-L underdr	rained Fields Existing (ac) 0.00 ained fields will prov	This Submittal (ac) 0.00 vide treatment volum	Remaining (ac) 5.96 ne on-site via soil stora;	ge between finished g	rade
Note: Existing imperviou Basin 4-L Underdr Allowable (ac) 5.96 Note: Basin 4-L underdra and underdrain elevation	Existing (ac) 0.00 ained fields will prov	This Submittal (ac) 0.00 vide treatment volum	Remaining (ac) 5.96 2e on-site via soil storaj	ge between finished g	rade
Note: Existing imperviou Basin 4-L Underdr Allowable (ac) 5.96 Note: Basin 4-L underdr and underdrain elevation	Existing (ac) 0.00 ained fields will prov 15	This Submittal (ac) 0.00 vide treatment volum	Remaining (ac) 5.96 ne on-site via soil storaș	ge between finished g	rade
Note: Existing imperviou Basin 4-L Underdr Allowable (ac) 5.96 Note: Basin 4-L underdr and underdrain elevation NOTES:	Existing (ac) 0.00 ained fields will prov 15	This Submittal (ac) 0.00 vide treatment volum	Remaining (ac) 5.96 ne on-site via soil storaj	ge between finished g	rade
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Note: Existing imperviou Basin 4-L Underdr Allowable (ac) 5.96 Note: Basin 4-L underdr and underdrain elevation NOTES: 1) Basin I.D. as indicate 2) Proposed drainage ar	tea as indicated in Approved i	This Submittal (ac) 0.00 vide treatment volun tormwater master pla proved stormwater r	Remaining (ac) 5.96 ne on-site via soil storaş un permit dated 3/9/04 a master plan permit date	ge between finished g and as Amended on 4: d 3/9/04 and amended	rade 2/09 1 on 4/2/09
Note: Existing imperviou Basin 4-L Underdi Allowable (ac) 5.96 Note: Basin 4-L underdra and underdrain elevation KOTES: 1) Basin I.D. as indicate 2) Proposed drainage and 3) Indicates the permitted basin 1.D.	tained Fields Existing (ac) 0.00 ained fields will provide the assindicated in Approved st ea as indicated in Approved st ea	This Submittal (ac) 0.00 vide treatment volun vormwater master pla proved stormwater n hich exist within eac	Remaining (ac) 5.96 ne on-site via soil storag un permit dated 3/9/04 a master plan permit date th basin.	ge between finished g and as Amended on 4. d 3/9/04 and amended	rade 2/09 1 on 4/2/09
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Allowable (ac) 5.96 5.97 5.96 5.	texisting (ac) 0.00 ained fields will proves and fields will proves and in the Approved ste as indicated in Ap d impervious area will osed (not to exceed allowed for basin basis area allowed within vill combined to four ek Park Expansion a ded under Permit 40-4 d in Basin 4-Z under	This <u>Submittal (ac)</u> 0.00 vide treatment volum tormwater master pla pproved stormwater 1 hich exist within eac values in Approved ased on the stormwa n basin based on the n Basin 1-BC under dded under permit 4 -095-20026-137 r Permit 40-095-200	Remaining (ac) 5.96 me on-site via soil storag an permit dated 3/9/04 a master plan permit date ch basin. stormwater master plan ter master plan pond de 2010 stormwater pond permit 40-095-20026- 0-095-20026-112 26-151	ge between finished g and as Amended on 4 d 3/9/04 and amended permit and latest ame esign. l design. 105	rade 2/09 1 on 4/2/09 andments)
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AN					
ORT				Date:	4/30/2019
			SJRWI	MD Permit No.:	40-095-20026-152
ion includes construc	tion of outdoor air h	handler, exhaust blov	wers & emergency gene	erator with an impervi	ous area increase of 0.02
mpleted ponds p	permitted and/o	r proposed to b	e entirely constru	cted:	
nds 1-F, 2-H, 4-B, 4- pervious areas may b litional permitting.	M, 4-S & 3-A have be constructed up t	been completely co o the amount noted	onstructed. 1, without		
id 1-BC is proposed rtions of Ponds I	under this applica Permitted and (	ition. Completed or U	nder Constructio	n:	
ids 1-D & 4-R have b ervious area allowed j	een partially constr prior to additional e	ucted. The area of expansion or permitti	ach pond and ing is as follows:	_	
d 2 UP has not have	constructed and no i	in the second	made in that basin un	til the need is built	
a 2-H5 has hot been	constructed and no r	inprovements can be	i made in mai dasin di	in the pond is ount.	
	Existing Pond	Existing	Town Areas		Eutora Imm Aran
	Maximum	Imp. Area	This	Revised	Allowed prior to
Pond	Imp. Area	Constructed	Submittal	Imp. Area	Lake expansion
D	(ft)	(ac)	(ac)	(ac)	(ac)
I-D (pond)	20.25	25.70	0.00	25.70	0.55
2115	0.00	0.00		0.00	0.00
4-R	42.33	31.76	0.09	31.85	
4.P. Totals	4.52	3.44	0.00	3.44	11.56
+-K Totals	40.65	33.20		33.29	11.50
e: Existing imperviou	is under basin 4R in	cludes excess imper	vious area built in basis	n 4-B	
sin 4-L Underdr	ained Fields				
		This			
Allowable (ac)	Existing (ac)	Submittal (ac)	Remaining (ac)		
5.96 Basin 4 Tamdarda	0.00	0.00	5.96	a hatan faished a	and a
underdrain elevation	sined neids will pro-	vide deaunent vorun	ie ou-site via soli stola	Be nerween musner B	Laue
TES:					
Basin I.D. as indicate	a in the Approved st	formwater master pla	in permit dated 3/9/04	and as Amended on 4	12/09 d on 4/2/00
indicates the permitte	d innervious area w	hich exist within ea	ch basin	a 5/9/04 and amended	101 4/2/09
impervious area propo	osed (not to exceed	values in Approved	stormwater master plan	permit and latest am	endments)
Total impervious area	allowed for basin b	ased on the stormwa	ater master plan pond d	esign.	
Remaining imperviou	s area allowed withi	n basin based on the	2010 stormwater pond	d design.	
Basins 1-B and 1-C v	vill combined to for	m Basin 1-BC under	permit 40-095-20026-	-105	
Dry Pond 1-D at Gree	ak Park Expansion a	aded under permit 4	0-095-20026-112		
Basin 3 area increase	ed under Permit 40	095-20026-121			
New wet pond added	d in Basin 4-Z under	r Permit 40-095-200	26-151		
			PREPAR	ED BY HARRIS CIV	IL ENGINEERS
.0	r 1980/205000005/Permit Mod	Spreadshorts and Letters/20190	1019-03 DCF Cell, Hidg 92 & Gem (	cart Priog 2019-03 Impervious Area	Table (Cell Tower & Misc)

# **5.0 GENERAL INFRASTRUCTURE & UTILITIES** Figure 5.1-5

Project name: Project area: Drainage basin: Imp. area increase:

Figure 5.5-1 Chilled Water Infrastructure Map – Current Pressure Deficiencies





# **5.0 GENERAL INFRASTRUCTURE & UTILITIES** Figure 5.5-1

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES Figure 5.5-2

Figure 5.5-2 Chilled Water Distribution Map -Pressure Challenges





Figure 5.5-3 Chilled Water Infrastructure Map – Pipe Age





# **5.0 GENERAL INFRASTRUCTURE & UTILITIES** Figure 5.5-3

40+ Years Old
30-40 Years Old
20-30 Years Old
10-20 Years Old
Less than 10 Years Old

# 5.0 GENERAL INFRASTRUCTURE & UTILITIES Figure 5.5-4

Figure 5.5-4 Chilled Water Infrastructure Map – Mains Containing Asbestos

Asbestos is to be phased out over the next five (5) years.







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UNIVERSITY OF CENTRAL FLORIDA

# **6.0 TRANSPORTATION**

2020-30 CAMPUS MASTER PLAN UPDATE

## CONTENTS

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## INTRODUCTION

#### NARRATIVE



**RELATED ELEMENTS** 

### STATUTE & REGULATION



#### TERMINOLOGY

Public Transit System

Private Transit System

Commuter Rail Line

The UCF campus provides diverse modes of transportation for use by students, faculty, staff, and visitors, including bicycle, pedestrian, bus/transit, and motor vehicles.

The Parking and Transportation Services Department supports the vital movement of people and services by managing and improving:

- Parking Systems and Facilities
- Transit Network

Facilities and Safety and the UCF Police Department support the operations by managing and improving:

- Traffic Circulation (roadways)
- Pedestrian and Non-Motorized Circulation
- Sustainable Transportation Approaches

See 8.0 PUBLIC SAFETY for more information on Pedestrian Safety and Crime Prevention Through Environmental Design (CPTED).

See 7.0 INTERGOVERNMENTAL COORDINATION for collaboration with the host and affected local governments concerning campus traffic and infrastructure development.

6.0 TRANSPORTATION is an element that is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.

BOG 21.205 states the purpose of the element as follows:

"This element assesses and makes transportation recommendations for integrating all modes of travel (bicycle, pedestrian, bus/transit, and motor vehicle) both on campus and in the off-campus planning study area. These recommendations shall coordinate policies, programs and projects with the host and/or affected local governments, as well as with other state and regional agencies."

Terms used in this element may include:

Central Florida Regional Transit Authority (LYNX) is the public bus service in Orange, Seminole, and Osceola Counties.

UCF on-campus and off-campus shuttles to area apartment complexes and the Central Florida Research Park.

Central Florida's commuter rail line is SunRail, with 16 Stops from DeBary, FL to Kissimmee, FL.
# 6.0 TRANSPORTATION INTRODUCTION

Multimodal Center	Multimodal Centers are locations that accommodate transit arrivals and transfers from one means of transit to another. On the Main Campus these are the UCF/LYNX Transit Center <sup>1</sup> and the Research I Bus Terminal.
	The Lynx Central Station at 101 West Livingston Street in Orlando, is also a multimodal center, providing easy transfers between LYNX and SunRail, and transportation to areas all over Central Florida.
Traffic Circulation System	All roadway facilities within the University Main Campus boundaries, as well as the external roadway facilities located within the Context Area.
Vehicular	Vehicles include automobiles, trucks, motorized shuttles, autonomous shuttles, and motorized carts.
Non-Vehicular Circulation	Non-Vehicular includes bicycles, skateboards, skates (in-line or roller), scooters (manual and motorized), or similar devices, and the paths or systems that serve them.
MetroPlan Orlando	MetroPlan Orlando is the metropolitan transportation planning organization for Orange, Osceola, and Seminole Counties.
Headway	Headway is a measurement of the distance or time between vehicles in a transit system. It can be expressed as the distance between vehicles, or as the time it will take for the trailing vehicle to cover that distance.
Large Urbanized Area	A Large Urbanized Area has a minimum population of over 1,000,000, "as defined by the Federal Highway Administration (FHWA) approved boundary, which encompasses the entire Census Urbanized Area, as well as a surrounding geographic area as agreed upon by FDOT, FHWA, and the Metropolitan Planning Organization (MPO)."
Transportation SWAT	The Sustainability Working Advisory Team (SWAT) concentrating on transportation, reports on the university goals including, but not limited to, shuttle and other mass transit, commuter programs, Electric Vehicle (EV) charging, alternative fuel fleet vehicles, and improving the biking and pedestrian paths.
Micromobility	A category of personal transport vehicles such as electric scooters, electric skateboards, shared bicycles, and electric pedal assisted bicycles.

<sup>&</sup>lt;sup>1</sup> The UCF/LYNX Transit Center is noted as the "UCF SuperStop" on Google Maps and other internet sites such as TransitFeeds.com and OpenMobilityData.com.

GOALS, OBJECTIVES, & POLICIES

#### **Traffic Circulation Systems**

GOAL 1: Provide adequate vehicular access to the campus, while continuing to coordinate with local communities and planning agencies regarding essential transportation improvements.

OBJECTIVE 1.1: Set guidelines to ensure safe, effective vehicular access to, from, and within campus.	POLICY 1.1.1: Every five years, the University shall review all campus development plans for compliance with Campus Master Plan criteria for traffic circulation. POLICY 1.1.2: The University shall continue to limit general vehicular			
	sidewalk, including by signage and boom gates.			
	POLICY 1.1.3: The University shall improve the Main campus entrance at University Boulevard, in accordance with a Campus Development Agreement executed in December 2016 between UCF and Orange County.			
	POLICY 1.1.4: The University shall reduce direct vehicular access onto major roads, such as Gemini Blvd. and North Orion Blvd., by regulating the number of new driveways, consolidating access points, and creating cross-access and shared-access between adjacent driveways.			
	POLICY 1.1.5: The University shall strive to maintain a minimum level of service of E <sup>2</sup> for all campus roadways, as defined in the <i>current</i> <sup>3</sup> <i>FDOT Quality/Level of Service Handbook</i> (Q/LOS), except when that LOS could only be accomplished by widening campus roadways beyond four lanes.			
	POLICY 1.1.6: The University shall improve its traffic circulation without detrimental impact to environmentally sensitive areas. Such areas shall be mitigated consistent with policies in element 9.0 CONSERVATION, the local management district, and state and local environmental regulatory agencies.			
	POLICY 1.1.7: The University shall identify proposed on-campus traffic circulation improvements in the 10-Year Schedule of Capital Projects (SCP) found within element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.			
<b>OBJECTIVE 1.2: Ensure</b> continued coordination of UCF's transportationPOLICY 1.2.1: The University shall ensure concurrency of development with the host government. The impacts of dev such as roadways and parking facilities, must be in place and				

<sup>&</sup>lt;sup>2</sup> 2013 FDOT Q/LOS Handbook defines LOS on a scale of A-F.

<sup>&</sup>lt;sup>3</sup> FDOT has notified UCF that the 2018 FDOT Q/LOS Handbook will be published soon.

system with that of the host and affected local governments. within available capacity and without degradation to the LOS as defined by the University.

POLICY 1.2.2: The University shall coordinate transportation with the host and affected local governments, MetroPlan Orlando, and the Florida Department of Transportation (FDOT) by:

- collecting and reporting traffic data for on-campus roadways concurrent to every 5-year Campus Master Plan Update, or as necessary, to determine impact on the local host and affected governments;
- evaluating strategies and improvements to meet the projected need for additional access to the UCF campus;
- investigating on-campus traffic management systems<sup>4</sup> that integrate with Public Safety and are compatible with the systems used in the Context Area;
- ensuring interconnection and synchronization of existing and new signalization;
- continuing to participate on the MetroPlan Orlando Transportation Systems Management & Operations Advisory Committee (TSMO) in an ex-officio capacity; and
- working together regarding their proposed transportation improvement projects.

POLICY 1.2.3: The University shall survey students every five years regarding transit, bicycle, and pedestrian services to ensure quality and quantity of transportation modes.

POLICY 1.2.4: The University shall evaluate the availability of oncampus bicycle commuter support facilities such as showers, lockers, and covered and secured bicycle parking.

#### **Parking Services and Facilities**

# GOAL 2: Strive to consistently manage parking demand on campus by maximizing multimodal transportation solutions with existing resources.

OBJECTIVE 2.1: Ensure the provision of adequate parking facilities to meet future needs. POLICY 2.1.1: The University shall monitor parking utilization and parking space ratios annually to determine if parking is adequate.

POLICY 2.1.2: The University shall continue to issue residential parking permits that restrict student residents from parking outside of residential parking areas; and prevent commuter students from parking within residential areas.

<sup>&</sup>lt;sup>4</sup> UCF currently uses the Split Cycle Offset Optimization Technique (SCOOT) system on the on-campus roadway system.

POLICY 2.1.3: The University shall reduce campus parking and traffic congestion by building "intercept garages" at the outer perimeter of campus. Such garages are intended to stop vehicular traffic from entering campus and transport drivers from the garages to the campus core by other means such as shuttles, autonomous vehicles, and bike sharing.

POLICY 2.2.1: The University shall monitor campus parking annually, to maintain the student-to-parking space ratio range that UCF designates as adequate (3:1 to 4:1).

POLICY 2.2.2: The University shall provide adequate lighting at parking garages and lots, in keeping with to IES standards; and ensure the safety of students, faculty, and staff through the application of the *Crime Prevention Through Environmental Design* (CPTED) methodology.

POLICY 2.2.3: The University shall monitor visitor parking annually to establish and maintain appropriate visitor parking spots.

POLICY 2.2.4: The University shall not build any future parking garages within the Campus Core, inside of Gemini Boulevard. All remaining buildable sites within the campus core must be reserved for future Academic Buildings. Future garages will be located at the campus periphery to intercept traffic and reduce congestion within the campus core.

POLICY 2.2.5: Parking and Transportation Services shall continue to implement parking industry technologies to enhance the student experience, e.g., smartphone applications for short-term parking payments, push notifications on parking/shuttle updates, license plate recognition, and virtual parking credentials.

POLICY 2.2.6: If new construction displaces an existing parking lot, replacement parking shall be considered as part of the new construction planning and budget. A parking study shall be conducted before removing existing parking to allow new construction. Need, funding, and type of replacement parking – paved or pervious (gravel, grass) – shall be considered on a case-by-case basis.

POLICY 2.2.7: Parking and Transportation Services shall continuously evaluate current resources to identify under-used parking locations, develop strategies to maximize usage, remain fiscally responsible, and operate efficiently.

POLICY 2.2.8: The University shall strive to provide additional garage(s) during the 10-year Planning Timeframe, as indicated in Future Conditions in the Data & Analysis section of this element.

OBJECTIVE 2.2: Provide adequate campus parking facilities that are safe, accessible, and effective.



#### **Transit Systems and Facilities**

# GOAL 3: Develop a financially feasible multimodal transportation system that integrates services provided by UCF's private transit system, Central Florida's public transit system and commuter rail line, and a future autonomous vehicle (AV) shuttle service.

**OBJECTIVE 3.1: Employ** POLICY 3.1.1: The University shall continue to explore opportunities forward-thinking methods with other transportation management associations to promote to reduce traffic Transportation Demand Management (TDM) strategies both onconcestion within the campus and in the Context Area. campus core. POLICY 3.1.2: The University shall continue to optimize its existing services, with routes accommodating many students within the Context Area, as well as shuttle services to the Health Sciences Campus, UCF Downtown, and the Rosen College of Hospitality Management. These initiatives are achieved by creating partnerships with LYNX and SunRail, to support the University's integration with the Central Florida region. POLICY 3.1.3: The University shall implement Transportation Demand Management strategies, as appropriate and fiscally feasible, including but not limited to: Improved utilization of public or private transit services ٠ Improved pedestrian and non-vehicular facilities • Increased number of students living on campus • Modifications to class scheduling times POLICY 3.1.4: The University shall continue to coordinate with the host and affected local governments, LYNX, and SunRail to promote alternative modes of transportation. POLICY 3.1.5: The University shall continue to coordinate with the Central Florida Expressway Authority (CFX) regarding future transportation improvements. **OBJECTIVE 3.2: Increase** POLICY 3.2.1: The University shall continue to encourage transit as a means of travel from residential areas and parking lots to campus transit ridership. destinations. POLICY 3.2.2: The University shall continue to monitor, promote, and increase ridership on its private shuttle service. POLICY 3.2.3: The University shall develop initiatives to: market student transit services; increase shuttle ridership; decrease parking demand; and decrease the use of single-occupant vehicles. **OBJECTIVE 3.3:** POLICY 3.3.1: The University shall continue to explore opportunities to add new multimodal centers, in conjunction with parking facilities, to Implement measures to improve transit service to, minimize single-user vehicles on campus.

from, and within the campus.

POLICY 3.3.2: The University shall measure the quality of its current services using performance-based assessments based on feedback collected through online<sup>5</sup> surveys, student orientation, and focus groups.

POLICY 3.3.3: The University shall continue to plan for future campus intermodal transportation terminals in conjunction with proposed parking facilities.

POLICY 3.3.4: The University shall continue to identify residential concentrations of students and to provide convenient transit routes by:

- increasing transit service on these routes
- decreasing transit headway times
- developing additional new routes
- modifying existing routes

#### **Pedestrian and Non-Vehicular Systems and Facilities**

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GOAL 4: Create logical patterns of pedestrian and non-vehicular circulation systems which enhance the overall urban and social-academic quality of the campus.

OBJECTIVE 4.1: Encourage the use of pedestrian and non- vehicular circulation systems.	POLICY 4.1.1: The University shall continue to encourage bicycle and pedestrian modes as a means of travel from residential areas and parking lots to the campus core.		
	POLICY 4.1.2: The University shall continue to encourage and promote pedestrian and non-vehicular transportation by providing (when funding is available):		
	<ul> <li>Well-maintained and lighted sidewalks and bike pathways</li> </ul>		
	Bicycle racks near buildings		
	Bike lockers		
	Bicycle racks on UCF shuttles		
	Bike- and/or Scooter- sharing		
	Skateboard lockers		
	<ul> <li>Showers/dressing rooms in new UCF buildings<sup>6</sup></li> </ul>		
	POLICY 4.1.3: The University shall continue to provide bicycle lanes on newly-constructed or improved on-campus roadways, where feasible. UCF will investigate locations where protected lanes are needed to improve safety; such as higher-speed campus roads.		

<sup>&</sup>lt;sup>5</sup> Online assessment addresses: Shuttles@ucf.edu, Decals@ucf.edu and Parkingevents@ucf.edu.

<sup>&</sup>lt;sup>6</sup> LEED requires one on-site shower with changing facility for the first 100 regular building occupants and one additional shower for every 150 regular building occupants thereafter.



OBJECTIVE 4.2: Coordinate pedestrian and non-vehicular circulation systems with those developed by the host and affected local governments.



# OBJECTIVE 4.3: Continue to promote pedestrian safety.

POLICY 4.1.4: The University shall continue to provide crosswalks at all points where pedestrian and non-vehicular circulation cross Gemini Boulevard, at all campus entrances, and where required for safety. The University shall continue to evaluate crossings to ensure pedestrian safety.

- Traffic calming measures and pedestrian signalization may be used to make crossings safer.
- Pedestrian crossing shall be subject to enforcement by the UCF Police department.

POLICY 4.2.1: The University shall continue to coordinate with the host and affected local governments regarding the implementation of sidewalks, bicycle paths and lanes, and safety-enhanced pedestrian crosswalks along all vehicular corridors adjacent to or leading in and out of campus.

POLICY 4.2.2: The University shall continue to coordinate with the host and affected local governments by reviewing their local comprehensive plans, bicycle plans, or pedestrian circulation plans, and meeting with local governments and agencies, as necessary.

POLICY 4.2.3: The University shall support the concept of mid-block pedestrian crosswalks on roads near campus to improve pedestrian safety by reducing jaywalking.

Two future mid-block pedestrian crosswalks are required by a Campus Development Agreement (CDA) executed in December 2016 between UCF and Orange County:

- Alafaya Trail near Solon Drive
- University Boulevard at Turbine Drive

Other future locations would improve pedestrian safety:

 McCulloch Road<sup>7</sup> at one or more points between Alafaya Trail and Lockwood Blvd<sup>8</sup>

POLICY 4.2.4: In partnership with Orange County, the University shall "develop an on-campus bicycle pathway through the UCF campus, linking the existing trail systems of Orange and Seminole Counties."<sup>9</sup>

POLICY 4.3.1: The University shall develop and provide educational programs related to pedestrian safety, as required by a Campus Development Agreement executed in December 2016 between UCF and Orange County.

POLICY 4.3.2: The University shall continue to educate the campus community with Pedestrian Safety Tips.

<sup>&</sup>lt;sup>7</sup> McCulloch Road crossings would require a partnership between UCF, Orange County, and Seminole County.

<sup>&</sup>lt;sup>8</sup> McCulloch Road crossings would require coordination with the improvement of trails through the conservation area at the north edge of the UCF campus.

<sup>&</sup>lt;sup>9</sup> Campus Development Agreement executed in December 2016 between UCF and Orange County.

# OBJECTIVE 4.4: Continue to grow the cycling culture



at UCF by prioritizing ridership and safety.

OBJECTIVE 4.5: Continue to support the use of other non-vehicular personal transportation devices on campus.

OBJECTIVE 4.6: Review the need for additional lighting along pedestrian and non-vehicular circulation routes. POLICY 4.4.1: The University will strive to improve its bicycle facilities in order to maintain its status and improve its ranking as a "Bicycle Friendly University."<sup>10</sup>

POLICY 4.4.2: The University will continue to provide information and education on bicycle safety and cycling amenities.

- The UCF Student Government Association website explains the SGA Bike Share (bike rental) and bike repair facilities.
- The UCF Police Department website details Bicycle Safety Tips and other information.
- The Parking and Transportation Department website identifies bike rack locations.

POLICY 4.5.1: The University limits the use of skateboards, roller blades, etc. to sidewalks and crosswalks. The use of such devices is prohibited by UCF Policy in all other areas, including roadways, bike paths, parking lots, or inside any building or garage; or upon site improvements such as walls, steps, ramps, site furniture, or architectural elements. Riders must also yield the right of way to pedestrians, bicyclists, and motorists.

POLICY 4.5.2 With the increased use of eBikes and eScooters on campus, UCF must adapt policies to address their use; and investigate pedestrian safety precautions, such as separating "Wheels from Heels." These Micromobility devices travel at faster speeds and pedestrian safety would be better served if they travelled on separate paths from pedestrians (pending funding).

POLICY 4.6.1: The University shall follow the lighting guidelines described in the UCF Design, Construction, and Renovation Standards. Concurrency requires that appropriate lighting systems be constructed concurrent with pedestrian and non-vehicular circulation systems.

POLICY 4.6.2: The University shall review all future lighting plans along proposed pedestrian and non-vehicular systems to ensure compliance with the UCF Design, Construction, and Renovation Standards.

POLICY 4.6.3: The University shall install pedestrian-scale lighting within the right of way on UCF property on the east side of Alafaya Trail, as required by a Campus Development Agreement executed in December 2016 between UCF and Orange County.

<sup>&</sup>lt;sup>10</sup> The League of American Bicyclists designated UCF as "bicycle friendly" in November 2017.

# Sustainable Transportation

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GOAL 5: Develop sustainable transportation options, while balancing the economic and social benefits of transportation with the need to protect the environment.					
OBJECTIVE 5.1: Integrate transportation and land use planning.	POLICY 5.1.1: Conduct transportation and land use planning concurrently to accommodate the effects of land use on transportation systems as well as the demands for transportation on land development.				
	POLICY 5.1.2: Encourage supportive land use designs, including compact and mixed-use developments that reduce trip length and are pedestrian-friendly.				
OBJECTIVE 5.2: Protect the environmental health of the campus.	POLICY 5.2.1: The University shall continue to implement distance learning, and coordination with satellite campuses, as techniques to reduce the quantity of students travelling to the Main Campus.				
	POLICY 5.2.2: The University shall continue to refine class scheduling as a method of mitigating peak-hour traffic conditions and maximizing utilization of existing transportation infrastructure investment.				
	POLICY 5.2.3: UCF shall establish a bus fleet of 80% propane and 20% clean bio-diesel by 2020.				
OBJECTIVE 5.3: Reduce dependence on the personal automobile by	POLICY 5.3.1: The University shall continue to promote Zimride (Enterprise) and Zipcar as campus-wide car-sharing programs for UCF faculty, staff, and students.				
encouraging the use of alternative modes of transportation	POLICY 5.3.2: The University shall support Uber and Lyft as campus- wide ridesharing programs for UCF faculty, staff, and students.				
transportation.	POLICY 5.3.3: Within the planning timeframe, the University shall study the effectiveness and feasibility of a parking incentive program that provides preferential parking for automobiles carrying two or more persons.				
	POLICY 5.3.4: The University shall work with the host and affected local governments and public transit providers to evaluate other options for reducing the dependence on the personal automobile.				
	POLICY 5.3.5: The University shall continue to provide Electric Vehicle (EV) charging stations, where feasible.				
	POLICY 5.3.6: The University shall deploy and research an autonomous vehicle (AV) shuttle service to provide a mode of transit within the Academic Core, with particular emphasis on accessibility.				
OBJECTIVE 5.4: Consider all modes of alternative	POLICY 5.4.1: The University shall identify strategies to increase walking, cycling, micro-mobility, transit, rideshare, and telecommuting.				
transportation.	POLICY 5.4.2: The University shall identify strategies to make transit operation more sustainable, including increased ridership, route optimization, and alternative energy sources.				

	POLICY 5.4.3: The University shall identify strategies to make motor vehicle use more sustainable, including incident management, signal optimization, rideshare, and carpooling.
OBJECTIVE 5.5: Measure transportation	POLICY 5.5.1: The University shall deploy measurement programs to monitor progress toward sustainable transportation goals.
performance.	POLICY 5.5.2: The University shall deploy a performance measurement framework that ties to the plan's strategic framework and monitors outputs, outcomes, and external influences.
	POLICY 5.5.3: The University shall identify a reporting and marketing strategy to effectively communicate performance measurement results.
OBJECTIVE 5.6: Create a living transportation plan with public involvement.	POLICY 5.6.1: The University shall involve the public in the transportation planning process and identify ways for public involvement to enhance the future program and project implementation.
	POLICY 5.6.2: The University shall identify a process for regular updates to the implementation program as an extension of the plan.

#### **DATA & ANALYSIS**

#### TRANSPORTATION

NARRATIVE	Since its inception in 1963 as the Florida Technical University, the University has experienced tremendous growth, and is now the largest state university in Florida with an enrollment of more than 68,000 students. Enrollment projections for the Main Campus during the 10- year planning timeframe can be found in 1.0 INTRODUCTION.
	An increasing student population results in increased demands on infrastructure, such as new and improved roads, pedestrian walkways, bicycle facilities, transit improvements, and parking. The University has added significant transportation infrastructure to accommodate this growth, including Transportation Demand Management (TDM) strategies to decrease the use of single-occupant vehicles and encourage multimodal travel.
	The University of Central Florida maintains a network of internal roadways, as well as a fleet of over 49 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.
	With a growing student population, the University strives 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 Figure 6.0-12 Context Area Map.
	<ul> <li>Data &amp; Analysis includes the following:</li> <li>Existing conditions</li> <li>Planned improvements</li> <li>Sustainable transportation approaches</li> <li>Future conditions</li> </ul>

# **Existing Conditions**

INVENTORY	This element requires an analysis of existing transportation facilities within and surrounding the University. In order to evaluate the existing conditions of the transportation facilities on 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.
Campus Population – Enrollment and Employment	Student enrollment headcount on the Main Campus was 54,324 in Fall 2018, which equates to approximately 37,057 Full Time Equivalent (FTE) students <sup>11</sup> .

<sup>&</sup>lt;sup>11</sup> FTE totals are based on 40 undergraduate annual student credit hours and 32 graduate student credit hours produced in live (non-Web) course sections on the UCF Main Campus, for fundable and non-fundable student credit hours.

Additionally, there are about 12,000 permanent and temporary employees on the Main Campus.

#### a. Traffic Circulation Systems

	For the purposes of this Transportation Element, traffic circulation system will be defined as all roadway facilities within the University Campus boundaries, as well as within the Context Area (see Figure 6.0-12 Context Area Map).		
	An inventory of the existing roadway facilities located within the Context Area is shown in Figure 6.0-1 Roadway Facility Inventory Table. 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 process by which streets and highways are grouped into classes or systems, according to the character of service they are intended to provide."		
	<ul> <li>Generally, there are six (6) major classifications of roads:</li> <li>Expressway Freeway</li> <li>Principal Arterial</li> <li>Minor Arterial</li> <li>Collector (Major and Minor)</li> <li>Local Road</li> </ul>		
	Roadways provide two functions within the functional classification by providing varying levels of access and mobility. The functional classification of a roadway is used to set level of service standards and to evaluate operational characteristics.		

# Figure 6.0-1 RoadwayFigure 6.0-1 includes roadway segments<sup>12</sup> on campus and within the<br/>Context Area (see Figure 6.0-12 Context Area Map)

Road Name	From	То	Lanes	Jurisdiction	Functional Classification	Adopted LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	State	Principal Arterial	E
	Science Drive	University Blvd	6LD	State	Principal Arterial	E
	University Blvd.	McCulloch Road	6LD	State	Principal Arterial	E
	McCulloch Road	Chapman Road	6LD	State	Principal Arterial	E
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	UCF	Minor Collector	E
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	UCF	Minor Collector	E
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	Seminole Co.	Major Collector	E
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	State	Principal Arterial	E

<sup>12</sup> Although named, UCF's Local Roads are not considered in Figure 6.0-1, including East Plaza Drive, Knights Victory Way, Mensa Lane, Pictor Lane, Greek Court, Scorpius Street, Pegasus Drive, Aquarius Agora Drive, Leo Lane, Andromeda Loop, Pyxis Lane, Hydra Lane, Ursa Minor Street, and Ara Drive.

Discovery Drive / Libra	Research Parkway	Gemini Blvd.	4LD	UCF	Minor Collector	E
Drive Gemini Blvd	Central Florida Blvd	Liniversity Blvd		LICE	Minor Collector	F
Gemmin Divu.			4LD		Minor Collector	
	University Biva.	Centaurus Drive	4LD	UCF	Minor Collector	E
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	UCF	Minor Collector	E
	Greek Park Drive	N. Orion Blvd.	4LD	UCF	Minor Collector	E
	N. Orion Blvd.	Libra Drive	4LD	UCF	Minor Collector	E
Gemini Blvd. East	Libra Dr.	Scorpius St. (Star St.)	4LD	UCF	Minor Collector	E
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	UCF	Minor Collector	E
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	UCF	Minor Collector	E
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	Orange Co.	Major Collector	E
	Percival Road	S. Tanner Road	2L	Orange Co.	Major Collector	E
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	Orange Co.	Minor Collector	E
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	Seminole Co.	Minor Collector	E
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	Seminole Co.	Minor Collector	E
	Lockwood Blvd.	Old Lockwood	2L	Seminole Co.	Minor Collector	E
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	UCF	Minor Collector	E
Percival Road	Tanner Road	Lake Pickett Road	2L	Orange Co.	Minor Collector	E
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	Orange Co.	Minor Collector	E
	Lokanotosa Trail	University Blvd.	4LD	Orange Co.	Minor Collector	E
	University Blvd.	Seminole Co. Line	4LD	Orange Co.	Minor Collector	E
University Blvd.	Rouse Road	Alafaya Trail (434)	6LD	Orange Co.	Minor Arterial	E
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	UCF	Minor Collector	E
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	UCF	Minor Collector	E

#### Roadways

Figure 6.0-13 Campus Area Roadways Map – by Functional Classification details the functional classification of all study roadways within the Context Area (see Maps & Tables at the end of this element).

