FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 Comprehensive Master Plan Update
State Project No. BT-805

FINAL CAMPUS MASTER PLAN UPDATE

Prepared by

PERKINS
+ WILL

P+W Project Number:
810200.000

June 2010

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE
♦
TABLE OF CONTENTS

♦

LIST OF FIGURES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF FIGURES

♦

LIST OF FIGURES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF FIGURES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE

♦

LIST OF TABLES

FLORIDA INTERNATIONAL UNIVERSITY
2005-2015 CAMPUS MASTER PLAN UPDATE
♦
INTRODUCTION

The two principal campuses of Florida International University (FIU) lie within Miami-Dade County. The largest campus, Modesto A. Maidique, occupies approximately 342 acres at the southeast quadrant of the intersection of the Homestead Extension of the Florida Turnpike (SR 821) and Tamiami Trail (US 41) in west central Miami-Dade County. Biscayne Bay Campus occupies approximately 195 acres on Biscayne Bay within the City of North Miami in northeast Miami-Dade County. A branch campus, Engineering Center, is located north of Modesto A. Maidique at the northeast intersection of SW 107th Avenue and West Flagler Street.

The 2005-2015 Campus Master Plan Update for Florida International University is contained in two documents: a Supporting Inventory and Analysis document and a Final Campus Master Plan Goals, Objectives and Policies document. The Inventory and Analysis document contains background information including data and analysis establishing the basis for the goals, objectives and policies contained in the Final Campus Master Plan document. Provisions for the Modesto A. Maidique, Engineering Center and Biscayne Bay Campus are integrated within the applicable elements in both documents. All other properties owned or maintained by the University are excluded from this master plan. The Supporting Inventory and Analysis document contains an analysis of existing conditions, while the Final Campus Master Plan document contains maps required to depict planned future conditions.

The Goals, Objectives and Policies which follow are the primary mechanism for the implementation of the Campus Master Plan through the 2015 planning horizon. Requirements for Capital Improvements Implementation are contained in the Capital Improvements Element. Procedures for monitoring, evaluation and amendment of the campus master plan are contained in the various plan elements.

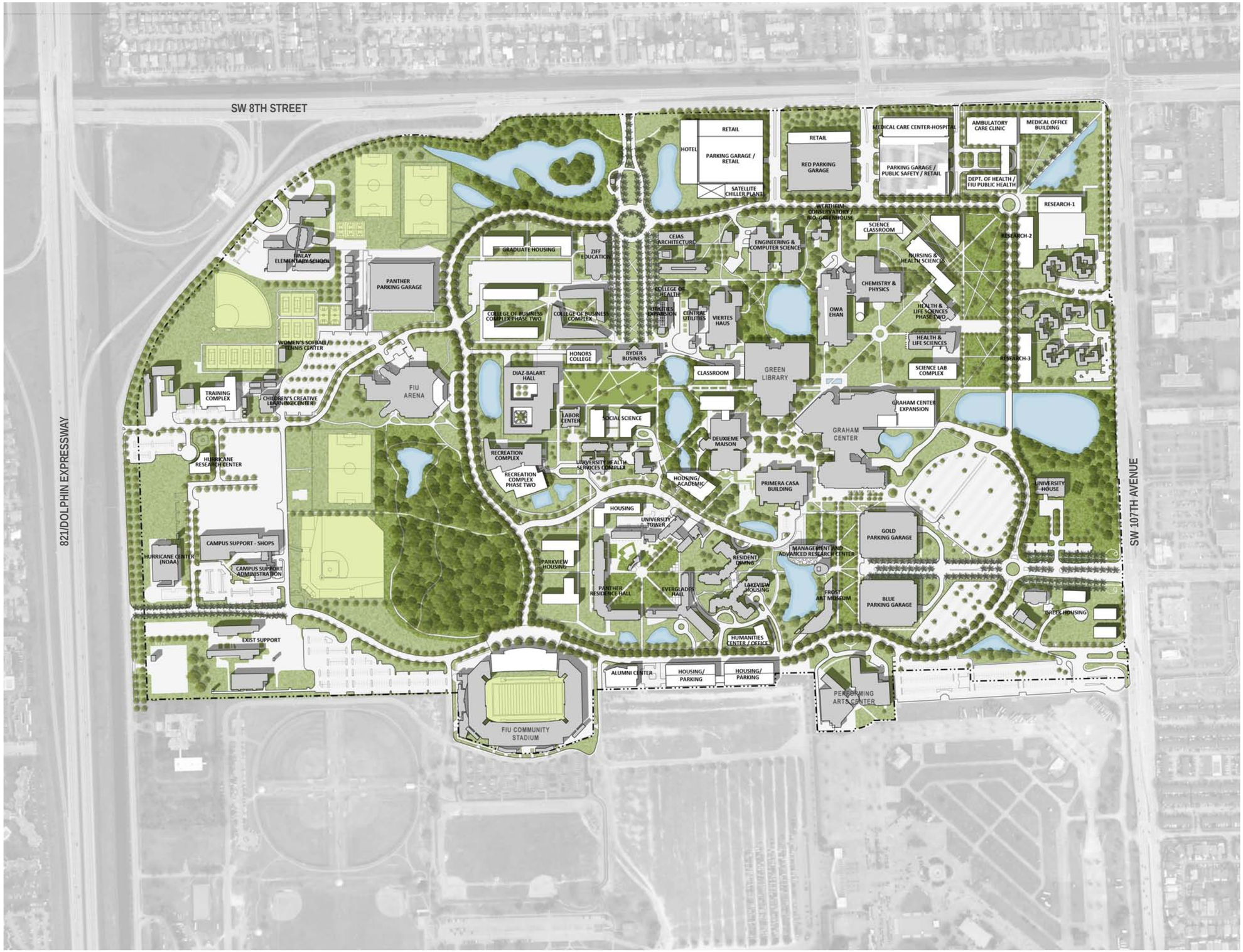
Goals, Objectives and Policies are presented for the following plan elements:

1.0 Academic Mission of the University
2.0 Academic Program Element
3.0 Urban Design Element
4.0 Future Land Use Element
5.0 Academic Facilities Element
6.0 Support Facilities Element
7.0 Housing Element
8.0 Recreation and Open Space Element
9.0 General Infrastructure Element
10.0 Utilities Element
11.0 Transportation Element
12.0 Intergovernmental Coordination Element

13.0 Conservation Element
14.0 Capital Improvements Elements
15.0 Architectural Design Guidelines Element
16.0 Landscape Design Guidelines Element
17.0 Facilities Maintenance Element
18.0 Coastal Management Element

The process of preparing the campus master plan reflected and responded to input and interaction from various segments of the University Community. Multiple meetings and workshops were held at each stage of the planning process, culminating in the plans presentation to, and endorsement by, the University Council.

The draft final master plan began a lengthy process of external review. The draft plan was reviewed by Miami-Dade County, the City of North Miami, the Town of Sweetwater, the regional planning council and water management district, the State Land Management Advisory Council and a number of state agencies prior to adoption. The plan was subjected to review by the general public and two duly noticed public hearings were conducted to solicit public input on the draft plan. This plan reflects those comments and is the result of this internal and external review process.



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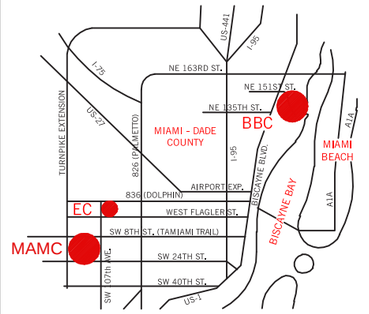

FIGURE: O.1a
Modesto A. Maidique Campus
2015 ILLUSTRATIVE PLAN

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Campus Master Plan - June 2010

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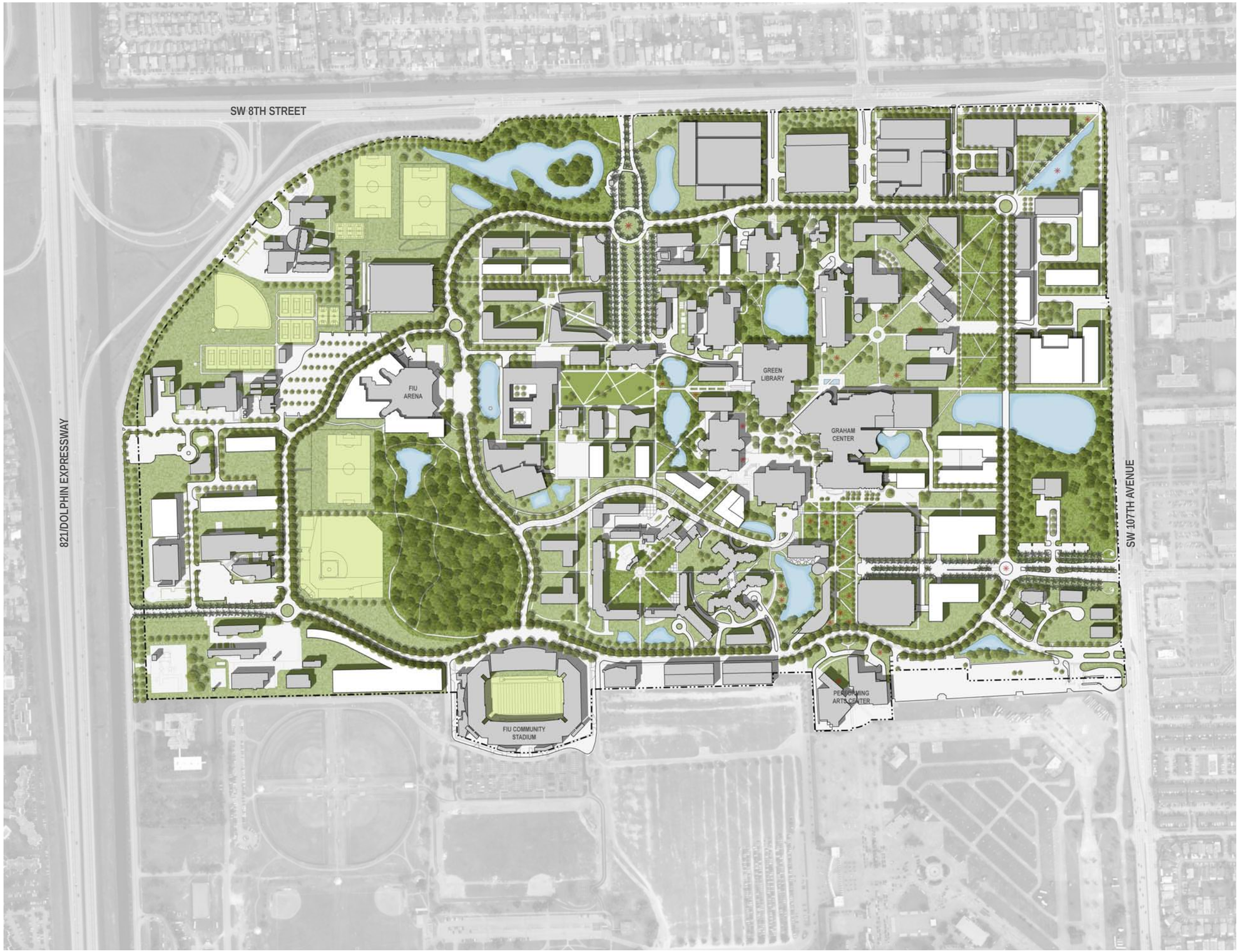

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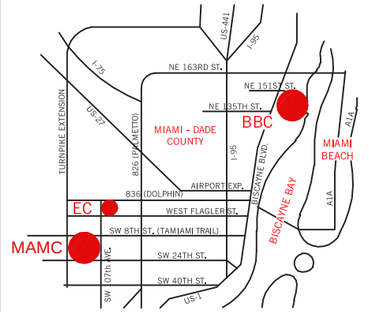

FIGURE: 0.1b
Modesto A. Maidique Campus
VISION PLAN

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Campus Master Plan - June 2010

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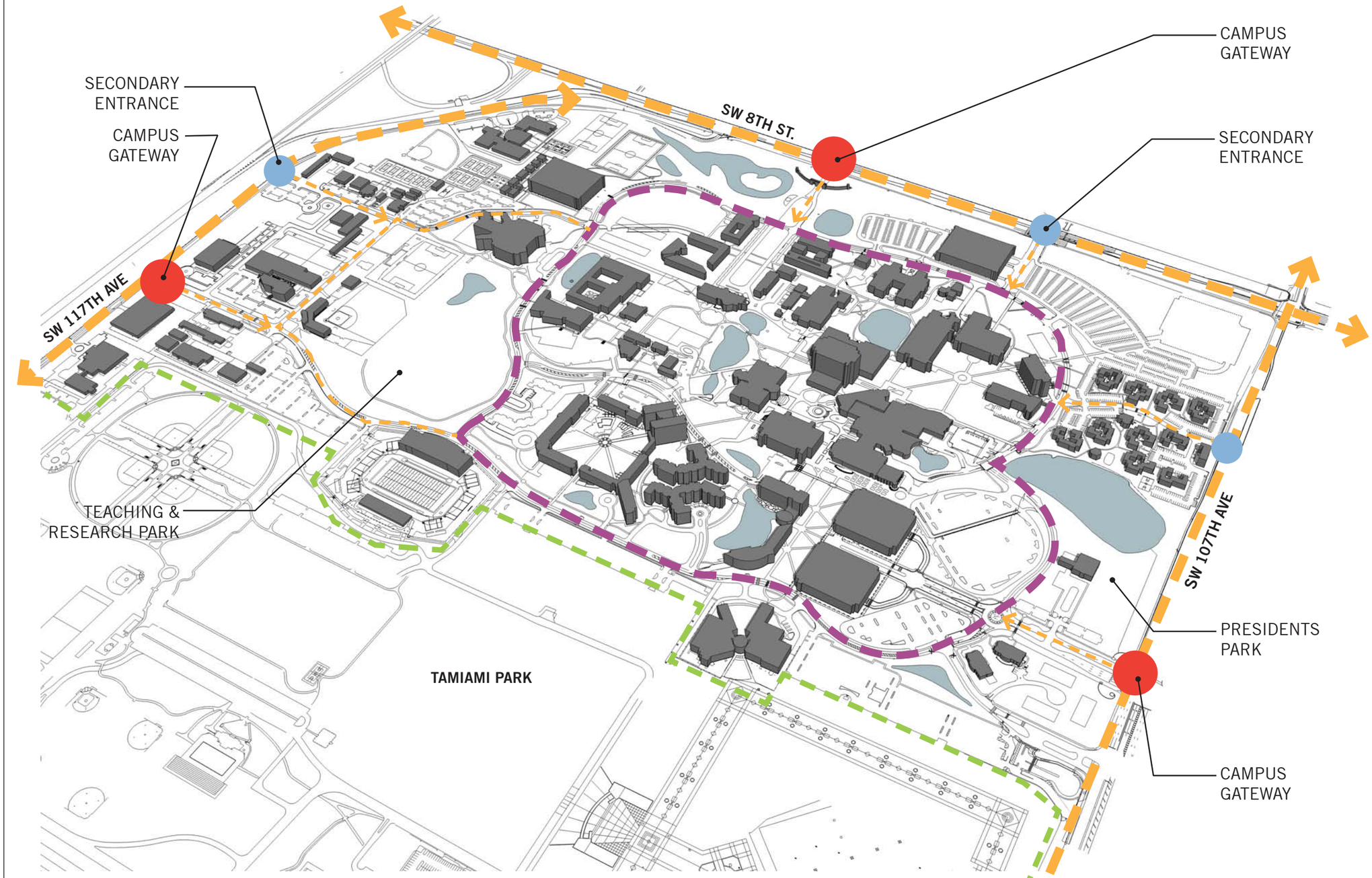

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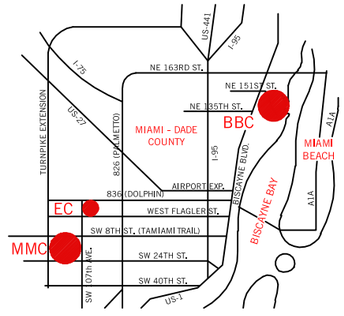

FIGURE: 0.1c
Modesto A. Maidique Campus
3D Diagram-Existing

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Campus Master Plan-June 2010

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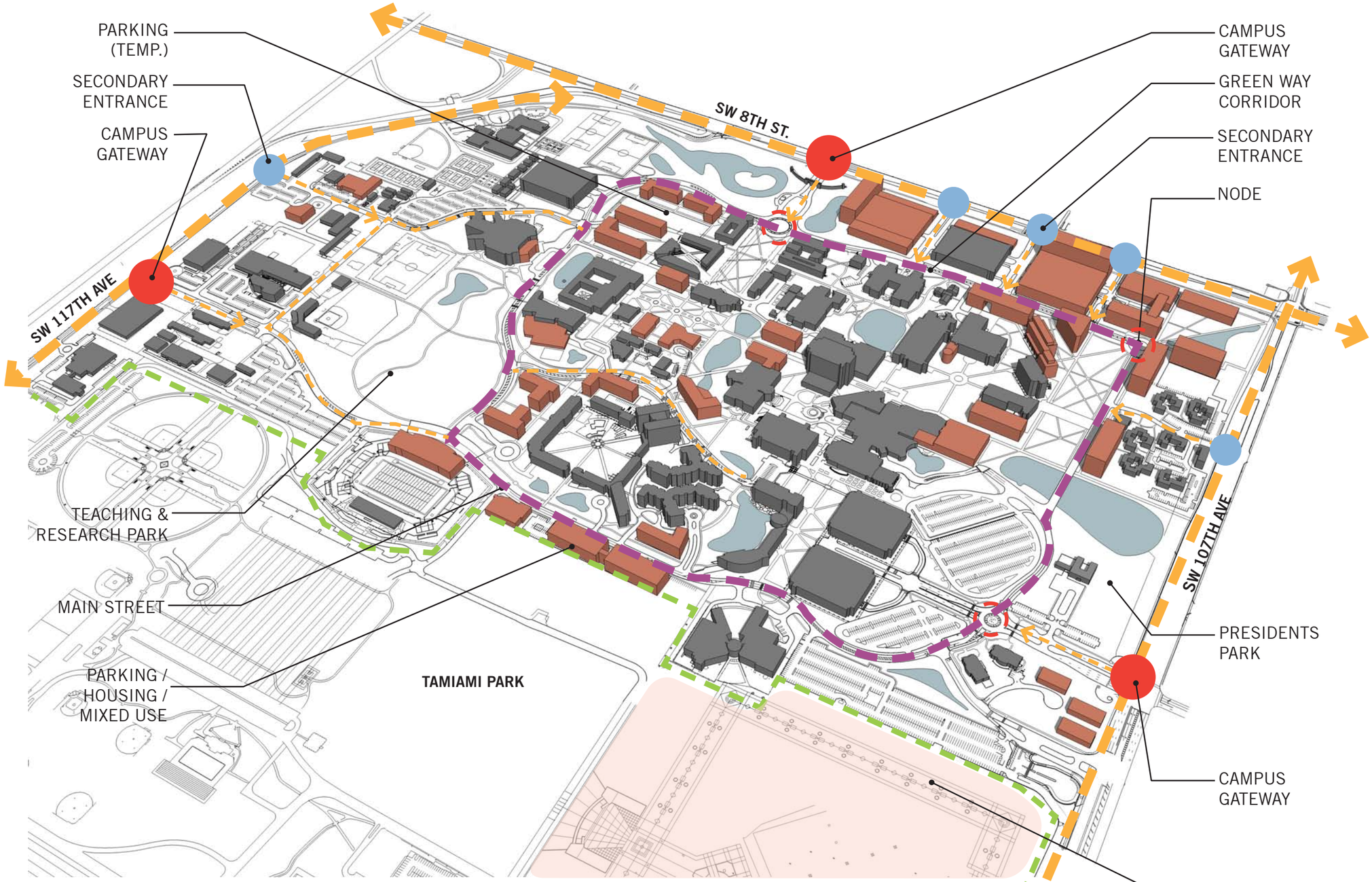

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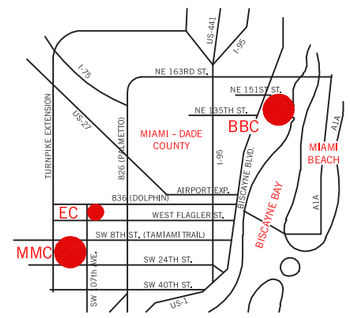

FIGURE: 0.1d
Modesto A. Maidique Campus
3D Diagram-2015

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Campus Master Plan-June 2010

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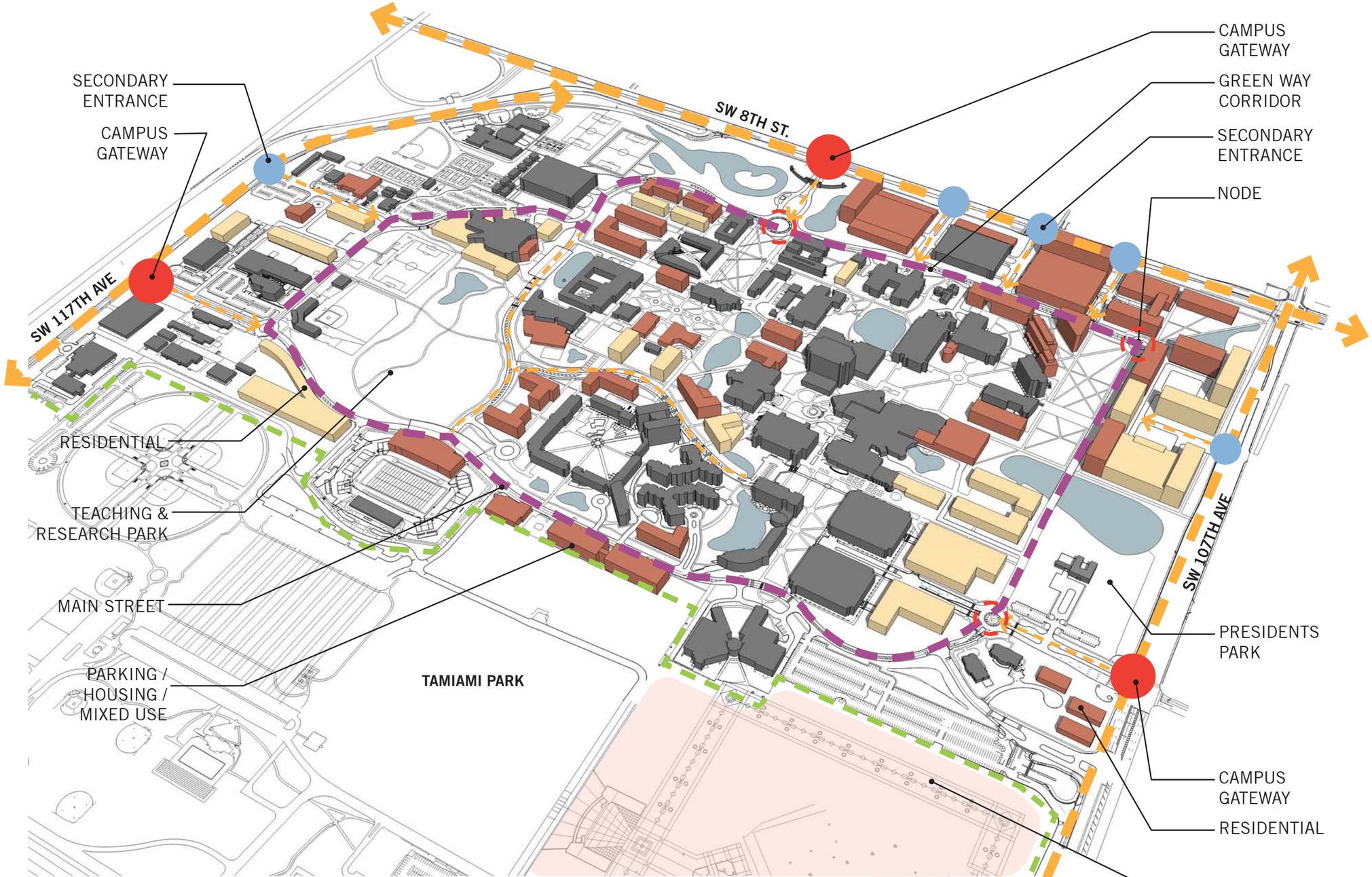

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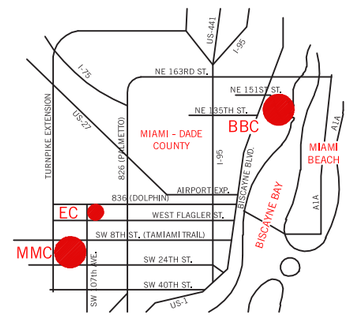

FIGURE: 0.1e
Modesto A. Maidique Campus
3D Diagram-Vision

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan-June 2010

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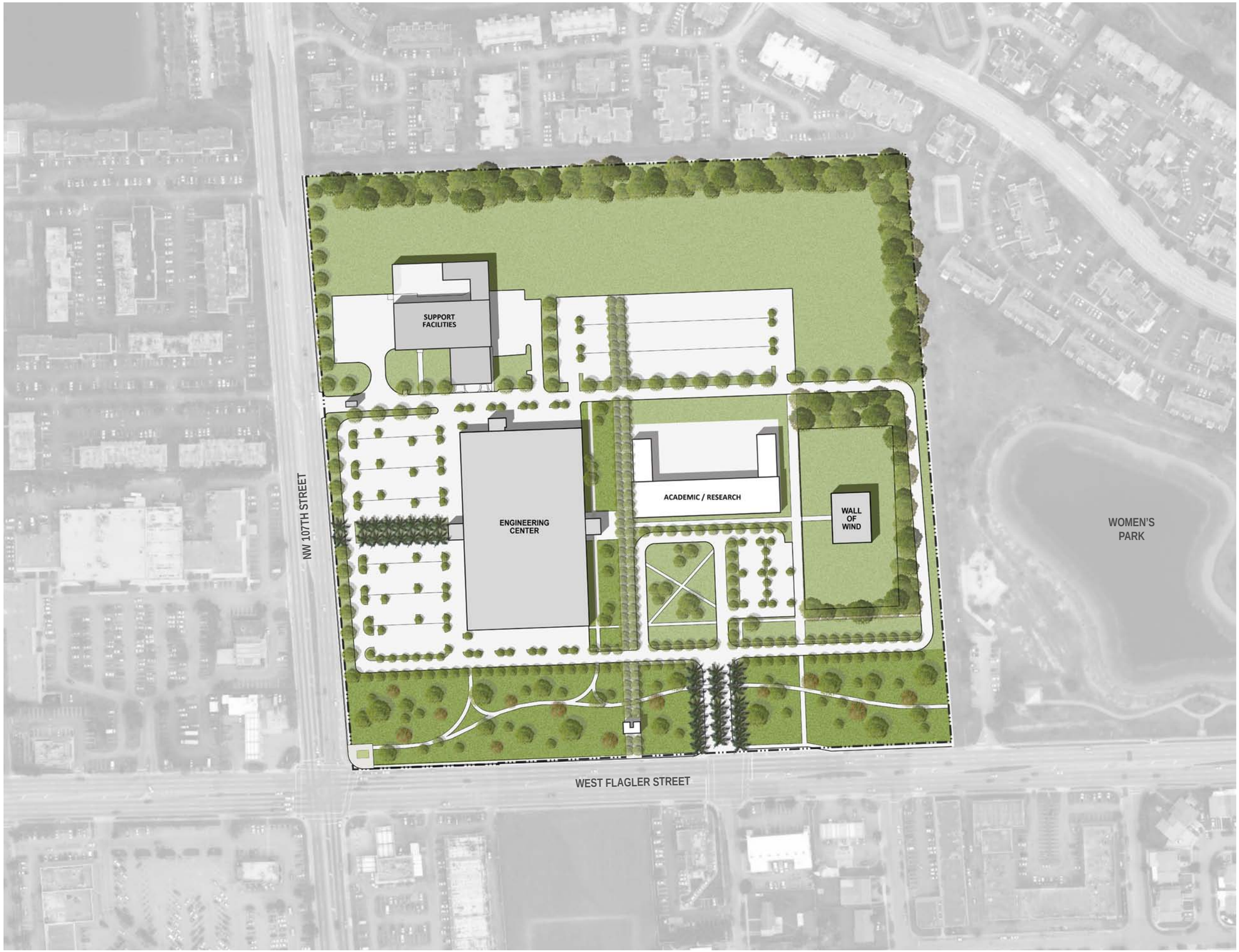

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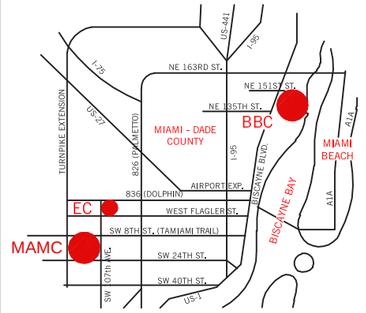

FIGURE: 0.2a
Engineering Center
2015 ILLUSTRATIVE PLAN

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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KEY MAP

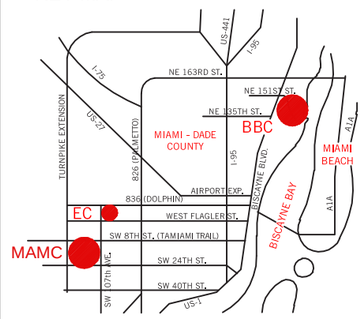

FIGURE: 0.2b
Engineering Center
VISION PLAN

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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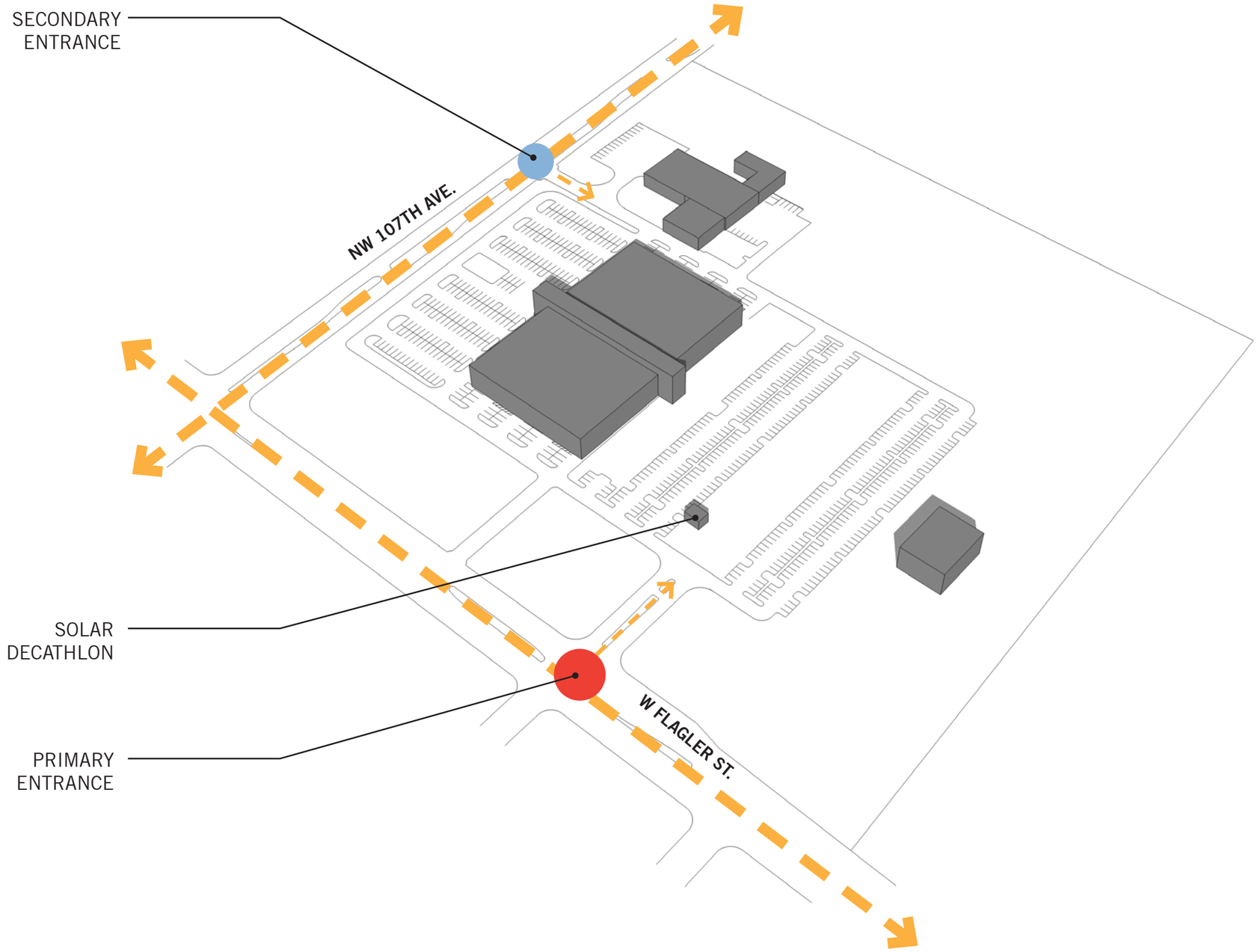

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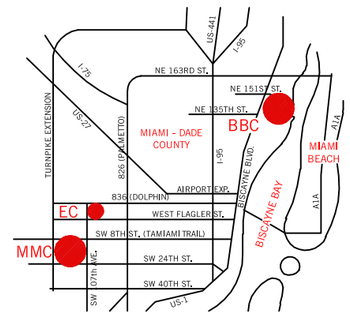

FIGURE: 0.2c
Engineering Center
3D Diagram-Existing

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan-June 2010

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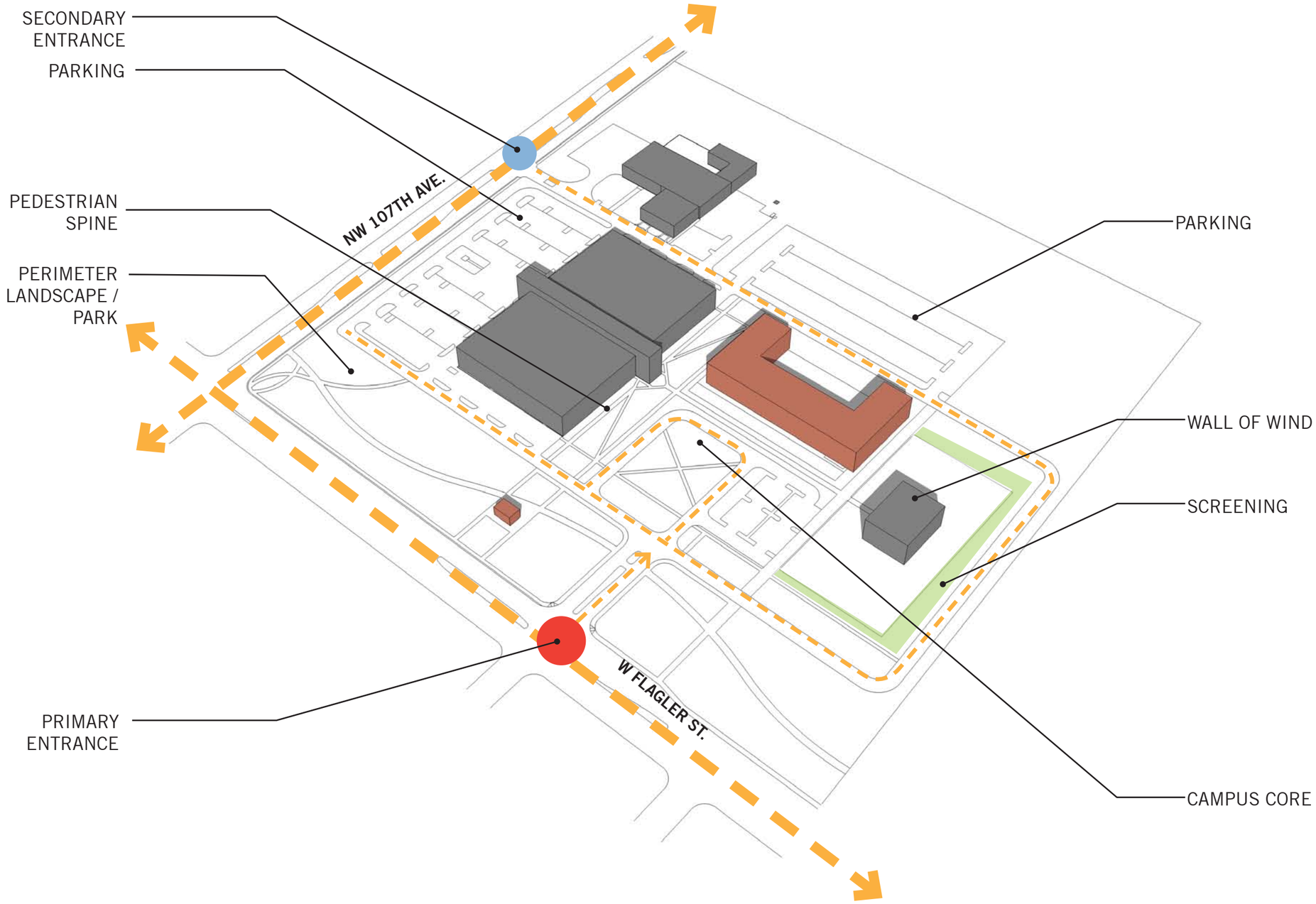

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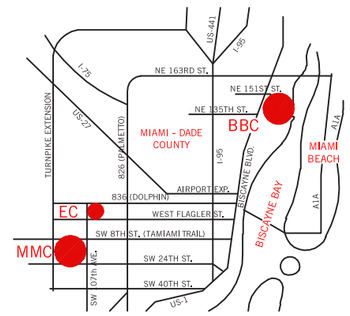

FIGURE: 0.2d
Engineering Center
3D Diagram-2015

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan-June 2010

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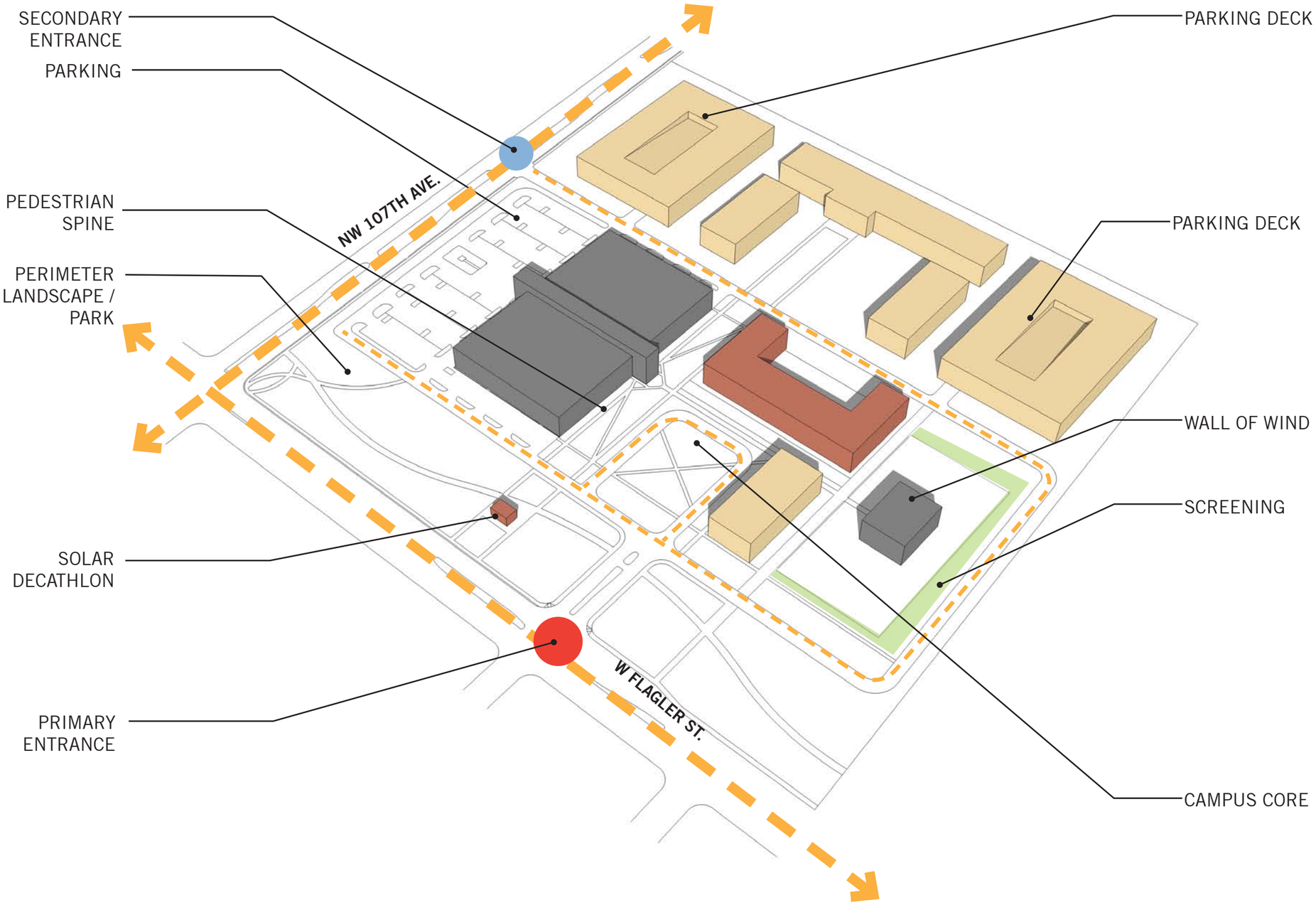

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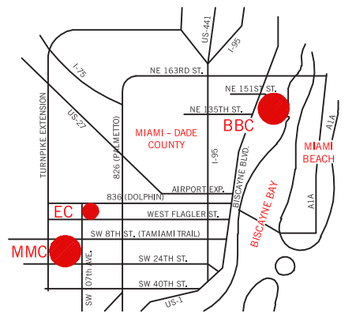

FIGURE: 0.2e
Engineering Center
3D Diagram-Vision

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Campus Master Plan-June 2010

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KEY MAP

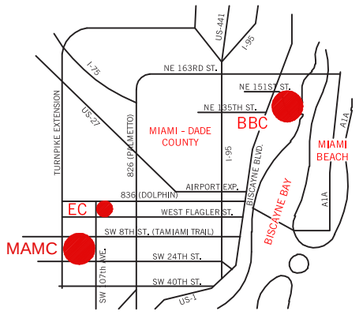

FIGURE: 0.3a
Biscayne Bay Campus
2015 ILLUSTRATIVE PLAN

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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KEY MAP

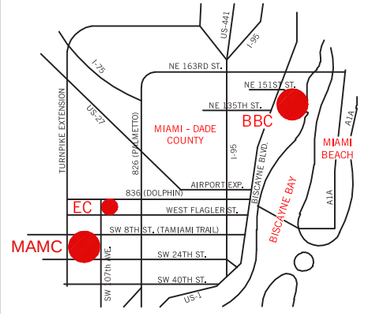

FIGURE: O.3b
Biscayne Bay Campus
VISION PLAN

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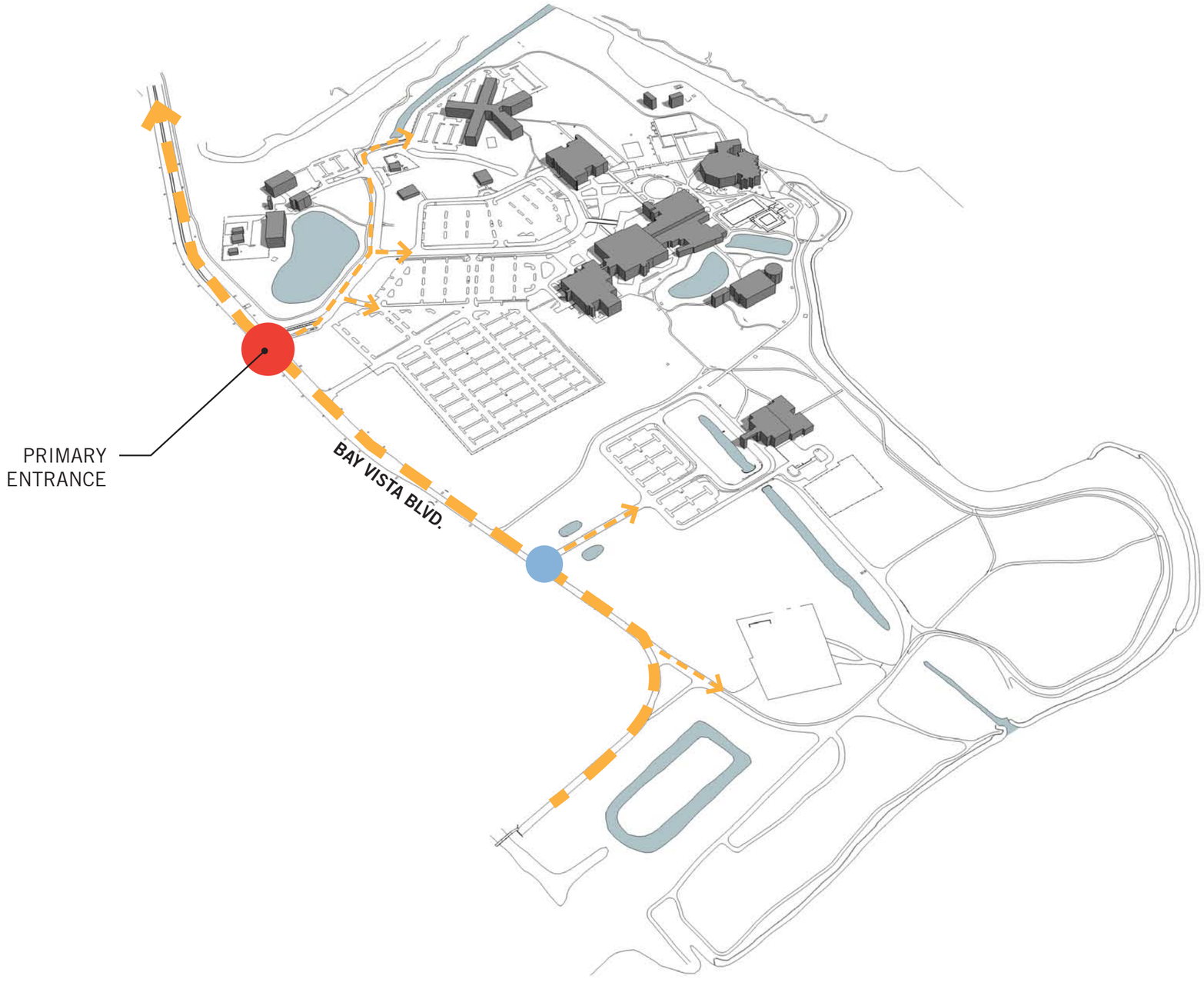

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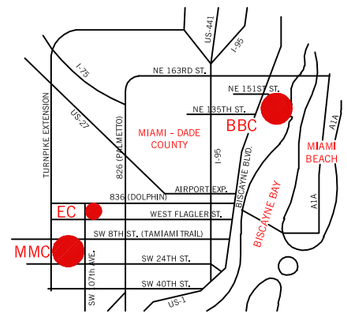

FIGURE: 0.3c
Biscayne Bay Campus
3D Diagram-Existing

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan-June 2010

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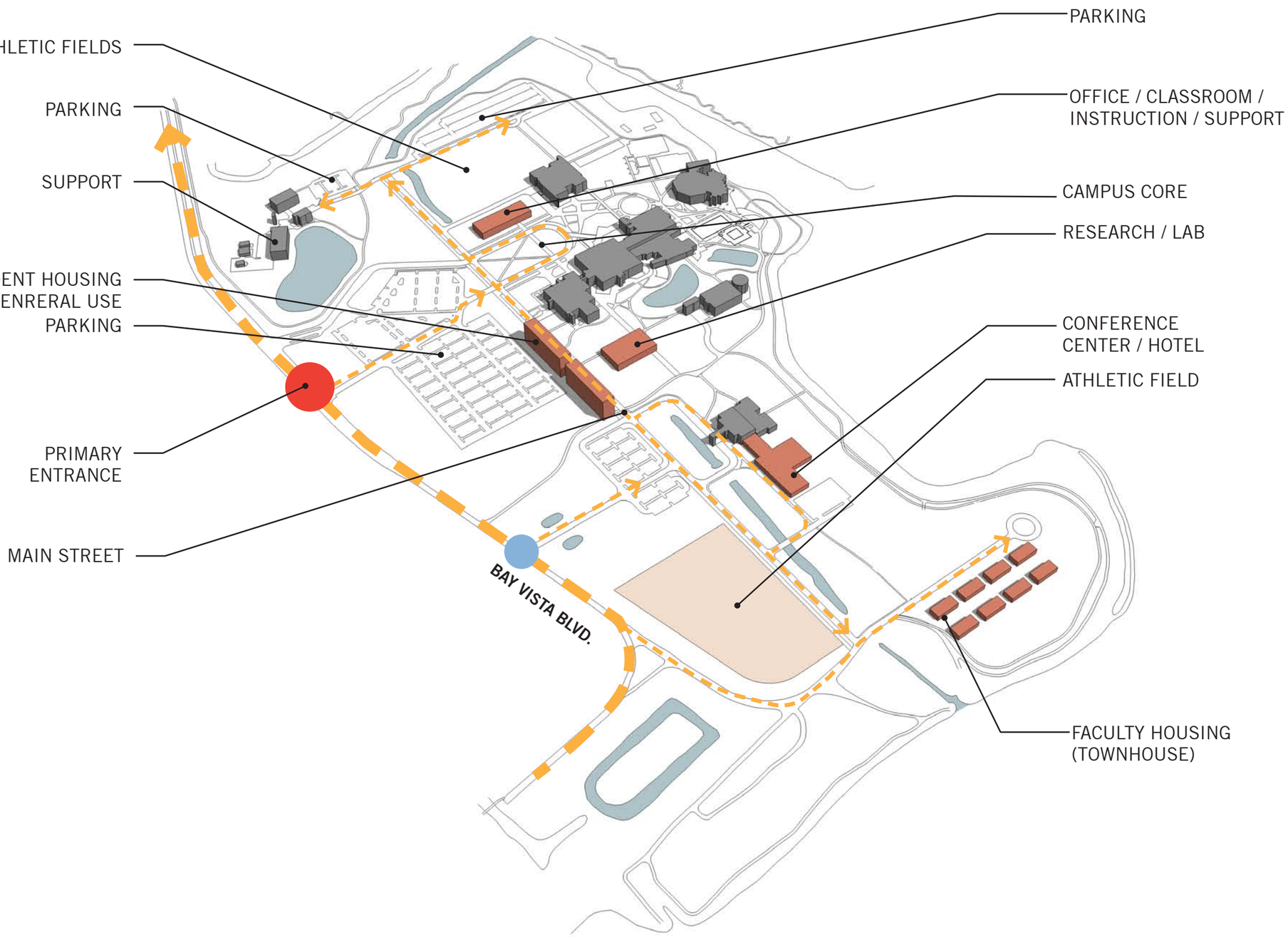

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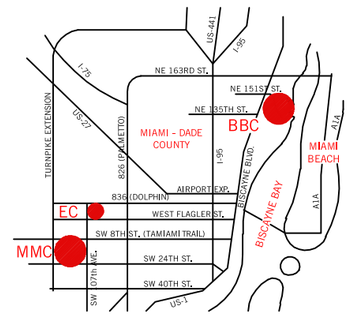

FIGURE: 0.3d
Biscayne Bay Campus
3D Diagram-2015

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Campus Master Plan-June 2010

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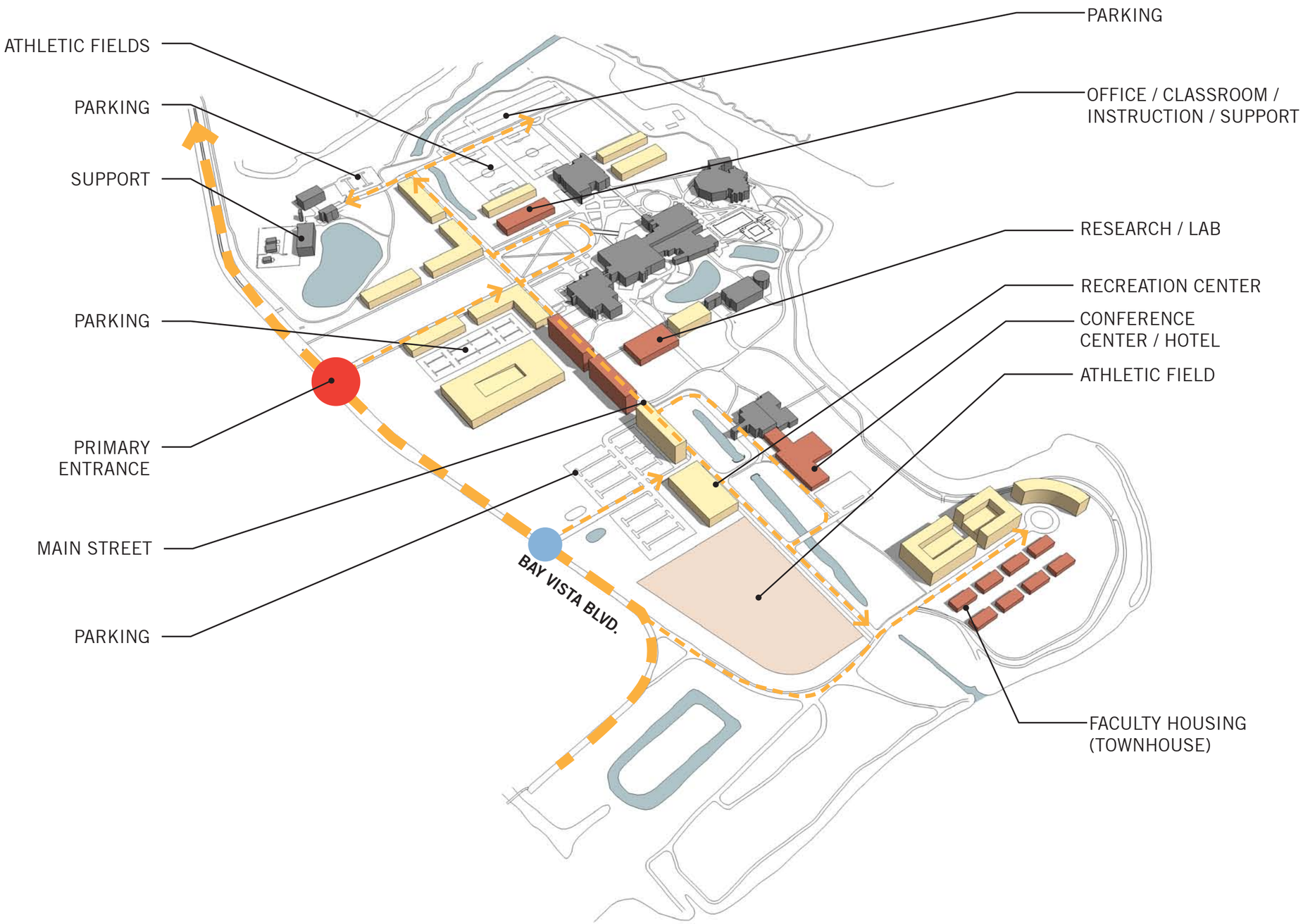

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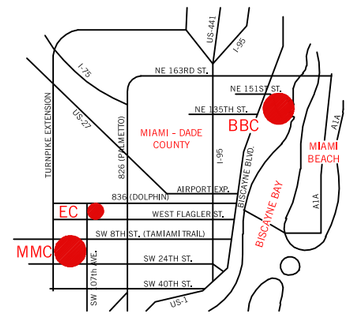

FIGURE: 0.3e
Biscayne Bay Campus
3D Diagram-Vision

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1.0 ACADEMIC MISSION OF THE UNIVERSITY ELEMENT

"Florida International University (FIU) is an urban, multi campus, research university serving South-Florida, the state, the nation and the international community. It fulfills its mission by imparting knowledge through excellent teaching, promoting public service, discovering new knowledge, solving problems through research, and fostering creativity.

As a member of the State University System (SUS) of Florida, FIU is a research university offering a diverse selection of undergraduate, graduate and professional programs. Through its 10 colleges and 2 schools, FIU offers 202 baccalaureate, masters and doctoral degree programs and conducts basic and applied research. The University currently has a headcount of 39,146 students (or 24,455 FTEs), 4,172 faculty and staff, and 132,606 alumni, making it the largest public university in South Florida.

University Service Areas:

Located in South Florida, the State's major population center, the University serves a population of over 3.9 million. South Florida is one of the most dynamic, artistically expressive, ethnically diverse and cosmopolitan regions in the United States. As the gateway for Central America, the Caribbean and South America, it is the global center for trade, finance, health care, tourism and manufacturing. To meet its consumer's needs, FIU has two main campuses – the 342.2-acre Modesto A. Maidique, in western Miami-Dade County and the 195-acre Biscayne Bay Campus, on Biscayne Bay in northeast Miami-Dade County. Modesto A. Maidique has three other sites that are part of this main campus; the Engineering Center located north of the City of Sweetwater, Wolfsonian Museum and, Wolfsonian Annex on Miami Beach. The University also leases a site in Broward county, the FIU Broward-Pines Center in Pembroke Pines. Faculty, staff and the student body mirror the area's ethnic diversity with 75.9% of student enrollment from minority groups. Approximately 6.4 percent of enrollment is from International Students.