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. This facility type connects minor arterials and freeways as well as other principal arterials.
- Minor Arterial This type of roadway provides connections between principal arterials and collectors. It typically serves moderate distances with less emphasis on mobility than a principal arterial and with a greater level of access to adjacent land parcels.

#### **DATA & ANALYSIS** 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 AASHTO13 "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. Level of Service (LOS) Level of service (LOS) is used to describe a qualitative measure Standards of the operational performance of a roadway under existing or projected traffic conditions. There are six alphabetical LOS designations, A-F, that are used to describe the operating conditions of a roadway. These designations range from the best, LOS "A", which represents free-flow conditions, to the worst, LOS "F", which represents breakdown conditions with significant delays. For the purposes of this update, this element will follow the LOS standards developed in the FDOT 2013 Quality/Level of Service Handbook (Q/LOS). The FDOT 2013 Q/LOS Handbook includes Table 7 Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas. It shows the existing traffic volumes, roadway geometry and LOS for roadways within the Context Area. **Oversized Maps and** The following related oversized roadway maps and tables are **Tables for Traffic** located at the end of this element: **Circulation Systems** Figure 6.0-10 Existing Roadway Conditions Table details an • analysis of existing conditions of the roadways within the Context Area. Figure 6.0-14 Existing Roadway Network and Daily Traffic • Volumes Map which identifies the 2019 traffic volumes, roadway geometry, and LOS for roadways within the Context Area. **b. Parking Systems** The need for large-capacity, well-distributed parking is paramount to support the needs of UCF's students, faculty, staff, and visitors. To accommodate parking demands, both permanent and temporary parking facilities are provided on

campus.

6.0 TRANSPORTATION

<sup>&</sup>lt;sup>13</sup> The American Association of State Highway Transportation Officials (AASHTO).

Parking for nearly 18,600 vehicles is provided on campus in ten (10) garages and more than 60 parking lots and other locations. The sites of UCF's parking garages are depicted in Figure 6.0-15 Existing Parking Structures Map. All parking is indicated on Parking and Transportation Service's <u>Campus Map and Parking</u> <u>Guide</u>.

UCF has 10 parking garages.

Garage	Year	# of Spaces
Garage A	2007	1,647
Garage B	2000	1,289
Garage C	1998/2016	1,852
Garage D	2002	1,279
Garage E	2007	696
Garage F	2008	678
Garage G	2000	696
Garage H	2011	1,340
Garage I	1997	1,270
Libra Garage (J)	2014	1,039
TOTAL PARKING IN GARGES		11,786

Figure 6.0-3 identifies parking statistics by user type.

User Type	# of Spaces	% of Total
Student	10,926	58.76%
Housing (Student Residents)	3,232	17.38%
Faculty	465	
Staff	590	10.97%
Faculty/Staff	984	
Reserved	177	0.95%
Disabled	435	2.34%
Meters	118	0.63%
Service	240	1.29%
Motorcycle	198	1.06%
Event Parking	604	3.25%
Health Center Spaces	44	0.24%
Other	625	3.12%
TOTAL PARKING	18,594	

#### Analysis

Student Commuter Parking

Figure 6.0-2 Campus Parking Structures

Figure 6.0-3 Parking by

**User Type** 

(garages)

As Figure 6.0-3 shows, the majority of UCF parking is allocated for student commuters, with nearly 59% of the total spaces on campus.

	UCF had nearly 32,000 student commuters in DT Permits) <sup>14</sup> . Parking industry standards incommuter parking turns over two to four times this turnover, UCF is able to accommodate particle student population with fewer than 11,000 student commuter parking spaces.	n Fall 2018 (D and dicate that student s a day. Because of arking demand for ) designated
Student Residential Parking	Residential parking, such as Garage E, Garag Greek Park, and Lake Claire Community may students who keep their cars on campus. The Residential parking permits (R, RL, and KP), used in Student Commuter parking spaces in and garages.	ge G, and lots in / be used by ese areas require which may not be other campus lots
Faculty and Staff Parking	Faculty and staff parking spaces total nearly	11% of UCFs total.
All-user parking	Some parking spaces, including disabled, over parking, and motorcycle parking, may be use including students, faculty, and staff.	erflow, event d by all users,
Specialty Parking	Nearly 2,400 spaces on campus serve "speci event parking, disabled, motorcycle, reserved health care, and other parking. Figure 6.0-4 s specialty parking spaces by type.	alty" uses, including l, service, metered, hows a breakout of
Figure 6.0-4 Specialty	Туре	# of Spaces
Parking	Event Garage (F)	678
	Disabled	435
	Motorcycle	198
	Reserved	177
	Service	240
	Metered	118
	Health care	44
	Other – overflow, pay by space, car pool, electric	581
	vehicle hybrid parking, etc.	
	TOTAL SPECIALTY PARKING	2,471
Parking Utilization Study	In October 2018, University staff performed a Parking Utilization Study for all major lot types including number of vehicles parked in each I location and time, average counts by location and parking capacity by type.	detailed 5-day s on campus, ot, utilization by and time of day,
	In summary, the study indicated that, in gene faculty, staff, and housing parking lots are mo occupied during most periods of the day, and to full capacity.	ral, the student, ore than 70% several are close
	Peak usage on an average weekday is betwee when faculty and student lots were approximation of the student lots were approximation of t	een 10am and noon; ately 95% and 92%

<sup>&</sup>lt;sup>14</sup> In Fall 2018, UCF sold 31,821 "D" or "DT" commuter student permits, and in Spring 2018, 10,314 permits.

occupied, respectively. Parking availability was seen in the faculty and student lots after 4pm on most days.

c. Transit Circulation	
NARRATIVE	UCF offers various transit options for students, faculty, and staff to travel on- and off-campus. The University is served by both public and private transit systems.
	The LYNX system provides regional, public transportation throughout the metropolitan Orlando area, and KnightLYNX (a collaborative effort between LYNX and the UCF Student Government) provides late night, weekend bus service to students on two routes near campus.
	The University provides transportation for students living in apartment complexes within one mile of campus through the Campus Transit Shuttle system, which includes 15 regular, fixed shuttle routes serving 22 apartment complexes.
	The University also runs four Pegasus Express shuttles throughout campus for 12 hours per day to alleviate internal roadway congestion.
TRANSIT SERVICES Multimodal Centers	Multimodal Centers are locations that accommodate transit arrivals and transfers from one means of transit to another. Examples are:
	UCF/LYNX Transit Center on Leo Lane
	Research I Bus Terminal on Scorpius Drive
LYNX	LYNX is the regional, public transit service provider that connects the University to the greater Orlando area, including Downtown Orlando.
	The LYNX bus service enters the campus via University Boulevard and uses the UCF/LYNX Transit Center, a multimodal hub 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.
Link #13:	Link #13 is specific to the University, and services the following areas: Primary stops for the link include: • Lynx Central Station • Colonial Plaza SuperStop • Fashion Square Mall • VA Clinic • Advent Health Winter Park

	UCF/LYNX Transit Center
Link #104	Link #104 stretches from Downtown Orlando at the LYNX Central Station, down to the UCF campus via SR 50, Colonial Drive.
	<ul> <li>Primary stops for this link include:</li> <li>Lynx Central Station</li> <li>Fashion Square Mall</li> <li>Semoran Boulevard and E. Colonial Drive</li> <li>Valencia College East</li> <li>Alafaya Trail and Colonial Drive</li> <li>UCF/LYNX Transit Center</li> </ul>
Link #434	Link #434 offers flex service within the City of Oviedo. The route originates at Seminole State College Altamonte and commences at the University, serving SR 434 in the following areas: UCF, Oviedo, Winter Springs, Longwood, and Forest City.
	Primary stops for the link include: UCF/LYNX Transit Center Oviedo Medical Center Oviedo Mall Winter Springs City Hall South Seminole Hospital US 17/92 and SR 434 SunRail – Longwood Station Wekiva Springs Lane and SR 434 Seminole State College Altamonte
KnightLYNX	KnightLYNX is a Student Government Association (SGA)
Link #210	Partnership with LYNX that connects the UCF community to high-demand locations around UCF with free rides on Friday and Saturday evenings.
	<ul> <li>Primary stops for the link include:</li> <li>UCF Arena</li> <li>UCF Recreation and Wellness Center</li> <li>Alafaya Trail and Colonial Drive</li> <li>Alafaya Trail and Waterford Lakes Parkway</li> </ul>
UCF Shuttle System	The University maintains a fleet of approximately forty-nine (49), 40-passenger shuttle buses. The shuttle system is an important transportation alternative to the single-passenger automobile.
	<ul> <li>The UCF shuttle system transports approximately 9,000 passenger boardings daily.</li> <li>Average for the past three years is 1.9 million boardings annually.</li> <li>1.9 million divided by 210 class days = 9,047 boardings per day.</li> </ul>

Pegasus Express	UCF offers an intra-campus shuttle route, The Pegasus Express, which operates on class days from 7am to 7pm. Two (2) routes provide an alternative transportation option for students, faculty, and staff with 11 strategic bus stops around campus. Both on-campus lines run during Summer semesters from 7am to 4pm, excluding Saturdays. The stops include:		
	1	UCF Student Union	
	2	Lake Claire Community	
	3	Additions Arena / Knights Plaza / Towe	rs
	4	Engineering / Business Administration /	CREOL / Research I
	5	Physical Sciences / Student Health Cer	nter
	6	Nike / Hercules / Neptune Communities	s / Red Coach Connect
	7	Ferrell Commons / Recreation and Well	Iness Center
	8	Nike / Hercules / Neptune Communities Multicultural Studies	s / Center for Multilingual
	9	Library / Millican Hall / Apollo	
	10	Teaching Academy / Howard Phillips Ha	all
	11	UCF / LYNX Transit Center	
Off-Campus Transit Figure 6.0-5 Off-Campus Shuttle Routes	Fiftee housi Floric	en (15) off-campus routes serve tw ing complexes within a mile of UC da Research Park.	venty-two (22) student F, as well as the Central
Route	Apar	tment Complex(s)	UCF Stop
Route 1	Knight	s Circle	Student Union
Route 2	Colleg	e Station / Boardwalk	Millican Hall
Route 3	The V	erge / The Place at Alafaya	UCF / LYNX Transit Center
Route 4	Mercu	ry 3100 / Campus Crossings	Millican Hall
Route 5	Village	e at Science Drive / Research Pavilion	Health Center
Route 6	Northg	gate Lakes / Tivoli Apartments	HPA
Route 7	The Po	ointe at Central	Millican Hall
Route 8	The St	tation / Riverwind at Alafaya	HPA
Route 9	Knight	s Landing / Research Park	Health Center
Route 10	Orion	on Orpington / The Lofts	UCF / LYNX Transit Center
Route 11		arquee	UCF / LYNX Transit Center
Route 12	Univer	rsity House	Millican Hall
Route 13	North\	/iew	
Route 14	Plaza		
Route 15	Arden	Villas / Collegiate Village Inn	UCF / LYNX Transit Center
Satellite Campus Transit	Satel	lite Campus Shuttle Routes provid	de an excellent

Rosen College of Hospitality Management (RCHM)	Two (2) weekday buses operate on one (1) transit route to RCHM from the Main Campus. With nine round trips every day, leaving from the Student Union near stop number 1 on Aquarius Agora Drive, the Rosen College shuttle provides a reliable transportation option for students, faculty, and staff to commute to RCHM.
Health Sciences Campus at Lake Nona	Three (3) buses are performing six (6) round trips on one (1) transit route from the Main Campus to the Health Sciences Campus at Lake Nona. The buses depart from the Physical Sciences building (stop no. 9 at the Main Campus) and stop at the Biomolecular Research Annex on the way to the Health Sciences Building on Laureate Boulevard in Lake Nona.
UCF Downtown Campus	On August 26, 2019, service to the UCF Downtown Campus began. Two (2) buses operate on one (1) route from the UCF/LYNX Transit Center to UCF Downtown. These shuttles maintain set scheduled departure times from the Main Campus and UCF Downtown. This service is only offered on class days and is subject to change based on course offering times.
Figure 6.0-6 Average UCF Shuttle Ridership Table – Fall 2018	Figure 6.0-6 details the average ridership of all UCF shuttles for Fall 2018. To summarize, a significant portion of the University's student, faculty, and staff arrive each day via the shuttle system. Total ridership was also tallied by month, with October and September showing the highest ridership respectively. This transit option significantly reduces the overall impact of the University on the surrounding roadway network.

Route	•	Total	Average Daily
1	Knights Circle	212,215	3,422
2	College Station / Boardwalk	36,810	593
3	The Verge / The Place at Alafaya	61,516	992
4	Mercury 3100 / Campus Crossings	60,846	981
5	Science Drive	44,701	720
6	Northgate Lakes / Tivoli Apartments	57,791	932
7	The Pointe at Central	73,709	1,188
8	The Station / Riverwind	15,837	255
9	Knights Landing / Research Parkway	20,660	333
10	Orion on Orpington / The Lofts	53,690	865
11	The Marquee	58,016	935
12	University House	46,154	744
13	NorthView	33,384	538
14	Plaza on University	70,471	1,136
15	Arden Villas / Collegiate Village Inn	21,866	352
PegExp	Pegasus Express	15,594	251
PNR	Park and Ride	19,156	308

UCFDT	UCF Downtown <sup>15</sup>	218	3
GS	Tuesday Grocery Shuttle	5,426	87
HSC	Health Sciences Campus, Lake Nona	12,626	203
RC	Rosen College of Hospitality Management	50,227	810
Total Ridership		970,913	
Average Daily Ridership		15,659	

Maps and Tables for c. Transit Circulation.

See Maps & Tables at the end of this element for oversized Maps and Tables:

- Figure 6.0-16 Existing Campus Transit Service Map depicts the Lynx and UCF shuttle routes.
- Figure 6.0-17 Off-Campus Shuttle Map depicts the routes that serve off-campus residential communities.

#### d. Bicycle and Pedestrian Circulation

NARRATIVE



The pedestrian and bicycle networks are key components of the University's multimodal transportation system. Since most students, faculty, and staff walk between their destinations, once on campus, it is important that a highly-developed network exist to allow for circulation.

The University has developed an intricate network of bicycle and pedestrian paths throughout the Campus, anchored with three concentric paths, Pegasus (400-foot radius), Mercury (800-foot radius), and Aquarius (1,200-foot radius). There is a network of connecting paths that crisscross the campus and connect at significant pedestrian generators such as academic buildings, parking facilities, multimodal centers, and on-campus residential complexes. A map of UCFs intricate sidewalk network can be found at: <u>https://map.ucf.edu/sidewalks/</u>. See also Figure 6.0-18 Cycling Map.

The bicycle/pedestrian 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 used to the fullest.

The University has made a significant investment in facilities necessary to encourage pedestrian and bicycle activity. These safe, aesthetically-pleasing facilities are well-used by the student population, as well as by an active cycling community.

Many University buildings have one or more bicycle racks located at their entrances. As of Spring 2019, the University provides bicycle racks for approximately 6,500 bicycles. An interactive map for their locations is found at: <u>http://map.ucf.edu/bikeracks/</u>.

<sup>&</sup>lt;sup>15</sup> Fall 2018 was a full year before the DT Campus opened – ridership was to the Center for Emerging Media (CEM).

# e. Sustainable Transportation Approaches

NARRATIVE	The University has been developing various mobility options, as well as working to increase the student housing-to-enrollment ratio within the Context Area, to reduce the use of single- occupant vehicles. The primary mobility options and strategies to reduce the dependence upon the personal automobile offered by the University include:	
	• Reliable campus shuttle service, 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 and businesses in the Context Area.	
	• Robust connectivity via pedestrian and bicycle facilities. UCF Student Government Association and the SWAT committee, in conjunction with the Student Union, offer bike sharing and micromobility programs.	
	Additional sustainable transportation approaches are outlined below:	
Green Initiative		
Electric Vehicle Charging Stations	Electric Vehicle (EV) charging stations support UCF's commitment to sustainability and clean transportation initiatives. For the 2018-2019 year, the EV charging stations saved 161,060 pounds of $CO_2$ , and 8,300 gallons of gasoline through the use of alternative fueling.	
	Fifteen (15) EV charging stations are located in five (5) high- demand parking areas throughout campus:	
	<ul> <li>Parking lot D1 (Memory Mall)</li> </ul>	
	<ul> <li>Parking lot B6 (Visitor Information Center)</li> </ul>	
	<ul> <li>Parking lot B1 (Teaching Academy)</li> </ul>	
	<ul> <li>Parking Garage A (1st level near elevators)</li> </ul>	
	Parking Garage D (4th Level)	
	There is an hourly service fee to use the EV charging stations. After a 4-hour maximum charge time, there is a 30-minute courtesy window to relocate the vehicle.	
Car-Sharing	<ul> <li>The University is committed to ride-sharing and car-sharing for the reasons outlined below:</li> <li>reducing the demand for parking facilities on campus</li> <li>reducing traffic congestion</li> <li>preserving the environment by reducing gasoline consumption, greenhouse gases, carbon footprint</li> </ul>	

	<ul> <li>providing economical, stress-free, convenient, and safe alternative transportation for students, faculty, and staff</li> <li>promoting ridesharing</li> <li>reducing wear and tear on personal vehicles</li> </ul>
Zipcar	Zipcar is a membership-based car sharing company providing automobile reservations to its members billable by the hour or day. It is an alternative to traditional car rental and car ownership. Currently, over 700 members actively use the service at UCF. There are nine (9) existing Zipcar vehicles on campus located in lots B9 and H4, and in Garage G. The average utilization rate is 23.24%.
Zimride	The University initiated a ride sharing program called Zimride. This complimentary program offers students, faculty, and staff the flexibility to use social media networking to share rides to various destinations. To date, 4,330 participants have used this program, as noted at <u>https://new.zimride.com/ucf.</u>
Parking Solutions	
Park and Ride	The University has implemented a park and ride system at Lot E- 5, with UCF shuttles readily available to transport students to the multimodal center known as Research I Bus Stop, located between Research I and Parking Garage C.
	The shuttles operate every 15 minutes and provide students the convenience of peripheral parking and being transported to the inner core. These benefits support the University's mission to reduce vehicular traffic in the inner core of campus.
	Like intercept garages, Park-and Rides stop cars before they reach the Campus Core, effectively reducing traffic congestion.
Transit	The University provides high-quality transit for travel between residential areas and parking lots to other on-campus destinations. In conjunction with LYNX, the University continues to improve regional and campus transit service to, from, and within the University.
Shuttle Tracking	To facilitate UCF Shuttle ridership, buses can be tracked through a website ( <u>https://ucf.crystal-tod.com/rider/</u> ) and smartphone app (UCF Mobile). Riders can view the shuttles' GPS locations with estimated arrival and departure times, bus stops, vehicle numbers, and shuttle routes.
Pedestrian Walkways and Bicycle Paths	Residence halls, visitor parking areas, and campus parking lots are connected to other campus destinations via a network of pedestrian walkways and bicycle paths.
Bike Parking	The University provides bicycle racks and skateboard lockers adjacent to classroom buildings to encourage non-vehicular circulation.
Limited-access Service Roads	UCF limits non-service vehicles within the Academic Core to promote pedestrian and bicycle safety. Vehicles with Disabled

	Parking Permits may park in designated spaces within the Academic Core.
Transportation Demand Management (TDM)	The University actively promotes TDM strategies both on- campus and in the Context Area. The University has implemented strategies, including, but not limited to:
	<ul> <li>Flextime scheduling for University staff</li> <li>Comprehensive transit and shuttle services</li> <li>Improved pedestrian and non-vehicular facilities</li> <li>Increased number of students living on campus</li> <li>Modifications to class scheduling times</li> </ul>
Academic Solutions	The University has implemented academic solutions to reduce congestion and dependence on personal vehicles.
Class Scheduling	The University has adjusted class scheduling to mitigate peak- hour traffic conditions and maximize utilization of existing transportation infrastructure.
Online Degree Program	UCF has robust online degree programs that reduce the need for students to travel to campus.

#### North Campus – Event Traffic and Parking

Kenneth G.	Dixon	Athletics
Village		

Knight's Plaza



intercollegiate athletics complex located on the north end of campus. Dixon Village includes the 45,000 seat Spectrum Stadium which hosts UCF home football games.
Although the football stadium is a special trip generator, trips occur during non-peak hours. The impacts of the Dixon Village have been incorporated in previous sections of this element.
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 strategies include signage, post-game activities that keep fans on campus and decrease traffic peaks, and the reversal of traffic lanes to double the capacity of roadways.

The Kenneth G. Dixon Athletics Village is a mixed-use

Just across Gemini Boulevard and north of Memory Mall is Knight's Plaza, a lively urban environment that hosts more than 200 events per year and includes the following facilities:

- Additions Arena
- The Venue
- Retail and commercial spaces
- The Towers (4 student residential buildings with over 2,000 units)
- Three (3) parking garages

Event Traffic and parking

Major events that occur on-campus and require coordination of guest parking include high school, state college, and University commencements, sporting events, and concerts. UCF garages and parking lots accommodate guests at these events.

Future Conditions	
Future Socioeconomic Conditions	Since the 2015-25 CMP update, Main Campus enrollment has increased from ~50,000 <sup>16</sup> to ~54,000. <sup>17</sup> See 1.0 INTRODUCTION for Enrollment Projections for the 10-Year Planning Timeframe
Committed Transportation Improvements	Pursuant to a 2016 Campus Development Agreement (CDA), UCF and Orange County identified the following Partnership Projects that will "improve the road deficiencies outlined in the 2015-25 UCF Campus Master Plan Update."
	(a) Participating in a University Area Pedestrian Safety Study, with UCF undertaking the following:
	<ol> <li>Providing an additional 5 feet of right-of-way beyond FDOT's right-of-way;</li> </ol>
	<ol> <li>Designing and constructing the first phase of the Gateway Project, a landing pad and entryway features at University Boulevard and Alafaya Trail;</li> </ol>
	<ol> <li>Paying for the installation of recommended mid-block crossings on Alafaya Trail and on University Boulevard;</li> </ol>
	<ol> <li>Installing pedestrian-scale lighting within the right-of-way on UCF property along the UCF side of Alafaya Trail;</li> </ol>
	<ol> <li>Paying Duke Energy for lighting maintenance and utilities along the UCF side of Alafaya Trail;</li> </ol>
	<ol> <li>Contributing to the signalization changes at University Boulevard and Alafaya Trail;</li> </ol>
	<ol> <li>Developing and providing educational programs related to pedestrian safety; and</li> </ol>
	<ol> <li>Providing wayfinding signage on Alafaya Trail and University Boulevard.</li> </ol>
	(b) Developing and implementing a comprehensive wayfinding signage plan for the UCF Campus (completed);
	<ul> <li>(c) Developing a bicycle pathway through the UCF Campus that links the existing trail systems of Orange and Seminole Counties;</li> </ul>

<sup>&</sup>lt;sup>16</sup> 2014 Fall Headcount 49,923 per 2015-25 Campus Master Plan, 2.11 Transportation Element, Table 2.11-1: UCF Projected Attendance for the Main Orlando Campus.

<sup>&</sup>lt;sup>17</sup> 2018 Fall Headcount 54,324 per UCF Institutional Knowledge Management (IKM).

	<ul> <li>(e) UCF and Orange County jointly evaluating the operability and compatibility of the County's and UCF's traffic control systems;</li> </ul>							
	(f) Working in partnership to secure state funds for concurrency; and							
	(g) UCF and Orange County jointly performing annual traffic counts on backlogged roads identified in CDA Section 10.6.							
	The MetroPlan Orlando Transportation Improvement Program (2019–2023) and the Seminole County Public Works Department report no other programmed improvements for the external facilities located in the Context Area.							
Future Parking Structures	The University will strive to provide additional garage(s) during the 10-year Planning Timeframe, to add 2,000 or more parking spaces.							
	Per this chapter, Policy 2.2.4, The University will not build future parking garages within the campus coreFuture garages will be located at the campus periphery.							
Intercept Garages	UCF will embrace the concept of intercept garages, located at the perimeter of campus to reduce the number of vehicles travelling into the campus core, and thereby reduce traffic congestion within the campus. Transportation from these garages to the campus core could include short-headway, zero- emission shuttles, autonomous shuttles, bicycle/pedestrian paths, etc.							
	Locations near these intersections will be studied (not in priority order):							
	<ul> <li>Alafaya Trail and University Boulevard</li> <li>Alafaya Trail and Centaurus Boulevard (this garage could also serve events at the future Performing Arts Center)</li> <li>North Orion Boulevard and McCulloch Road (this garage could also serve Intercollegiate Athletics events)</li> <li>Alafaya Trail and Central Florida Boulevard (this garage could also serve events at the RWC Sports Complex)</li> <li>Alafaya Trail and North Gemini Boulevard (this garage could also serve Greek Park)</li> </ul>							
	Future garages will be listed on the 10-Year Schedule of Capital Projects (SCP) in element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.							
Horizon YR 2030	Year 2030 Offsite Roadway Analysis							
Roadway Conditions	Pursuant to Florida Statute 1013.30(3), an analysis of the projected impacts of development on offsite infrastructure was conducted for Horizon Year 2030. The following analysis was conducted to project the growth identified in the year 2030 horizon.							

Background Growth Assessment	To determine the background traffic growth through the Horizon Year 2030, the following resources were examined:										
	Based on the latest BEBR <sup>18</sup> projections, the projected population growth rate for Orange County will be 0.88% per year from 2018 to 2030.										
	A comparison of historical traffic counts obtained from either the Orange County or Seminole County Annual Count Programs over the previous planning period resulted in negative annual growth rates or growth rates less than 1% per year within the Context Area. Therefore, based on this assessment, and to provide a conservative analysis, a minimum 1% background growth rate was assumed for all roadways within the Context Area										
Multimodal Mobility Plan Assessment	Although enrollment has increased since the 2015-25 Campus Master Plan Update was adopted, the University has continued to reduce the use of single-occupant vehicles, resulting in fewer trips in and out of campus.										
	As identified in the Sustainable Transportation Applitude the University has achieved these reductions throug strategies such as UCF shuttle ridership, Lynx Bus pedestrian and bicycle trips, park and ride areas, ver online course offerings, and adjustments to class so UCF average daily shuttle ridership increased from 15.659 when compared to the previous Master Play										
The evidence of these successful strategies is outlined in 6.0-7 and 6.0-8. In the previous planning period (2014 to the University generated 0.45 trips per additional student											
	However, through the strategies highlighted within this CM University has further reduced this trip rate over the most 5-year period; and has decreased the total number of trips entering/exiting the campus, while the student population increased.										
Figure 6.0-7 Trip Rate		YR 2009	YR 2014	Net Increase	Additional Trips						
2014)	Students Vehicle Trips	42,150 80,476	49,000 83,551	6,850 3,075	0.45						
10		·	<b>.</b>		· · · · · · - ·						
Figure 6.0-8 Trip Rate <sup>19</sup>		YR 2014	YR 2010	Net	Additional Trips						
per Student (2014 to	Studente	2014	2019	Increase	per Student						
2019)	Vehicle Trins	49,000	76 620	-6 931	-1.30						
			10.020	0.001							

<sup>&</sup>lt;sup>18</sup> University of Florida, Bureau of Economic and Business Research (BEBR)

<sup>&</sup>lt;sup>19</sup> VHB developed the additional trip rate per student by comparing the data from the 2015-25 Campus Master Plan Update (YR 2014) to the current data (YR2019). Over this period, the number of students increased by 5,324 and

The University has successfully decreased traffic volumes while increasing enrollment; however, for the purpose of providing a conservative analysis, the future growth traffic due to anticipated enrollment through YR 2030 will be based on the previous planning periods rate of 0.45 trips per additional student.

Utilizing this methodology, the resulting growth based on anticipated enrollment is summarized in Figure 6.0-9 UCF Trips based on Projected Student Enrollment.

See 1.0 INTRODUCTION for the method used to project student enrollment throughout the 10-year planning timeframe.

Figure 6.0-9 UCF Trips

Year 2030 Horizon Year

Analysis

based on Projected Student Enrollment

	2019	2030	Net Increase
Students	54,324	60,608 <sup>20</sup>	6,284
Trips per Additional Student		0.45	
Vehicle Trips	76,620	79,448	2,828

This net increase of trips was distributed to the Context Area roadways utilizing the latest Orlando Urban Area Transportation Study (OUATS) transportation planning model.

The 2030 Horizon-Year Traffic Assessment is provided in Figure 6.0-11 Future Roadway Conditions Table, found in Maps & Tables at the end of this element.

As shown in Figure 6.0-11, four (4) roadways are projected to operate under adverse conditions, based on the maximum service volumes provided in the 2013 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 projected student population growth; thus, these roadways should be identified as pre-existing deficiencies.

As the University and the surrounding area continue to grow, the University will continue to implement the strategies identified in the Sustainable Transportation Approach section. As evidenced by the comparison of Year 2014 and Year 2019 traffic volumes, the University will continue to promote strategies that reduce the use of the single-occupant vehicle and encourage multimodal travel, therefore further reducing the traffic volumes within the Context Area.

the number of vehicle trips entering/exiting the campus decreased by 6,931. Therefore, the trip rate per additional student was calculated as -6,931/5,324 = -1.30.

<sup>&</sup>lt;sup>20</sup> Projected Enrollment Source: See 1.0 INTRODUCTION, Figure 1.0-1: Main Campus Projected Enrollment

**6.0 TRANSPORTATION** 

**MAPS & TABLES** 

Figure 6.0-10 Existing Roadway Conditions Table	Figure 6.0-10 is a detain level of service (LOS) s	iled analysis of existing condi standard, current peak hour v	itions of the roa olumes, and cu	adways within urrent LOS.	the Context Are	ea, <sup>21</sup> including	number of la	anes, adopted level c	of service (LOS) s	standard, peak ho	ur adopted
Road Name	From To		# Lanes	Adopted LOS	AADT <sup>22</sup>	K Factor <sup>23</sup>	D Factor <sup>24</sup>	Adopted Pk. Hr. LOS Capacity	PM Pk. Hr./Dir. Volume	Source	Current LOS
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	62,659	0.090	0.56	3,020	3,158	Orange County	F
	Science Drive	University Blvd.	6LD	E	59,749	0.090	0.56	3,020	2,904	Orange County	С
	University Blvd.	McCulloch Road	6LD	E	43,674	0.090	0.54	3,020	2,201	Orange County	С
	McCulloch Road	Chapman Road	6LD	E 45,264 0.091 0.57		3,020	2,340	FDOT	С		
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	6,455	0.089	0.66	1,530	377	VHB Study	С
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	7,553	0.090	0.66	1,530	451	VHB Study	С
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	25,603	0.091	0.57	2,000	1,323	Seminole County	С
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	E	53,060	0.900	0.53	3,020	2,531	Orange County	С
Discovery Drive / Libra Drive	Research Parkway	Gemini Blvd.	4LD	E	8,337	0.104	0.54	1,530	469	VHB Study	С
Gemini Blvd.	Central Florida Blvd.	University Blvd.	4LD	E	18,408	0.079	0.57	1,530	823	VHB Study	D
	University Blvd.	Centaurus Drive	4LD	E	12,942	0.090	0.65	1,530	752	VHB Study	D
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	16,453	0.079	0.59	1,530	762	VHB Study	D
	Greek Park Drive	N. Orion Blvd.	4LD	E	15,720	0.085	0.58	1,530	770	VHB Study	D
	N. Orion Blvd.	Libra Drive	4LD	E	23,067	0.092	0.61	1,530	1,284	VHB Study	D
Gemini Blvd. East	Libra Dr.	Scorpius St. (Star St.)	4LD	E	20,807	0.095	0.67	1,530	1,316	VHB Study	D
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	E	23,038	0.079	0.52	1,530	941	VHB Study	D
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	E	8,232	0.096	0.67	1,530	531	VHB Study	С
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	15,001	0.090	0.55	880	743	Orange County	С
	Percival Road	S. Tanner Road	2L	E	12,670	0.095	0.55	740	662	Orange County	D
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	9,700	0.095	0.53	800	493	Orange County	D
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	E	15,749	0.091	0.57	1,700	814	Seminole County	D
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	E	28,560	0.091	0.57	2,000	1,476	Seminole County	С
	Lockwood Blvd.	Old Lockwood	2L	E	20,229	0.091	0.57	880	1,046	Seminole County	F
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	E	14,779	0.108	0.73	1,530	1,170	VHB Study	D
Percival Road	Tanner Road	Lake Pickett Road	2L	E	6,121	0.095	0.50	800	286	Orange County	С
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	E	29,111	0.090	0.54	2,000	1,415	Orange County	С
	Lokanotosa Trail	University Blvd.	4LD	E	24,551	0.090	0.54	2,000	1,193	Orange County	С
	University Blvd.	Seminole County Line	4LD	E	12,452	0.090	0.51	2,000	572	Orange County	С
University Blvd.	Rouse Road	Alafaya Trail (434)	6LD	E	54,868	0.090	0.56	3,020	2,765	Orange County	С
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	E	21,282	0.079	0.52	2,304	868	VHB Study	С
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	E	1,761	0.086	0.94	720	142	VHB Study	С

LOS service volumes based on the 2012 FDOT Quality/Level of Service Manual, Seminole County CMS, Orange County Traffic Volumes taken from latest Orange County (YR 2012) and Seminole County (YR 2013) count program. UCF Trips Generated by enrollment growth reflects the projected increase in student enrollment and the trip rate of 0.45 per additional student, consistent with the previous Campus Master Plan. It should be noted that this is a conservative analysis as trips decreased over the previous planning timeframe.

<sup>&</sup>lt;sup>21</sup> Figure 6.0-10 includes roadway segments included within the Context Area, as shown in Figure 6.0-12 Transportation Context Area Map.

<sup>&</sup>lt;sup>22</sup> Annual average daily traffic (AADT) is the total volume of vehicle traffic on a highway or road for a year divided by 365 days.