FIU's Institutional Values Statement commits to:

- Freedom of thought and expression.
- Excellence in teaching and in the pursuit, generation, dissemination and application of knowledge.
- Respect for the dignity of the individual.
- Respect for the environment.
- Honesty, integrity, and truth.
- Diversity.
- Strategic, operational and service excellence.

FIU's Operational Philosophy:

Strategic operational and service excellence is an institutional imperative at FIU. The University seeks to employ concepts and strategies that foster systematic institution-wide continuous improvement in providing services and in achieving constituent satisfaction. FIU's guides for management excellence are:

- Quality: generating outcomes and services that exceed constituent expectations.
- Competitiveness: performing in a way that allows the University to achieve a comparative advantage in our endeavors
- Accountability: monitoring and assessing the results of policies, programs and processes to ensure that results are achieved in an efficient, effective manner
- Innovation: exploring and implementing new ideas in our administrative, research and academic endeavors
- Collegiality: formulating decisions, policies and management practices through a consultative process engaging the University community
- Diversity: creating a University environment that is responsive to diversity in all of its forms
- Operational Excellence: implementing improved information and management systems to optimize use of our resources

FIU's Strategic Themes:

Strategic themes are areas of activity (academic programs, research and service) that offer opportunities for development and the potential to achieve strategic advantages in higher education. Given rapid globalization in the 21st century, FIU's strategic themes necessarily involve engagement at both the local and global level.

Five key strategic themes guide the development of the University's educational and research programs:

- International, Environmental
- Florida and Local Economic Development
- Health
- Arts, Culture and Diversity
- Learning Opportunities.

The University's operational philosophies complement these themes by encouraging: quality, competitiveness, accountability, innovation, collegiality, diversity, and operational excellence. Its vision can be stated in five words: top public urban research university.

FIU's Institutional Goals:

Overall, the University's vision embraces six institutional goals:

1. To educate undergraduate students to:
    - Become critical thinkers empowered to learn and to integrate their understanding in a variety of areas of knowledge, creativity and accomplishment.
    - Possess the intellectual and personal competencies needed to excel in their fields throughout the world.
    - Understand their culture and the cultures of others and appreciate the complexities and diversity of our global society.
    - Understand and commit to their civic responsibilities.

2. To educate graduate and professional students to:
    - Demonstrate an ability to synthesize knowledge and practice in ways that produce new insights.
    - Add to the existing body of knowledge in a discipline area.
    - Understand the obligation of the holders of advanced degrees to apply their knowledge and critical intellectual abilities in an ethical manner to issues important to society.

3. To generate research results and creative contributions that achieve national and international recognition and to have at least five academic programs ranked among the top twenty-five in the United States while fostering quality in all of our programs.

4. To be a leading university in engagement by developing and implementing effective programs that addresses educational, economic, social, cultural and environmental needs through lifelong learning opportunities, research, service and creative endeavors.

5. To be a leader in developing information technology alliances and in the effective application of selected information technology to the teaching learning process, research activities, institutional administration and global engagement.

6. To enhance the financial infrastructure of the University by achieving funding equity within the university system, increasing the proportion of external contracts and grants funding and expanding significantly the University endowment.

Goal 1: **Florida International University (FIU) is an urban, multi campus, Research University serving Southeast Florida, the state, the nation and the international community. It fulfills its mission by imparting knowledge through excellent teaching, promoting public service, discovering new knowledge, solving problems through research, and fostering creativity.**

Objective 1.1 **Modifications of College/School Missions:**
The missions of individual colleges and schools shall be reviewed annually and modified in accordance with the Division of Academic Affairs planning, implementation and evaluation annual cycle.

Policy 1.1.1 FIU shall review and prioritize proposals for new academic programs in accordance with Comprehensive University Presence (CUP) procedures and subsequent modifications of its mission statement.

Policy 1.1.2 Priorities shall be established among prospective new programs based on the following criteria:

- Local, regional, national and international need
- Potential enrollment
- Maturity of the program being modified

Policy 1.1.3 Future revisions to the Academic Mission of FIU shall reflect substantial growth in research activity.

Policy 1.1.4 The campus master plan shall be amended, as needed, to reflect any revisions or modifications to the missions of individual colleges and schools.

Objective 1.2 **Modification to University Mission:**
The University Mission shall be modified every five (5) years and reviewed and approved as part of the Florida Board of Education, Five Year Master Plan process.

Policy 1.2.1 The Office of the President shall develop mission statement revisions in accordance with the internal in coordination with the Executive Committee, the Strategic Planning Advisory Committee, Administrative Council, and the University Council.

Policy 1.2.2 The campus master plan shall be amended, as needed to reflect any revisions or modifications to the University's mission statement.

Objective 1.3 **Master Plan Updates:**
The University shall participate in the periodic updating of the adopted campus master plan in accordance with the Florida Board of Education

Policy 1.3.1 FIU shall submit to the Florida Board of Education, within 4 years from the date of plan adoption and every 5 years thereafter, an evaluation and appraisal report which:

1. Lists accomplishments during the implementation of the campus master plan, describing major problems associated with development and land uses, and the degree to which the goals, objectives and policies have been successfully reached;
2. Identifies obstacles or problems, which resulted in under achievement of goals, objectives and policies;
3. Identifies 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;
4. Addresses local government and public participation in the process;
5. Addresses the effects of changes to the State Comprehensive Plan and to the comprehensive plans of the host local government and any affected local governments;
6. Identifies proposed and anticipated amendments necessary to address identified problems and opportunities; and
7. Identifies a means of ensuring continuous monitoring and evaluation of the plan during the remainder of the overall planning period.

Policy 1.3.2 FIU shall submit to the Florida Board of Education, within 5 years from the date of plan adoption and every 5 years thereafter, a proposed plan amendment which incorporates the findings and recommendations contained in the evaluation and appraisal report, and which contains updated baseline data (as appropriate) and goals, objectives and policies to be accomplished during the remainder of the planning period.

2.0 ACADEMIC PROGRAM ELEMENT

Florida International University provides a vast and rapidly expanding array of educational opportunities for the 39,146 students enrolled in the fall 2008 academic degree programs. The majority of these students take classes at Modesto A. Maidique, though a large percentage of students take classes at more than one campus due to the availability of course offerings.

In addition to the students found on-campus, there are a number of students who are enrolled in off-campus degree programs, either out of the country or on an independent basis. These students are currently a small percentage of the total University headcount. However, as technology continues to expand, more students are expected to enroll in these types of programs.

The FTE and headcount projections provided in this element are based on enrollment data from the Fall of 2008. It should be noted, however, that after 2004 the University restructured its colleges and schools. As such, the projections for academic programs do not accurately reflect the current academic structure. As soon as the data becomes available, this element should be updated to reflect the new enrollment figures for colleges and schools. Below is a list of the colleges and schools at FIU as of 2008.

College of Architecture and the Arts
- School of Architecture
- School of Art and Art History
- School of Music
- School of Theatre and Speech Communication

College of Arts and Sciences

College of Business Administration
- Alvah H. Chapman, Jr. Graduate School of Business
- School of Accounting

College of Continuing and Professional Studies

College of Education

College of Engineering & Computing

College of Nursing & Health Sciences
- School of Computing and Information Sciences

College of Public Health and Social Work
- School of Social Work
- Robert Stempel School of Public Health

Honors College

School of Hospitality and Tourism Management

School of Journalism and Mass Communication

College of Law

College of Medicine

University Graduate School

Within the University structure, there are 163baccalaureate, masters, and doctoral majors and 195 academic degree programs. Majors are fields of study with areas of concentration, tracks or sequences. Authorized degree programs may have more than one major in a degree program.

In 2006, the Board of Governors approved the creation of a Medical School at FIU. This will be the only public medical school in South Florida and will be the fifth allopathic program in the State. The initiative will require a restructuring of FIU's health and medical science programs, as well as partnerships with health service providers in the community. The goal is to create a multidisciplinary research consortium. It is planned that the first class of the College of Medicine will graduate 40 students and, after its first stage of development that will occur in approximately seven years, 120 students. FIU has partnered with the Florida Department of Public Health and Miami-Dade County to

develop the 40-acre center at the northeast corner of Modesto A. Maidique. FIU's Master Plan has been amended to include the College of Medicine.

In accordance with the University mission, FIU has committed itself to providing a quality education to the South Florida area by offering programs at locations both on and off campus. University Out-Reach advances the mission of Florida International University by delivering quality lifelong learning programs that fulfill the educational needs of local, state, regional, national, and international learners. Through innovative and effective instructional approaches, the Division offers academic credit, distance learning, and professional development and personal enrichment programs in partnership with FIU's academic units that maximize access and value. University Out-Reach's customer-driven professional team incorporates leading edge technologies in an optimal learning environment.

GOAL 1: **FIU shall develop and maintain academic programs reflecting and implementing the Missions of the University and individual schools and colleges.**

Objective 1.1 **Enrollment and Program Growth and Distributions: FIU shall plan for and support student enrollments of 23,483 FTE and 44,842 headcount by the end of the 2015.**

Policy 1.1.1 Incremental enrollment projections shall be as shown on Table 2.9 and Table 2.10: The methodology for enrollment projections shall factor FIU's market share projections.

Objective 1.2 **Planned and Proposed Academic Programs: FIU shall establish, locate and support academic programs necessary to support the academic mission at projected levels of enrollment at the Modesto A. Maidique and Biscayne Bay Campus through 2015.**

Policy 1.2.1 FIU shall provide and locate the academic programs of the following colleges at the Modesto A. Maidique through 2015. The enrollment at each FIU site shall be reviewed annually to assure that the University is meeting its enrollment goals for each location.

Architecture and Arts
Arts and Sciences
Business Administration
Education
Engineering and Computer Science (offered at EC)
Health & Urban Affairs
Honors College
Law
Medicine

Policy 1.2.2 FIU shall provide and locate academic programs of the following colleges and schools at Biscayne Bay Campus through 2015. The enrolment at each FIU site shall be reviewed annually to assure that the university is meeting its enrollment goals for each location.

Arts and Sciences
Business Administration
Education
School of Hospitality Management
School of Journalism and Mass Communication

Policy 1.2.3 FIU shall provide the specific academic programs within each college as contained in Table 2.6 and 2.8 Current and Planned Academic Programs.

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Policy 1.2.4 FIU shall continue to offer off-campus and on-line programs based on market demand and shall monitor the number of programs that are created.

Policy 1.2.5 2005-2015 Priorities for new academic programs as documented in Florida Board of Education, are included in Table 2.6.

Policy 1.2.6 Funding shall be distributed based on a pro rata basis to existing academic programs based on existing and projected enrollments

Policy 1.2.7 Priorities for new academic programs shall be based on the following criteria;

-Local, regional, national and international need
-Potential enrollment
-Maturity of program being modified

Policy 1.2.8 Unforeseen potential academic program elements and grant opportunities shall be reviewed and acted upon through the Office of Sponsored Research Administration (OSRA) applying such criteria as:

-Compliance with State and Federal regulations
-Appropriateness to Academic Program and Mission
-Capacity of physical and administrative infrastructure

Policy 1.2.9 The campus master plan shall be amended as needed to include any unforeseen program elements.

3.0 URBAN DESIGN ELEMENT

The physical environments of FIU's three main campuses are integral to the educational experiences of its students and to the health and well being of all of those who come in contact with the university. As such, the urban design character of each of its campuses should emphasize the creation of model public spaces developed upon best practices in sustainable sub-tropical systems.

This Comprehensive Master Plan Update reflects the University's commitment to the refinement and extension of the base concepts earlier efforts have created. FIU proposes enhancements to its urban design character by the creation of a sequence of "memorable" Campus Spaces, creating identifiable Campus Streets and entrances, developing Campus Edges that increase the connection and aesthetic appeal of the University to the community, and establishing focal elements within the internal campus along significant axes; all which contribute greatly to the enhancement of the urban design context on campus.

FIU's campuses have historically been insulated from off-campus land use influences. Modesto A. Maidique Campus and Engineering Center are surrounded by the major highways and large open spaces of lawn and surface parking lots that have acted as barriers, disconnected them from their surrounding communities while the Biscayne Bay Campus is isolated from context area land uses by large state parks (See Figure 3.0A & 3.0B). With the expected increase in density and continual challenge of attracting the best students and faculty, the existing separation from their surroundings must change. Already this shift has begun with the planned Academic Heath Sciences Plan that begins to define the edges of Modesto A. Maidique Campus in a more typical urban solution while engaging the surrounding community along the northeast edge of the campus.

The response at Modesto A. Maidique Campus is to encourage a more compact, "urban" pattern within the academic core and along its eastern edge. A sense of geometric order with renewed emphasis on axial patterns and the spatial sequences of campus open spaces such as quads, parks and courtyards to define the future development pattern of the campus. In addition, the campus loop road, termed the Greenbelt, will define the limits of the traditional academic campus core while still providing access throughout the growing campus. The majority of surface parking lots will be strategically replaced with parking structures placed along the edges of the campus allowing the expansion of the academic buildings within the academic core to truly define the proposed sequence of open spaces and suggest pedestrian circulation (See Figure 3.1).

Engineering Center, although visually separated from Modesto A. Maidique Campus, will maintain its connectivity to the main campus through a consistency in design fabric in the form of enhanced pedestrian corridors, enhanced edge conditions, gateway treatments, and site furnishing elements such as lighting and signage similar to of that Modesto A. Maidique Campus (see Figure 3.2). This consistency is to be considered whenever upgrades or expansion occurs. Other issues such as building to space relationships, pedestrian movement, activity nodes, parking and landscaping are crucial to enhancing the character and appeal of this campus.

At Biscayne Bay Campus the challenge is to preserve the existing open space and views that enhance the sustainability objective of the campus while consolidating a compact academic core, increasing student services and improving the on-campus housing options (See Figure 3.3). This campus is unlike that of the other FIU campuses. While Modesto A. Maidique Campus and Engineering Center are located within an existing urban fabric, the Biscayne Bay campus is surrounded by state parks and is physically disconnected from its adjacent neighbors. If the campus is to be truly sustainable while still being attractive to potential students, the campus must function more as a small town than an isolated campus. Increasing the services, creating higher density development and establishing a sense of place are crucial in highlighting the uniqueness of this campus.

GOAL 1: **Florida International University shall create high quality, memorable campus environments suited to education and a sense of collegiality, comprising a compact formal development pattern within a rich outdoor tropical environment.**

Objective 1.1 **Regulating Axes (Visual corridors): Develop, enhance and preserve existing and proposed visual corridors on campus. All future development shall place buildings and landscape features so as to preserve and reinforce the visual corridors significance.**

Policy 1.1.1 **MODESTO A. MAIDIQUE CAMPUS**

East-West Axis 1 (Avenue of the Professions): The "Avenue of the Professions" connects the FIU Arena, Green Library, the Earnest R. Graham Center and University Park Apartments. Orient and configure The Social Science Complex, Graham Center expansion and future academic buildings to the west of the Library in a manner to reinforce the axis through Law School to the Green Library and beyond. This axis may allow for in direct path of circulation but should maintain a visual connection between building entrances.

Policy 1.1.2 ***East-West Axis 2 (Avenue of the Students)***: Extending from the west facade of Owa Ehan at the northern end of the building west to the Education Building and continuing west through the School of Architecture, north to the proposed Graduate School of Business. This axis should continue west through the existing loop road to the Parking Deck 3. This axis shall maintain a very linear character with oaths indicating a direct line of circulation.

Policy 1.1.3 ***East-West Axis 3 (Main Vehicular Entrance)***: Visual corridor from SW 107th Avenue entrance to the Panther Village housing quadrangle. This axis shall maintain a linear visual corridor but due to the existing lake, may not maintain a direct pedestrian alignment.

Policy 1.1.4 ***North-South Axis 1 (Avenue of the Arts):*** "Avenue of the Arts" pedestrian corridor that connects Graham Center to Wertheim Performing Arts Center. This axis is well defined with Parking Garage 1 & 2 to the east and the Art Museum and Advanced Research Building to the west. The pedestrian route and landscape should continue to reinforce this axis.

Policy 1.1.5 ***North-South Axis 2 (Main Entrance):*** Visual corridor from S W 8th Street through mall to Ryder Business Administration. With the creation of a dramatic roundabout at the intersection of the entrance drive and existing loop road, SW 112th Avenue loop will be closed south of the loop road to create a non-vehicular quadrangle. Wide pedestrian walks shall replace the existing drives south of the loop road. The quad shall preserve the visual corridor of the axis by maintaining a limited canopy structure and preserving the lawn.

Policy 1.1.6 ***North-South Axis 3:*** Develop a pedestrian circulation corridor from the eastern end of Panther Stadium north to the Ave of Professions. As future housing is developed to the west of Panther Hall, there will be increasing pressure to allow pedestrian movement north to the campuses main quad. The axis will be narrow, clearly defined by future buildings. Pedestrian walks should reinforce the linear nature of the space.

Policy 1.1.7 ***Diagonal Axis 1 (Avenue of the Students):*** The "Avenue of the Students" pedestrian corridor links a sequence of spaces extending from the Panther Village housing quadrangle to the central campus quadrangle and on to the northeast Academic Health Sciences campus, the future signature corner of the University. The reconfiguration of the existing Loop Road is crucial to the strategic development of this area. As equally important is the reinforcing of the axis as a linking element between the existing campus and the future, more urban character of the Academic Health Sciences. Consideration should be given to redeveloping the existing Graham Center / Library Plaza to reinforce the importance of this axis and allow for connecting pedestrian traffic to effectively move through the space.

Policy 1.1.8 **ENGINEERING CENTER**

East-West Axis: Develop a pedestrian corridor from the eastern pedestrian entrance of the Engineering Building to the Wall of Wind facility. The proposed academic building should define the northern edge of this axis while the southern edge should be defined by the campus's proposed quad. The space should be linear in form, defined by a predominately hardscape groundplane and canopy

trees.

Policy 1.1.9 ***North-South Axis:*** Develop a pedestrian spine from the proposed park edge to the future northern parking lots. This spine would visually and functionally bind the Engineering Center building to the proposed academic buildings. In addition it creates a link between the park edge and community to the campus. The pedestrian route and landscape should continue to reinforce this axis, terminating with the relocated solar decathlon house within the park edge.

Policy 1.1.10 **BISCAYNE BAY CAMPUS**
East-West Axis 1: Remove the existing parking and develop an east-west axis north of Academic One and Two. As the academic core of the campus expands and defines the limits of the northern quad, the axis will become the framework for the future expansion of the quad west towards Bay Vista Blvd. The axis shall provide a visual corridor from the primary entry to the campus to Biscayne Bay. It should be primarily canopy trees and a clear understory. Pedestrian linkages should be placed along the edges of the space closest to the buildings with be primarily canopy trees and lawn understory.

Policy 1.1.11 ***East-West Axis 2:*** The east west axis shall define the visual corridor of the southern quad. Centered on the proposed residential housing building to the west, the axis shall preserve the view corridor from “Main Street” east to Biscayne Bay. Pedestrian walks should be centered in the space creating a connection between the resident’s hall and the quad while minimizing the impact to the proposed Mangrove restoration. The axis should center on and preserve the existing lake south of Wolf University Center Building.

Policy 1.1.12 ***North-South Axis 1 (Green Spine):*** Develop a north-south axis along the proposed Green spine corridor. The axis would unify the campus by creating a pedestrian, vegetative and vehicular connection from the existing academic core to the conference center and on to the proposed faculty housing to the south.

Policy 1.1.13 ***North-South Axis 2:*** Continue to develop and enhance the existing axis that begins between Academic One and Two to the north and the proposed academic building then south through the proposed academic building of the southern quad to the conference center. This connection will create a linear pedestrian and visual connection between the academic core and the conference center district

Objective 1.2 Develop, protect and enhance the <u>Campus Spaces</u> as a

sequence of interconnected of open spaces. All future development shall place buildings and landscape features so as to preserve and reinforce the open space network of quadrangles, plazas, promenades, courtyards and special purpose landscape areas.

Policy 1.2.1 **UNIVERSITY-WIDE**
Design review procedures shall ensure that all future buildings are sited to avoid encroachments upon designated open spaces, axes, pedestrian corridors and view corridors.

Policy 1.2.2 Funding for new and enhanced open spaces shall be secured by:
Allocating proportional costs to future building programs and budgets.
Establishing funding line items for open space enhancements.

Policy 1.2.3 **MODESTO A. MAIDIQUE CAMPUS**
As part of the Academic Health Science development, create a quality open space within a proposed quadrangle between the proposed loop road realignment (also known as Greenbelt) and the Nursing & Health Sciences building. Maintain proposed build-to lines and clearly delineate the eastern edge of the space along the realigned loop road with hardscape and landscaping.

Policy 1.2.4 As part of the Academic Health Science development, create a quality open space within a proposed quadrangle between the proposed Ambulatory clinic to the west, MOB building to the north and Research Building 1 to the south. This space will become the most prominent vision of the campus from the surrounding communities while providing gathering space for students.

Policy 1.2.5 Develop a quality open space south of the proposed western residential buildings adjacent to the Greenbelt. This space will expand as the future buildings are implemented and the Avenue of the Students is completed. Within a residential quad allow for active recreation opportunities to occur while clearly delineating the limits of the space.

Policy 1.2.6 Develop a quality open space between the proposed academic buildings west of the College of Business Complex. This space should be similar in use and style to the existing quad to the east, formal and structured, a space for reflection and gatherings but not for active recreation.

Policy 1.2.7 Develop a quality open space west of the proposed residential buildings west of the existing Panther Village. The quad should integrate a vehicular drop-off and loading for students.

Policy 1.2.8 **ENGINEERING CENTER**
Develop a quality open space at the center of campus. Similar to a Savannah Square, the space would include a vehicular and transit drop-off opportunity within a proposed quadrangle between the Engineering Center building to the west and south of the proposed academic building.

Policy 1.2.9 Develop a north-south pedestrian spine between the proposed park edge on Flagler Ave to the proposed northern parking lot. The spine will organize the pedestrian connections on campus creating direct links between buildings and parking areas. At the southern end of the spine, the existing student Solar Decathlon house should be placed to terminate the view

Policy 1.2.10 **BISCAYNE BAY CAMPUS**
Create a prominent formal quadrangle north of Academic One and Two to serve as a campus core arrival. This space would remove unnecessary parking and replace it with a traditional campus quad. A proposed academic building west of the existing library will define the northern edge of the quad. A continuation of the formal linear walkway in front of Academic Two should be extended to the proposed Green spine to clearly mark the main pedestrian route through the quad and define the edge of the space. Vehicular and transit drop-off only shall be permitted.

Policy 1.2.11 Further develop the southern quad south of Academic One and Two with the placement of academic buildings aligned with the Marine Biology building to the south and the proposed residential building to the west to define the limits of the space. An existing lake within the quad should suggest an informal arrangement of hardscape and plantings.

Policy 1.2.12 Continue to improve and enhance remaining plazas associated with Academic One and Academic Two and Wolfe Student Center with improved pavements, site furnishings signage and landscaping.

Objective 1.3 Enhance the internal vehicular circulation of the <u>Campus Streets</u> within the Florida International University campuses to become a binding element between campus districts as well as a means of circulation.

Policy 1.3.1 **MODESTO A. MAIDIQUE CAMPUS**
Continue to develop the existing "Greenbelt" into a multi-purpose

circulation corridor that will define the limits of the central academic core. The Greenbelt should be distinguishable from other internal vehicular streets by enhancing the aesthetic character of the loop. The Greenbelt shall include vehicular, bicycle and pedestrian paths. The existing vehicular lane widths should be reduced to accommodate bike lanes along the shoulder. Where needed, the curb and gutter may need to be adjusted to accommodate these lanes. The pedestrian paths should be separated from the street by a clearly defined planting zone that provides a level of traffic calming while still allowing for sufficient circulation.

Policy 1.3.2 Located south of Panther Village and within the Greenbelt corridor, develop a Main Street that would attract retailers to provide services on-campus. Similar to that of other traditional universities, such as MIT's or Georgia Tech's Technology Square or historic downtowns such as Coral Gables' Miracle Mile, Main Street would become a pedestrian activity node within the campus that provides for shopping opportunities, restaurants and gathering areas for athletic events as well as student services. The proposed Alumni Hall would become an anchor to the area, increasing visitors to the campus.

Policy 1.3.3 The western entrance from SW 117th Ave should be enhanced to the level of the existing entrances from 8th St and 107th Ave. This will includes widening the existing drive to allow for a landscaped median.

Policy 1.3.4 Traffic roundabouts and circles shall be used at significant intersections. The circles allow for a sense of arrival to various districts within the campus as well as traffic-calming device.

Policy 1.3.5 **ENGINEERING CENTER**
Continue to develop the entrance from West Flagler St with landscaping materials and lighting standards similar to Modesto A. Maidique Campus to visual link the campuses. The current location of the sidewalks to the campus should be removed. A planting strip should be placed between the sidewalks and drive lanes. The planting strip and median should include palms to replicate the entrance treatment at Modesto A. Maidique Campus.

Policy 1.3.6 **BISCAYNE BAY CAMPUS**
Develop an internal vehicular road connection as part of the Green Spine between the academic campus to the north and the conference center and faculty housing to the south. The street should be a two lane condition with bike lanes. Pedestrian walks should be located to both sides, separated from the road lanes by a planting strip to allow for canopy trees.

Policy 1.3.7 As part of the Green Spine, develop a Main Street environment with ground floor retail and student services with residential above to provide for opportunities for students, faculty and conference center visitors to gather, socialize, shop and eat on-campus outside of the traditional campus environment. The Main Street should include wide sidewalks, articulated retail facades at ground level, opportunities for outdoor dining and mix of services, all elements found on a typical small town main street associated with a college or university.

Objective 1.4 **Define and enhance the Campus Edges to create a welcome and aesthetically pleasing interaction with the surrounding community through the appropriate placement of buildings, massing, and scale based on the existing or proposed character of the surrounding community, provide an enhanced ground level character and access to existing or proposed transit while still clearly delineating the boundaries of the campus.**

FIU is committed to planning its campuses around the development of linkages to the surrounding communities. In this regard, efforts will be made to increase access through the development of new crosswalks, bridges, and other mechanisms to enhance the interaction between FIU and the communities in its neighborhoods. While this is particularly relevant to the MMC, it is also true of EC and BBC.

Policy 1.4.1 **UNIVERSITY WIDE**
FIU shall establish an urban design liaison with planning staff of Miami-Dade County, City of Sweetwater and City of North Miami and other entities within the context area to provide the mutual review of urban design implications of future developments near the campus/community interface.

Policy 1.4.2 **MODESTO A. MAIDIQUE CAMPUS**
Develop the edge along SW 107th as an urban edge. An urban edge is similar to that of a downtown city streetscape with wide sidewalks, large canopy street trees and building placement that engages the street and appropriate ground floor façade articulation.

Policy 1.4.3 Develop the edge along SW 8th St from the intersection of SW 107th west approximately 600 ft to eastern building limit of the proposed Ambulatory Care Clinic as an urban edge. An urban edge is similar to that of a downtown city streetscape with wide sidewalks, large canopy street trees and building placement that engages the street and appropriate ground floor façade articulation.

Policy 1.4.4 Develop the edge along SW 8th St from the eastern limits of the

proposed Ambulatory Care Clinic west to the existing soccer fields as a park edge. This edge is similar to a traditional park, generally a large open space with canopy trees, minimal hardscape and a clear understory of lawn or meadow.

Policy 1.4.5 Continue to develop the edge along SW 117th Ave as a landscape edge. A landscape edge clearly delineates the boundary between the public realm and the campus through the use of vegetation and site elements such as decorative walls and fencing. An improved landscape edge would visually screen the existing and predominately support services from the Florida turnpike. This would enhance the visual perception of the University as well as buffer these services from the intense road conditions associated with the street.

Policy 1.4.6 **ENGINEERING CENTER**
Develop an edge along West Flagler Ave as a park edge. This edge is similar to a traditional park, generally a large, open space with canopy trees, minimal hardscape and a clear understory of lawn or meadow.

Policy 1.4.7 Continue to develop the edge along NW 107th Ave as a landscape edge. A landscape edge clearly delineates the boundary between the public realm and the campus through the use of vegetation and site elements such as decorative walls and fencing. While the existing edge effectively screens the campus from view, it does not enhance the aesthetic appeal of the campus. An improved edge with canopy trees, hardscape and lighting would still maintain the existing boundary of the campus while improving the overall aesthetic of the campus and the street corridor.

Policy 1.4.8 **BISCAYNE BAY CAMPUS**
Develop an edge along Bay Vista Blvd as a landscape edge. A landscape edge clearly delineates the boundary between the public realm and the campus through the use of vegetation and site elements such as decorative fencing. In addition it visual screens the internal uses of the campus from public view. In particular it would screen the large surface parking lots of the campus while visually enhancing the Bay Vista Blvd corridor. The landscape edge should incorporate a bike path that links to the Baywalk to provide for a continuous pedestrian circulation route around the campus.

Policy 1.4.9 Continue to develop the edge along the coastline as a Baywalk. The Baywalk is an amenity unequalled by most University campuses. Preservation of the existing vegetation is essential in maintaining the appeal of this space. Opportunities for an additional pier should be identified. The existing bike path should be the only pedestrian and

vehicular hardscape. The understory should remain clear with the existing service trail remediated to match the surrounding ground plane.

Objective 1.5 **Functional Linkages:**
Maintain and enhance functional campus linkages between major campus activity centers.

Policy 1.5.1 **UNIVERSITY-WIDE**
Encourage the development of an alternative internal campus transit system.

Policy 1.5.2 Create effective continuous pedestrian and visual linkages with strong axial orientations. Enhance these linkages with canopy trees, varying landscape features and strategically located art pieces.

Policy 1.5.3 Create clusters of academic and support functions with building clusters characterized by compactness, compatibility of use and linkage features including continuous pedestrian corridors and covered walkways.

Policy 1.5.4 Distribute on-campus housing and related student services to "activate" all campus quadrants.

Policy 1.5.5 Create covered walkways where feasible to link facilities, provide protection from sun and rain, and enhance pedestrian movement across campus. Funding will be allocated from building construction money for the creation of covered walkways.

Policy 1.5.6 **MODESTO A. MAIDIQUE CAMPUS**
Distribute campus parking outside the academic core and differing campus quadrants, to minimize pedestrian-vehicular conflicts, walking distances and promote a pedestrian oriented campus.

Policy 1.5 7 Develop a pedestrian connection in the form of a boardwalk or promenade from the Recreation Center to the baseball and soccer stadiums. The connection should be wide enough to allow for good lines of sight both into and from within the Special Purpose Landscape areas. Pedestrian level lighting is crucial in creating a safe and secure space that is not detracting from the natural character of the space.

Policy 1.5.8 **ENGINEERING CENTER**
Develop a pedestrian connection from the western building entrance of Engineering Center to NW 107th Ave. This connection will allow a shorter route for students to the adjacent commercial corridor as well as placing a pedestrian connection in proximity to a proposed transit

station opportunity. The existing parking lot should be reconfigured to allow this pedestrian connection to be a separated route that is only interrupted once by vehicular circulation.

Policy 1.5.9 **BISCAYNE BAY CAMPUS**
Reconfigure parking lots as needed for greater ease of travel while developing covered connection corridors to the academic core of the campus.

Policy 1.5.10 Embellish existing entry drive with enhanced landscaping, signage and lighting to promote better way-finding and a sense of arrival to the campus.

Policy 1.5.11 Continue to improve the secondary entry drive located on axis with the Conference Center with additional planting, lighting and sidewalks.

Policy 1.5.12 Construct an enhanced drop-off in front of Academic Two within the proposed quad expansion to enhance sense of arrival. Improve with additional landscape, signage, furnishings and lighting to provide a quality formalized urban space.

Objective 1.6 Service and Loading:
Organize and place service and loading functions to avoid pedestrian conflicts and minimize visibility from the campus open space system.

UNIVERSITY WIDE

Policy 1.6.1 To the extent feasible service and loading areas shall be clustered to minimize service drives and geographic dispersion of service functions.

Policy 1.6.2 Service functions shall be placed in areas screened from major open spaces, with minimum crossing of open spaces by service drives.

Policy 1.6.3 Service and loading areas shall be provided with visual and acoustical screening including structural or landscape enclosures incorporating critical elements based on crime prevention through Environmental Design Principles.

Objective 1.7 Energy Efficiency:
Provide campus buildings and facilities which are energy efficient.

Policy 1.7.1 Establish the following design criteria as part of the architectural design and siting criteria for all future buildings.

UNIVERSITY WIDE

- High efficiency lighting fixtures and control systems.
- Minimum use of glass on west exposures and use of shading devices particularly on east and south facing windows.
- Placement of landscaping to provide maximum solar protection and direct optimum cooling breezes.
- Apply upgraded standards for building thermal insulation and high efficiency air conditioning systems.

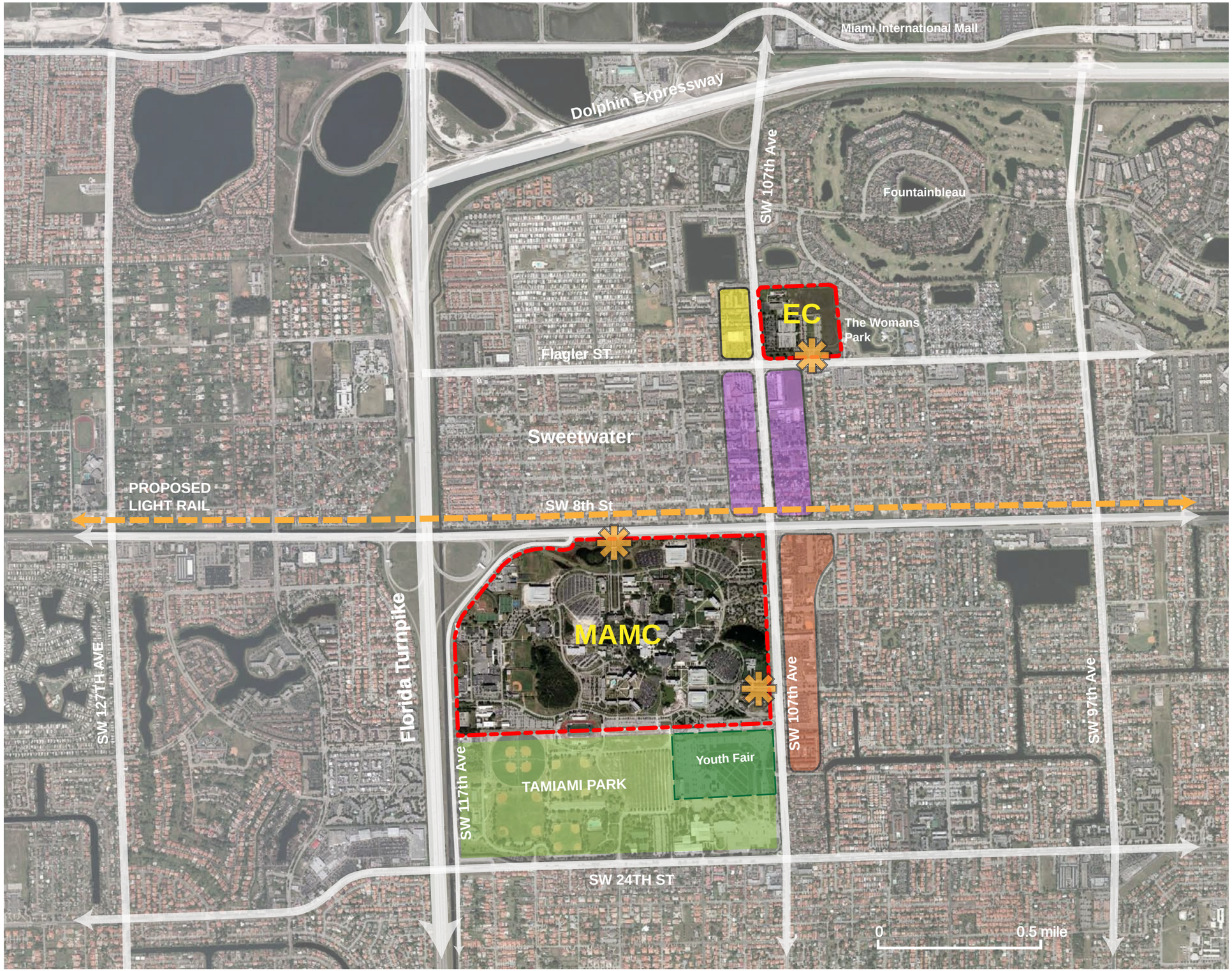
Objective 1.7 **Compliance:**
Monitor conformance of future developments with the urban design guidelines referenced herein.

Policy 1.7.1 **UNIVERSITY-WIDE**
Staff shall review future development compliance with urban design criteria, integrated with the review of architectural and landscape design characteristics.

Objective 1.8 **Implementation:**
Development of the campus spatial environment shall be consistent with the development of future buildings and landscape improvements.

Policy 1.8.1 **UNIVERSITY WIDE**:
Timing and priorities for development of the spatial environment of the University shall reflect the timing and priorities for future buildings as described in Table 14.1 and the timing and priorities for future landscape and open space development.

Policy 1.8.2 **UNIVERSITY-WIDE**
"Landscaping improvements" as described in Section 16.1 shall create secure, environmentally sound campus settings of rich visual quality that seamlessly integrates new development sites with mature campus landscapes, enhances and defines open spaces, reinforce primary campus axis and entryways and establish a sense of campus character.



LEGEND

- EC — Engineering Campus
- MAMC — Modesto A. Maidique Campus
- Proposed EC Partnership
- Redevelopment Opportunity
- Existing Mixed-use Corridor
- Park and Fields
- Main Campus Entry
- Proposed Light Rail

KEY MAP

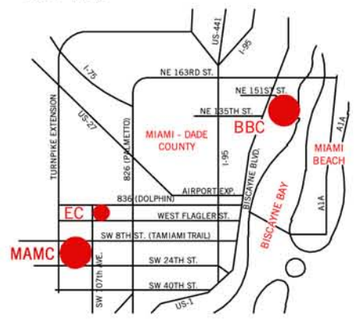


FIGURE: 3.0 A

Modesto A. Maidique Campus
Site Context

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

PERKINS +WILL

LEGEND

- Biscayne Bay Campus
- Main Campus Entry

KEY MAP

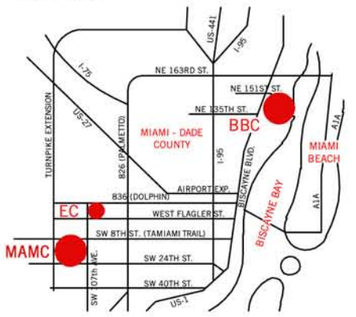


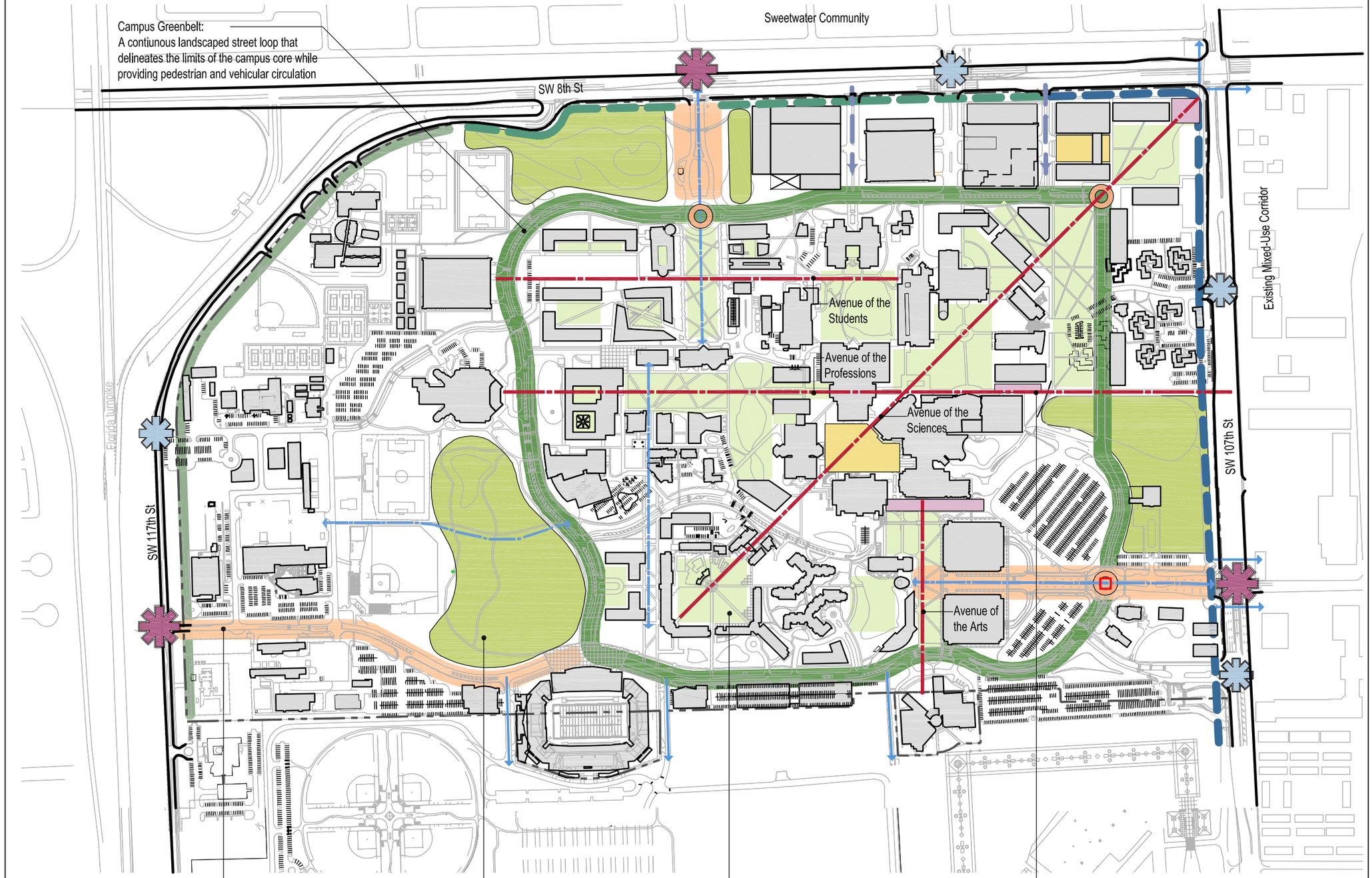
FIGURE: 3.0 B

Biscayne Bay Campus
Site Context

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

PERKINS +WILL



LEGEND

Open space
- Sturctured Gathering Space
- Special Purpose Landscape

Connectivity
- Primary Entrance
- Secondary Entrance
- Tertiary Entrance
- Regulating Line - Major Axis
- Regulating Line - Secondary Axis
- Pedestrian Connectivity

Streets
- Roundabout
- Campus Gateway
- Adjacent Corridor
- Campus Greenbelt

Edges
- Park Edge
- Urban Edge
- Landscape Edge

KEY MAP

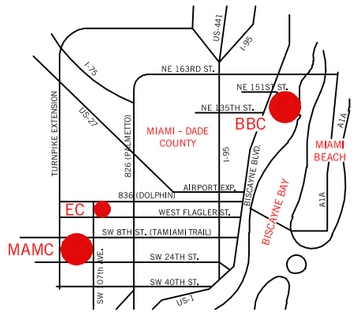


FIGURE: 3.1
Modesto A. Maidique Campus
2015 Urban Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL

LEGEND

Open space
- Gathering Space
- Special Purpose Landscape

Connectivity
- Primary Entrance
- Secondary Entrance
- Pedestrian Corridor
- Regulating Line - Major Axis

Streets
- Campus Gateway
- Adjacent Corridor

Edges
- Park Edge
- Landscape Edge

KEY MAP

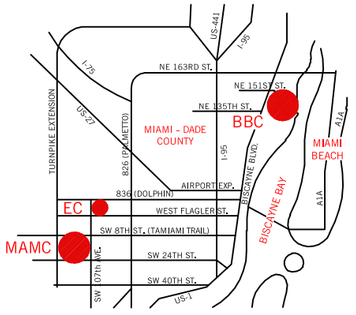


FIGURE: 3.2
Engineering Center
2015 Urban Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS + WILL

LEGEND

Open space

- Gathering Space
- Special Purpose Landscape

Connectivity

- Primary Entrance
- Secondary Entrance
- Regulating Line - Major Axis
- Regulating Line - Secondary Axis
- Green Spine

Edges

- Bay Walk
- Landscape Edge

KEY MAP

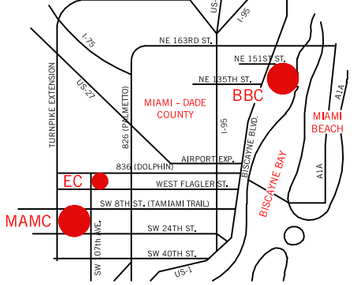


FIGURE: 3.3
Biscayne Bay
2015 Urban Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS + WILL

4.0 FUTURE LAND USE ELEMENT

Florida International University faces no greater challenge than to accommodate its future expansion needs while facing dwindling land resources, preserving important environmental resources and managing complex development influences exerted by Florida's largest urban metropolitan area.

At Modesto A. Maidique, three strategies are used to accommodate future expansion needs. First, housing and surface parking from the northeast corner of the site are relocated to create an expansion zone for academic health sciences programs. The building sites in this zone are clustered near the existing facilities serving health and life sciences programs. Second, infill sites are identified and build upon adjacencies with academic or student life functions. Third, infill and building sites are shaped to preserve and strengthen existing open spaces and pedestrian corridor axes.

At Modesto A. Maidique, the goal is to move toward a more compact, efficient urban scale of development. This can be accomplished by increasing allowable heights for new construction. The master plan recommends a six-story height for potential building sites. Moreover, by using the best and highest use of land, academic facilities will dominate the campus core. Surface parking will be re-located to the periphery, reducing vehicular and pedestrian conflicts and creating a safer, more fluid environment for its users (see Figure 4.1b).

Engineering Center will remain a preferred location for expansion opportunities for specific academic and research programs in engineering and applied sciences, and technology development. To effectively develop this site, a more efficient access and circulation pattern is recommended. The relocation of the main entrance and better parking facilities creates a more user-friendly atmosphere for faculty and students. Building sites between the existing building and the Wall of Wind will accommodate new facilities and shape central open space development. The central open space reflects the landscape structure of the Modesto A. Maidique Campus which includes buildings organized around open space quadrangles and shared axes (See Figure 4.2a and 4.2b).

Development at Biscayne Bay Campus must place renewed emphasis on embracing the unique value of the bayfront while consolidating a highly fragmented development pattern. Similar to the Modesto A. Maidique Campus and Biscayne Bay Campus, this is accomplished by creating open space quadrangles that extend east-west across the campus, enhancing views to the bay. These quads are organizing elements for campus development including academic, research and student life facilities. The quadrangles unify the surrounding facilities. Future academic and research expansion sites are located at the perimeter of the quadrangles, adjacent to similar academic or student life programs.

Student housing is located along the main street that runs north-south on the campus, bridging the academic core with new program development (such as the sports medicine facilities). To take advantage of land values and bay views, land on the southern edge of the campus, near the wetland restoration area, has been reserved for potential

faculty/staff/retiree housing. As at the Engineering Campus, the organization of land use, identified building sites and open space structure of the Modesto A. Maidique Campus, creating a shared physical identity among the three disparate campuses (See Figure 4.3b)

GOAL 1: **Manage land use on the campuses of Florida International University in a manner which facilitates the academic mission, conserves land for future needs, protects valuable natural resources, coordinates with land use policies of the host communities, and addresses the exigencies of global climate change and impacts in this region.**

Objective 1.1 **Protection of Natural Resources:**
Ensure that future campus development conserves valuable marine, wetlands, surface waters and upland natural resources consistent with Federal, State and Miami-Dade County regulations.

Policy 1.1.1 Prepare and, thereafter, maintain information documenting key development limitations including but not limited to jurisdictional wetlands, and habitats of threatened or endangered species.

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Policy 1.1.2 Establish an internal "land management review process" to ensure compliance of future campus development activities with environmental and regulatory constraints. Prior to development commitments, building siting or deviations from the land use plan, the following procedures shall be followed:

-Any future development will be assessed for potential impact to any identified natural or historic resource.

-The University will coordinate with DERM when potential impacts on wetlands are anticipated.

-Where potential impacts on historical or archaeological resources are anticipated consult with the County, State Historic Preservation Officer and City staff to identify mitigation measures, as appropriate.

-Prior to siting unanticipated new academic and support uses on campus, contact City staff in order to calculate land requirements for buildings and parking to ensure that sufficient land resources remain to accommodate academic facility and support requirements through 2015 and maintain consistency with the City's Comprehensive Plan and Land Development Regulations.

-Discourage development of any additional facility not directly related to the academic mission of the University, except for planned joint use facilities with the Miami-Dade County Fair and Exposition and Tamiami Park.

-Include information related to the internal review of each capital improvement project and compliance with applicable regulatory requirements in the building program of each development project.

Objective 1.2 **Protections of Historic and Archaeological Resources:**

Ensure that future campus development projects identified within historic and archeological resources are consistent with federal, state and local requirements.

Policy 1.2.1 Provide for the protection of the Wolfsonian building, (the sole documented historic resource of FIU), and Tamiami Airport Control Tower (building C01), (a possible historic resource), by consulting with the faculty preservation committee regarding any possible development plans for the structures.

Policy 1.2.2 In coordination with state, City and local historic preservation officials, maintain an information file which identifies and evaluates portions of the Modesto A. Maidique and Biscayne Bay Campus which may contain historic or archaeological resources which appear to qualify for the National Register of Historic Places. Include documentation of State regulations governing development in areas where such resources may be present.

Policy 1.2.3 FIU shall consult and coordinate with the Department of State's Division of Historical Resources prior to any land clearing, ground disturbing, or rehabilitation activities which may disturb or otherwise affect any property which is included, or eligible for inclusion, in the National Register of Historic Places.

Policy 1.2.4 The University shall consider the effect of any undertaking on any historic property that is included, or eligible for inclusion, on the National Register of Historic Places. The University shall afford the State Division of Historical Resources a reasonable opportunity to comment on such an undertaking.

Policy 1.2.5 Prior to a historic property being demolished or substantially altered in a way that adversely affects its character, form, integrity or archaeological or historical value, the University shall consult with the Department of State's Division of Historical Resources to avoid or mitigate any adverse impacts, or to undertake any appropriate

archaeological salvage excavation or recovery action.

Objective 1.3 **Expansion of the University:**
Provide for the long term growth of Modesto A. Maidique enrollment by anticipating and planning for the expansion of the campus after 2015.

Policy 1.3.1 FIU will continue to pursue an agreement with Miami-Dade County for:

-Joint use and development of student recreational and sports activities, parking and other joint uses.

Policy 1.3.2 FIU will pursue additional offsite land acquisition for academic, housing and recreational use.

Objective 1.4 **Land Use Compatibility with the Host Communities:**

Coordination with Miami-Dade County, the City of Sweetwater, the City of North Miami, the City of Miami Beach and other entities within the context area to eliminate or minimize present land use conflicts, avoid future land use compatibility problems and ensure that future construction is consistent with height limits established in respective comprehensive plans.

Policy 1.4.1 Monitor and consult with the City on land use planning activity, development regulations, and proposed developments for the University context areas by Miami-Dade County, Sweetwater, the City of North Miami and other entities within the context area for the Modesto A. Maidique and Biscayne Bay Campus, respectively.

Policy 1.4.2 Evaluate the impact of off-campus land use on all on-campus University development activity and document findings as part of the land management review process.

Policy 1.4.3 Evaluate the impact of on-campus land use on neighboring facilities to minimize conflicts.

Objective 1.5 **Land Use Compatibilities On Campus:**
Develop Modesto A. Maidique, Engineering Campus and Biscayne Bay Campus to ensure compatibility of academic, support and service functions.

Policy 1.5.1 MODESTO A. MAIDIQUE:

As depicted in future land use map, Figure 4.1b, implement the following land use patterns:

-Concentrate future academic and directly related support functions inside the loop road to reinforce the planned sequence of major and minor axes, quadrangles and malls.

-Concentrate future academic and research facilities to the northeast corner of the campus, adjacent to similar existing facilities.

-Locate additional housing in conjunction with the Graduate School of Business complex.

-Locate additional housing in a "Main Street" mixed-use development between the Stadium and Performing Arts Center.

-Expand housing adjacent to Panther Village

-Expand housing adjacent to the existing Greek housing at the southeast corner of the campus.

-Distribute future parking on the campus perimeter to accommodate future facility development within the academic core.

-Construct mixed-use future parking structures at the campus perimeter.

-Provide major support, service and outdoor recreational activities outside and to the west of the loop road.

-Develop the southern campus edge with joint use activities with the Miami-Dade County Fair and Exposition and Tamiami Park.

Policy 1.5.2 ENGINEERING CENTER:
As depicted in the future land use map, Figure 4.2b, implement the following land use patterns:

-Provide adequate open space along SW 107th Avenue for the creation of a landscape buffer.

-Provide adequate open space along Flagler Street for creation of a campus "park" landscape buffer, and mixed use connections across SW 107th Avenue for access to potential transit facilities.

-Create an open space pedestrian connection from Flagler Street to

the academic core.

-Concentrate new facility construction in an academic core to reinforce a pedestrian corridor and establish minor axes, quadrangles and malls.
-Maintain fenced and walled open space around the Wall of Wind to protect adjacent facilities from noise and damage.

-Maintain support facilities to the perimeter of the academic core and campus.

-Concentrate community interface facilities to the campus perimeter.

Policy 1.5.3 BISCAYNE BAY CAMPUS:
As depicted on the Future Land Use Map, Figure 4.3b , implement the following land use patterns.

-Site future facilities to strengthen and protect key open space quadrangles; to the north of Academic One/Wolfe University Center and to the south of Academic One/Wolfe University Center

-Designate an outdoor teaching and research zone around campus ponds and along the vegetated "Main Street."

-Locate future hotel and support facilities south of the Kovens Center.

-Locate potential sports medicine complex and recreation facilities west of the Kovens Center.

-Locate additional housing on the "Main Street," west of the academic quadrangles.

-Locate potential faculty/staff/retiree housing at the southern edge of the campus.

-Maintain a linear park along Biscayne Bay, with unobstructed bay views. Enhance with landscaping.

- Provide additional sports / recreation open space northeast of the academic core.

-Provide all parking to the west of the academic core to eliminate pedestrian vehicular conflicts.

-Locate all support and services uses to the northwest corner of campus.

-Enhance conservation zones bordering Oleta State Park to the north, canals and "Main Street" plantings west of the Kovens Center, and wetlands / native plant habitats at the southwest corner of the campus.

-Any future installation of buildings, facilities or infrastructure, such as proposed Visitor Accommodations, Chiller Plant, open recreation spaces and recreation fields in the Biscayne Bay Campus should consider avoidance of potential adverse impact to natural resources

Policies 1.5.4 As part of the “land management review process” address unanticipated development requirements with the following siting criteria.

-Confirm that all proposed developments within the academic core are directly related to the academic programs of the University and/or otherwise necessitate a central location. Seek alternative sites outside the academic core for facilities that do not meet this criterion.

-Confirm that all proposed developments outside the academic core meet land use plan guidelines and are directly supportive of the mission of the University. Seek alternative off-campus sites for facilities that do not meet this criterion.

Policy 1.5.5 Develop campus land uses to the following maximum densities and intensities applying building height recommendations and gross Floor Area Ratio (total building area divided by total (gross) land area) standards. See attachment at the end of the chapter.

Policy 1.5.6 As part of the “land management review process” ensure adequate provision of stormwater management, open space, safe and convenient on-campus traffic flow and needed vehicle.

Policy 1.5.7 As part of the "land management review process", ensure that the coordination of land use and development decisions with the schedule of capital improvements (Table 14.1 and 14.2) established in the campus plan is maintained. Revisions to land use and development policies and decisions will be accompanied by a review and analysis of required capital improvements, along with a revision to the schedule of capital improvements as necessary, prior to administrative approval and submission of State

University System Florida Board of Governors, Division of Colleges and Universities facility funding requests.

Objective 1.6 **Coordination with Topographical and Soil Conditions: Ensure that future development on Modesto A. Maidique and Biscayne Bay Campus is consistent with the limitations imposed by topographic and soil conditions.**

Policy 1.6.1 Maintain information of existing topographic and soil conditions, updated with as-built and survey data developed for future construction projects.

Policy 1.6.2 Apply topographic, soil and hydrologic data in the siting and design of all future construction projects and review consistency with such factors as part of the “design and construction process”.

Policy 1.6.3 FIU shall require that appropriate methods of controlling soil erosion and sedimentation to help minimize the destruction of soil resources be used during site development and use. Such methods shall include, but not be limited to:

- Phasing and limiting the removal of vegetation

- Minimizing the amount of land area that is cleared

- Limiting the amount of time bare land is exposed to rainfall

- Use of temporary ground cover on cleared areas if construction is not imminent

- Maintaining vegetative cover on areas of high soil erosion (e.g., banks of streams, steep or long slopes, conveyances, etc.).

Objective 1.7 **Coordination with Off-Campus Facilities and Services: Maintain coordination with off-campus utility and service providers to ensure adequacy of services and facilities.**

Policy 1.7.1 As part of the "land management review process" notify all off-campus utility and service providers with all annual revisions of the Ten Year Capital Improvement Schedule, as adopted in the Capital Improvements Element and request written confirmation of each providers ability to provide adequate service.

Policy 1.7.2 FIU shall continue to participate with Miami-Dade County, the City of Sweetwater, the City of Miami Beach and the City of North Miami in the reciprocal review of plans and development proposals,

consistent with policies supporting Intergovernmental Coordination Element.

Objective 1.8 **Coordination of On-Campus Utility Requirements: Ensure the adequate provision of long range infrastructure improvements are consistent with development of a climate action plan - as a signatory of the American College and University Presidents Climate Commitment (ACUPCC) - and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED certified.**

Policy 1.8.1 As part of the land management review process, review and evaluate all construction projects to ensure adequate provisions for long range infrastructure needs by documenting:

- Maintenance and protection of planned utility corridors, easements and points of connection

- Provision of adequate utility capacities to accommodate future development and facility expansion

Policy 1.8.2 Maintain an up-to-date file of campus utility systems, updated with as-built survey data from future construction projects.

Policy 1.8.3 Specify in future Five Year Capital Improvement Plans infrastructure improvements and associated costs necessary to support long-range facility needs.

Policy 1.8.4 Encourage and assist the State University System and State Legislative funding procedures to ensure efficient and timely construction and expansion of utility improvements.

Policy 1.8.5 Install instrumentation to record actual utility levels of service to permit optimum utilization of available resources.

Policy 1.8.6 BISCAYNE BAY CAMPUS
Survey will be conducted for all infrastructure, especially chilled water, to ascertain if it remains adequate for future development. Emphasis of development should be directed toward the southeast quadrant of campus, requiring a satellite utility plant.

-Any future installation of buildings, facilities or infrastructure, such as proposed Visitor Accommodations, Chiller Plant, open recreation spaces and recreation fields in the Biscayne Bay Campus should consider avoidance of potential adverse impact to natural resources

Objective 1.9 **Off Campus Constraints/Context Area Conflicts: Off-campus constraints and impacts of campus development are anticipated and minimized.**

Policy 1.9.1 FIU shall, in coordination with Miami-Dade County, the City of Sweetwater, the City of Miami Beach, the City of North Miami, Florida Department of Transportation, other entities within the context area and applicable utility providers, monitor traffic and utility volumes and levels of service. By interlocal agreement with each entity, FIU shall request to be notified of any planned or proposed improvement which may materially affect traffic or utility level of service in the context area. FIU shall request to review and comment upon any off-campus development, which may create conflicts with campus development, prior to the issuance of development approvals or permits.

Objective 1.10 **Administration Procedures to Amend Master Plan: Ensure that future master plan amendments undergo appropriate intergovernmental and public review appropriate to the degree of proposed plan modification**.

Policy 1.10.1 All proposed "major" plan modifications which exceed the threshold contained in 1013.30 Florida Statues must be reviewed and approved in accordance with 1013.30155 Florida Statutes.

Policy 1.10.2 Pursuant to Administrative Rule 6C-21.103(3), F.A.C., plan amendments which alone, or in conjunction with other plan amendments, do not exceed the thresholds established in s.1013.30F.S., shall be consolidated into a single annual submission and submitted to the FIU Board of Trustees, Division of Colleges and Universities for review and approval. Prior to and as a part of minor plan modification requests the following review procedures shall be followed.

- Florida International University shall apply criteria for site location suitability.

- Florida International University shall assess the impact of proposed plan modifications on surface waters, wetlands, upland natural resources and historic resources.

- Florida International University shall determine impacts upon utilities, campus pedestrian and vehicular circulation patterns and

confirm the ability to meet land needs for planned academic and support structures.

- Florida International University shall prepare a "Minor Plan Modification Report" as part of the "Land Management Review Process" for internal administrative review and for review and approval by the FIU Board of Trustees, Division of Colleges and Universities. FIU shall also inform Miami-Dade County, City of North Miami and the State of Florida Department of Community Affairs about alterations, modifications or additions to the master plan - outlining current, concluded and anticipated development activity. FIU will also inform Miami-Dade County, City of North Miami and the State of Florida Department of Community Affairs if no changes have occurred since adoption of initial plan.

- FIU is encouraged to include submerged vegetation in their planned assessment to determine adverse impacts of proposed plan modifications.

Policy 1.10.3 Proposed amendments to the adopted campus master plan which do not exceed the thresholds established in s.1013.30, F.S., and which have the effect of changing land use designations or classifications, or impacting off-campus facilities, services, or natural resources, shall be submitted to the host and affected local governments for a courtesy review

Biscayne Bay Campus

Fall 2008	FTE	2,971
		7,469
	Faculty FYE	170
	Staff: Admin + Prof	100
	General Staff	190

Under Const ASF + CIP Plan ASF

2015	FTE	3,413
	HC	8,580
	Faculty FYE	195
	Staff: Admin + Prof	115
	General Staff	218

2034	FTE	4,972
	HC	12,499
	Faculty FYE	284
	Staff: Admin + Prof	167
	General Staff	318

Space Code	*Space Category*	Florida Standard[c]	*FIU Cats*	Existing ASF[a]	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)		Projected Exstg ASF[b]	Guideline ASF	Surplus (Deficit)	Projected Exstg ASF	Guideline ASF	Surplus (Deficit)
110	Classrooms + Service	11.84	-	43,093	14.50	35,177	11.84	7,916	8,000	51,093	40,407	10,686	51,093	58,865	(7,772)
210	Teaching Labs + Service	9.73	-	49,713	16.73	28,908	9.73	20,805	1,000	50,713	33,206	17,507	50,713	48,375	2,338
220	Open Labs		-	22,548	7.59	20,797	7.00	1,751		22,548	23,889	(1,341)	22,548	34,802	(12,254)
250	Research Labs + Service	13.08	-	16,108	5.42	38,861	13.08	(22,753)	8,000	24,108	44,639	(20,531)	24,108	65,030	(40,922)
300	Offices / Computer	29.08	-	81,395	27.40	86,397	29.08	(5,002)	17,800	99,195	99,243	(48)	99,195	144,578	(45,383)
400	Study / Library	16.51	-	31,174	10.49	49,051	16.51	(17,877)	7,000	38,174	56,344	(18,170)	38,174	82,083	(43,909)
520	Teaching Gymnasium	0.00	-	8,779	2.95	8,779	2.95	0	0	8,779	10,084	(1,305)	8,779	14,691	(5,912)
530	Instructional Media	0.50	-	1,529	0.51	1,486	0.50	44	800	2,329	1,706	623	2,329	2,486	(157)
540	Clinic			0	0.00	1,188	0.40	(1,188)	—	0	1,365	(1,365)	0	1,989	(1,989)
550	Demonstration			0	0.00	297	0.10	(297)	—	0	341	(341)	0	497	(497)
560	Field Buildings			0	0.00	0	0.00	0	—	0	0	0	0	0	0
570	Animal Quarters			0	0.00	0	0.00	0	—	0	0	0	0	0	0
580	Greenhouses			49	0.02	1,486	0.50	(1,437)	—	49	1,706	(1,657)	49	2,486	(2,437)
590	Other			0	0.00	0	0.00	0	—	0	0	0	0	0	0
610	Assembly	3.00 (610/620)	-	16,279	5.48	8,913	3.00	7,366	—	16,279	10,238	6,041	16,279	14,915	1,364
620	Exhibition		-		Included Above in Cat 610				—	Included Above in Cat 610					
630	Food Service			23,437	7.89	24,977	8.41	(1,540)	—	23,437	28,691	(5,254)	23,437	41,798	(18,361)
640	Day Care			0	0.00	0	0.00	0	—	0	0	0	0	0	0
650	Student Lounge			1,403	0.47	8,913	3.00	(7,510)	—	1,403	10,238	(8,835)	1,403	14,915	(13,512)
660	Merchandising			6,813	2.29	7,428	2.50	(615)	—	6,813	8,532	(1,719)	6,813	12,429	(5,616)
670	Recreation			1,971	0.66	4,457	1.50	(2,486)	—	1,971	5,119	(3,148)	1,971	7,458	(5,487)
680	Meeting Room (other than 690)	0.60		1,499	0.50	1,783	0.60	(284)	2,000	3,499	2,048	1,451	3,499	2,983	516
690	Student Academic Meeting Room		-		Included Above in Cat 680				*Incl w/ 680*	Included Above in Cat 680					
710	Central Computer / Telecomm	7.08	-	24,220	8.15	21,035	7.08	3,185	—	24,820	24,162	658	24,820	35,200	(10,380)
720	Shop / Central Service		-		Includes Cats 710-760				—	Includes Cats 710-760					
730	Central Storage		-		Includes Cats 710-761				—	Includes Cats 710-761					
740	Vehicle Storage (ramps not incl)		-		Includes Cats 710-762				—	Includes Cats 710-762					
750	Central Service		-		Includes Cats 710-763				600	Includes Cats 710-763					
760	Hazardous Materials		-		Includes Cats 710-764				—	Includes Cats 710-764					
800	Health Care			1,111	0.37	2,291	0.77	(1,180)	—	1,111	2,632	(1,521)	1,111	3,834	(2,723)
	TOTAL ACADEMIC SPACE			331,121	111.45	352,222	118.55	(21,101)	45,200	376,321	404,592	(28,271)	376,321	589,414	(213,093)
								(21,101)							
									Increase		52,370			184,822	
									Assumed annual growth rate	→		2.00%			2.00%
									Accumulated Rate	→ 7	Years =	114.87%	19	Years =	145.68%

[a] Exstg ASF per Form B Existing Data: Run date 11/25/08

[b] Projected Exstg ASF = Existing + CIP/New Const - Demolition

[c] Per Florida Bd of Governors, Space Standards for Fixed Capital Outlay Needs Generation Formula"

NOTES:

e) Projections based on 2008 FTE and 2% per annum growth rate to Year 2015
f) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
g) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data
h) Grossing Factor: ASF = 62% of GSF

a) All space categories include supporting service space
b) Category 250 Research Lab space was prorated between UP and EC as follows: UP 90% and EC = 10%
c) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
d) Proposed CIP projects soruce: 2008 CIP Plan

Modesto A. Maidique Campus (MAMC)

Fall 2008	FTE	18,038
		31,568
	Faculty FYE (est)	965
9.88	Staff: Admin + Prof (est)	707
	General Staff (est)	942

Under Const ASF + CIP Plan ASF

2015	FTE	20,720
	HC	36,262
	Faculty FYE	1,108
	Staff: Admin + Prof	812
	General Staff	1,082

2034	FTE	30,185
	HC	52,826
	Faculty FYE	1,615
	Staff: Admin + Prof	1,183
	General Staff	1,576

Space Code	*Space Category*		Florida Standard[c]	*FIU Calc*	Existing ASF[a]	Exstg ASF/FTE	Guideline ASF	Guideline ASF/FTE	Surplus (Deficit)		Projected Exstg ASF[b]	Guideline ASF	Surplus (Deficit)	Projected Exstg ASF	Guideline ASF	Surplus (Deficit)
110	Classrooms + Service		12.08	▪	129,909	7.20	217,899	12.08	(87,990)	92,120	222,029	250,298	(28,269)	222,029	364,636	(142,607)
210	Teaching Labs + Service		13.77	▪	162,194	8.99	248,383	13.77	(86,189)	59,310	221,504	285,314	(63,810)	221,504	415,649	(194,145)
220	Open Labs			▪	77,980	4.32	126,266	7.00	(48,286)		77,980	145,040	(67,060)	77,980	211,296	(133,316)
250	UP Research Labs + Service	90%	8.89	▪	159,126	8.82	160,394	8.89	(1,268)	46,528	205,654	184,242	21,412	205,654	268,406	(62,752)
250	EC Research Labs + Service	10%	0.99	▪	68,128	3.78	17,822	0.99	50,306	0	68,128	20,471	47,657	68,128	29,823	38,305
300	Offices / Computer		36.88	▪	498,958	27.66	665,241	36.88	(166,283)	219,243	718,201	764,153	(45,952)	718,201	1,113,227	(395,026)
400	Study / Library		17.54	▪	183,998	10.20	316,387	17.54	(132,389)	85,680	269,678	363,429	(93,751)	269,678	529,447	(259,769)
520	Teaching Gymnasium		5.77	▪	109,139	6.05	104,079	5.77	5,060	0	109,139	119,554	(10,415)	109,139	174,168	(65,029)
530	Media Production		1.13	▪	9,975	0.55	20,383	1.13	(10,408)	3,350	13,325	23,414	(10,089)	13,325	34,109	(20,784)
540	Clinic				0	0	7,215	0.40	(7,215)	—	0	8,288	(8,288)	0	12,074	(12,074)
550	Demonstration				4,033	0.22	1,804	0.10	2,229	—	4,033	2,072	1,961	4,033	3,019	1,014
560	Field Buildings				0	0.00	0	0.00	0		0	0	0	0	0	0
570	Animal Quarters				1,294	0.07	11,000	0.61	(9,706)	—	1,294	12,636	(11,342)	1,294	18,408	(17,114)
580	Greenhouses				3,466	0.19	9,019	0.50	(5,553)	—	3,466	10,360	(6,894)	3,466	15,093	(11,627)
590	Other				6,639	0.37	6,639	0.37	0	—	6,639	7,626	(987)	6,639	11,110	(4,471)
610	Assembly		3.00	▪	67,389	3.74	54,114	3.00	13,275	18,699	86,088	62,160	23,928	86,088	90,555	(4,467)
620	Exhibition		(610/620)	▪	Included Above in Cat 610					*Incl w/ 610*	Included Above in Cat 610			Included Above in Cat 610		
630	Food Service				45,405	2.52	124,820	6.92	(79,415)	—	45,405	143,379	(97,974)	45,405	208,877	(163,472)
640	Day Care				0	0	0	0.00	0							
650	Student Lounge				19,299	1.07	36,076	2.00	(16,777)	—	19,299	41,440	(22,141)	19,299	60,370	(41,071)
660	Merchandising				38,402	2.13	54,114	3.00	(15,712)	—	38,402	62,160	(23,758)	38,402	90,555	(52,153)
670	Recreation				36,048	2.00	36,076	2.00	(28)	—	36,048	41,440	(5,392)	36,048	60,370	(24,322)
680	Meeting Room (other than 690)		0.60	▪	25,263	1.40	10,823	0.60	14,440	2,000	27,263	12,432	14,831	27,263	18,111	9,152
690	Student Academic Meeting Room			▪	Included Above in Cat 680				—	*Incl w/ 680*	Included Above in Cat 680			Included Above in Cat 680		
710	Central Computer / Telecomm		7.08	▪	73,560	4.08	127,709	7.08	(54,149)		73,560	146,698	(73,138)	73,560	213,711	(140,151)
720	Shop / Central Service			▪	Includes Cats 710-760						Includes Cats 710-760			Includes Cats 710-760		
730	Central Storage			▪	Includes Cats 710-761						Includes Cats 710-761			Includes Cats 710-761		
740	Vehicle Storage (ramps not incl)			▪	Includes Cats 710-762					32,490	Includes Cats 710-762			Includes Cats 710-762		
750	Central Service			▪	Includes Cats 710-763					*Incl 710-760*	Includes Cats 710-763			Includes Cats 710-763		
760	Hazardous Materials			▪	Includes Cats 710-764						Includes Cats 710-764			Includes Cats 710-764		
800	Health Care				5,730	0.32	6,811	0.38	(1,081)	—	5,730	7,824	(2,094)	5,730	11,398	(5,668)
	TOTAL ACADEMIC SPACE				1,725,935	95.68	2,363,075	131.01	(637,140)	559,420	2,252,865	2,714,430	(461,565)	2,252,865	3,954,412	(1,701,547)
									(637,140)							
										Increase		351,355			1,239,982	
										Assumed annual growth rate	→		2.00%			2.00%
										Accumulated Rate	→ 7	**Years =**	114.87%	19	**Years =**	145.68%

[a] Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)

[b] Projected Exstg ASF = Existing + CIP/New Const - Demolition

[c] Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula'

EC is 5.5% of total ASF, with exception of Cat 250 which will set based on ration agreed to by FIU admin.

NOTES:

e) Projections based on 2008 FTE and 2% per annum growth rate to Year 2015
f) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"
g) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data
h) Grossing Factor: ASF = 62% of GSF

a) All space categories include supporting service space
b) Category 250 Research Lab space was prorated between UP and EC as follows: UP 90% and EC = 10%
c) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)
d) Proposed CIP projects soruce: 2008 CIP Plan

LEGEND

- UPC — University Park Campus
- EC — Engineering Campus

KEY MAP

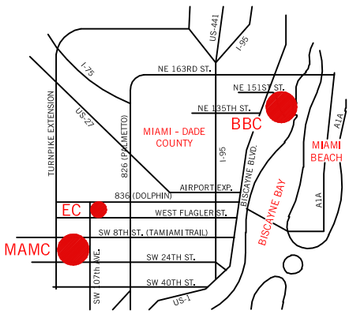


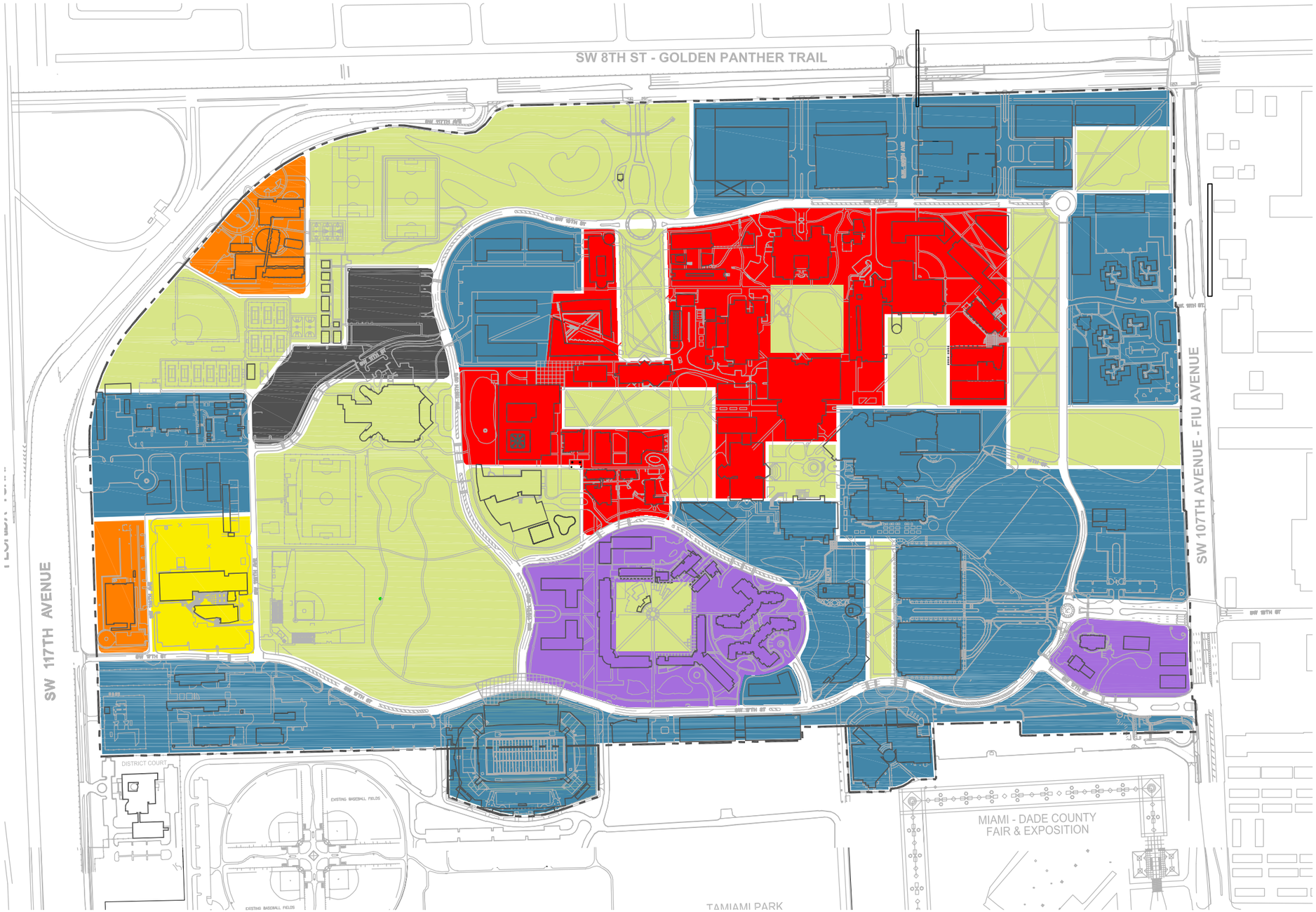
FIGURE 4.1a
Modesto A Maidique Campus
& Engineering Center
Context Area Map

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL



LEGEND

- Academic & Research Facilities (46.58 acres)
- Support Facilities (6.88 acres)
- Housing Facilities (21.06 acres)
- Athletics / Recreation / Open Space (69.43 acres)
- Community Interface (8.48 acres)
- Parking (7.78 acres)
- Conservation (0)
- Mixed Use (119.45 acres)

KEY MAP

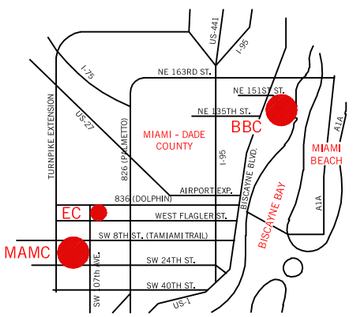


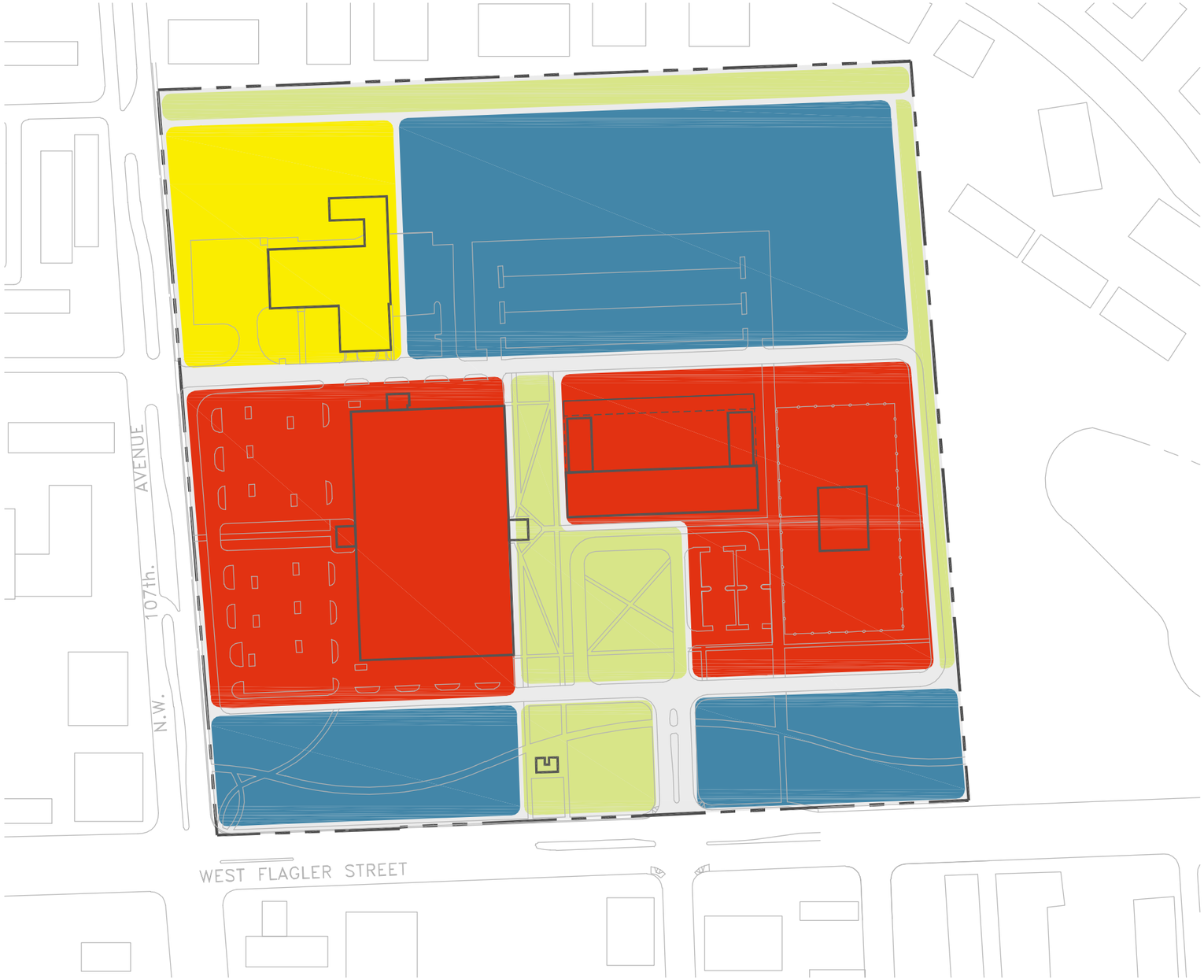
FIGURE 4.1b
Modesto A Maidique Campus
Land Use Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL



LEGEND

- Academic & Research Facilities (12.25 acres)
- Support Facilities (3.45 acres)
- Housing Facilities (0 acres)
- Athletics / Recreation / Open Space (3.54 acres)
- Community Interface (0 acres)
- Parking (0 acres)
- Conservation (0 acres)
- Mixed Use (11.77 acres)

KEY MAP

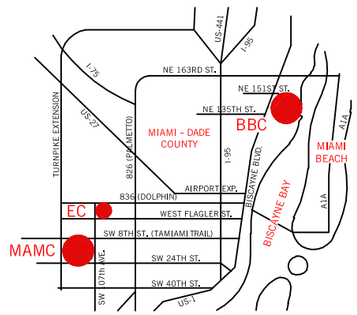


FIGURE 4.2b
Engineering Center
Land Use Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS +WILL

LEGEND

BBC Biscayne Bay Campus

KEY MAP

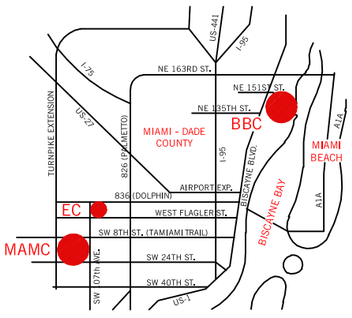


FIGURE 4.3a
Biscayne Bay Campus
Context Area Map

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL

LEGEND

- Academic & Research Facilities (39.52 acres)
- Support Facilities (5.66 acres)
- Housing Facilities (9.18 acres)
- Athletics / Recreation / Open Space (56.90 acres)
- Community Interface (0 acres)
- Parking (0 acres)
- Conservation (28.69 acres)
- Mixed Use (22.40 acreas)

KEY MAP

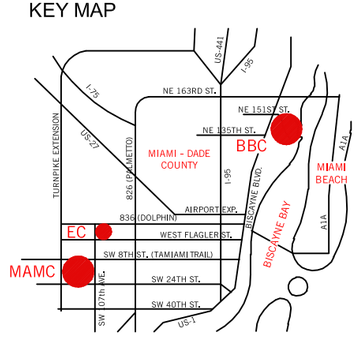


FIGURE 4.3b
Biscayne Bay Campus
Land Use Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

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5.0 ACADEMIC & RESEARCH FACILITIES ELEMENT

Projected enrollment growth and the new College of Medicine are a catalyst for growth in academic and research facilities. Because of the tendency for "lag time" in the building planning, funding and design cycles, this process must be tightened and accelerated in order to "catch up" to present needs while also preparing to meet the needs which will exist in 2015.

To ensure optimum departmental adjacencies, interdisciplinary research, and space utilization, and to conserve precious and declining reserves of buildable land, guidelines call for the creation of a more compact "academic core" - as well as the designation of flexible development areas for future academic facilities. (See Figure 5.1: Modesto A. Maidique Campus, Figure 5.2: Engineering Center and Figure 5.3: Biscayne Bay Campus for the location of academic & research facilities.) In response, future academic and research facilities are clustered near existing academic and research facilities to strengthen academic/research zones. Academic and research facility designations include the following: Classroom, Teaching Lab, Research Lab, Library and Mixed-Use.

GOAL 1: **Provide academic and research facilities adequate to support the academic mission, meet needs of projected student enrollment and eliminate facility deficits by the end of the planning period.**

Objective 1.1 **Timing and Phasing:**
By 2015, FIU will phase future academic and research facility development in the following increments by location:

	Existing (Fall 2008)	2015	Total
UP	1,725,935	559,420	2,252,865 GSF
BBC	331,121	45,200	376,3212 GSF
Total	**2,057,056 GSF**	**604,620 GS**F	**2,629,186 GSF**

Includes classrooms, teaching labs, study areas, and research labs. Accounts for new facilities and renovation and expansion of existing structures.

Based on projects included in the 2005-2015 CIP

Policy 1.1.1 Apply space use standards in Chapter 6A-2 in determining future academic building programs and in planning the adaptive reuse of existing facilities to ensure optimum utilization of academic facilities.

Policy 1.1.2 Define building and facility use priorities strictly on the basis of academic need. Specific priorities for development of future facilities, including academic facilities, are described in Capital Improvements

Element Table 14.1. Additional academic facility priorities shall be established strictly on the basis of academic need.

Policy 1.1.3 Eliminate facility deficits by modifying facility programming and funding request procedures as follows:

- Submit facility requests 3-4 years prior to projected need, rather than current need, to accommodate lag time in facility planning, funding, design and construction.

- When planning funds become available, architects prepare a detailed program and use programs to coincide with facility requests and real space needs.

Policy 1.1.4 Unanticipated academic facility development opportunities which are determined to be consistent with the academic mission and current/planned programs shall be accommodated in planned but unassigned future academic buildings.

The Campus Master Plan will be amended as necessary to incorporate any new and unforeseen academic facilities.

Policy 1.1.5 Apply building design and construction criteria to encourage energy efficiency including cost containment guidelines, active and passive solar design features and life cycle (capital and operating) cost analysis.

Policy 1.1.6 Apply building design and construction criteria that supports the Research I status of the University, addressing fully all the special needs associated with research and scientific buildings.

Policy 1.1.7 BISCAYNE BAY CAMPUS
Expansion of the existing physical plant will be considered to service the projected growth and will consider increasing capacity for adequate chilled water for original quadrant expansion.

-Any future installation of buildings, facilities or infrastructure should consider avoidance of potential adverse impact to natural resources

Objective 1.2 Locations:
Locate future academic and research facilities to cluster related programs within a compact "academic core".

Policy 1.2.1 Implement the pattern of academic facility clusters, quadrangles and malls.

MODESTO A. MAIDIQUE CAMPUS

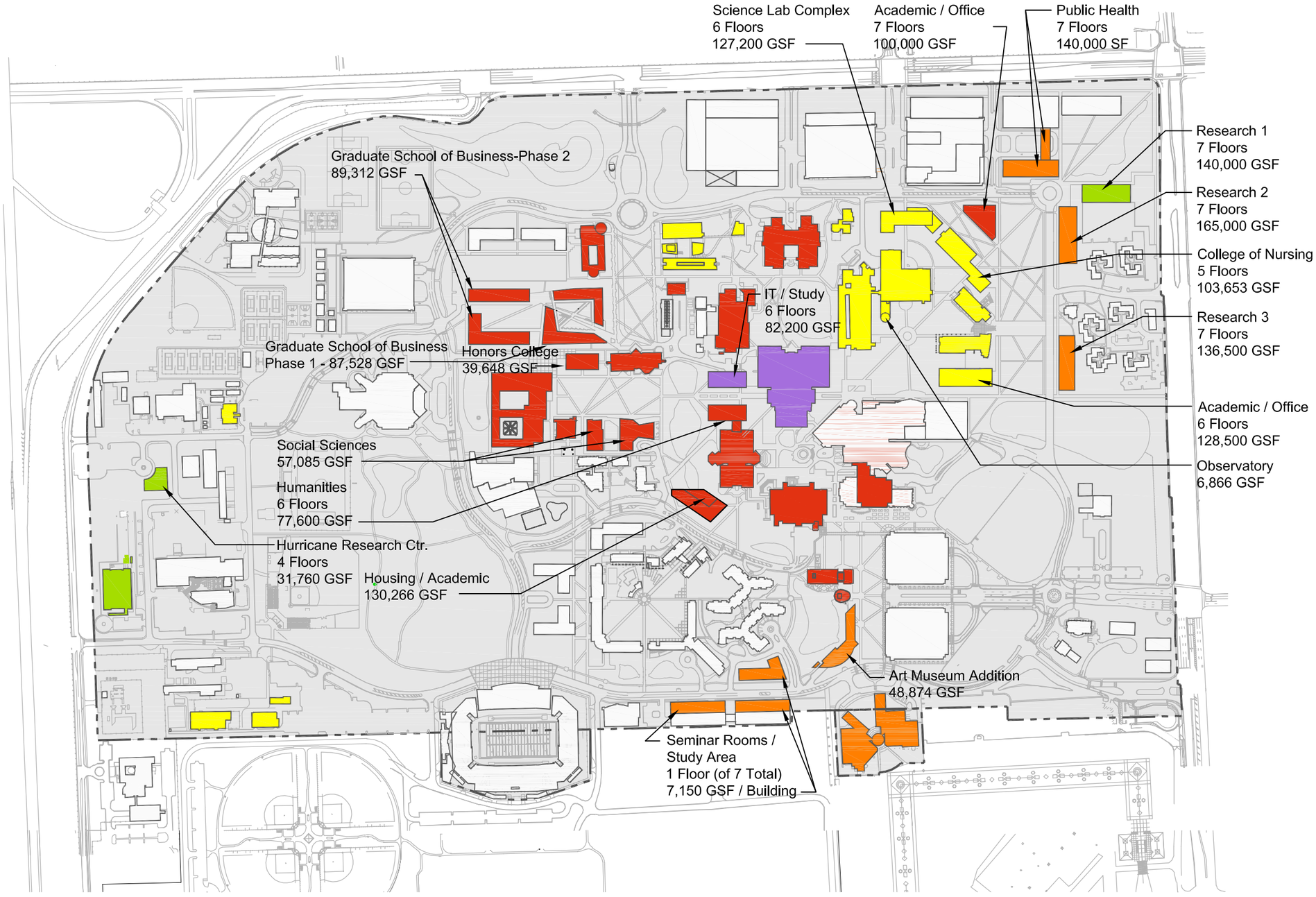
- Academic expansion sites are located within an academic core and clustered according to primary building usage (see Figure 5.1 Modesto A. Maidique Campus). A research and mixed use cluster is located at the northeast corner of the campus. These future facility locations form a building edge to the proposed academic quadrangle, defined primarily by research/mixed-use building sites on the north and east and teaching lab building facilities on the west.
- Additional building sites, designated as primarily classroom facilities, are located within the academic core, surrounding the existing quadrangle along the Avenue of the Professions. The additional building sites at this location strengthen the edge of this quadrangle, anchored by the Rafael Diaz-Balart Hall on the west and the Green Library on the east.
- A cluster of mixed-use facilities is located at the southern edge of Modesto A. Maidique Campus, near the Stadium and Performing Arts Center. The facilities include classroom and student life support services on the first level with student housing located above these functions.
- Additional building sites for the future Graduate School of Business and the College of Law expansion are located adjacent to the existing School of Business.
- A building site for the future location of the Honors College is located along the Avenue of the Sciences, southwest of Deuxieme Maison.
- Research lab and teaching lab facilities are located on the western edge of the campus.

ENGINEERING CAMPUS

- A future academic and research facility is located adjacent to the existing buildings, defining a central quadrangle. (See Figure 5.2 Engineering Campus)

BISCAYNE BAY CAMPUS

- A future mixed-use academic facility is proposed adjacent to the existing library. The building location strengthens the existing academic quadrangle formed by the Library, Academic One, Academic Two and Hospitality Management.
- A future office/classroom facility is proposed to the south of Academic Two. Aligned with the existing Marine Biology building, the future facility helps to define a secondary academic quadrangle. (See Figure 5.3 Biscayne Bay Campus)



LEGEND

- Classroom
- Teaching Lab
- Research Lab
- Library
- Mixed-Use

KEY MAP

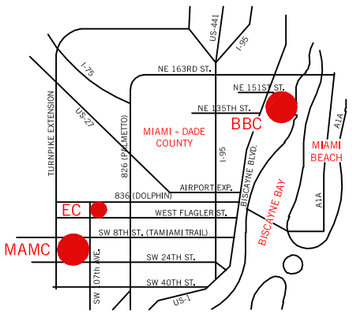


FIGURE 5.1
Modesto A Maidique Campus
Academic & Research
Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

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LEGEND

- Classroom
- Teaching Lab
- Research Lab
- Library
- Mixed-Use

KEY MAP

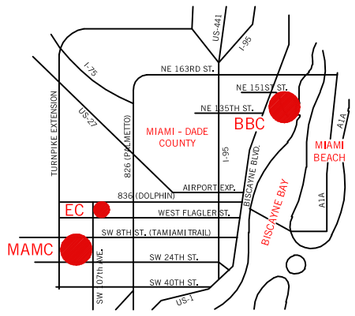

FIGURE 5.2
Engineering Center
Academic & Research Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

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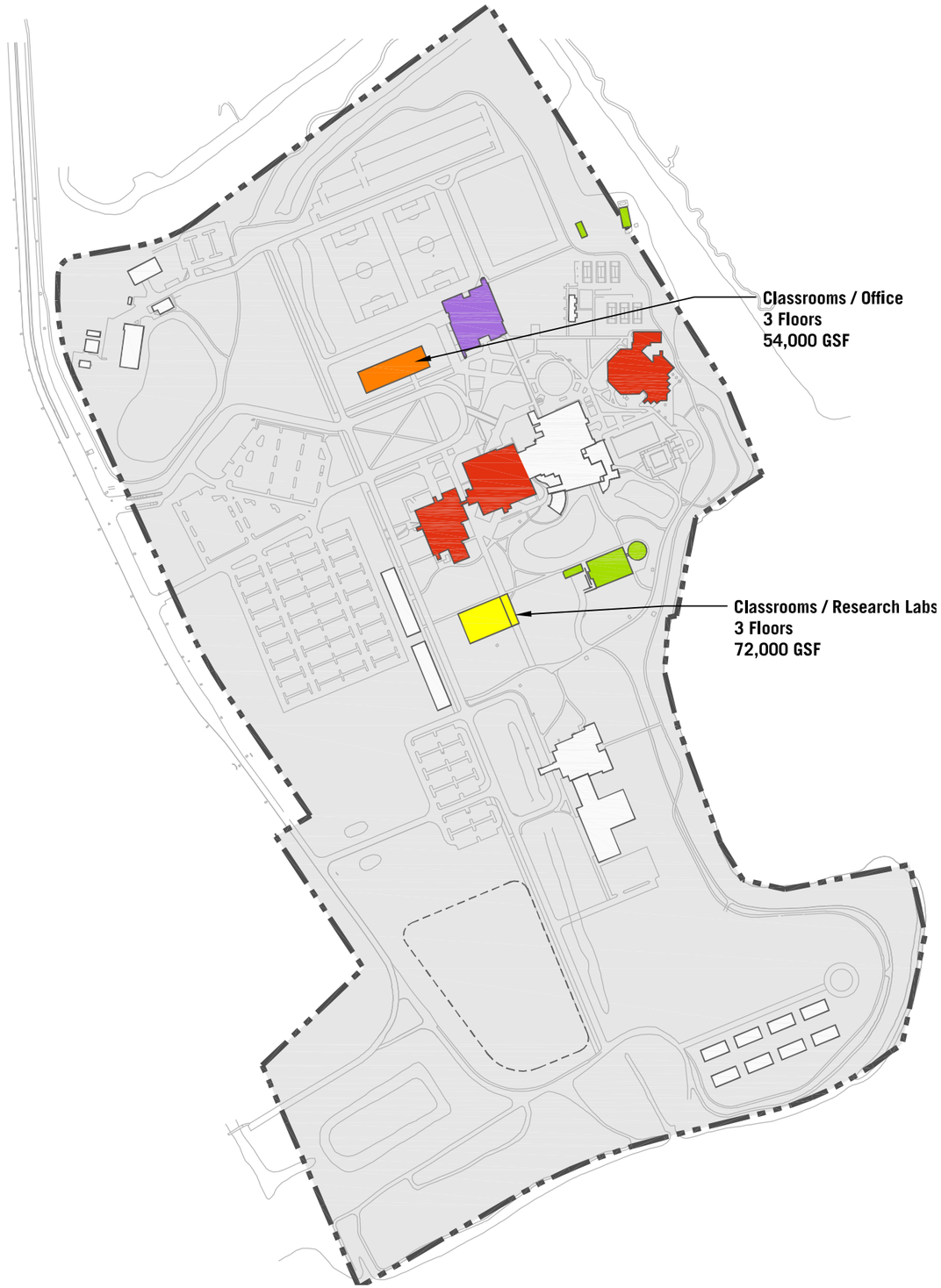

LEGEND

- Classroom
- Teaching Lab
- Research Lab
- Library
- Mixed-Use

KEY MAP

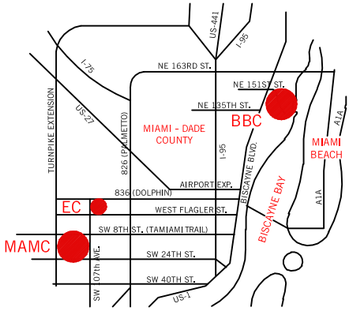

FIGURE 5.3
Biscayne Bay Campus
Academic & Research
Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

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6.0 SUPPORT FACILITIES ELEMENT

The extreme growth in projected enrollment and the addition of academic and non-academic space has increased the need of additional support facilities. The majority of these projected needs are found in office space, much of which is accounted for within academic facilities. Funding mechanisms instituted at the SUS level will continue to play an integral role in the fulfillment of FIU's goals, objectives and policies as related to the continued adequate provision of on-campus support facilities (see Figure 6.1: Modesto A. Maidique Campus, Figure 6.2: Engineering Center and Figure 6.3: Biscayne Bay Campus for the location of support facilities).

In addition to academic, student life and physical support space need, Florida International University (FIU) must become more aware of its limited land availability for athletics and recreation at Modesto A. Maidique. Athletic programs and future needs must be carefully evaluated and the possibility of joint use facilities must continue to be studied with Miami/Dade County. FIU will continue its practice of careful and constant planning as it continuously re-evaluates the support facility needs of the University at Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus.

GOAL 1: **Provide support facilities necessary to correct present deficits and meet the needs of projected student enrollments through the planning period.**

Objective 1.1 **Facility Needs and Locations:**
Develop future support facilities including recreation, intercollegiate athletics, administrative, maintenance and related support services phased, timed and located to correct prioritized deficiencies and meet projected needs.

Policy 1.1.1 Provide faculty offices, lounges, and administrative space distributed proportionate to and included within the programs for new academic buildings.

Policy 1.1.2 MODESTO A. MAIDIQUE:
Coordinate with Miami-Dade County Parks Department for the joint use development of recreation facilities at Tamiami Park to meet future recreation needs, including sports fields, softball, tennis and basketball.

Policy 1.1.3 Ensure the maintenance of existing facilities used for intercollegiate athletics including sports fields and the U.S. Century Bank Arena.

Policy 1.1.4 Concentrate maintenance and facility operations functions on the western campus edge and provide for the expansion of the planned University maintenance and operations complex. Maintain food vending service facilities to serve employees in this area. Locate

additional physical plant support spaces in parking structures adjacent to SW 8th Street.

Policy 1.1.5 Integrate student support services within student housing development or locate support services in close proximity to student housing.

Policy 1.1.6 ENGINEERING CENTER
Maintain food vending facilities to serve employees and students in this area.

Policy 1.1.7 Maintain campus support and maintenance functions in the northwest portion of the campus.

Policy 1.1.8 Provide additional student support and general auxiliary spaces within the proposed academic building.

Policy 1.1.9 BISCAYNE BAY CAMPUS:
Maintain campus support and maintenance functions in the northwest quadrant of the campus.

Policy 1.1.10 Expansion of the existing physical plant will be considered to service the projected growth and will consider increasing capacity for adequate chilled water for original quadrant expansion.

Policy 1.1.11 Expand recreation fields at the northeast portion of the campus.

Policy 1.1.12 Provide recreation/open space southwest of the Kovens Center.

Policy 1.1.13 Provide student support spaces within future student housing developments

Objective 1.2 **Phasing:**
Develop support facilities to reflect prioritized needs and opportunities.

Policy 1.2.1 By 2015, FIU will develop support facilities in the following planning periods.

	Existing (Fall 2008)	**2015**	**Total**
MMC & EC	144,884	0	144,884 ASF
BBC	34,735	0	34,735 ASF
Total	**179,619 ASF**	**604,620 ASF**	**179,619 ASF**

Includes food service, student lounge, merchandising, recreation and

health care. Based on 2005-2015 CIP.

Policy 1.2.3 Anticipated support facility development opportunities which are determined to be consistent with the academic mission and current/planned programs shall be accommodated in:

-Planned but unassigned future support buildings
-Support facilities as depicted in the Future Land Use Plan.

The Campus Master Plan will be amended as necessary to incorporate any new and unforeseen support facilities.

Objective 1.3 Funding:
Secure funding necessary to develop support facilities projected to be needed through the planning period.

Policy 1.3.1 Supplement normal CIP funding requests with resources, which may be available from joint use facility operations (facility leasing), user fees, and pursue joint development agreements with Miami-Dade County Parks and Recreation Department, and the Miami-Dade County Fair and Exposition.

LEGEND

- Administrative Offices
- Physical Plant
- Athletic / Recreation Facilities
- Student Support
- General Auxiliary

KEY MAP

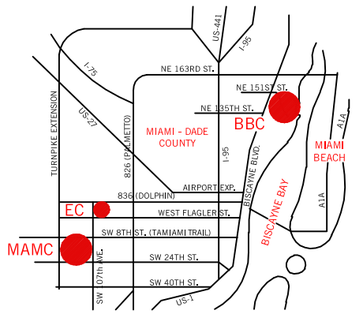

FIGURE 6.1
Modesto A Maidique Campus
Support Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

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LEGEND

- Administrative Offices
- Physical Plant
- Athletic / Recreation Facilities
- Student Support
- General Auxiliary

KEY MAP

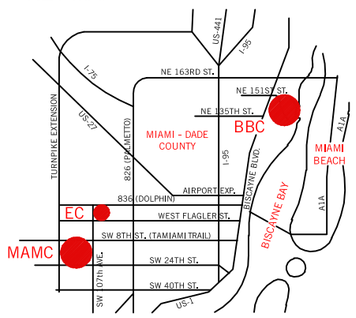

FIGURE 6.2
Engineering Center
Support Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS +WILL

LEGEND

- Administrative Offices
- Physical Plant
- Athletic / Recreation Facilities
- Student Support
- General Auxiliary

KEY MAP

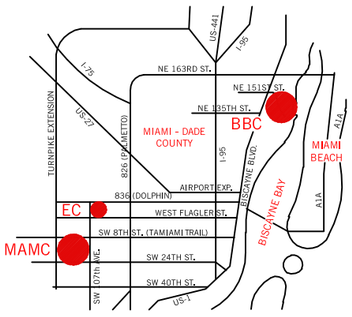

FIGURE 6.3
Biscayne Bay Campus
Support Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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7.0 HOUSING ELEMENT

As FIU matures in its stature as a leading educational institution, attracting higher proportions of non-local and international students, the need for appropriate affordable on-campus student housing will grow. As student enrollment numbers continue to increase and the nature of student housing changes, FIU must provide suitable housing on campus. (Refer to Element 4.0 Future Land Use's Figure 4.1b and 4.3b for the location of housing facilities).

In addition to the need to increase the quantity of on-campus housing, FIU will strive to provide alternatives to traditional dormitories to reflect the housing preferences of undergraduate students, graduate students and honors students, as well as married students and members of fraternities and sororities. Future housing is proposed to be no higher than six floors above a commons area established on the first floor. In addition, floor plates should be configured to promote 40 bed communities.

At the Modesto A. Maidique Campus, student housing is located in all quadrants of the campus: to the northwest near the College of Business, to the southwest near the Stadium and Performing Arts Center, and to the northeast at the existing Modesto A. Maidique Apartments. Additional student housing is also located near the existing Greek houses. In regard to the housing neighborhood on the "Main Street" adjacent to the Stadium and Performing Arts Center, further study is needed to address the integration of parking at this location.

At the Biscayne Bay Campus, student housing is located along a main street running north-south through the campus. The housing is adjacent to the academic quadrangles. Proposed housing for faculty, staff and retirees is located to the southeast corner of the campus.

No student housing is located at the Engineering Center.

GOAL 1: **Florida International University shall assist all students in securing adequate, affordable on- and off-campus housing through the planning period.**

Objective 1.1 **On-Campus Housing:**
Provide housing on-campus to meet the needs of not less than 20 percent of the FTEs by the end of the planning period until a cap of 7,000 beds is achieved.

Policy 1.1.1 UNIVERSITY-WIDE
Provide a variety of dormitory and apartment types to reflect user preferences and particular student classifications (undergraduate, graduate, and married.)

Policy 1.1.2 Within each housing cluster provide support services and facilities to include:

-Nearby parking space consistent with parking standards
-Dining facilities
-Recreation/open space commons
- Meeting space
- Student Services

Policy 1.1.3 Provide handicapped accessible units, in compliance with Americans with Disabilities Act for no less than five percent of on-campus housing.

Policy 1.1.4 MODESTO A. MAIDIQUE
Provide a total of 4,144 on-campus housing beds by the end of the planning period, contingent on demand. The beds will be distributed generally as follows :

Existing Fall 2008:	2,709 beds
Planned (under construction + CIP):	1,148 beds
Planned Demolition (four units at University Park Apartments)	240 beds
Future Main Street Development	738 beds
Future Housing at Honors College	246 beds
Future Greek Housing	120 beds
Projected 20% Goal - 2015:	4,144 beds

Policy 1.1.5 Locate housing consistent with the housing business plan as follows:

-Undergraduate student, suite-style and apartment-style housing at the southwest housing quadrangle and Lakeview housing cluster.

-Undergraduate student, suite-style housing within the Graduate School of Business complex in the northwest quadrangle.

-Married and graduate student housing in the existing northeast housing complex.

-Greek housing in the existing southeast housing complex.

-Undergraduate, apartment-style housing in the "Main Street" mixed-use development.

-Undergraduate, suite-style housing at the Honors College building.

Policy 1.1.6 Prioritize funding and phase housing development, consistent with the campus housing business plan and the Capital Improvement Plan.

Policy 1.1.7 BISCAYNE BAY CAMPUS
Provide a total of 683 on-campus housing beds by the end of the planning period, contingent on demand. The beds will be distributed generally as follows:

Existing Fall 2008:	300 beds
Planned (under construction + CIP):	328 beds
Planned Demolition	300 beds
Future Main Street Housing	328 beds
Projected 20% Goal - 2015:	683 beds
Future faculty/staff/retiree housing buildings	(8) 5-unit

Policy 1.1.8 Locate housing as follows:

-Undergraduate and graduate student housing (includes replacement of existing Bay Vista beds to be demolished) on the "Main Street" northwest of the Kovens Conference Center, contingent on demand.

-Reserve future housing sites adjacent to the tennis courts and multipurpose courts.

Policy 1.1.9 Prioritize funding and phase housing development as follows:

683 beds by 2015 (contingent on demand)

Policy 1.1.10 The University shall evaluate the demand and financial feasibility of a privately developed hotel to serve Biscayne Bay Campus Kovens Center.

Policy 1.1.11 Locate housing for faculty, staff and retirees to the southeast corner of the campus - 40 units by 2015 (contingent on demand)

Objective 1.2 **Monitor and evaluate housing deficiencies and ensure the timely elimination of substandard student housing and the infrastructure (electrical, mechanical, plumbing, etc.) and aesthetic improvement of existing student housing.**

Policy 1.2.1 UNIVERSITY-WIDE
Provide handicapped accessible units, in compliance with Americans with Disabilities Act for no less than five percent of on-campus housing.

Policy 1.2.2 Annually monitor the condition, deficiencies and repair needs of existing housing at both campuses consistent with the policies and procedures established by the Facilities Maintenance Element.

Policy 1.2.3 BISCAYNE BAY CAMPUS
Housing management will monitor housing demands and develop a business plan to support housing needs in a timely fashion.

Objective 1.3 **Off-Campus Housing:**
Assist students and faculty in locating suitable, affordable housing opportunities off-campus.

Policy 1.3.1 UNIVERSITY-WIDE
Monitor the anticipated adequacy and affordability of off-campus housing to serve the needs of students and faculty residing off-campus through a bi-annual survey

Policy 1.3.2 Work with local jurisdictions (the City of North Miami, Sweetwater, and Miami Dade Planning Department) to assure that sufficient off-campus affordable housing is available to students by:

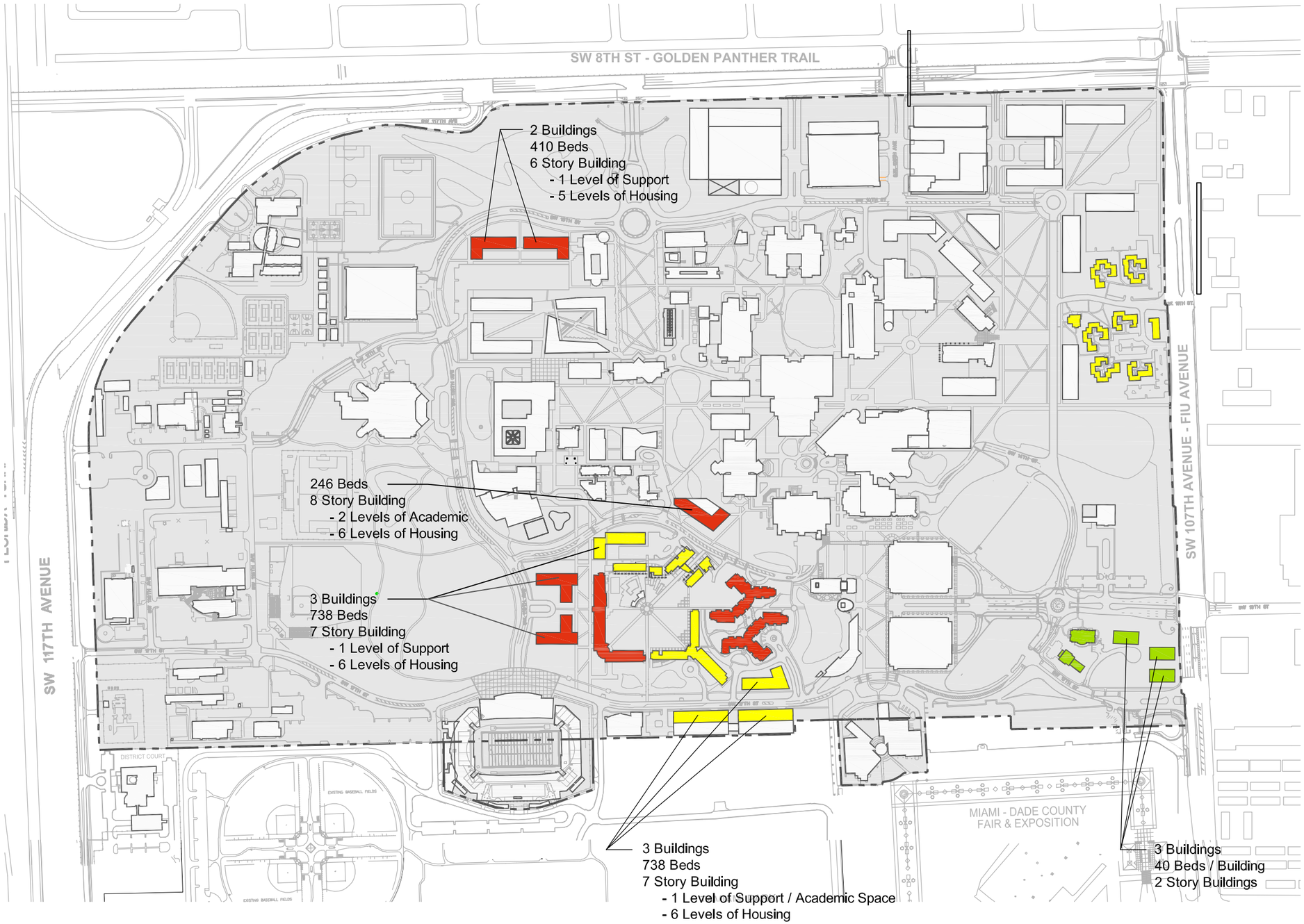
-Monitoring the supply, cost and suitability of off-campus housing, including rent levels

-Establishing a registry of off-campus housing providers

-Consider development of a "roommate finder" service.