<sup>&</sup>lt;sup>23</sup> K Factor is the 30th highest hourly volume of the year (out of 8,760 possible hours in a calendar year) expressed as a percentage of the AADT volume.

<sup>&</sup>lt;sup>24</sup> D Factor is the percentage of traffic moving in the peak travel direction during the 30th highest hourly volume of the year.

#### Figure 6.0-11 Future Roadway Conditions Table

		То	Roadway Characteristics				YR 2030 Background Traffic				UCF Trips Generated by Enrollment Growth			YR 2030 Total Trips				YR 2030 Traffic Conditions Comparison		
Road Name	From		# Lanes	Adopted LOS	Adopted Pk. Hr. LOS Capacity	Growth Rate	Daily	PM Peak	V/C	Pre- Existing Deficiency (Yes/No)	YR 2030 Distribution %	Daily Project Trips	PM Peak Project Trips	Daily	PM Peak	V/C	Deficiency ( <mark>Yes</mark> /No)	YR2030 Background V/C	YR 2030 Total V/C	Add'l Deficiency Created (Yes/No)
Alafaya Trail (SR 434)	Colonial Drive (SR 50)	Science Drive	6LD	E	3,020	1.00%	70,178	3,537	1.17	Yes	20.08%	568	29	70,746	3,566	1.18	Yes	1.17	1.18	No
	Science Drive	University Blvd.	6LD	E	3,020	1.00%	66,919	3,252	1.08	Yes	7.88%	223	11	67,142	3,263	1.08	Yes	1.08	1.08	No
	University Blvd.	McCulloch Road	6LD	E	3,020	1.00%	48,915	2,465	0.82	No	9.00%	255	12	49,170	2,477	0.82	No	0.82	0.82	No
	McCulloch Road	Chapman Road	6LD	E	3,020	1.00%	50,696	2,620	0.87	No	12.70%	359	19	51,055	2,639	0.87	No	0.87	0.87	No
Central Florida Blvd.	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	1,530	1.00%	7,165	419	0.27	No	13.73%	388	23	7,553	442	0.29	No	0.27	0.29	No
Centaurus Drive	Alafaya Trail (SR 434)	Gemini Blvd.	4LD	E	1,530	1.00%	8,384	500	0.33	No	9.24%	261	16	8,645	516	0.34	No	0.33	0.34	No
Chapman Road	Aloma Avenue	Alafaya Trail (434)	4LD	E	2,000	1.00%	28,675	1,482	0.74	No	1.66%	47	2	28,722	1,484	0.74	No	0.74	0.74	No
Colonial Drive (SR 50)	Rouse Road	Alafaya Trail (434)	6LD	E	3,020	1.00%	59,427	2,835	0.94	No	3.01%	85	41	59,512	2,876	0.95	No	0.94	0.95	No
Discovery Dr. / Libra Dr.	Research Parkway	Gemini Blvd.	4LD	E	1,530	1.00%	9,254	521	0.34	No	17.11%	484	27	9,738	548	0.36	No	0.34	0.36	No
Gemini Blvd.	Central Florida Blvd.	University Blvd.	4LD	E	1,530	1.00%	20,433	914	0.60	No	14.32%	405	18	20,838	932	0.61	No	0.60	0.61	No
	University Blvd.	Centaurus Drive	4LD	E	1,530	1.00%	14,366	835	0.55	No	15.84%	448	26	14,814	861	0.56	No	0.55	0.56	No
	Alafaya Trail (SR 434)	Greek Park Drive	4LD	E	1,530	1.00%	18,263	845	0.55	No	9.24%	261	12	18,524	857	0.56	No	0.55	0.56	No
	Greek Park Drive	N. Orion Blvd.	4LD	E	1,530	1.00%	17,449	854	0.56	No	18.79%	531	26	17,980	880	0.58	No	0.56	0.58	No
	N. Orion Blvd.	Libra Drive	4LD	E	1,530	1.00%	25,604	1,425	0.93	No	30.47%	862	48	26,466	1,473	0.96	No	0.93	0.96	No
Gemini Blvd. East	Libra Dr.	Scorpius St.	4LD	E	1,530	1.00%	23,096	1,461	0.95	No	19.02%	538	34	23,634	1,495	0.98	No	0.95	0.98	No
Gemini Blvd. South	Andromeda Dr.	Hercules Dr.	4LD	E	1,530	1.00%	25,572	1,044	0.68	No	25.27%	715	29	26,287	1,073	0.70	No	0.68	0.70	No
Greek Park Drive	Centaurus Drive	Gemini Blvd. North	4LD	E	1,530	1.00%	9138	589	0.38	No	8.84%	250	16	9,388	605	0.40	No	0.38	0.40	No
Lake Pickett Road	Colonial Drive (SR 50)	Percival Road	2L	E	880	1.00%	16,801	832	0.95	No	0.02%	1	0	16,802	832	0.95	No	0.95	0.95	No
	Percival Road	S. Tanner Road	2L	E	740	1.00%	14,190	741	1.00	Yes	0.00%	0	0	14,190	741	1.00	Yes	1.00	1.00	No
Lokanotosa Trail	Rouse Road	Alafaya Trail (434)	2L	E	800	1.00%	10,864	552	0.69	No	0.74%	21	1	10,885	553	0.69	No	0.69	0.69	No
Lockwood Blvd.	McCulloch Road	Oviedo City Limits	4LD	E	1,700	1.00%	17,639	912	0.54	No	7.35%	208	11	17,847	923	0.54	No	0.54	0.54	No
McCulloch Road	Alafaya Trail (SR 434)	Lockwood Blvd.	4LD	E	2,000	1.00%	31,987	1,653	0.83	No	0.04%	1	0	31,988	1,653	0.83	No	0.83	0.83	No
	Lockwood Blvd.	Old Lockwood	2L	E	880	1.00%	22,656	1,171	1.33	Yes	5.42%	153	8	22,809	1,179	1.34	Yes	1.33	1.34	No
N. Orion Blvd.	McCulloch Road	Gemini Blvd.	4LD	E	1,530	1.00%	15,405	1,299	0.85	No	12.82%	363	29	15,768	1,328	0.87	No	0.85	0.87	No
Percival Road	Tanner Road	Lake Pickett Road	2L	E	800	1.00%	6,856	320	0.40	No	4.48%	127	6	6,883	326	0.41	No	0.40	0.41	No
Rouse Road	Colonial Drive (SR 50)	Lokanotosa Trail	4LD	E	2,000	1.00%	32,604	1,585	0.79	No	2.01%	57	3	32,661	1,588	0.79	No	0.79	0.79	No
	Lokanotosa Trail	University Blvd.	4LD	E	2,000	1.00%	27,497	1,336	0.67	No	3.27%	92	4	27,589	1,340	0.67	No	0.67	0.67	No
	University Blvd.	Seminole Co. Line	4LD	E	2,000	1.00%	13,946	641	0.32	No	0.00%	0	0	13,946	641	0.32	No	0.32	0.32	No
University Blvd.	Rouse Road	Alafaya Tr. (SR 434)	6LD	E	3,020	1.00%	61,452	3,097	1.03	Yes	20.38%	576	29	62,028	3,126	1.04	Yes	1.03	1.04	No
	Alafaya Trail (SR 434)	Gemini Blvd.	6LD	E	2,304	1.00%	23,623	963	0.42	No	17.74%	502	20	24,125	983	0,43	No	0.42	0.43	No
W. Plaza Dr.	Knights Victory Way	N. Orion Blvd.	2L	E	720	1.00%	1,955	158	0.22	No	3.75%	106	9	2,061	167	0.23	No	0.22	0.23	No

Figure 6.0-12 Context Area Map







Figure 6.0-13 Campus Area Roadways Map – by Functional Classification





# 6.0 TRANSPORTATION Figure 6.0-13

UCF Campus Boundary Minor Arterial Minor Collector Principal Arterial Local Roadway Figure 6.0-14 Existing Roadway Network Map and Daily Traffic Volume





- UCF Campus Boundary
- 6-Lane Roadway
- 4-Lane Roadway
- 2-Lane Roadway
- Average Daily Traffic

Figure 6.0-15 Existing Parking Structures Map





# 6.0 TRANSPORTATION Figure 6.0-15

UCF Campus Boundary

Existing Garage

Figure 6.0-16 Existing Campus Transit Service Map





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# 6.0 TRANSPORTATION Figure 6.0-16

UCF Campus Boundary Existing LYNX Routes Park and Ride The Pegasus Express

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Note: Satellite Campus Routes are not depicted
Rosen College of Hospitality Management Campus
Heath Sciences Campus at Lake Nona
UCF Downtown Campus
Figure 6.0-17 Off-Campus UCF Shuttle Map





## 6.0 TRANSPORTATION Figure 6.0-17



Figure 6.0-18 Cycling Map





# 6.0 TRANSPORTATION Figure 6.0-17



County Bike Trails depicted are taken from pp.49-50 of the August 2012 <u>ORANGE COUNTY - Trails Master Plan</u>

7.0 INTERGOVERNMENTAL COORDINATION



UNIVERSITY OF CENTRAL FLORIDA

# 7.0 INTERGOVERNMENTAL COORDINATION

2020-30 CAMPUS MASTER PLAN UPDATE

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GOALS, OBJECTIVES, & POLICIES	3
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## 7.0 INTERGOVERNMENTAL COORDINATION INTRODUCTION

#### INTRODUCTION

<section-header></section-header>	A metropolitan university is not distinct and separate from its community, but rather part and parcel of the surrounding region's education, economic, and social vitality. As an anchor institution in the community, the University of Central Florida reflects, serves, and responds to the community's needs, priorities, and goals by strengthening and diversifying the local economy; providing the knowledgeable and creative talent necessary to sustain business and civic organizations; and contributing to efforts which lift up the human condition. As an institution predicated upon partnerships, UCF's commitment to collaboration with the community spans from surrounding neighborhoods to industry leaders; from non-profit entities to governmental and quasi-governmental organizations that represent our region's citizens and common interests.
	local partners in the planning process that will determine how we plan to meet the future economic, educational, and social needs of the Central Florida community. This element establishes the goals and framework by which UCF will share, develop, and seek input from others on the University's CMP Update and its implementation.
RELATED ELEMENTS	See element 2.0 FUTURE LAND USE & URBAN DESIGN for more on promoting land use compatibility between the UCF CMP and the host local government's Comprehensive Plan; and for the protection of historically- and archaeologically-significant resources.
	See element 5.0 GENERAL INFRASTRUCTURE & UTILITIES regarding coordination of the provision of additional facilities for stormwater management, potable water, sanitary sewer facilities, solid waste collection; and electrical power and natural gas services.
	See element 6.0 TRANSPORTATION regarding coordination with appropriate authorities for transportation system improvements.
	See element 8.0 PUBLIC SAFETY regarding collaborative participation in emergency exercises to evaluate management plans and procedures.
	See element 9.0 CONSERVATION regarding the protection of environmentally-sensitive areas, species, and natural resources.

### 7.0 INTERGOVERNMENTAL COORDINATION INTRODUCTION

#### STATUTE & REGULATION



#### TERMINOLOGY

7.0 INTERGOVERNMENTAL COORDINATION is an element that is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.

BOG 21.210 states the purpose of the element as follows:

"This element identifies and resolves goals, objectives, policies and development proposed in campus master plans that may be incompatible with adjacent local governments, and regional and state agency plans. Intergovernmental coordination shall be utilized to the extent required to carry out the provisions of this Chapter."

For the purpose of this element, the following terms apply:

- UCF Board of Trustees (hereinafter "UCF")
- UCF Campus Development Agreement (hereinafter "CDA")
- UCF Campus Master Plan (hereinafter "CMP")

NARRATIVE GOALS, OBJECTIVES, & POLICIES	The UCF Campus Master Plan directs the University's physical growth and supporting infrastructure, and fosters compatibility with our surrounding host community, stewardship of resources, and ongoing coordination over the lifespan of the CMP with our host local government. As such, the following goals, objectives, and policies provide the framework for managing intergovernmental coordination with our local, regional, state, and federal government partners.
GOAL 1: Achieve the goals	objectives, and policies of the LICE Campus Master Plan
through the use and prom state, and federal governm	otion of intergovernmental coordination with local, regional, nent entities.
OBJECTIVE 1.1: Promote land use compatibility between the University and the host local government through the coordination of the UCF	POLICY 1.1.1: 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 otherwise impact University facilities or resources shall be submitted to the Director of Facilities Planning and Construction (FPC) for review and comment.
the comprehensive master plans of the host community.	POLICY 1.1.2: The University shall establish, in conjunction with Orange County, a process for reciprocal review of comprehensive plans.
ooning.	POLICY 1.1.3: Proposed amendments to the adopted CMP which exceed the thresholds established in Chapter 1013.30(9), F.S., shall be transmitted to the host and affected local governments and other applicable governing bodies for review in accordance with the procedures established in Florida Statute 1013.30(6).
	POLICY 1.1.4: Proposed amendments to the CMP which do not exceed the thresholds established in F.S. 1013.30(9), 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 the Orange County Planning Department for a courtesy review.
	POLICY 1.1.5: The University shall meet with appropriate government entities, as needed, for review and comment on enrollment projections, and to review appropriate elements of local government comprehensive plans.
	POLICY 1.1.6: Every effort shall be made to formalize the terms and conditions of the reciprocal plan review process through an inter-local agreement or memorandum of understanding.

OBJECTIVE 1.2: Establish administrative procedures and coordination mechanisms for the reciprocal review of campus and host community development plans.



POLICY 1.2.1: Whenever practical and reasonable, proposed development within the context area which has the potential to impact or affect University facilities or resources shall be submitted to FPC for review. The areas for review would include land use, transportation, utilities infrastructure, and conservation.

POLICY 1.2.2: Whenever practical and reasonable, the FPC Director shall meet with local officials to establish the criteria and thresholds for development proposals, which would be subject to review by the University e.g., comprehensive plan amendments, rezoning, and special exceptions to context area properties. The construction or renovation of single-family homes and other small-scale developments are to be excluded from University review.

POLICY 1.2.3: Florida Statute 1013.30 (1), University Campus Master Plans and Campus Development Agreements supersedes the requirements of F.S. Title XI, Chapter 163, Part II Growth Policy; County and Municipal Planning; Land Development Regulation (ss. 163.2511-163.3253).

POLICY 1.2.4: University officials shall participate and cooperate with local officials in the review of proposed campus enrollment to assess potential impacts on local, regional, and state resources and facilities.

POLICY 1.2.5: Once the CDA is executed, all campus development shall proceed without further review by the host local government if it is consistent with the adopted CMP and CDA.

POLICY 1.2.6: University officials shall participate and cooperate with local officials and representatives from appropriate regional and state agencies in the identification of appropriate strategies to mitigate the impacts of campus development on local, regional, and state resources and facilities.

POLICY 1.2.7: 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 1.2.8: When it is determined that enrollment on campus would have an adverse impact on local services, facilities, or natural resources, University officials shall partner 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 inter-local agreement.

POLICY 1.2.9: A Memorandum of Understanding (MOU), dated August 3, 2010 was executed between Orange County and UCF. This MOU requires Orange County to transmit to FPC any application for Development Order or Construction Permit within the designated context area surrounding the University, which is subject to review under the policy above regarding establishment of criteria and thresholds for review of development proposals.

POLICY 1.2.10: 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 shall partner with local, regional, or state officials to identify appropriate strategies to mitigate those impacts.

POLICY 1.2.11: 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 Florida Statute 1013.30 (8).

POLICY 1.3.1: As stated in F.S. 1013.30 (10), within 270 days after adoption of the UCF CMP by the Division of Colleges and Universities, a draft CDA shall be transmitted to appropriate host and affected local governments. This Agreement:

(a) Must identify the geographic area of the campus and local government covered by the campus development agreement.

(b) Must establish its duration, which must be at least 5 years and not more than 10 years.

(c) Must address public facilities and services including roads, sanitary sewer, solid waste, drainage, potable water, parks and recreation, and public transportation.

(d) Must identify, for each of the facilities and services listed in paragraph (c), the level-of-service standard established by the applicable local government; the entity that will provide the service to the campus; and describe any financial arrangements between the Board of Governors and other entities relating to the provision of the facility or service.

(e) Must determine, for each of the facilities and services listed in paragraph (c), the impact of existing and proposed campus development reasonably expected over the term of the campus development agreement on each service or facility and any deficiencies in such service or facility which the proposed campus development will create or to which it will contribute.

(f) May, if proposed by the University Board of Trustees (BOT), address the issues prescribed in paragraphs (d) and (e) with regard to additional facilities and services, including, but not limited to: electricity, nonpotable water, law enforcement, fire and emergency rescue, gas, and telephone.

(g) Must, to the extent it addresses issues addressed in the campus master plan and host local government comprehensive plan, be consistent with the adopted CMP and host local governments' comprehensive plans.

POLICY 1.3.2: The UCF BOT and host government shall execute the CDA within 180 days after receipt of the draft agreement.

POLICY 1.3.3 Once the CDA is executed, all campus development shall proceed without further review by the host local government if it is consistent with the CDA and the adopted CMP.

OBJECTIVE 1.3: Assess and mitigate the impacts of development on UCF, the host and affected local governments, the surrounding community, and service providers.

POLICY 1.3.4: All improvements to facilities or services which are deemed necessary to eliminate any identified deficiencies must be specifically listed in the CDA, and UCF's fair share of the cost of such improvements must be stated in the CDA per Florida Statute 1013.30(13). All of UCF's concurrency management responsibilities are fulfilled when UCF expends the total amount of funds specifically identified in the CDA.

POLICY 1.3.5: Any dispute between the University and host local government which arises from the implementation of the CDA shall be resolved in accordance with the process established in Florida Statute 1013.30 (16).

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 to improve preparedness for emergency events.

POLICY 1.4.2: The University shall coordinate the use of campus resources for the staging of emergency services for an emergency event, when needed.

POLICY 1.4.3: The University shall participate in emergency exercises to evaluate management plans and procedures. See also element 8.0 PUBLIC SAFETY.

POLICY 1.5.1: The University shall coordinate the provision of additional stormwater management facilities consistent with the General Infrastructure sub-element of element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.2: The University shall coordinate the provision of additional potable water facilities consistent with the General Infrastructure sub-element of element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.3: The University shall coordinate the provision of additional sanitary sewer facilities consistent with the General Infrastructure sub-element of element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.4: The University shall coordinate the provision of additional solid waste collection facilities consistent with the General Infrastructure sub-element of element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.5: The University shall coordinate the provision of additional electrical power and natural gas service consistent with the Utilities sub-element of element 5.0 GENERAL INFRASTRUCTURE & UTILITIES.

POLICY 1.5.6: The University shall coordinate with appropriate authorities, such as the Expressway Authority, for transportation system improvements consistent with elements 2.0 FUTURE LAND USE & URBAN DESIGN and 6.0 TRANSPORTATION.

OBJECTIVE 1.4: Ensure intergovernmental coordination in the event of an emergency.

OBJECTIVE 1.5: 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 1.5.7: The University shall coordinate pedestrian and non-vehicular circulation improvements consistent with element 6.0 TRANSPORTATION.

POLICY 1.5.8: The University shall coordinate the provision of affordable off-campus housing consistent with element 3.0 HOUSING.

POLICY 1.6.1: The University shall coordinate the protection of environmentally-sensitive areas, species, and natural resources consistent with element 9.0 CONSERVATION.

POLICY 1.6.2: The University shall coordinate the protection of historical and archaeologically-significant resources consistent with element 2.0 FUTURE LAND USE & URBAN DESIGN.

POLICY 1.7.1: Maintain, strengthen, and develop relationships within region, as well as with representatives of economic development, health care, and community and governmental agencies.

POLICY 1.7.2: Develop, coordinate, and foster partnerships encompassing internal University participants and external community participants promoting economic development initiatives and entrepreneurship.

POLICY 1.7.3: Develop, plan, and coordinate opportunities designed to highlight the President of the University, his goals and his vision.

POLICY 1.7.4: Maintain and strengthen chamber of commerce relationships.

POLICY 1.7.5: Continue to develop and coordinate community initiatives focused on economic development, social issues, and service opportunities furthering integration within the community.

POLICY 1.7.6: Continue to keep the neighboring communities apprised of UCF's development plans, by hosting biannual Neighborhood Meetings between Facilities Planning & Construction (FPC) and the neighboring communities. FPC will establish the agenda for each meeting, and invite pertinent UCF departments, including but not limited to, Student Development and Enrollment Services, Landscape and Natural Resources, UCF Athletics Association, the Division of Community Relations and Economic Development, the UCF Police Department, etc.

OBJECTIVE 1.6: Ensure the protection of natural and historically- and archaeologicallysignificant resources from any negative impacts of campus development.

OBJECTIVE 1.7: UCF will continue to maintain involvement with the immediate external community in an effort to position the University as a community resource, an intellectual hub, and a community asset.

# 7.0 INTERGOVERNMENTAL COORDINATION DATA & ANALYSIS

DATA & ANALYSIS	<ul> <li>This element promotes proper communication and coordination between the University and affected state and local governments.</li> <li>Because of UCF's rapid growth, increased development and infrastructure coordination with the host community and other governmental bodies will be vital to effectively meet future needs.</li> <li>Per Florida Statute 1013.30:</li> <li>The host and any affected local governments include: <ul> <li>Orange County (Host Local Government)</li> <li>Seminole County (Affected Local Government)</li> <li>City of Orlando (Affected Local Government)</li> <li>City of Oviedo (Affected Local Government)</li> <li>City of Oviedo (Affected Local Government)</li> <li>City of Oviedo (Affected Local Government)</li> <li>City of Department of Transportation</li> <li>Department of State</li> <li>Fish and Wildlife Conservation Commission</li> <li>St. Johns River Water Management District (SJRWMD)</li> <li>East Central Florida Regional Planning Council</li> <li>Seminole County Planning and Development Division</li> </ul> </li> </ul>
Intergovernmental Coordination and the UCF 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 CMP. The University presents the plan at various phases throughout the update process at public hearings, informal information sessions, and neighborhood group meetings. Throughout the update process, coordination with local governments is essential to ensure that all input is considered prior to the plan's final adoption.
Intergovernmental Coordination and the Campus Development Agreement (CDA)	Per Florida Statutes 1013.30, the University is required to enter into a CDA with local governments that addresses the impacts of University development on local government support infrastructure. Negotiation of the CDA occurs in conjunction with every five-year CMP update, and includes the identification of a process whereby the impacts of development are assessed.
	The primary purpose of the CDA is for UCF and local governments to identify areas of impact from University-generated development on the

#### 7.0 INTERGOVERNMENTAL COORDINATION DATA & ANALYSIS

local infrastructure system, and to address mitigation for the University's proportionate share of the impacts.

The University works closely with local government representatives to ensure that CMP updates are consistent with the CDA, and with state and local comprehensive plans.

The following documents are located on the Facilities Planning and Construction (FPC) website, under the Planning tab:

- UCF Campus Master Plan
- UCF Campus maps

Intergovernmental

Intergovernmental

**Coordination and** 

Intergovernmental

Protection

**Coordination and Fire** 

Transportation

Coordination and the UCF

Facilities Planning and

**Construction Website** 

- 5-year Capital Improvement Plan (CIP)
- Campus Development Agreement (CDA)
- Other planning documents

The <u>FPC website</u> is a critical tool that the University uses to communicate with state and local governments, the campus community, and the public. The University maintains a copy of the UCF 2020-30 Campus Master Plan Update on the website, as required by Florida Statute 1013.30 (3).

MetroPlan Orlando is a regional transportation planning body that leads transportation planning efforts in Orange, Osceola, and Seminole counties, and seeks to address the overall transportation challenges of the rapidly-growing metropolitan area which includes UCF. MetroPlan Orlando instituted a Transportation Systems Management & Operations Advisory Committee (TSMO), of which UCF is a non-voting member.

The University participates with LYNX, the local area public transportation entity, and has developed the UCF/LYNX Transit Center<sup>1</sup>, a multimodal center on Leo Lane between Garages A and I, to facilitate student, faculty, staff, and visitor use of public transportation facilities.

The University will continue to coordinate with local governments looking to interconnect multiuse trail systems through and/or around campus.

The University will continue to coordinate with affected state and local governments with regard to transportation issues resulting from University-generated development, including impacts on area and campus roadways, transit, parking, and bicycle/pedestrian facilities. See element 6.0 TRANSPORTATION for University goals, objectives, and policies regarding transportation.

The University partnered with Orange County, providing a tract of land in its northeast corner for the *Orange County / Seminole County Fire and Rescue Station 65*, which has served the University and nearby neighborhoods since 1999.

<sup>&</sup>lt;sup>1</sup> The UCF/LYNX Transit Center is identified on Google Maps as the UCF SuperStop.

# 7.0 INTERGOVERNMENTAL COORDINATION DATA & ANALYSIS

Intergovernmental Coordination and Stormwater Master Planning	The St. Johns River Water Management District (SJRWMD) approved the update to the UCF Campus Stormwater Master Plan in March 2007, thus providing adequate, environmentally-sound stormwater management and capacity for current and future campus growth. The update significantly reduces University-generated offsite stormwater impacts on the surrounding community, as discussed in element 5.0 GENERAL INFRASTRUCTURE & UTILITIES. The University will continue to coordinate with state and local governments regarding development within the parameters of the approved Stormwater Master Plan. In addition, the University intends to sponsor public symposia addressing this issue with local stormwater officials and the public.
Intergovernmental Coordination and Potable Water and Sanitary Sewer	In July of 2009, the University secured a secondary interlocal potable water supply agreement to provide the University with an emergency backup water supply of 145,453 gallons per day. Through coordination with Orange County, UCF provided an easement through its southern property for a new regional water service line.
	UCF is nearing capacity on its consumptive use permit (CUP), with SJRWMD, for ground water supply. It is integral that UCF partners with the Central Florida region host governments to focus on how to economically generate regional resources and alliances to deploy alternative water extraction methods, as ground water has become a precious and limited commodity. These additional treatment methods will drive purchased water commodity costs.
	In addition, the University coordinated with the host government and upgraded its sanitary sewer infrastructure by sending its sanitary waste to the City of Orlando's Iron Bridge Water Pollution Control Facility for processing and reuse.
	As part of that agreement, the University receives treated effluent from Iron Bridge for irrigation and process water uses.
Intergovernmental Coordination and Environmental Protection	The cumulative growth of the University and its surrounding community has changed the area's character from semi-rural and suburban to an academic urban center. Growth increases the need to coordinate environmental monitoring and conservation efforts. As a center of learning, UCF holds an important position in this partnership. As part of its mission, UCF shall provide critical knowledge and expertise, and demonstrate its commitment to beneficial growth management and concurrency.





UNIVERSITY OF CENTRAL FLORIDA

# 8.0 PUBLIC SAFETY

2020-30 CAMPUS MASTER PLAN UPDATE

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### 8.0 PUBLIC SAFETY INTRODUCTION

#### INTRODUCTION

#### NARRATIVE



Department of Security (DS)

**Police Department** 

(UCFPD)

Office of Emergency Management (EM) The University of Central Florida takes campus safety very seriously. The following units work closely to ensure that the University provides a safe environment that allows for higher education and a positive lifelong memory of UCF.

- University Police Department (UCFPD)
  - Department of Security (DS), a division of UCFPD
- Office of Emergency Management (EM)<sup>1</sup>
- Department of Environmental Health and Safety (EHS)

The Public Safety Element includes Goals, Objectives, and Policies (GOP) specific to the Main Campus in Orlando, unless stated otherwise. By providing a safe environment for the campus community to benefit fully from the teaching and research, offered. A safe and secure environment respects diversity and social, cultural, and academic values; and allows those values to develop and prosper.

UCFPD is a full-service law enforcement agency, whose mission is to reduce crime and the fear of crime by providing a safe environment for students, faculty, staff, and visitors, and the safeguarding of constitutional guarantees. The department has entered into mutual aid agreements with multiple law enforcement agencies, and partners with local, state, and federal agencies to ensure a safe campus. UCFPD uses a multifaceted approach incorporating data analysis, crime prevention, proactive policing, and community partnerships. Partnering with UCF Housing, the Dean of Students, Parking and Transportation Services, UCF Cares, Counseling and Psychological Services, and others helps ensure that a holistic approach to campus safety is maintained.

DS is a unit of the UCFPD. Its mission is to maintain the highest level of security at the University. This is accomplished by researching, implementing, and enhancing security technologies; leveraging industry best practices; partnering and collaborating with the community; and raising awareness to improve quality of life. The department proactively implements and uses camera technologies, card access, and guard services to maintain a secure and open environment where the safety of all is balanced with individual rights.

EM is tasked with creating a campus-wide culture of emergency preparedness and response. The department is responsible for coordinating a comprehensive, all-hazards approach through all

<sup>&</sup>lt;sup>1</sup> In 2019, the UCF Department of Security and Emergency Management was split into two separate departments: the Office of Emergency Management and the Department of Security Management.

stages of an emergency, from prevention, protection, response, and recovery, through mitigation.

Florida Board of Governors *Regulation 3.001 Campus Emergency Management* requires the development and maintenance of an allhazards based, comprehensive emergency management program, a Comprehensive Emergency Management Plan (CEMP), and a Continuity of Operations Plan (COOP) for the University.

Link: BOG 3.001 Campus Emergency Management

In addition to University-wide efforts, EM is available to assist colleges and departments as they develop and improve their emergency plans.

These University-wide emergency planning efforts are coordinated with the emergency planning activities of Orange County, Seminole County, and the City of Orlando, as well as other communities where the University has a presence. The University is a Participating Party to the Statewide Mutual Aid Agreement (SMAA). Developed in 2001, and revised in 2018, the SMAA is a mechanism for reciprocal emergency aid and assistance in cases of emergency throughout the state of Florida.

EHS plays a vital role in preserving public safety on campus by encouraging, supporting, and promoting a culture of safety and environmental stewardship that is embraced by the entire campus community.

EHS strives to achieve this mission through the development of dynamic and comprehensive programs in the areas shown in Data & Analysis:

EHS is continually developing and revising policies and procedures to maintain an all-hazard based comprehensive environmental health and safety management program.

See 6.0 TRANSPORTATION for more on pedestrian safety.

See 7.0 INTERGOVERNMENTAL COORDIANTION for ways that UCF coordinates emergency preparedness and response with the host and affected local governments and other agencies.

PUBLIC SAFETY is an optional element that UCF has added to the 2020-30 Campus Master Plan Update, for the first time.

Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.

# Environmental Health and Safety Department (EHS)



#### **RELATED ELEMENTS**

#### REGULATION



#### POLICE, EMERGENCY MANAGEMENT, AND SECURITY

GOALS, OBJECTIVES, & POLICIES	
GOAL 1: Preserve a safe a	and secure campus environment.
OBJECTIVE 1.1: Participate with local, state, and federal agencies in public safety programs including, but not limited	POLICY 1.1.1: The University shall maintain existing mutual aid agreements with the City of Orlando and Orange County Sheriff's Office (OCSO), and participate in other interlocal agreements as necessary to address law enforcement, emergency services, and fire protection.
to, law enforcement and emergency management.	POLICY 1.1.2: The University shall continue to participate in the Orange County Local Hazard Mitigation Strategy Work Group, and similar multi-agency coalitions, and work in partnership with Orange County Emergency Management, the City of Orlando Emergency Management, and Seminole County Emergency Management as may be required by the Federal Emergency Management Agency and the State of Florida.
	POLICY 1.1.3: The University shall remain a signatory to the Florida Statewide Mutual Aid Agreement (SMAA). <sup>2</sup>
	POLICY 1.1.4: EM and UCFPD will participate in and work closely with the Central Florida Intelligence Fusion Exchange (CFIX) to share and receive intelligence specific to public safety.
	POLICY 1.1.5: EM will participate in the Regional Domestic Security Task Force (RDSTF) on the Campus Security, Emergency Management, and Critical Infrastructure committees.
	POLICY 1.1.6: EM will work with the federal Department of Homeland Security (DHS) Protective Security Advisor (PSA) to protect UCF critical infrastructure and key resources.
OBJECTIVE 1.2: Provide safe facilities and public safety programs to the	POLICY 1.2.1: The University shall provide adequate space and facilities for public safety, particularly to meet the needs of the UCFPD, EM, DS, and EHS.
university population to reduce vulnerability to crime, threats, hazards, and emergency events	POLICY 1.2.2: EM will keep the University community aware of hazards, threats, and warnings using multiple redundant warning systems.
and onlongency oronto.	POLICY 1.2.3: The University shall provide an Annual Safety and Fire Safety Guide as required for the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act. <sup>3</sup>

<sup>&</sup>lt;sup>2</sup> In 2018, the SMAA was modified by the Division of Emergency Management. It has been adopted by all 67 Florida Counties and has 700 signatories. (Counties, cities, colleges and universities, authorities, etc.) Link: <u>SMAA 2018</u>
<sup>3</sup> The "Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act" is a federal statute requiring colleges and universities participating in federal financial aid programs to maintain and disclose campus crime statistics and security information.

POLICY 1.2.4: EM shall be responsible for facilitating a comprehensive, all-hazards approach to prevent, protect against, mitigate, respond to, and recover from threats and hazards, while coordinating with UCF Emergency Support Functions and the Emergency Policy Group.
POLICY 1.2.5: EM will maintain, operate, and direct the UCF Emergency Operations Center (EOC), which supports the University during any large events, emergencies, or disasters.
POLICY 1.2.6: UCFPD, DS, Facilities Operations, and UCF IT shall continue to monitor the Blue Light emergency phones and provide new phones or upgraded services as needed.
POLICY 1.2.7: UCFPD shall provide confidential advocacy and victim services to support members of the campus community.
POLICY 1.2.8: UCFPD shall provide property and bicycle registration for members of the community.
POLICY 1.2.9: DS will maintain and operate the Global Security Operations Center (GSOC) to support the University during any incidents or large events.
POLICY 1.2.10: DS shall incorporate access control into new structures and update older facilities.
POLICY 1.2.11: DS will implement and manage surveillance systems to enhance public safety.
POLICY 1.2.12: UCF IT will evaluate the need for Public Safety Distributed Antenna Systems (DAS), and include them in new buildings if needed to ensure that emergency responders can maintain wireless communications within a building in emergency situations.
POLICY 1.2.13: EM will work with UCF Facilities and Safety to investigate the hardening of University buildings against hazardous weather.