-Monitoring factors pertaining to safety, transit utilization, pedestrian access, traffic pattern, .

-Pursuant to HB 1362, establish a public-private partnerships and agreements with local jurisdictions for providing affordable housing opportunities for students



LEGEND

- Suite Style
- Apartment Style
- Greek
- Townhome/Condominium

KEY MAP

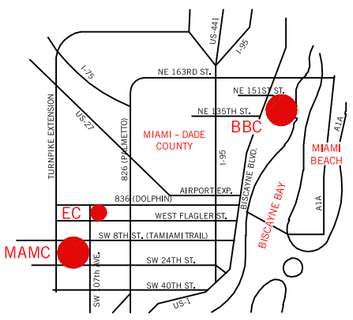


FIGURE 7.1
Modesto A Maidique Campus
Housing Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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LEGEND

- Suite Style
- Apartment Style
- Greek
- Townhome/Condominium

KEY MAP

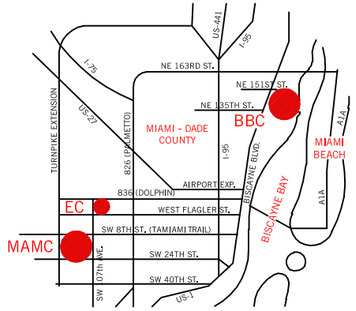

FIGURE 7.3
Biscayne Bay Campus
Housing Facilities

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Campus Master Plan - June 2010

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8.0 RECREATION AND OPEN SPACE ELEMENT

Developing new facilities and fields, as well as enhancing existing recreation facilities and open space, remains an important aspect of campus design. As student enrollment increases, not only is there an increased demand to ensure adequate housing but to provide enough recreation fields and open space. Whether for intercollegiate or intramural activities, students need these amenities to remain connected to the University (see Figure 8.1: Modesto A. Maidique Campus, Figure 8.2: Engineering Center and Figure 8.3: Biscayne Bay Campus the location of recreational facilities and open space).

The 2015 Master Plan Update identifies the need for additional on-campus recreation facilities and the development and preservation of open space to support the projected growth in student enrollment. Due to the increased pressure at Modesto A. Maidique to use its available land for academic facilities, active recreational activities are limited to the western edge of campus, which is experiencing yet further constraints due to the construction of additional support facilities. This has forced the University to limit its long-range growth in on-campus recreation and look for off-campus joint use facilities. Negotiations with Miami-Dade County for possible joint use of of Tamiami Park should remain as a constant tool to use for additional recreational facilities. FIU will continue to work with the Miami-Dade County Park and Recreation Department (MDPR) regarding recreation and open space needs for both the University and Miami-Dade County.

Biscayne Bay Campus has available land to accommodate a growing student population and associated recreation and athletic facilities. As additional housing is completed, recreational fields and facilities will be located to the north and south portions of the campus.

The 2015 Open Space Concept Plan (See Figures 8.1 Modesto A. Maidique Campus, 8.2 Engineering Center and 8.3 Biscayne Bay Campus) identifies three categories: gathering space, recreational open space and special purpose landscapes. Recreational space refers to structured recreation and athletic spaces. Special Purpose Landscapes refer to open spaces that can be used for teaching or research. The remaining gathering spaces include that which is integral to the surrounding built campus environment. (Refer to Figures 16.1 Modesto A. Maidique, 16.2 Engineering Center and 16.3 Biscayne Bay Campus for greater definition of the open space category.)

Open spaces on each campus have been developed so that they become an integral part of the overall urban design campus plan. Development that would encroach on these open spaces is discouraged in order that the natural resources of each campus are protected. Architectural and landscape design guidelines will ensure that appropriate open spaces, plazas and gathering spaces are provided with all new construction.

GOAL 1: **Protect, enhance and develop adequate recreation facilities and open space amenities necessary to serve projected student enrollments.**

Objective 1.1 **Recreation Facilities:**
Coordinate public and private resources as necessary to ensure the timely and efficient provision of recreation facilities to meet projected needs.

Policy 1.1.1 UNIVERSITY-WIDE:
FIU will continue to assess the needs of the students for on-campus recreational fields. Recreational fields displaced by new construction will be replaced at an alternative site.

Policy 1.1.2 MODESTO A. MAIDIQUE CAMPUS:
Phase and time development of open space improvements consistent with 14.0 Capital Improvement.

Policy 1.1.4 FIU shall create additional stadium seating by relocating the existing stadium track to the soccer field. Discussions for the modification of the stadium and its use will include input from MDPR and Miami-Dade County Public Schools.

Policy 1.1.5 FIU will create jogging trails throughout campus for fitness programs and general use.

Policy 1.1.7 BISCAYNE BAY CAMPUS:
Phase and time development of open space improvements, future athletic and recreational facilities consistent with 14.0 Capital Improvement Element.

Policy 1.1.7 Recreation and athletic spaces will be clustered to the north and south portions of the campus.

Objective 1.2 **Open Space:**
Protect and/or enhance present open space resources.

Policy 1.2.1 UNIVERSITY-WIDE:
FIU shall select sites for infrastructure and academic and support facilities, which are designed to strengthen the viability and character of campus open space.

Policy 1.2.2 FIU shall maintain densities and intensities for the development of the campus which maximize the retention of open space. These densities and intensities are established in 4.0 Land Use Element.

Policy 1.2.3 MODESTO A. MAIDIQUE CAMPUS:
Any development within the Teaching and Research Park (See Figure 16.1) will be coordinated with the recommendations of the 2003 Charrette, contingent on a 10 year progress review. Protected areas

will be integrated within the existing wooded areas, with sensitively place buildings, paths, seating areas, interpretative display and amenities, retaining wooded areas for existing species and to provide shelter and its natural characteristics.

The FIU "Natural Preserve Charrette" of 2003 provides a plan for utilizing the preserve for teaching and outdoor recreation as well as other uses.

Policy 1.2.4 Create and maintain a built-out development plan for the purpose of designating landscaped open space.

Policy 1.2.5 Protect existing and planned designated landscaped open spaces from development and create new malls, quadrangles, courtyards, plazas and open space.

Policy 1.2.6 Coordinate with Miami-Dade County Park and Recreation Department for the utilization of open space to meet recreation and open space needs.

Policy 1.2.7 ENGINEERING CENTER
Protect existing open space from SW 107th Avenue as a landscaped buffer.

Policy 1.2.8 Establish educational open space bordering West Flagler Street.

Policy 1.2.9 Establish open space quadrangle around which to organize future academic and research facilities.

Policy 1.2.10 Establish open spaces between facilities as activity centers, gathering areas and pedestrian plazas.

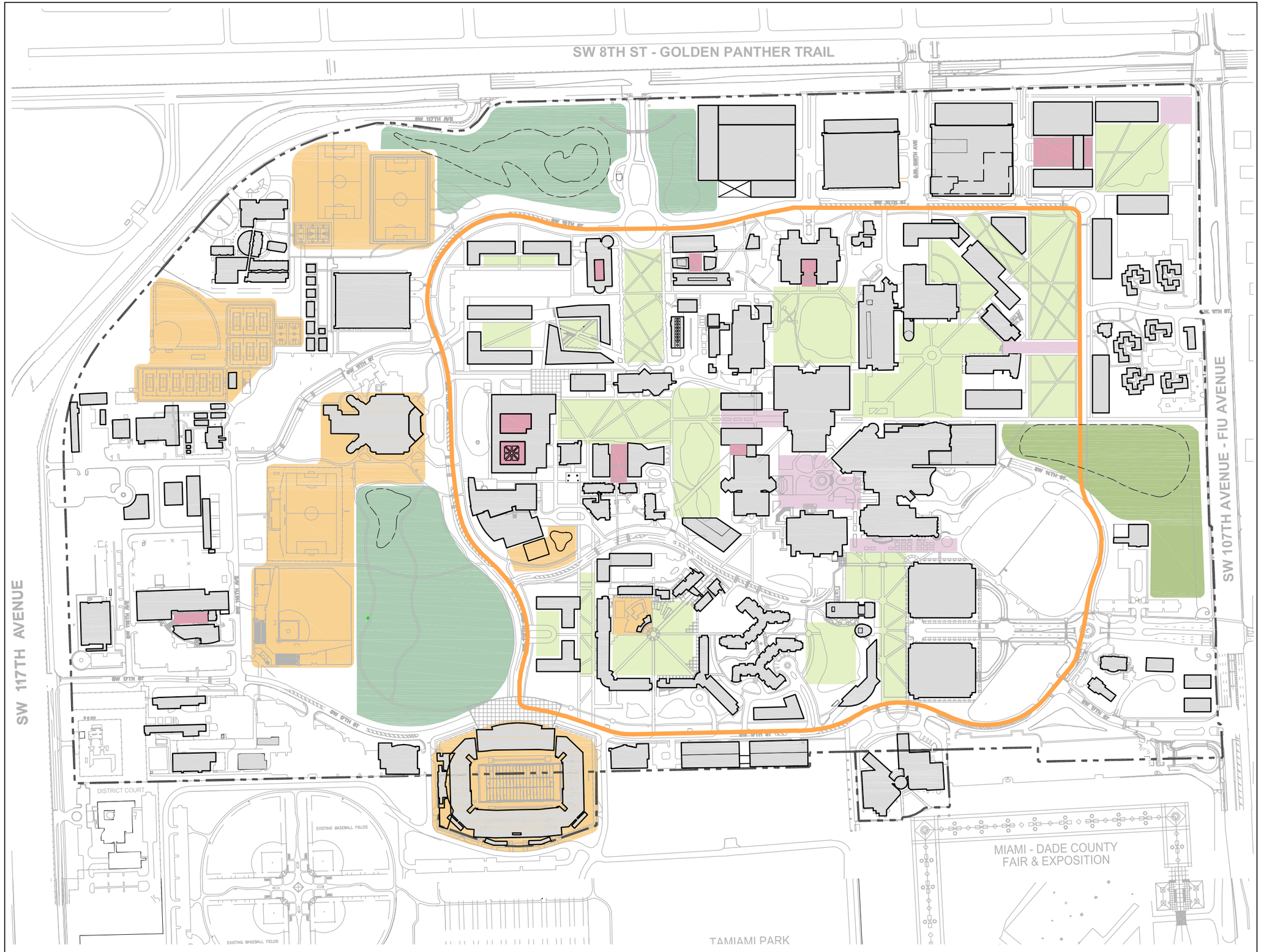
Policy 1.2.11 Establish north/south pedestrian spine to connect Flagler, existing buildings and potential development to the north.

Policy 1.2.12 Protect walled open space around the Wall of Wind to provide protection from research activities.

Policy 1.2.13 BISCAYNE BAY CAMPUS:
Protect environmentally sensitive and Bayfront open spaces from development encroachment by strictly enforcing future placement of buildings, parking, infrastructure and other man-made improvements consistent with the land use plan which depicts and protects the environmentally sensitive and Bayfront open spaces from development.

Miami-Dade County's Department of Environmental Protection (DERM) recommends close coordination with DERM for any future placement of buildings, parking infrastructure and other man-made improvements as part of FIU's commitment to protect environmentally sensitive and bayfront open spaces from development encroachment at the Biscayne Bay Campus.

Policy 1.2.14 Enhance key symbolic campus open spaces to the north and south of Academic One and Two/Wolfe University Center and to the east of the Conference Center (see 16.0 Landscape Design Guidelines Element).



LEGEND

Gathering Space

- Quads
- Courtyards
- Plaza

Recreation Space

- Outdoor Recreation Space
- Recreation Loop

Special Purpose Landscape

- Teaching and Research Landscape
- Garden

KEY MAP

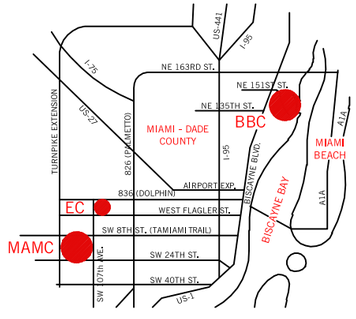


FIGURE: 8.1
Modesto A. Maidique Campus
2015 Open Space Concept Plan

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Campus Master Plan - June 2010

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LEGEND

- Gathering Space
  - Quad
  - Promenade
- Special Purpose Landscape
  - Teaching & Research Landscape

KEY MAP

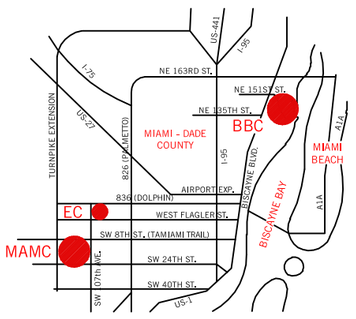

FIGURE: 8.2
Engineering Center
2015 Open Space Concept Plan

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LEGEND

Gathering Space

Quads

Recreation Space

Outdoor Recreation Space

Recreation Loop

Special Purpose Landscape

Teaching and Research Landscape

KEY MAP

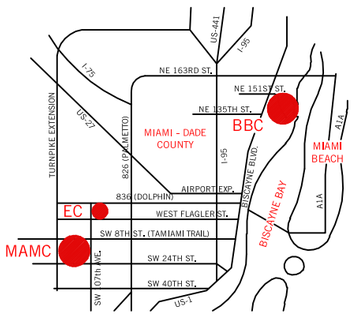

FIGURE: 8.3
Biscayne Bay
2015 Open Space Concept Plan

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Campus Master Plan - June 2010

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9.0 GENERAL INFRASTRUCTURE ELEMENT

The purpose of this element is to ensure coordinated provision of public facilities and services required to meet the future needs of the University, consistent with current efforts to address sustainability issues on campus include the development of a Climate Action Plan (a responsibility as a signatory of the American College and University Presidents Climate Commitment) and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED certified. This includes the following:

1. Solid waste handling and disposal capacity

2. Stormwater management capacity to protect the welfare of both the University's and host community's residents.

3. Potable water and water reuse for irrigation purposes.

4. Sanitary sewer and treatment capacity to meet anticipated University needs.

STORMWATER MANAGEMENT: The stormwater management plan for Modesto A. Maidique Campus is a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls into existing onsite lakes. No offsite discharge connections exist, as all stormwater runoff is contained onsite (see Figure 9.1a: Drainage System Map).

The Engineering Center drainage system is designed to handle on-site stormwater runoff with a combination of exfiltration trenches, dry and wet retention areas, drainage swales, lakes, overland flow, and positive drainage pipe systems (see Figure 9.2a: Drainage System Map).

The stormwater management plan for the Biscayne Bay Campus is a combination of percolation, overland flow and exfiltration systems. The Biscayne Bay Campus stormwater management plan also utilizes positive drainage systems with outfalls both to onsite lakes and adjacent off-site water bodies. Currently, there are two outfalls to offsite surface water bodies located on the north and east sides of the site. The north outfall system consists of a 42-inch culvert and the east outfall consists of an 8“ x 12” culvert (see Figure 9.3a: Drainage System Map).

WATER: Potable water for Modesto A. Maidique Campus is provided by the Miami-Dade Water and Sewer Department (MDWASD). MDWASD owns and maintains all existing watermains inside the campus. It is important to note that there are no easements over any of the internal mains. If MDWASD requires easements along future mains, there will be restrictions on development within the easements. The internal water distribution system is fed via existing water mains located within the right-of-way of SW 8 th Street, SW 107 th Ave and SW 117 th Avenue (see Figure 9. 1b: Water

Distribution System Map).

The Engineering Center is serviced from a MDWASD owned water distribution system with points of connection on SW 107th Avenue and West Flagler Street (see Figure 9.2b: Water Distribution System Map).

Potable water service to the Biscayne Bay Campus is provided by the City of North Miami. Connections are made to the City owned off-site system located along NW 151st Street and NW 135th Street (see Figure 9.3b: Water Distribution System Map.)

SEWER: The Modesto A. Maidique Campus sanitary sewer system consists of gravity sewer lines, force mains, a series of privately owned sanitary sewer lift stations. Sewage flows from the campus are transmitted off-site to the MDWASD owned system via two connection points located within the right-of-way of SW 8th Street and SW 117th Avenue. (see Figure 9.1c: Sanitary Sewer Map.)

The Engineering Center sanitary sewer collection system is comprised of a series of gravity sewer lines which flow into a single privately owned lift station. The sanitary sewer flow generated by the Engineering Campus is transmitted off-site into the MDWASD owned system via a connection point located on West Flagler Street. (see Figure 9.2c: Sanitary Sewer System.).

The Biscayne Bay Campus sanitary sewer system consists of a combination of gravity sewer lines, a force main and a master pump station with connections to multiple on-site secondary pump stations. The sanitary sewer system for the Biscayne Bay Campus is transmitted to the City of North Miami's collection system and ultimately to the MDWASD system for treatment and disposal of the of the wastewater flows. (see Figure 9.3c: Sanitary Sewer Map).

SOLID WASTE: Solid waste collection and disposal is accomplished at Modesto A. Maidique Campus, Engineering Campus and Biscayne Bay Campus by utilizing a combination of University staff, private contractors and public entities. Upon collection, the solid waste material is either recycled or sent to the landfill for disposal.

GOAL 1: **Florida International University shall ensure that adequate solid waste disposal services are available and that these services are provided in an environmentally sound and economically efficient manner.**

Objective 1.1 **Solid Waste Collection and Disposal:**

Florida International University shall ensure that adequate solid waste collection and disposal capacity is available within the

University in order to meet the current and future demands generated by the University.

Policy 1.1.1 Florida International Univer sity shall adopt the following levels of service standards:

Level of Service Standard:
0.60 pounds per full time equivalent (FTE) student per day.
Solid Waste Collection and Disposal Requirements:

Policy 1.1.2 Florida International Universi ty Purchasing Services Department shall ensure that the bid solic itation and contractor selection process for campus wide solid waste collection services shall be completed and reviewed on an annual or mutli-year basis.

Policy 1.1.3 Florida International Universi ty Purchasing Services Department shall ensure that the bid solic itation and contractor selection process for campus wide compacting and recycli ng services shall be completed and reviewed on annual or multi-year basis.

Policy 1.1.4 Florida International Univer sity Environmental Health and Safety Department shall ensure that any hazardous, bio-hazardous and radioactive waste, generated by the University shall be collected and disposed of by firms licensed and regulated in accordance with Chapter 17-730 Florida Administrative Code.

Policy 1.1.5 Florida International Univer sity Environmental Health and Safety Department shall solicit bids for t he disposal of hazardous wastes by utilizing a single licensed contractor on an annual or multi year basis.

Policy 1.1.6 On-campus waste disposal systems shall be located and constructed to avoid impairment to them or contamination fr om them during flooding.

Policy 1.6.7 The University shall est ablish timing and phasing requirements for solid waste collection and disposal facility improvements to meet future university needs.

Policy 1.6.7 All new developments shall in clude the provision of a solid waste disposal system capable of handling the solid waste generated by its proposed use. No new development ma y share solid waste disposal facilities with another stru cture unless it is shown that the existing solid waste disposal facility has sufficient capacity to serve both uses.

Policy 1.1.7 All on-campus dumpste rs shall be housed within an enclosed structure with 6-ft high concrete walls and upon a 10 ft deep by 15 ft

wide concrete pad. A chain link fence gate shall be provided for access.

Objective 1.2 **Solid Waste Recycling:**
Florida International University shall increase the amount of solid waste recycled above the estimated 5% of total material generated (see 13.0 Conservation Element).

Policy 1.2.1 Florida International University will determine the University's eligibility for participation in the State of Florida Department of Environmental Protection, Solid Waste Management Trust Fund Program.

Policy 1.2.2 Recycling containers shall be located at numerous convenient locations across the Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus.

Policy 1.2.3 FIU shall promote recycling through periodic educational emphases for the student body, faculty, and staff.

Policy 1.2.4 FIU shall implement a mandatory recycling program targeted towards faculty and staff.

Policy 1.2.5 FIU shall evaluate the techniques and benefits of composting of vegetation and landscape refuse for future implementation at the University.

GOAL 2: **Florida International University shall provide a stormwater management system, which protects real property and ensures maintenance of ground water quality.**

Objective 2.1 **Adequacy of Campus Drainage:**
Florida International University shall coordinate future development in accordance with a master campus drainage plan in order to meet drainage systems requirements in an efficient manner and protect University property.

Policy 2.1.1 Engineering surveys shall be provided to obtain detailed data for implementation of accurate records, and to identify condition of facilities.

Policy 2.1.2 Maintain, update, and keep current, accurate as-builts of stormwater facilities

Policy 2.1.3 FIU shall maintain, update and keep current records of any existing swales, dry retention areas, lakes, wetlands, preservation areas, and any other areas within the campus properties that provide stormwater

storage and retention capacit ies, as well as any areas contributing to those retention areas. FIU shall reserve these stormwater storage and retention areas as prohibited fr om future development unless the area developed is reconstructed elsewhere on site.

Policy 2.1.3 FIU shall design and construct or improve stormwater management facilities as identified in Figur es 9.1 a, 9. 2a and 9. 3a. To ensure appropriate flood control, t he timing and phasing of these improvements should be ahead of the associated developments.

Policy 2.1.4 Any development proposi ng connection to an existing drainage system shall evaluate the impacts of the proposed development on the affected stormwater management system as part of the project's design phase. Otherwise, suffi cient stormwater management improvements must be provided to handle all of the runoff from the new developments on a stand-alone basis.

Policy 2.1.5 All water bodies shall be interconnected whenever possible to maximize the capacity of sub-basins.

Objective 2.2 Flood Protections / Water Quantity:
Florida International University shall ensure that all planned and future developments provide sufficient stormwater management capacity to protect buildings from being flooded during a storm event of at least 100-year capacity.

Policy 2.2.1 The following design crit eria shall be used in the design and construction of facilities at Florida International University:

Modesto	A. Maidique Campus	Biscyane Bay	Engineering Center
Min Building Finished Floor Elevation	9.0 ft NGVD	9.0 ft NGVD (10.0 ft NGVD for buildings along the Southern edge of the campus)	9.0 ft NGVD
Min. Sidewalk Elevation	8.0 ft NGVD	6.0 ft NGVD	8.0 ft NGVD
Min. Crown of Roadway Elevations	7.5 ft NGVD	5.5 ft NGVD	7.5 ft NGVD
Min. Parking Lot Elevations	7.0 ft NGVD	5.0 ft NGVD	7.0 ft NGVD

The minimum elevations shown above are minimum Miami-Dade County DERM requirements bas ed on Miami-Dade County Flood Criteria and the FEMA Flood Insuranc e Rate Maps for the University areas.

Policy 2.2.2 New construction and substant ial improvements in areas subject to special flood hazards shall be cons tructed by methods and practices that minimize flood damage.

-Residential construction:
Residential buildings shall have t he lowest floor elevated no lower than 1 foot above the bas e flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movement of flood waters shall be provided. Structures will be anchored to prevent flotation, collapse, or lateral movement of the structure.

-Non-residential construction:
Non-residential buildings shall have the lowest floor elevated no lower than 1 foot above the base flood elevat ion. Buildings located in a Velocity Zone, will be constructed to adhere to the requirements for this zone. Walls and roof struct ures will be sufficiently anchored to prevent loss from high winds. FI U will work with the Miami-Dade County Department of Envir onmental Resources Management (DERM) to determine the proper criter ia for construction within this zone.

-Elevated buildings:
Elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of flood waters to automatically equalize hydrostatic flood forces on exterior walls. Structures will be anchored to prevent flotation, collapse, or lateral movement of the structure.

Policy 2.2.3 All paved surfaces and landscaped islands shall utilize curbing or curb and gutter when necessary for stormwater runoff control.

Policy 2.2.4 Drainage systems for all new development shall be designed in accordance with the campus mast er development plan, the Miami-Dade County Public Works Department Public Works Manual Section D4 Water Control and Miami- Dade County Department of Environmental Resource Management guidelines. The South Florida Water Management District Permit Information Manual Volume IV guidelines shall also be impl emented as part of any proposed

development at the Biscayne Bay Campus. In addition, stormwater management facilities at Modesto A. Maidique Campus and the Engineering Center shall also be designed in conformance with Florida Department of Transportation drainage requirements.

Policy 2.2.5 Florida International University shall adopt the following water quantity level of service standards for Modesto A. Maidique Campus, the Engineering Center, and Biscayne Bay Campus, and shall use these standards as the basis for drainage system design.

Road Crown/Ground Surface LOS:
The minimum acceptable flood protection/drainage level of service (LOS) standards for Modesto A. Maidique Campus roadways, parking areas, and ground surfaces shall be protection from the degree of flooding that would result from a storm duration of one day that statistically occurs once in five years. A current elevation required per the Miami-Dade County Flood Criteria Map, as amended is:

-7.0 ft. NGVD for Modesto A. Maidique Campus and the Engineering Center
-5.0 ft. NGVD for Biscayne Bay Campus

Minimum Floor Elevations LOS:
The minimum acceptable flood protection/drainage level of service (LOS) standards for minimum floor elevation shall be the elevations as specified in the Federal Flood Insurance Rate Maps for Dade County or the protection from the degree of flooding that would result from a storm duration of three days that statistically occurs once in one hundred years or elevation of:

-9.0 ft NGVD, whichever is greater, for Modesto A. Maidique Campus and the Engineering Center.
-9.0 ft. NGVD, whichever is greater, for Biscayne Bay Campus

Policy 2.2.6 The minimum acceptable Flood Protection Level of Service standards for University facilities shall be protected from the degree of flooding that would result for a duration of one day from a ten-year storm.

Policy 2.2.7 To ensure that the LOS standards are continuously met, all new developments must prepare and pre-post analysis of the entire site to evaluate the 100-year flood stages.

Policy 2.2.8 All new construction shall adhere to the Disaster Resistant University - FEMA Hazard Mitigation standards

Objective 2.3 Water Quality:

Florida International University shall ensure that all existing and proposed developments have drainage systems that provide water quality enhancement to stormwater runoff.

Policy 2.3.1 Best Management Practices s hall be incorporated into the drainage system design to minimize the im pacts from development to the ground and surface water quality. T hese practices shall include, but not be limited to:

1. Incorporating stormwater management retention and detention features into the design of parks, trails, commons and open spaces, where such features do not detract from the recreational or aesthetic value of a site.

2. Use of slow release fertilizer s and/or carefully managed fertilizer applications timed to ensure maximum root uptake and minimal surface water runoff or leaching to groundwater.

3. Educating maintenance personnel about the need to maintain motor vehicles to prevent the a ccumulation of oil, grease and other fluids on impervious su rfaces, where they might be conveyed to surface and ground wa ters by runoff, and the need to regularly collect and properly dispose of yard debris.

4. Avoid the widespread application of broad spectrum pesticides by involving only purposeful and mini mal application of pesticides, aimed at identified targeted species.

5. Coordinating pesticide applicati on with irrigation practices to reduce runoff and leaching to groundwater.

6. Use of turf blocks to minimize impervious surface area.

7. Incorporating features into the design of fertilizer and pesticide storage, mixing and loading ar eas that are designed to prevent/minimize spillage.

8. Use of downturned elbows in catch basins.

Policy 2.3.2 Florida International Universi ty shall adopt the following water quality level of service standard and shall use these standards as the basis for drainage system design:

The minimum acceptable water quality/drainage level of service (LOS) standards for FIU shall be the treatment of the first inch of stormwater runoff or 2.5 in ches times the percentage of

imperviousness, whichever is greater, in accordance with Miami-Dade County Department of Environm ental Resources Management and South Florida Water Management District criteria.

Policy 2.3.3 All stormwater runoff shall be contained within the pr oject site utilizing exfiltration trench, with overflow to an on-site water body when available and shall not adversely affect adjacent property.

Policy 2.3.4 Exfiltration trench systems with overflow in to a water body shall be designed to retain on site all the volume of runoff generated by the contributing drainage area.

Policy 2.3.5 Design of new facilities as well as retrofitting of existing drainage systems and areas having drainage def iciencies identified in the Master Drainage Study shall be under taken in accordance with the Capital Improvements Element and Master Drainage Study.

Policy 2.3.6 All drainage inlets receiving r unoff directly from paved surfaces shall have oil pollution baffles installed.

Policy 2.3.7 All proposed drainage system plans shall be reviewed and approved by FDOT, SFWMD, DERM or their des ignees prior to the initiation of any drainage system construction activity.

Policy 2.3.9 All future developments cons tructed after the implementation of Florida Department of Envir onmental Protection Statewide Stormwater Criteria shall be desi gned and constructed to comply with the stormwater treatment requirements outlined by the regulation.

Objective 2.4 Maintenance of Campus Drainage:
Florida International University shall properly maintain the stormwater management system and ensure that all deficiencies are corrected.

Policy 2.4.1 An inspection, cleaning, maintenance and repair program for all facilities shall be developed and implemented. The maintenance program shall be impl emented on a continuing, regularly scheduled basis with major repairs prio ritized and scheduled based on the availability of funding.

Objective 2.5 Maintenance of Campus Drainage:
Florida International University shall consider in all future planning, the protection of natural stormwater management and hdrologic areas, and the protection of the quality of these receiving waters.

Policy 2.5.1 Use environmentally friendly designs such as detention systems, ground storage (percolation), littoral treatment in wet detention ponds (including the use of wetland vegetation along the shoreline within the pond's littoral zone), metered-release devices, porous or vegetative liners, and minimize impervious surfaces etc. as appropriate and as called for by state design guidelines, to protect natural stormwater management and hydrological areas from erosion and contamination and to mitigate the impacts of campus generated stormwater.

Policy 2.5.2 It shall be the policy of FIU that no stormwater discharges shall cause or contribute to a violation of water quality standards in waters of the State. All discharge of stormwater shall be conducted in accordance with the water quality requirements of South Florida Water Management District (SFWMD) and Miami-Dade Department of Environmental Resources Management (DERM).

Policy 2.5.3 All new developments shall include sustainable elements required to meet USGBC standards and LEED Silver certification criteria.

GOAL 3: Florida International University shall ensure that potable water is available for existing and future campus development.

Objective 3.1 Adequacy of Potable Water Supply and Distribution:
Florida International University shall ensure that prior to development activities adequate potable water supply, treatment, distribution facilities and adequate fire flow protection are available at the adopted level of service standards in accordance with the capital improvements element.

Policy 3.1.1 Florida International University shall adopt the following potable water level of service standards:

10 gallons per capita per day*
*Level of service standard is consistent with local government comprehensive plan for schools.

Policy 3.1.2 The level of service water pressure standard shall be a minimum of 20 p.s.i. and no greater than 100 p.s.i. A minimum flow of 2,000 gallons per minute should be added to this level of service standard to comply with the required minimum fire flow levels for schools.

Policy 3.1.3 The minimum level of service water main size for primary and secondary distribution systems shall be 12 inches in diameter.

Policy 3.1.4 All potable water plans for Modesto A. Maidique Campus and Engineering Campus shall be reviewed and approved by the State of

Florida Department of Environment al Protection, Miami-Dade County Department of Envir onmental Resources Management, Miami-Dade County Water and Sewer Authorit y Department, Miami-Dade County Health Department, Miami-Dade C ounty Fire Department and the state fire Marshall. Plans for Bisca yne Bay will require the review and approval of the City of North Miami, as well as the Florida Department of Environmental Protection.

Policy 3.1.5 All potable water mains in primary distribution and secondary distribution systems shall be looped.

Policy 3.1.6 All existing dead-end pot able water primary and secondary distribution systems shall be elim inated by constructing links to complete a loop.

Policy 3.1.7 All primary and secondary potable water distribution systems shall incorporate fire system demands.

Policy 3.1.8 All fire protection serv ices to new developments shall be in accordance with the National Fire Protection Association (NFPA 24 Private Water Distribution System).

Policy 3.1.9 The priorities for potable water improvements shall be:

1) Elimination of dead-end water distribution systems
2) Expansion of potable water infrastructure.

Policy 3.1.10 New and replacement wa ter supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system and shall be according to WASD standard and specification.

Policy 3.1.11 FIU shall design and construc t or improve potable water facilities as identified in Figures 9. 1b, 9. 2b AND 9. 3b. The timing and phasing requirements for these improvement s are established in the 14.0 Capital Improvements element.

Policy 3.1.12 All looped water main systems shall be designed with sufficient valving to allow isolation of each building within the loop. Existing water main loops shall be retrofitted to allow for this condition.

Policy 3.1.13 Annually review future construction programs and priorities for deficiency remediation as part of the capital improvements procedures to ensure capacity and c apital improvements required to meet the University needs are provided when require, based on needs identified in other master plan elements.

Objective 3.2 **Water Conservation Program:**
Florida International University shall develop and implement a comprehensive water conservation program that is consistent with Florida's Water Conservation Act.

Policy 3.2.1 Promote an educational program which will discourage waste and conserve water.

Policy 3.2.2 Enforce requirements, and establish new requirements and procedures as needed, to assure that high efficiency plumbing fixtures are used in all new facilities and in conjunction with renovations to existing facilities.

Policy 3.2.3 The use of xeric landscaping techniques, including the maintenance and installation of selected vegetativ e species, low volume irrigation and compact hydrazone concepts, shall be required for all new buildings and ancillary facility construction.

Policy 3.2.4 A leak detection and repair program on building service lines shall be implemented and maintained.

Policy 3.2.5 University-wide development will comply with water use efficiency techniques for indoor water use in accordance with Sections 8-31, 32-84 and 8A-381 of the Code of Miami-Dade County.

Policy 3.2.6 Encourage the preparation of a goal oriented water conservation plan for FIU.

Objective 3.3 **Host Community and Service Provider Coordination:**
Florida International University shall coordinate closely with the host local government for each campus on present and projected future water demands for the University.

Policy 3.3.1 The University shall es tablish a procedure and assign responsibility for regularly scheduled coordinati on meetings with the appropriate officials relative to the University's water needs.

Policies 3.3.2 Periodically revise and/or update the existing water service agreements between the University Board of Trustees and Miami-Dade County.

GOAL 4: **Florida International University shall ensure that sanitary sewer is available for existing and future campus development.**

Objective 4.1Florida International University shall ensure prior to development

activities adequate sanitary sewer collection, transmission, and treatment facilities are available at adopted levels of service standards in accordance with the capital improvements element.

Policy 4.1.1 Florida International Univ ersity shall adopt the following sanitary sewer level of service standards:

2015
Modesto A. Maidique Campus and Engineering Center:
26 gallons per capita per day
Biscayne Bay Campus:
11 gallons per capita per day

Policy 4.1.2 The minimum level of service gravity sewer pipe size for sewer collection mains shall be eight inches in diameter.

Policy 4.1.3 UNIVERSITY WIDE:
All sanitary sewer plans for connecting off-site shall be reviewed by the Miami-Dade County Department of Environmental Resources Management and any proposed connection to the existing sewer in public right-of-way shall be reviewed by WASD. Final approval of any available point connection will only be forthcoming once the proposal successfully passes the rigorous re view process in place by the WASD.

Policy 4.1.4 The priorities for gravity sewer improvement shall be

1) Maintenance of existing sewer system
2) Expansion of sanitary sewer infrastructure.
3) Repair of damaged or broken pipes and other deficiencies in the sanitary sewer system.

Policy 4.1.5 FIU shall design and construct or improve sanitary sewer facilities as identified in Figures 9. 1c, 9. 2c and 9. 3c. The timing and phasing requirements for these improvement s are established in the 14.0 Capital Improvements Element.

Policies 4.1.6 Periodically revise and/or update the sewe r service agreements between the University Board of Trustees and Miami-Dade County.

Policy 4.1.7 Engineering as-built surveys s hall be provided to the University at the completion of every project to obt ain detailed data for implementation of accurate records, and to identify condition of facilities.

Policy 4.1.8 Maintain, update, and keep curr ent, accurate as-builts of sanitary sewer facilities including lift stat ion capacity and manhole/pipe invert

elevations.

Objective 4.2 Florida International University shall implement the recommendations of the infiltration and inflow study performed for the gravity sewer system for each campus.

Policy 4.2.1 A program and schedule shall be developed to replace lines that are sub-standard, overloaded or have maintenance/operation problems.

Policy 4.2.2 Pipes with excess ground water inflow/infiltration shall be repaired, replaced or lined.

Policy 4.2.3 Monitoring of the waste water system shall be consistent with existing EPA, FDEP, Miami-Dade County DERM, National, State and local regulatory criteria.

Policy 4.2.4 New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharges from the systems into flood waters

Objective 4.3 Florida International University shall provide an efficient and adequate pump station and force main system to convey sewage to off-site mains.

Policy 4.3.1 No new developments shall be permitted to connect onto the existing on-site pump stations and forcemains unless it can first be shown that sufficient capacity exists within the pump station and associated force-main to convey the wastewater generated by the project's proposed use.

Policy 4.3.2 Existing pump stations shall be designed to accommodate the following minimum additional flow:

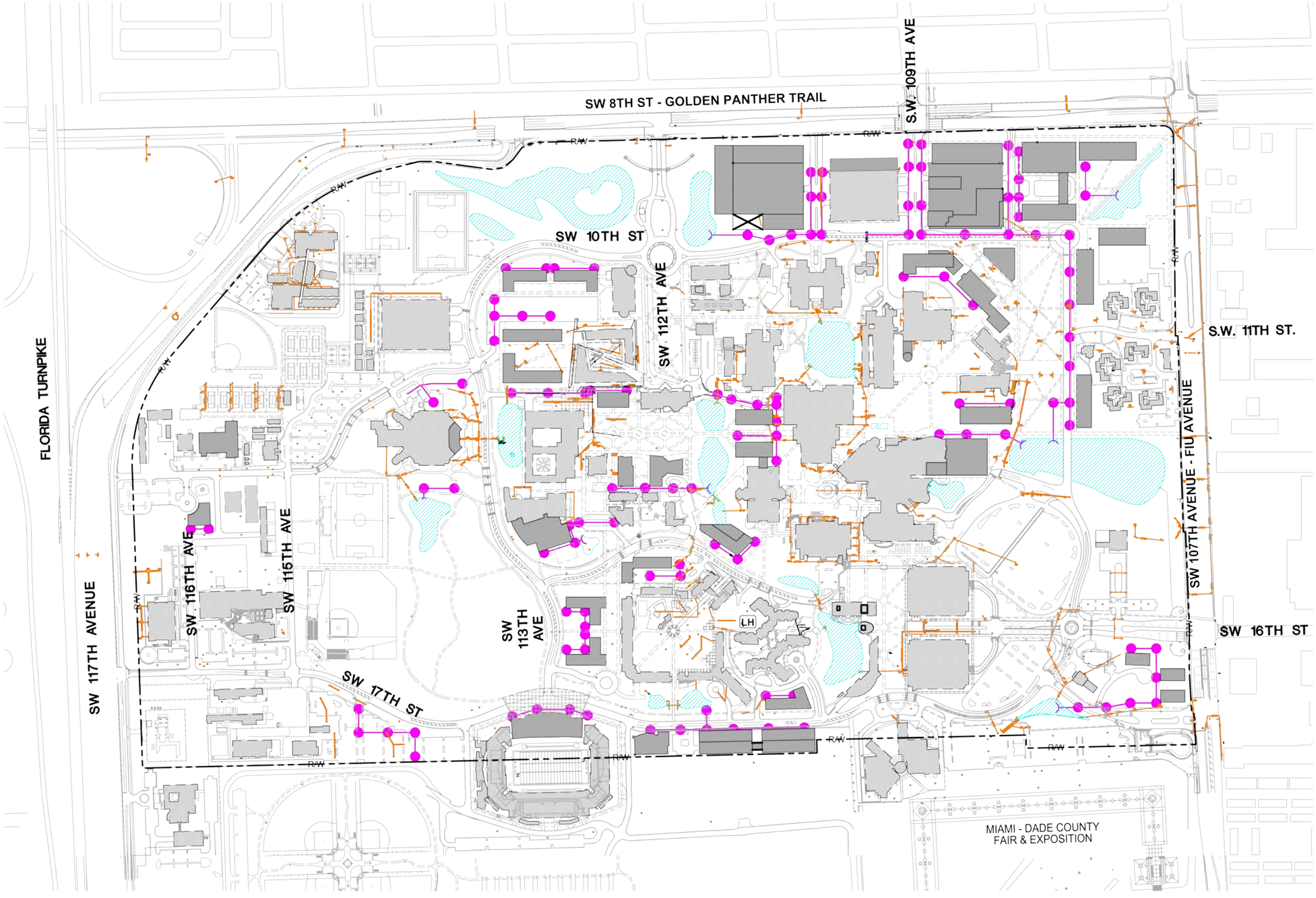
Biscayne Bay Campus - 116,850 GPD

University Park:	
PSO-428B:	244, 250 GPD
PSO-428C:	285, 350 GPD
PSO-428D:	296, 408 GPD
PSO-428E:	12,000 GPD
PSO-428F:	20,000 GPD
Engineering Center:	
99-00621:	5,832

Policy 4.3.3 In addition to upgrades to existing pump stations, the proposed 2015

build out shall include construction of new pump stations to collect the following minimum sanitary sewer flow generated by the proposed developments.

University	Park:
Private	PS1: 50,600 GPD
Private	PS2: 1,472,170 GPD



LEGEND

- Proposed Building
- Existing Building
- Existing Storm Line (ST)
- Existing Catch Basin
- Existing Trench Drain
- Proposed Exfiltration Trench
- Proposed Manhole / Inlet
- Proposed Outfall
- Surface Water

KEY MAP

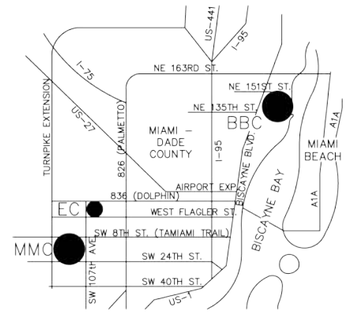


FIGURE 9.1a
Drainage System Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS + WILL

Kimley-Horn and Associates, Inc.

SW 8TH ST - GOLDEN PANTHER TRAIL

S.W. 109TH AVE

SW 10TH ST

SW 112TH AVE

S.W. 11TH ST.

FLORIDA TURNPIKE

SW 117TH AVENUE

SW 116TH AVE

SW 115TH AVE

SW 113TH AVE

SW 17TH ST

SW 107TH AVENUE - FIU AVENUE

SW 16TH ST

MIAMI - DADE COUNTY FAIR & EXPOSITION

R/W

LEGEND

- Proposed Building
- Existing Building
- Proposed Fire Hydrant
- Proposed Water Main
- Existing Fire Hydrant
- Existing Water Main
- Surface Water

KEY MAP

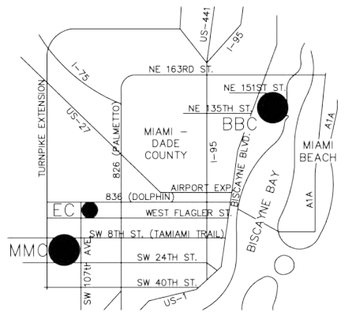


FIGURE 9.1b
Water Distribution Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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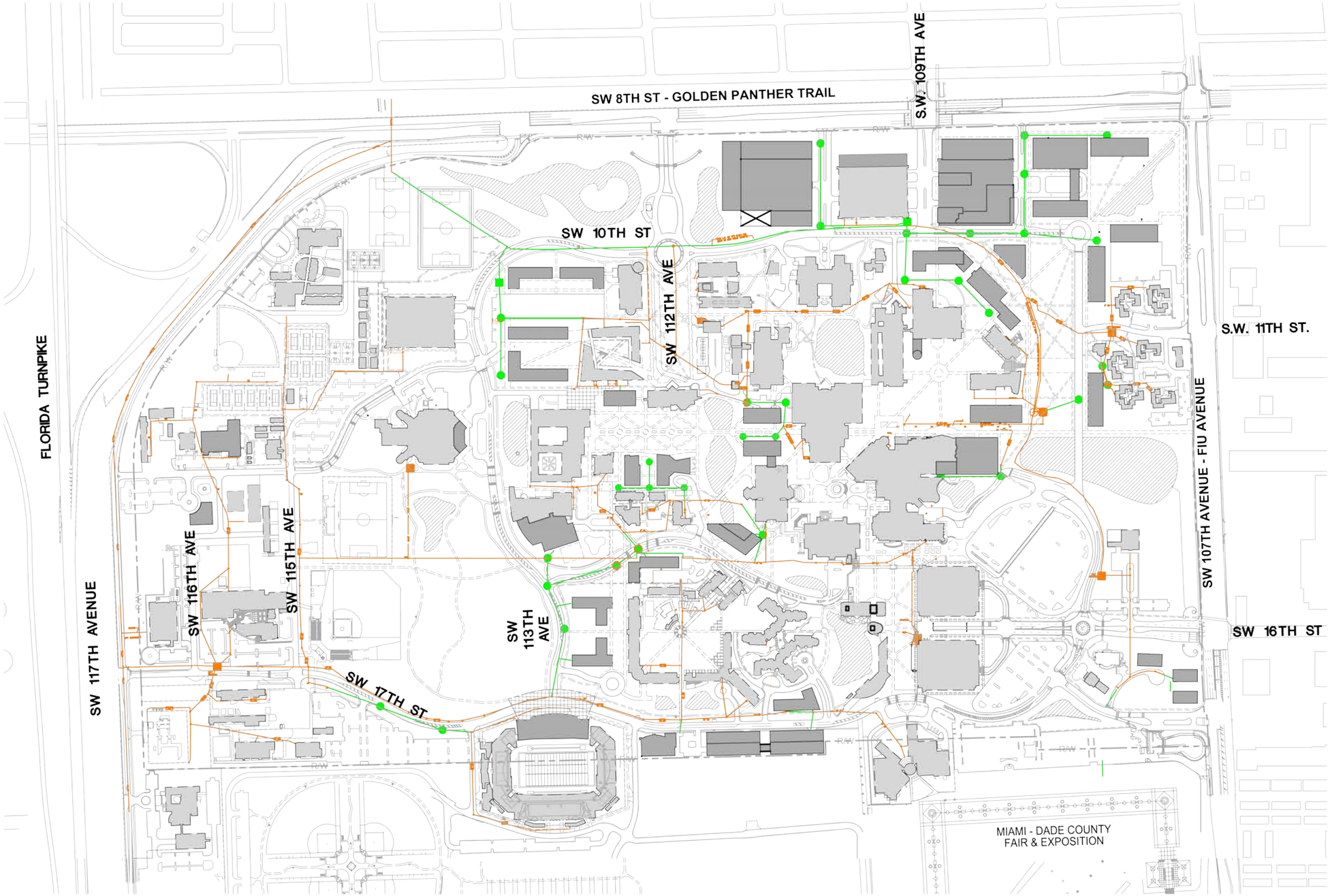

LEGEND

- Proposed Building
- Existing Building
- Proposed Sanitary Manhole
- Proposed Sanitary Lift Station
- Proposed Sanitary Sewer Main
- Existing Sanitary Manhole
- Existing Sanitary Sewer Main
- Existing Sanitary Lift Station
- Surface Water

KEY MAP

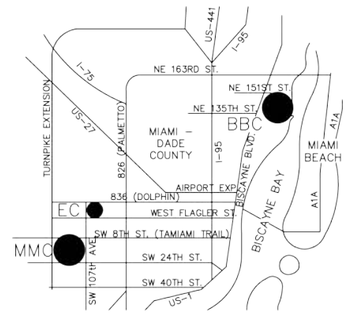

FIGURE 9.1c
Sanitary Sewer Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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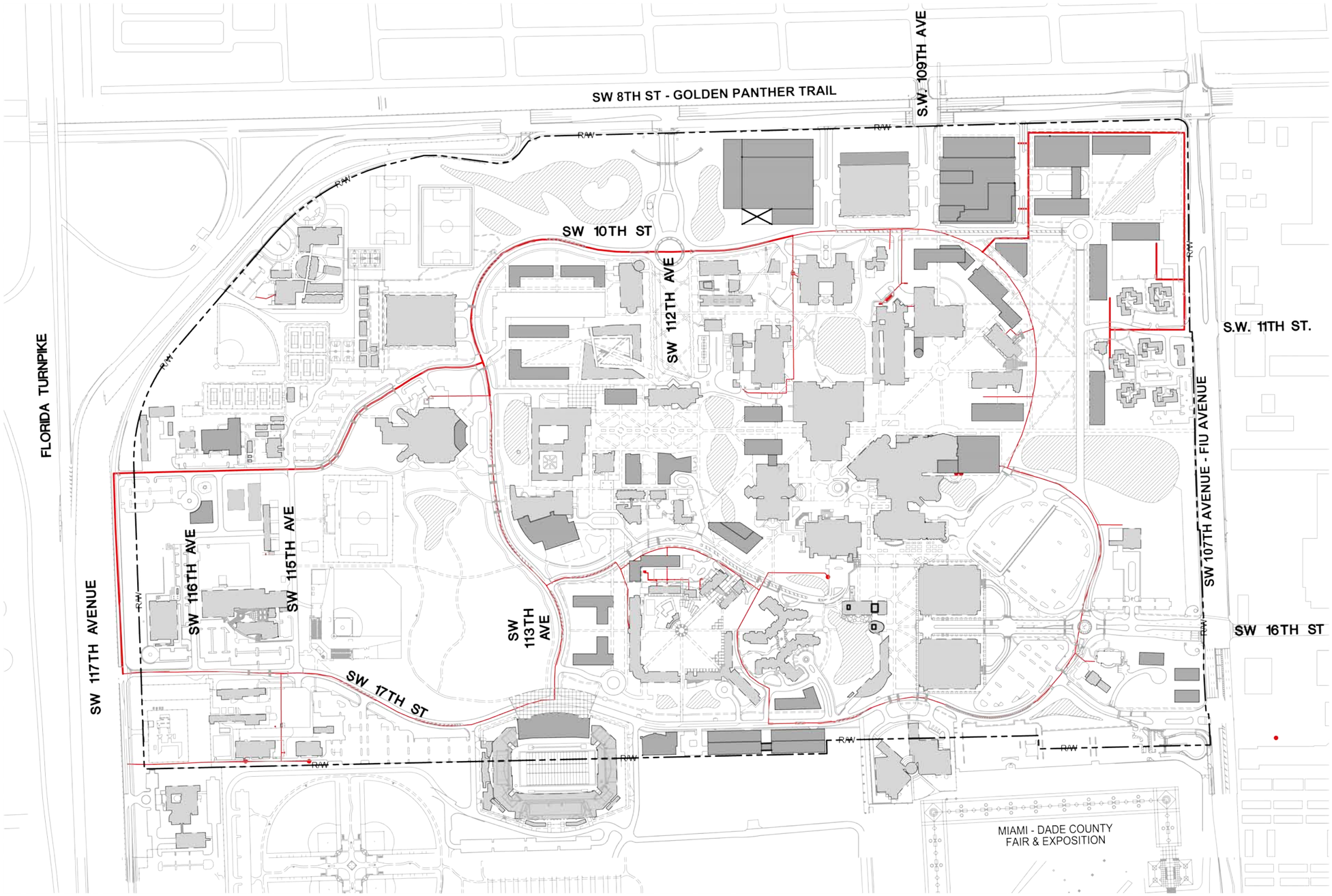

LEGEND

- Proposed Building
- Existing Building
- Proposed Natural Gas Main
- Existing Natural Gas Main
- Surface Water

KEY MAP

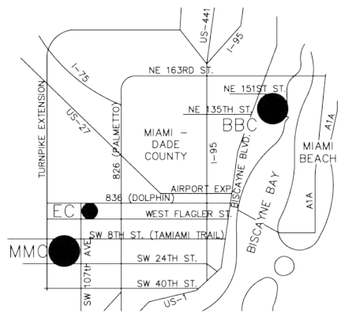

FIGURE 9.1d
Natural Gas Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Existing Storm Line (ST)
- Existing Catch Basin
- Existing Trench Drain
- Proposed Storm Line
- Proposed Manhole / Inlet

KEY MAP

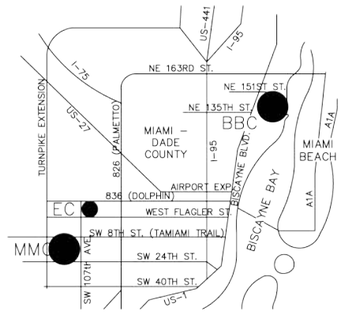

FIGURE 9.2a
Drainage Map

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Proposed Fire Hydrant
- Proposed Water Main
- Existing Fire Hydrant
- Existing Water Main

KEY MAP

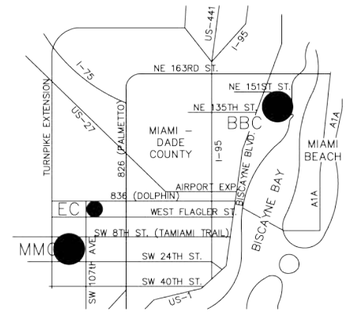

FIGURE 9.2b
Water Distribution Map

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Proposed Sanitary Sewer Manhole
- Proposed Sanitary Sewer Main
- Existing Sanitary Sewer Manhole
- Existing Sanitary Sewer Main
- Existing Sanitary Sewer Lift Station

KEY MAP

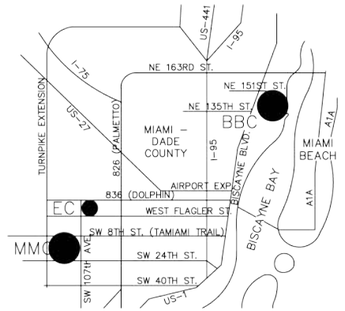

FIGURE 9.2c
Sanitary Sewer Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Existing Storm Line (ST)
- Existing Catch Basin
- Existing Trench Drain
- Proposed Storm Line
- Proposed Manhole / Inlet
- Surface Water

KEY MAP

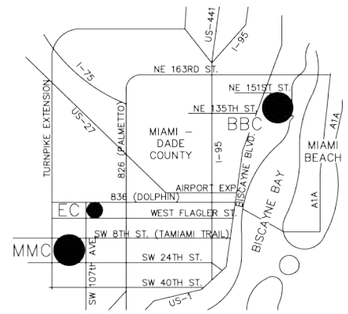

FIGURE 9.3a
Drainage System Map

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan–June 2010

0 250 500 1000

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Proposed Fire Hydrant
- Proposed Water Main
- Existing Fire Hydrant
- Existing Water Main
- Existing Chilled Water Main
- Surface Water

KEY MAP

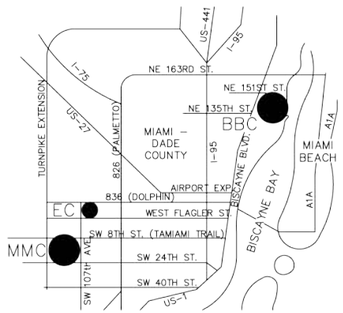

FIGURE 9.3b
Water Distribution Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan–June 2010

0 250 500 1000

PERKINS + WILL

Kimley-Horn and Associates, Inc.

LEGEND

- Proposed Building
- Existing Building
- Proposed Sanitary Sewer Manhole
- Proposed Sanitary Sewer Main
- Existing Sanitary Sewer Manhole
- Existing Sanitary Sewer Main
- Existing Sanitary Sewer Lift Station
- Surface Water

KEY MAP

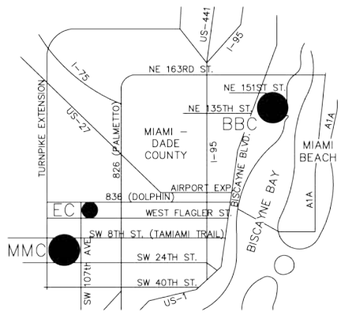

FIGURE 9.3c
Sanitary Sewer Map

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan–June 2010

0 250 500 1000

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10.0 UTILITIES ELEMENT

The purpose of this element is to ensure coordinated provision of utility services required to meet the future needs of the University, consistent with current efforts to address sustainability on campus such as the development of a Climate Action Plan (a responsibility as a signatory of the American College and University Presidents Climate Commitment) and the university-driven direction that all new facilities meet United States Green Building Council (USGBC) standards and be LEED certified. This includes the following:

a) Provision of a chilled water supply
b) Provision of electric power supply and other fuels

CHILLED WATER: The requirements imposed by Florida International University Expansion of Facilities on the chilled water generation and distribution are three-fold. First is the upgrade of the Plant's ability to pump the chilled water to all the growth areas, coupled with the energy efficiency optimization of the generating and pumping equipment. Third is the increment in capacity of the plant to satisfy the higher chilled water demands imposed by new buildings.

ELECTRICAL POWER: Electrical energy is furnished to Florida International University by Florida Power and Light (FP&L). They master plan their facilities to satisfy all campus expansion. Close coordination must be maintained with them so the needs of new buildings are provided for. Additionally, FP&L offers various incentive programs that may be used by the University to improve the energy consumption of their lighting and chiller systems.

TELECOMMUNICATIONS: The existing telecommunications grid has been heavily used in some areas of Modesto A. Maidique Campus. The planning priorities are to expand the grid to serve new buildings and to reinforce the existing grid by adding new ductbanks. Another area of development is the creation of a second feed at Modesto A. Maidique Campus so the grid has the reliability of two sources of off-Campus communication.

For all updated information pertaining to utilities and infrastructure, a copy of the *Utility Infrastructure Survey Update* is on file in the offices of FIU Facilities Planning and Construction.

STORMWATER: FIU addresses stormwater management issues in the design and review process for each building project. Each project shall meet the County's criteria and will be submitted to the County for review.

10.0 UTILITIES ELEMENT

Chilled Water Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 1: **Upgrade the chilled water generation and distribution system to serve efficiently Modesto A. Maidique Campus's present and future needs.**

Objective 1.1 **Piping Loop Expansion:**
Extend the existing chilled water piping loop to maintain the current level of service standard for existing facilities and to serve the new areas of projected growth. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capitol Improvement Element.

Policy 1.1.1 Establish chilled water flow required at each expansion segment so piping sizes may be established. Cumulative flow requirements will be instrumental in determining the parameters for the Chiller Plant capacity upgrade and pumping ability. These issues are discussed under a separate objective.

Policy 1.1.2 Update the University Building Standards to establish clearly piping loop materials and methods of installation. Similarly establish parameters for the piping, controls, and pumping arrangements for the connection of new buildings to the piping loop.

Policy 1.1.3 Engineering Center:
Increase chilled water capacity to coincide with expansion of academic facilities (see Figure 10.4).

Objective 1.2 **Chiller Plant Upgrade:**
Increase chiller capacity of existing plant to serve new building demands. Upgrade and modify pumping system to operate with the existing and expanded piping loop. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 1.2.1 Cooling towers are a significant source of water consumption. Consideration shall be given to installation of water meters for make-up water supply and cooling tower blown down to monitor consumption and avoid sewer fees associated with the water that is

evaporated from the cooling tower.

GOAL 2: **In the process of upgrading the chilled water generation and distribution system, optimize the entire operation to reduce energy costs by increasing operational efficiency.**

Objective 2.1Convert Direct Expansion Systems to Chilled Water:
Convert existing direct expansion systems to chilled water operation. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 2.1.1 Create a satellite chiller plant and chilled water distribution loop to serve Modesto A. Maidique Campus support buildings if the planned growth in this sector of the Campus warrants it. The plant will be an expansion of the Chiller Plant serving the U.S. Century Bank Arena.

Policy 2.1.2 Extend the existing main chilled water loop to serve the existing housing units, Greek Housing, and new resident halls at the northeast corner of the Campus (see Figure 10.2).

BISCAYNE BAY CAMPUS

GOAL 3: **Upgrade the chilled water generation and distribution system to serve efficiently the present and future needs of Biscayne Bay Campus.**

Objective 3.1Piping Loop Expansion:
Extend the existing chilled water piping loop to maintain the current level of service to existing facilities and to serve the new areas of projected growth of the campus core. The timing and phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 3.1.1 Update the University Building Standards to establish clearly piping loop materials and methods of installation. Similarly establish parameters for the piping, controls, and pumping arrangements for the connection of new buildings to the piping loop. Specific recommendations for underground piping apply to Biscayne Bay Campus due to the aggressive nature of the subsoil materials.

Objective 3.2Chiller Plant Upgrade:
Increase chiller capacity of existing plant to serve new building requirements. Upgrade and modify pumping system to operate with the existing and expanded piping loop. The timing and

phasing requirements and priorities for the improvements identified in the following policies are established in the 14.0 Capital Improvements Element.

Policy 3.2.1 Additional chiller capacity must be added to the system for any expansion beyond the three year capital improvement plan. This may be accomplished either by the substitution of the oldest existing unit, by addition of additional units. All alternatives require an upgrade of the condenser water (cooling towers and pumps) system.

Electrical Power and Other Fuels (Energy) Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 4: Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.

Objective 4.1Grid Expansions:
Extend the existing electrical power grid from the updated dual feed source installed by the Utility to maintain the current level of service standard to the existing as well as the new buildings

Policy 4.1.1 Extend electrical feeders to planned building expansion at Modesto A. Maidique Campus with increased service capacity in the area of proposed new housing expansion near the Stadium. (see Figure 10.2)

Policy 4.1.2 Increase primary service capacity at the northeast area of campus to serve future buildings of the Academic Health Science Center. Provide redundant infrastructure necessary for high power reliability required by 24/7 research and healthcare operations. (see Figure 10.2)

Policy 4.1.3 MODESTO A. MAIDIQUE CAMPUS / ENGINEERING CENTER
Maintain close coordination with the local utility, Florida Power & Light (FP&L), so they may tailor their facilities to the projected campus growth. FP&L is responsible for extending their facilities on campus to serve all new buildings. Therefore, Master Plan information must be accessible to FP&L and the University must act as coordinator to guarantee that FP&L planning is in step with Master Plan requirements.

Policy 4.1.4 Establish design guidelines to match FP&L requirements to FIU Building Standards so there is a coordinated design for service entrance to the electrical vaults or pad mounted transformers of new buildings.

GOAL 5: **Improve the efficiency of electrically powered equipment aimed at reducing operating costs.**

Objective 5.1Efficiency optimization:
Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

BISCAYNE BAY CAMPUS

GOAL 6: **Extend the utility power primary voltage network to efficiently serve the campus in its present and future configurations.**

Objective 6.1Grid Expansion:
Extend electrical power grid from the service at Bay Vista Boulevard, to maintain the current level of service to the existing as well as the new buildings.

Policy 6.1.1 Extend primary infrastructure in underground ductbanks aligned with new north/south campus axis. (see Figure 10.8)

Policy 6.1.2 Maintain a close coordination with the local utility, Florida Power & Light, so they may tailor their facilities to the projected campus growth.

Policy 6.1.3 Match design guidelines to match FP&L requirements to FIU Building Standards so there is a coordinated design for service entrance to the electrical vaults of new buildings. Provide specific instructions to address underground ductbanks and appurtenances in light of unique subsoil conditions and constraints.

GOAL 7: **Improve the efficiency of electrically powered equipment aimed at reducing operating costs.**

Objective 7.1Efficiency Optimization:
Install energy efficient equipment in planned buildings and retrofit existing facilities with energy efficient components.

Telecommunications Sub-Element

MODESTO A. MAIDIQUE CAMPUS

GOAL 8: **Maintain the level of service for telecommunications and**

upgrade it to include multiple communication modes for new and existing buildings.

Objective 8.1Network Expansion:

Establish new data center in northeast area of campus to serve projected growth of the Academic Health Science Center. See Figure 10.3.

Policy 8.1.1 Provide a new underground ductbank system in the northeast area of campus to service the new buildings in the Academic Health Science Center from a new data center. See Figure 10.3.

Policy 8.1.2 Provide an expansion of ductbanks in the central area of campus, centered along the east side of the new College of Law building and running primarily north and south. See Figure 10.3.

MODESTO A. MAIDIQUE CAMPUS / ENGINEERING CENTER

Policy 8.1.3 Design guidelines for duct bank construction, telephone room conditions, sizes and locations, etc. are established with current release date of August 2007. Provide annual updates to incorporate advancements in technology.

Policy 8.1.4 Coordinate with Bell South the requirements and projections of the master plan so they may tailor their equipment to serve the campus needs.

BISCAYNE BAY CAMPUS

GOAL 9: Maintain the level of service for telecommunications and upgrade it to include multiple communication modes for new and existing buildings.

Objective 9.1Network Expansion:

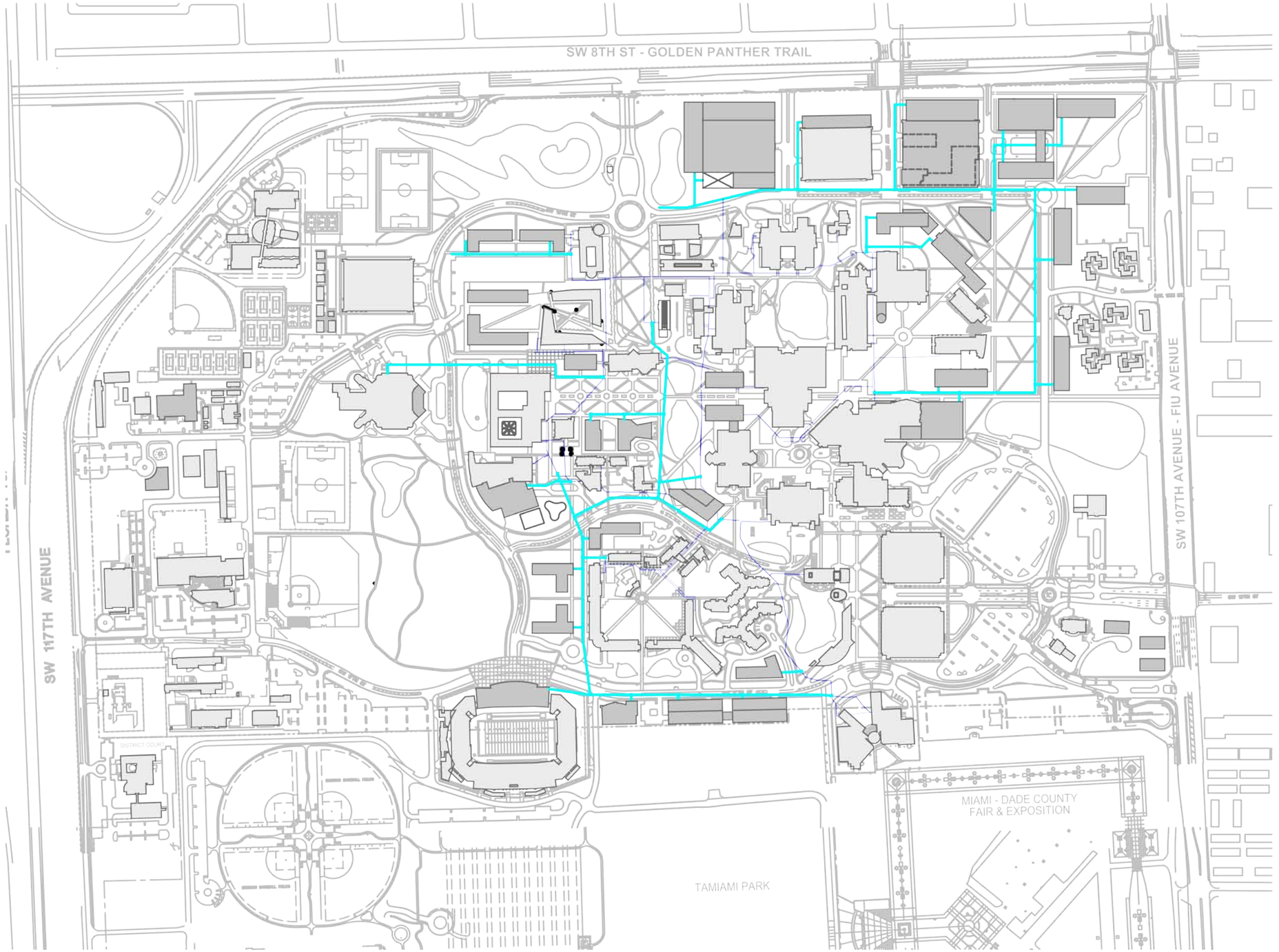
Extend the existing telecommunications infrastructure to service the proposed campus growth.

Policy 9.1.1 Establish a new telecommunications ductbank running generally north and south aligned with the new campus roadway to interconnect new and existing facilities. (see Figure 10.9)

Policy 9.1.2 Coordinate relocation of existing telecommunications lines with footprints of several proposed new buildings. (see Figure 10.9)

Policy 9.1.3 Design guidelines for duct bank construction, telephone room conditions, sizes and locations, etc. are established with current release date of August 2007. Provide annual updates to incorporate advancements in technology.

Policy 9.1.4 Coordinate with Southern Bell the requirements and projections of the master plan so they may tailor their equipment to serve Biscayne Bay Campus needs.



LEGEND

- Proposed Building
- Existing Building
- Existing Chilled Water
- New Chilled Water
- Proposed New Chiller Plant 3

New Chilled Water infrastructure is served from existing systems unless noted otherwise.

KEY MAP

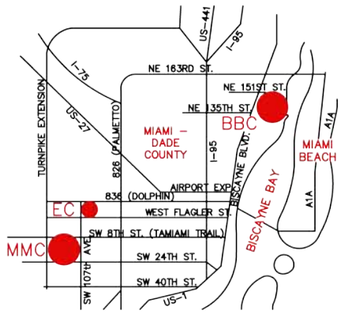


FIGURE: 10.1a
MODESTO A. MAIDIQUE CAMPUS
2015 CHILLED WATER INFRASTRUCTURE PLAN

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

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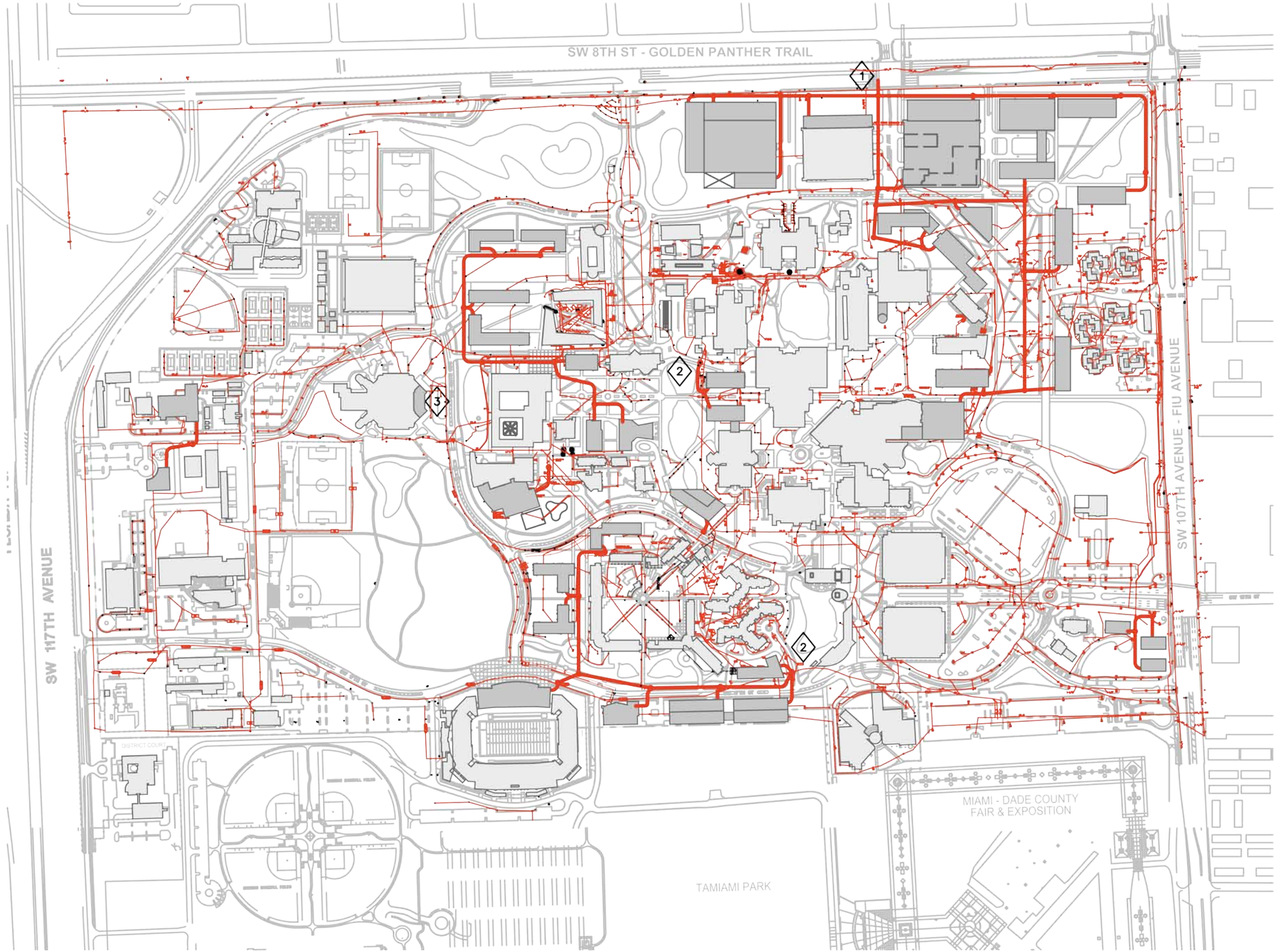

LEGEND

- Proposed Building
- Existing Building
- Existing Electrical Infrastructure
- New Electrical Infrastructure

New Electrical Infrastructure is served from existing systems unless noted otherwise.

SHEET KEYNOTES

1. Upgrade 8th Street FP&L service to accommodate Health Center growth.
2. Relocate existing infrastructure in area of proposed building(s).
3. Expand from existing service.

KEY MAP

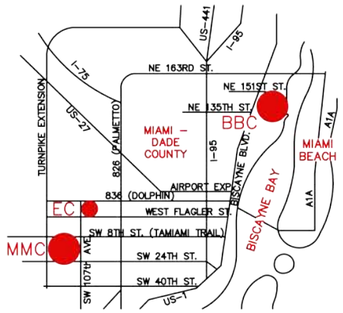

FIGURE: 10.1b
MODESTO A. MAIDIQUE CAMPUS
2015 ELECTRICAL INFRASTRUCTURE PLAN

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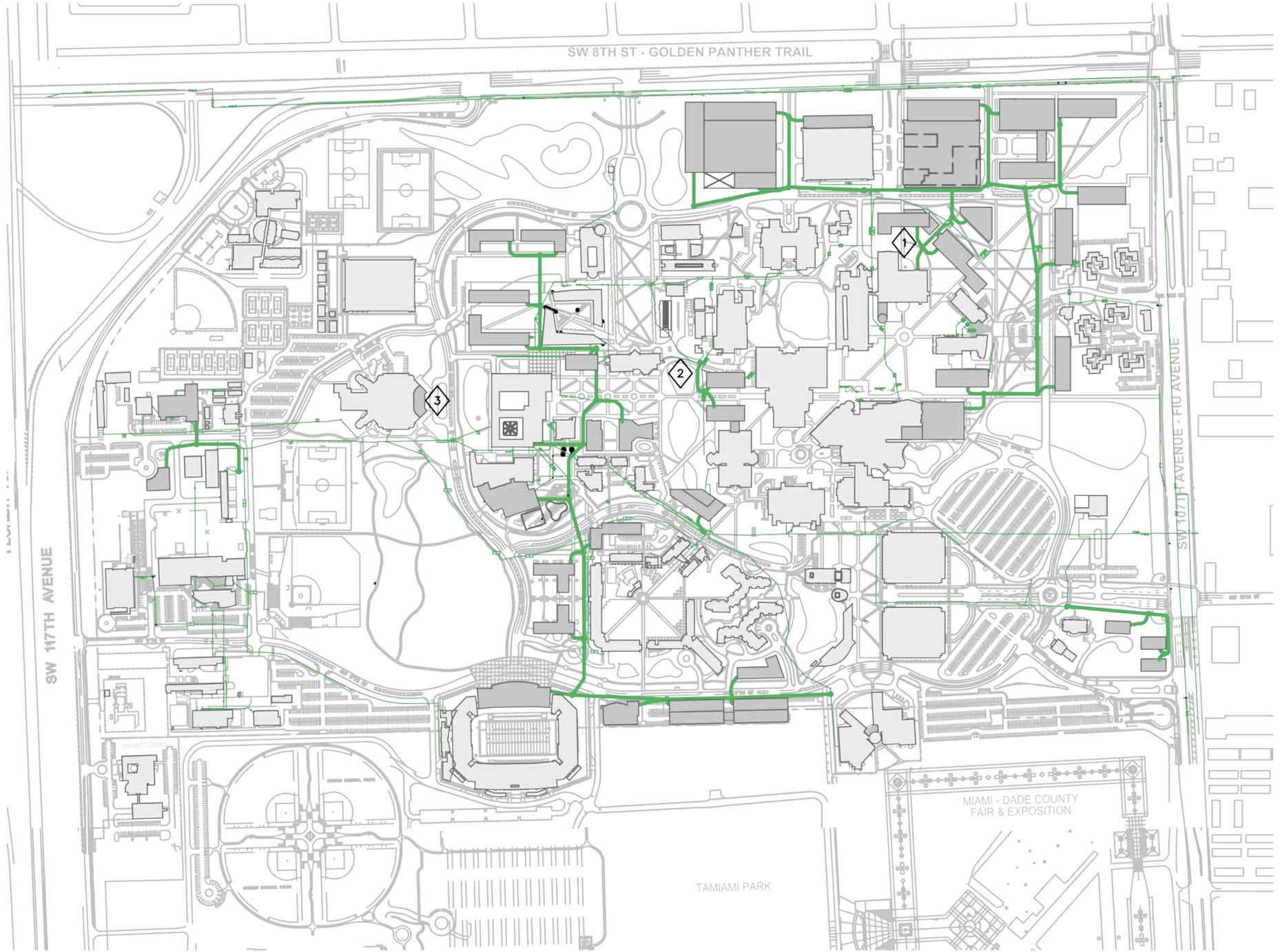
Campus Master Plan - June 2010

0 250 500 1000

AEI PERKINS + WILL



LEGEND

- Proposed Building
- Existing Building
- Existing Telecommunications Infrastructure
- New Telecommunications Infrastructure

New Telecommunications Infrastructure is served from existing systems unless noted otherwise.

SHEET KEYNOTES

1. Health Center growth served from Data Center in new Science Building.
2. Relocate existing infrastructure in area of proposed building(s).
3. Expand from existing service.

KEY MAP

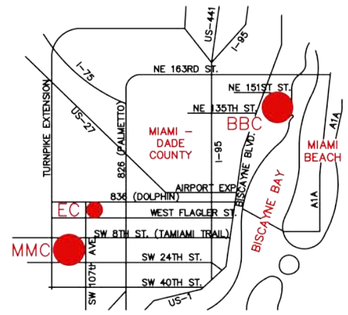


FIGURE: 10.1c
MODESTO A. MAIDIQUE CAMPUS 2015 TELECOMMUNICATIONS INFRASTRUCTURE PLAN

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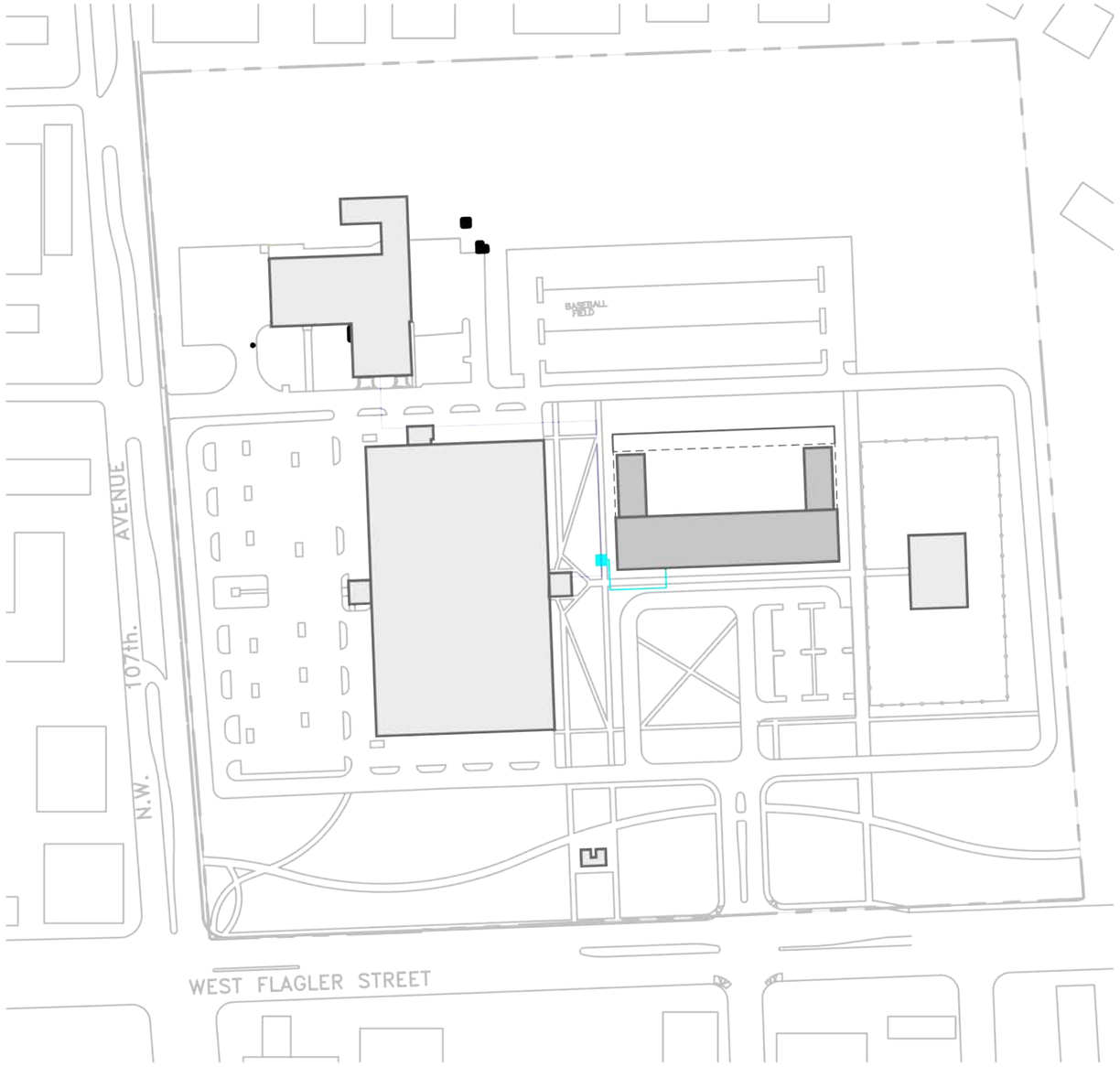

LEGEND

- Proposed Building
- Existing Building
- Existing Chilled Water
- New Chilled Water

New Chilled Water infrastructure is served from existing systems unless noted otherwise.

KEY MAP

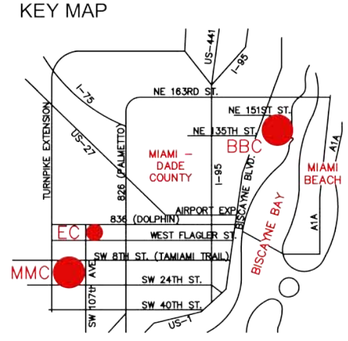

FIGURE: 10.2a
ENGINEERING CAMPUS
2015 CHILLED WATER
INFRASTRUCTURE PLAN

FLORIDA INTERNATIONAL UNIVERSITY

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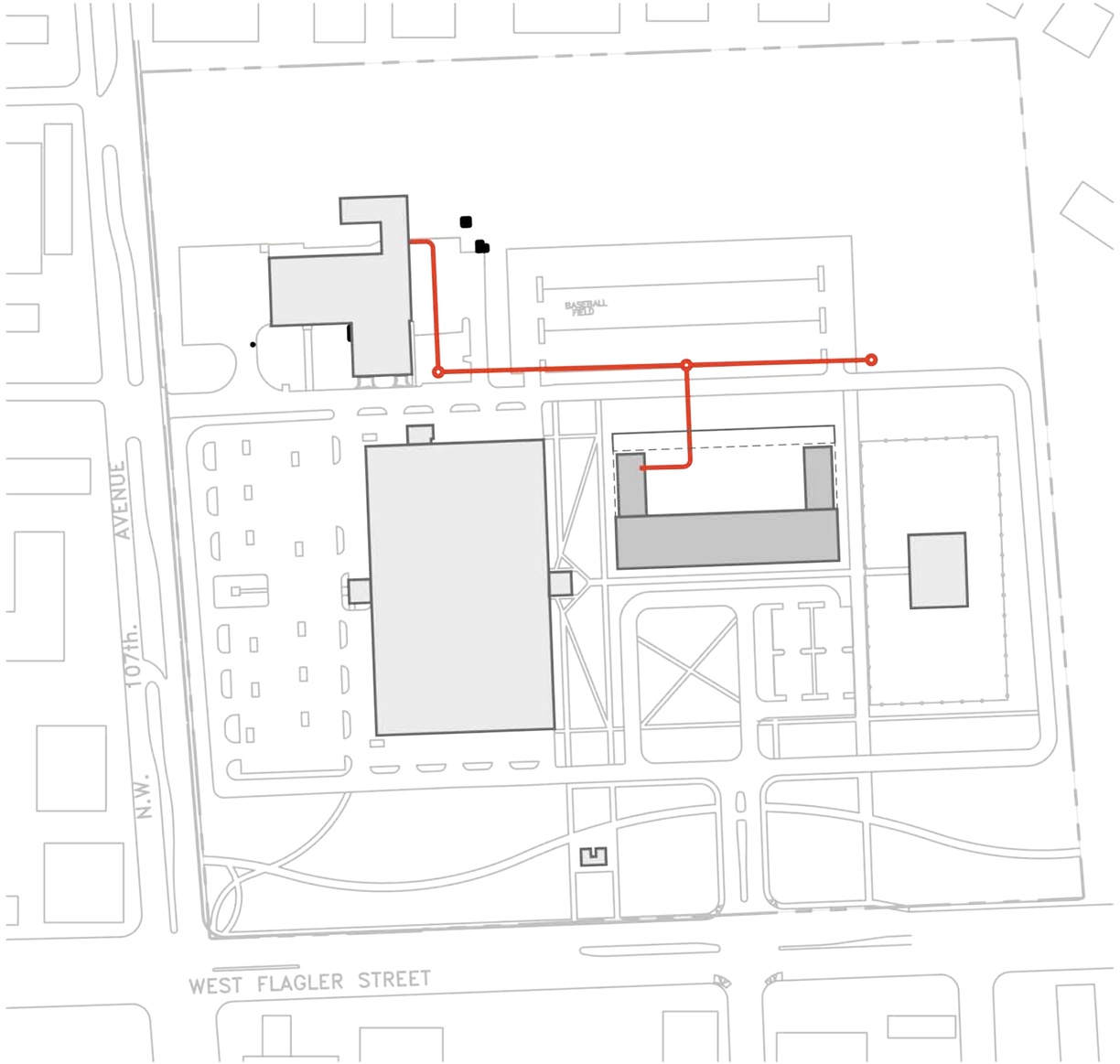
AEI PERKINS + WILL



LEGEND

- Proposed Building
- Existing Building
- New Electrical Infrastructure

New Electrical Infrastructure is served from existing systems unless noted otherwise.

KEY MAP

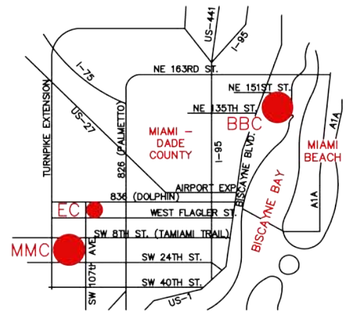


FIGURE: 10.2b
ENGINEERING CAMPUS
2015 ELECTRICAL
INFRASTRUCTURE PLAN

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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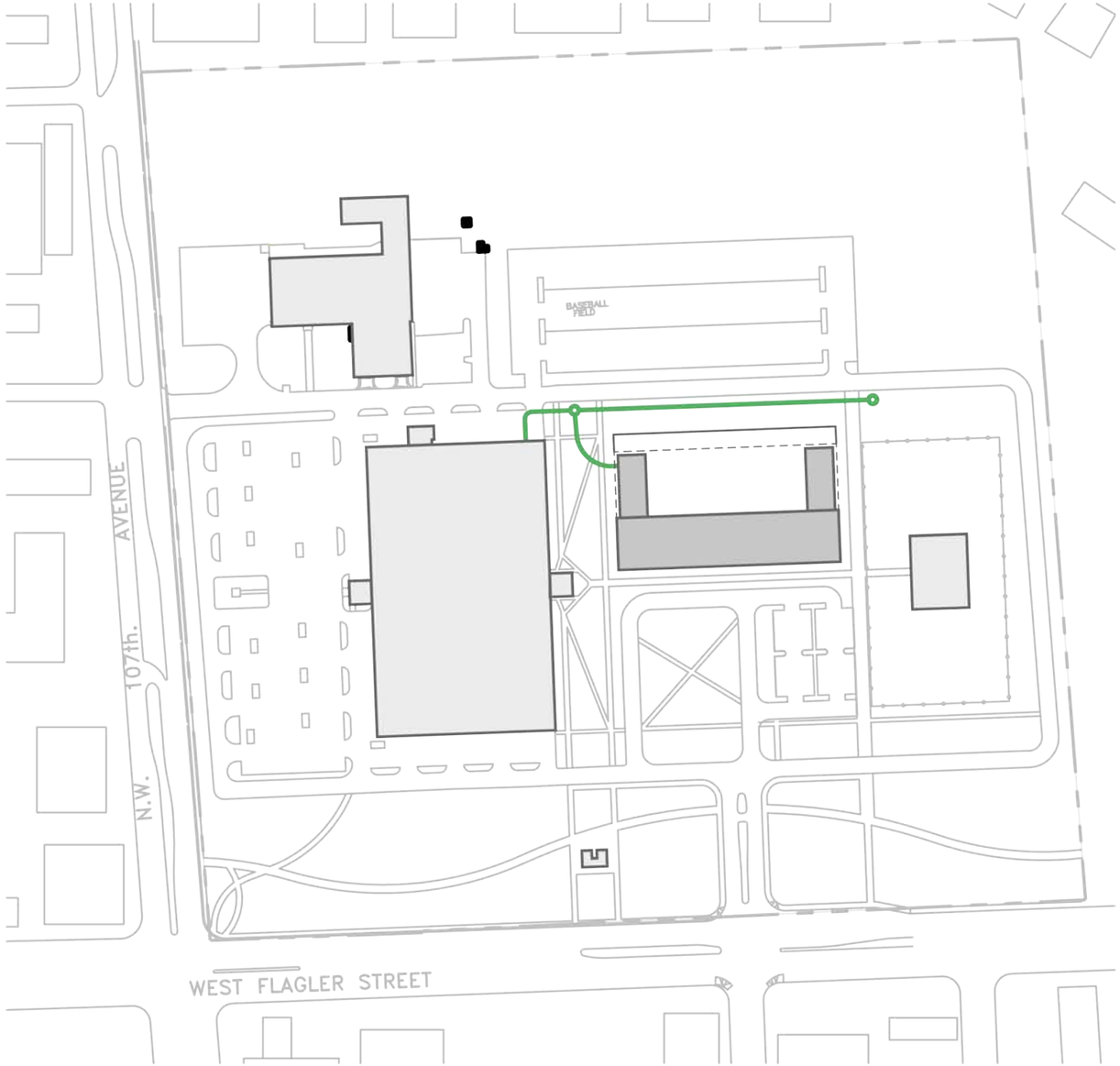
AEI PERKINS + WILL



LEGEND

- Proposed Building
- Existing Building
- New Telecommunications Infrastructure

New Telecommunications Infrastructure is served from existing systems unless noted otherwise.

KEY MAP

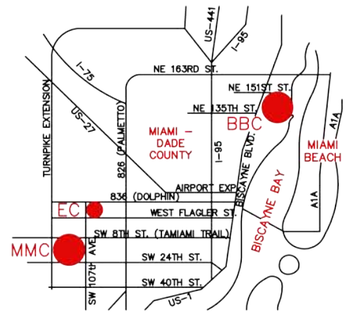


FIGURE: 10.2c
ENGINEERING CAMPUS
2015
TELECOMMUNICATIONS
INFRASTRUCTURE PLAN

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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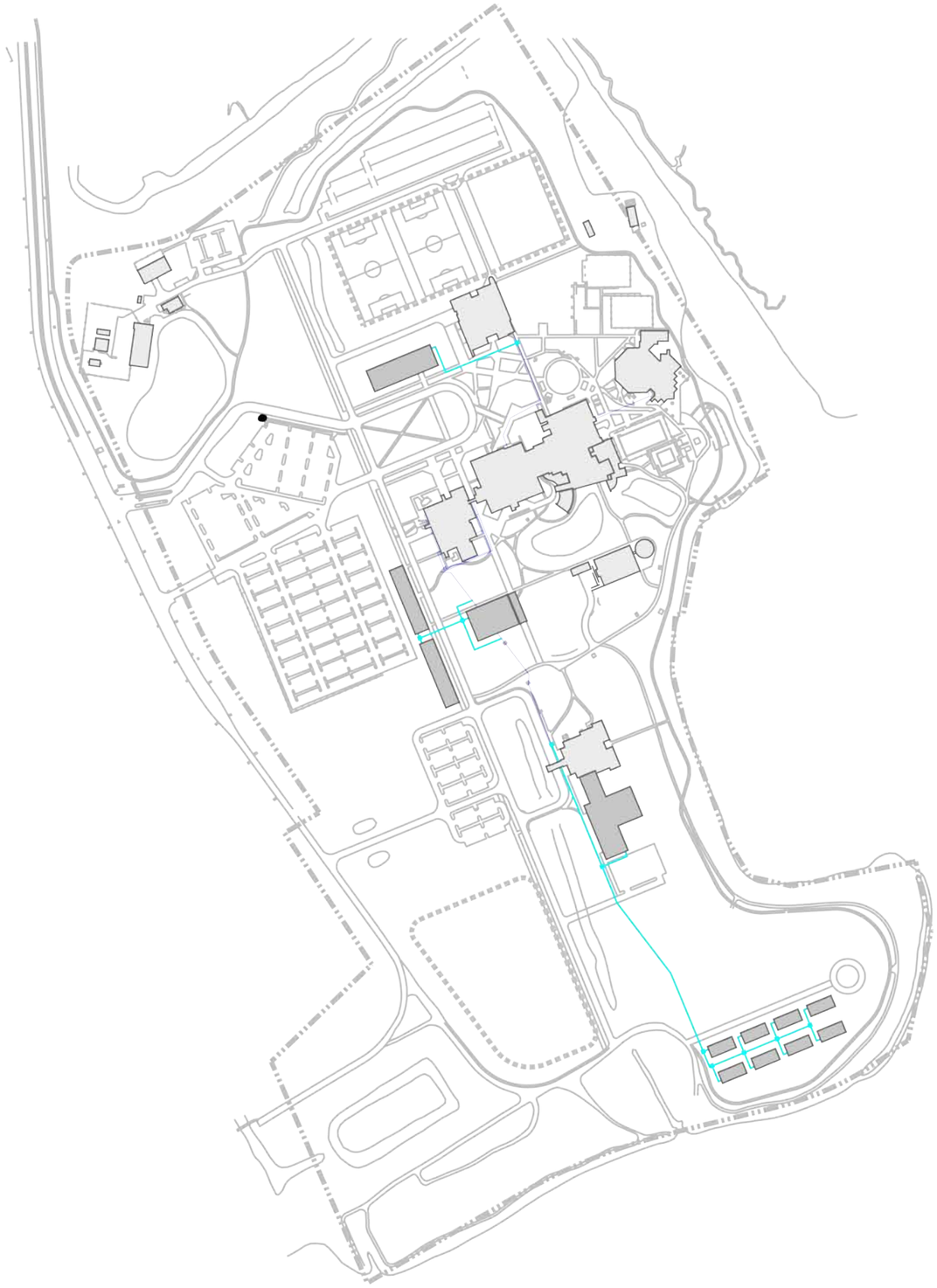
AEI PERKINS + WILL



LEGEND

- Proposed Building
- Existing Building
- Existing Chilled Water
- New Chilled Water

New Chilled Water infrastructure is served from existing systems unless noted otherwise.

KEY MAP

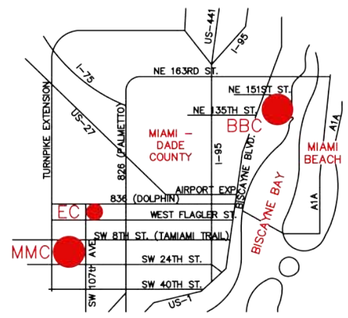


FIGURE: 10.3a
BISCAYNE BAY
2015 CHILLED WATER
INFRASTRUCTURE PLAN

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Campus Master Plan - June 2010

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LEGEND

- Proposed Building
- Existing Building
- Existing Electrical Infrastructure
- New Electrical Infrastructure

New Electrical Infrastructure is served from existing systems unless noted otherwise.

SHEET KEYNOTES

1. Relocate existing infrastructure in area of proposed building(s).

KEY MAP

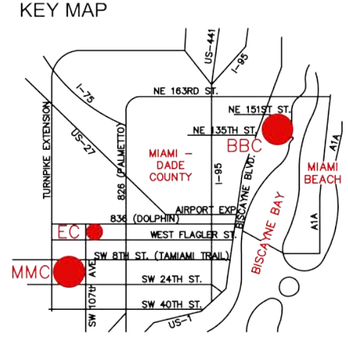

FIGURE: 10.3b
BISCAYNE BAY
2015 ELECTRICAL
INFRASTRUCTURE PLAN

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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SHEET KEYNOTES

1. New ductbank aligned with new primary roadway; interconnect to existing ductbank system.
2. Resupply Building 07 from new ductbank in advance of constructing new Research Labs (new footprint overlaps existing service to Building 07).

LEGEND

- Proposed Building
- Existing Building
- Existing Telecommunications Infrastructure
- New Telecommunications Infrastructure

New Telecommunications Infrastructure is served from existing systems unless noted otherwise.

KEY MAP

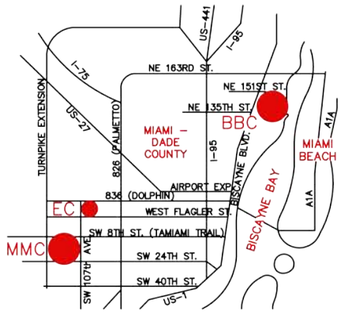

FIGURE: 10.3c
BISCAYNE BAY
2015
TELECOMMUNICATIONS
INFRASTRUCTURE PLAN

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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11.0 TRANSPORTATION ELEMENT

Transit, Circulation and Parking Sub-Element: For all campuses, FIU's goal is to increase multimodal access. In combination with other measures - such as the development of a Climate Action Plan as a responsibility of being a signatory of the American College and University Presidents Climate Commitment and the requirement that all new facilities achieve LEED certification - FIU continues to increase sustainable development on campus.

With the continuing student enrollment growth coinciding with the anticipated expansion of Modesto A. Maidique Campus, major emphasis will be on the ability of Florida International University (FIU) to provide adequate access. While FIU remains a commuter-oriented institution, it must still accommodate a rapidly increasing population within Miami-Dade County. Additional parking garages are planned outside of the loop road to accommodate parking needs as well as for the replacement of surface parking lots lost to construction of new facilities. FIU will continue to address the use of lands to the south of campus for overflow parking for special events (see Figure 11.1a: Transit, Circulation and Parking).

Biscayne Bay Campus continues to have adequate lands available for its parking requirements. Although the existing parking lots support its parking needs, it is recommended that these lots be re-configured to provide more efficient circulation for both vehicular use and for safe pedestrian circulation to the campus core (see Figure 11.3a: Transit, Circulation and Parking).

Engineering Center has adequate land for its 2015 parking needs. Surface parking lost to future development will be relocated to the east of the existing operations / utilities facilities. (See Figure 11.2a)

Pedestrian and Non-Vehicular Circulation Sub-Element: Pedestrian circulation remains a major design issue. FIU will provide safe pedestrian walkways from the perimeter of campus by creating identifiable crosswalks at strategic locations from the parking garages and surface lots into the campus core. Signage and lighting will be key components to these areas. Safe movement throughout the campus for its users will continue to be paramount when placing new facilities and creating pedestrian corridors. Vistas and pedestrian corridors will be maintained and created throughout each campus, making way-finding easier and more efficient for all users (see Figure 11.1b: Pedestrian and Non-Vehicular Circulation for Modesto A. Maidique Campus, Figure 11.2b: Transportation Network Map for Engineering Center and Figure 11.3b: Pedestrian and Non-Vehicular Circulation for Biscayne Bay Campus)

Transit, Circulation and Parking Sub-Element

GOAL 1: **Florida International University shall continue to develop, operate, and maintain a safe and efficient multi-modal circulation system that provides ease of mobility for all people**

and goods; is consistent with planned land use patterns, promotes energy conservation and protects the natural environment.

Objective 1.1 **Traffic Circulation:**
The University shall promote roadway designs, which lead to safe conditions, and provide sufficient capacity to serve on-campus development at the adopted level of service (LOS) standard in accordance with Goal 1 of the Traffic Circulation Element of the Miami-Dade County Comprehensive Development Master Plan).

Policy 1.1.1 MODESTO A. MAIDIQUE CAMPUS:
Maintain four entrances and at least nine lanes in and out of the campus in accordance with the Traffic Circulation Plan (Figure 11.1b (UP).

Policy 1.1.2 Provide three lanes of roadway capacity with curb and gutter and storage (two through lanes and a median lane for left turns and a turn off lane for student shuttle service, where appropriate) in order to allow two-way flow throughout campus and in accordance with the Traffic Circulation Plan (Figure 11.1 b Modesto A. Maidique Campus and Figure 11.3b Biscayne Bay Campus).

Policy 1.1.3 MODESTO A. MAIDIQUE CAMPUS:
Maintain entrance from SW 8th Street at SW 109th Avenue.

Policy 1.1.4 ENGINEERING CENTER
Maintain main entrance from West Flagler Street.

Policy 1.1.5 Provide a secondary entrance from SW 107th Avenue.

Policy 1.1.6 BISCAYNE BAY CAMPUS
Existing parking lots will be recommended for re-configuration to establish safer linkages for pedestrians and improve way-finding to the campus core.

Policy 1.1.7 UNIVERSITY-WIDE
All campus roadways lane widths will be constructed ten feet wide.

Policy 1.1.8 As feasible, FIU will evaluate the operations of adjacent roadways to determine if access point improvements are necessary.

Policy 1.1.9 Level of service for the link of SW 24th Street between SW 117th Avenue and SW 107th Avenue will be studied for future traffic concurrency standards.

Objective 1.2 **Transit: The University shall allocate funds for capital expansion and improvements of multi-modal systems that relieve on-campus traffic or reduce the demand for additional parking.**

Policy 1.2.1 At such time as demand dictates it feasible, FIU will consider the provision of on-campus shuttle systems.

Policy 1.2.2 MODESTO A. MAIDIQUE CAMPUS:
FIU will coordinate with Miami-Dade Transit to determine the best and highest use for the transit station proposed to serve the campus property.

Policy 1.2.3 MODESTO A. MAIDIQUE CAMPUS:
The University shall start construction of parking lots and bus stations in close proximity to their present locations (see Figure 11.1 (MAMC) and Figure 11. 4 (BBC), to include such features as adequate turning radii for large vehicles, direct access to sheltered areas with seating that can serve as a bus stop, and pedestrian access to the campus core.

Policy 1.2.4 MODESTO A. MAIDIQUE CAMPUS:
The University shall encourage MDTA to continue increased frequency of service, provide express bus service, maintain clean and comfortable vehicles, and provide weather-proof shelters (the University shall provide weather-proof access to transit terminals).

Policy 1.2.5 BISCAYNE BAY CAMPUS:
FIU will continue to strengthen coordination efforts with the City of North Miami in order to promote the use of the City's Free Nomi Bus Shuttle service as an alternative transportation option available to both students and faculty of the University.

Objective 1.3 **Future Land Use: The University shall protect right-of-way necessary for roadway/transit improvements, so as not to preclude said improvements nor improvements by the host community.**

Policy 1.3.1 Determine right-of-way necessary (including clear zone) and provide protection for all of the recommended roadway improvements in the 2005-2015 Master Plan.

Policy 1.3.2 The University shall monitor the comprehensive plan of host communities to ensure that roadway/transit improvements in the FIU Master Plan do not conflict with future land uses in the context area.

Policy 1.3.3 FIU will coordinate reevaluation of the Local Planning Agency of the East-West corridor study for Segment 1.

Objective 1.4 Parking:
The University shall construct additional parking structures and establish programs or administrative procedures to accommodate future parking requirements on-campus.

Policy 1.4.1 Ensure, through annual monitoring, that future parking supply is adequate to serve future parking demand.

Policy 1.4.2 Parking structures and surface lots shall be designed internal walkways to be fully integrated with the campus pedestrian and traffic circulation system.

Policy 1.4.3 MODESTO A. MAIDIQUE CAMPUS:
Parking garage P5 (1,400 spaces) shall be constructed by the FY 2015.

Policy 1.4.4 ENGINEERING CENTER:
Maintain the parking lot west of the academic facility location.

Policy 1.4.5 BISCAYNE BAY CAMPUS:
Reconfigure parking lot to provide users with more orderly, functional accessibility to the campus core. This will be achieved through restriping, signage and the realignment of parking spaces. Pedestrian corridors will be created for safe movement through the parking lot to the campus core.

Policy 1.4.6 The University shall implement Transportation Demand Management techniques (e.g. increase the number of students living on campus, improved transit, modify academic scheduling and car pooling) in order to reduce the parking demand by the end of the planning period and in accordance with the Traffic Circulation Plan (Figure 11.1a (MAMC), 11.2b (EC) and Figure 11.3b (BBC)).

Policy 1.4.7 Handicap accessible parking should be reserved adjacent to each academic, support and residential entrance in amounts ranging from 2 to 10 spaces variable on facility size occupancy and assigned use.

Policy 1.4.8 Provide sufficient parking (based on annual monitoring) by FY 2015 so that none of the University's demand will be satisfied off-campus in the host community.

Objective 1.5 Signage:
The University shall create a hierarchy of internal signage.

Policy 1.5.1 UNIVERSITY-WIDE:
The University shall assess its current signage system and make recommendations for better way-finding efforts through the establishment of a hierarchy of signage which includes varying sizes and designs for way-finding.

Pedestrian and Non-Vehicular Circulation Sub-Element

GOAL 2: To develop, operate and maintain a safe, efficient and economical pedestrian and non-vehicular circulation system on-campus that, in conjunction with systems to be developed off-campus by the host community (ies), will provide ease of mobility for all people, is consistent with planned land use patterns, promotes energy conservation, and protects the natural environment.

Objective 2.1 Walkways:
Create a campus wide system of interconnected walkways.

Policy 2.1.1 UNIVERSITY-WIDE:
The University shall continue to recommend to the Design Review Committee, when feasible, covered walkways adjacent to planned or existing buildings, be built to the appropriate width between existing and new academic and student service facilities at the time of construction. See Element 15 Architectural Guidelines for additional information regarding covered walkways at planned or existing buildings.

Policy 2.1.2 The University shall recommend the construction of uncovered walkways of appropriate width alongside the roadways, between major buildings from the parking lots in the northern portion of campus, and within parking lots following "natural" walking routes, by the end of the planning period (Fiscal YR 2015), as indicated in Figure 11.1b (Modesto A. Maidique Campus), Figure 11.2b (Engineering Center) and Figure 11.3b (Biscayne Bay Campus)

Policy 2.1.3 Roadways on campus and entrances to the campus should be designed with clearly designated bicycle lanes to encourage and promote safe bicycle access to the campus. Bicycle parking should

be provided at all major buildings and recreational facilities on campus.

Policy 2.1.4 MODESTO A. MAIDIQUE CAMPUS: The 'Avenue of the Arts', extending from the Wertheim Performing Arts Center north through the Graham Center, and the 'Avenue of the Professions', running west from the Graham Center to the Graduate School of Business and School of Law will serve as pedestrian linkages through campus.

Policy 2.1.5 Pedestrian corridors throughout the campus, particularly those extending from parking structures at the campus perimeter, will be strengthened.

Policy 2.1.6 ENGINEERING CENTER:
Pedestrian corridors will be provided with the construction of the proposed building to provide a linkage to the existing facility.

Policy 2.1.7 Pedestrian corridors will be provided from West Flagler Street, extending through the campus park, to the surface parking north of the academic buildings.

Policy 2.1.8 BISCAYNE BAY CAMPUS:
The University shall maintain the bicycle path which has been designed and will be constructed by the Florida Department of Transportation at the campus.

Policy 2.1.9 Pedestrian corridors will be constructed along the north-south main street and academic quadrangles.

Policy 2.1.10 Pedestrian corridors connecting the recreation facilities, academic core and student housing will be strengthened.

Objective 2.2 Campus Security: The University shall modify vehicular circulation patterns and parking locations to create existing and future pedestrian/vehicular safety at crossings.

Policy 2.2.1 UNIVERSITY-WIDE
All crosswalks on the existing and future loop road should be constructed to provide adequate warning and visibility.

Objective 2.3 **Context Area:**
The University shall create pedestrian and non-vehicular connections to the host community (ies) in the immediate surrounding area.

Policy 2.3.1 UNIVERSITY-WIDE: Maintain a standing committee between University staff and host community representatives to provide coordination and resolve issues related to pedestrian and non-vehicular circulation.

Policy 2.3.2 The University shall study the feasibility of constructing a pedestrian bridge over the Tamiami Canal at SW 112 Avenue.

Policy 2.3.3 Encourage Miami-Dade County to maintain, protect and promote its existing bikeway paths located on SW 117 Avenue and Coral Way (SW 24 Street) FIU will promote bikeways with an on-campus signage program.

Policy 2.3.4 ENGINEERING CENTER:
FIU will coordinate with the City of Sweetwater to provide sidewalk enhancements including benches and signage to visually link the EC site with Modesto A. Maidique Campus.

Policy 2.3.5 FIU will coordinate with the City of Sweetwater to provide a pedestrian connection and bike path at the Women's Park and Engineering Center Campus Park bordering West Flagler Street.

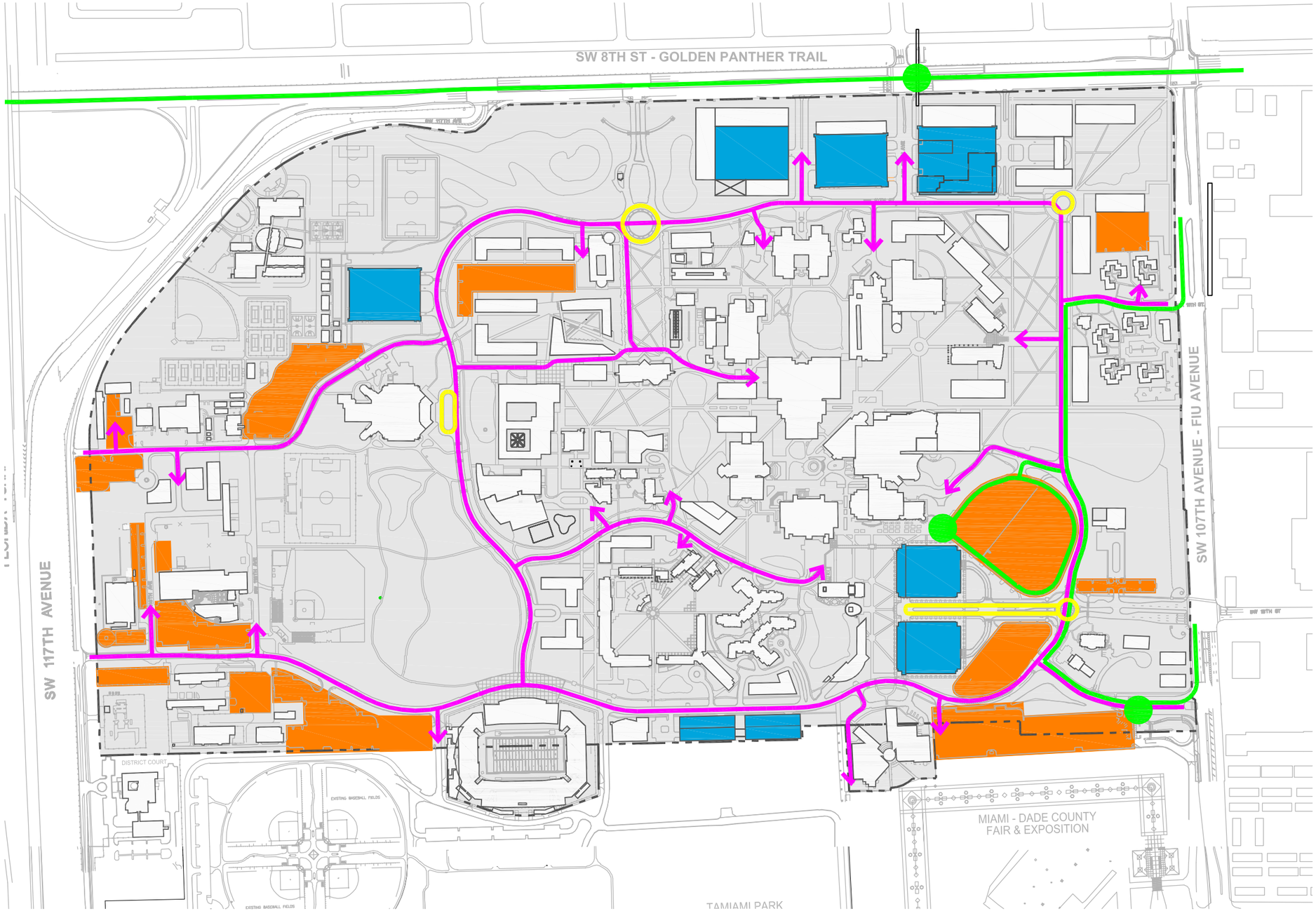
Objective 2.4 **Lighting: The University shall provide appropriate lighting for all major pedestrian and non-vehicular facilities on-campus (i.e. parking, public areas, and walkways).**

Policy 2.4.1 All major pedestrian walkways shall be provided with lighting typical of existing pedestrian walkways as indicated in Figures 11.1b (Modesto A. Maidique Campus), 11.2b (Engineering Center) and 11.3b (Biscayne Bay Campus).