# ENVIRONMENTAL HEALTH AND SAFETY

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GOALS, OBJECTIVES, & POLICIES

#### GOAL 1: Maximize facility safety.

OBJECTIVE 1.1: Ensure thorough construction review process.	POLICY 1.1.1: EHS will continue to use appropriate procedures and software to track construction plan reviews, inspections, and final permitting.
	POLICY 1.1.2: EHS will continue to document the thorough review of 100% drawings to ensure both building and fire code compliance.

	POLICY 1.1.3: EHS will continue to document construction inspections.
OBJECTIVE 1.2: Address state fire marshal violations.	POLICY 1.2.1: EHS will develop and implement processes to manage State Fire Marshal (SFM) violations, identify corrective actions, and follow-up to ensure completion.
	POLICY 1.2.2: EHS will conduct inspections with the SFM.
	POLICY 1.2.3: EHS will submit work orders and notifications for corrective actions to appropriate parties.
	POLICY 1.2.4: EHS will conduct follow-up inspections to ensure corrections are completed.
GOAL 2: Maximize researc	ch safety.
OBJECTIVE 2.1: Reduce laboratory findings. <sup>4</sup>	POLICY 2.1.1: EHS will conduct and document training courses for all registered UCF laboratory workers: including, but not limited to, courses in Biological Safety, Bloodborne Pathogens, Chemical Safety, Hazardous Management and Disposal, Laboratory Safety, Laser Safety, Controlled Substances, Animal Exposure, etc.
	POLICY 2.1.2: EHS will conduct thorough lab inspections, identifying which issues the Principal Investigator (PI) can correct and which are facility issues, and submit inspection results and work orders as necessary.
	POLICY 2.1.3: EHS will conduct inspections after 30 days and report any non-compliance to Chair or Dean as appropriate.
OBJECTIVE 2.2: Ensure proper chemical inventory control.	POLICY 2.2.1: EHS will conduct annual verification of chemical inventory by department, and coordinate the disposal of expired chemicals and hazardous materials in compliance with federal, state, and local regulatory requirements.
	POLICY 2.2.2: EHS will send results of verification to Chair or Dean as appropriate.

POLICY 2.3.1: EHS will continue to maintain all environmental permits, applications, and renewals consistent with all local, state, and federal laws and regulations.

POLICY 2.3.2: EHS will continue to develop and implement processes to manage required sampling and inspections.

#### GOAL 3: Limit risk and liability to the University

I

**OBJECTIVE 2.3: Ensure** 

proper environmental

management.

<b>OBJECTIVE 3.1: Reduce</b>	POLICY 3.1.1: EHS will continue to conduct trend analysis to
accidents on campus.	determine the highest incidence causes and the highest incidence groups and to determine accident types and locations on campus.

<sup>&</sup>lt;sup>4</sup> Laboratory issues that are discovered during EHS laboratory inspections and require attention or correction.

POLICY 3.1.2: EHS will continue to develop policies to mitigate hazards associated with accidents.

POLICY 3.1.3: EHS will continue to develop and implement a training plan targeting the groups with the highest incidence rates.

POLICY 3.1.4: EHS will continue to inspect any areas identified as trend "hot spots" to confirm that the hazards have been corrected.

POLICY 3.1.5: EHS will continue to develop appropriate policies to mitigate hazards associated with accidents.

POLICY 3.2.1: EHS will continue to review each Safety Action For Event (SAFE) form and document actions taken.

POLICY 3.2.2: EHS will continue to maintain electronic copies of event-related fire safety information.

#### OBJECTIVE 3.2: Ensure event safety processes are followed.

PUBLIC SAFETY	
NARRATIVE	<ul> <li>UCF takes a well-rounded approach to Public Safety, with multiple departments and offices working together to ensure a safe environment, including primarily: <ul> <li>University Police Department (UCFPD)</li> <li>Department of Security (DS)</li> </ul> </li> <li>Office of Emergency Management (EM)</li> <li>Department of Environmental Health and Safety (EHS)</li> </ul> Other departments, such as Facilities Operations, Facilities Planning and Construction, and Landscape and Natural Resources, also participate in UCF's safety efforts.
DATA & ANALYSIS	
	To promote a culture of safety and environmental stewardship, EHS is involved in many aspects of campus and public safety, including, but not limited to: Laboratory Safety Programs Research Safety Courses Field Research Safety Guidelines Biological Safety Laboratory Decontamination Procedures Laboratory Environmental Management Procedures Controlled Substances, Disposal, Purchasing Procedure Chemical Safety, Chemical Inventory Policy Radiation-Producing Equipment Laboratory Close-out Procedures Environmental Assessment of Laboratory Equipment Prior to Surplus, Salvage or Disposal Procedure Animal Safety and Animal Exposure Programs Laser Safety University Building and Fire Code Compliance Fire Safety Building Evacuation Contractor Environmental Management Procedures Hazardous Waste Hazardous Materials Shipping, Receiving, and Transportation Procurement, Use, and Possession of Hazardous Materials

#### 8.0 PUBLIC SAFETY DATA & ANALYSIS

	<ul> <li>Universal Waste Procedure</li> <li>Environmental Management Procedures for Facility and Maintenance Personnel</li> <li>Tent and Temporary Structure Permit Procedure</li> <li>Workplace Safety</li> <li>Automated External Defibrillators (AED)</li> <li>Response to Job-Related Employee Illness or Injury</li> <li>Aerial Lifts Operating Procedure</li> <li>Confined Spaces Entry Procedure</li> <li>Electrical Safety Procedure</li> <li>Hearing Conservation Procedure</li> <li>Lock-out Tag-out Procedure</li> <li>Respiratory Protection Procedure</li> </ul>
Figure 8.0-1 Injury Reports	EHS tracks injuries on the UCF campus by fiscal year. All injuries are investigated, tracked and properly addressed.



EMERGENCY COMMUNICATIONS

UCF ALERT



UCF PD, EM, and UCF Communications determine which communications tools will be used during an emergency.

UCF Alert is a multi-media communications system that provides timely, accurate information about emergency situations that could impact the University. UCF will send emergency notifications without delay to ensure that the community is alerted as soon as possible. The goal is to help keep the campus safe and informed during an emergency. UCF Alert features several communications tools, including e-mails, text messages, web updates, social media, sirens, and more.

### 8.0 PUBLIC SAFETY DATA & ANALYSIS

# BLUE LIGHT EMERGENCY PHONES



#### HURRICANE PREPAREDNESS



#### SAFETY GUIDE AND CRIME STATISTICS

UCF has over 250 Blue Light emergency phones which, when activated, connect the caller directly with a police dispatcher.

UCF requires the services of multiple departments to plan, design, construct, maintain, and publicize Blue Light emergency phones:

- EM selects the location for each phone and attends construction meetings to discuss and design.
- UCF IT works with DEM to ensure the locations selected are within the proper distance and have the proper infrastructure to support the phone, i.e., including a camera.
- The UCF Design, Construction, and Renovation Standards require two Blue Light emergency phones for each new building.
- SM installs and maintains cameras, if so equipped.
- UCF PD manages recurring costs.
- UCF IT maintains, tests, and upgrades when necessary.

UCF PD maintains an informational website and locator map.

Link: http://www.emergency.ucf.edu/Plans/lightphonemap.pdf

The UCF Main Campus is located approximately 36 miles from the east coast and 90 miles from the west coast of Florida, and is subject to impact by hurricanes. Hurricane season lasts from June 1<sup>st</sup> through November 30<sup>th</sup>, with the busiest part of the season usually occurring around the start of the Fall semester.

The University is experienced in responding to violent storms; however, an extremely important part of the process is for UCF students, faculty, and staff to be prepared.

Link: http://www.emergency.ucf.edu/hurricanes.html

In accordance with the Clery Act <sup>5,</sup> UCF PD publishes an Annual Safety and Fire Safety Guide.

Link: https://police.ucf.edu/crime-statistics

<sup>&</sup>lt;sup>5</sup> The "Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act" is a federal statute requiring colleges and universities participating in federal financial aid programs to maintain and disclose campus crime statistics and security information.





UNIVERSITY OF CENTRAL FLORIDA

# 9.0 CONSERVATION

2020-30 CAMPUS MASTER PLAN UPDATE

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### 9.0 CONSERVATION INTRODUCTION

# INTRODUCTION

NARRATIVE	This element outlines the University's goals and policies related to conservation of natural habitats and species, prevention of water and air pollution, and the efficient use of energy. The University is committed to preserving and enhancing its natural areas and the biological diversity they support. The UCF campus lies at the southern end of the Southeastern Coastal Plain, which was
	designated as a global "biodiversity hotspot" in 2015. Global concern over the loss of biodiversity and habitats due to human activities makes preservation of the campus's remaining natural assets an important goal. The campus contains eleven different types of native ecosystems, including important local examples of the longleaf pine ecosystem, which is considered critically endangered globally. These natural areas contribute importantly to conservation of regional biodiversity, including threatened and endangered species.
RELATED ELEMENTS	See 2.0 FUTURE LAND USE & URBAN DESIGN for a chart of the acreages of Developed, Developable, and Undevelopable campus lands and the Future Land Use Map.
	See 5.0 GENERAL INFRASTRUCTURE & UTILITIES for more information on Energy Infrastructure and Conservation, and Water Use and Conservation.
	See 6.0 TRANSPORTATION for policies designed to discourage dependence on personal automobiles and to encourage alternative modes of transportation on campus.
STATUTE & REGULATION	9.0 CONSERVATION is an element that is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.
JULEISIN DISTEM OR	BOG 21.208 states the purpose of the element as follows:
D JULES - BOTHD OF GOVERNOO	"This element ensures the conservation, protection and wise use of all natural ecosystems and natural resources on the university campus and in the planning study area".

#### 9.1 CONSERVATION OF NATURAL ECOSYSTEMS AND RESOURCES

NARRATIVE	The Department of Landscape and Natural Resources (LNR) manages campus natural lands with mechanical vegetation control, prescribed fire (controlled burns), and invasive species removal, and maintains a network of trails, making these areas accessible for nature enjoyment and passive recreation. The University has received state-wide recognition for its land management program, which focuses on conservation management at the urban-wildland interface. The goals and policies for nature conservation presented in this element will enhance the diversity and abundance of native plants and animals living in campus natural lands, and will help establish UCF as a national leader in conservation management and environmental stewardship.	
	Appropriately using and conserving water resources, improving air quality, and preventing or minimizing pollution are key aspects of the University's commitment to conservation and sustainability. The University's National Discharge and Elimination System Permit, which LNR oversees, guides the University's efforts to protect its surface waters. Air quality is addressed through transportation initiatives, use of alternative fuels and renewables, and the University's Air Operating Permit.	
GOALS, OBJECTIVES, & POLICIES		
GOAL 1: Conserve the region's biodiversity and natural heritage by designating significant campus conservation areas, developing wildlife-friendly landscapes, and minimizing the impact of future development on vulnerable species and habitats.		

OBJECTIVE 1.1: Review
and designate the status
of all environmentally
sensitive lands on
campus, based on state
and regionally determined
criteria.

POLICY 1.1.1: The University shall maintain in a natural state all areas identified as "Conservation" in this Plan. New areas may be designated as conservation in the future based on documented conservation values, such as the presence of imperiled or vulnerable species or natural communities, or other features of state, regional, or local significance. Consistent with the Future Land Use Element, except for minimal structures and improvements necessary to ensure safe access and essential support functions (e.g., signage kiosks, security fencing or barricades, natural water crossings). There shall be no construction in conservation 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 apply the designation of "Conservation Easement" to natural lands that are set aside in perpetuity pursuant to a recorded conservation easement. This designation allows only low-impact uses such as hiking, bird watching, nature study, or other low-impact uses consistent with the easement requirements. Other conservation lands that are not part

of a designated Conservation Easement shall be identified and protected based on goals, policies, and objectives outlined in this element.

POLICY 1.2.1: The University shall continue to protect and conserve imperiled and vulnerable plant and animal species, including threatened and endangered species, and species of special concern, as required by the Endangered Species Act of 1973, as amended, Ch. 68A-27, F.A.C. Rules Relating to Endangered or Threatened Species, and federal and state management policies relating to the protection of these species.

POLICY 1.2.2: The University shall coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) to maintain and manage populations of the Gopher Tortoise, *Gopherus polyphemus*, on campus, due to the tortoise's key role as an indicator of upland habitat quality. Upland preservation areas may serve as gopher tortoise relocation sites until the carrying capacity has been reached for that specific parcel as defined and permitted by the FWC.

POLICY 1.2.3: The University shall coordinate with appropriate state and regional environmental agencies, such as the St. Johns River Water Management District (SJRWMD), Florida Fish and Wildlife Conservation Commission (FWC), and Florida Forest Service (FFS), to manage designated Conservation Areas appropriately.

POLICY 1.2.4: The University shall develop information systems and plans that support conservation management. These shall include, but not be limited to:

A Geographic Information System (GIS) database that includes digital overlays depicting the location of vegetative communities, conservation areas, or the locations of threatened and endangered species, and species of special concern, as well as rare or imperiled plant communities (e.g., ranked as G1-G3 or S1-S3 by the Florida Natural Areas Inventory).

Land management plans that include management and restoration techniques, monitoring and evaluation of species and habitat quality, and detailed methods for the removal and control of invasive, exotic plants in campus natural lands.

POLICY 1.2.5: Native landscaping should be used to the greatest extent possible in the construction of new facilities. UCF shall exclude the use of Category I and II invasive species in landscaping, as listed in the current Florida Exotic Plant Pest Council (FLEPPC) List of Invasive Plant Species. Efforts should be made to avoid using all other invasive species where applicable.

LNR will periodically survey natural campus lands for the presence of Category 1 and 2 invasive species and will properly remove and dispose of these exotic plants, as defined in UCF's Weed



OBJECTIVE 1.2: Conserve, protect, and appropriately manage native vegetative communities and wildlife habitat as a system of interconnected wetlands and upland preserves.



Management Plan. Existing landscaped areas will not be cleared of exotics.

POLICY 1.2.6: The University shall maintain established buffers, termed Riparian Habitat Protection Zones (RHPZ), consisting of uplands that are within 50-feet landward of all campus wetlands, in accordance with Riparian Wildlife Habitat Standards set forth in Chapter 40C-41.063 of the Florida Administrative Code. The RHPZ upland buffers shall remain in a natural undisturbed state to the greatest extent possible.

POLICY 1.2.7: The University will use prescribed burns to manage upland vegetation and habitat in campus natural areas, whether those areas are designated as conservation, or are designated for other future use but are currently in a natural state. Prescribed fires will be conducted periodically as conditions allow to provide suitable habitat condition for plant and animal species adapted to firedependent native habitats (e.g. sandhill, upland pine, pine flatwoods), and to mitigate the potential for catastrophic wildfire. The University will follow accepted ecological guidelines for prescribed fire and comply with all applicable regulatory guidelines. LNR will be responsible for conducting prescribed burns, and will coordinate with University administration and appropriate internal departments (Facilities Planning and Construction, Landscape and Natural Resources, Facilities Operations, Environmental Health and Safety, University Police) and external agencies (Florida Department of Agriculture and Consumer Services, Florida Forest Service, Orange County Fire Rescue Department). Courtesy communications about planned burns will be shared with neighboring residential communities and traffic signs located near burn areas will be used to notify the campus community and visitors of burn activities.

POLICY 1.3.1: The University shall avoid or minimize biological and hydrological impacts to designated conservation areas. Any proposed development adjacent to conservation areas shall be designed and implemented to minimize potential impact on the area. Landscape treatments of any such development shall preserve significant existing vegetation and plan for a gradual transition from developed to undeveloped areas.

POLICY 1.3.2: The University shall avoid or minimize any encroachment into designated Riparian Habitat Protection Zones (RHPZ), which are defined in Policy 1.2.6, above. If a review of the environmental and economic costs of a proposed development demonstrates that encroaching into the buffer is the only viable option, then the University shall pursue all reasonable efforts to minimize and mitigate any environmental impacts to the area. A permit shall be obtained from the SJRWMD if proposed improvements are within the RHPZ of a wetland conservation easement.



OBJECTIVE 1.3: Restrict activities that may threaten the survival of imperiled or vulnerable species or habitats.

	POLICY 1.3.3: During the initial planning phase of any physical changes to campus natural areas, the University shall perform an environmental assessment and census of animal and plant species in the affected area. Plants or animals identified in the Florida Fish and Wildlife Conservation Commission most recent edition of "Florida's Endangered and Threatened Species List," 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 at state scale) shall be noted. Protection or mitigation plans for any such species shall be formulated and will include options for saving or relocating them or setting aside other protected areas to mitigate for the lost habitat.
OBJECTIVE 1.4: Enhance natural habitats and species in both developed and undeveloped areas of campus.	POLICY 1.4.1: The University shall encourage conservation within its landscaped areas by designing landscapes that provide habitat for birds, pollinators, and other native species. Landscape design and development will follow the Campus Landscape Master Plan and Design Standards adopted in 2016, and will use the principles of the Sustainable Campus and Landscape Approach outlined in the plan to develop wildlife-friendly and conservation-oriented landscapes.
	POLICY 1.4.2: The University shall support a healthy tree canopy throughout campus, and shall maintain its designation as a Tree Campus USA fulfilling its annual commitments to the requirements of that program, and maintain its GIS-based, digital Urban Tree Inventory.
	POLICY 1.4.3: The University shall support and enhance the diversity and abundance of pollinator species on campus, and shall maintain its designation as a Bee Campus USA by fulfilling its annual commitments to the requirements of that program.
OBJECTIVE 1.5: Foster and encourage use of campus landscapes and natural areas as an outdoor "living	POLICY 1.5.1: LNR and the Arboretum will work together, and will partner with other entities both within and outside the University to develop courses, internships, and other student training opportunities that build on our programs in conservation and natural resource management.
experiential learning in conservation and land management.	POLICY1.5.2: The University will document and track the use of campus as an outdoor living laboratory through site use permits issued by LNR.
COAL 2. Drata at readant	weter and air suclity and human and any increased health

GOAL 2: Protect regional water and air quality and human and environmental health by preventing or minimizing pollution and properly disposing of hazardous wastes.

#### **OBJECTIVE 2.1:**

Conserve, appropriately manage, and protect the quantity and quality of regional water sources. POLICY 2.1.1: The University shall strive to prevent harmful pollutants from entering its municipal separate storm sewer system (MS4) by following requirements set forth in its National Pollutant Discharge Elimination System (NPDES) permit as required by the Florida Department of Environmental Protection (FDEP). LNR shall

9.0 CONSERVATION
GOALS, OBJECTIVES, & POLICIES

be responsible for updating the NPDES permit and coordinating NPDES activities.

POLICY 2.1.2: The University shall use reclaimed water, sourced from the Iron Bridge Water Pollution Control Facility in Seminole County for landscape irrigation, where applicable.

POLICY 2.1.3: The University shall continue to monitor and test raw well water, destined for potable use, on a daily and monthly basis per DEP requirements, and shall monitor campus surface water for compliance with existing surface water quality standards as specified in the University's NPDES permit.

POLICY 2.1.4: The University shall continue to implement a comprehensive water conservation program, to include:

- Using reclaimed water for an expanded campus irrigation system and chilled water system make-up water;
- Using automated timers and other irrigation flow-monitoring mechanisms:
- Planting Florida-Friendly® and drought-resistant landscapes for new building construction and landscape renovations;
- Using low-flush fixtures in new building construction; and
- Implementing the water conservation plan submitted by the University to the SJRWMD, which is a basis for issuing the University's consumptive use permit.

POLICY 2.1.5: 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.

POLICY 2.1.6: The University shall continue to maintain and update the University Spill Prevention Control and Countermeasures Plan. The University shall inspect and maintain all petroleum storage tanks to prevent oil discharges from occurring and to prepare the University to respond in a safe and effective manner to mitigate the impacts of discharge to navigable waterways.

POLICY 2.2.1: The University shall continue to participate in and consider those programs that will maintain or improve existing air quality on campus lands.

> POLICY 2.2.2: 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 and Safety.

> POLICY 2.2.3: The University shall determine the potential impacts on air quality before construction of parking garages. Parking structures shall be designed to facilitate rapid ingress and egress of vehicles to minimize idling time, and to maximize air-flow throughout to eliminate pockets of stagnation where pollutants can congregate.

**OBJECTIVE 2.2: Maintain** or improve existing air quality on campus.

POLICY 2.2.4: The University shall continue to comply with its Air Operating Permit 0950015-009-AO. The University shall monitor and maintain records, provide compliance testing, and maintain stationary combustion equipment and pollution controls to ensure emissions are within permitted parameters. The University shall meet federal and state air quality regulations prior to construction of stationary combustion equipment.

POLICY 2.3.1: All University buildings shall be designed with facilities to accommodate collection, storage, and disposal of recycled materials.

POLICY 2.3.2: 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 2.3.3: The University shall implement academic programs that promote awareness of environmental benefits of resource recycling.

POLICY 2.3.4: The University shall continue to enforce hazardous materials handling and storage procedures per the recommendations of the Department of Environmental Health and Safety.

POLICY 2.3.5: The University shall use only licensed and permitted hazardous waste transportation and disposal companies.

#### 9.2 CONSERVATION OF ENERGY

NARRATIVE

Energy in its many forms impacts nearly every aspect of university life, as it powers the heating and cooling of buildings, water distribution, lighting, computers, and UCF's world-changing research experiments.

UCF's enormous appetite for energy warrants serious consideration, given the associated environmental and financial impacts. As energy costs and demands continue to grow, achieving energy sustainability has become increasingly important to the University's mission.

Appropriate policies and procedures that govern how we use our environmental resources and facilities will enable UCF to achieve the improvements necessary to establish itself as a national leader in energy research, education, and stewardship.

Although this plan focuses on the energy use attributed to buildings and associated systems, the energy and environmental impacts of transportation are equally important. Currently, these two major energy consumers (buildings and vehicles) are largely decoupled, but this will not always be the case. As electric vehicles continue to become more common, the interplay between building and vehicle energy will increase, particularly as UCF builds out its smart-grid infrastructure.

OBJECTIVE 2.3: To maximize on-campus reclamation of hazardous materials and consumer products.

	As stated in <u>UCF Policy 3-111.1 Energy Sustainability</u> , "The University is committed to energy sustainability and ensuring a productive environment for all members of the University community. Requirements involving energy conservation are to be followed by all University members, including students, staff, faculty, visiting scholars, and campus visitors." Collectively, we owe it to future generations to preserve and protect our finite natural resources, as we are all stewards of this Earth. The energy section of this element describes the state of UCF's energy portfolio and our goals and policies for energy infrastructure, energy
GOALS, OBJECTIVES, & POLICIES	conservation, renewable energy generation, and energy storage.
Energy Efficiency	
GOAL 1: Reduce campus energy use through innovative technologies to achieve Carbon Neutrality by 2050.	
OBJECTIVE 1.1: Reduce energy use by campus infrastructure, buildings, and systems energy to meet or exceed peer building benchmark Energy Utilization Index (EUI) and Energy Cost Index (ECI) performance metrics.	<ul> <li>POLICY 1.1.1: All UCF buildings shall be benchmarked to determine energy performance using the ASHRAE Building Energy Quotient database or other appropriate benchmark databases for prioritization of energy efficiency projects and retro-commissioning activities.</li> <li>POLICY 1.1.2: All Building Automation Systems (BAS) not adhering to ANSI/ASHRAE Standard 135 BACnet<sup>®</sup> requirements shall be replaced or modernized to comply, and allow for optimized sequencing of operations, smart-grid integration, enhanced diagnostics, and ongoing monitoring-based commissioning efforts.</li> <li>POLICY 1.1.3: All building lighting systems shall be upgraded to energy-efficient lighting technologies to reduce electrical power and HVAC cooling loads, reduce the maintenance burden of re-lamping efforts, and eliminate the use of mercury-containing bulbs.</li> <li>POLICY 1.1.4: All energy-intensive HVAC equipment shall be upgraded at end of life to meet or exceed the current UCF Design, Construction and Renovation Standards, to reduce energy expenditure and improve Indoor Air Quality (IAQ).</li> <li>POLICY 1.1.5: All campus site lighting characteristics, thus reducing energy expenditure and improve site lighting characteristics, thus reducing energy expenditure and improving safety.</li> <li>POLICY 1.1.6: All building chilled water connections and associated tertiary pumps shall be modernized to meet both uniform specifications and the UCF Design, Construction and Renovation</li> </ul>

pumping power, and improve the chilled water temperature differential (Delta T).

POLICY 1.1.7: All UCF E&G buildings shall be re-commissioned in adherence to the latest version of ANSI/ASHRAE Standard 202 and ASHRAE Guideline 0.2 within a three-year cycle to maintain building system performance, document performance degradation due to entropy, and prioritize system modernization projects.

POLICY 1.1.8: The University shall reduce HVAC loads by raising or lowering the temperature in all non-essential, unoccupied spaces after-hours. The University shall also work with UCF IT to implement computer shutdown protocols for all UCF-owned non-server, noncritical computers and peripheral hardware.

POLICY 1.1.9: All energy efficiency building practices shall be guided by ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1 and the latest version of LEED.

POLICY 1.2.1: A Photovoltaic (PV) Prioritization Plan shall be developed and implemented to install PV on select building roofs, parking garages, and elsewhere as approved by the administration.

POLICY 1.2.2: All new construction projects shall be designed and built to be solar-ready. Solar PV points of connection shall be located at the utility transformers instead of at the buildings, allowing for clear demarcation of PV electrical generation systems from building electrical systems.

POLICY 1.2.3: Pressure-reducing valves used in the distribution of reclaimed water delivered to UCF from the City of Orlando / Seminole County Iron Bridge Wastewater Treatment Facility shall be assessed and replaced with pressure-reducing turbines for power generation, when economically viable.

POLICY 1.3.1: UCF shall continue to develop partnerships between its operations and academic units to enhance the quality of real-world academic applications and foster greater research potential in the areas of utilities, sustainability, and the built environment.

POLICY 1.3.2: Utilities and Energy Services (UES) shall continue to work with University Space Administration and the Registrar's Office to optimize space use and planning, reducing energy use associated with under-utilized and unoccupied spaces. Development of an energy-centric space usage policy could result in a significant reduction in campus energy consumption.

POLICY 1.3.3: UCF shall continue to pursue human-led energy conservation policies as outlined in the Collective Impact and Climate Action Plans, such as "Kill-a-watt" competitions and "Green Office" certifications.

OBJECTIVE 1.2: Transition electrical power sources from public-utility sourced power to onsite renewable energy and other onsite generation technologies, reducing greenhouse gas emissions and improving economic stabilization of electrical utility rates.

OBJECTIVE 1.3: Utilize the infrastructure, buildings, and systems as "living labs" for academic collaboration and research, in cooperation with Facilities and Safety, for hands-on experiential learning.
Microgrius	
NARRATIVE	UCF must shift its paradigm with regards to utility master planning and develop an on-campus microgrid: a small-scale power grid with defined electrical boundaries that can operate independently or collaboratively with both the public utility provider and other microgrids.
	A microgrid would allow the University to reduce energy costs; improve infrastructure resiliency through grid-strengthening projects; and offer portfolio flexibility with campus energy mixes, deploying both smart and microgrid applications. By using advanced controls and communications to synchronize generation assets to the existing power distribution system, the microgrid allows any excess generated power to be delivered back to its electrical grid. During an emergency situation, UCF's microgrid could disconnect from the local utility power and continue operating as an "island." The maximum continuous demand to be served by the proposed microgrid will depend on how much generation and local battery storage capacity is connected.
	Additionally, a priority load-shedding scheme would be implemented to avoid overloading the system.
	Potential sources of power for the microgrid include some combination of cogeneration/CHP, solar, or other renewable technologies. Many microgrids incorporate energy storage as well as energy generation, to compensate for the differences between energy production and demand.
	Long-term, an assessment of financial focus, operational flexibility, and future outlook is recommended to better position the University for uninterrupted electric and thermal generation under microgrid considerations. This will be essential to protect environmentally- sensitive research, minimize technical risk events, and achieve campus sustainability targets.
GOALS, OBJECTIVES, & POLICIES	
GOAL 1: To transition the c existing medium voltage po	campus to a microgrid to synchronize generation assets to the ower distribution system.
<b>OBJECTIVE 1.1.</b>	POLICY 1.1.1 UCF shall evaluate microgrids that incorporate energy

Miorogrido

OBJECTIVE 1.1.	POLICY 1.1.1 UCF shall evaluate microgrids that incorporate energy
Transition the UCF	storage, as well as energy generation, to compensate for the
electrical transmission	differences between energy production and demand.
and distribution systems to a Smart Grid model capable of islanding the UCF Main Campus in a "microgrid" configuration	POLICY 1.1.2: The University shall analyze the costs and determine whether to continue leasing the on-campus electrical distribution assets from the local utility provider, or buy them outright. Ownership of the assets would allow UCF to upgrade the grid infrastructure as

#### 9.0 CONSERVATION GOALS, OBJECTIVES, & POLICIES

for economic benefit, inclement weather, or other conditions that warrant separation from the public electrical utility grid. needed to incorporate a distributed generation portfolio of PV and realize cost savings.

POLICY 1.1.3: UCF shall create a model demonstrating the impact that each new, renewable energy project in development would have on the electrical grid, to ensure grid resiliency and reliability.

POLICY 1.1.4: UCF shall consider energy storage technology to achieve greater grid resiliency and reliability. This technology would allow the University to maintain operations in the event of momentary electrical utility interruptions, and consider grid-level energy storage for circuits powering research buildings.

POLICY 1.1.5: UCF shall integrate a microgrid-controller interface with the campus's Building Automation Systems, as distributed renewable energy generation is deployed and scale warrants. The interface would allow for dynamic demand response modes, at both the campus and building levels, to reduce peak demand on the electrical utility grid and prevent back feeding.

#### 9.1 CONSERVATION OF NATURAL ECOSYSTEMS AND RESOURCES

DATA & ANALYSIS	
A. Nature Conservation	
Overview	The UCF campus contains significant natural resource areas, many of which are protected from future development. Areas of interest include the Arboretum, preserved upland areas, wetland conservation easements and other wetlands, Lakes Lee and Claire, and campus stormwater ponds. Natural areas not only provide substantial habitat for diverse and abundant plant and wildlife populations, but also offer attractive campus assets for connection with nature and recreational opportunities. The preservation of both the quantity and quality of these resources is vital to the continued ecological function of these resources as well as the quality and character of the UCF campus.
	Figure 2.0-1 <i>Current Land Utilization Table</i> shows that nearly half of UCF's Main Campus acreage is natural land, uplands, bodies of water, and wetland habitats. One third of these natural areas are preserved in perpetual Conservation Easements to the St. Johns River Water Management District. <sup>1</sup>
	The remainder of UCF's natural areas, including uplands, wetlands, and wetland buffers, are set aside for long-term preservation, but are not held under a Conservation Easement.
	The location of various conservation lands on campus are shown in Figure 9.0-4 Conservation Lands Map.
Invasive Species	LNR maintains a Weed Management Plan that identifies nuisance plant species in the natural lands. All plants list by the 2019 Florida Exotic Pest Plant Council List of Invasive Plant Species are monitored, mapped, and chemically treated yearly. Most of these invasive, exotics are stable or decreasing in coverage due to proactive management, and with support of grant awards from the Florida Fish and Wildlife Conservation Commission.
Threatened and Endangered Plants and Animals	All listed threatened and endangered plant and animal species that are observed during annual compliance monitoring and general field observations are documented, mapped, and reported annually. Figure 9.0-5 Map of Threatened and Endangered (T&E) Plants and
	Animals shows documented locations of T&E plants and animals.

<sup>&</sup>lt;sup>1</sup> For conservation easements in favor of the St. Johns River Water Management District, see <u>UCF Ownership</u> and <u>Encumbrance Report 2019</u>, items gg. and tt.

Monitoring	Vegetation monitoring is completed twice a year, in June and December, for compliance monitoring required for environmental permits with the SJRWMD. A total of thirty-nine (39) vegetation plots are located in the natural areas, and data collected is also used for habitat evaluation and restoration research.							
Gopher Tortoises	Goph period	er Torto dically by	ises and t y LNR.	heir burro	ows are s	urveyed a	and monit	ored
	Figure eleme durine	Figure 9.0-6 Map of Gopher Tortoise Burrows, at the end of this element, shows locations of gopher tortoise burrows evaluated during surveys of selected natural areas.						
B. Surface Water Quality	y							
	The University of Central Florida's water features include twelve (12) constructed stormwater ponds, two natural lakes, and several other natural wetland and stream systems. These water bodies are monitored regularly by LNR and pond management contractors. Periodic measurements of pond and lake systems have included dissolved oxygen, temperature, acidity (pH), conductivity, and turbidity. Routine water samples were collected from ponds from 2012-2014 and analyzed for dissolved nitrogen and phosphorus (Table 9.0-1). The University currently samples Lake Claire and Lake Lee monthly as part of the Florida LAKEWATCH program.							
Figure 9.0-1: Average Water Quality Data for UCF Water Bodies	Water samples were taken at pond outlets. Values represent averages of values from a variable number of sample dates, ranging from 20 to 29 sampling events, taking place over a two-year period from 2012-2014.							
Surface water body	рН	Cond. (µs)	D.O. (mg/L )	NH4 (mg/L)	NOx (mg/L)	Total N (mg/L)	DRP (mg/L)	Total P (mg/L)
1D Pond	7.56	236	7.71	0.072	0.004	0.489	0.012	0.019
2HEX Pond	7.23	186	8.38	0.132	0.052	0.601	0.011	0.015
2H Pond	7.17	211	9.41	0.133	0.087	0.675	0.011	0.017
3A Pond	8.05	223	9.09	0.081	0.091	0.619	0.011	0.031
4L Pond	7.10	228	7.37	0.112	0.265	0.495	0.011	0.027
4M Pond	7.49	159	7.45	0.058	0.013	0.425	0.012	0.015
4R Pond	7.30	160	8.70	0.077	0.003	0.449	0.012	0.012
Bonneville Creek	6.99	129	7.15	0.125	0.077	0.580	0.012	0.020
4B2 Pond	6.97	176	5.27	0.128	0.074	0.598	0.017	0.026
Lake Claire	7.37	145	7.76	0.049	0.003	0.457	0.012	0.009
Lake Lee	7.29	118	7.62	0.054	0.010	0.392	0.012	0.010
PGH Pond	7.47	220	8.17	0.056	0.005	0.658	0.014	0.024
W5 Stream	6.90	149	6.09	0.075	0.034	0.474	0.021	0.019
W9 Stream inlet	6.62	328	4.30	0.129	0.633	0.672	0.024	0.025
W9 Stream outlet	6.82	144	6.27	0.067	0.009	0.509	0.024	0.011

C. Hazardous Materials	and Spill Prevention
Underground and Above- ground Tanks	The University has a number of above-ground storage tanks associated with diesel generators, lubricant oil, motor vehicle oils, and used oils. All of these tanks are double-walled and range in size from 25 gallons to 5,200 gallons. The University remediated and closed several old underground storage tanks in the 1990s. The current fuel island was installed in 1995 at the Facilities Management Compound. This underground tank has a capacity of 17,500 gallons and is FDEP-compliant.
	The University continues to maintain and update its Spill Prevention Control and Countermeasures Plan. The University inspects and maintains all petroleum storage tanks to prevent oil discharges from occurring. The Department of Environmental Health and Safety (EHS) provides training to prepare University personnel to respond in a safe and effective manner to mitigate the impacts of discharge to navigable waterways.
Hazardous Materials and Waste	By virtue of its academic and research activities, the University uses 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.
	Environmental Management within EHS 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.
	EHS 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. EHS contracts with licensed and permitted contractors for final disposal of these wastes, after they are collected, profiled, and safely characterized.
	Hazardous material inventory is maintained by laboratory managers and shop managers. The EHS Chemical Safety and Security Coordinator oversees the inventory training, auditing, and outside agency reporting.