Policy 2.4.2 Lighting should be provided on the outside edge of all parking lots by the end of the planning period and in accordance with phasing.

Objective 2.5 **Campus Safety Plan:**
Future pedestrian and non-vehicular facilities should be planned in accordance with the Campus Safety Plan and Crime Prevention Through Environmental Design (CPTED) standards.

Policy 2.5.1 Continue to provide daily escort service after dusk for students between University buildings and parking lots.



LEGEND

- Proposed Transit Route
- Transit Stop
- Service Route
- Structured Parking
- Surface Parking (34 Lots)
- Traffic Circle / Drop Off

Planning Key

KEY MAP

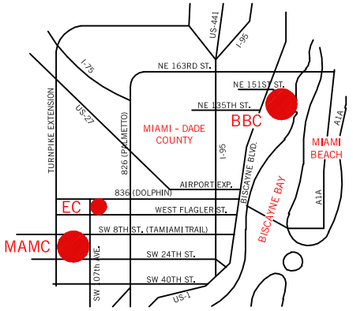


FIGURE 11.1a
Modesto A Maidique Campus
Transit, Circulation
& Parking

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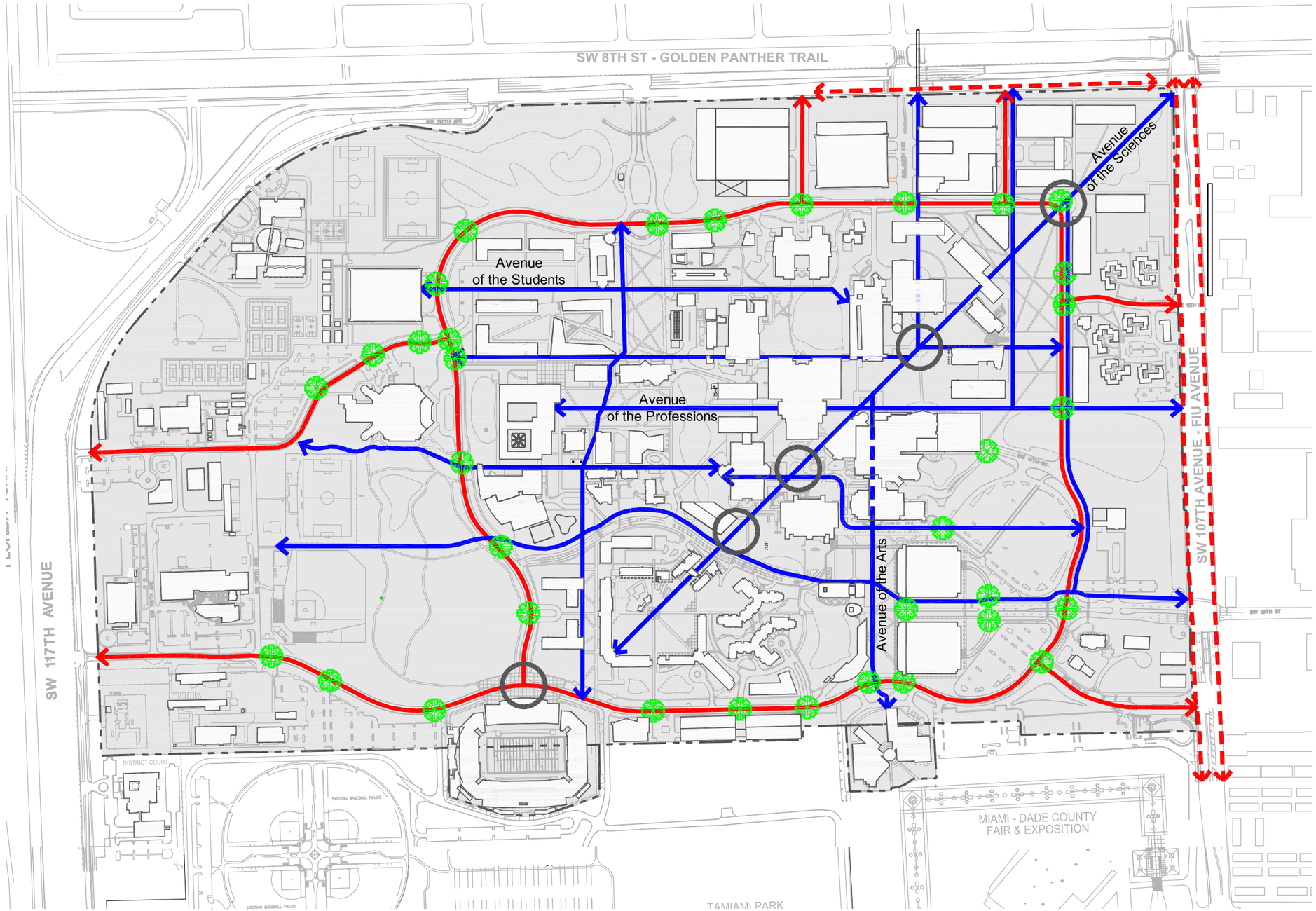

LEGEND

- Main Pedestrian Walk
- Bicycle Path
- Planned Crosswalks
- Campus Node

KEY MAP

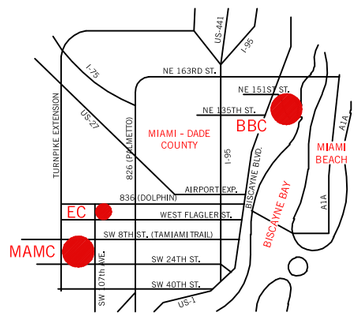

FIGURE 11.1b
Modesto A Maidique Campus
Pedestrian & Non-Vehicular Circulation

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Campus Master Plan - June 2010

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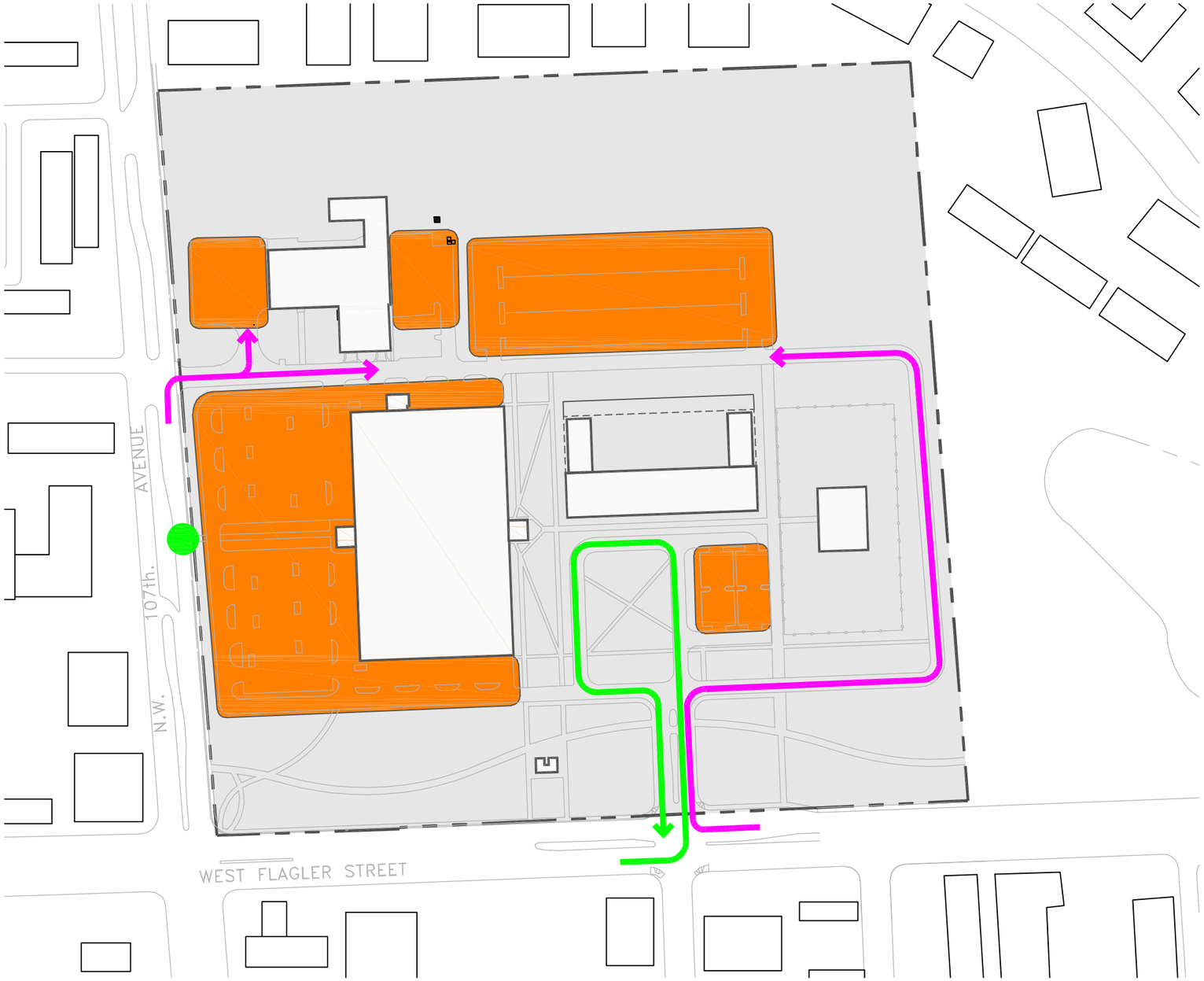

LEGEND

- Proposed Transit Route
- Transit Stop
- Service Route
- Structured Parking
- Surface Parking (6 Lots)
- Traffic Circle / Drop Off

KEY MAP

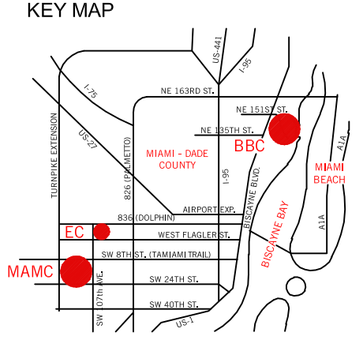

FIGURE 11.2a
Engineering Center
Transit, Circulation
& Parking

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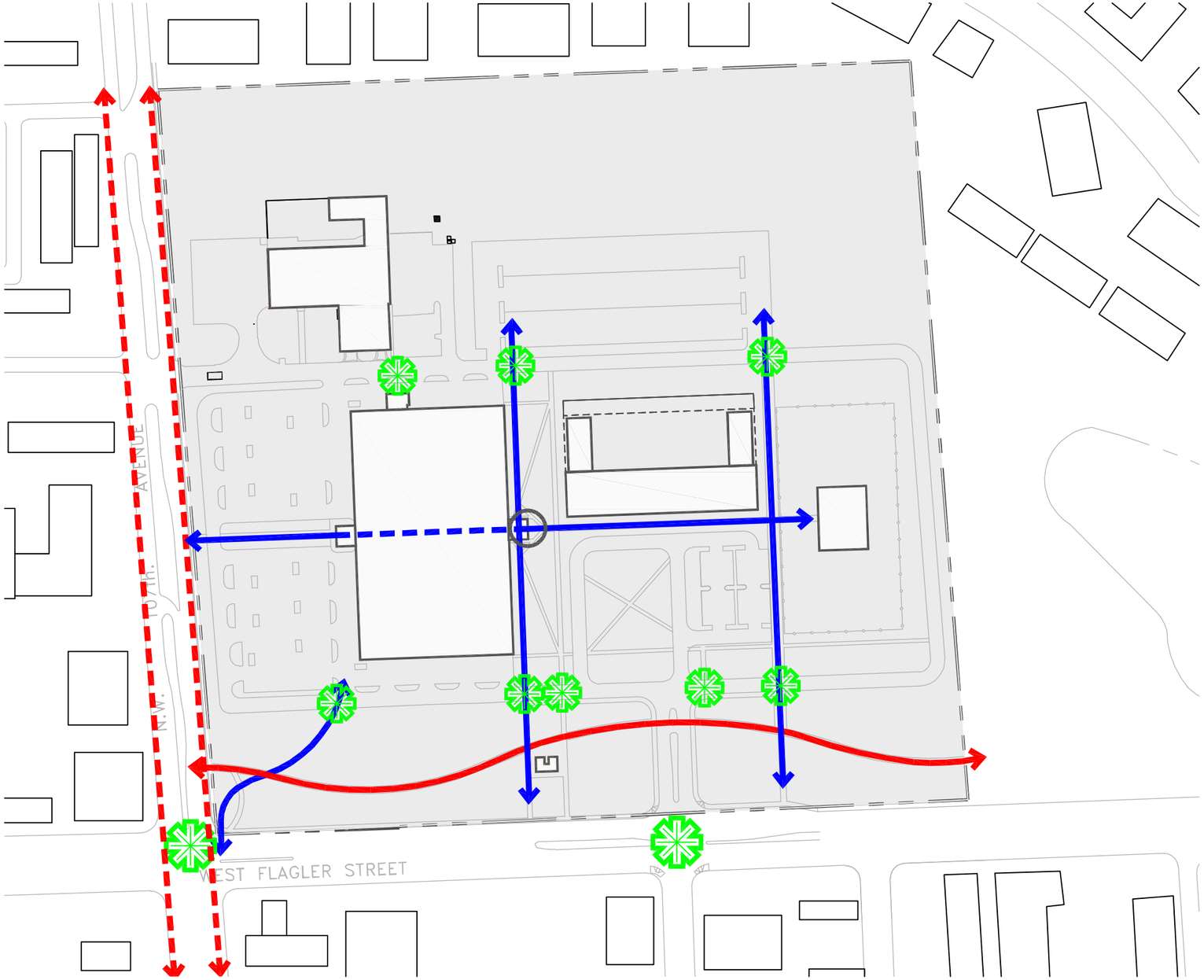
PERKINS +WILL



LEGEND

- Main Pedestrian Walk
- Bicycle Path
- Planned Crosswalks
- Campus Node

KEY MAP

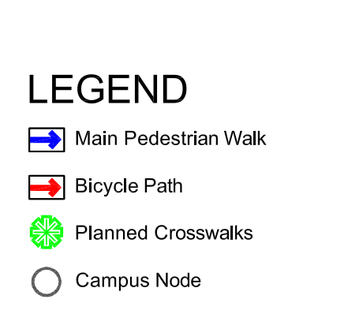


FIGURE 11.2b
Engineering Center
Pedestrian & Non-Vehicular
Circulation

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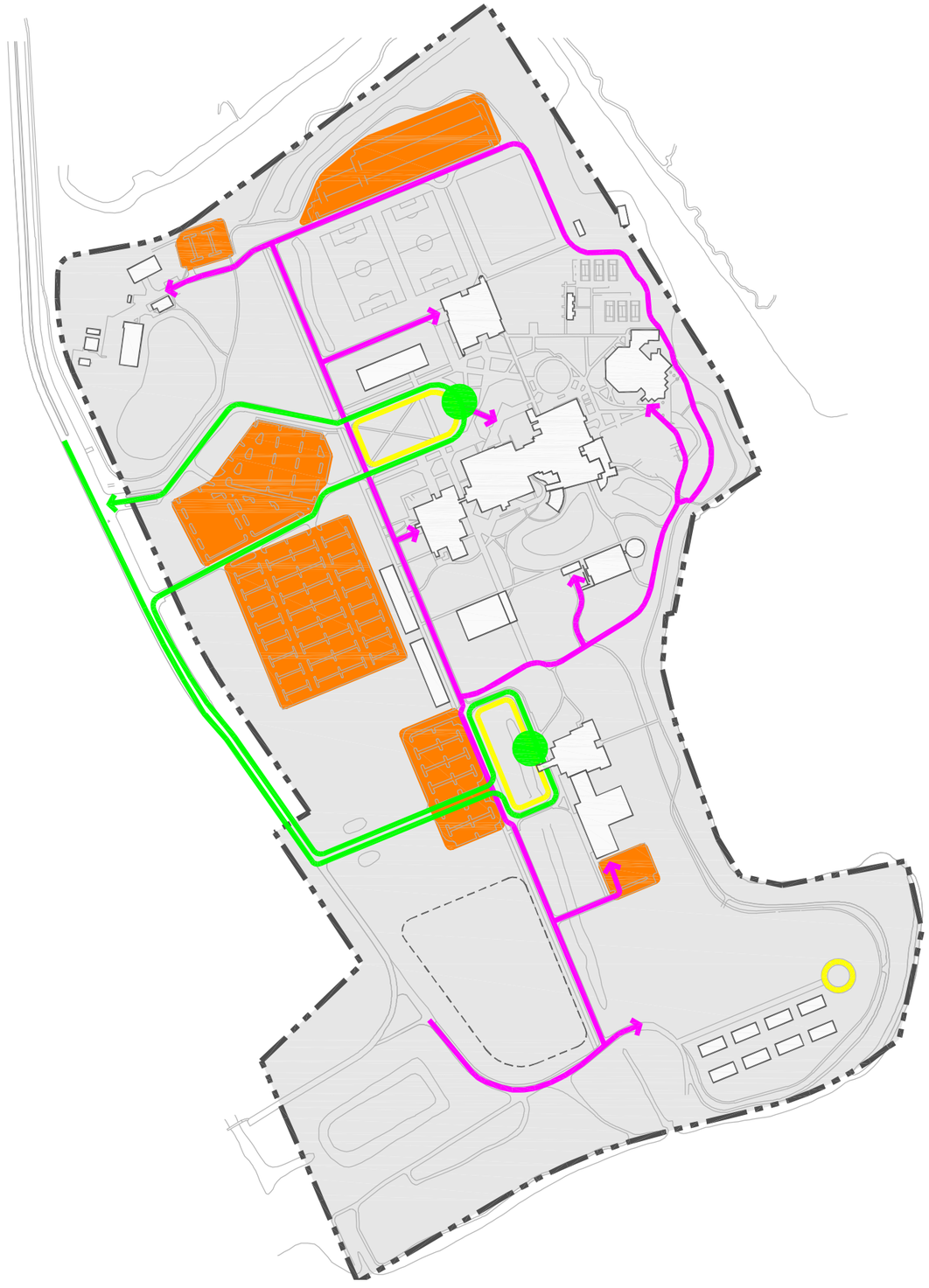
PERKINS + WILL



LEGEND

- Proposed Transit Route
- Transit Stop
- Service Route
- Structured Parking
- Surface Parking (12 Lots)
- Traffic Circle / Drop Off

KEY MAP

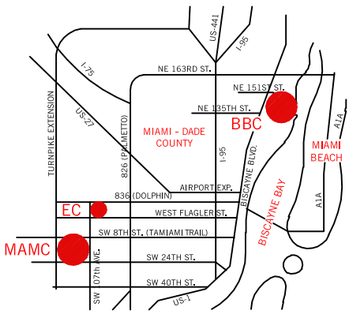


FIGURE 11.3a
Biscayne Bay Campus
Transit, Circulation
& Parking

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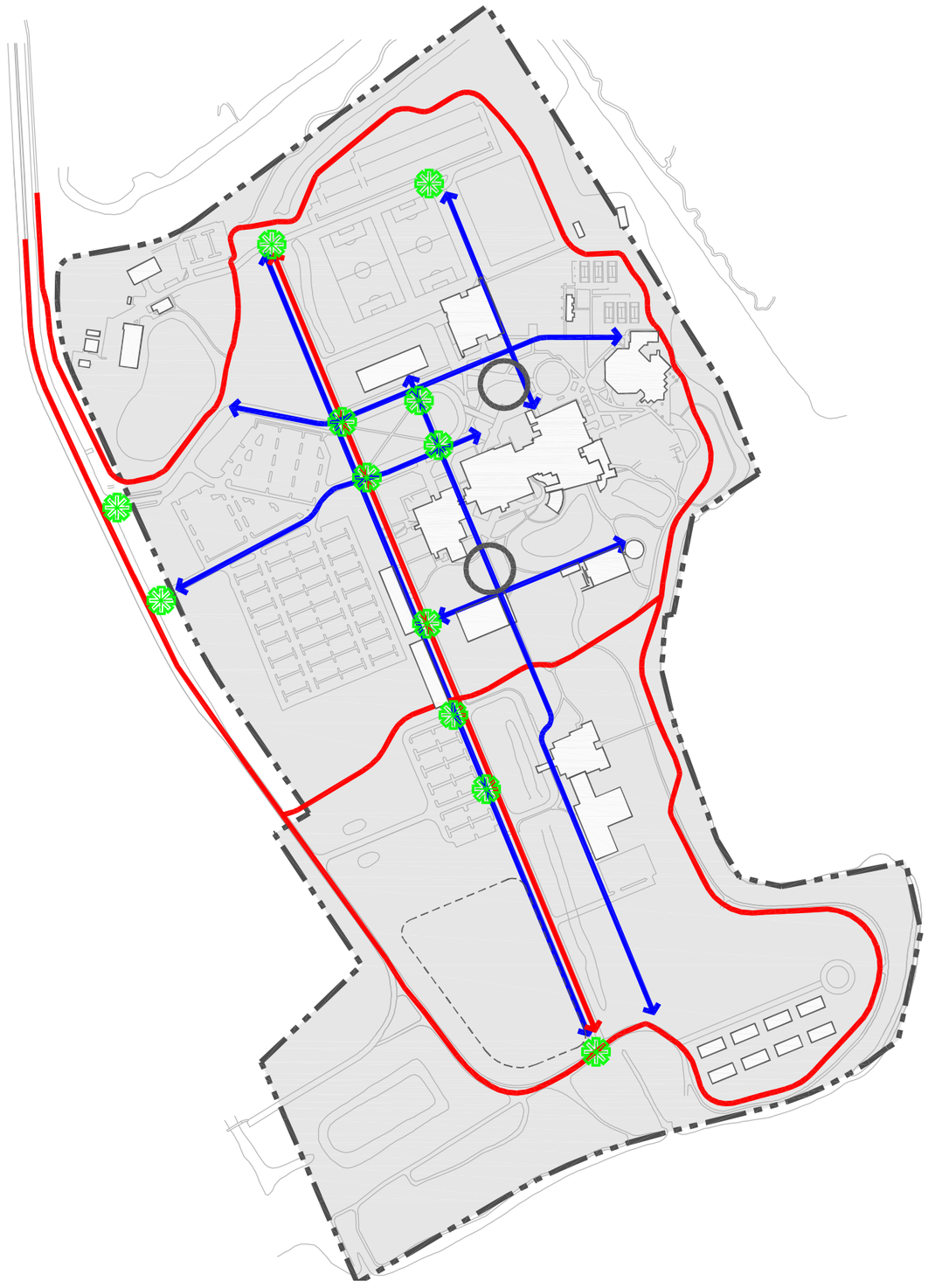
PERKINS +WILL



LEGEND

- Main Pedestrian Walk
- Bicycle Path
- Planned Crosswalks
- Campus Node

KEY MAP

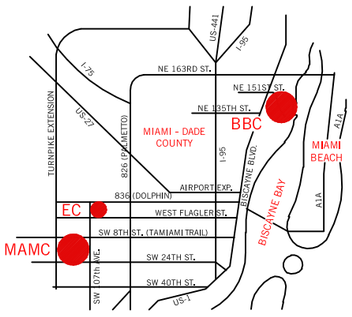


FIGURE 11.3b
Biscayne Bay Campus
Pedestrian & Non-Vehicular
Circulation

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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PERKINS +WILL

12.0 INTERGOVERNMENTAL COORDINATION ELEMENT

In the traditional master planning process, the principle institution focuses primarily on itself as it charts a course for growth into the future. The comprehensive planning process, by contrast, is reflective of and responsive to the interaction between the principle institution and vital elements of the surrounding community and concerned jurisdictions and governmental agencies. The most important factors in successful comprehensive planning are cooperation, consideration, and coordination.

These basic principles of comprehensive planning are evident throughout this Comprehensive Master Plan:

1. Cooperation: The Comprehensive Master Plan recognizes the importance of the existing regulatory structure at the local, state and federal levels of government. Throughout the Comprehensive Master Plan, FIU states its intention to cooperate with the permitting, concurrency and other applicable code requirements of overseeing regulatory agencies and departments of local and state government.

   The University has dedicated itself to being a responsive and responsible member of both the Miami-Dade County business and educational communities. The Academic Program at the University, the development of new areas of study and the creation of work-based learning opportunities for area businesses all rely on cooperation and communication between the University and the Miami-Dade County business and economic development agencies. Continuation of this highly successful relationship has been structured into relevant elements of the University's Master Plan.

2. Consideration: FIU recognizes that it is a large development within the community. Consequently, projects at the University have the potential to affect development patterns and surrounding land uses. Similarly, developments around the University have the potential to enhance or detract from the University's unique academic environment. These efforts are supported through the Intergovernmental Coordination Element.

3. Coordination: The goal of intergovernmental coordination is the joint process for collaborative planning, decision making, and development review by governmental agencies. The University Master Plan Update identifies issues, which because of their unique circumstances; require intergovernmental coordination above and beyond that which routinely occur in the day-to-day university operations. Resolutions of these issues require mechanisms and procedures which facilitate coordination and communication between the University, local government and service providers. In addition, this element establishes procedures for the review of this master plan by local, county and state government and the service providers. When the provisions in the campus master plan conflicts with the provisions in the comprehensive plan of the local government, these intergovernmental coordination mechanisms will be used to resolve the conflicts while working toward achievement of the goals, objectives and policies.

The goals, objectives and policies of this Intergovernmental Coordination Element formalize the many existing cooperative and coordinating efforts between the University and Miami-Dade County. It continues existing procedures to enhance and solidify this relationship:

- Procedures for review and comment by Miami-Dade County of the University's Comprehensive Master Plan, proposed plan amendments and development plans.

- Procedures for review and comment by the University of Miami-Dade County's actions, such as Local Government Comprehensive Plan, amendments or development applications, on land within the University's context area which may affect the campus activities, plans or programs.

- Establishment of a process for resolution of conflict between the University and Miami-Dade County.

- Procedures for involvement of other local, regional and state agencies in review and comment on FIU plans, amendments and development processes.

- Review of a mutually accepted Campus Development Agreement articulating these procedures.

The issues identified in this element requiring intergovernmental coordination attention are: land use compatibility; availability of land resources for future campus development; on campus wetland delineation; siting of mass transit facilities; availability of sanitary sewage treatment capacity; development review; coordination of the establishment of reciprocal review and coordination of the establishment of campus level of service standards.

Goal 1: **To implement and achieve the goals, objectives and policies established in this master plan that require the interaction of the University, the host communities and other governmental entities.**

Objective 1.1 **Establish a process, which maintains the land use compatibility between the University and the host community through the reciprocal review of local government comprehensive plans and campus master plans.**

Policy 1.1.1 The Florida International University (FIU) Director of Facilities Management or designee; shall meet with planning officials from the Miami-Dade County, the City of North Miami, the City of Miami Beach and the City of Sweetwater to determine an appropriate process for reciprocal review and comment of appropriate elements of the FIU campus master plan by local government officials, and of appropriate

elements of local government comprehensive plans by the University. FIU master plan elements to be reviewed by local governments shall be limited to the Future Land Use Element, Housing Element, Recreation and Open Space Element, General Infrastructure Element, Capital Improvements Element, Transportation Element, Intergovernmental Coordination Element, and the Conservation Element.

Policy 1.1.2 Proposed amendments to the adopted campus master plan which exceed the thresholds established in Chapter 1013.30 (9), F.S., shall be transmitted to the Miami-Dade County, City of North Miami, City of Miami Beach, City of Sweetwater, South Florida Regional Planning Council, South Florida Water Management District, Florida Game and Fresh Water Fish Commission, Florida Department of Transportation, Florida Department of State, Florida Department of Environmental Protection, Florida Land Management Advisory Council, and the State of Florida Department of Community Affairs for review in accordance with the procedures established in Chapter 6C-21, Part 1, Florida Administration Code.

Policy 1.1.3 Proposed amendments to the campus master plan which do not exceed the thresholds established in Chapter 1013.30 (9), F.S., and which have the effect of changing the manner in which development on campus may occur or impacting off-campus facilities, services or natural resources, shall be transmitted to the Miami-Dade County, City of North Miami, City of Miami Beach and City of Sweetwater for a courtesy review.

Policy 1.1.4 It shall be the policy of FIU that proposed amendments to the comprehensive plans of the Miami-Dade County, City of North Miami, City of Miami Beach and the City of Sweetwater which have the effect(s) of changing land uses or policies that guide the development of land within the context area, affect the provision of local services, or which otherwise impact university facilities or resources shall be submitted to the University Director of Planning in Facilities Management for review and comment.

Policy 1.1.5 FIU shall make every effort to formalize this reciprocal review process through the execution of an interlocal agreement or memorandum of understanding.

Policy 1.1.6 Until the campus master plan has been adopted and the campus development agreement has been executed disputes between Florida International University shall be resolved by the process established in Chapter 1013.30 (8), F.S.

Objective 1.2 **In order to allow for orderly expansion of the Modesto A. Maidique Campus, through and beyond the projected buildout date of, 2010-2015 Florida International University will assess the feasibility of utilization of properties, adjacent and to the south on the present campus, for recreation, open space and support (including parking).**

Policy 1.2.1 In order to conserve the limited land resources at Modesto A. Maidique, FIU shall discourage development of use not in conformance with the policies of the University's Master Plan with the exception of planned joint use facilities with the Miami-Dade County Fair and Exposition and Tamiami Park, which considers surrounding uses when developing uses for the Park.

Miami-Dade County Fair and Exposition and Tamiami Park are the primary location identified in the Radiological, Emergency Preparedness Plan for the Emergency Reception Center. The purpose of this coordinated site includes registration, monitoring and decontamination of people; temporary sheltering and potassium iodide distribution in the event of a radiological event. In the event of a category 3 or higher hurricane, the County's Department of Animal Services plans to move all of its operations to this facility.

Policy 1.2.2 In the event additional lands are conveyed to Florida International University and any of the thresholds established in Chapter 1013.30 (8) F.S. are reached, the campus master plan shall be amended and reviewed in accordance with the criteria established under Chapter 1013.30 (6), (7) and (8) F.S.

Objective 1.3 **Obtain a wetland jurisdictional determination for both campuses in order to allow wetland mitigation or enhancement activities to take place in a comprehensive and efficient manner.**

Policy 1.3.1 The Department of Planning and Facilities Management shall determine whether a campus wide or phased dredge and fill permit process will be the most effective means of achieving wetland mitigation.

Policy 1.3.2 FIU shall undertake wetland mitigation in a manner that maximizes the efficiency of the mitigation activities in terms of dredge and fill permit credit received, affordability and maintenance.

Objective 1.4 **Obtain an allocation of sanitary sewer treatment capacity from the Water and Sewer Department sufficient to handle the sanitary sewer generated by the University.**

Policy 1.4.1 In order to expedite University development activities and in particular the installation of potable water and sanitary sewer infrastructure, FIU shall formally request that DERM assign a single contact person to review the University's activities for the Modesto A. Maidique Campus, and that the City of North Miami assign a single contact person to review the University's activities for Biscayne Bay Campus.

Policy 1.4.2 FIU shall request DERM and the City of North Miami to indicate what the specific sanitary sewer treatment allocation is assigned to government and what proportion of that allocation is presently utilized for Modesto A. Maidique Campus and Biscayne Bay Campus.

Policy 1.4.3 FIU shall request a letter of sanitary sewer allocation from DERM and from the City of North Miami, this allocation coming from that capacity reserved for governmental activities and in a quantity sufficient to handle the sanitary sewer projected in the campus master plan to be generated at campus build out.

Policy 1.4.4 The provisions of the sanitary sewer treatment allocation shall be incorporated into the FIU development agreement and adopted pursuant to Chapter 1013.30 F.S.

Objective 1.5 To assess the impacts generated by the University on the host government and the service providers and provide mitigation measures for the University's impacts for those services found to be deficient.

Policy 1.5.1 A draft development agreement update shall be forwarded to the local and county government for review and comment. This agreement shall contain the following components:

-Identify the geographic area covered by the agreement;
-Establish the duration of the agreement;
-Identify the level of service standards for public services and facilities, the entity to provide these services, and any financial arrangements between the Board of Trustees and the service provider;
-Determine the impact of the proposed campus development on public service providers and facilities, and any deficiencies projected to occur as a result of this development;
-Identify what facility improvements are necessary to correct deficiencies caused by the University’s development activities;
-Identify the Board of Trustees “fair share” of the cost associated with the required improvements; and
-Be consistent with adopted campus master plan and host local government adopted comprehensive plan.
-Identify remedies that will minimize off-site impacts and include a

schedule of funding for capital projects.

Policy 1.5.2 Florida Board of Trustees and the host governments shall execute the campus development agreement within 180 days after receipt of the draft agreement.

Policy 1.5.3 Upon execution of the campus development agreement, all development may proceed without further review by the host government if it is consistent with the campus development agreement and the adopted campus master plan.

Policy 1.5.4 Upon payment of the "fair share" by the Florida Board of Trustees for the capital improvements established in the campus development agreement, all concurrency management requirements of the University shall be fulfilled.

Policy 1.5.5 Any disputes between the University and the host local government which arise concerning the provisions of the campus development agreement and result in the failure to execute the agreement within 180 days after receipt of the draft agreement shall be resolved in accordance with Chapter 1013.30 (16), F.S.

Policy 1.5.6 Any disputes between the University and the host local government which arise from the implementation of the campus development agreement shall be resolved in accordance with the provisions established in Chapter 1013.30 (17), F.S.

Objective 1.6 **University and local officials shall establish a development review process to assess the impacts of proposed development on significant local, regional and state resources and facilities. This shall be a reciprocal process whereby local officials are given an opportunity to review proposed campus development in order to assess its potential impacts on local, regional and state resources and facilities, and whereby university officials are given an opportunity to review proposed development within the context area in which to assess its potential impacts on university resources and facilities.**

Policy 1.6.1 Except when otherwise stated in Chapter 1013.30, F.S., the provisions of the campus master plan and associated campus development agreement superseded the requirements of Part II of Chapter 163, F.S.

Policy 1.6.2 It shall be the policy of FIU that proposed development within the context area which has the potential to impact or affect University facilities or resources shall be submitted to the University's Director of

Planning and Facilities Management or designee for review.

Policy 1.6.3 The FIU Director of Planning in Facilities Management or designee shall meet with local officials to establish the criteria and thresholds for development proposals, which would be subject to review by the University. The construction or renovation of single-family homes, and other small scale developments are to be excluded from review by the University.

Policy 1.6.4 University officials shall participate and cooperate with local officials in the review of proposed campus development to assess potential impacts on local, regional and state resources and facilities until execution of the campus development agreement.

Policy 1.6.5 Once the campus development agreement is executed, all campus development may proceed without further review by the host local government if it is consistent with the adopted campus master plan and associated campus development agreement.

Policy 1.6.6 University officials shall participate and cooperate with local officials in the review of proposed development within the context area to assess potential impacts on university resources and facilities.

Policy 1.6.7 University officials shall participate and cooperate with local officials in the identification of appropriate strategies to mitigate the impacts of campus development on local, regional and state resources and facilities, and to mitigate the impacts of proposed development within the context area on university resources and facilities.

Policy 1.6.8 Any dispute between the university and a host or affected local government regarding the assessment or mitigation of impacts shall be resolved in accordance with the process established in Subsection 1013.30(8), F.S.

Policy 1.6.9 FIU shall coordinate with the City of North Miami, Miami-Dade Transit staff reviews for the development and expansion of pedestrian, bicycle and transit facilities on a regular basis.

Policy 1.6.10 FIU shall partner with FDOT in order to develop a Transportation Management Initiative (TMI) for the University as one means to mitigate peak hour traffic impacts through transportation demand management (TDM) programs such as carpooling, ridesharing, flex hours, etc.

Objective 1.7 The level of service standards established in this campus master plan shall be reviewed by the entity having operational and

maintenance responsibility for said facility.

Policy 1.7.1 In addition to the entities, set forth in Chapter 1013.30 (6), receiving the campus master plan for review and comment, the plan shall also be transmitted to the following service providers; Miami-Dade Water and Sewer Authority Department; Miami-Dade Metropolitan Planning Organization; Miami-Dade Public Works Department; and the Miami-Dade Mass Transit Authority.

Policy 1.7.2 FIU shall request that the service providers provide comments to the FIU Board of Trustees, in particular with reference to the levels of service established in the plan, within 90 days to coincide with the timeframes established in Chapter 1013.30 (6) for plan review and adoption.

Policy 1.7.3 Any disputes concerning levels of service established in the Campus Master Plan arising between the FIU Board of Trustees and the service providers shall be resolved in accordance with Chapter 1013.30 (8).

Table 12.1 Intergovernmental Coordination Element

Governmental Entity	Nature of Relationship	Coordinating Entity	Coordinating Mechanism
City of North Miami	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and
City of Sweetwater	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and
City of Miami Beach	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and
Miami-Dade County	Non-regulatory	FIU Facilities Management	Coordination in accordance with the provisions of the campus development agreement and adopted goals, objectives and policies.
Miami-Dade Transit Authority	Agency responsible for Dade County mass transit	FIU Facilities Management FIU Liaison (proposed)	No coordination mechanism FIU staff will be assigned to monitor EWMMCS
Miami-Dade County Park and Recreation Department	Non-regulatory	FIU Facilities Management	Campus master plan Policy 4.1.1.2 and 12.1.2.1 recommends that a joint use agreement be in place by 1996 for Tamiami Park.
Miami-Dade County Planning Department	Regulatory	FIU Facilities Management FIU Urban Design Liaison	Regulates land development activities in accordance with the Chapter 163 Comprehensive Plan and Land Development Regulations
South Florida Regional Planning Council	Reviewing agency	FIU Facilities Management	Reviews and comments on campus master plan in accordance with1013.30 F.S~~.~~

South Florida Water Management District	Regulatory	FIU Facilities Management FIU Natural Resource Protection Management Committee	Reviews dredge and fill permits
U.S. Army Corps of Engineers	Regulatory	FIU Facilities Management FIU Natural Resource Protection Management Committee	Regulates dredge and fill permits in accordance with S.404 of the Clean Water Act.
Monroe County Office of Emergency Management	Non-regulatory	Board of Governors	Agreement with MCOEM to provide emergency shelter for 5,000 Monroe County residents.
Miami-Dade County Planning Organization	Agency oversees and plans for country roads	FIU Facilities Management MPO Liaison (proposed)	No coordinating mechanism. FIU staff will be assigned to monitor EWMMCS
Water and Sewer ~~Authority~~ Department	Utility Provider	FIU Facilities Management	Responsible for water distribution and sewer collection and treatment.
Department of Environmental Resource Management	Regulatory	FIU Facilities Management	Monitors and regulates operation of water facilities under Chapter 24 of County Code.
Florida Department of Community Affairs	Reviewing Agency	FIU Facilities Management Board of Regents	Reviews and comments on campus master plans in accordance with the provisions of s.1013.30 F.S.
Florida Department of Environmental Protection	Environmental protection, jurisdictional wetlands, dredge and fill permitting regulatory	FIU Facilities Management FIU Natural Resources Protection Management Committee	Meetings as necessary
Florida Department of	Reviewing agency	FIU Facilities Management	Reviews and comments on campus master

State			plan in accordance with.1013.30 F.S.
Florida Department of Transportation	Reviewing Agency Regulatory authority over construction and maintenance of state roads	FIU Facilities Management Board of Governors	Reviews and comments on campus master plan in accordance with 1013.30 F.S. Campus master plan Policy 401.9.1 requires that FIU enters into an interlocal agreement requiring notification of FDOT improvements.
Florida Game and Fresh Water Fish Commission	Reviewing agency	FIU Facilities Management	Review and comments on campus master plan in accordance with 1013.30 F.S.

13.0 CONSERVATION ELEMENT

In order to appropriately manage native vegetative communities and wildlife habitats, campus expansion must be in accordance with local, state and federal regulations and when practicable, conform with various agency guidelines and policies. Landscape efforts will utilize native vegetation. Avoidance or minimization of wetland impacts and the establishment of upland buffers adjacent to wetlands will be implemented where feasible. Unavoidable wetland impacts will be mitigated. The undeveloped upland habitat will be left in its natural state when possible. Adverse impacts to protected wildlife species will be mitigated in accordance with local, state and federal guidelines.

Natural resources occur at Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus of Florida International University (see Figures 13.1 for Modesto A. Maidique Campus, Figure 13.2 for Engineering Campus, and Figure 13.3 for Biscayne Bay Campus). Many of these resources are protected and will remain so throughout the future of each campus and site. There are parcels, however, which need to be assessed as to its viability for native species and vegetation as well as for its suitability for protection versus development. Therefore, a principal challenge of the master planning process is to allow sensitively planned development of these campuses while protecting and enhancing natural resources.

To minimize adverse impacts to local air quality and maintain existing good air quality conditions, FIU will manage its stationary sources of air discharges through an organized preventative maintenance and inspection program. Points of discharges such as boilers and laboratory flues will be inspected regularly to ensure their operations are within applicable regulatory standards. Implementation of preventative maintenance of stationary sources will reduce the probability of unexpected releases of air pollutants as well as establish a reliable management tool.

Where possible, less hazardous materials will be substituted for more hazardous materials. The purpose of such replacement will reduce the potential for more serious accidents affecting the environment, reduce the generation rate of hazardous waste on campus, and reduce the volume of hazardous wastes contributed by the University to landfills elsewhere. It is an objective of the University to minimize hazardous waste accumulation points on campus and implement a system of Best Management Practices to safely manage these locations.

GOAL 1: **Conserve and enhance existing natural resources and natural ecosystems at Modesto A. Maidique Campus and Biscayne Bay Campus**.

Objective 1.1 **Implementation and Management of Natural Resource Policies: Implement and manage natural resource policies through use of appropriate University faculty and staff**.

Policy 1.1.1 The University shall endeavor to develop a resource of knowledgeable FIU experts to oversee issues relating to development and conservation of University natural resources. It shall be the task of the individuals to oversee the implementation of the coastal resource management policies defined in the Conservation Element of this Master Plan. It shall also be the task of those individuals to review these policies and, prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Master Plan. The adopted Master Plan shall be amended as necessary to incorporate those guidelines, procedures and implementation schedules.

The University shall provide an administrative staff person of the Environmental Health and Safety Division to serve as Environmental Coordinator to manage these activities. The Environmental Coordinator shall periodically review proposed University improvements and activities to ensure University compliance with the policies defined in the Conservation and Coastal Management Elements of this Master Plan. The Environmental Coordinator shall also periodically review host community, state and federal conservation and coastal management policies to ensure University compliance with these policies.

Objective 1.2 Maintain, Protect and Enhance Natural Resources: Maintain and enhance existing values for natural resources on Modesto A. Maidique Campus and Biscayne Bay Campus.

Policy 1.2.1 UNIVERSITY-WIDE:
The University shall review, on an annual basis, the state, regional and local regulations and guidelines governing the designation and delineation of environmentally sensitive lands. These regulations and guidelines include, but are not limited to, the Florida Natural Areas Inventory, the Dade County Natural Forest Inventory (Resolution R-1764-84), and other elements of the Miami-Dade County Comprehensive Development Master Plan. Should changes in regulations or guidelines result in the designation of portions of the Modesto A. Maidique Campus and/or Biscayne Bay Campus as environmentally sensitive lands, the University shall modify existing policies or develop new policies to protect these sensitive lands and incorporate those policies into the Master Plan within three months of the identification of the environmentally sensitive land.

Policy 1.2.2 UNIVERSITY-WIDE:
The University shall survey the precise locations of native vegetative associations prior to the construction of any buildings, roadways, pathways or other developments that may impact these vegetative

associations. Prior to final site planning, the University shall identify those areas to be impacted and determine if minor changes in the proposed locations of roads or buildings can minimize impacts on these areas.

Policy 1.2.3 UNIVERSITY-WIDE:
In order to protect native vegetative communities, the University shall endeavor to provide for a development buffer of at least 25 feet between native vegetative communities (Figure 13.1,13.2 and 13.3) and construction projects, including but not limited, to buildings, roadways, pathways and recreation facilities.

Policy 1.2.4 UNIVERSITY-WIDE:
The University shall remove invasive exotic plant species from natural vegetation associations and from landscaped areas. Priority shall be given to removing exotic species from those native vegetation associations indicated in Figures 13.1 and 13.3. Removal of exotic species shall be carried out in a manner that minimizes impacts to native vegetation associations. Where necessary, areas from which exotic plants have been removed shall be replanted with appropriate native plant species. Removal of exotic species from natural vegetation associations and from landscaped areas shall be carried out quarterly during the first year and yearly thereafter, unless monitoring activities indicate that more frequent removal is.

Policy 1.2.5 BISCAYNE BAY CAMPUS:
To help curtail their further spread into mangrove areas and other natural vegetation associations on campus, the University shall continue a program of removing large stands of Australian pines. Removal of Australian pines shall be carried out in a manner that minimizes impacts to native vegetation associations. Areas from which Australian pines have been removed shall be re-vegetated in a manner consistent with the 16.0 Landscape Design Guidelines Element of this Master Plan. The use of native plant species in the landscaping of these areas shall be encouraged. The choice of native plant species shall be consistent with those recommended by FIU Facilities Planning and Construction and Landscape Architect staff. In no case shall those plant species identified in Section 6.8 of the Miami-Dade County Comprehensive Development Master Plan as potentially invasive be in any University landscaping or enhancement planting.

Because the removal of Australian pines may result in soil disturbance and provide colonization opportunities for other invasive exotic plants, replanting of landscape vegetation shall

immediately follow the removal of Australian pines. A timetable for removal of Australian pines shall be determined by Facilities Management .

Policy 1.2.6 UNIVERSITY-WIDE:
An administrative staff person of the Environmental Health and Safety Division shall establish a protocol for monitoring the establishment and spread of invasive exotic plant species. Monitoring activities shall be carried out quarterly. If monitoring activities indicate that invasive exotic species are becoming re-established, exotic plants shall be removed using the methods outlined in Policy 1301.2.4 and 16.0 Landscape Design Guidelines Element Policy 1.2.3.

Policy 1.2.7 UNIVERSITY-WIDE:
The University shall use native plant species in restoration/enhancement planting of native vegetative communities. The use of native plant species in general campus landscaping shall be encouraged. The choice of native plant species shall be consistent with those recommended by the University's Environmental Studies staff, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Where restoration or enhancement planting is instituted, the species chosen shall be those that are naturally found in the particular vegetative community being restored or enhanced.

Policy 1.2.8 UNIVERSITY-WIDE:
The University shall use native plant species in the 25-foot wide landscape buffer areas that border native vegetative communities.

Objective 1.3 Maintain and Enhance Existing Wetland and Aquatic Natural Resource Values:

Maintain and enhance existing values for current wetland, littoral zone and aquatic natural resources. For Biscayne Bay Campus, also see Goals, Objectives and Policies in the Coastal Management Element.

Policy 1.3.1 UNIVERSITY-WIDE:
The University shall prepare and implement a plan to enhance the ecological and aesthetic values of lakes on campus by grading lake shores to provide littoral zones, by enhancement planting of native littoral vegetation, and by minimizing or eliminating the use of fertilizers on campus to reduce eutrophication.

Policy 1.3.2 BISCAYNE BAY CAMPUS:

Maintain at least a 25-foot buffer zone between future planned buildings, ancillary structures, and access roads and mangrove areas and other natural areas slated for preservation (see Figure 13.3).

Policy 1.3.3 BISCAYNE BAY CAMPUS:
Protect and enhance existing shallow-water communities and seagrass beds in the waters of Biscayne Bay fronting Biscayne Bay Campus by reducing the impacts of stormwater runoff to these areas.

Policy 1.3.4 BISCAYNE BAY CAMPUS:
Protect the shoreline stabilization project carried out by Dade County Department of Environmental Resources Management (DERM) in 1989 and1991.

Policy 1.3.5 BISCAYNE BAY CAMPUS:
Complete ongoing mitigation programs and protect new and ongoing mitigation programs.

Objective 1.4 Campus Setting and the Natural Environment:
Create an aesthetically pleasing, tropical educational setting through planting of xerophytic vegetation, using native species where possible, which will link natural areas on campus and provide for a harmonious transition from developed to natural areas.

Policy 1.4.1 MODESTO A. MAIDIQUE CAMPUS:
Use native vegetation to link natural areas on campus. This should be made consistent with objectives of the 3.0 Urban Design Element.

Policy 1.4.2 UNIVERSITY-WIDE:
Strongly encourage the use of native xerophytic plant species for use in general landscaping and in the creation and enhancement of wildlife habitat. Limit the use of exotic species in general campus landscaping. Use of native species will reduce landscape water demands, will reduce seed sources of potentially invasive exotic species, and provide a natural setting that is indicative of a tropical environment.

Policy 1.4.3 The University shall endeavor to prevent any harm to its natural campus environment from construction activities. Any damage occurring will be repaired to its former state by those responsible parties.

Policy 1.4.4 BISCAYNE BAY CAMPUS:
The Environmental Coordinator shall, in cooperation with Oleta River State Recreation Area personnel, develop a plan to link mangrove

areas in the northeast portion of campus with the Oleta River State Recreation Area by means of littoral zone vegetation (along the shoreline) or by plantings of strand vegetation immediately behind shoreline stabilization structures (see Figure 13.3). The Environmental Coordinator shall also encourage Oleta River State Recreation Area personnel to develop a plan for removal of Australian pines from the portion of the Oleta River State Recreation Area adjacent to Biscayne Bay Campus.

Objective 1.5 **Protection of Listed Species:**
Protect federal, state, and local listed species and their habitat from negative impacts of University activities.

Policy 1.5.1 UNIVERSITY-WIDE:
During the initial planning phase of any physical changes to either campus, the University shall perform a census of wildlife and plants in the area to be affected. Plants or animals identified in the "Official Lists of Endangered & Potentially Endangered Fauna and Flora in Florida", which is updated annually by the Florida Fish and Wildlife Conservation Commission, or otherwise afforded protection by the host communities and local, state and federal agencies, shall be noted. Protection plans for listed species shall be formulated consistent with those of the host communities and appropriate local, state and federal agencies.

Policy 1.5.2 UNIVERSITY-WIDE:
University personnel shall, when encountering listed species, follow procedures and seek consultation with the appropriate agencies as identified in the Florida Fish and Wildlife Conservation Commission's Wildlife Methodology Guidelines (1999).

Objective 1.6 **Minimize Impacts of Campus Operational and Maintenance Activities:**
Establish campus-wide policies to minimize the impacts of campus operational and maintenance activities on the water quality, and to identify hazardous material sources and reduce their negative impacts.

Policy 1.6.1 UNIVERSITY-WIDE:
To limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod, the University staff coordinator shall, on an annual basis, review existing and proposed University activities for compliance with the surface water policies of the South Florida Water Management District.

Policy 1.6.2 UNIVERSITY-WIDE:

The University shall continue to test stormwater runoff and groundwater quarterly for compliance with standards set by the State of Florida Department of Environmental Protection, the Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency. Failure to meet relevant standards for stormwater runoff shall result in an assessment of probable causes and the production and implementation of a plan to improve the quality of runoff or groundwater.

Policy 1.6.3 BISCAYNE BAY CAMPUS:
The University shall continue monitoring and logging of results of sampling and analysis of petroleum tanks and their associated wells that are housed in the Central Utilities compound.

Policy 1.6.4 UNIVERSITY-WIDE:
The University shall continue to monitor water quality in the lakes, canals and mangrove areas on each campus on a quarterly basis. Should the water quality fall below the standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency, an assessment of probable causes of pollution shall be performed and a plan developed and implemented to limit the point and non-point sources of pollution.

Policy 1.6.5 UNIVERSITY-WIDE:
The University shall maintain a record of types and amounts of hazardous, toxic and medical wastes that are generated within the University and a record of hazardous, toxic and medical waste that are collected by the Environmental Health and Safety Staff. The University shall also maintain a record of the types and amounts of hazardous, toxic and medical waste that waste disposal companies collect. Records shall be kept of the name of the waste disposal companies and the name of the driver for each pick-up.

Policy 1.6.6 UNIVERSITY-WIDE:
Handling, data records, storage and disposal requirements for radioactive waste generated at Modesto A. Maidique Campus and Biscayne Bay Campus and the Engineer Center shall be in compliance with local, regional, state and federal regulations.

Policy 1.6.7 UNIVERSITY-WIDE:
At present, all hazardous materials for both campuses are handled under four EPA-Hazardous Waste Generator numbers. The University should investigate the possibility of operating under more

than one number to ensure compliance with requirements associated with satellite collection areas.

Policy 1.6.8 UNIVERSITY-WIDE:
The University shall inventory herbicide, pesticide and fertilizer use and evaluate their impacts on water quality. Modify or reduce herbicide, pesticide and fertilizer usage to minimize or eliminate negative impacts on water quality.

Objective 1.7 Maintain and Enhance Air Quality:
Establish a program to maintain high air quality standards on campus, both within and outside of buildings and parking structures.

Policy 1.7.1 UNIVERSITY-WIDE:
The University shall monitor both indoor and outdoor air quality, as necessary. Outdoor sites to be sampled should include parking lots and congested intersections. Failure to meet air quality standards accepted by the State of Florida shall result in an assessment of probable causes and the production and implementation of a plan to improve and maintain air quality.

Policy 1.7.2 UNIVERSITY-WIDE:
Minimize emissions of air pollutants from and within buildings on campus through the installation of appropriate filtering devices on fume hoods and by minimizing the storage and use of volatile and hazardous materials in campus buildings.

Policy 1.7.3 UNIVERSITY-WIDE:
Determine potential impacts on air quality before construction of parking structures. Design parking structures to facilitate rapid ingress and egress of vehicles to minimize idling time, and design such structures to maximize air flow through them and eliminate pockets of stagnation where levels of pollutants can build up.

Policy 1.7.4 UNIVERSITY-WIDE:
Encourage and facilitate non-polluting transportation alternatives on campus including pedestrian and bicycle access. Sidewalks and pedestrian malls should be designed to facilitate and encourage foot traffic between buildings, and to maximize handicap accessibility.

GOAL 2: **Minimize resource utilization on campuses.**

Objective 2.1 **Water Conservation:**
Establish measures that reduce water utilization.

Policy 2.1.1 UNIVERSITY-WIDE:
FIU shall conserve water and reduce chemical use through the use of xeriscape design principles, which include but are not limited to:

- Use of drought tolerant and native plant materials;
- Use of low volume delivery fixtures;
- Zoned irrigation systems;
- Moisture sensors and rain switches;
- Use of drought tolerant ground cover;
- Use of canopy trees; and
- Use of soil amendments and mulch to enable soils to retain moisture.

Policy 2.1.2 UNIVERSITY-WIDE:
Retrofit existing campus buildings with water-saving devices. Require that water-efficient (high efficient) fixtures and other water-saving devices be installed in all future buildings.

Policy 2.1.3 UNIVERSITY-WIDE:
If feasible, expand the use of filtered wastewater ("reclaimed water") for landscape irrigation.

Policy 2.1.4 UNIVERSITY-WIDE:
FIU will promote Florida Friendly principles through the use of drought-tolerant landscape species, the use of irrigation systems that conserve the use of potable and non potable water supplies, and restrictions on the amount of lawn areas.

Objective 2.2 **Solid Waste Recycling and Resource Conservation:**
Establish measures that encourage solid waste recycling.

Policy 2.2.1 UNIVERSITY-WIDE:
A general recycling program for paper, aluminum, glass, etc. shall be instituted and recycling goals for proportions of materials recycled established. All entities on campus (including food vendors/cafeterias, etc.) should be required to subscribe to this program and compliance with the program should be monitored on a regular basis. Work toward establishing this policy at Modesto A. Maidique Campus has been initiated by the Environmental Studies Program, and further efforts in this regard should be coordinated with it.

Policy 2.2.2 UNIVERSITY-WIDE:
State, regional and local standards for waste management shall be reviewed at least annually. Solid waste management on all campuses shall be in compliance with state, regional and local standards.

Policy 2.2.3 UNIVERSITY-WIDE:
The University shall contract with a licensed recycling contractor to provide for the collection for recycling, at minimum, of paper, aluminum, plastic, glass and newspapers. Separate refuse containers, as called for by the recycling contractor, shall be made available in all buildings, courtyards, in open space areas, etc. on both campuses. This program should be made compulsory on a campus-wide basis.