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Air Quality

EHS provides monitoring, recordkeeping, and compliance testing in accordance with Air Operating Permit 0950015-009-AO. The University maintains stationary combustion equipment and pollution controls to ensure emissions are within permitted parameters. The University obtains construction permits for new, stationary combustion equipment.

Forecast of Campus Emissions From Campus Energy Use

#### 9.2 CONSERVATION OF ENERGY

DATA & ANALYSIS	
D. Energy Efficiency	
Background	UCF is fully committed to an energy conservation and sustainability program based on universal participation and continual improvement. All UCF buildings and facilities are operated with the health, welfare, and safety of all students, faculty, and staff in mind, and in support of instruction and research. Regardless of their sources of funding, buildings will be operated in the most energy- efficient manner possible. Individual and departmental awareness and accountability are essential to the overall success of this initiative. As per University Policy 3-111.1, Energy Sustainability, requirements involving energy conservation are to be followed by all members of the University community.
Current Energy Use	University energy data can be viewed on the <u>Open Energy</u> <u>Information System</u> .





Energy Efficiency Projects	The University is responsible for coordinating numerous energy initiatives related to green buildings and energy efficiency. This includes capital energy improvement projects, renovations, and equipment replacement; and updates to University policies relating to energy, sustainability, and the built environment. UCF also developed a campus-wide system to track and report its energy utilization, which assists operations staff in optimizing building performance throughout the campus building portfolio; enhancing the University's advantage in energy and environment; and developing internal and external partnerships to creatively implement a broad range of expanded demand-side management initiatives.
	The University prioritizes energy efficiency projects in Education and General (E&G) buildings based on the total Operations & Maintenance (O&M) costs normalized per square foot of conditioned space. O&M costs are comprised of all utility costs, as well as costs associated with service and repair work orders. While this method tends to prioritize the smaller, energy-intensive laboratory buildings, those buildings often are prime candidates for energy efficiency projects.
	Based on this prioritization schedule, the University benchmarks and conducts ASHRAE Level 1 energy audits. <sup>2</sup> In buildings that are not performing optimally, the condition of the energy-using systems <sup>3</sup> contributing to the utility use is assessed. If the systems are still within an acceptable range of life cycle but are underperforming, those buildings are identified as candidates for retro-commissioning (or re-commissioning if they've been commissioned previously). If it is determined that an energy-using system should be upgraded, replaced, or modernized, a Level 2 energy audit <sup>4</sup> is conducted to determine initial budget figures and a scope of work for the design and implementation of Facility Improvement Measures (FIMs).
Commissioning Process of New Construction	As described in the ASHRAE Commissioning Standards and Guidelines: Standard 202, the Commissioning (Cx) approach is a quality-focused process to achieve the Owner's Project Requirements, starting at project inception and continuing throughout the life of the facility. Commissioning is not an additional

<sup>&</sup>lt;sup>2</sup> Level 1 audits use platforms like the ASHRAE Building Energy Quotient Portal, EPA Energy Star Portfolio Manager, or Department of Energy Asset Scoring Tool to determine the benchmark score of each building and triage the performance of that building against peer building indices to determine if each building is a candidate for energy efficiency projects or is performing "as it should be."

<sup>&</sup>lt;sup>3</sup> Energy-using systems such as HVAC, lighting, building automation (BAS), laboratory ventilation or heating hot water.

<sup>&</sup>lt;sup>4</sup> In compliance with the current version of ANSI/ACCA/ASHRAE Standard 211.

	layer of construction or project management, but rather a strategy to reduce the cost of delivering construction projects and increase value to owners, occupants, and users. It focuses on the integration and interdependency of facility systems, since a performance deficiency in one system can result in less-than-optimal performance by other systems. Upon completion, commissioning is intended to reduce the life-cycle cost of the facility as well as the project capital cost through the warranty period. <sup>5</sup> Per University Policy 3-111.1, Energy Sustainability, all projects conducted at UCF that impact utility use or the indoor environment shall be commissioned.
Retro-commissioning Process of Existing Building Automation System	The Retro-commissioning (RCx) approach allows for a repeatable, standardized approach to optimizing building system performance. <sup>6</sup> RCx involves verification that the Building Automation System (BAS) is functioning as designed, such as checking if sensors are calibrated and actuators/relays are verified. Devices that are not performing properly are recalibrated, repaired, or replaced, and trend logs and system alarm notifications are updated accordingly.
	A re-Testing, Adjusting and Balancing (reTAB) is then conducted to restore proper airflow and water flow characteristics to the HVAC and/or laboratory ventilation systems. Once fully functional, the system's sequence of operations is tested and optimized to confirm that the programming is functioning as intended, and opportunities for optimization are recorded. Software changes are then developed and simulated, and the optimized sequence of operations is downloaded into the BAS controllers and re-verified. The BAS points are mapped into the UCF Fault Detection and Diagnostics monitoring-based commissioning platform. This system monitors system performance, and if it receives any data that indicates performance degradation or event occurrences that are outside of pre-defined tolerances, UES is notified for investigation.
Lighting Technology Upgrades	Lighting upgrade projects play a large part in energy conservation strategies at UCF. The University will continue to evaluate building and site lighting systems for the possibility of upgrading to more efficient fixtures with uniform lighting levels, color (temperature), and Color Rendering Index (CRI). At the time of this plan's development, LED technology is state-of-the-art and thus is the basis of technology reviewed and approved for upgrade and modernization projects.

 <sup>&</sup>lt;sup>5</sup> Definitions derived from ASHRAE Commissioning Standards and Guidelines, Standard 202.
 <sup>6</sup> ASHRAE Commissioning Standards and Guidelines, Standard 202 and Guideline 0.2 are utilized for the overall retro-commissioning (RCx) process.

Green Building<br/>StandardsIn even further commitment to environmental stewardship, UCF has<br/>committed to complying with the International Dark Sky Association<br/>certification for exterior lighting fixtures.Green Building<br/>StandardsSince 2007, UCF has pursued Leadership in Energy and<br/>Environmental Design (LEED) certification for all new construction,<br/>major renovations, and most recently, for existing buildings adhering<br/>to the latest LEED rating system. High-performance buildings play<br/>an integral part in supporting UCF's learning environment. Through<br/>LEED's high-efficiency standards, UCF LEED buildings are<br/>consuming approximately 30% less energy (based on ASHRAE 90.1<br/>2010) and 40% less water than similar non-LEED buildings.Figure 9.0-3LEED Impact on Main Campus Building Use



#### Alternative Fuel Vehicles

Alternative Fuel Vehicles (AFVs), as defined by the Energy Policy Act of 1992 (EPACT), include any dedicated, flexible-fuel, or dualfuel 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 new vehicles fleet, at least 75% being AFV. When replacing existing fleet vehicles or adding to the fleet, the University shall seek out alternative fuel, flex fuel or hybrid-fueled vehicles.

Distributed Generation – Photovoltaic (PV)	Rooftop photovoltaic (PV) systems are anticipated to become a larger source of electrical energy at UCF campuses between 2020 and 2030. The rollout of PV installations will be based on energy generation potential, structural engineering reviews, and digital grid lab simulation.			
	Floating Photovoltaic (FPV) systems represent an emerging market for PV systems sited directly on bodies of water. Possible benefits of FPV include efficiency gains due to lower cell temperatures; reduced balance of system costs associated with land costs and control of vegetation; improved water quality; reduced evaporation rates; and avoidance of land-energy conflicts. The Florida Solar Energy Center (FSEC) was awarded a contract by the U.S. Department of Energy to assess the performance of FPV systems relative to their land- based counterparts. This work will provide UCF with the data necessary to determine the incremental benefits of FPV on campus water bodies, preserving land for conservation or future development.			
E. Microgrids				
Energy Storage and Smart Grid Projects	UCF is well-positioned to become one of the most electrically- efficient, reliable, and resilient institutions in the country, while also bringing significant economic benefit and reduction of carbon emissions. Most importantly, these improvements can be interactively integrated with the teaching and research mission of the University, resulting in a world-class showcase of advanced energy technology.			
	This opportunity presents at a time when several developments have converged to offer all institutions improvements in various energy system attributes, including an unsubsidized cost of energy from PV systems that is competitive with traditional fossil-fueled generation; reduced electric energy storage costs in batteries; and dramatic improvements in the efficiency of major electric loads.			
	The campus grid is effectively that of a small city, with a large number of commuting workers, full-time residents, and significant electric and critical loads. There are many benefits of operating as a microgrid.			
Facility characteristics:	<ul> <li>UCF currently operates a 5.5MWe Combined Heat and Power plant (CHP) powered by natural gas in baseload mode while using the waste heat to power an absorption chiller.</li> <li>The campus is served at primary voltage through six 12.47kV feeders from two different substations.</li> </ul>			

	•	The campus was developed on a "greenfield" basis, without having to accommodate any existing structures, streets, or underground utilities.
	•	While significant vacant land remains for future growth, the campus has been developed in a very space-efficient way, utilizing a concentric configuration for the highest possible structural density without feeling crowded. This translates to
	•	lower energy losses in distribution of electric and thermal energy. Due to the looped design of the campus 12.47kV feeders, all major buildings have at least one alternate feed which is currently available through manual switching, but could easily be converted to automated reconfiguration
	•	Vacant, uncommitted, and unreserved land is still available on campus for 14-18MW of PV arrays and associated battery storage
	•	Many buildings have advanced energy automation controls, with
	•	Continuous advancement and deployment of electric vehicles will present a vehicle-to-grid energy storage element, warranting further studies and modeling to determine how those rolling batteries could additionally serve the needs of a UCF microgrid.
Staffing characteristics:	•	A commitment by Facilities to self-perform work, with the use of consultants and contractors reserved for peak personnel demands or specialty needs.
	•	A strong link between Facilities staff and engineering faculty, including joint participation in externally-funded R&D projects and integration of senior design projects which benefit and improve campus energy systems. A commitment by the Office of Research and the College of
		Engineering to grow the academic programs in energy both generally, and specifically in smart grid, renewable energy, electric transportation, and cyber-physical security.
User/occupant characteristics:	•	A strong and nearly-universal commitment to sustainability. A highly-educated group with nearly-universal familiarity with technology and interconnected devices and systems. A permanent population (faculty and staff) which is under direction of the President and Board of Trustees, and a transient population (students) which is effectively constrained by the application process, code of conduct, and peer expectations.
Beyond Planning for Load Growth – The Traditional Microgrid	UC its rec hov reli tha dis the cor	CF has always planned well for the growing electrical demands of building program, and certainly provided reliability within the guirements of all codes and user expectations. In the short term, wever, the combination of economic forces and our greater ance on electric energy has given rise to the use of microgrids at operate in parallel with the electric utility, but contain embedded tributed generation units to be capable of separating all or part of e loads in times of stress or for economic advantage. This is a inventional reactionary microgrid, which is likely to be justified for

UCF in the immediate future. Analysis by UES and studies by the College of Engineering would provide the basis for recommendations to the Administration.

For modest capital expense, UCF is well-positioned to expand its control of the microgrid so that it can anticipate changes in circuit parameters, economic conditions, and external electrical disturbances. Because implementation is largely accomplished by digital means, through monitoring, communications, and control, the only significant capital expense is the incremental cost of high-speed switches over the slower, motor-operated switchgear in today's designs.

Features of the advanced microgrid include distributed cooperative control, high-speed fault detection with parallel reconfiguration, anticipatory microgrid reconfiguration for economics and/or resiliency, complete or partial islanding from the utility provider. flexible market transactions, management of storage, and system inertia support from inverter-coupled storage. A powerful feature of an advanced microgrid structure is that economic preferences and operating requirements, yet to be defined, can be seamlessly introduced in the future. Of critical importance is the requirement that the system provides overall cyber physical security, yet allows for highly interactive features, including both central-market and peer-topeer transactions, constrained global optimization of the energy resources and distributed cooperative control for area optimization of real and reactive power output. UCF can achieve this grid security using location-based communication protocols, distributed state estimation, and resilient control algorithms.

UCF is well prepared to face the unique challenge of advanced R&D coupled with practical application in both daily operations and retrofit scenarios. There will be several areas of theoretical development required. Industrial process optimization for such a wide range of parameters is particularly challenging, and the requirement for uniform functionality of both retrofit and future installations demands a very structured approach. While the relationships of these functions require significant explanation, a summary of the highlights of innovation includes:

- Development and integration of Local and Wide-Area control of real power for enhanced grid stability; especially important for distributed generation coupled through high reactance.
- Development and integration of Local and Wide-Area control of reactive power for improved voltage profiles and power factor; to be implanted by smart inverters.
- Development and integration of Distributed Cooperative Control options; especially important as more DG resources are dispersed on campus.
- Structured economic optimization of both real and reactive output Preferences, accommodating future possibilities of tariffed service rates, central market, bilateral and peer-to-peer

#### Beyond Reaction – The Advanced Microgrid

transactions; especially important as the business models of utilities face rapid change.

- Development of a Parametric Analysis output mode, allowing interrogation of system responses to prospective changes in equipment investment or operating practices; especially important for evaluation and optimization of upgrades, storage, etc.
- Development of an Anticipation Mode, wherein knowledge of an upcoming outage risk (such as an approaching thunderstorm) or an upcoming demand shift (such as a football game) is automatically transformed to a system configuration response, like pre-loading emergency generation for critical labs or economic changes in demand management profiles.
- Development of a Resiliency Mode (aka "Storm Mode") utilizing the inherent distributed cooperative control features to permit partial restoration of a small-area or regional "island" after destruction of transmission or distribution from a natural disaster.
- Development of cyber physical security integrating physical limits of the campus grid and using location-based communication protocols, distributed state estimation, and resilient control algorithms; especially important as DER becomes a dominant generation resource and communications remains web-connected.

# 9.0 CONSERVATION MAPS

# Figure 9.0-4 Conservation Lands Map



# 9.0 CONSERVATION Figure 9.0-4

<b>/</b> C	Conservation Easem	ent
L	akes & Ponds	
E	loundary	
2,1	100	4,200
		Feet

Figure 9.0-5 Map of Threatened and Endangered Plants and Animals



# 9.0 CONSERVATION Figure 9.0-5

Scientific Name	Consevation Status
Pinguicula caerulea	(FL) Threatened (US) none
Nolina brittoniana	(FL) Endangered (US) Endangered
Asclepius curtisii	(FL) Endangered (US) none
Garberia heterophylla	(FL) Threatened (US) none
Pteroglossaspis ecristata	(FL) Threatened (US) none
Sarracenia minor	(FL) Threatened (US) none
Sacoila lanceolata	(FL) Threatened (US) none
Calopogon multiflorus	(FL) Threatened (US) none
Lilium catesbaei	(FL) Threatened (US) none
Centrosema arenicola	(FL) Endangered (US) none
Dicerandra thinicola	(FL) Endangered (US) none
Pinguicula lutea	(FL) Threatened (US) none

Figure 9.0-6 Map of Gopher Tortoise Burrows in Surveyed Units



## 9.0 CONSERVATION Figure 9.0-6

**10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION** 

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#### UNIVERSITY OF CENTRAL FLORIDA

# **10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION**

2020-30 CAMPUS MASTER PLAN UPDATE

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# 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION INTRODUCTION

INTRODUCTION	
NARRATIVE	For the 2020-30 Campus Master Plan Update, the University of Central Florida has elected to combine the required CAPITAL IMPROVEMENTS element with a new optional element, IMPLEMENTATION.
	The purpose of the new IMPLEMENTATION element is to describe the processes by which a project is taken from Ideation to Construction, and the committees and departments responsible for implementing capital improvements at UCF.
RELATED ELEMENTS	See 2.0 FUTURE LAND USE & URBAN DESIGN for Figure 10.0-1 Future Land Use Map.
STATUTE & REGULATION	10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION is a combined element. Combining related elements is permitted under BOG 21.202(1)(b); which states that "the campus master plan shall contain an explanation of such combinations. See 1.0 INTRODUCTION for the explanations of combined elements.
STATE LANGE	• The CAPITAL IMPROVEMENTS Element is required by Florida Statue 1013.30(3). The element must follow the guidelines stated in Florida Board of Governors (BOG) Regulations, Chapter 21.
TRO OF GOVERNO	BOG 21.211 states the purpose of the element as follows:
	"This element evaluates the need for public facilities as identified in other campus master plan elements; to estimate the cost of improvements for which the university has fiscal responsibility; to analyze the fiscal capability of the university to finance and construct improvements; to adopt financial policies to guide the funding of improvements; and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified in the other campus master plan elements. All development is contingent upon the availability of funding."
	<ul> <li>IMPLEMENTATION is a new optional element. Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.</li> </ul>

#### **10.1 CAPITAL IMPROVEMENTS**

#### Goals, Objectives, & Policies

GOAL 1: Provide academic, research, and support facilities to meet the education, research, and support missions of the University, as stated in the Educational Plant Survey, and meet the needs of student enrollment.

POLICY 1.1.1: The University shall evaluate growth patterns to predict the need for capital improvements, including reviewing:
• enrollment growth to evaluate classroom and teaching lab needs
<ul> <li>faculty growth to evaluate laboratory and office space needs</li> </ul>
<ul> <li>campus growth to evaluate infrastructure needs</li> </ul>
POLICY 1.1.2: When necessary, in order to continue providing access, the University shall consider the use of facilities in other areas, including Satellite Campuses and partnerships with State Colleges.
POLICY 1.1.3: The University shall be prepared to limit on-campus enrollment if adequate capital construction, including infrastructure, cannot be provided or funded.
POLICY 1.1.4: The University shall prepare a yearly Capital Improvement Plan (CIP) requesting planning, construction, and equipment funds for all proposed capital projects within the next five (5) year time frame. The CIP shall include narratives justifying the need for projects.
POLICY 1.2.1: The University shall seek a reasonable share of state capital construction funds to construct teaching, research, and support facilities.
POLICY 1.2.2: Capital budget requests each year shall be consistent with the provisions of the Campus Master Plan and with Campus Development Agreements entered into with local governments.
POLICY 1.3.1: The University shall renovate, repair, and upgrade existing buildings to increase their useful life spans, or demolish aging facilities no longer able to serve existing or future needs.
POLICY 1.3.2: The University shall review the facilities condition of all campus structures every three years to determine the need for replacement, repairs, or renovations to meet ongoing and changing needs of the campus. The University shall thoroughly evaluate aging facilities to determine whether or not they can serve existing or future needs.

	POLICY 1.3.3: The University shall demolish facilities that are listed under "Demolition Recommendations" on the Educational Plant Survey, that is conducted every five (5) years. Demolition should involve careful deconstruction and recycling or reuse of building materials where possible
	POLICY 1.3.4: The University may request CIP funding for both building renovations and new construction in any given year.
	POLICY 1.3.5: When a new building is completed, vacated areas of older facilities may be renovated to meet the needs of new occupants. The University shall seek space to accommodate faculty, staff, and students displaced by renovation.
OBJECTIVE 1.4: Coordinate land use with a schedule of capital	POLICY 1.4.1: Land uses for proposed building sites shall be consistent with the future land uses indicated on Figure 2.0-1 Future Land Use Map.
improvements that will meet existing and projected facility needs.	POLICY 1.4.2: Site locations for all projects on the SCP shall be shown on Figure 10.0-1 Capital Improvements Map.

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 faculty, staff, and students.

OBJECTIVE 2.1: Seek additional funds to augment state capital construction funds.



POLICY 2.1.1: The University shall work with the UCF Foundation to seek external funds in the form of gifts and donations to provide campus facilities.

POLICY 2.1.2: The University may obtain funding through the selling of revenue bonds to construct and renovate student housing, on-campus healthcare facilities, and on-campus parking structures.

POLICY 2.1.3: The University may use auxiliary funds for specific construction needs, such as parking lots, parking garage structures, bookstore expansion, and other auxiliary support space needs.

POLICY 2.1.4: The University may seek funding through other state and non-state sources to meet construction requirements that are needed as part of the Campus Master Planning process.

POLICY 2.1.5: The University may seek funding to construct research and special purpose facilities, with the support of the UCF Foundation and the UCF Research Foundation.

#### **10.2 IMPLEMENTATION**

Goals, Objectives, & Policies

GOAL 1: Provide implementation procedures for monitoring and updating the Campus Master Plan and prioritizing Capital Projects, by guiding University decision-making,

# responding appropriately to unforeseen or changing conditions, encouraging public involvement, and maintaining transparency.

OBJECTIVE 1.1: Establish criteria to evaluate and prioritize capital improvement projects.	POLICY 1.1.1: The University shall establish the criteria by which renovations, new construction, and infrastructure projects are prioritized. All final decisions shall rest with the President and the Board of Trustees.
OBJECTIVE 1.2: Implement transparent procedures that engage campus stakeholder participation in prioritizing Capital Projects.	POLICY 1.2.1: UCF shall investigate and implement a collaborative procedure for creating and updating the 10-Year Schedule of Capital Projects (SCP) <sup>1</sup> in a manner that engages campus stakeholders, including:
	<ul> <li>Inviting Capital Project proposal requests from the OCI Deans and Vice Presidents;</li> <li>Evaluating, estimating, and programming proposed facilities; and</li> <li>Recommending or approving the addition of facilities to the SCP, either by inclusion in the Campus Master Plan Update, or by Minor Amendment.</li> </ul>
	POLICY 1.2.2: UCF shall investigate and implement a collaborative procedure for preparing the Capital Improvement Plan (CIP) <sup>2</sup> in a manner that engages campus stakeholders, including:
	Writing or reviewing Project Narratives.
	Annually prioritizing or recommending project priorities
OBJECTIVE 1.3: Employ designated committees in capital and campus planning efforts.	POLICY 1.3.1: The Finance and Facilities Committee of the UCF Board of Trustees shall provide review, policy guidance, and strategic oversight of campus master planning activities and other real estate-type activities for both the University and its direct support organizations (DSOs).
	POLICY 1.3.2: The University Master Planning Committee (UMPC) shall review short-range and long-range issues related to land use, facilities planning, and future development of the campus, including protection and preservation of natural resources on the campus. The UMPC shall also review exterior signage, site furniture, public art, and some temporary installations.
	POLICY 1.3.3: The Capital Improvement Trust Fund (CITF) Committee shall recommend and prioritize capital projects by requesting CITF funds. The recommendations of the committee shall take effect only after approval by the student body president

<sup>&</sup>lt;sup>1</sup> The 10-Year Schedule of Capital Projects (SCP) includes factors such as project name, scope, and square feet of anticipated renovation or new construction space.

<sup>&</sup>lt;sup>2</sup> The 5-Year Capital Improvement Plan (CIP) includes projects for which the University is seeking funding; along with variables such as priority, project cost, funding source, and proposed timing.

and the University President, and with final approval by the Board of Trustees.

POLICY 1.3.4: The University Space Committee (USC) shall evaluate potential impacts to the University from proposed real estate and space initiatives, and ensure that appropriate due diligence is performed prior to any real estate transaction, or assignment of, or modification to, space.

POLICY 1.4.1: Facilities Planning and Construction (FPC) shall maintain the Campus Master Plan, and oversee the planning, design, construction, renovation, and demolition of capital projects.

POLICY 1.4.2: Facilities Operations (FO) shall provide cost-effective and reliable operations and maintenance, and promote a comfortable, and clean campus.

POLICY 1.4.3: Landscape and Natural Resources (LNR) shall ensure that greenspaces are designed to contribute to a sense of place and to reflect UCF's commitment to stewardship of natural resources.

POLICY 1.4.4: Utilities and Energy Services (UES) shall manage the campus utility resources and reduce the University's impact on the environment by ensuring the design of energy-efficient buildings.

POLICY 1.4.5: Sustainability Initiatives (SI) shall research and advise on environmental, economic, and social sustainability.

POLICY 1.4.6: The Building Department (Environmental Health and Safety) shall review construction plans for compliance with codes, and provide construction inspection services for UCF-owned, - leased, or -operated facilities.

POLICY 1.4.7: The Facilities and Safety Business Office shall perform the construction accounting functions for capital and minor projects, and act as liaison with UCF Procurement Services and Finance and Accounting.

POLICY 1.4.8: UCF Parking and Transportation Services shall provide recommendations on parking garages and lots.

POLICY 1.4.9: Environmental Health and Safety (EHS) shall provide Research and Environmental Support, such as biological and chemical safety, hazardous waste management, lab, radiation, and laser safety; and Workplace Safety, e.g., accident investigation, maintaining AEDs and first aid kits, advising on ergonomics and hearing conservation, and advising on indoor air quality (IAQ).

POLICY 1.4.10: The Office of Emergency Management (EM) shall coordinate emergency preparedness and response across the University, and provide guidance for departments and colleges developing and improving their emergency plans.

OBJECTIVE 1.4: Utilize designated departments to oversee, contribute to, and implement capital and campus planning.

POLICY 1.4.11: The Department of Security (DS) shall maintain the highest level of security at UCF by proactively implementing and using camera technologies, card access, and guard services.

POLICY 1.4.12: The UCF Police Department (UCFPD) shall provide recommendations regarding campus safety, strive to reduce crime and the fear of crime, and provide a safe environment for students, faculty, staff, and visitors.

POLICY 1.4.13: UCF Academic Program Quality shall determine space deficits identified in Academic Program Reviews performed every seven (7) years, to help align Capital Improvements with facility needs.

POLICY 1.4.14: UCF Strategic Planning shall determine how Capital Projects align with UCF's Strategic Plan.

POLICY 1.4.15: UCF Space Administration shall evaluate university space needs, provide space data on existing facilities, and coordinate all Educational Plant Survey requirements.

#### **10.1 CAPITAL IMPROVEMENTS**

Data & Analysis	
Project Funding	
Overview	The following is an inventory and assessment of existing and anticipated revenue sources and funding mechanisms available for capital improvement financing.
Public Education Capital Outlay (PECO)	The University receives funding from the State for capital improvements in various appropriation types. The primary funding source is Public Education Capital Outlay (PECO). These funds are appropriated to the State University System (SUS) pursuant to Section 1013.64(4), Florida Statutes, which provides that a list of projects is submitted to the Commissioner of Education for inclusion in the Fixed Capital Outlay Budget Request. A lump sum appropriation (sum of digits) may be provided for remodeling, renovation, maintenance, repair, and site improvements for existing satisfactory facilities. The projects funded from PECO are normally for institutional, academic support, or institutional support purposes.
Capital Improvement Trust Fund (CITF)	UCF students pay Building Fees and Capital Improvement Fees as part of their tuition. This revenue source is used to finance student-related facilities, such as student unions, libraries, outdoor recreation, and athletic facilities; or debt services issued by the State University System. Projects funded by CITF are selected and prioritized by the CITF Committee.
Private Donations and Grants	Private donations and grants are another source of revenue authorized by Florida Statute. Legislative approval is not required for the use of these funds.
Revenues and Bonds	Auxiliary Organizations, such as Housing and Residence Life, Business Services, and Parking and Transportation Services, and Direct Service Organizations such as UCF Athletics use revenues collected from their operations to fund capital improvements. Auxiliaries may also bond capital improvements and pledge auxiliary revenues for debt service. Either method requires BOT approval.
Courtelis Funds	The state's matching program, the Alec P. Courtelis Facilities Challenge Grant Program, is currently suspended. <sup>3</sup>
Statutory Documents	
Overview	The following is a description of planning documents submitted to the BOG or the State to inventory and assess capital improvements.
10-year Schedule of Capital Projects (SCP)	The 10-Year Schedule of Capital Projects (SCP) is based on needs identified throughout the Campus Master Plan. The SCP, formerly known as the Capital Improvements List, is included in the Campus Master Plan Update every five years.

<sup>&</sup>lt;sup>3</sup> <u>https://www.flbog.edu/board/office/fac/index.php</u>

	<ul> <li>The SCP will identify factors such as project name, project scope, and square feet of anticipated renovation or new construction space.</li> <li>The SCP will include all projected projects on all campuses for the 10 Year Timeframe.</li> <li>The SCP will define improvements as 3-year committed, 10-year projected, and those consistent with the Campus Development Agreement (CDA).</li> <li>In the five-year interim between Campus Master Plan updates, the Board of Trustees may amend the SCP to add remove rename or relocate</li> </ul>
	projects.
Fixed Capital Outlay Budget Request	The 2020-21 Fixed Capital Outlay Budget Request included:
Buuget Request	<ul> <li>Transmittal Letter</li> <li>Narrative Overview (formerly known as CIP-1)</li> <li>CIP-2 Summary of Projects         <ul> <li>CIP-2A PECO Projects Only</li> <li>CIP-2B Capital Improvement Trust Fund (CITF) Projects</li> <li>CIP-2C Non-State Supplemental Funding</li> </ul> </li> <li>CIP-3 Project Detail         <ul> <li>CIP-3A Narrative Description(s)</li> <li>CIP-3B Project Descriptions</li> <li>CIP-3C Schedule of Project Components</li> </ul> </li> </ul>
	The submittal requirements for the Budget Request are subject to change by the BOG annually. Documents that have been required in the past were not required in 2020-21, such as Return on Investment Forms (ROI) and the BOB-1, BOB-2 and BOB-3.
	The Budget Request is prepared annually by Facilities and Safety, in collaboration with the Vice President of Administration. The CIP is approved by the Provost, University President, and the Board of Trustees (BOT), and submitted to the State University System Florida Board of Governors.
Five-year Capital Improvement Plan (CIP)	<ul> <li>The CIP includes a prioritized list of the University's current and future capital project for a five-year period.</li> <li>The CIP will identify variables such as priority, project cost, funding request, and proposed timing.</li> <li>The CIP will be revisited annually, allowing variable factors to be adjusted based on circumstances such as emerging strategies, changes in priorities, cost or scheduling, or new funding opportunities.</li> </ul>
Plant Operations and Maintenance (PO&M)	The State of Florida provides Plant Operations and Maintenance (PO&M) funding for most of the University's facilities that contain Educational and General (E&G) space. Since 2016, the state has not provided PO&M funding for any newly-constructed or expanded E&G buildings. The cost of operating and maintaining Auxiliary space is derived from auxiliary revenues.

#### **10.2 IMPLEMENTATION**

Data & Analysis	
Committees contribut	ing to Campus and Capital Planning
Overview	Describe committees and governing bodies used to evaluate and facilitate campus planning and capital improvements.
Finance and Facilities Committee (FFC)	The FFC is a standing committee of the UCF BOT, whose members are appointed by the Board Chair. The general purpose of the Committee is to provide review, policy guidance, and strategic oversight of the University's financial and facilities-related matters, including financial reporting statements, campus master planning activities, and other real estate type activities for both the University and its Direct Support Organizations (DSOs).
Roles and Responsibilities:	For campus master planning and other real estate matters the FFC will oversee the campus master planning process and provide recommendations to the BOT for action.
	The <u>FFC Charter</u> , approved July 20, 2017, describes the committee's role in the Campus Master Plan, the Capital Improvement Plan, Direct Support Organizations (capital projects and planning), and maintenance of facilities.
Membership and Term of Service:	The BOT Chair will appoint the FFC chair and members, comprising at least five (5) members, all of whom must be on the BOT. Members will serve until their resignation from the BOT or replacement by the Chair.
University Master Planning Committee (UMPC)	In accordance with Faculty Senate Resolution 2016-2017-1 Faculty Senate Bylaw Change, Section VIII. Joint Committees and Councils, the UMPC is a Senate Joint Committee that includes a broadly representative group of faculty, administrators, staff, and students, and that serves as an advisory body to the University President on short- and long-range issues related to land use, facilities planning, and future development of the campus, including the protection and preservation of natural resources. The committee also provides recommendations on matters related to campus aesthetics including signage, site furnishings, public art, and some temporary installations.
Roles and Responsibilities:	The UMPC is as an advisory body only, and serves as a clearinghouse for communication to and from the campus community. The committee meets monthly during the academic year to review project plans and requests. All meetings are open to the public. All proposed projects and agenda items are submitted through the UMPC chair and are reviewed by the Facilities Planning and Construction Department the Associate Vice President for Administration and Finance (Facilities and Safety), and the Vice President for Administration and Finance before being considered by the committee.