Policy 2.2.4 UNIVERSITY-WIDE:
Where feasible, recycled paper products shall be purchased for University use, including those used in food service.

Objective 2.3 Energy Conservation and Efficiency:
Develop a program to conserve and appropriately use energy that includes development of a Climate Action Plan (a responsibility as a signatory of the American College and University Presidents Climate Commitment) and strategies to meet USGBC standards for LEED Silver certification.

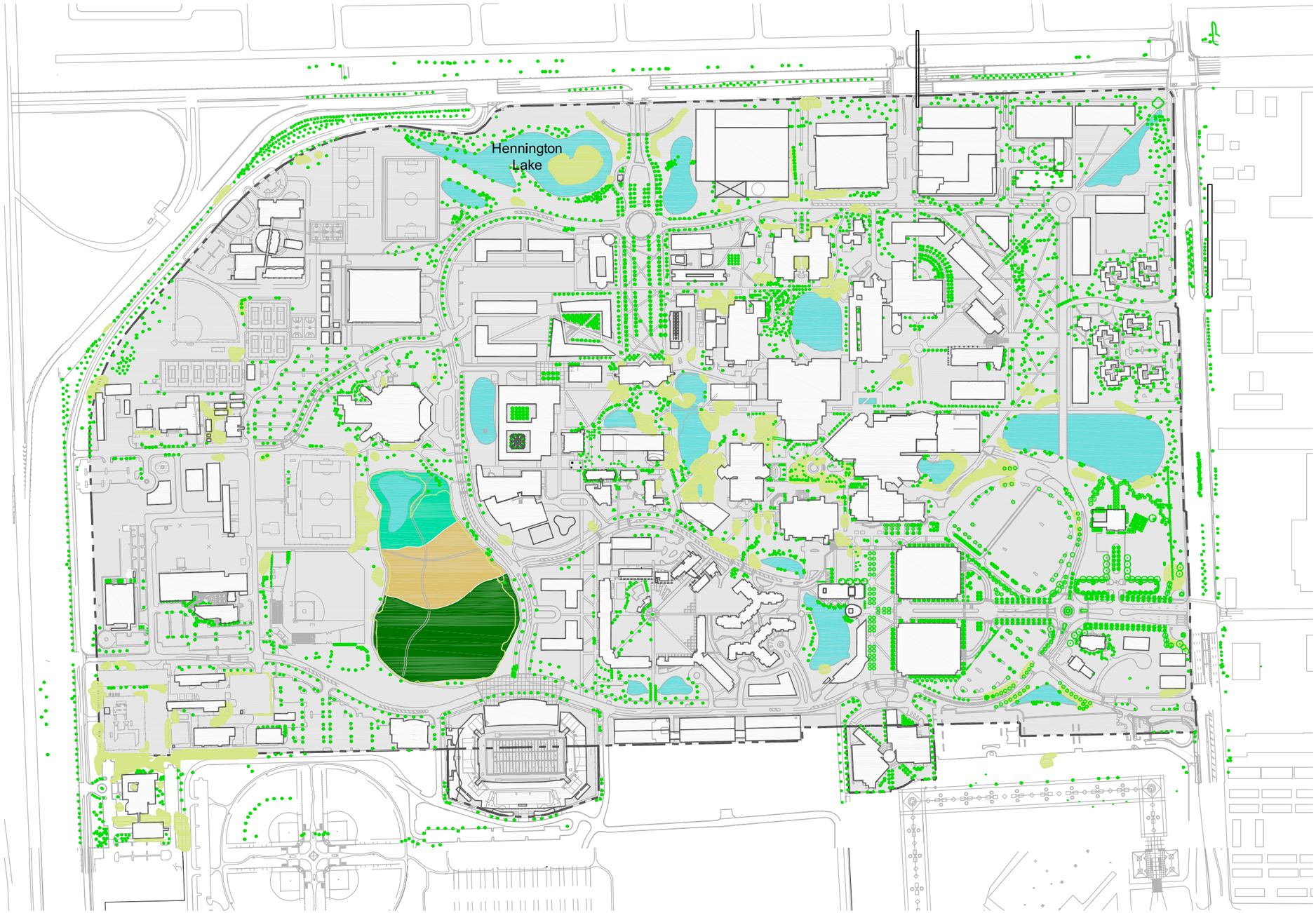
Policy 2.3.1 UNIVERSITY-WIDE:
Retrofit existing buildings with energy-conserving lighting fixtures. Require all new buildings to be equipped with energy efficient lighting devices. Design new buildings to take maximum advantage of available natural lighting.

Policy 2.3.2 UNIVERSITY-WIDE:
Where feasible, buildings on campus shall be fitted with devices to automatically reduce energy use in rooms and buildings not in use, including programmable thermostats for air conditioners and sensors that automatically turn off lights.

Policy 2.3.3 UNIVERSITY-WIDE:
Investigate the possibility of using "non-traditional" energy sources on campus. Such alternatives could include the use of solar power for lighting parking lots, etc.

Policy 2.3.4 UNIVERSITY-WIDE:
Provide energy conservation design in new and renovated buildings

per USGBC LEED Silver criteria as minimum level of performance.



LEGEND

- Lakes & Canals
- Campus Grove
- Existing Trees
- Mangrove Areas
- Hardwood Hammock
- Pine
- Wetland
- Beach Strand Vegetation

KEY MAP

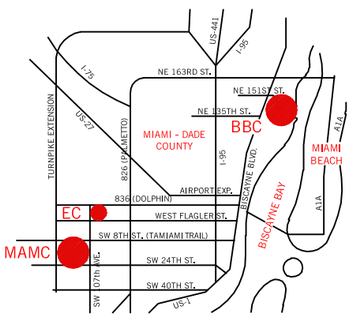


FIGURE 13.1
Modesto A Maidique Campus
Conservation Elements

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LEGEND

- Campus Grove
- Existing Trees
- Campus Park

KEY MAP

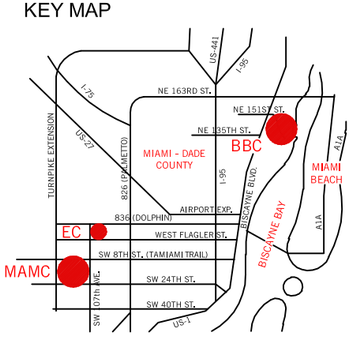

FIGURE 13.2
Engineering Center
Conservation Elements

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LEGEND

- Lakes & Canals
- Campus Grove
- Existing Trees
- Mangrove Areas
- Hardwood Hammock
- Pine
- Wetland
- Beach Strand Vegetation

KEY MAP

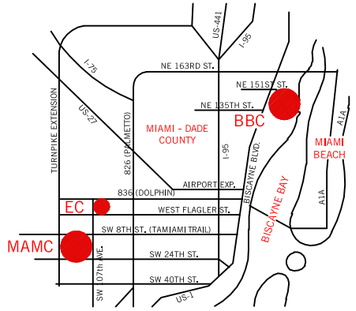

FIGURE 13.3
Biscayne Bay Campus
Conservation Elements

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14.0 CAPITAL IMPROVEMENTS ELEMENT

Florida International University faces a need for enormous expansion and development activity over the next decade, if facilities are to be made available to correct deficits and meet the needs of a rapidly expanding enrollment. Where appropriate, creative funding mechanisms such as user fees and joint development agreements are identified. The funding of capital improvements, which constitutes this Master Plan, is one of the most critical steps in the planning process. The implementation of this Master Plan is contingent upon the identification, application and efficient use of both State University System (SUS) monies and those made available to or by Florida International University.

The majority of capital improvements required by growth and continued educational enhancement efforts of the University are supported by funding mechanisms such as Public Educational Capital Outlay (PECO) and Capital Improvement Trust Fund (CITF) program monies that are administratively allocated and funded by the SUS. The importance of each specific capital improvement identified by this plan must be specified by FIU. Table 14.1 outline SUS-eligible capital improvements for Years 2005-2015. This table also identifies those improvements that are not, at this time, considered eligible for SUS funding and, as a result, represent the fiscal requirements of this plan that will be imposed on FIU for implementation.

There are several complexities which will evolve annually from the implementation of this plan. As a result, the Master Plan and its effectiveness can only be ensured through a procedural update to this element. These updates should occur on an annual basis. These efforts hinge on several initiatives authorized by the adoption of this Master Plan but may equally depend on existing procedures such as the CIP planning process that takes place with the Office of Capital Programs on an annual basis.

The goals, objectives and policies of the Capital Improvements Element outline the procedures and strategies that will be implemented for this Master Plan in the most efficient and fiscally sound manner.

GOAL 1: **Florida International University shall plan, program and develop capital facilities necessary to accomplish the academic mission at projected enrollment levels, applying sound fiscal policies.**

Objective 1.1 **Schedule of Capital Improvements:**
Plan and implement a schedule of capital improvements coordinating land use and development decisions with fiscal resources to meet projected facility needs while maintaining level of service standards herein identified.

Policy 1.1.1 FIU shall coordinate with Miami-Dade County, the City of Sweetwater, the City of North Miami, the City of Miami Beach and utility providers to monitor and project the availability of off-campus services and facilities at adopted levels of service concurrent with the impacts of

campus development prior to the programming of each development project. The Master Plan is acknowledged to have documented the ability to accommodate campus development indicated, herein through the plan period, consistent with the maintenance of host community levels of service.

Policy 1.1.2 FIU shall, prior to programming each development project, verify that development impacts can be accommodated while maintaining on-campus level of service standards herein established.

Policy 1.1.3 FIU shall ensure that the Capital Improvement Program 5-year project priority list remains consistent with the Master Plan, subsequent plan revisions and with applicable campus development and joint use agreements

Policy 1.1.4 Capital Improvement Program modifications shall be pursued to improve the efficiency, timeliness and cost effectiveness of improvements to infrastructure, parking, site development and landscaping. The adopted campus master plan will be amended as needed to incorporate any revisions to the Capital Improvement Program.

Policy 1.1.5 Capital Improvement Program procedures shall be applied to make full use of "infill" areas where utility, parking and related infrastructure services are in place.

Policy 1.1.6 The annual budgeting process shall include provisions for the adoption of a capital budget and shall be reviewed to ensure consistency with campus development agreements.

Objective 1.2 Adequate Resources:
Florida International University shall seek resources sufficient to meet projected facility needs and seek to secure funding in advance of projected need to avoid additional deficits.

Policy 1.2.1 Prepare CIP-3 Forms and CIP line item funding requests targeted to improvements to infrastructure, parking and site (landscape) development necessary to support existing, expanded and new facilities, separate and discrete from budgets for individual buildings.

Policy 1.2.2 Seek local ancillary funding sources to supplement PECO appropriations including the following:

-Revenues from joint use facilities (arts center, football stadium, etc.)
-User fees for upgraded parking and student/faculty services.

Policy 1.2.3 Accelerate facility development programming and feasibility studies to occur 3-4 years prior to the expected availability of PECO funds and auxiliary revenues such as student capital improvement fees for academic support and necessary infrastructure and service facilities.

Objective 1.3 Deficiencies, Deficits and Future Growth:
The Capital Improvement Element shall seek to correct existing facility deficiencies and deficits and provide additional facilities necessitated by future growth by the end of the planning period.

Policy 1.3.1 Apply the following criteria for evaluating and prioritizing capital improvements:

-Relative program performance and value to achievement of the Academic Mission.
-Degree of impact on the elimination of facility or service deficits.
-Cost effectiveness and development efficiency.
-Availability of supplementary matching funds or operating revenue opportunities.

Policy 1.3.2 Apply the following criteria for prioritizing facility renewal and upgrading projects.

-Projects necessary to maintain level of service standards; achieve code compliance and provide handicapped access.
-Projects which reduce operating costs and improve energy efficiency.
-Projects which expand facility capacities and utilization, reducing demand for new facilities.

Policy 1.3.3 By the end of the planning period replace all inadequate obsolete and potentially unsafe structures including:

-Trailers and portable classrooms.
-Pre-university airport support structures (except the control tower).

Policy 1.3.4 To ensure that future capital budgeting accurately reflects anticipated total development costs, future facility cost estimates shall include estimates of proportional costs for all related ancillary site improvements which will be necessitated by specific buildings or aggregations of facilities, including:

-utility extensions
-site modifications (including mitigation costs)
-parking
-pedestrian and vehicular circulation landscaping.

Facilities shall be sized sufficiently to support anticipated future capacity requirements.

Table 14.1 Florida International University Capital Improvement Plan (2005-2015)

Program Element Description	Use	Sub-Total Area GSF	Total Area GSF	Cost	Projected Year of Completion
MODESTO A. MAIDIQUE CAMPUS / THE ENGINEERING CENTER					
Facilities Infrastructure / Capital Renewal			N/A	$105,130,000	2005-2015
College of Nursing			103,653	$41,460,000	2010
Graduate School of Business Phase 1			87,528	$30,640,000	2010
Art Museum Addition			48,874	$24,440,000	2010
Parking Garage 5	Parking Spaces	2,000	785,000	$12,000,000	2010
	Public Safety	4,000		$1,200,000	2010
	Office	9,500		$2,850,000	2010
	Mixed Use	30,000		$10,500,000	2010
Hurricane Research Center			31,760	$12,700,000	2011
Arena Expansion			7,000	$2,450,000	2011
Recreational Sports			34,000	$11,900,000	2011
Parkview Housing 1	Support	15,000		$3,750,000	2012
	Housing (246 beds)	90,000	105,000	$15,750,000	2012
Parkview Housing 2	Support	15,000		$3,750,000	2012
	Housing (246 beds)	90,000	105,000	$15,750,000	2012
Housing	Support	15,000		$3,750,000	2012
	Housing (246 beds)	90,000	105,000	$15,750,000	2012
Alumni Center			17,300	$6,060,000	2013
Science Lab Complex (BT-876)			127,200	$52,790,000	2013
Student Academic Support Center			80,000	$24,000,000	2013
Public Health			140,000	$56,000,000	2013
Satellite Chiller Plant Expansion			12,500	$3,130,000	2013
Patient Hospital Tower			207,000	$103,500,000	2013
Humanities			77,600	$23,280,000	2014
Observatory (BT-814)			6,866	$2,400,000	2014
Graduate School of Business Phase 2			89,312	$31,260,000	2014
Training Complex			40,432	$12,130,000	2014
Graduate Housing 1	Support	14,600		$3,650,000	2014
	Housing (205 beds)	73,000	87,600	$12,780,000	2014
Graduate Housing 2	Support	14,600		$3,650,000	2014
	Housing (205 beds)	73,000	87,600	$12,780,000	2014

continued

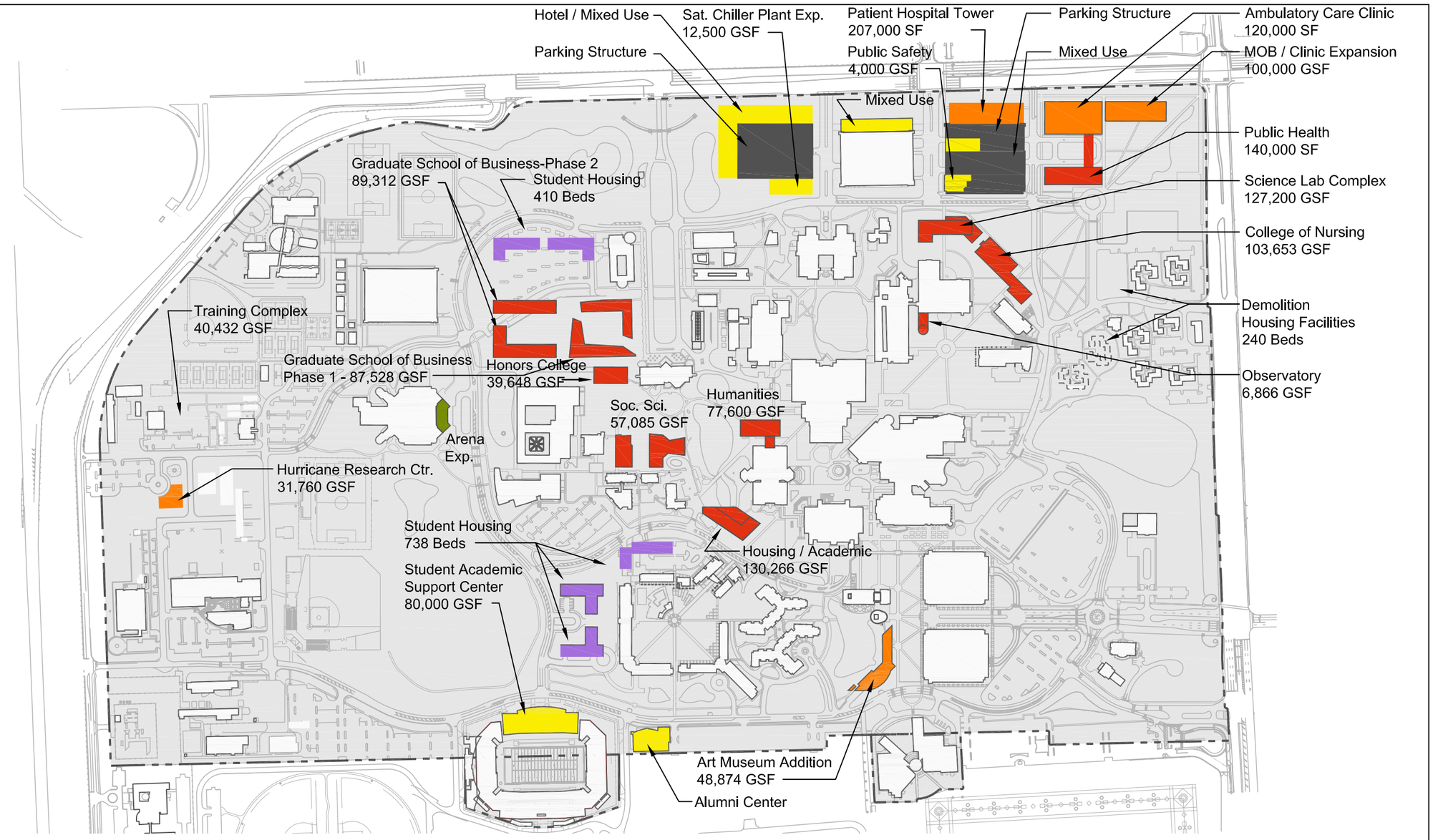
Table 14.1 Florida International University Capital Improvement Plan (2005-2015)

Program Element Description	Use	Sub-Total Area GSF	Total Area GSF	Cost	Projected Year of Completion
Social Sciences			57,085	$17,130,000	2015
Parking Garage 6	Parking Spaces	1,400	523,000	$8,400,000	2015
Hotel			212,800	$74,480,000	2015
Mixed Use 1			60,000	$21,000,000	2015
Mixed Use 2			40,000	$14,000,000	2015
Ambulatory Care Clinic			120,000	$57,000,000	2015
MOB / Clinic Expansion			100,000	$47,500,000	2015
Academic / Office			100,000	$30,000,000	2015
Research 1			140,000	$58,100,000	2015
Housing / Academic	Academic	32,566		$9,770,000	2015
	Housing (246 beds)	97,700	130,266	$17,100,000	2015
Housing @ Main Street 1	Academic	7,150		$2,150,000	2015
	Support	7,150		$1,790,000	2015
	Housing (246 beds)	85,800	100,100	$15,020,000	2015
Housing @ Main Street 2	Academic	14,300		$4,290,000	2015
	Support	14,300		$3,580,000	2015
	Housing (246 beds)	85,800		$15,020,000	2015
Academic / Office	Academic	7,150		$2,150,000	2015
	Support	7,150		$1,790,000	2015
	Housing (246 beds)	85,800	100,100	$15,020,000	2015
Student Support Addition			170,000	$51,000,000	2015
Greek Housing 3	(40 beds)		14,400	$2,520,000	2015
Construction Management / Academic (EC)	Academic	96,800		$29,000,000	2015
	Support	14,000	110,800	$3,500,000	2015
Research 2			165,000	$68,480,000	2016
Research 3			136,500	$56,650,000	2016
Academic / Office			128,500	$38,550,000	2016
Honors College			39,648	$11,890,000	2016
IT / Study			82,200	$28,770,000	2016
Greek Housing 4	(40 beds)		14,400	$2,520,000	2016
Greek Housing 5	(40 beds)		14,400	$2,520,000	2016
MODESTO A. MAIDIQUE CAMPUS / THE ENGINEERING CENTER		**TOTAL**	**4,945,424**	**$1,371,870,000**	

continued

Table 14.1 Florida International University Capital Improvement Plan (2005-2015)

Program Element Description	Use	Sub-Total Area GSF	Total Area GSF	Cost	Projected Year of Completion
BISCAYNE BAY CAMPUS					
Student Housing 1	Support	14,300		$3,580,000	2013
	Housing (328 beds)	114,400	128,700	$20,020,000	2013
Carnival Student Center			2,550	$890,000	2014
Classrooms / Office			54,000	$18,900,000	2015
Classrooms / Research Labs			72,000	$28,800,000	2015
Student Housing 2	Support	14,300		$3,580,000	2015
	Housing (328 beds)	114,400	128,700	$20,020,000	2015
Conference Center / Hotel			77,250	$27,040,000	2015
BISCAYNE BAY CAMPUS		**TOTAL**	**463,200**	**$122,830,000**	
		GRAND TOTAL	**5,408,624**	**$1,494,700,000**	



LEGEND

- Academic & Research Facilities (110,210,220,300,400,530, 540,570,580,590,710) Parking Structure
- Support Facilities (630,650,660,670,800)
- Housing Facilities (900)
- Recreation / Open Space (520)
- Community Interface
- Parking
- Conservation
- Demolition
- (###) Space Categories

KEY MAP

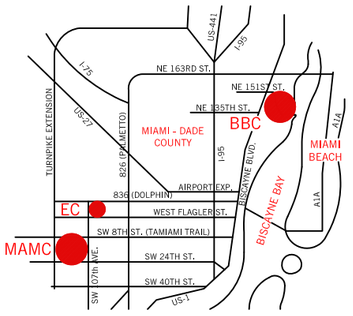


FIGURE 14.1a
Modesto A Maidique Campus
2015 Space Needs

Planned or Under Construction (2006-2011) (Location & description of facilities shown on diagram.)

Academic & Research Facilities	Support Facilities	Housing Facilities	Community Interface
728,892 GSF	136,932 GSF	1,148 Beds, 401,800 GSF	507,634 GSF

Additional 2015 Space Needs (For location & description of planned facilities refer to Elements 5, 6, 7.)

Academic & Research Facilities	Support Facilities	Housing Facilities	Community Interface	Recreation / Open Space
639,518 GSF (assumes 6 story massing)	238,391 GSF (assumes 4 story massing)	527 Beds, 184,450 GSF (assumes 38 beds per floor requires 7 story massing)	(no additional space needed)	17,359 GSF (assumes 1 story massing)

Total - Planned and Additional Needs

Academic & Research Facilities	Support Facilities	Housing Facilities	Community Interface	Recreation / Open Space
1,368,410 GSF	375,323 GSF	1,675 Beds, 586,250 GSF	507,634 GSF	17,359 GSF

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LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)
- Long Term Building Site

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

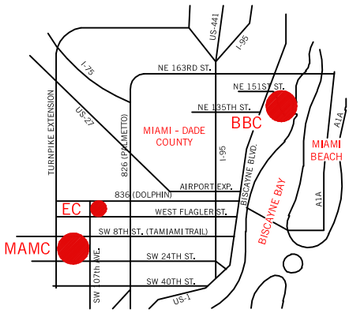

FIGURE 14.3c
Biscayne Bay Campus
Long Range Capital
Improvements Phasing

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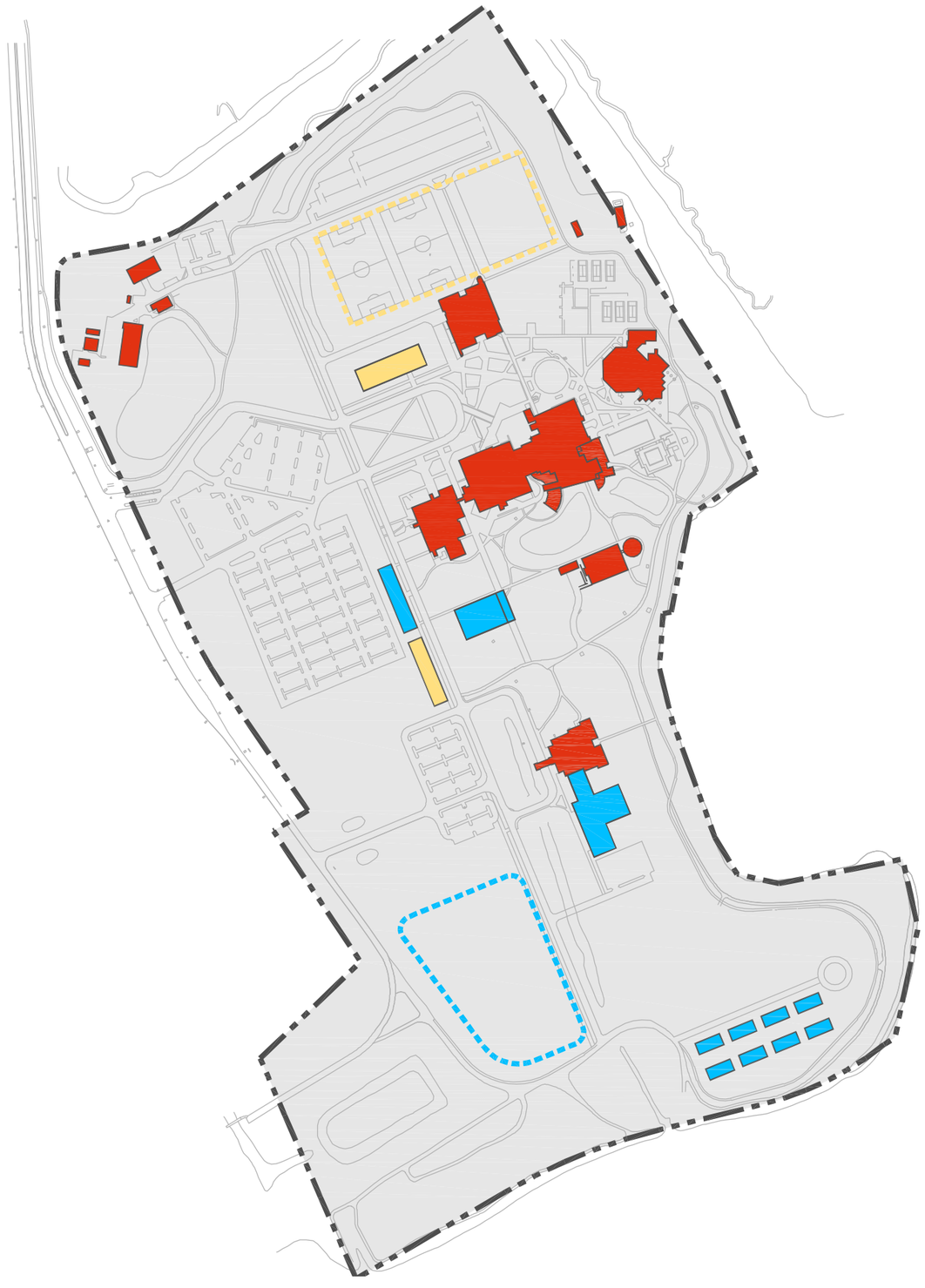

LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

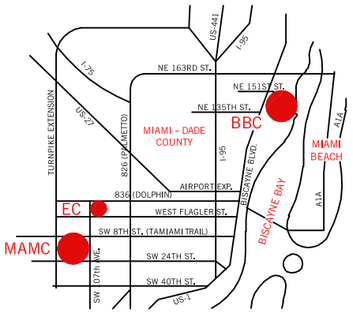

FIGURE 14.3b
Biscayne Bay Campus
Capital Improvements
Phasing

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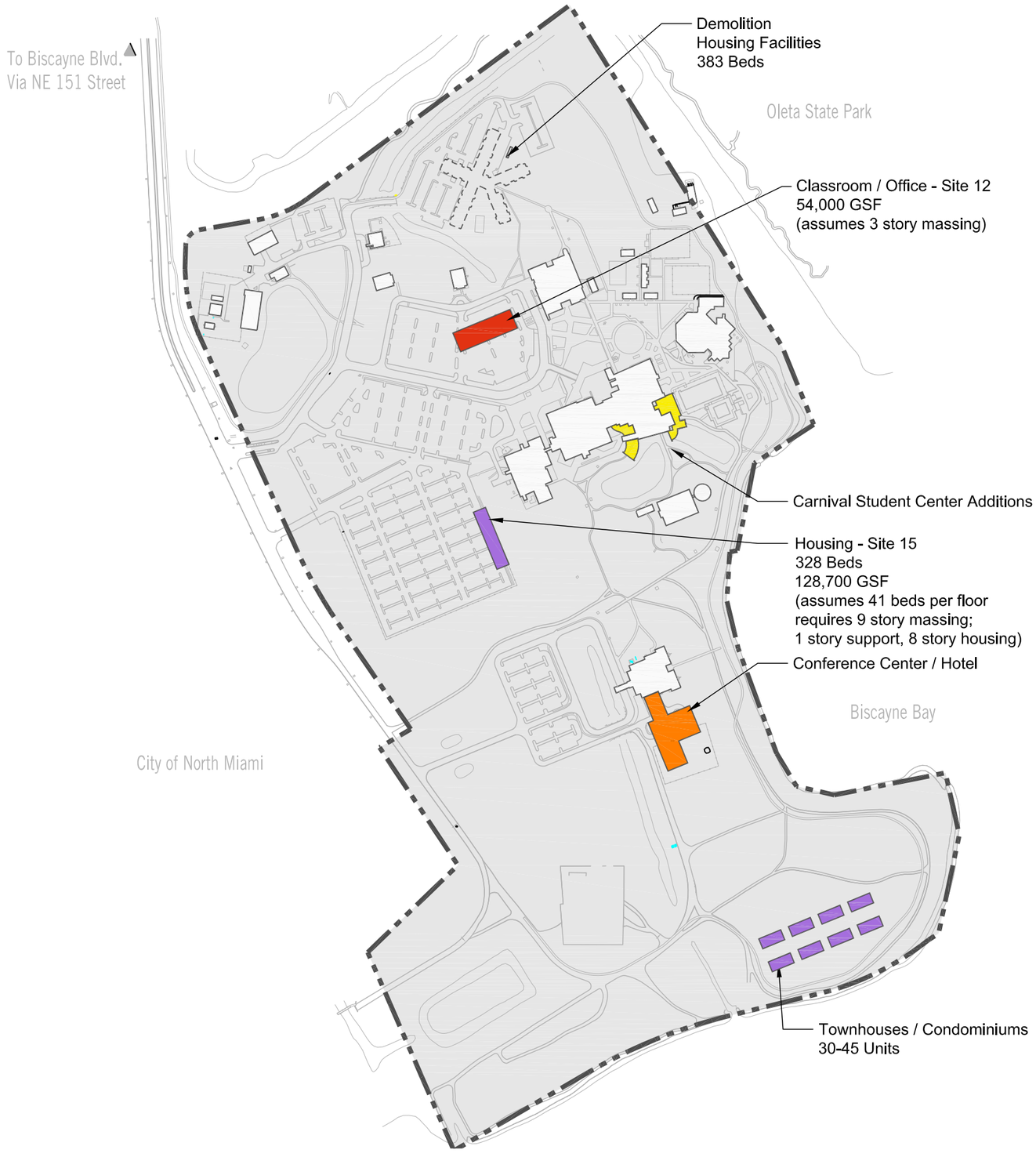

Planned or Under Construction (2006-2011)

(Location & description of facilities shown on diagram.)

Academic & Research Facilities
54,000 GSF

Support Facilities
16,700 GSF

Housing Facilities
328 Beds
128,700 GSF

Housing Facilities
Townhouses/
Condominiums (30-45 units)

Additional 2015 Space Needs

(For location & description of planned facilities refer to Elements 5, 6, 7.)

Academic & Research Facilities
72,422 GSF
(assumes 3 story massing)

Support Facilities
33,115 GSF
(assumes 1 story massing

Housing Facilities
328 Beds
128,700 GSF
(assumes 41 beds per floor
requires 9 story massing)

Recreation / Open Space
2,176 GSF

Total - Planned and Additional Needs

Academic & Research Facilities
129,422 GSF

Support Facilities
49,815 GSF

Housing Facilities
656 Beds
257,400 GSF

Housing Facilities
Townhouses/
Condominiums (30-45 units)

Recreation / Open Space
2,176 GSF

LEGEND

- Academic & Research Facilities (220,250,300,400,540,550,580)
- Support Facilities (630,650,660,670,800)
- Housing Facilities (900)
- Recreation / Open Space (520)
- Community Interface
- Parking
- Conservation
- Demolition

(###) Space Categories

KEY MAP

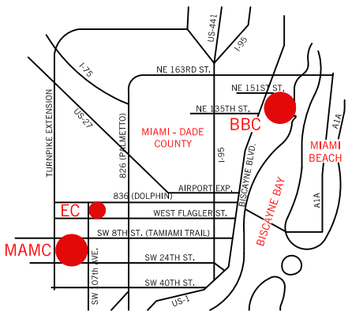

FIGURE 14.3a
Biscayne Bay Campus
2015 Space Needs

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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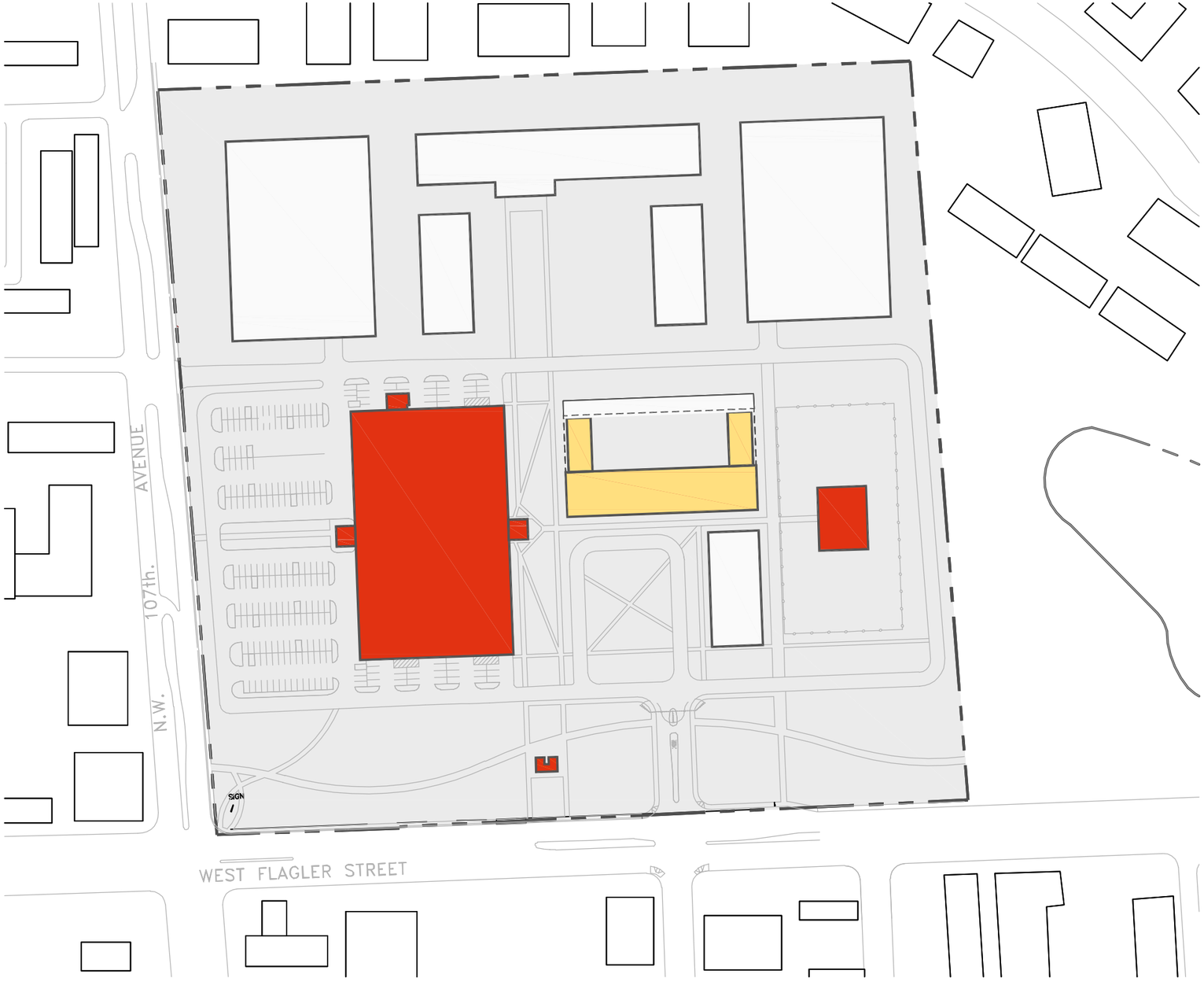

LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)
- Long Term Building Site

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

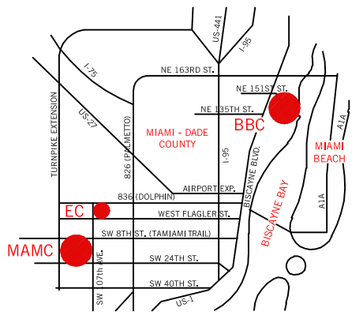

FIGURE 14.2c
Engineering Center
Long Range Capital
Improvements Phasing

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Campus Master Plan - June 2010

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LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

FIGURE 14.2b
Engineering Center Capital Improvements Phasing

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 100 200 400

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Planned or Under Construction (2006-2011)

(Location & description of facilities shown on diagram.)

Academic & Research Facilities	Community Interface
27,840 GSF	1,981 GSF

Additional 2015 Space Needs

(For location & description of planned facilities refer to Elements 5, 6, 7.)

Academic & Research Facilities
35,112 GSF
(assumes 2 story massing)

Support Facilities
13,875 GSF
(assumes 1 story massing)

Total - Planned and Additional Needs

Academic & Research Facilities	Community Interface
62,952 GSF	1,981 GSF

Support Facilities
13,875 GSF

LEGEND

- Academic & Research Facilities (110,210,220,300, 400,530,590,710)
- Support Facilities (630,650,660,670,800)
- Housing Facilities (900)
- Recreation / Open Space (520)
- Community Interface
- Parking
- Conservation
- Demolition

(###) Space Categories

KEY MAP

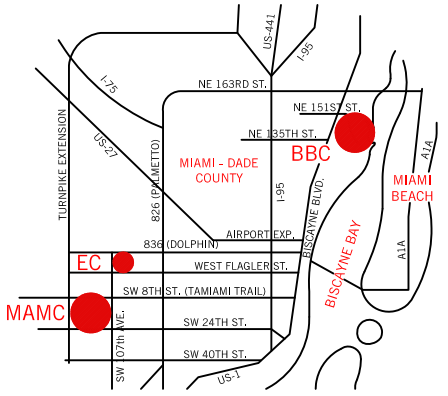

FIGURE 14.2a
Engineering Center
2015 Space Needs

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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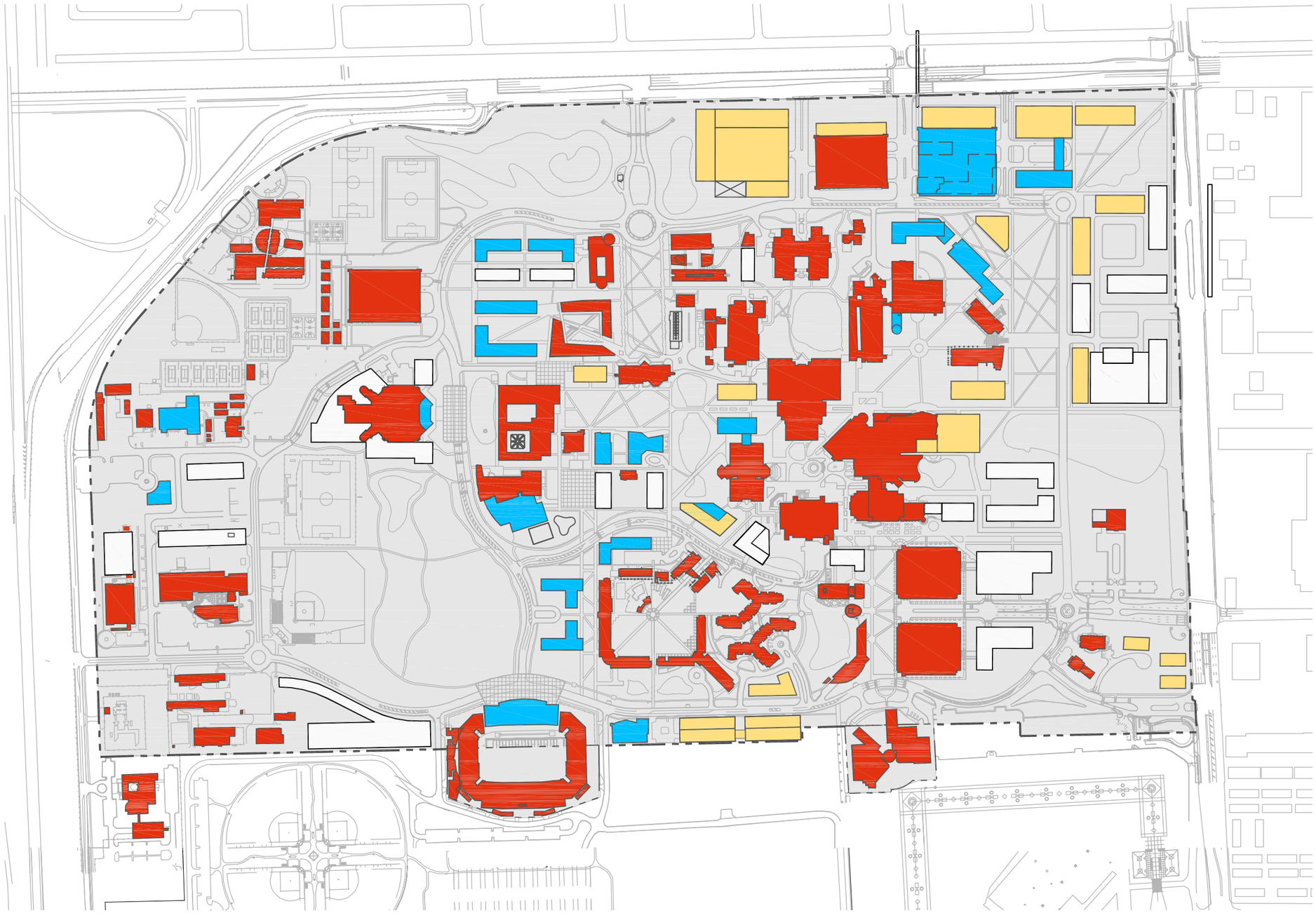
PERKINS +WILL



LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)
- Long Term Building Site

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

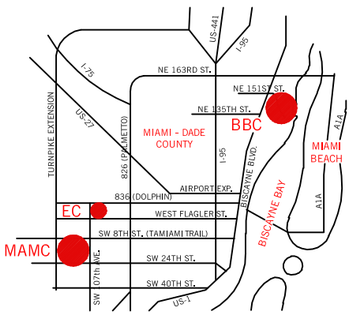


FIGURE 14.1c
Modesto A Maidique Campus
Long Range Capital Improvements Phasing

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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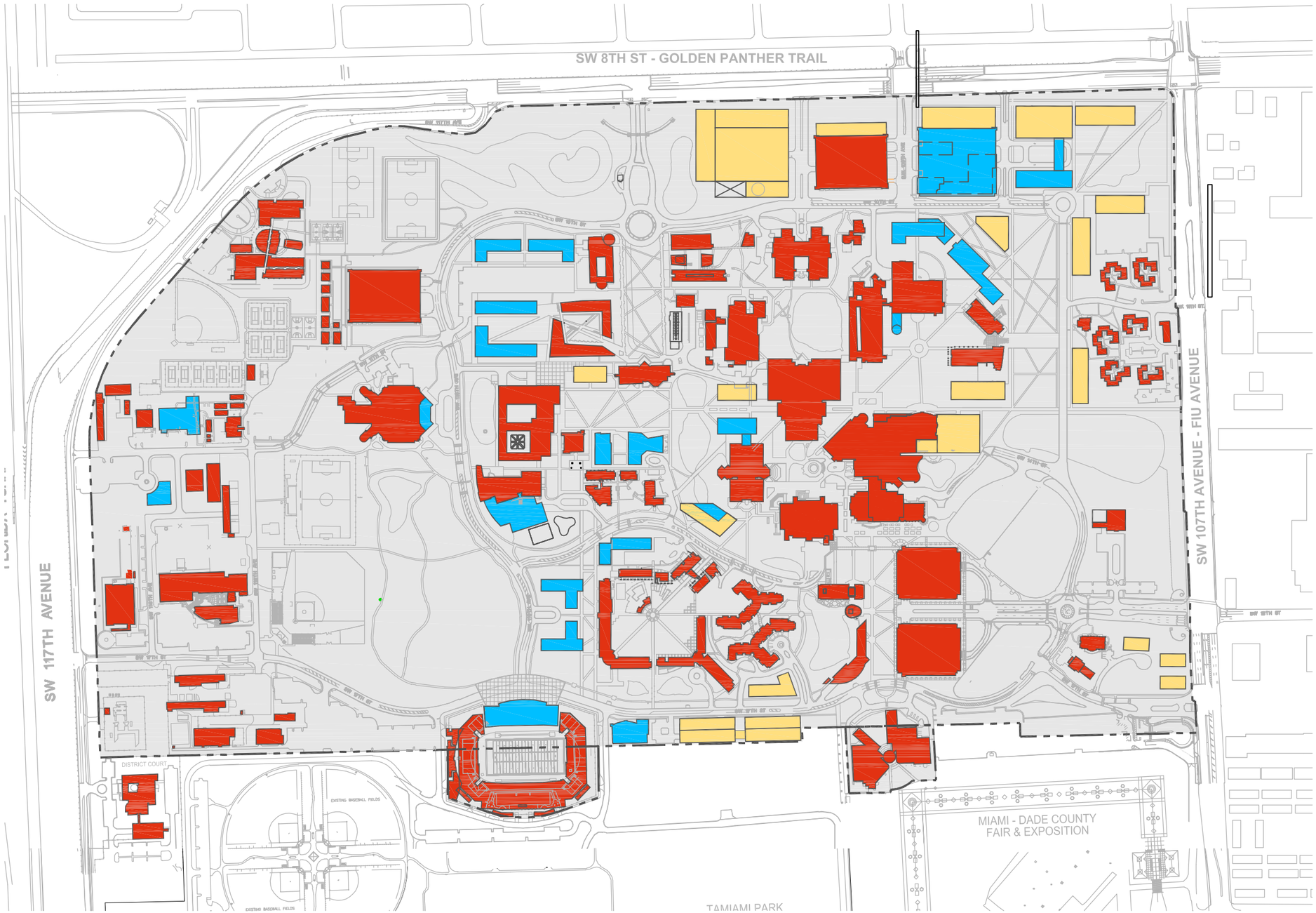

LEGEND

- Existing
- Planned or Under Construction (2006-2011)
- Future (2011-2015)

For location and description of planned facilities refer to Elements 5, 6, 7.

KEY MAP

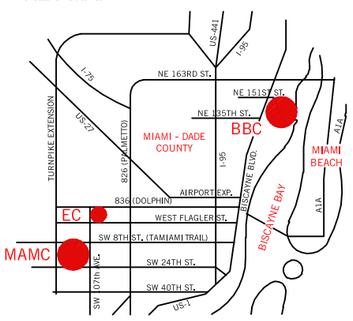

FIGURE 14.1b
Modesto A Maidique Campus
Capital Improvements
Phasing

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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15.0 ARCHITECTURAL DESIGN GUIDELINES ELEMENT

To achieve excellence in design, the criteria of programmatic needs, budget, sustainable site conditions, campus context, and academic mission of the university must be understood and properly aligned. This will ensure an early understanding of the specifics that will govern the design process. It is at the initial stage of this process that FIU assures success by aligning academic need with future facility requirements. The University assesses future facility requirements to the best of its ability, then applies a statistical matrix of budget and square footage factors to quantify those needs.

The university conducts a process of design professional selections focused on the ability of the professionals to deliver the criteria set by FIU on each given project. This process seeks to select firms employing individuals possessing expertise, directly related design talent, and capabilities to deliver the project. This selection process is the second critical step necessary to achieve design excellence for a particular project.

Once selected, the design professional's challenge is to deliver a facility within the budget and quality parameters identified during the needs assessment, with the hope that construction cost inflation will not be significant and that project requirements will not change. Therefore, the creation of an up-front, comprehensive project-specific program document is a critical step in preparing a project to become an "excellent design."

Once selected, the design professional must satisfy the program requirements as well as give consideration beyond the exterior walls of the project he/she has been commissioned to design. To assist the design process, FIU has established a set of Architectural Design Guidelines, which include a number of checkpoints. Each of these checkpoints preserves and enhances the image of higher education that has been the base concept for past design and has served as the foundation for development of FIU and this Comprehensive Master Plan.

It is in the integration of the urban design guidelines and the architectural design guidelines that a successful building design will emerge. Both must work in conjunction to assure the following:

- Site placement in response to adjacent structures and open campus green areas, as well as passive sustainable criteria.
- Maintenance of desirable sight lines to and from the facility.
- Locations of exterior service docks and refuse pick-up points out of view, screened and located, where practical, away from pedestrian areas.
- Adoption of sustainable design strategies for the site planning and exterior envelope to enhance the energy efficiency characteristics of the building's overall performance.
- Adherence to design requirements stipulated by the Americans with Disabilities Act (ADA) as amended by the State of Florida.

- Design to deliver low maintenance/vandal-resistant interior finishes and building systems that are commonly available for necessary replacement.
- Base the design of mechanical, electrical and plumbing systems on simple, reliable energy efficient components.
- Incorporation of cost containment guidelines and university building standards.

Highlights of Architectural Design Guidelines are discussed below.

QUALITY OF MATERIALS

The American Society for Testing and Materials (ASTM) is recognized as the industry standard for establishing the performance requirements for various building materials. The Architectural Design Guidelines recognize that adherence to the performance levels set forth in the nationally recognized standards of ASTM and the industry standards for design criteria, material performance and construction available through the various building trades, will do much to control quality levels while eliminating untested/unproven materials, products and systems from consideration on future FIU projects. Design Professionals should also apply sustainable design criteria, set by the USGBC, when selecting materials ensuring site objectives of regional or properly harvested materials.

ENERGY EFFICIENCY

The focus on energy-efficient design will continue to influence the delivery of new and renovated buildings well into the next century. New technologies involving identification of alternative energy sources lag behind the ever-increasing consumption of fossil fuels and other natural energy sources. New and renovated buildings are major consumers of energy; therefore, implementation of strategic design approaches targeting energy conservation/energy efficiency is mandatory. The USGBC standard of LEED Silver or above must be applied as a minimum level of performance.

LIFE CYCLE COST

The University provides a wide range of minimum requirements to be used in addressing design and quality levels to establish a level of building quality which is consistent with the State University System's interest in long term (40-year life) ownership. This document has been supplemented by FIU and adherence to these guidelines is required, by contract, of all firms providing design and/or construction services.

The evaluation of life cycle costs for building materials, systems and equipment, will continue to be an issue in preparing construction drawings and specifications for the foreseeable future. Life Cycle Costing (LCC) is simply selecting the most appropriate/ durable material based upon the owner's ability to initially purchase it, evaluated against the materials' longevity and expected maintenance costs. Most LCC systems address mechanical, electrical and plumbing equipment/systems. Analysis of architectural, civil and structural materials are more a "judgment" call based upon past performance (life) history and/or environmental factors that change from location to location.

COLOR AND TEXTURE

The guidelines for the color and texture of new and renovated or expanded facilities have been established to provide continuity between the new and existing facilities. In addition to providing aesthetic harmony in the campus appearance, this approach allows more cost-efficient maintenance of all University facilities.

SCALE/PROPORTION

Guidelines for the scale and proportion of buildings and adjacent facilities will continue to support development to be compatible with a pedestrian campus environment. Guidelines are established to prevent a massing of multi-story buildings, which would create an enclosed environment. The creation of gathering spaces adjacent to building and the use of landscaping, landscape and light, would allow for a more pedestrian-friendly scale and proportion.

GRAPHICS AND SIGNAGE

The Architectural Design Guidelines recognize that FIU will continue to evaluate and revise a comprehensive and consistent interior/exterior signage system. It calls for revisions to this system as required to respond to the Florida Accessibility Code and Americans with Disabilities Act Accessibility Guidelines.

SAFETY STATEMENTS

The safety standards identified in the guidelines reflect the most recent safety guidelines established for materials and building systems.

BUILDING SITING AND LINKAGES

The basis of design objectives are to create courtyards, connect buildings with colonnades, pedestrian covered walkways or breezeways, and establish unifying architectural edges. The guiding principles identified for building siting and linkage provide for open areas, access for emergency and maintenance vehicles as well as disabled/handicapped persons and the relationship of new facilities to adjacent facilities and the surrounding natural environment.

GOAL 1: **Florida International University shall ensure that future buildings adhere to the highest standard of architectural design with emphasis on meeting USGBC standards and the establishment of character-defining architectural principles at each campus**

Objective 1.1 **Defining Characteristics for each Campus:**
Respond to the similarities and differences in the two campuses of Florida International University in order to establish a defining overall character for each. Each location shall develop an architectural language and vocabulary that takes advantage of its natural and manmade setting.

Policy 1.1.1 UNIVERSITY-WIDE:

Respond to the hot and humid climate of South Florida with architecture that addresses the need for weather protection and shade. Architectural elements such as pedestrian covered walkways, shaded courtyards, covered connections between buildings; protection at building entrances etc. shall be required where feasible, and be an integral part of the architectural design. Placement of vegetation shall also be encouraged to provide outdoor shade and to screen solar gain at buildings.

Policy 1.1.2 UNIVERSITY-WIDE:

Scale Proportion and Massing: New construction shall encourage the use of space-defining buildings to reinforce the open space networks of malls, quads and courtyards. Buildings that define spaces shall be of similar scale and massing to the extent feasible by program. Buildings that together compose an open space shall consistently utilize the same architectural elements and shall be described herein as “fabric” buildings whereby each contributes to the whole.

Other buildings will by definition be more notable or monumental and shall be carefully planned and sparingly built. Monumental buildings shall be justified by program as those that are utilized campus wide and contribute to the importance or prestige of the University, such as the library or administration building. Monumental buildings shall be located at the end of axes, or other prominent locations. Monumental buildings may have a larger scale and mass than “fabric” buildings but they shall be attentive to the issues of human scale and proportion.

New construction shall produce "human scale" buildings by providing articulation of the different floor levels and adequate window and door openings. Architectural elements such as arcades and connectors should be utilized to encourage comfortable pedestrian movement within and between buildings. Building heights shall to the extent feasible by area and program be the same for all "fabric" buildings.

Policy 1.1.3 MODESTO A. MAIDIQUE CAMPUS:

Character definition at this campus shall be provided by the creation of space-defining buildings that reinforce the open network of malls, quadrangles and courtyards. New construction shall reinforce principles that support development and strengthening of campus image, identity and community, including the university-wide goal of enhancing campus buildings to serve as models of healthy and sustainable practices for our students and community neighbors.

Policy 1.1.4 ENGINEERING CENTER:

All new or improved architecture will be consistent with Modesto A.

Maidique Campus through the use of similar textures and colors for buildings, archways where applicable, and overall architectural character including signage, light fixtures and landscape features.

Policy 1.1.5 BISCAYNE BAY CAMPUS:
The adjacency of Biscayne Bay and Oleta River State Recreation Area establishes a strong sense of natural setting to this campus. Character definition at this site should be created by maintaining open view corridors toward the Bay and circulation elements that encourage pedestrian appreciation of the site's features. New construction should create space-defining buildings that emphasize the natural setting and reinforce the native ecology. Modern proportions and fenestration should characterize the design of the new buildings.

Objective 2.1 Standards for Materials and Systems:
Design buildings that promote quality standards of durability and reliability in the selection of materials. Materials shall be consistent with the architectural character defined for each campus, be consistent with the regional context, be energy efficient and require no more than minimal maintenance.

Policy 2.1.1 Quality:

New construction shall reinforce principles that support development and strengthening of campus image, identity and community, including the university-wide goal of enhancing campus buildings to serve as models of healthy and sustainable practices for our students and community neighbors.

MODESTO A. MAIDIQUE CAMPUS/ENGINEERING CENTER: Materials shall convey a sense of permanence on the campus. Florida key stone shall be utilized whenever stone is desired as a cladding. Poured in place concrete or precast concrete may also be used provided the scale and fenestration are compatible with the scale and proportions required. Aluminum and glass window openings are encouraged to allow natural light into the building. Storefront assemblies of consisting of uninterrupted bays are generally discouraged except where uninterrupted transparency is justified by the building program. Building elements such as window frames, door openings, arches etc. shall be maintained in stone or concrete so as to discourage uninterrupted use of stucco.