Membership and Term of Service:	The committee shall consist of one faculty member from each academic unit, two of whom shall be members of the Faculty Senate (selected by the Committee on Committees in consultation with the provost and executive vice president); two additional faculty members from Biology and Environmental Engineering (selected by the vice president for Administration and Finance or designee); one administrator from Academic Affairs (appointed by the provost and executive vice president); and two students (appointed by the president of the Student Government). The vice president for Administration and Finance (or designee) (ex officio) shall chair the committee.
	The chair shall identify other voting and ex officio members, and will make every effort to ensure that areas relating to University Master Planning are represented. The director of Environmental Health and Safety and the assistant director of Facilities Planning shall function as support staff to the committee. The chair of the committee shall be a faculty member elected annually by the membership.
	Terms of service shall be three years, staggered, with the exception of the student members, who shall serve for one year, and ongoing membership for position-specific members and resource staff.
Capital Improvement Trust Fund Committee (CITF)	Projects funded from the Capital Improvement Trust Fund (CITF) are selected and prioritized by the CITF Committee, an ad hoc advisory committee formed jointly by Student Development and Enrollment Services (SDES) and the Student Government Association (SGA).
Roles and Responsibilities:	<ul> <li>The Capital Improvement Trust Fund committee is required by Florida Statue 1009.24. When needed, the Vice President for Student Development and Enrollment Services (SDES) charges a CITF Committee to: <ul> <li>Recommend any increase in the CITF fee, and</li> <li>Develop and recommend a list of projects for which to request CITF funds. This list is considered in the annual preparation of the Fixed Capital Outlay Budget Request.</li> </ul></li></ul>
	The recommendations of the CITF committee take effect only after approval by the student body president and University President, with final approval by the BOT.
Membership and Term of Service	By statute, at least half of the committee shall be students appointed by the student body president, and the remainder of the committee shall be appointed by the University President. A chair, appointed jointly by the University President and the student body president, shall vote only in the case of a tie.
University Space Committee (USC)	The University Space Committee (USC) is a standing committee and governing body formed to evaluate potential impacts to the University from proposed real estate and space initiatives. The committee is charged with overseeing and maintaining best practices for use of space throughout UCF.

Roles and Responsibilities:	The USC makes recommendations to the executive administration regarding space and real estate initiatives and whether they are in the University's best interest.
	<ul> <li>The USC ensures that:</li> <li>The committee is apprised of all proposed initiatives and ongoing developments regarding real property and/or space within their divisions.</li> <li>Appropriate due diligence is performed prior to any real estate transaction or assignment of, or modification to, University space.</li> <li>All necessary parties are aware, and involved in, proposed and ongoing developments in real estate and space pursuits.</li> </ul>
	The USC is comprised of decision-makers, or their designees, from each University area involved in real property and/or space matters. Subject matter experts and/or guests are invited, as necessary.
Membership:	<ul> <li>Co-Chairs</li> <li>Vice President, Information Technologies &amp; Resources</li> <li>Associate Vice President, Facilities and Safety</li> </ul>
	<ul> <li>Voting Members</li> <li>Associate Vice President, Debt and Revenue Management</li> <li>Associate Vice President, Information Technologies &amp; Resources</li> <li>Assistant Vice President, University Controller</li> <li>Assistant Vice President, UCF Downtown</li> <li>Lead for Research Space</li> <li>Registrar</li> <li>Executive Director, Health Sciences Campus Operations</li> <li>Director, Resource Management</li> <li>Director, Office of Instructional Resources</li> <li>Director Space Administration</li> </ul>
	<ul> <li>Director, Space Administration</li> <li>Director, UCF Foundation Real Estate and Facilities</li> <li>Senior Associate Director, Athletics</li> <li>Assistant Director, Facilities Planning and Construction</li> <li>Assistant Director, Office of Contracts and Real Estate Management</li> </ul>
Other Advisory Committees	The University Administration is currently assessing effective means of engaging the campus community in Capital and Campus Planning, including:
	<ul> <li>Soliciting project requests from Deans and Vice Presidents</li> <li>Developing a method to quantify the impact of projects on strategic goals</li> <li>Maintaining transparency in Capital Project prioritization</li> </ul>
<ul> <li>Faculty Senate</li> </ul>	The UCF Faculty Senate is the basic legislative body of the University. The Senate is the primary voice of the faculty and serves as the main channel of communication between faculty and Administration.

Faculty participates in Capital and Campus Planning through the University Master Planning Committee (UMPC), which was formed by Faculty Senate Resolution (see UMPC, earlier in this D&A). • Student Government The SGA is a representative body modeled after the United States government with Executive, Legislative, and Judicial branches. The SGA Association (SGA) president is a member of the BOT and the CITF Committee. In this capacity, the student body president represents the students regarding Capital and Campus Planning. The UCF Community Council and Neighbors is a vital body of neighbors, Community Council also known as affected persons (see 1.0 INTRODUCTION, Definitions) Members and with whom the UCF Office of Constituent Relations<sup>4</sup> communicates Neighbors regarding: Statutory Meetings (CMP, BOT, etc.) • Status of Projects or Coffee & Conversation Meetings • **Prescribed Burns** • Traffic Issues (Commencement, etc.) • • Athletics and other campus events The Office of Constituent Relations implements high profile events for the President of UCF. Constituent Relations provides staff support, management, administrative direction, coordination, and control of events and activities for academic programs, donors, and campusrelated events.

#### **Departments Contributing to Campus and Capital Planning**

Overview	List of departments involved in campus planning and capital improvement and their roles.
Facilities Planning and Construction (FPC)	<ul> <li>FPC provides planning and project management for the University, including:</li> <li>Ensuring that the quality of UCF's physical environment supports the University's standards;</li> <li>Providing project delivery and excellent customer service;</li> <li>Creating an exciting and safe campus environment; and</li> <li>Minimizing the life-cycle cost and environmental impact of UCF facilities while maximizing sustainable and maintainable standards</li> </ul>
Facilities Operations (FO)	FO provides cost-effective and reliable operations and maintenance to minimize interruptions, and promotes a safe, comfortable, and clean campus. FO services include heating and cooling, maintenance and repair, housekeeping, and recycling.
Landscape and Natural Resources (LNR)	LNR, a unit of FO, works with FPC and others to ensure that the greenspaces around and between University buildings contribute to a sense of place, advance learning, and reflect UCF's commitment to stewardship of natural resources.

<sup>&</sup>lt;sup>4</sup> The Office of Community Relations became the Office of Constituent Relations in Spring 2019.

Utilities and Energy Services (UES)	UES works with FPC and others to reduce the University's impact on the environment by providing energy efficient buildings through the production, delivery, optimization, and management of safe, reliable, and efficient utility and energy systems.
Resource Management (RM)	The Facilities and Safety Business Office, a unit of Resource Management, performs construction accounting functions for capital and minor projects, and accounts payable and receivable functions for operations.
Environmental Health	EHS supports Capital Projects as follows:
and Safety (EHS)	<ul> <li>The Building Department provides construction plan review for compliance with building codes, and inspection services for UCF- owned, -leased, or -operated facilities.</li> </ul>
	<ul> <li>EHS provides Research and Environmental Support, such as biological and chemical safety, hazardous waste management, lab safety, laser safety, radiation safety, etc.</li> </ul>
	<ul> <li>Workplace Safety provides support such as accident investigation; installation and maintenance of AEDs and first aid kits; confined spaces training; and advising on ergonomics, hearing conservation, indoor air quality (IAQ), etc.</li> </ul>
Sustainability Initiatives (SI)	SI researches and advises on environmental, economic, and social sustainability.
Parking and	Parking and Transportation Services contributes to campus planning by:
Transportation Services	<ul> <li>Promoting alternative transportation options such as shuttles, membership-based car sharing, bike sharing, and ridesharing.</li> </ul>
	<ul> <li>Providing safe, well-maintained parking facilities, including garages and lots.</li> </ul>
UCF Police Department	The UCF Police Department works with FPC and others to plan the campus and our facilities to:
(UCFPD)	Reduce crime and the fear of crime
	Provide a safe environment for students, faculty, staff, and visitors
	Safeguard our constitutional guarantee
Department of Security (DS)	The Department of Security, a division of UCFPD, maintains the highest level of security at the University of Central Florida, by proactively implementing and using camera technologies, card access, and guard services.
Office of Emergency Management (EM)	The Office of Emergency Management (EM) is responsible for emergency preparedness and response across the University, and provides guidance for departments and colleges developing and improving their emergency plans.
Academic Program Quality (APQ)	UCF conducts in-depth reviews of academic programs at least every seven (7) years, pursuant to Florida Statute. The primary purpose is to examine the quality and productivity of academic programs, leading to

program improvement.	The reviews also address space deficits, which	
are helpful in aligning capital improvements with physical plant needs.		

- **Strategic Planning** In Academic Affairs, the Associate Provost for Strategy facilitates the campus-wide institutionalization and execution of the UCF Collective Impact Strategic Plan; and will identify how a capital project supports the Strategic Plan.
- **Space Administration** Space Administration evaluates capital project space needs, provides space data on existing facilities, and adds projects to the Educational Plant Survey.

#### Campus and Capital Planning Procedures, Policies, and Tools

**Overview** List and describe procedures, policies, documents, and tools that UCF uses to implement Campus and Capital Planning.

5-Year Capital Improvement Plan (CIP) Annually, in Spring, the 5-Year Capital Improvement Plan (CIP) is reviewed and revised by the Vice President for Administration, the Associate Vice President for Administration and Finance (Facilities and Safety). This high-level planning team will add or remove projects and update the CIP for:

- Project Priority

   Funding amount being requested
   Funding source(s)
   Timing indicating 3 years in which funding is being requested for planning, construction, and equipment.

   The CIP is submitted to the Florida Board of Governors as part of the Fixed Capital Outlay Budget Request.
   The CMP may be amended during the 5-year interim between updates. Projects may be added, removed, renamed, relocated, or otherwise changed by means of an amendment approved by the BOT.
- Minor Amendments FPC submits a Minor Amendment package to UCF General Counsel. This package includes:
  - A memorandum stating that the requested change constitutes a Minor Amendment meeting Florida Statute 1013.30 (9). To qualify as a minor amendment, the project, alone or in conjunction with other amendments, must have limited impact and must not:
    - Increase density or intensity of use of land
    - Decrease natural areas, open space, or buffers
    - Increase impact on a road or other public facility/service provided/maintained by the state, county, host or other local governments
    - 2. The revised SCP, with changes highlighted
    - 3. Any revised maps, with changes highlighted
    - 4. Revised CMP text, if applicable, with changes highlighted

Upon approval by General Counsel, the minor amendment is added to the agenda for the FFC. If approved by the FFC, the Minor Amendment

	is added to the BOT agenda. The BOT will vote on adoption of the Minor Amendment.
<ul> <li>Major Amendments</li> </ul>	Major Amendments must be adopted by the same process as the Campus Master Plan itself, in accordance with Florida Statute 1013.30 (6-8), including allowing for a 90-day review by the affected local governments and other federal and state agencies.
Building Programs	The intent of a building program is to define a project's high-level objectives and campus impacts, and that the project is approved by the University President before development of plans and specifications for construction.
	Board of Governors regulation 14.0025, Action Required Prior To Fixed Capital Outlay Budget Request, states two parameters for building program preparation and approval:
	<ul> <li>"The university is responsible for the preparation of the building program. The program shall be consistent with the university strategic plan, academic and facilities master plan, and shall include the project budget and the building codes applicable to the project."</li> <li>"The university president shall have the responsibility for building program review and approval to assure compatibility with the institution's approved strategic plan, master plan, educational plant survey and with space utilization criteria. Building programs approved by the university president, and budgets approved by the university board of trustees, shall serve as the basic planning documents for development of plans and specifications for construction."</li> </ul>
	UCF Building Program Process
	<ul> <li>Facilities Planning and Construction (FPC) prepares the Building Program, aligning with the BOG 14.0025 and soliciting factual contributions from departments and individuals campus-wide.</li> </ul>
	<ul> <li>The Building Program is reviewed and recommended to the University President, and must be signed to indicate that the project has been:</li> </ul>
	<ul> <li>REQUESTED by the appropriate Vice President</li> <li>RECOMMENDED by one or more Vice Presidents         <ul> <li>Vice President for Administration</li> <li>Provost and Vice President for Academic Affairs (academic or research facilities)</li> <li>Vice President for Research (research facilities.)</li> <li>Vice President for Student Development and Enrollment Services (Housing, Rec and Wellness, CITF projects, etc.)</li> </ul> </li> <li>APPROVED by the University President</li> </ul>

UCF Project Approvals	UCF requires several internal approvals, including:
	Individual Project Approval: The Board of Trustees Charter, approved on June 14, 2017, requires that the BOT review all proposed new construction and renovation projects exceeding \$2 million in construction costs.
	Budget Increase Approval: The Board of Trustees Charter, approved on June 14, 2017, requires that the BOT review all changes to projects that exceed \$2 million in construction costs or that increase project costs by more than 10 percent of the original estimate presented to the committee.
	Capital Projects Approval: Capital Projects Approval Policy, approved on September 27, 2018, requires that, for any capital project that exceeds \$2 million, a <i>Capital Projects Funding Certification Form</i> be completed and signed by the University President, the Vice President submitting the request, the Chief Financial Officer, and General Counsel.
Educational Plant Survey	The State University System requires that, at a minimum of every five years, each Florida university prepare an Educational Plant Survey to report on its existing facilities and also project its future facilities needs for the next five years.
	Florida Statute 1013.01(8) reads: " <i>Educational plant survey</i> means a systematic study of present educational and ancillary plants and the determination of future needs to provide an appropriate educational program and services for each student based on projected capital outlay FTE's approved by the Department of Education."
	The current <u>Educational Plant Survey</u> was performed in 2015 and remains in effect from July 1, 2016 through June 30, 2021
Academic Program Statements (APS)	For large academic projects, FPC prepares or oversees the preparation of an Academic Program Statement (APS).
	Academic Program Statements are assembled after extensive deliberation and consultation with the colleges and departments that will be occupying a proposed facility.
	<ul> <li>The purpose of the APS is to:</li> <li>Document how UCF wants to use the space in the academic building;</li> <li>Capture and disseminate a cooperative philosophy and the direction UCF would like to follow in commencing design;</li> <li>Explore and promote shared space for more efficient use;</li> <li>Describe each room or space in the facility, including size;</li> <li>Provide general equipment needed in specific rooms; and</li> <li>Estimate the overall size of the facility.</li> </ul>
Campus Development Agreements (CDA)	Upon adoption of the CMP, the University negotiates a Campus Development Agreement (CDA) with Orange County, the host local government. This agreement will identify and help mitigate the University's impacts on public services.

Memorandum of Understanding (MOU)	A Memorandum of Understanding (MOU) exists between Orange County and UCF to further intergovernmental cooperation and coordination of development and permitting activity; to ensure frequent communication, and the exchange of mutually beneficial information; and to discuss other coordination issues as deemed appropriate by either party. The MOU was established for a five-year period, effective August 3, 2010, and was subject to subsequent automatic annual renewal.
Land Use Plans (LUP)	All land on the Main Campus belongs to the State of Florida. Land Use Plans (LUP) are submitted for all BOT leases of non-conservation properties.
	As a manager of non-conservation lands, UCF submits a LUP to the Division of State Lands one year from the effective date of the lease (anniversary date). LUPs are intended to address the requirements of Florida Statute 253.034 and Florida Administrative Code 18-2.018.
	UCF's parent leases include, but are not limited to:
	<ul> <li>UCF Main Campus – Lease 2721</li> <li>Central Florida Research Park – Lease 4783</li> <li>UCF/Solar Energy Center – Lease 3525</li> <li>UCF Volusia County – Lease 2732</li> </ul>
Campus Landscape Master Plan and Design Guidelines	The UCF Campus Landscape Master Plan and Design Standards, published in 2016, provide a unified vision for future campus development.
	Link: UCF Campus Landscape Master Plan and Design Standards
UCF Design, Construction, and Renovation Standards	The planning, construction, operation, and maintenance of facilities is a critical function supporting the educational, research, and service missions of UCF. As the entity responsible for directing planning, design, and construction, Facilities and Safety strives to provide high-quality and cost-effective services.
	Link: UCF Design, Construction, and Renovation Standards
State Requirements for Educational Facilities 2014 (SREF)	SREF is organized by the sequence of steps required in the facilities processes and covers definitions, property acquisition/disposal, finance, lease and lease-purchase, historic buildings, program development, professional services, inspection services, design standards and inspection standards[] for Florida universities.
Owner's Project Requirements (OPR)	The OPR is a document detailing the functional requirements of a capital project and the expectations of facility use and operation. As the owner's objectives and criteria are refined during the design process, the OPR may be modified.
Facilities and Safety Policies and Procedures	Facilities and Safety has many policies and procedures that apply to Campus and Capital Planning.
	Link: F&S Policies and Procedures
# **10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION**

**MAPS & TABLES** 

## 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION Figure 10.0-1

Figure 10.0-1 Capital Improvements Map





# 10-Year Schedule of Capital Projects (Main Campus)

1. John C. Hitt Library Renovation Ph. II 2. Campus Entryways - Phase I 3. Campus Entryways - Phase II 4. Engineering Building Renovation 5. Biological Sciences Renovation 6. Theatre Building Renovation - HVAC 7. Howard Phillips Hall Renovation 8. Learning Laboratory 9. Research II 10. Wet Teaching Lab And Expanded STEM Facility 11. Performing Arts Complex Phase I 12. Chemistry Renovation 13. Visual Arts Renovation & Expansion 14. Mathematical Sciences Renovation 15. Ferrell Commons E&G Space Renovation 16. Arboretum, Urban Ecology, & Sustainability Center 17. Classroom Building III 18. Simulation and Training Building 19. Welcome Center Expansion 20. Research III 21. Dining, Housing, Residence Life Facility 22. Special Purpose Housing 23. Graduate Housing 24. Spectrum Stadium Steel Re-Coating 25. Basketball Excellence Center 26. Soccer Stadium 27. Tennis Complex (location TBD) 28. Recreation & Wellness Center Phase III 29. RWC Park Phase IV 30. Creative School for Children 31. Intercept Garage 32. Environmental Health & Safety Support Facility 33. Macnamara Cove 34. Lake Claire Recreation Area Expansion 35. UCF Cross-Campus Bike Trail

## 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION Figures 10.0-2 (cont.) and 10.0-3

Figure 10.0-2 Main Campus 10-Year Schedule of Capital Projects (SCP)	MAP KEY	SCP 2020-30 For variables (Priority, Projected Cost, Timing), see the annually-updated 5-YEAR CAPITAL IMPROVEMENTS PLAN (CIP)	BUIDING #	OTHER NAMES (AKA)	College or Division Requesting	PROJECT TYPE	EXISTING GSF	RENOVATION SF	NEW CONSTR. SF	PROJECT SCOPE	2020 CIP Fund /Priority	2015 EPS Proj. #
		MAIN CAMPUS 10-YEAR PROJECTED PRO	JECTS				1					
3-Year Committed	1	JOHN C. HITT LIBRARY RENOVATION PH. II	002		IT&R	Renovation 5 Phases	226,506	226,506		Renovate 5 Floors for efficient/flexible interiors, more seating, study, special collections/archives, and technology workstations. Digital Initiatives Center.	CITF / 1	5
Consistent with the	2	CAMPUS ENTRYWAYS – PHASE I			2016 CDA	Roadway				University & Alafaya Gateway - improve roads, sidewalks, landing pads, signage, landscape	State / 1 NonState	
Agreement (CDA)	3	CAMPUS ENTRYWAYS – PHASE II			2016 CDA	Roadway				Remaining Items from CDA	State / 2 NonState	
	35	UCF CROSS-CAMPUS BIKE TRAIL		Innovation Way Trail / East Orange Trail						On-campus bike trail linking the existing trail systems of Orange and Seminole Counties		
Other Projected	4	ENGINEERING BUILDING RENOVATION	040		CECS	Renovation	130,885	TBD		Total Renovation	PECO/1	
Projects	5	BIOLOGICAL SCIENCES RENOVATION	020		COS	Renovation	116,607	116,607		Total Renovation	PECO/4	
	6	THEATRE BUILDING RENOVATION – HVAC	006		CAH	Renovation	29,469	TBD		HVAC	PECO/5	
	7	HOWARD PHILLIPS HALL RENOVATION	014		Campus	Renovation	64,619	64,619		Total Renovation	PECO/6	
	8	LEARNING LABORATORY Active Learning, Teaching Lab, & Maker Space Facility			COS, CCIE, CECS, COM	New Building			150,000	Multidisciplinary Classroom and Teaching Lab facility for several colleges		Spot Survey
	9	RESEARCH II Science, Engineering, & Commercialization Facility		Research II	COS, CECS, CREOL, ORC	New Building			138,000	Multidisciplinary Research Facility to serve several colleges		16
	10	WET TEACHING LAB AND EXPANDED STEM FACILITY (Classroom Lab Building)			COM / BSBS	New Building			240,950	Facility to provide wet/prep labs for several programs, study space, offices, and a lecture hall.		
Note: MAP KEY numbers	11	PERFORMING ARTS COMPLEX PH. II	119	Arts Complex Ph. I (Performance)	САН	Addition	83,670	3,000	122,800	Flexible Performance Space, configurable into 4 venues, including Proscenium Theatre and Concert Hall. The facility includes assembly and production support, as well as storage.		7
Figure 10.0-1 Capital	12	CHEMISTRY RENOVATION	005		COS	Renovation	49,073	49,073		Total Renovation		10
Improvements Map, and are not associated with	13	VISUAL ARTS RENOVATION & EXPANSION	051		САН	Renovation	85,000	85,000	TBD	Total Renovation and Expansion		12/13
project priority.	14	MATHEMATICAL SCIENCES RENOVATION	012	Math Sciences Building Remodeling & Renovation	COS	Renovation	106,523	106,523		Total Renovation		
	15	FERRELL COMMONS E&G SPACE RENOVATION	007		Campus	Renovation	93,860	~28,000		Total Renovation of E&G space (100% of 7B, 7F, 7G, 90% of 7C, 50% of 7E.)		
	16	ARBORETUM, URBAN ECOLOGY, & SUSTAINABILITY CENTER		Sustainability Center Ph. I Sustainability Center Ph. II	COS, F&S	New Building			15,000	Arboretum and Urban Ecology Center - replaces aging modular. Sustainability Center - for collaborative research in sustainability/energy.		
	17	CLASSROOM BUILDING III			Campus	New Building			80,000	A state-of-the-art facility to support enhanced teaching and learning - variety of advanced- technology classrooms and multimedia facilities. Faculty offices and support spaces.		17
	18	SIMULATION AND TRAINING BUILDING			CECS	New Building			60,000	Research Facility for IST, includes lab and office space for multiple disciplines in modeling, simulation and training, immersive environments and mobile learning		
	19	WELCOME CENTER EXPANSION	096		Campus	Addition	18,717		11,000	Improve recruitment of top undergrad and grad students, steer students toward strategic programs, focus on under-represented populations, advise students toward timely graduation.		20
	20	RESEARCH III			Campus	New Building			150,000	Future Research Facility		
Ĩ	21	DINING, HOUSING, RESIDENCE LIFE FACILITY			SDES	New Building			260,000	Includes student housing and meal-plan dining hall Creative School may be collocated		
Ĩ	22	SPECIAL PURPOSE HOUSING		Special Purpose Housing and Parking Garage	SDES	New Building			32,000	Greek Housing on ~7 ac. Greek Park Expansion		
	23	GRADUATE HOUSING			SDES	New Building			150,000	Graduate Student Housing		
	24	SPECTRUM STADIUM STEEL RE-COATING	135	Rust Remediation	UCFAA	Renovation	76,527			Re-coat steel structure to prevent rust	NonState	
+					•		•	•				

## 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION Figures 10.0-2 (cont.) and 10.0-3

Figure 10.0-2 Main Campus SCP (Continued)

MAP KEY	SCP 2020-30 For variables (Priority, Projected Cost, Timing), see the annually-updated 5-YEAR CAPITAL IMPROVEMENTS PLAN (CIP)	# 9NIQINA	ALTERNATE or OLD PROJECT NAMES (AKA)	COLLEGE OR DIVISION REQUESTING	PROJECT TYPE	EXISTING GSF	RENOVATION SF	NEW CONSTR. SF	PROJECT SCOPE	2020 CIP Funds/Priority	2015 EPS Proj.#
	MAIN CAMPUS 10-YEAR PROJECTED PRO	IECTS									
25	BASKETBALL EXCELLENCE CENTER	50C	Venue Expansion and Renovation	UCFAA	Add & Reno	48,000		TBD	Renovation of The Venue. Add student-athlete team space and office space.		
26	SOCCER STADIUM & PARKING			UCFAA	New Bldg./Field			TBD	Soccer Stadium north of Spectrum Stadium		
27	TENNIS COMPLEX			UCFAA	New Bldg./Courts			7,500	Tennis Support Building and Tennis Courts (≤12)		
28	RECREATION & WELLNESS CENTER PH. III	088		SDES	Addition	156,111		50,000	Addition the Recreation and Wellness Facility		
29	RWC PARK PHASE IV			SDES	New Bldg./Fields			TBD	Entrance Element and Field Improvements		
30	CREATIVE SCHOOL FOR CHILDREN	Replace 24		Auxiliary	New Building			18,000	New Creative School to support 170 UCF families (increase of 40 families).		
31	INTERCEPT GARAGE		Parking Garage VII	Parking	New Garage			TBD	Intercept Garage at University & Alafaya		
32	ENVIRONMENTAL HEALTH AND SAFETY SUPPORT FACILITY	48A		Support	New Building			4,000	Facility to centralize specialty material receiving, storage, and distribution		
33	MACNAMARA COVE		Recovery Cove	UCFAA	New Facility			1.5 ac.	Lazy River (recovery, rehab, and fun), zero-entry pool, volleyball pool, gathering plaza, sand volleyball, putting, bocce, support buildings (food, dressing, restrooms, etc.)		
34	LAKE CLAIRE RECREATON AREA EXPANSION	0334		SDES	Addition & Reno				Expand Boathouse (0334), Improve Parking Lot		

Figure 10.0-3	Campus	SATELLITE CAMPUSES 10-YEAR PROJECTE	D PRO	JECTS							
Satellite Campuses	DT	UCF COMMUNICATION AND MEDIA BUILDING - EXTERIOR	0906	Center for Emerging Media		Renovation	130,000	Ext			PECO/3
Capital Projects	DT	DOWNTOWN CAMPUS BUILDING II				New Building					
(SCP)	DT	DOWNTOWN CAMPUS PARKING GARAGE II				New Garage					
	DT	DOWNTOWN CAMPUS PHASE III				New Building					
Note: Figure 10.0-1 Capital	DT	DOWNTOWN CAMPUS PHASE IV				New Building					
Improvements Map does	RCHM	ROSEN GARAGE			Parking	New Garage					
Campus projects	HSC	COLLEGE OF NURSING AND HEALTH SCIENCES BUILDING		College of Nursing & Allied Health	CHPS	New Building		1	150,000	New academic home for College of Nursing (~100KGSF). Additional space for other CHPS Units. (TBD)	NonState 15
	HSC	HEALTH SCIENCES PARKING GARAGE			Parking	New Garage		1	160,000	New Parking Garage to support Lake Nona Campus	
	HSC	UTILITIES INFRASTRUCTURE/SITEWORK – CLINICAL FACILITIES		Infrastructure and Sitework Lake Nona Clinical Facilities		Infrastructure		3	3,400LF		
	HSC	BURNETT BIO-MEDICAL SCIENCE CENTER INFRASTRUCTURE				Infrastructure		1	150,000		
	HSC	INSTITUTE FOR HOSPITALITY IN HEALTHCARE			COM/RCHM	New Building		1	150,000		
	Cocoa B.	FLORIDA SOLAR ENERGY CENTER RENOVATION	Many ⁵	FSEC		Renovation	14,418	TBD			PECO/2
	Melbourne B.	MARINE TURTLE & COASTAL RESEARCH STATION		Coastal Biology Station	COS	New Buildings		ç	9,500		19

**11.0 ACADEMIC & SUPPORT FACILITIES** 

1



#### UNIVERSITY OF CENTRAL FLORIDA

# **11.0 ACADEMIC & SUPPORT FACILITIES**

2020-30 CAMPUS MASTER PLAN UPDATE

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## 11.0 ACADEMIC & SUPPORT FACILITIES INTRODUCTION

## INTRODUCTION

STRATE FACILIT	GIC PLAN FOR IES	Facilities are addressed in the <u>UCF COLLECTIVE IMPACT Strategic Plan</u> 2016 as follows:
Figure 1 Plan Cha	1.0-1 Strategic apter 5	Innovate Academic, Operational, and Financial Models to Transform Higher Education Facilities
		FACILITIES
Metrics	Define and achieve a new Develop a new standard f	standard in facility efficiency (sq. ft. per student, per employee). or teaching facility design with measurable improvement in pedagogical effectiveness.
Strategies	With the exception of hig accommodating the need Develop an approach for research productivity). Blend space effectively be	hly specialized uses, design all new space and all renovations to be flexible and capable of s of multiple disciplines and new faculty. allocation of facilities based upon merit-based criteria such as student credit hours generated or etween co-curricular and curriculum-based activities.
Lead	Vice President for Admin Provost Vice Provost for Teaching	istration and Finance gand Learning and Dean of Undergraduate Studies
RELATE	D ELEMENTS	See 3.0 HOUSING for undergraduate, graduate, and Greek student housing.
		See 4.0 ATHLETICS, RECREATION & OPEN SPACE for intercollegiate, intramural, and recreational facilities.
		See 5.0 GENERAL INFRASTRUCTURE & UTILITIES and 12.0 FACILITIES MAINTENANCE for utility, recycling, operations, and other support facility needs.
		See 6.0 TRANSPORTATION for roads, paths, and parking facilities.
		See 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION for the 10-Year Schedule of Capital Projects (SCP) that lists all facilities needed during the 10-year planning timeframe.
REGULA	ATION	11.0 ACADEMIC & SUPPORT FACILITIES is the combination of two elements that UCF has included in the Campus Master Plan since 1995.
A08.STATE	AD OF GOVERNOS	Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.

GOALS, OBJECTIVES, & POLICIES

#### **11.1 Academic Facilities Sub-Element**

NARRATIVE	Academic Facilities include Classrooms, Teaching Labs, Research Facilities, Libraries (study areas and stacks for book storage) and Academic Departments (offices supporting academic departments). The University has a significant deficit of academic and research space according to current BOG standards (see Data & Analysis).
GOAL 1: Provide modern requirements of state-of t	n, well-equipped, academic facilities to meet general the-art instruction in all programs.
OBJECTIVE 1.1: Provide state-of-the-art classrooms to meet the requirements of instruction in all programs.	POLICY 1.1.1: The University shall seek to increase its classroom inventory by an average of at least 10,000 net assignable square (NASF) feet per year, to address the classroom space deficit of 83,904 SF. This target will be evaluated on an annual basis, with priority projects presented in the annual Five-Year Capital Improvement Plan (CIP).
	POLICY 1.1.2: The University shall not lease temporary or modular structures for classrooms.
	POLICY 1.1.3: The University shall continue to apply space-use standards embodied in the long-standing SUS Space Needs Generation Formula, together with the more detailed standards of Florida's State Requirements for Educational Facilities (SREF).
OBJECTIVE 1.2: Provide teaching laboratories to meet the requirements of specialized instruction in all programs at the	POLICY 1.2.1: The University shall seek to increase its teaching laboratory inventory by approximately 20,000 NASF per year in order to address the teaching laboratory space deficit of 324,648 SF. This target will be evaluated on an annual basis, with priority projects presented in the annual CIP.
undergraduate and graduate levels.	POLICY 1.2.2: The University shall continue to apply the established state, SUS, and UCF space-use standards to determine future teaching laboratory building programs, and shall optimize laboratory space in teaching laboratory renovations.
OBJECTIVE 1.3: Provide state-of-the-art library facilities and resources.	POLICY 1.3.1: The University shall seek to create a 21 <sup>st</sup> -century library by the year 2025, provided CITF funding is available and approved for use on the library renovation.
OBJECTIVE 1.4: Provide research laboratories to meet the scholarship needs of undergraduate and graduate students, as well as for research faculty in all programs.	POLICY 1.4.1: The University shall seek to increase its research laboratory inventory by an average of at least 25,000 NASF per year in order to address the research laboratory space deficit of 629,057 SF. This target will be evaluated on an annual basis, with priority projects presented in the annual CIP. POLICY 1.4.2: The University shall continue to identify future research laboratory building programs, plan the renovation of existing teaching

	GOALS, OBJECTIVES, & POLICIES
	laboratories to optimize existing laboratory space, and address emerging areas of research focus.
OBJECTIVE 1.5: Establish the timing and phasing of development of future academic space on campus.	POLICY 1.5.1: Final authority for planning shall continue to be vested in the University President, acting upon advice and counsel of advisory staff, which includes divisional Vice Presidents, the Faculty Senate Chair, the Chair of the University Master Planning Committee, and others selected by the President.
OBJECTIVE 1.6: Set priorities for the development of future academic buildings.	POLICY 1.6.1: The University shall amend the adopted CMP as needed to add, remove, rename, or otherwise change projects projected in the 10-year Schedule of Capital Projects (SCP). The SCP is subject to change as needs evolve.
	POLICY 1.6.2: The University shall analyze and amend the priority, funding, and timing of projects listed in the annual 5-Year Capital Improvement Plan (CIP).
OBJECTIVE 1.7: Estimate the funding necessary for the development of future	POLICY 1.7.1: Allocations of funds for the development of future academic facilities shall be requested in the annual 5-year Capital Improvement Plan (CIP).
academic facilities.	POLICY 1.7.2: Academic facilities which arise from grant awards, accelerated funding, or other circumstances, may be added to the CMP by Minor Amendment.
OBJECTIVE 1.8: Define appropriate locations for	POLICY 1.8.1: Future academic facilities shall be located within the Academic Core, when possible.
future academic buildings.	POLICY 1.8.2: The University shall seek to locate future academic buildings in a manner that meets the requirements of growth, while maintaining an environmentally-pleasing, inviting space in which students, faculty, and staff can learn, teach, and work.
	POLICY 1.8.3: The University shall consider walking distances and elapsed time between scheduled classes when locating Academic Buildings. It is important that students have adequate time to move from one class to another. <sup>1</sup>
GOALS, OBJECTIVES, & POLICIES	

**11.0 ACADEMIC & SUPPORT FACILITIES** 

## **11.2 Support Facilities Sub-Element**

NARRATIVE	Support Building Spaces include administrative offices and computer uses; campus administrative spaces, such as Facilities Maintenance; and student support services and activities of a non-academic nature such as the Student Union, and auditorium/exhibition spaces.
	Support Facilities should not be confused with Support Land Use (see 2.0 FUTURE LAND USE & URBAN DESIGN).

<sup>&</sup>lt;sup>1</sup> UCF class scheduling currently schedules a 10-minute class break (elapsed time).

	11.0 ACADEMIC & SUPPORT FACILITIES GOALS, OBJECTIVES, & POLICIES
	Although other facilities are needed to support the Academic and Research Mission of the University, they are listed in the following elements:
	3.0 HOUSING (graduate, undergraduate, and Greek housing)
	4.0 ATHLETICS, RECREATION & OPEN SPACE (intercollegiate, intramural, and recreational facilities)
	5.0 GENERAL INFRASTRUCTURE & UTILITIES (utility, recycling, and other support facilities)
	6.0 TRANSPORTATION (roads, paths, and parking facilities)
	12.0 FACILITIES MAINTENANCE (operations and other support facilities)
GOAL 1: Plan and develo	p support facilities required to meet the needs of future
student enrollment.	
OBJECTIVE 1.1: Define appropriate locations for	POLICY 1.1.1: Future administrative offices shall continue to be placed within the Campus Core (inside of Gemini Boulevard).
future support facilities.	POLICY 1.1.2: Facilities Operations facilities shall be located on the southern portion of the campus(Libra Drive), when possible.
	POLICY 1.1.3: Future intercollegiate athletic facilities shall be located in the Kenneth G. Dixon Athletic Village in the northeastern area of campus.
	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 when possible.
OBJECTIVE 1.2: Identify support projects to meet the needs of the campus.	POLICY 1.2.1: Future student service areas shall be implemented as directed by element 10.0 CAPITAL IMPROVEMENTS & IMPLEMENTATION.
	POLICY 1.2.2: The University shall amend the CMP as needed to add, remove, rename, or otherwise change support projects listed in the SCP. The SCP is subject to change as support needs evolve.
	POLICY 1.2.3: The University shall analyze and amend the priority, funding, or timing of support projects listed in the 5-Year Capital Improvement Plan (CIP).
	POLICY 1.2.4: Allocation of funds for future support facilities shall follow the Capital Improvement Plan (CIP).

#### DATA & ANALYSIS

#### **11.1 Academic Facilities Sub-Element**

Basis for Academic Facility need	Academic facility needs, over the 10-year planning timeframe, must be based on student enrollment and space deficits.
Main Campus Academic facilities added since 2015.	Since the adoption of the 2015-25 Campus Master Plan Update, UCF has added significant new space on the Main Campus, including the following:
UCF Global	UCF Global is a 54,887 GSF building, which opened in 2016 to serve as the International Hub on campus. It serves international students, faculty, and staff, as well as others engaging in high-impact international experiences.
• John C Hitt Library	The expansion of the existing library is being completed in phases.
expansion	• Library Phase 1 constructed a 18,509 GSF Automated Retrieval Center (ARC) which is a high-density facility capable of storing 750,000 volumes of library material with robotic retrieval; as well as shell space for a 4th-floor reading room.
	• Library Phase 1A added a 40,000 GSF, 4-story connector building between the existing library and the ARC. The connector includes study and library operations areas, and build out of the ARC 4th floor shell space into a reading room.
	<ul> <li>Future phases will renovate the existing 5-story library to improve study areas and library operations, and provide another 500,000 volumes of library material storage capacity.</li> </ul>
Research I	Research I, occupied in 2018, is a 105,775 GSF building providing nearly 80 laboratories (primarily wet labs), offices, and conference, break, and support rooms.
<ul> <li>Trevor Colbourn Hall (TCH)</li> </ul>	Trevor Colbourn Hall is a 136,786 GSF facility with classrooms, meeting rooms, study space, and offices for the College of Arts & Humanities, Burnett Honors College, the College of Undergraduate Studies, the College of Graduate Studies, Student Development and Enrollment Services, and UCF IT. When the building opened in 2018, it had over 10,000 NASF of finished, unoccupied space to support University growth. When TCH was completed, Colbourn Hall was demolished after 45 years in service.
CREOL Expansion	This 13,500 GSF addition to the 1996 CREOL Building added necessary space for the College of Optics and Photonics.

#### SPACE DEFICIT

Despite efforts to fund and construct new facilities, UCF has deficits in every space category.

Table 11.0-2 UnmetThe following table was taken from the current UCF Educational PlantSpace NeedsSurvey, page 36, "Table 7 Formula Generated Net Assignable Square<br/>Feet by Category."

Space Category	Space Needs By Space Type	Satisfactory Space Inventory	Unmet Need
Instructional			
Classroom	324,244	240,340	83,904
Teaching Laboratory	618,915	296,831	324,648
Research Laboratory	932,086	303,335	629,057
Academic Support			
Study	682,870	163,148	519 <mark>,</mark> 722
Instructional Media	82,522	9,727	72,795
Auditorium/Exhibition	123,783	28,262	95,521
Teaching Gymnasium	172,058	14,438	157,620
Instructional Support			
Student Academic Support	0	0	0
Office/Computer	996,247	726,834	271,443
Campus Support Services	205,181	101,651	104,103
Total	4,137,906	1,884,566	2,258,813

CLASSROOMSClassroom space deficits may be alleviated by adding classrooms and<br/>through policy changes that improve classroom utilization through<br/>scheduling.• Classroom Utilization<br/>(Efficiency)Without strong measures, UCF will run out of schedulable classroom<br/>space in fewer than 6 years.The University's Main Campus is operating well above capacity for<br/>classroom utilization, because of the routine usage of regular<br/>academic space throughout a weekly schedule that is greater than<br/>what the official SUS space formula calls for (i.e., 67 hours per week,<br/>versus the official 40 hours per week).In addition, Courses are taught in areas originally designed for other<br/>purposes (laboratories, conference rooms, theaters, study areas, etc.).

Figure 11.0-4 is a breakdown by days and hours for the generalpurpose classrooms. There are 155 rooms in use for a total of 5,984 hours, making the average 38.6 hours per room.

Figure 11.0-3 Lecture Rooms in Use by Day and Time shows the strong pattern of prime-time classroom use Monday through Thursday.

#### Figure 11.0-3 Average Weekly Hours by Rooms and Time of Day

Schedule	d Hours for F	Fall 2018	l.			Average	weekly hou	urs for Sect	ions by Rooi	m and Time	of Day			6/26/2	6/26/2019 019 4:09 pm
Campus: Orland	do Main Campus	Region	n: GP Space		Te	rm: Fall 2018	i	Dates: 8/2	20/18 - 12/8	8/18					
	8-00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	Tota
Fotals for Orla	ando Main Ca 0.00	1mpus F	Rooms: 1: 0.00	55 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F <b>otals for Orl</b> a unday londay uesday	ando Main Ca 0.00 29.75 18.25	0.00 89.75 147.50	Rooms: 1 0.00 111.75 130.25	55 0.00 122.75 127.25	0.00 129.25 132.00	0.00 116.25 112.50	0.00 108.75 114.25	0.00 115.50 150.75	0.00 79.50 92.25	0.00 64.00 77.00	0.00 124.50 131.75	0.00 104.75 108.50	0.00 96.75 96.75	0.00 5.50 6.00	0.00 1,307.50 1,452.75
F <b>otals for Orla</b> iunday londay iuesday /ednesday	ando Main Ca 0.00 29.75 18.25 31.00	1mpus F 0.00 89.75 147.50 93.00	Rooms: 1: 0.00 111.75 130.25 114.75	55 0.00 122.75 127.25 122.25	0.00 129.25 132.00 132.75	0.00 116.25 112.50 121.25	0.00 108.75 114.25 106.75	0.00 115.50 150.75 112.00	0.00 79.50 92.25 68.75	0.00 64.00 77.00 47.50	0.00 124.50 131.75 119.00	0.00 104.75 108.50 114.00	0.00 96.75 96.75 106.75	0.00 5.50 6.00 5.50	0.00 1,307.50 1,452.75 1,305.50
Fotals for Orla iunday tonday uesday Vednesday Yudnesday hursday riday	ando Main Ca 0.00 29.75 18.25 31.00 21.75 30.00	0.00 89.75 147.50 93.00 144.00 57.00	Rooms: 1: 0.00 111.75 130.25 114.75 128.00 75.25	55 0.00 122.75 127.25 122.25 129.00 81.00	0.00 129.25 132.00 132.75 134.50 79.25	0.00 116.25 112.50 121.25 113.88 77.75	0.00 108.75 114.25 106.75 118.00 82.50	0.00 115.50 150.75 112.00 148.25 58.50	0.00 79.50 92.25 68.75 78.88 22.00	0.00 64.00 77.00 47.50 56.25 4.50	0.00 124.50 131.75 119.00 90.75 0.50	0.00 104.75 108.50 114.00 79.25 1.00	0.00 96.75 96.75 106.75 70.00 1.00	0.00 5.50 6.00 5.50 3.00 0.50	0.00 1,307.50 1,452.75 1,305.50 1,324.00 580.25

#### Figure 11.0-4 Lecture Rooms in Use by Day and Time



 Adding / Removing Classrooms In the past 5 years, UCF has added classrooms as follows:

- In 2016, UCF Global added 18 departmental classrooms and several conference rooms to support international programs.
- In 2018, Trevor Colbourn Hall added six general-purpose active learning classrooms and two departmental classrooms.

	<ul> <li>In 2018, Colbourn Hall was demolished, removing four (4) classrooms.</li> </ul>
	<ul> <li>In 2018, the College of Business Administration renovated a general-purpose lecture hall into a large active learning classroom, and renovated two departmental classrooms and contiguous space into another large active learning classroom.</li> </ul>
	• In 2019, UCF Downtown opened 26 general-purpose active learning classrooms in the Dr. Phillips Academic Commons and four (4) classrooms in UnionWest; and added teaching labs and classrooms for Valencia College in both buildings. The courses moved to the downtown classrooms will help relieve overcrowding on the Main Campus.
Improving Existing     Classroom Utilization	The Office of the Registrar is working diligently on a policy to improve utilization by improving scheduling policies. Policies that would improve utilization include:
	• Requiring faculty to teach during the normal class hours of 7:00am to 6:00pm Monday through Friday, rather than only during the prime-time hours (9:00am to 4:30pm, 30 hours per week).
	<ul> <li>Requiring "On Grid" scheduling, whereby course schedules must adhere to:</li> </ul>
	<ul> <li>50-minute blocks on Monday, Wednesday, and Friday</li> <li>75-minute blocks on Tuesday and Thursday</li> </ul>
	<ul> <li>Identifying departmental classrooms that could be transferred to the general-purpose classroom inventory.</li> </ul>
• Teaching Everywhere	There are many types of learning spaces that support scheduled instruction, including open labs, conference rooms, and meeting rooms. Without the use of these additional spaces, UCF's classroom space deficit would be even more severe.
	Learning spaces may be scheduled for use if:
	<ul> <li>the activities generate weekly student contact hours (WSCH),</li> </ul>
	<ul> <li>the activities fulfill course requirements, and/or</li> </ul>
	<ul> <li>there is a formal convener present.</li> </ul>
TEACHING LABS	The Weekly Student Contact Hours (WSCH) for teaching labs are lower than the WSCH for classrooms, but square footage per student is typically greater in teaching labs, at approximately 30-35 SF per station.
	While growth in STEM disciplines leads to a need for more teaching labs, the need does not rise as steeply as the need for classrooms. Teaching Lab utilization always appears to lack "efficiency" compared to classrooms. The room use standard is 24 hours for lower level courses and 20 hours for upper level. The station occupancy rate is 80% for both levels.

	In certain disciplines, the need for labs is particularly acute and is the bottleneck for not offering more sections, examples: Organic Chemistry, Chemistry, and Physics.
RESEARCH LABS	The need for added research laboratories is driven by the need for space for research faculty, research clusters, and student staff to support research projects.
	• With research success comes the need for added faculty; and in the lab sciences, engineering, studio arts, etc., new faculty need lab space to support scholarship and required professional development activities.
	• Research labs are needed for thesis and dissertation work in disciplines with active graduate programs, such as science and engineering. The distinction between research labs and teaching labs blurs somewhat, as instructional functions are intrinsic to both. Often the same lab is used for faculty research, graduate coursework, and thesis or dissertation work.
	Increasing the campus research space portfolio continues to be a high priority, due to UCF's current unmet research space need, its growing research programs, and its goal for preeminence.
OFFICE /COMPUTER	While offices are not considered academic spaces, improving our student to faculty ratio requires additional regular faculty and staff, who cannot function properly without office space. Therefore, as classrooms and teaching labs are added, offices for instructional faculty will be needed.
	The University has made a strong effort to maximize office space efficiency by designing right-sized offices and encouraging open office environments based on functional need.
	Additional study areas created in the past five years include:
	• Trevor Colbourn Hall (2018), which includes considerable public space dedicated to study areas.
	<ul> <li>Business Administration renovations increased the quantity and effectiveness of public area study space. Additional study space is found scattered in buildings across the campus.</li> </ul>
	forward-thinking design philosophies will result in an even higher percentage in the future.
UNMET SPACE NEEDS	The University's unmet space need, as determined by the current Educational Plant Survey, is <b>2,258,813 square feet</b> . It is likely that the University will still be operating with a significant space deficit during the planning timeframe.
	While the future of state-funding for new construction cannot be predicted, UCF will continue operating with high efficiency, and exploring methods to further improve its space utilization.

Interdisciplinary Buildings	Many UCF buildings include multiple space categories such as learning space, office, study, and support space within a single structure.
DATA & ANALYSIS	It is likely that future academic facilities will be interdisciplinary in nature, rather than single-use buildings (e.g., classroom building, laboratory building).

## **11.2 Support Facilities Sub-Element**

Inventory and Analysis of Existing Conditions	The purpose of the Support Facilities Sub-Element is to ensure that the University is providing sufficient support facilities to satisfy its needs.
Support Building Space	Support building spaces include administrative offices; campus administrative spaces, such as facilities management buildings; student support services; auxiliary facilities, intercollegiate, intramural, and recreational athletic facilities; and facilities of a non-academic nature such as the Student Union and auditoria/exhibition spaces.
	To properly support campus needs, support facilities must be provided in parallel to the demands created by academic facilities. The space required for support facilities is related to the University's space deficit and the type of facilities to be constructed.
	Support space needs are estimated every five (5) years through the development of the Educational Plant Survey (EPS).
Main Campus Support facilities added since 2015.	During the first 5-years since the 2015-25 CMP was published, the following support facilities were added or enlarged:
	Warehouse Support Building (Bldg. 16-F)
	District Energy Plant IV (Bldg. 143)
	Facilities Support Building (Bldg. 162, behind Bldg. 22)
	Garage C Expansion (Bidg. 83)     Lab & Environmental Support (Expansion of Bidg. 48)
	<ul> <li>Arboretum Greenhouse (Bldg, 161)</li> </ul>
	Band Practice Facility (Bldg. 163)
	• Wayne Densch Center for Student-Athlete Leadership (Bldg. 136)
	Temporary Football Game-Day Parking
	Garvy Center for Student-Athlete Nutrition (part of Bldg. 135)
	Pollo Tropical Restaurant (Bldg. 183)
	<ul> <li>Roth Athletics Center (Bldg. 165) – under construction</li> </ul>
Future Support Facilities	The following support facilities are planned
	Recycling Facility
	<ul> <li>Environmental Health and Safety Support Facility</li> </ul>

Other

In 2016, the Board of Trustees sublet 5.24 acres of campus to Pegasus Hotel, LLC to build the Celeste Hotel, north of University Boulevard on Alafaya Trail. This facility does not belong to UCF; but UCF will benefit by proximity to the hotel Conference Center.





#### UNIVERSITY OF CENTRAL FLORIDA

# **12.0 FACILITIES MAINTENANCE**

2020-30 CAMPUS MASTER PLAN UPDATE

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## 12.0 FACILITIES MAINTENANCE INTRODUCTION

INTRODUCTION	
NARRATIVE	Facilities Operations, a department in Facilities and Safety (F&S), maintains the University's facilities in order to support the academic mission of the University.
	The operations and maintenance of campus facilities has a heavy impact on campus sustainability. The fixtures in the restrooms determine the amount of water that is consumed by the buildings. The efficiency of the equipment and lighting determines the amount of energy that is consumed by the buildings. Finally, the timely maintenance performed on the equipment largely determines a building's environmental impact.
	By establishing proactive routine, preventive, and planned facility maintenance programs, Facilities Operations (FO) will extend the useful life of all buildings and prevent premature capital outlay for their replacements.
Facilities Operations Mission	The Facilities Operations Mission is to support the University's collective impact through ensuring campus operations run smoothly while exceeding student, faculty, and staff service expectations. This is accomplished by providing cost-effective and reliable operations and maintenance to minimize interruptions and create a safe, comfortable, and clean campus for all, to facilitate and sustain an enhanced collaborative and successful research-based learning environment into the future for our students to grow, learn, and succeed.
RELATED ELEMENTS	See 5.0 GENERAL INFRASTRUCTURE & UTILITIES, Solid Waste Sub-Element for Recycling.
REGULATION	12.0 FACILITIES MAINTENANCE is an optional element that UCF has included in the Campus Master Plan since 1995.
JAKE STTY SYSTEM OR FLORIDA.	Optional elements are permitted under BOG 21.212, but are not subject to review under Chapter 21.

#### 12.0 FACILITIES MAINTENANCE GOALS, OBJECTIVES, & POLICIES

GOALS, OBJECTIVES, & POLICIES

GOAL 1: Implement planned and routine maintenance programs which will extend the useful life of all buildings and prevent premature capital outlay for building and systems replacement.

OBJECTIVE 1.1: Establish the acceptable use and capacity of each building.	POLICY 1.1.1: The use and capacity of each building shall be determined by the Vice President for Administration and Finance and his or her staff. The Space Administration department 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 for Administration (Administration and Finance) and his or her staff to determine if the proposed use is acceptable to the University.
OBJECTIVE 1.2: Establish the desired level of performance for building components.	POLICY 1.2.1: The exterior walls, windows, and doors of campus buildings shall be expected to last the life of the building, with maintenance as scheduled in Objective 1.3. Roofs shall be expected to last 25 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 shall be expected to last the life of the building, with maintenance as scheduled in Objective 1.3.
	POLICY 1.2.3: The structural, plumbing, and electrical systems of campus buildings shall be expected to last the life of the building, with preventative maintenance as scheduled in Objective 1.3. HVAC systems are expected to last 15 years, and elevators are expected to last 20 years, with maintenance as scheduled in Objective 1.3.
	POLICY 1.2.4: The exterior walls of buildings shall be brick or masonry, or of a material approved in the UCF Standards. Exterior doors and window 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 shall be sloped and shall be single ply membrane, modified Bitumen, standing seam, or other approved systems. Re- roofing projects shall consider spray-on polymer coatings with a 20- year warranty.
OBJECTIVE 1.3: Establish a preventative maintenance schedule for campus facilities.	POLICY 1.3.1: F&S shall be responsible for the operation, maintenance, and utilities for all campus buildings. F&S shall provide oversight for the operation and maintenance of auxiliary buildings per UCF Policy 3-106, Maintenance, Repair, and Housekeeping.
	POLICY 1.3.2: All University entities shall follow UCF Policy 3-106, Maintenance, Repair, and Housekeeping, in coordination with F&S.

#### 12.0 FACILITIES MAINTENANCE GOALS, OBJECTIVES, & POLICIES

POLICY 1.3.3: Leased trailers on campus shall be the responsibility of the Vice Provost for Academic Affairs.

POLICY 1.3.4: The University shall ensure that all renovations, remodels, and newly-constructed buildings follow the UCF Design, Construction, and Renovation Standards, and all applicable codes.

POLICY 1.3.5: Exterior walls, windows, doors, and exposed metal structures shall receive routine maintenance every eight (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: HVAC systems shall receive monthly maintenance. Lab hoods and exhaust fans shall be maintained every six (6) months. Lab showers and eyewashes shall be tested quarterly. Backflow preventers shall be tested yearly. Electrical systems shall receive maintenance every five (5) years.

POLICY 1.3.8: Elevators shall receive a basic inspection monthly. Mandated changes shall be accomplished as funding becomes available. A renovation shall be completed once during the life of the elevator.

POLICY 1.4.1: F&S shall identify and prioritize maintenance and improvement projects on an ongoing basis and maintain a master list of prioritized Critical Deferred Maintenance projects. As funding becomes available, F&S shall determine appropriate strategies to make corrections. Subsequent to inspections, the inspecting party shall input maintenance and preventative work orders in the Computerized Maintenance Management System (CMMS) for follow-up action.

POLICY 1.4.2: In the first quarter of every year, a designated number of buildings shall be inspected for possible deficiencies.

POLICY 1.4.3: FO shall maintain buildings using a CMMS capable of addressing preventive maintenance items by issuing work orders on a scheduled basis. This system shall identify scheduled service, maintenance and inspection of mechanical systems, life safety systems, and building components. Building cleaning maintenance shall be based on task assignments for daily, semester, or annual project work.

POLICY 1.4.4: FO, in conjunction with Housing and Residence Life, shall identify and prioritize major repair and renovation projects for residence halls on campus. Corrections shall be made as funding becomes available.

POLICY 1.4.5: Immediate building-related threats to the health, safety, or welfare of students, faculty, or staff shall receive immediate attention. Threats may be identified by the State Fire Marshal,

OBJECTIVE 1.4: Establish priorities for maintenance and improvement projects.

## **GOALS, OBJECTIVES, & POLICIES** Environmental Health and Safety, the UCF Police Department, FO, Facilities Planning and Construction, or others. POLICY 1.4.6: Buildings scheduled for major interior renovations shall not receive minor interior improvements within twelve (12) months prior to the renovation, with the exception of correcting health and life safety concerns. **OBJECTIVE 1.5:** POLICY 1.5.1: At least 90 percent of E&G facility-related life safety Establish a schedule for code violations shall be corrected within 90 days of being identified, as eliminating deficiencies funding becomes available. relating to current POLICY 1.5.2: A minimum of two (2) buildings every year for the next standards. 10 years shall be re-roofed, as funding becomes available. POLICY 1.5.3: Fire code violations shall be corrected within one (1) year of being identified, as funding becomes available. POLICY 1.5.4: Building code violations shall be corrected within one (1) 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.

**12.0 FACILITIES MAINTENANCE** 

## 12.0 FACILITIES MAINTENANCE DATA & ANALYSIS

#### DATA & ANALYSIS

Facilities Maintenance	
NARRATIVE	Deferred maintenance is maintenance, system upgrades, or repairs that are deferred to a future budget cycle or postponed until funding becomes available. Regularly-scheduled preventive maintenance not only prevents sudden and unexpected equipment failure, but also reduces the overall life-cycle cost of the building.
Building Condition Assessments	Since 2012, the University has contracted with the ISES Corporation to benchmark and detail the condition of its E&G facilities. On a triennial basis, Facilities Condition Assessments are performed on each E&G building. Categories inspected include exterior structure and roof system, interior structure, ADA accessibility, energy/water conservation, health, fire/life safety, HVAC, electrical, plumbing, and elevators. This ongoing assessment helps the University prioritize and perform the most critical repairs in a cost-effective manner, therefore helping to avoid the accumulation of deferred maintenance on campus. These reports have become an invaluable tool when renovating existing buildings.
Capital Planning and Deferred Maintenance Management System	Additionally, the University has implemented a Capital Planning and Deferred Maintenance management system. As an add-on to the current Enterprise Asset Management system, this module will function seamlessly with the work order system, enhancing the facilities condition assessment data into a "living database" of actual asset conditions.
Prioritizing Building Issues	Issues regarding SREF <sup>1</sup> , 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 as funding becomes available.
NEW CONSTRUCTION PLANNING	All University buildings must have proven engineering designs in accordance with the UCF Design, Construction, and Renovation Standards, so that they can be integrated into the existing campus maintenance programs.
OPERATIONS AND WORK FLOW	Since 2015, FO has added over 60 standard operating procedures (SOPs) to refine workflow processes and facilitate high service levels, performance standards, and repeated quality.
Zone-based Maintenance	FO adopted a zone-based maintenance approach in 2013, and has been refining its operations ever since. In addition to the day-shift building maintenance, FO subsequently created night-shift preventive maintenance and inspection teams. These teams have achieved over

<sup>&</sup>lt;sup>1</sup> State Requirements for Educational Facilities (*SREF*)

#### 12.0 FACILITIES MAINTENANCE DATA & ANALYSIS

Maintenance Management System	99% compliance with planned life safety inspections and the routine preventive maintenance program. This hybrid approach allows day- shift maintenance teams to focus on routine maintenance, while night- shift teams focus on critical life safety or environmental control systems, ensuring that proactive inspections and maintenance do not disrupt the student experience. AiM <sup>2</sup> is a Computerized Maintenance Management System (CMMS) that is used for work and asset management.
Housekeeping	
NARRATIVE A functional building. An attractive campus. A clean environment.	Our mission is to create a safe, functional, clean, efficient, and attractive living and learning environment. We focus on providing routine cleaning of facilities and housing, cleaning and recycling services. Our staff will also inventory and stock supplies such as toilet paper in every building to maintain daily operations. Services include: • Cleaning classrooms, hallways, and offices • Cleaning restrooms • Replacing paper towels and soap • Cleaning out recycle bins and trash cans • Vacuuming, sweeping, mopping, waxing, and refurbishing floors • Cleaning regular pest control

<sup>&</sup>lt;sup>2</sup> AiM is a product of AssetWorks

**EVALUATION AND APPRAISAL REPORT** 

CariBlack



#### UNIVERSITY OF CENTRAL FLORIDA

## **EVALUATION & APPRAISAL REPORT (EAR)** An evaluation of the 2015-25 Campus Master Plan Update

2020-30 CAMPUS MASTER PLAN UPDATE

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## EVALUATION & APPRAISAL REPORT EAR INTRODUCTION

## EAR INTRODUCTION

The EVALUATION & APPRAISAL REPORT (EAR) is a review and assessment of the 2015-2025 Campus Master Plan (CMP), as adopted by the UCF Board of Trustees on November 20, 2014.
Board of Governors Chapter 21, Campus Master Plans, Section 21.202) requires that the CMP contain a section identifying, monitoring, and evaluating procedures to be followed in updating the CMP every five years. Therefore, this EAR is incorporated into the final 2020-30 Campus Master Plan Update to:
<ul> <li>List which goals, objectives, and policies have been successfully reached.</li> </ul>
• Identify the need for new or modified goals, objectives, or policies needed to correct unanticipated and unforeseen problems and opportunities that have occurred since adoption of the campus master plan.
<ul> <li>Identify proposed and anticipated plan amendments necessary to address identified problems and opportunities.</li> </ul>
Florida Statute 1013.30 requires that a Campus Master Plan (CMP) address eight (8) Elements, and allows for additional (optional) elements to be included. The 2015-25 Campus Master Plan (CMP) included nine (9) optional elements.
This evaluation is divided into three (3) Sections: Required Elements, Retained Optional Elements, and Retired Optional Elements.
Section 1: REQUIRED ELEMENTS This section will assess the eight (8) Elements required by Florida Statue 1013.30 as identified in the 2015-25 CMP.
<ul> <li>2.4 Future Land Use (now Element 2.0 in 2020-30 CMP)</li> <li>2.7 Housing (now Element 3.0 in 2020-30 CMP)</li> <li>2.8 Recreation and Open Space (now part of Element 4.0 in 2020-30 CMP)</li> <li>2.9 General Infrastructure (now part of Element 5.0 in 2020-30 CMP)</li> <li>2.11 Transportation (now Element 6.0 in 2020-30 CMP)</li> <li>2.12 Intergovernmental Coordination (now Element 7.0 in 2020-30 CMP)</li> <li>2.13 Conservation (now Element 9.0 in 2020-30 CMP)</li> <li>2.14 Capital Improvements (now Element 10.0 in 2020-30 CMP)</li> </ul>

	EVALUATION & APPRAISAL REPORT EAR INTRODUCTION
	Section 2: RETAINED OPTIONAL ELEMENTS This section will assess the five (5) optional elements retained in the 2020-30 CMP:
	2.3 Urban Design (retained in the 2020-30 CMP as part of Element 2.0)
	2.5 Academic Facilities (retained in the 2020-30 CMP as part of Element 11.0)
	2.6 Support Facilities (retained in the 2020-30 CMP as part of Element 11.0)
	2.10 Utilities (retained in the 2020-30 CMP as part of Element 5.0)
	2.17 Facilities Maintenance (retained in the 2020-30 CMP as Element 12.0)
	Section 3: RETIRED OPTIONAL ELEMENTS This section will assess the four (4) optional elements that UCF has retired:
	<ul><li>2.1 Academic Mission</li><li>2.2 Academic Program</li><li>2.15 Architectural Design Guidelines</li><li>2.16 Landscape Design Guidelines</li></ul>
FORMAT	The Goals and Objectives from the 2015-25 CMP will be listed and evaluated as:
	<ul> <li>ONGOING: UCF will continue to address these Goals, Objectives, or Policies.</li> </ul>
	<ul> <li>MET: These Goals, Objectives, or Policies have been successfully reached.</li> </ul>
	UNMET: These Goals, Objectives, or Policies were not reached but the University will continue to address them.
	<ul> <li>NOT IMPLEMENTED: These are no longer UCF Goals, Objectives, or Policies.</li> </ul>

#### Section 1 – REQUIRED ELEMENTS

Section 1 will evaluate the eight (8) Required Elements from the 2015-25 CMP, reviewing the Elements' Goals and Objectives, and reporting the status of the Objectives. The Elements include:

- 2.4 FUTURE LAND USE
- 2.7 HOUSING
- 2.8 RECREATION AND OPEN SPACE
- 2.9 GENERAL INFRASTRUCTURE
- 2.11 TRANSPORTATION
- 2.12 INTERGOVERNMENTAL COORDINATION
- 2.13 CONSERVATION
- 2.14 CAPITAL IMPROVEMENTS

2.4 Future Land Use	
EAR CONTRIBUTORS	Bill Martin, Facilities Planning and Construction Susan Hutson, Facilities Planning and Construction
NARRATIVE	The Future Land Use Element addressed UCF's long-range vision for land use on campus, in coordination with future land use plans of the host and affected local governments.

GOAL 1: Create developmental 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 campus that provides for a full range of land uses and intensities of use consistent	ONGOING
with the Goals, Objectives and Policies of the UCF Campus Master Plan, the host local government's master plan, and the affected local governments' master plans, in accordance with the following policies	

OBJECTIVE 1.1: To protect natural resources, including surface waters and wetlands.	ONGOING
OBJECTIVE 1.2: To minimize land use compatibility problems between the University and the host community.	ONGOING
OBJECTIVE 1.3: To correct	ONGOING – Many Policies
existing land use compatibility problems on the University campus.	<ul> <li>UNMET POLICY 1.0.1: Parking Use: "the development of the 'intercept' parking concept is promoted"</li> <li>UCF has not implemented the intercept parking concept; no garages have been built at the campus periphery. However, this policy will carry forward to the 2020-30 CMP.</li> </ul>
	UNMET Policy 1.3.3: "Surface parking areas shall be located
	<ul> <li>outside of the 1,200-foot radius"</li> <li>Surface parking within the Academic Core remains a land use compatibility issue. UCF will strive to relocate surface parking from the Academic Core into garages outside the Core, to free up land for academic facilities, research facilities, and open spaces.</li> </ul>
	<ul> <li>UNMET POLICY 1.3.7: " future parking garages shall be placed at strategic points near campus entrances."</li> <li>See Policy 1.0.1 regarding intercept garages.</li> <li>Parking Garage C was expanded; but no new garages have been built.</li> <li>A future intercept garage has been listed on the new Schedule of Capital Projects in the 2020-30 CMP, and others are anticipated.</li> </ul>
OBJECTIVE 1.4: To coordinate future land uses with the availability of facilities and services.	ONGOING
OBJECTIVE 1.5: To ensure the availability of suitable land on campus for utility facilities required to support future on- campus development.	ONGOING
OBJECTIVE 1.6: To minimize off-campus constraints which limit future development on campus (i.e., traffic, utilities) and to minimize on-campus	ONGOING

conflicts with land uses within the context area.

OBJECTIVE 1.7: To coordinate future land uses with the appropriate topography and soil conditions.	ONGOING
OBJECTIVE 1.8: To ensure that future campus development projects are consistent with regulations governing development in areas where historically or archaeologically significant resources may be present.	<ul> <li>ONGOING</li> <li>Neither historically- nor archaeologically-significant resources have been encountered on the Main Campus, but the CMP will continue to include this objective as a precaution.</li> </ul>
GOAL 2: Maintain a commitment to the protection of campus ecosystems and lands of	

GOAL 2: Maintain a commitment to the protection of campus ecosystems and lands of significant environmental importance and to ensure that these resources are protected for the benefit of present and future generations, while accommodating the continued development and expansion of the man-made environment of the campus.

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

ONGOING

2.7 Housing	
EAR CONTRIBUTORS	April Konvalinka, Housing and Residence Life Peter Mitchell, Housing and Residence Life
NARRATIVE	UCF Housing continues to work to meet UCF's housing demand, and will continue to seek funding to resolve the housing deficit that is acknowledged in the 2015-25 CMP and the 2020-30 CMP.

# GOAL 1: Ensure the provision of public and private housing facilities on campus and within the host community are 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 that will meet the projected need for student housing.	IGOING – Many Policies MET Policy 1.1.1: UCF has not provided enough beds to use 80% of FTIC students and 50% of retained 2 <sup>nd</sup> year dergrads. Although no additional beds were added to the Main Campus , some progress toward the goal has been made:
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	<ul> <li>amendment to the 2015-25 CMP to add the future "Dining, Housing, and Residence LifeFacility." When realized, the project could add approximately 600 beds on the Main Campus.</li> <li>A small parcel of land has been set aside north of Greek Park for additional low-rise Greek housing or other houses. When realized, the project could add as many as 200 beds on the Main Campus.</li> <li>The addition of 640 beds on the UCF Downtown Campus, in Fall 2019, accommodates UCF and Valencia students taking classes downtown. Students with courses on Main could elect to choose to live downtown; however, the intent was for students taking classes downtown.</li> </ul>
	<ul> <li>The goal in the 2020-30 CMP has changed from 80% to 75% of FTIC, and remains at 50% of 2<sup>nd</sup> year undergrads.</li> </ul>
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.	<ul> <li>ONGOING</li> <li>When on-campus housing facilities have reached full capacity, UCF refers students to off-campus housing. Many private apartment complexes house UCF students within the Context Area. In support of off-campus housing, the UCF Shuttle System currently offers regular routes between UCF and many off-campus student apartment complexes.</li> </ul>
OBJECTIVE 1.3: To prevent sub-standard housing and to provide resources for remodeling to an acceptable condition for student use.	<ul><li>ONGOING</li><li>UCF has no sub-standard housing on-campus.</li></ul>

**EVALUATION & APPRAISAL REPORT** 

o In 2018, the Board of Trustees approved a minor

Section 1 – REQUIRED ELEMENTS

#### 2.8 Recreation and Open Space

EAR CONTRIBUTORS	David Hansen, UCF Athletics Association James Wilkening, Recreation and Wellness Center Jennifer Elliott, Landscape and Natural Resources
NARRATIVE	In an ongoing effort to satisfy existing and future demand, enhancements or additions to recreation, intercollegiate athletic facilities, educational laboratories, or open space areas will be listed on the Schedule of Capital Projects (SCP) in the 2020-30 CMP.

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

OBJECTIVE 1.1: To pursue a ONGOING variety of public and private

funding sources and programs to ensure the development and availability of recreational facilities, championship caliber intercollegiate athletics, and educational laboratories for campus students and other user groups.	
OBJECTIVE 1.2: To pursue a variety of continuing in-house	ONGOING – Many Policies
planning and facility development programs to ensure that high quality	UNMET POLICY 1.2.5: UCF has not provided sufficient "improvements to recreationfacilities in order to correct existing deficiencies and meet future demands."
recreation, intercollegiate athletic facilities, educational laboratories, and open space areas are adequately and efficiently provided.	<ul> <li>The current quantity of Activity-Based Recreation Space does not meet NIRSA<sup>1</sup> level-of service guidelines for the existing student population or future demand.</li> </ul>
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.	ONGOING
OBJECTIVE 1.4: To protect and enhance present campus open spaces.	ONGOING

## 2.9 General Infrastructure

EAR CONTRIBUTORS	Curtis Wade, Utilities and Energy Services Amanda Lindsay, Landscape and Natural Resources
NARRATIVE	The University is dedicated to providing mission-critical services in support of the University mission, and is mindful of future load growth as the campus grows. The Campus Master Plan addresses the statutory requirements of storm water, sanitary sewer, solid waste, and potable water, and now also includes chilled water, electrical power, natural gas, and telecommunications. Since the last CMP update, the University continues to:
	• Successfully produce and provide quality potable water to the campus with reliable backup sources, as evidenced in the Consumer Confidence Report, the annual water quality report.

<sup>&</sup>lt;sup>1</sup> National Intramural Recreational Sports Association (NIRSA)

- Promote and implement concurrency management systems for utilities required for development permits in the 2020-2030 CMP update. The University has also added several policies and procedures to adequately expand campus distribution, transmission, and generation, with a concentrated effort on maintaining reserve capacity in all University-owned and leased utility systems.
- Develop high performance building standards that reduce the E&G portfolio's water consumption by as much as 20-35% below a baseline building for all new construction.
- Emphasize water conservation and efficiency measures to ensure that the University's consumptive use permit capacity allowed by the St. Johns River Water Management District (SJRWMD) is not exceeded.
- Modify storm water permitting and capacities as needed with attention to water-borne pollutants. Implement storm water quality and quantity control through best management practices prescribed by Leadership in Energy and Environmental Design (LEED) requirements.
- Update sanitary collection systems with additional backup generators and phase out legacy supervisory control and data acquisition devices, replacing them with new cellular and network technology for alarm management and response.
- Evaluate critical infrastructure replacements and improvements to mitigate operational, technical, and financial risks through capital renewal prioritization.

#### STORMWATER SUB-ELEMENT

GOAL 1: Provide an on-site storm water 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 storm water permitting deficiencies, if any, by modifying the existing SJRWMD stormwater master permit.	<ul><li>ONGOING</li><li>There are no storm water permitting deficiencies.</li></ul>
OBJECTIVE 1.2: To coordinate future campus development with the provision of adequate storm water management system capacity.	ONGOING
OBJECTIVE 1.3: Through the year 2025, UCF shall protect natural drainage system functions by (1)	ONGOING

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.	
OBJECTIVE 1.4: To improve the existing SJRWMD permitted stormwater management system when possible and funding is available.	ONGOING

#### POTABLE WATER SUB-ELEMENT

GOAL 2: Continue to produce and provide quality potable water to the campus with reliable backup sources.

OBJECTIVE 2.1: To ensure that adequate potable water supply and distribution piping is available for both new and re-developed facilities.	ONGOING
	• As UCF approaches its CUP capacity, as limited by SJRWMD, capital investments into water conservation and efficiency will be paramount prior to adding any new development. Capital considerations should include fixture retrofits, replacements, reclaimed toilet-water flushing, and converting process water use from potable sources to reclaimed water where feasible.
OBJECTIVE 2.2: To meet adopted levels of service for potable water system fire flow and consumptive capacity to accommodate the proposed demand.	ONGOING
	• UCF has secured an emergency water supply from Orange County for fire suppression needs. As regional water sources become scarcer and more regulated, the University will need to continue to work with host municipal water suppliers and the SJRWMD to monitor capacity.
OBJECTIVE 2.3: To maintain the current quality and quantity of raw water available in the campus' potable water well field.	ONGOING
	• UCF has engaged in a Salt Tracer Study with FDEP (2019) to help correlate the water age in distribution supply with water quality data specific to chorine decay, total trihalomethanes and haloacetic acid formation to improve finished water quality and remain below FDEP's maximum containment levels.

#### There was no GOAL 3 in the General Infrastructure Element in the 2015-25 CMP.

#### SOLID WASTE SUB-ELEMENT
GOAL 4: Base future campus development 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.

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that future development on the UCF campus shall occur 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.	OCF modified the 1999 Exclusive Bulk Agreement with Seminole County in 2018, and now has the ability to purchase an additional 700,000 GPD of wastewater capacity at Seminole County-Iron Bridge until 2040.
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#### SANITARY SEWER SUB-ELEMENT

GOAL 5: Ensure that the future development of UCF shall be 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 5.1: To maintain the University's current sewer system and upgrade the mechanical and electrical components as needed and as funds are available.	<ul> <li>ONGOING</li> <li>UCF is currently adding new supervisory control and acquisition data at all major lift stations, as funding becomes available, to provide real-time monitoring and alarming. Portable generators have been purchased in the event of power interruption, and long-term planning should yield permanent installations at all major sanitary sewer collection points.</li> </ul>
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2.11 Transportation	
EAR CONTRIBUTORS	Louann Huynh, Parking and Transportation Services Krishna Singh, Parking and Transportation Services Demond Hazley, VHB Engineering

	EVALUATION & APPRAISAL REPORT Section 1 – REQUIRED ELEMENTS
NARRATIVE	Since the 2015-25 CMP, the University has enhanced its multi- modal transportation network, promoted efficient utilization of the campus roadway system, and encouraged shared transportation practices by:
	• Expanding transit services with routes that accommodate 22 student apartment complexes, and include service to the Health Sciences campus, UCF Downtown, and the Rosen College of Hospitality Management.
	<ul> <li>Constructing a transit center by the newly-built Research I building to support 4 routes and 8 shuttles.</li> </ul>
	<ul> <li>Providing structurally-secure parking facilities and lots for constituents, and proactively maintaining these structures to excellent safety standards.</li> </ul>
	<ul> <li>Completing the expansion of Garage C by adding 600 spaces, expanding its total capacity to 1,852 spaces.</li> </ul>
	• Promoting alternative accessibility and mobility practices such as vehicle-sharing, intra-campus transit systems, and new parking industry technologies; contributing to the University's multi-modal transportation network.
GOAL 1: To plan for future m	otorized and non-motorized traffic circulation systems to

#### 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: To inventory annually and report parking demand, traffic demand, and traffic operating conditions.	<ul> <li>ONGOING</li> <li>The University collects data on parking capacities and usage annually; solicits frequent rider feedback; and regularly markets its shuttle transportation services to students to increase ridership. Through increased ridership, parking demand will decrease, reducing single occupancy vehicles and reducing UCE's carbon footprint</li> </ul>
OBJECTIVE 1.2: To provide safe, adequate, accessible, and effective campus parking facilities.	ONGOING
	• The University is committed to maintaining safe and accessible parking facilities. Similar to Objective 1.1, the University monitors parking capacities to maintain adequate student-parking ratios and to determine if additional parking is needed.

# 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	ONGOING
designed to meet the current	

and future needs of the University.		
OBJECTIVE 2.2: To annually review future pedestrian and non-vehicular circulation facilities for consistency with the Campus Safety Plan.	UCF does not have a comprehensive Campus Safety Plan; however, the 2020-30 Campus Master Plan includes a new PUBLIC SAFETY element.	
OBJECTIVE 2.3: To review annually the need for additional lighting along pedestrian and non-vehicular circulation routes consistent with the recommendations contained within the Campus Safety Plan.	UCF does not have a comprehensive Campus Safety Plan; however, the 2020-30 Campus Master Plan includes a new PUBLIC SAFETY element.	
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 Shuttle.		
OBJECTIVE 3.1: To encourage the use of alternative modes of transportation and reduce dependence on the personal automobile.	ONGOING	
	• The University's private transit system continues to grow as service is expanding to support the UCF Downtown Campus. The transit system is consistently being evaluated and monitored for effective usage.	
	The University has also established a partnership with Lynx to provide complimentary transportation to students, faculty, and staff within the Central Florida Region.	
OBJECTIVE 3.2: To continue to improve future mobility	ONGOING	
	• The University continues to improve its transit service, with ten	

(10) routes added since the 2015-25 CMP.Currently there are a total of twenty (20) routes:

- 15 Routes serve student apartment complexes within a one-mile radius;
- Three (3) routes serve Health Sciences, Rosen, and UCF Downtown campuses;
- One (1) route provides transportation for on-campus residents to a local supermarket; and
- One (1) route serves intra-campus transportation.

The data from Fall 2018 showed an average daily off-campus shuttle ridership of 15,659, compared to 10,311 students in Spring 2009.

#### ONGOING

 Vehicle sharing, park-and-ride, bike-sharing, pedestrian and bicycle facilities, and the UCF Shuttle all are components of

OBJECTIVE 3.3: To continue to facilitate safe and efficient multi-modal access to, from, and within the Campus, with

students, and visitors by

modes of travel.

improving linkages between

an emphasis on maintaining UCF's robust multi-modal transportation plan. These methods traffic flow while minimizing help reduce parking demand on campus. conflicts. **OBJECTIVE 3.4: To** 

ONGOING

implement measures to

improve transit service to,

from, and within the campus.

The student shuttles are outfitted with GPS tracking that • allows riders to see the location of all shuttles, and and estimated times of arrival (ETA, using a smartphone application.

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. н

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).	ONGOING
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.	ONGOING

2.12 Intergovernmental Coordination	
EAR CONTRIBUTOR	Fred Kittinger, Government Relations
NARRATIVE	UCF has been in regular communication with local area governments and regional agencies since the 2015-25 CMP.

UCF and Orange County have had ongoing communications and formal discussions on a host of shared interests, with particular emphasis on transportation and pedestrian safety.

Jointly, a Campus Development Agreement (CDA) was established with strong commitment to developing and implementing a pedestrian safety plan. The CDA includes numerous planning, design, and capital actions to significantly increase safety for those traveling in the main campus area, especially pedestrians and cyclists. Initial elements are already in place; the larger capital improvements are in design phase with construction to begin next year.

# GOAL 1: Achieve the goals, objectives, and policies of the UCF Campus Master Plan through the use and promotion of intergovernmental coordination with local, regional, state, and federal government entities.

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OBJECTIVE 1.1: To promote land use compatibility between the University and the host local government through the coordination of the UCF Campus Master Plan with the comprehensive master plans of the host community.	ONGOING
OBJECTIVE 1.2: To establish administrative procedures and coordination mechanisms for the reciprocal review of campus and host community development plans.	<ul> <li>A CDA, requiring Partnership Projects, was reached between UCF and Orange County in 2016.</li> <li>ONGOING – Some Pedestrian Safety projects are currently being implemented or are in the design phase, with financial commitment from both Orange County and UCF.</li> <li>MET – The Campus Wayfinding Signage requirement has been met.</li> <li>ONGOING – Other Pedestrian Safety Partnership projects are listed on the 10-year Schedule of Capital Projects (SCP) in the 2020-30 Campus Master Plan.</li> <li>UNMET – Some Partnership projects are currently unmet due to a lack of funding after the dissolution of the State Concurrency Trust Fund.</li> </ul>
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.	ONGOING
OBJECTIVE 1.4: To use University facilities and resources as shelters and for	ONGOING

	Section 1 – REQUIRED ELEMENTS
the staging of emergency services for an emergency event.	<ul> <li>UNMET Policy 1.4.1 regarding "activation and operation of emergency shelters on campus to house on-campus and near-campus faculty staff and students."</li> <li>As UCF has no buildings hardened for hurricane shelters, this objective has been rewritten in the 2020-30 CMP to read: "Ensure intergovernmental coordination in the event of an emergency."</li> </ul>
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.	<ul> <li>ONGOING</li> <li>A Memorandum of Understanding (MOU) between UCF and Orange County encourages frequent communication and exchange of information on a project-by-project basis to determine any impacts to concurrency.</li> </ul>
OBJECTIVE 1.6: To ensure the protection of natural, historical and archaeologically significant resources from the adverse impacts of development on campus.	<ul> <li>ONGOING</li> <li>No historical or archeological resources have been identified on the Main Campus.</li> <li>UCF's natural resources are carefully protected.</li> </ul>

#### 2.13 Conservation

EAR CONTRIBUTORS

NARRATIVE

Amanda Lindsay, Landscape and Natural Resources Curtis Wade, Utilities and Energy Services

The University is committed to protecting the environment and conserving resources as it continues to develop and expand. Since the 2015-25 CMP update, the University continues to:

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- Coordinate with state and regional environmental agencies in the management of designated Conservation Areas and easements;
- Use Florida-friendly plant species in landscaped areas, and remove non-native invasive species;
- Evaluate options to reduce the levelized cost of energy delivered and produced on campus;
- Perform prescribed (controlled) burns;
- Use treated waste water effluent for campus irrigation and as process water in the district energy plant evaporative cooling process; and
- Maintain conservation of energy resources for present and future generations.

GOAL 1: Maintain a commitment to the protection of its ecosystems and natural 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.

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OBJECTIVE 1.1: To ensure that the UCF Department of Landscape and Natural Resources will continue to oversee and review the conservation element of the Campus Master Plan and to designate environmentally sensitive lands for protection based on state and regionally determined criteria.	ONGOING
OBJECTIVE 1.2: To conserve, manage, appropriately use, and protect native vegetative communities and wildlife habitat, and to maintain the natural areas within the campus as a system of interconnected wetlands and upland preserves, as shown on the Conservation Map.	ONGOING
OBJECTIVE 1.3: To restrict activities that may threaten the habitat and survival of imperiled and vulnerable habitat (such as wetlands) and plant and animal species (Threatened, Endangered, and Species of Special Concern as defined by Florida Fish and Wildlife Conservation Commission).	ONGOING
OBJECTIVE 1.4: To conserve, appropriately use, and protect the quantity and quality of regional water sources.	ONGOING
OBJECTIVE 1.5: To maintain or improve existing air quality on campus.	ONGOING

OBJECTIVE 1.6: To maximize on-campus reclamation of hazardous materials and consumer products.

#### ONGOING

 Recycling and salvaging consumer products is managed by Resource Management (RM); while reclamation or recycling of hazardous materials is managed by Environmental Health and Safety (EHS).

GOAL 2: Maintain a commitment to the conservation of its 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 2.1: 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 and Energy Management.<sup>2</sup>

#### ONGOING

 Essential to campus economic development is the continued focus on lowering energy prices, addressing energy conservation, improving energy efficiency, and creating a more robust and resilient campus to generate research. Implementing and leveraging energy-efficiency measures will continue to achieve significant cost-effective reductions, and scale-down greenhouse gas emissions. Aggressive and wider energy and sustainability policies shall continue to encourage all members of the UCF community to participate in energy efficiency and conservation, as the implication of energy supply impacts state resources and the environment.

#### 2.14 Capital Improvements

EAR CONTRIBUTORS	Bill Martin, Facilities Planning and Construction Susan Hutson, Facilities Planning and Construction
NARRATIVE	The University continues to seek funding from state and non-state sources in order to provide facilities that meet current and future needs. The University adheres to Board of Governors (BOG), standards in preparing a yearly Capital Improvement Plan (CIP). This plan requests planning, construction, and equipment funds from the State for all proposed capital projects within the next five- year (5) time frame.

GOAL 1: Provide academic, research, and support facilities to meet the academic needs of student enrollment as projected in the Academic Program Element; the Educational Plant Survey; and UCF's office of Space Planning, Analysis, and Administration (SPAA); and the education, research, and support mission of the University.

<sup>&</sup>lt;sup>2</sup> The Department of Sustainability and Energy Management (SEM) was re-envisioned in 2015 as two departments.

Utilities and Energy Services (UES) was created to ensure energy efficient buildings through the production, delivery, optimization, and management of campus utility and energy systems, and to reduce UCF's impact on the environment.

Sustainability Initiatives (SI) was created to integrate sustainability across all disciplines within the University, and not just focus on energy.

OBJECTIVE 1.1: To seek a reasonable share of state capital construction funds to construct teaching, research, and support facilities.	ONGOING
OBJECTIVE 1.2: To include provisions for the renovation, repair, upgrading, and elimination of existing and aging facilities that do not serve existing or future needs.	ONGOING
OBJECTIVE 1.3: To coordinate land use decisions and available resources in order to maintain the level of service standards adopted in the Campus Master Plan and to meet existing and projected facility needs.	ONGOING
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.	ONGOING
OBJECTIVE 1.5: To be prepared to limit on-campus enrollment if adequate capital construction, including infrastructure, cannot be provided or funded.	<ul> <li>ONGOING</li> <li>UCF is working to determine the appropriate projected enrollment for the next 10-year planning period. In early 2019, Interim President Thad Seymour appointed an ad-hoc committee to investigate and recommend projected enrollment (2020-2030) by late 2019.</li> </ul>
GOAL 2: Provide support fac	ilities including utility plants, student services buildings,

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. ONGOING

#### Section 2 – RETAINED OPTIONAL ELEMENTS

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EAR Section 2 will evaluate each of the five (5) Optional Elements that are retained from the 2015-25 CMP to the 2020-30 CMP by reviewing the Elements' Goals and Objectives, and reporting the Objectives' statuses. They include:

- URBAN DESIGN
- ACADEMIC FACILITIES
- SUPPORT FACILITIES
- UTILITIES
- FACILITIES MAINTENANCE

2.3 Urban Design	
EAR CONTRIBUTORS	Bill Martin, Facilities Planning and Construction Susan Hutson, Facilities Planning and Construction
NARRATIVE	The URBAN DESIGN Element of the UCF Campus Master Plan provides an overview of the existing concepts and principles guiding campus development.

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

OBJECTIVE 1.1: To protect, enhance, and develop meaningful campus exterior spaces.	ONGOING
OBJECTIVE 1.2: To organize the placement of service and loading functions to avoid interference with campus open spaces and circulation.	ONGOING
OBJECTIVE 1.3: To ensure the compatibility of the University with the host community boundary and abutting neighborhood context with respect to building location, orientation, mass and scale, landscape	ONGOING

character, and ground level character. ONGOING **OBJECTIVE 1.4: To** maintain and enhance functional linkages between major campus activities. **OBJECTIVE 1.5: To** ONGOING develop energy-efficient EXCEEDED Policy 1.5.10: "All UCF buildings shall be LEED campus buildings and certified and meet Silver accreditation ... ". facilities, as outlined in the UCF Design, Construction, UCF Design, Construction, and Renovation Standards now and Renovation require an even higher standard of LEED Gold accreditation. Standards.

2.5 Academic Facilities	
EAR CONTRIBUTORS	Bill Martin, Facilities Planning and Construction Susan Hutson, Facilities Planning and Construction
NARRATIVE	Academic Facilities include Classrooms, Teaching Labs, Research Facilities, Libraries (study areas and stacks for book storage) and Academic Departments (offices supporting academic departments).

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.

UNMET Policy 1.1.1: UCF did not "add 10,000 NASF<sup>3</sup> of **OBJECTIVE 1.1: To** classrooms per year", as capital funding was not made available. provide modern, wellequipped classrooms on Main Campus classroom inventory added since the 2015-25 CMP campus sufficient to meet included: general requirements of UCF Global – 18 departmental classrooms state-of-the-art instruction Trevor Colbourn Hall – 5 General Purpose Classrooms • in all of its various and 2 Departmental Classrooms programs. Classroom improvements caused little or no change to NASF. Tech Fee<sup>4</sup> projects renovated many learning spaces since January 2015. Business Administration renovated a large lecture hall into an active learning classroom, at some loss of seating

capacity.

<sup>&</sup>lt;sup>3</sup> Net Assignable Square Feet (NASF) is useable space available to be assigned to departments. NASF does not include useable, non-assignable space (corridors, stairs, restrooms, custodian closets, electrical, and mechanical space).

<sup>&</sup>lt;sup>4</sup> The 2007 Florida Legislature established a student technology fee (Tech Fee), beginning with the fall term of the 2009-2010 academic year. The revenue from the fee is used to enhance instructional technology resources.

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.

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.

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.

## EVALUATION & APPRAISAL REPORT Section 2 – RETAINED OPTIONAL ELEMENTS

- Business Administration renovated a small lecture hall and some surrounding spaces into an active learning classroom.
- Classroom I converted a classroom into a new state-ofthe-art classroom for testing classroom technology.
- Facilities Operations upgraded the classroom furniture in two buildings.

Notes:

 The construction of more than 30 classrooms, on the UCF Downtown Campus, may also serve to relieve some Main Campus classroom need.

UNMET Policy 1.2.1: UCF did not "add 20,000 NASF of teaching labs per year", as capital funding was not made available.

Main Campus teaching lab inventory added since the 2015-25 CMP included:

- UCF Global 1 Teaching Lab and 2 Open Labs
- Trevor Colbourn Hall 2 Teaching Labs and 5 Open Labs

UNMET Policy 1.3.1: UCF did not "increase...research laboratory inventory by an average of at least 25,000 NASF per year."

Main Campus research lab inventory added since the 2015-25 CMP included:

- Research I 50+ labs
- CREOL addition 8 research labs

UNMET Policy 1.4.1: UCF did not "double on-campus library space inventory by the year 2020."

Note: Since the 2015-25 CMP, UCF completed the first 2 phases of the "John C Hitt Library Renovation and Expansion". In addition to adding new space, the project removed book stacks to free up space for study and support in the existing library.

- Phase 1 added a new Automated Retrieval Center building (ARC) capable of storing over 600,000 books.
- Phase 2 added approximately 41,000 NASF<sup>5</sup> for use as study and library support space.
- Future Phases will renovate more than 200,000 NASF of the library for use as study and support space.

Note: The construction of a small library at the Dr. Phillips Academic Commons, on the UCF Downtown Campus, may also serve to relieve some Main Campus library need.

<sup>&</sup>lt;sup>5</sup> This NASF is an estimate as UCF Space Administration has not calculated the actual NASF based on 47,824 GSF.

OBJECTIVE 1.5: To establish the timing and phasing of development of future academic space on campus.	ONGOING
OBJECTIVE 1.6: To set priorities for the development of future academic buildings.	ONGOING
OBJECTIVE 1.7: To estimate the funding necessary for the development of future academic facilities	ONGOING
OBJECTIVE 1.8: To define appropriate locations for future academic buildings.	ONGOING
OBJECTIVE 1.9: To encourage energy efficiency and conservation techniques in all future facilities.	ONGOING

## 2.6 Support Facilities

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EAR CONTRIBUTOR(S)	Bill Martin, Facilities Planning and Construction Susan Hutson, Facilities Planning and Construction
NARRATIVE	Support Facilities include administrative offices and computer uses; campus administrative spaces, such as Facilities Maintenance; student support services and activities of a non- academic nature such as the Student Union; and auditoria/exhibition spaces.

# 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, Facilities Operations facilities, auxiliary facilities, and intercollegiate, intramural, and recreational athletic facilities.	ONGOING
	• Since the 2015-25 CMP the following support facilities were added or expanded:
	<ol> <li>Warehouse Support Building (Bldg. 16-F)</li> <li>District Energy Plant IV (Bldg. 143)</li> <li>Facilities Support Building (Bldg. 162)</li> <li>Garage C Expansion (Bldg. 83)</li> <li>Lab &amp; Environmental Support (Expansion of Bldg. 48)</li> </ol>

	Section 2 – RETAINED OPTIONAL ELEMENTS
	<ol> <li>Arboretum Greenhouse (Bldg. 161)</li> <li>Band Practice Facility (Bldg. 163)</li> <li>Wayne Densch Center for Student-Athlete Leadership (Bldg. 136)</li> <li>Temporary Football Game-Day Parking</li> <li>Garvy Center for Student-Athlete Nutrition (part of Bldg. 135)</li> <li>Pollo Tropical Restaurant (Bldg. 183)</li> <li>Roth Athletics Center (Bldg. 165)</li> </ol>
OBJECTIVE 1.2: To identify support projects to meet the needs of the campus. To amend the adopted Campus Master Plan, as needed, to reflect the timing and phasing requirements of the projects as defined in the Capital Improvements Element.	<ul> <li>ONGOING</li> <li>Several new or expanded support facilities were added to the 2015-25 CMP by minor amendment: <ol> <li>September 2015: Lab &amp; Environmental Support Bldg. Expansion</li> <li>January 2016: Stand-alone Food Venue (Pollo Tropical)</li> <li>January 2017: Softball Stadium Expansion and Renovation</li> <li>October 2017: Garvy Center for Student-Athlete Nutrition</li> </ol> </li> <li>Other projects listed under Objective 1.1 were added to the 2010-20 CMP by minor amendment.</li> </ul>

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2.10 Utilities	
EAR CONTRIBUTORS	Curtis Wade, Utilities and Energy Services Michael Scruggs, UCF IT
NARRATIVE	The 2015-2025 CMP update incorporates methods to account for, and avoid, potential strains on the environment resulting from these services, and places preference on higher development density as opposed to campus sprawl. Future planning of infrastructure and utilities seeks to use innovative solutions for conservation, demand side management, fuel and potable water switching, and renewable energy initiatives.

#### CHILLED WATER SUB-ELEMENT

GOAL 1: Develop an on-campus chilled water generation and distribution system that adequately serves the future campus population needs

OBJECTIVE 1.1: To	ONGOING
ensure that there is an	With construction of the District Energy Plant IV in 2018, the
adequate chilled water	University can now provide peak cooling under a N+2 paradigm.
generation and distribution	This model ensures campus cooling even if one machine is down
system capacity to	for maintenance and a second machine fails. As funding
accommodate the	becomes available, replacing the distribution infrastructure with
accommodate the proposed demand.	becomes available, replacing the distribution infrastructure with larger pipe is necessary and integral to address pressure and flow

deficiencies, reducing plant and building pump-energy costs, and to account for future campus demands.

#### ELECTRICAL POWER AND OTHER FUELS SUB-ELEMENT

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GOAL 2: Provide an on-campus electrical power and natural gas distribution system which adequately serves the future campus population needs.

OBJECTIVE 2.1: To	ONGOING
continue ongoing inspection and coordination efforts with service providers, the University shall continue to identify and resolve any deficiencies in the servicing of electrical and natural gas power distribution systems.	Through partnership and collaboration with UCF, Duke Energy Florida continues to invest and address reliability and capacity with the "Campus Up-lift" initiative. In 2018, Duke Energy began an expansion project on their south substation that will add capacity and replace vintage switchgear by 2021. Transformers exceeding 15 years old continue to be phased-out and replaced. Vintage distribution cable is also scheduled to be replaced in phases throughout campus over the next two years. Duke Energy is also working closely with the University to separate the commercial grid's busbar to minimize operational faults on critical utility generation assets. UCF and Duke Energy also are working closely to develop advanced outage detection, monitoring, and alarming notifications.
	In 2018, TECO People's Gas replaced the campus' natural gas cathodic protection systems. In 2019, UCF established a distribution integrity management program for natural gas to ensure proper operation, inspection, and management of the natural gas distribution system.
OBJECTIVE 2.2: To	ONGOING
ensure the provision of adequate electrical and natural gas services through the continued internal funding and coordination with external service providers.	In 2019, utility concurrency management provisions were added to ensure adequate utility supply and interconnection. As future development is unknown, funding provisions and utility planning shall be put in place, prior to any project approval.

#### **TELECOMMUNICATIONS SUB-ELEMENT**

GOAL 3: Provide an on- campus telecommunications system, which adequately serves the future campus population needs.

OBJECTIVE 3.1: Through ongoing inspection and coordination efforts with service providers, the University shall continue to

#### MET

• All carriers have been routed to the proper DMARCation<sup>6</sup> points around campus. Services are physically redundant through the Outside Plant Duct bank.

<sup>&</sup>lt;sup>6</sup> DMARC refers to a central building or location where telecommunications services terminate.

identify and resolve any deficiencies in the servicing of telecommunications systems.

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

• 95% of the campus has adequate outside plant duct bank. Additionally, UCF installed a new system that allows the University to retain its current duct banks and increase the current fill ratio of content within them.

## 2.17 Facilities Maintenance

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NARRATIVE Routine, s	scheduled maintenance of campus facilities is
continuou	s and follows newly-implemented and highly-effective
maintenar	nee tracking systems.
Priorities a	are established in accordance with the current
standards	
Maintenar	nee funding is continuously sought, and when provided,
is allocate	ed to match priorities and needs.

GOAL 1: 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, Facilities and Safety will support facilities to provide the University community with a safe environment beneficial for teaching, research, and service.

OBJECTIVE 1.1: To establish the acceptable use and capacity of each building.	ONGOING
OBJECTIVE 1.2: To establish the desired level of performance for building components.	ONGOING
OBJECTIVE 1.3: To establish a preventative maintenance schedule for campus facilities.	<ul><li>ONGOING</li><li>For more on preventive maintenance, see Objective 1.4</li></ul>
OBJECTIVE 1.4: To establish priorities for	ONGOING – many policies

maintenance and improvement projects.

OBJECTIVE 1.5: To establish a schedule for eliminating deficiencies relating to current standards.

## **EVALUATION & APPRAISAL REPORT** Section 2 – RETAINED OPTIONAL ELEMENTS

MET Policy 1.4.1 "...shall identify maintenance and improvement projects on an ongoing basis."

• In 2015, UCF implemented a new Standard Operating Procedure for prioritizing projects.

MET Policy 1.4.3 "...shall maintain buildings using a computerized system."

• In 2015, UCF implemented AiM, a Computerized Maintenance Management System (CMMS) that is used for work orders and asset management.

MET Policy 1.4.5: "Immediate threats to the health, safety, and welfare ... shall receive immediate attention."

• Life Safety (LS) issues are addressed with LS Work Orders in the AiM system.

NOT IMPLEMENTED

• Policies 1.5.1 – 1.5.4 indicate timetables for correction or quantities of deficiencies per year to be corrected.

Deficiencies are corrected according to new prioritization and maintenance standards, not timetables.

#### Section 3 – RETIRED OPTIONAL ELEMENTS

EAR CONTRIBUTOR	Susan Hutson, Facilities Planning and Construction
NARRATIVE	EAR Section 3 will evaluate, briefly, each of four (4) Optional Elements that are being retired from the CMP beginning in 2020:
	<ul><li>2.1 ACADEMIC MISSION</li><li>2.2 ACADEMIC PROGRAM</li><li>2.15 ARCHITECTURAL DESIGN GUIDELINES</li><li>2.16 LANDSCAPE DESIGN GUIDELINES</li></ul>
	In the future, the growth and development of the University's Academic Mission, Academic Program, Architectural Design, and Landscape Design will be guided by resources other than the CMP.

2.1 Academic Mission		
Reason for Retirement	The <u>UCF Collective Impact Strategic Plan (2016)</u> fulfills the need for growth and development of the University's Academic Mission, once provided by the CMP and Dr. John C. Hitt's five guiding principles.	
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 Curriculum and Research Programs		
GOAL 4: Become and Remain More Inclusive and Diverse		
GOAL 5: Become and Remain America's Leading Partnership University		
OBJECTIVES	ONGOING with guidance from other resources.	

#### 2.2 Academic Program

**Reason for Retirement** The <u>UCF Collective Impact Strategic Plan (2016)</u> fulfills the need for growth and development of the University's Academic Program, once provided by the CMP.

GOAL 1: 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.

OBJECTIVES

ONGOING with guidance from other resources.

#### 2.15 Architectural Design Guidelines

Reason for Retirement	The UCF Design, Construction, and Renovation Standards are
	sufficiently robust to fulfill the need for Architectural Design
	Guidelines in lieu of the CMP.

GOAL 1: To 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.

OBJECTIVES

ONGOING with guidance from other resources.

#### 2.16 Landscape Design Guidelines

**Reason for Retirement** 

The <u>UCF Landscape Master Plan and Design Guidelines</u> are sufficiently robust to fulfill the need for Landscape Design Guidelines in lieu of the CMP.

GOAL 1: To create an exemplary campus outdoor environment that promotes comfort, security, sustainability, and a regional sense of place. and to create a rich and horticulturally diverse visual landscape exemplifying the composition of Central Florida's native environments, as well as the region's horticultural diversity, and historical tradition, and link these to educational opportunities.

OBJECTIVES

ONGOING with guidance from other resources.