BISCAYNE BAY CAMPUS: Materials selected shall be natural in appearance and shall be compatible with the existing campus materials. Buildings shall utilize either precast concrete panels or

poured in place concrete for their structural skin. Glass and aluminum systems shall be utilized for admitting natural light into the buildings.

Policy 2.1.2 UNVERSITY-WIDE:

Energy efficiency: All materials shall efficiently utilize natural resources in their production. New buildings shall utilize energy efficient materials and systems. Building locations shall take advantage of the cooling and shading effects of natural elements such as lakes or naturally vegetated areas. Buildings shall be designed to provide shade to mitigate solar gain and to generate passive cooling wherever possible. Insulating materials shall be generously used to reduce energy consumption.

Policy 2.1.3 UNIVERSITY-WIDE:
Life Cycle Costs: Architects shall take into consideration the life expectancy of materials and systems proposed for use. The life expectancy shall be compared with the replacement and operating costs of each building component alternative under consideration. The Architect shall provide to Florida International University the results of the life cycle cost investigations for review.

Policy 2.1.4 Color and Texture:

UNIVERSITYPARK/ENGINEERINGCENTER:
New buildings shall be in natural keystone and/or natural gray poured in place concrete or precast. Color shall be consistent with the building standards. Aluminum shall be in a medium bronze color and glass shall be bronze tinted. Color schemes shall be provided by each Architect indicating all visible building elements and details proposed to the University for review and compliance.

BISCAYNE BAY CAMPUS:
Color schemes shall be provided by each Architect indicating all visible building elements and details proposed to the University for review and compliance.

Policy 2.1.5 UNIVERSITY-WIDE:
Graphics and Signage: Florida International University shall create site maps that break down each campus into a series of districts or zones. These zones shall be identified with unique names and colors on the site maps. Site signage shall be located at each entry point to the campus, whether vehicular or transit, with color identified directional signage designed to guide pedestrians to their destination. The design and usage of all graphics and signage shall be consistent throughout the campus. All signs shall be

illuminated to promote easy orientation during evening hours of operation.

Policy 2.1.6 UNIVERSITY-WIDE:
Safety: Florida International University shall provide for the health, welfare and safety of all students, faculty and staff as well as visitors. The design of buildings shall take into account the visibility to passersby of interior and exterior spaces, so as to minimize the potential for harm that arises when spaces are hidden from view. Crime Prevention Through Environmental Design (CPTED) policies will be adhered to as a guide for design. All applicable State and Federal Codes regarding accessibility and safety during construction shall be strictly adhered to. All parking areas and walkways shall be well lit and secure. Residential dormitories shall have security systems and be closely monitored by University Police.

Policy 2.1.7 UNIVERSITY-WIDE
Lighting: Florida International University shall provide appropriate lighting for all pedestrian and non-vehicular facilities on-campus (i.e. parking, public areas and walkways) for the safety of all students, faculty and staff as well as visitors to each campus.

Objective 3.1 Districts:
Florida International University should organize and develop contextual standards where applicable for the design of buildings specific to certain areas of Campus or Districts.

Policy 3.1.1 MODESTO A. MAIDIQUE CAMPUS:
Central Core District (1): The buildings and spaces within this district are the original campus structures built in the 1970's. New buildings, additions and alterations shall be consistent with the existing building patterns, materials and colors of the district. The buildings include the following:

-Charles E Perry Primera Casa (administration building)
-Deuxieme Maison
-Green Library
-Ernest R. Graham University Center
-Ernest R. Graham University Center Addition

Policy 3.1.2 MODESTO A. MAIDIQUE CAMPUS:
Lake District (2): The buildings in this district are organized around the picturesque lake setting. New buildings, additions and alterations shall be consistent with the existing building patterns, materials and colors of the district. The buildings in this area include the following:

-Green Library
-Viertes Haus
-Engineering & Computer Science
-Owa Ehan

Policy 3.1.3 MODESTO A. MAIDIQUE CAMPUS:
Tamiami Mall (3): This district is located at the entry off of SW 8th St. The buildings are organized around a symmetrical vehicular mall. All future buildings in this area shall be "fabric" buildings and share a common fenestration design, building base, building height and arcade treatment. Buildings in this area will include the following:

-Education Building
-Ryder Business Administration
-School of Architecture
-Satellite chiller plant
-Graduate School of Business

Policy 3.1.4 MODESTO A. MAIDIQUE CAMPUS:
Avenue of the Arts (4): Buildings in this mall are located immediately south of the Charles E Perry Primera Casa.

Buildings in this area shall be arcaded at the base level and shall be 3 stories in height. All of the buildings shall be space defining buildings and shall look out over the pedestrian mall. Entries shall be off the mall. Materials shall be keystone at the base and color integral stucco for the fields. The color shall be selected from the chart appended and shall contain only one color throughout the mall.

-Charles E Perry Primera Casa (administration building)
-Management and Advanced Research Center (MARC)
-Frost Art Museum

Policy 3.1.5 MODESTO A. MAIDIQUE CAMPUS:
Avenue of the Professions (5): Buildings in this mall include:

-Law School
-Labor Center
-Ryder Business Building
-Social Science Complex
-Green Library
-North Graham Center

Policy 3.1. 6 UNIVERSITY-WIDE:
Housing Quads (6): New construction of student's housing shall be composed of multi story apartments creating in the case of

Modesto A. Maidique Campus, a dedicated quadrangle space for residents. Buildings at Biscayne Bay Campus shall be oriented toward the bay view. The buildings shall utilize to the extent possible an arcaded base, which will give access to the resident's common areas such as lounges, laundries etc. Apartment levels shall be integral stucco exterior surfaces and shall have the appearance of housing and not academic buildings. A residential appearance shall be achieved by creating buildings of small massing and footprints, fenestration with balconies and more informal arrangement of building volumes.

Policy 3.1.7 MODESTO A. MAIDIQUE CAMPUS:
Greek Housing (7): Housing for fraternities and sororities "Greek" shall be provided on campus in the southeast corner of the campus. New construction or renovation shall be performed so that each fraternity or sorority is in a stand alone structure that provides lodging and ancillary activities to its members. The structures shall be designed so that they are residential in appearance and not more than two stories in height. The selection of materials shall convey a residential quality. The building's exterior shall consist of keystone and/or painted stucco. Signage shall consist of only the Greek letters indicating the affiliation and may be placed over the front portal or in a low site sign.

Policy 3.1.8 MODESTO A. MAIDIQUE CAMPUS:
Within the next planning period, the University will add or eliminate districts, including but not limited to:

- Science Quad District
- Medical School District
- Stadium District
- Campus Support District
- University House District

Objective 4.1 Guidelines for Architectural Building Types
Establish a vocabulary and set the parameters for building types and elements that will reinforce the visual unity within the campus and districts.

Policy 4.1.1 UNIVERSITY-WIDE:
Pedestrian covered walkways: New construction shall incorporate arcades wherever possible within the exterior face of the building volume so as to provide protection from the elements. Arcades may be designed with pedestrian covered walkways. Arcades may be used in conjunction with connecting walkways for weather protection.

Policy 4.1.2 Fenestration:

MODESTO A. MAIDIQUE CAMPUS:
Building fenestration should be designed in a manner that is consistent with the surrounding context and meets USGBC standards for LEED Silver certification.

ENGINEERING CENTER:
Existing facility renovations and new construction will incorporate those elements approved for the Modesto A. Maidique Campus facilities to maintain design consistency.

BISCAYNE BAY CAMPUS:
Building fenestration should be designed in a manner that is consistent with the surrounding context and meets USGBC standards for LEED Silver certification.

Policy 4.1.3 UNIVERSITY-WIDE:

Building Forms: Florida International University should strive to create buildings that are simple and direct and may use building forms that are compatible with classical principles. Buildings should be thought of as either contributing to the form of the open space they create "fabric" space defining buildings, or they shall be considered as special buildings that are "monumental" or objects in space.

-Monumental buildings should be planned and coordinated so that their sitting and building design are appropriate to the distinguished purpose they are to provide.

Fabric buildings should be sited and designed to be harmonious and contributing to a greater whole. Fabric buildings should be considered as deriving from classical types. Fabric buildings can be "bar" buildings, courtyard buildings, "L" shaped or "H" shaped but shall have forms that are easily discernible and contribute a space defining character.

Policy 4.1.4 UNIVERSITY-WIDE:

Service Yards: New construction at Florida International University shall include screening from view of all service yards. Screening shall be achieved with walls and landscaping. Combining service yards to minimize their spread is desirable providing the yard does not get so large as to become obtrusive.

Objective 5.1 **Weather Protection (UNIVERSITY-WIDE)**
Florida International University should create circulation elements that provide for weather protection and reinforce the linkages between quads, courtyards and buildings.

Policy 5.1.1 Covered Connections
Florida International University should provide adequate parking to support the needs of students, faculty and visitors

Policy 5.1.2 Parking Structures:
Required for parking shall be located so as to minimize the impact of building bulk wherever possible. The structures should be articulated into smaller volumes so that long uninterrupted faces are avoided. Structures shall be designed so that only level slabs occur at the exterior, sloping ramps may only occur at interior bays of the buildings. An incorporating first level campus support facility such as convenience stores or bookstores as buffers to create pedestrian character is strongly encouraged. Parking shall be screened by the design of the structure's skin and landscaping.

Policy 5.1.3 UNIVERSITY-WIDE:
Surface Parking: Florida International University shall screen all surface parking areas by means of adequate landscaping. Signage and graphics shall be provided to orient people to their relative location on campus.

Objective 6.1 **Design Review (UNIVERSITY-WIDE)**
Create and monitor conformance of future design projects with referenced standards through University design review procedures.

Policy 6.1.1 Design Review Procedures:
Design of future projects shall be receive a formal review for compliance with standards for new construction. Review shall occur after University facilities staff has assessed the project for programmatic and design compliance.

The architect for each project shall present the design including all proposed finishes so that comments and approvals can be obtained. The formal review should consider the sitting, landscape improvements and signage as well as the architecture and interior improvements proposed. The University facilities staff should have the ability to overrule certain guidelines if the proposed change in the guidelines creates a better result or in case that the review is a special or monumental project.

16.0 LANDSCAPE DESIGN GUIDELINES ELEMENT

Landscape is an essential component of the educational experience at FIU. It provides opportunities for education, demonstration, inspiration and recreation. The purpose of the Landscape Design Guidelines is to provide the campuses of Florida International University with a framework for landscape and hardscape treatments in order to maintain a high level of quality to the design of new spaces and to the enhancement of existing landscaped areas. It is the intent of the Landscape Design Guideline Element to provide an overall landscape framework that unifies each campus with its built environment and its unique natural environment, and to reinforce sustainable design practices as outlined by both USGBC standards for LEED Silver certification and American Society of Landscape Architects Sustainable Sites Initiative (SSI).

Hierarchy of spaces have been identified and main circulation routes will be reinforced with identifiable landscape treatments. Significant pedestrian corridors will continue to be identified, linking unique academic cores within the campus. As the overall character of the FIU campus continues to mature, various spaces will be defined following these guiding principles:

- Integrate architectural and site design in conjunction with landscape architectural design in the planning process to ensure that attractive settings and ample open spaces are provided in conjunction with new facilities.

- Seek to develop new significant landscape features in association with campus growth, including campus spaces such as quads, plazas, campus streets and campus edges while enhancing the concept of the “Avenue of the Arts” and “Avenue of the Professions”, "the Avenue of the Sciences", and the "Avenue of the Students".

- Blend new development sites with the character of the mature campus landscapes and other natural areas by retaining islands of natural vegetation in new development areas and creating new and similar vegetative areas that integrate the buildings and site facilities into the landscape.

- Continue the initial style and character of the original campus plantings with emphasis on transitioning and reflecting the natural formation of plantings.

- Maintain a selective palette of indigenous and site-adaptive plant species that express the subtropical environment, as well as those plants that promote Xeriscape principles.

GOAL 1: **Create high quality, environmentally sound campus landscape settings which afford outdoor comfort, security, and a rich visual quality, exemplifying the uniqueness and diversity of South Florida's subtropical environments while creating a unifying character that binds the campuses together.**

Objective 1.1 **Landscape Framework: Implement the Landscape Framework for the Modesto A. Maidique Campus, Engineering Center and Biscayne Bay Campus (16.0 Data and Gathering, Figures 16.0 A, 16.0 B, 16.0 C).** In the event that provisions contained in the Landscape Framework conflicts with provisions contained in the adopted Campus Master Plan then the Master Plan shall prevail and control.

Policy 1.1.1 UNIVERSITY-WIDE:
Reinforce the critical elements of the spatial organization defined in the Master Plan for a consistent landscape character as outlined in the Landscape Framework. The framework is developed as a guide to further define the character of spaces, streets, and edges within the campuses. The Landscape Framework is not intended to be a typical design solution for each area, but a set of standard principles of how a space shall be developed, enhanced and maintained so that it remains in context with the overall campus.

Policy 1.1.2 Locate and orient all future buildings to define the open spaces depicted in the adopted Urban Design Plan.

Policy 1.1.3 Continue to incorporate Art exhibits throughout the three campuses as an element unique to FIU. Create an inventory of all installations on-campus and define the parameters for future locations of new art projects on-campus.

Policy 1.1.4 Provide a continuous tree canopy (as appropriate) in all remaining surface parking lots and sufficiently screen all surface parking areas without compromising security.

Policy 1.1.5 Prior to construction, relocate and incorporate existing valuable plant material in the areas of future construction and development.

Policy 1.1.6 Emergency access facilities shall be kept clear of any impeding landscape elements.

Policy 1.1.7 Screen all trash collection facilities from pedestrian or vehicular traffic view with either a fence or wall consistent with architectural guidelines or evergreen plant material.

Policy 1.1.8 Screen maintenance facilities from pedestrian and vehicular traffic with a fence, wall, or evergreen plant material.

Policy 1.1.9 Incorporate within the general campus landscape area, gardens and natural habitats as an opportunity for botanical and environmental

education and as campus amenities.

Policy 1.1.10 Improve the integration of existing and new storm water retention areas as landscape enhancement elements.

Objective 1.2 Enhance the existing and proposed <u>Campus Spaces</u> to better define the open spaces as a consistent unifying element throughout the three campusesAxes

Policy 1.2.1 MODESTO A. MAIDIQUE CAMPUS (Fig 16.1):
Avenue of the Sciences - Continue to develop and reinforce the diagonal axis from Panther Village to the intersection of SW 8th St and SW 107th Ave at the future Academic Health Sciences gateway.

1. Enhance the sidewalk path between Panther Village and the Graham Center/Library Plaza with additional canopy plantings for shade and a defined pedestrian crossing at the existing service street.

2. Redevelop the existing Graham Center Plaza/Library plaza to allow for a uninterrupted visual and functional pedestrian path through the space from the southwest corner to the northeast corner of the space. Provide canopy trees for shade.

3. Remove the existing curvilinear path from the northeast corner of the Graham Center and replace with a formal linear path that connects to the existing Health & Sciences Building 2 path.

Policy 1.2.2 Avenue of Professions - Enhance the pedestrian experience of the axis west of the library to the proposed loop road realignment. The space should demonstrate the significance of the axis through the use of canopy trees or palms evenly spaced to create a formal and linear connection. The pedestrian path should be wider than typical sidewalks on campus. Include benches and additional site furnishings to create a repeating pattern along the space.

Policy 1.2.3 Ave of the Students - Develop this axis to a level distinctive from typical pedestrian circulation while clearly defining the linearity of the space. Increase the existing sidewalk width and develop segments of formal plantings at building entrances. Canopy trees should be placed adjacent to the path between formal sections to provide shade.

Policy 1.2.4 Ave of the Arts - Maintain the already well developed and spatially defined axis.

Quadrangles

Policy 1.2.5 MODESTO A. MAIDIQUE CAMPUS:
Particular attention should be paid to the scale of the quadrangles. Continue to develop the Graham Center, Green Library, Owa Ehan and Chemistry & Physics Buildings Quad with defined hardscape and landscape edges to clearly define the space. New sidewalks should delineate the edges of the eastern edge of the quad adjacent to the Health & Science buildings connecting north to south. Groupings of canopy trees should be placed within the quad and along existing pedestrian paths to provide shade with the ground plane predominantly lawn. Shade structure or small pavilions should be placed within the quad to increase habitation.

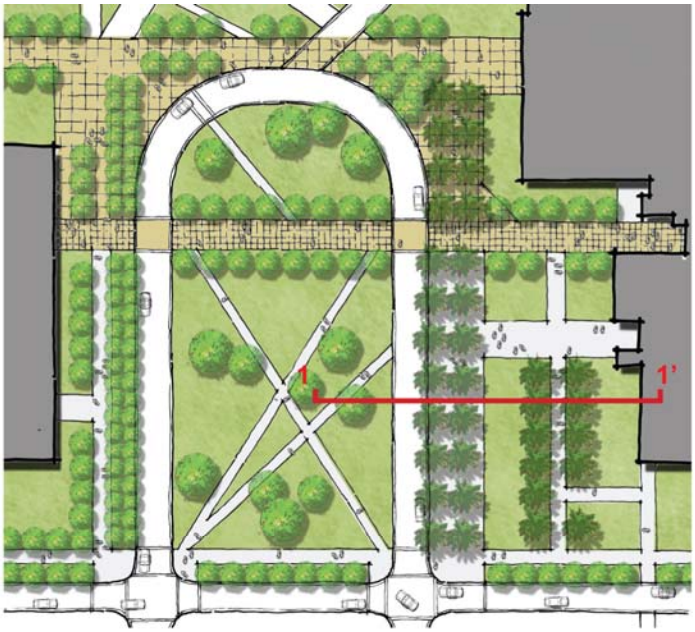
Policy 1.2.6 With the incorporation of the traffic roundabout at the intersection of the loop road and 112 Ave entrance, develop the Ryder Business Building quad as a pedestrian focused space. Remove the existing drive and replace with sidewalk material so the drive is visually similar in type to a sidewalk but allows for service and ADA accessibility. Provide crossing pedestrian paths centered on the existing building entrances for Architecture, Education, and Business Complex. Maintain the current palm tree configuration to allow for the visual corridors into the space from the loop road to continue**.**

Policy 1.2.7 ENGINEERING CENTER (Fig 16.2):
Develop a quad east of the existing Engineering Center building with canopy trees and minimal hardscape. The ground plane should be predominately lawn to allow for informal gatherings and create a picturesque quality to the space similar to the proposed park edge along West Flagler Street.

Policy 1.2.8 BISCAYNE BAY CAMPUS (Fig 16.3):
Continue to develop the quad south of Academic One & Two (referred to as South Quad). Influenced by the shape of the existing lake, the quads, plantings, and pedestrian circulation should be informal in design, responding to the lake's configuration. Informal groupings of hardwood canopy trees should be placed within the quad to provide shade for gatherings and reflection.

Policy 1.2.9 Expand the quad north of Academic One & Two (referred to as North Quad). Canopy trees should be placed in small gatherings within the expanded portion of the quad. Sidewalks should cross the space creating direct links between building entrances (See Figure 16.4A & 4B). The ground plane should be predominately lawn with some understory plantings at the building edges. The formal arrangement of the hardscape and palms that exists north of Academic One should be extended west to edge of the quad. Additional canopy planting

should be used to provide shade.




Key Map

Figure 16.4A North Quad at Biscayne Bay Campus

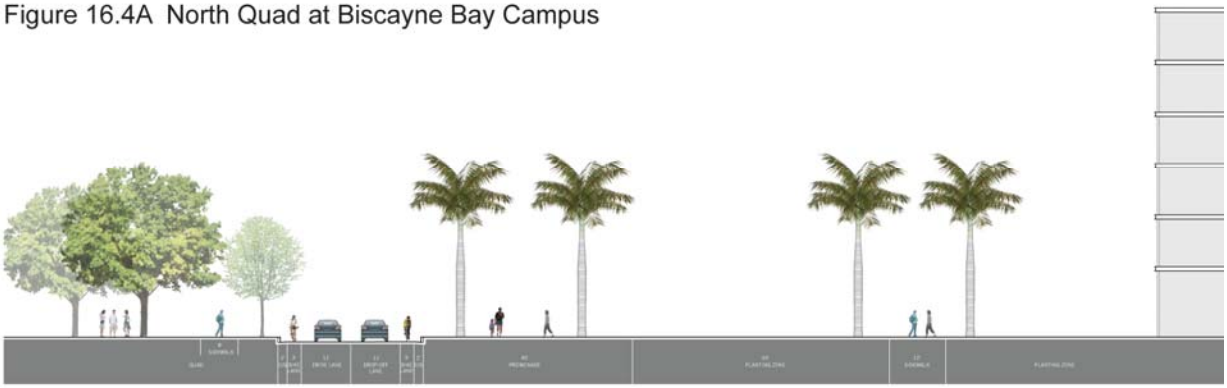


Figure 16.4B North Quad Section 1-1'

Plazas

Policy 1.2.10 MODESTO A. MAIDIQUE CAMPUS:
Redevelop the Graham Center/Green Library Plaza to allow for the Avenue of the Sciences to be developed as an aligned pedestrian spine. The space should be designed as a single space to insure continuity between buildings. Preserve of the existing canopy trees where possible to allow the space to be appear more mature upon completion.

Promenades

Policy 1.2.11 ENGINEERING CENTER:
Develop a pedestrian promenade from the park edge and to the northern parking lot (See Fig 16.5 A & B). The promenade should be formal in character, primarily hardscape with canopy trees evenly spaced and minimal ground plane vegetation. Site furnishings should include a series of benches for congregation opportunities

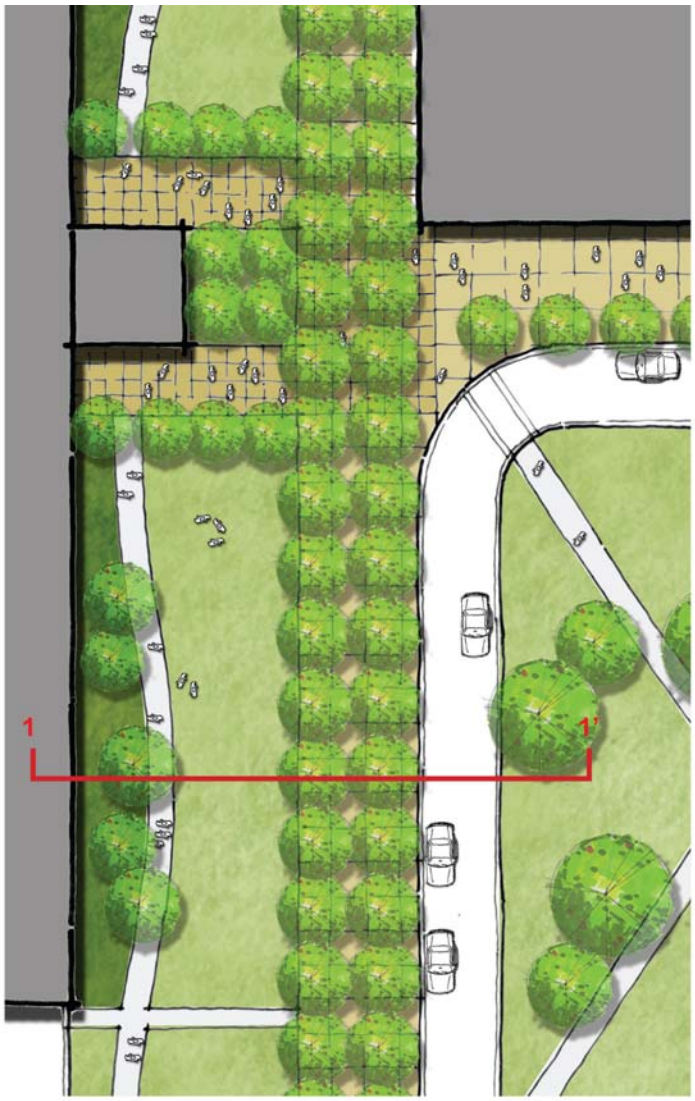
Policy 1.2.12 BISCAYNE BAY CAMPUS:
Develop a pedestrian promenade from the northern edge of the campus core south to the Kovens Center. The promenade should be formal in character with an unique hardscape material. Provide canopy trees evenly spaced on both sides of the walk to provide shade. Lawn should be the predominate ground plane.

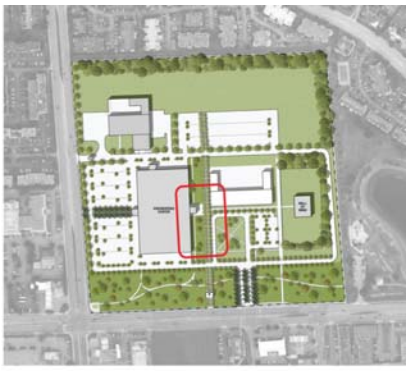
Special Purpose Landscapes

Policy 1.2.13 MODESTO A. MAIDIQUE CAMPUS:
Maintain and protect from encroachment the teaching and research landscapes including Hennington Island adjacent to SW 8th Street.

Policy 1.2.14 Maintain and protect from encroachment the teaching and research landscapes including the area south of the FIU Arena. The space is defined by three distinctly different plant communities that offer opportunities for teaching and research. Develop a series of interpretive signage to enhance the educational and passive activity elements within the landscape. Directly south of the arena, develop an outdoor space with opportunities for gathering as well as pedestrian circulation. Enhance the space with canopy trees for shading and picnic tables. Provide a defined pedestrian circulation path between the existing Recreation Center within the academic core to the existing soccer and baseball stadiums. The path should minimize the amount of disturbance on existing vegetation while providing adequate width for pedestrian movement and addressing safety issues with view corridors along the path. The establishment of view corridors, pedestrian scale lighting and interpretive signage is crucial in developing a safe and useable space.

Policy 1.2.15 Develop the area around the President's house as a formal garden that will allow for outdoor gatherings as well as a reflective space that buffers the adjacent commercial street corridor.





Key Map

Figure 16.5A Promenade at Engineering Center

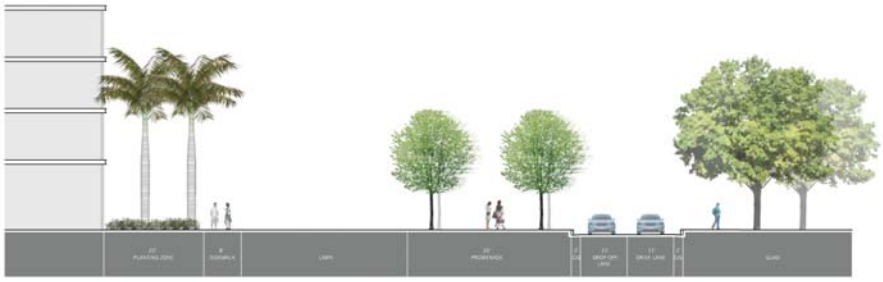


Figure 16.5B Promenade Section 1-1'

Objective 1.3Develop a hierarchy of landscape treatment for Campus Streets

Policy 1.3.1 UNIVERSITY WIDE:
Reinforce and improve circulation hierarchy by developing distinct, identifiable landscape treatments for each road type, campus entrances and pedestrian/vehicular intersections.

Streets

Policy 1.3.2 MODESTO A. MAIDIQUE CAMPUS:
Greenbelt (Primary loop road): Establish a 'boulevard' treatment with Live Oaks as the dominate canopy tree. Canopy trees should be located on both sides of the road within a planting strip with lawn as the ground plane. Other hardwoods and palms are permissible at significant pedestrian and/or vehicular intersections. Existing hardwoods deemed in good condition should not be replaced. There are various land use characteristics that will define the design of the loop road. More urban development shall have a different character than areas reserved for open space. There are four different types of character proposed for the loop road:

1. Typical – Minimum 8 ft sidewalk to each side of the street, which is separated from the street with planting strip. Predominantly lawn as the ground plane with canopy trees (See Figure 16.6 A & B, 16.7 A & B).

2. Urban – Located within the Academic Health Sciences District and similar to a city streetscape (See Figure16.8 A & B).

3. Main Street – Located at the proposed mixed-use student housing south of Panther Village, similar in character to an urban street with canopy trees on regular spacing, with hardscape and limited groundcovers. A proposed widened northern sidewalk with decorative hardscape materials, benches, and lightning to create a gathering area for markets, tailgating opportunities and other outdoor activities (See Figure 16.9 A & B).

4. Major Intersections – A consistent landscape treatment at all internal intersections will provide traffic calming, pedestrian crossings, and visual reference within the campus. The landscape material will be characterized with palms, limited understory planting and a ground plane, that incorporates lawn and ornamental groundcovers. Concrete pavers may be utilized to identify to pedestrian crossings. Pedestrian crosswalk markings will be in place to identify to vehicles that pedestrian crossing is primary.

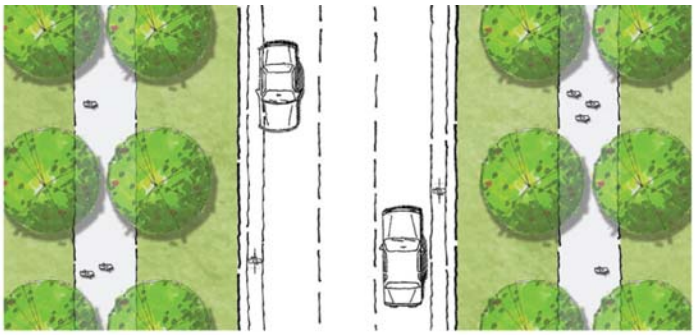


Figure 16.6A Plan of typical three-lane Campus Greenbelt

Key Map

Figure 16.6B Section of typical three-lane Campus Greenbelt

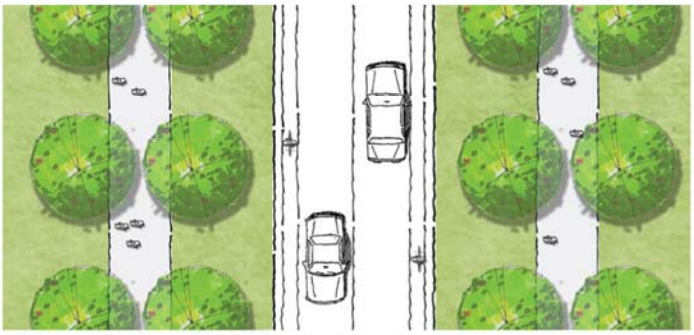


Figure 16.7A Plan of typical two-lane Campus Greenbelt at Northwest of FIU Arena

Key Map

Figure 16.7B Section of typical two-lane Campus Greenbelt

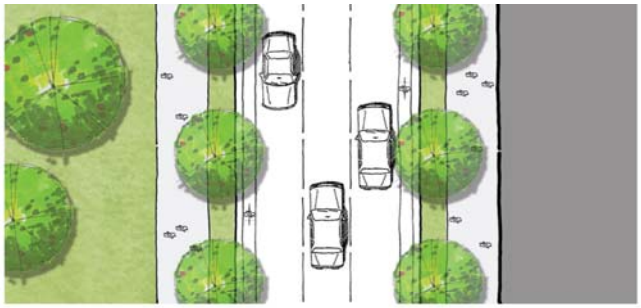


Figure 16.8A Plan of Campus Greenbelt at AHSC quad

Key Map

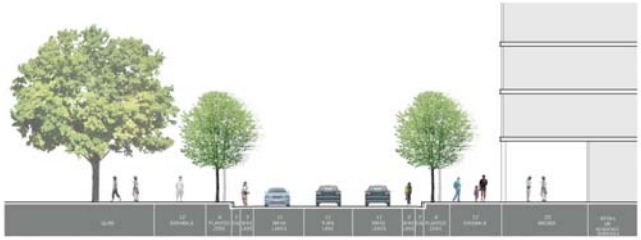


Figure 16.8B Section of Campus Greenbelt at AHSC quad

Figure 16.9A Plan of intersection at Main Street

Key Map

Figure 16.9B Section of Main Street

5. Secondary – Located south of the recreation center and north of Panther Village and similar in structure to the Greenbelt. Canopy trees shall be spaced evenly with pedestrian walkways on both sides. It is anticipated this road will become a pedestrian oriented corridor between the existing parking garages and the residential district. It is vital that it remains operable for service vehicles.

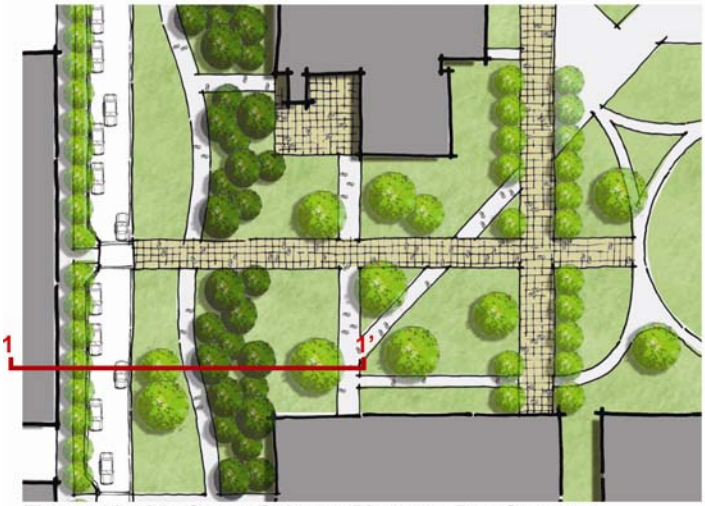
Policy 1.3.3 BISCAYNE BAY CAMPUS:
As part of the Green Spine that creates a connection between the existing academic campus and the existing conference center, the development of the street element component of the space will have a large impact on the perception of the campus (see Fig 16.10 A&B). The character of the street is similar to that of a main street with formal planting arrangements, large canopy trees at regular spacing, wide sidewalks and limited ground plane plantings. Crosswalks should be articulated with concrete pavers at the sidewalk level and striping's across the vehicle lanes. The eastern edge of the street is similar to that of a park with informal tree groupings and open lawn areas.

Entrances

Policy 1.3.4 MODESTO A. MAIDIQUE CAMPUS:
Primary Entrance: Similar to that of the SW 16th St at SW 107th Ave entrance and in a formal arrangement, the SW 17th St at SW 117th Ave shall be developed to the level of detail and plant palette (Fig 16.11 A&B). With the growth of the school, an increase in athletic activity associated with the expanded FIU stadium, and exiting access to the Florida Turnpike, this entrance will take on a more significant role as a functionally and visual representation for the school. The use of palms shall visually define the space while understory plantings will screen the existing uses. Sidewalks should be placed on both sides of the entry drive. This treatment will maintain the SW 112th Ave as the symbolic main entrance to the campus.

Policy 1.3.5 Secondary Entrances: Develop the SW 13th St at SW 117th Ave Entrance with a similar plant palette to the SW 17th St entrance. The use of palms in a formal arrangement as the primary canopy tree. The need for significant monument signage is not necessary. Understory plantings should be used to screen the adjacent uses. Sidewalks should be provided on both sides of the entrance.

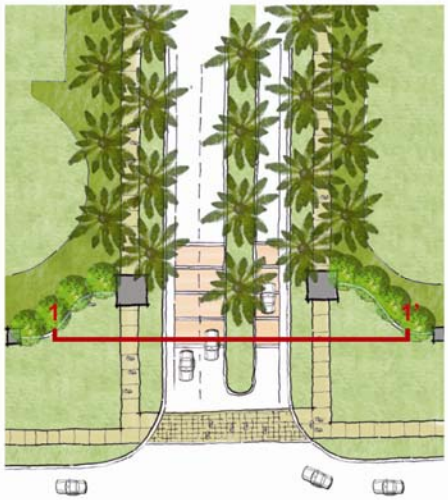
Policy 1.3.6 Secondary Entrances: Develop SW 109th Ave at SW 8th St entrance as an urban street with evenly spaced canopy trees, wide sidewalks and minimal ground plane vegetation.



Key Map

Figure 16.10A Green Spine at Biscayne Bay Campus

Figure 16.10B Green Spine Section 1-1'



Key Map

Figure 16.11A Plan of Proposed Entry Drive at Modesto A. Maidique Campus

Figure 16.11B Entry Drive Section 1-1'

Policy 1.3.7 ENGINEERING CENTER:
Primary Entrance: Continue to develop an entry feature at West Flagler Street for vehicular and pedestrian access that is similar in plant palette, formal structure, with a similar visual hierarchy to that of Modesto A. Maidique Campus's SW 16th Street entry. The sidewalks should be relocated to allow for a planting strip between the existing drive lanes and sidewalks. The entrance should use palms within the median and on both sides of the entry drive. Understory plantings and ground plane vegetation shall be minimal to allow for sightlines to and from the park edge.

Policy 1.3.8 Secondary Entrance: As the campus grows, the NW 107th Ave entrance will serve as the primary vehicular entrance to the campus. The existing fence line should be removed and placed closer to the exiting parking lot to allow for a more significant and inviting entrance to be developed. Sidewalks should be located on either side of the entrance but separated from the drive lanes by a planting strip. The use of palms, understory plantings and ground plane vegetation similar to Modesto A. Maidique Campus's SW 16th Street entry shall create consistency between the campuses.

Objective 1.4Develop an enhanced and consistent quality for the Campus Edges.

Policy 1.4.1 MODESTO A. MAIDIQUE CAMPUS:
Develop an urban edge to the campus along SW 107th Avenue. As identified in the Academic Health Sciences Master Plan, SW 107th Ave is an urbanizing commercial corridor. Future building placement will position buildings closer to the street creating an urban edge similar to downtown cityscapes. Provide hardwood canopy trees and limited/low growing ground plane vegetation located within a defined planting strip between the vehicular drive lanes and sidewalk. Canopy trees should be spaced to allow for a continuous shaded walk.

Policy 1.4.2 Develop an urban edge along SW 8th street 600 ft west of the SW 107th St intersection. Future building placement will position buildings closer to the street creating an urban edge similar to downtown cityscapes. Provide hardwood canopy trees and limited/low growing ground plane vegetation located within defined a planting strip between the vehicular drive lanes and sidewalk. Canopy trees should be spaced to allow for a continuous shaded walk.

Policy 1.4.3 Reinforce the existing park edge along SW 8th St to SW 117th Ave. A park edge is similar to that of a public park. While edges are often defined by street trees and sidewalks, the remaining space has groupings of canopy trees, minimal hardscape and predominately

lawn as the ground plane.

Policy 1.4.4 Develop a landscape edge along SW 8th St west from the park edge. The planting should be informal in arrangement. Most consistently viewed from the community and along major traffic corridors, canopy trees along with palms and flowering trees will define the landscape edge. Understory plantings are encouraged to visually screen adjacent uses both into and from the campus. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus.

Policy 1.4.5 ENGINEERING CENTER:
Develop a park edge along West Flagler street. Plantings should be limited to random groupings of canopy trees and some flowering trees located near proposed walks in order to provide shade. Hardscape should be minimal with pedestrian walks creating connections between the campus and the external uses. The ground plane should be predominately lawn (Fig 16.12 A&B).

Policy 1.4.6 Develop a landscape edge along NW 107th Ave that enhances the visual quality of the campus while screening the parking from view. The planting should be informal in arrangement. Canopy trees along with palms and flowering trees will define the landscape edge. Understory plantings are encouraged to visually screen adjacent uses both into and from the campus. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus. Use sidewalks to create pedestrian connections and further enhance the aesthetic quality of the campus.

Policy 1.4.7 BISCAYNE BAY CAMPUS:
Develop a landscape edge along Bay Vista Blvd that enhances the visual quality of the campus while screening the parking from view. The planting should be informal in arrangement. Understory plantings are encouraged to visually screen the adjacent existing surface parking. Groupings of palms and flowering trees are encouraged to break the pattern of canopy trees. A decorative perimeter fence integrated within the vegetation massing will further define the limits of the campus. A bike path should be incorporated to allow for both pedestrian and bicycle circulation.

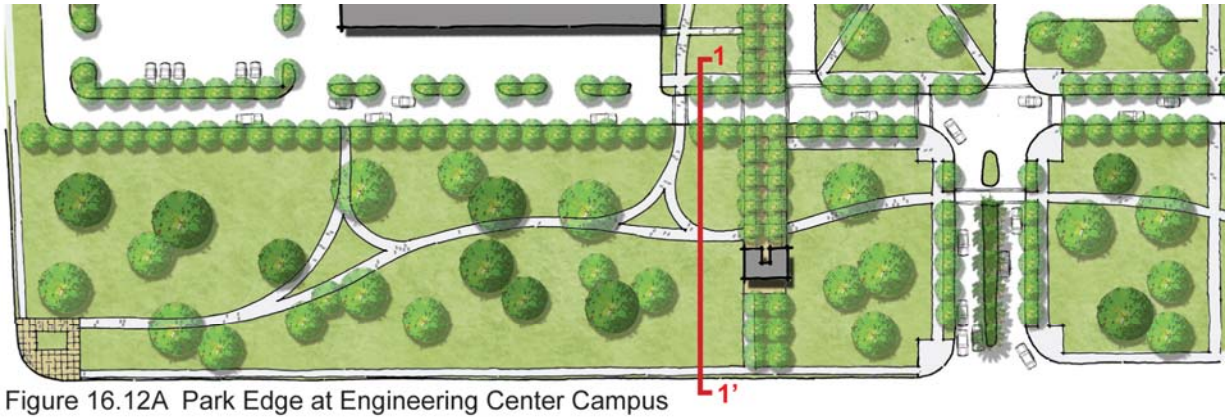


Figure 16.12A Park Edge at Engineering Center Campus

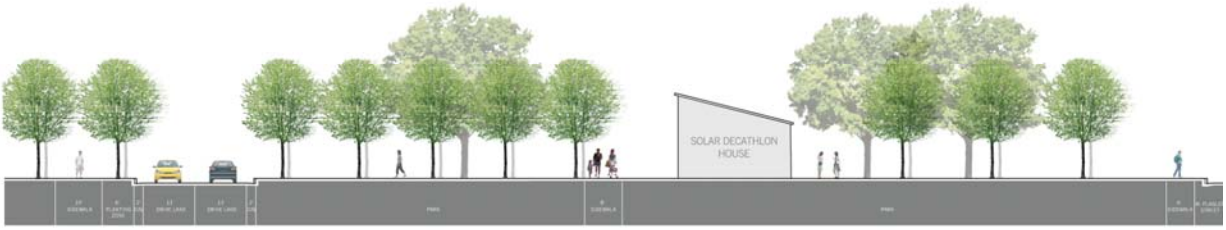


Figure 16.12B Park Edge at Engineering Center Campus Section 1-1'

Key Map

Policy 1.4.8 Continue to develop, preserve, and enhance views to Biscayne Bay along the Baywalk. Additional groupings of appropriate coastal plants should be located to further define view corridors from the campus and conference center. Groupings located adjacent to the existing bike loop shall incorporate additional site furnishings of benches and picnic tables.

Objective 1.5Plant Materials:

Modify and adopt a revised plant materials list upon Master Plan adoption, eliminating use of invasive exotic species and those which necessitate excessive maintenance; and adding species appropriate to traditional college campus settings.

Policy 1.5.1 UNIVERSITY-WIDE:
To the degree possible, landscape plans shall include the use of plant species that are indigenous to the native plant communities of the South Florida area. The appropriate selection of native plant species shall be based on their desired size, form, texture and color in the landscape and their positive response to localized environmental conditions including available light levels, soil type and plant community context. In addition, selection of native species should be based on tolerance of existing site conditions, compatibility with other indigenous species and sustainability of the landscape to promote water conservation, to reduce maintenance considerations and to ensure a sustainable landscape or for educational purposes. In cases where non-invasive exotic plants are to be used to enhance the landscape, plantings should be limited to those non-invasive species that are able to resist periods of drought and which require little fertilization and use of pesticides. Prohibited plants as identified by Miami-Dade as well as the Exotic Pest Plant Council's "Florida's Most Invasive Species List" shall not be permitted in any future plantings.

Policy 1.5.2 As established in the Landscape Framework (16.0 Data and Gathering, Figures 16 A, B & C, Design Elements Matrix), the baseline plant list for FIU shall guide all future projects and renovations. Deviations from the approved plant list shall garner permission from FIU planning department prior to a release for construction approval. Prohibited plants as identified by Miami-Dade as well as the Exotic Pest Plant Council's "Florida's Most Invasive Species List" shall not be permitted in any future plantings

Policy 1.5.3 Monitor conformance of future construction projects with revised plant lists through University design review procedures.

Policy 1.5.4 It is the intent of FIU to remove all non-native plants (whether grasses, shrubs or trees) which are identified in the Exotic Pest Plant Council's

"Florida's Most Invasive Species List" from the campus grounds. FIU shall coordinate with the Florida Department of Environmental Protection (FDEP) and other appropriate governmental entities to ensure the proper removal and disposal of these exotic species on campus.

Objective 1.6 Furnishings, Lighting and Graphics: Adopt standards for furnishings, lighting fixtures and signage depicted (16.0 Fig 16.0 B)

Policy 1.6.1 UNIVERSITY-WIDE:
FIU Facilities Management shall identify projects which may enhance campus safety and handicapped accessibility. Prioritize projects according to the following elements: 1) removal of barriers, 2) visibility, 3) enhanced lighting, 4) pedestrian/vehicular conflict.

Policy 1.6.2 As identified in the Landscape Framework, coordinate site furnishings, lighting fixtures, campus signage and graphic system with the identified manufacture and model numbers from selected materials used on campus and other acceptable products. As existing furnishings and lighting becomes unusable or deteriorated implement replacement furnishings according to approved University standards.

Policy 1.6.3 Follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure that coordination of the landscape, furnishings and graphics on the campus are in accordance with the guidelines.

Policy 1.6.4 Future bicycle facilities shall use one selected type of bicycle rack with adequate adjacent pavement to accommodate bicycle traffic and under cover if possible. Plantings shall be kept away from area a sufficient distance to allow for bicycle maneuverability.

Policy 1.6.5 Public transportation facilities shall be consistent with Architectural Guidelines. They should be sited to allow visibility and ease of access for both vehicular and pedestrian traffic. Landscape treatment of facilities should provide shade if not provided by shelter.

Objective 1.7 Retention/Storm water Elements: Adopt standards for landscape edge treatments surrounding ponds, lakes and storm water features.

Policy 1.7.1 UNIVERSITY-WIDE:
Consistent with regulatory requirements, plant native wetland littoral vegetation along gradually sloping banks of lakes and water features

located wherever appropriate.

Policy 1.7.2 Consistent with regulatory requirements, provide where necessary "hard edge" pedestrian treatments of water bodies in intensely developed areas.

Policy 1.7.3 FIU shall follow the design review procedures established in 15.0 Architectural Design Guidelines Element to ensure conformance of future construction projects with referenced standards.

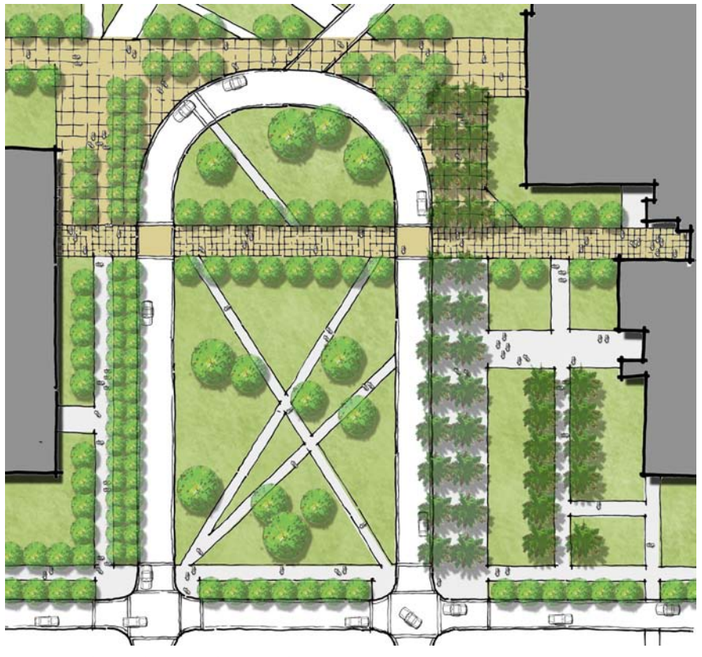
Objective 1.8 Phasing: Implement landscape improvements in three phases, consistent with the scheduling of new academic, housing, recreation and support buildings to which landscape improvement components will be allocated.

Policy 1.8.1 UNIVERSITY-WIDE:
FIU Facilities Management should establish administrative and budgeting procedures to insure the inclusion of landscape features identified in the objectives in the project budgets developed for future campus construction.

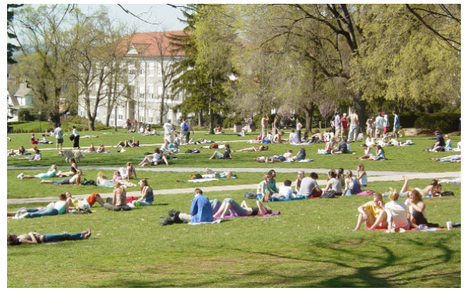
Policy 1.8.2 Implement the landscape concept plan by allocating each future and existing building a proportional share of overall planned landscape improvement cost.

Policy 1.8.3 Apply the following priorities for implementing components of the Landscape Concept Plan.

Quad framed by buildings on three sides



Proposed quad extension at Biscayne Bay Campus



Description:

A quadrangle is a green space usually square or rectangular in plan, the sides of which are entirely or mainly defined by buildings and reinforced by the landscape design. The single most important aspect of a quadrangle is clear spatial definition. The specific qualities of each quad vary with size, purpose and context but all are primarily informal spaces, characterized by open usable green space with a combination of shade trees planted in asymmetrical groups and paths configured to provide direct pedestrian access to key buildings and spaces beyond. Quads should have signficant areas shaded and protected from rain by structures. These should be used for individual and group interaction and study.

Elements:

Hardscape: Sidewalks are generally limited to the edges of the quad, adjacent to the buildings for access as well to define the quad's edges. Additional hardscape is minimal beyond the edges of the quad. Sidewalks shall cross the quads to allow direct connections for pedestrians between building entrances as well as at significant quad entrances.

Plant Materials: Canopy, primarily hardwood trees should be planted to maximize shade within the quad. Trees including palms should line the edges to further define the space while allowing for open areas within the quads for passive recreation and gatherings. For some quads, canopy trees shall be grouped together to expand the tree canopy to provide shade. A clear understory should be maintained with the ground plane being predominately lawn.

Site Furnishings: Benches and trash receptacles shall be primarily located on the edges of the quad adjacent to the pedestrian walkways.

Lighting: Appropriate, free standing light standards further define the edges of the quad and enhances the picturesque character of the space. Lights shall be spaced to provide for a consistent and continuous coverage at a pedestrian scale while minimizing night sky pollution.

Special Features: Existing water bodies should remain and become integral parts of the visual character of the quad. Sidewalks should provide access to the water edge as well as a continuous path around the edge to further define the water as an amenity within the quad. The incorporation of future art installations should be strategically located to maximize views.

Campus Spaces

Quad

Promenade

Courtyard

Plaza

Special Purpose Landscape

KEY MAP

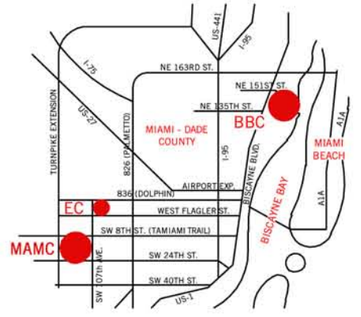


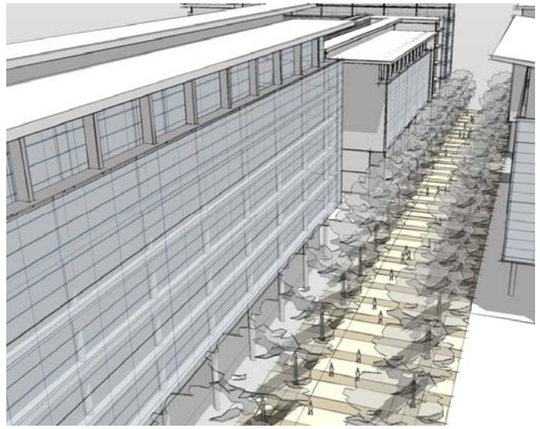
FIGURE: 16.0 A1

Landscape Framework
Quad

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

PERKINS +WILL



Promenade is a linear significant public space

Proposed Promenade at Engineering Center Campus

north

Description:

A promenade is a pathway for learning. It is a public place for walking that directly connects one point to another. More than just a wide sidewalk or trail, a promenade is of significant importance with differing hardscape materials and more formal canopy plantings. Promenades may define one edge or bisect a larger space. The space is characterized by pedestrian-friendly features and a clearly defined architectural volume that can allow for congregation as well as settings for small group study areas. Promenades should have continuous areas shaded and protected from the rain by structures.

Elements:

Hardscape: Hardscape areas will incorporate modern urban furniture and lighting elements with clean lines and will be paved with unit pavers in dynamic patterns.

Plant Materials: Palm trees shall be the dominant canopy planting, used to reinforce the linearity of the space

Site Furnishings: Benches and trash receptacles shall be located along the edges of the promenade at regularly spaced intervals to provide a sense of repetition and various opportunities for resting and interaction.

Lighting: Appropriate, free standing light standards shall be located along the edges of the promenade at regularly spaced intervals to provide a sense of repetition that further the linearity of the space. Lights shall be spaced to provide for a consistent and continuous coverage at pedestrian scale while minimizing

Campus Spaces

Quad

Promenade

Courtyard

Plaza

Special Purpose Landscape

KEY MAP

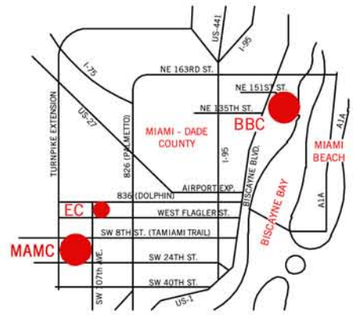


FIGURE: 16.0 A2

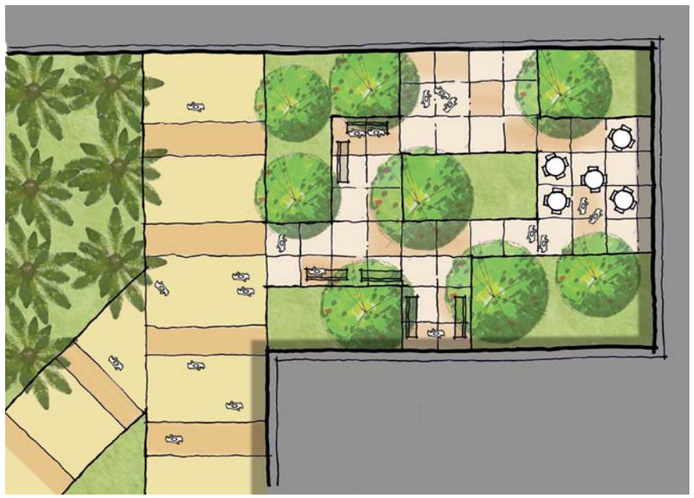
Landscape Framework
Promenade

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

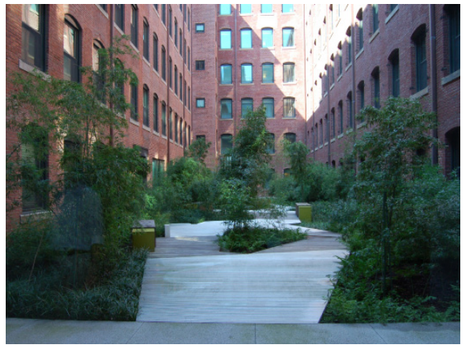
PERKINS +WILL

Courtyards can be secluded spaces for relaxation or opportunities for small gatherings



Proposed courtyard at Modesto A. Maidique Campus (Deuxieme Maison Building)

north



Description:
Courtyards are spaces between buildings but are more compact than quads. They offer either private or semi-private spaces providing immediately accessible opportunities for informal outdoor gathering, studying and collaborating. Courtyards are predominately hardscape places with landscape material along its edges or as a central focal point.

Elements:

Hardscape: Hardscape is the predominate element within a courtyard, providing space for intimate gatherings. Hardscape elements will incorporate University standards yet celebrate the unique qualities of the surrounding building uses.

Plant Materials: Trees and palms are to be planted in configurations that reinforce the spatial geometry of the courtyard and provide shade for the seating areas. The use of shrubs and groundcovers is encouraged to create a sense of seclusion from the surrounding campus.

Site Furnishings: The use of standard University furnishings is not required upon approval from Staff. Courtyards offer opportunities for unique spaces. Different site furnishings are appropriate to create a sense of cohesive design within the space.

Special Features: The use of art installations and/or water features can provides a focal point within the space. Outdoor seating areas and architectural canopies can further provide opportunities for outdoor gatherings and interaction

Campus Spaces

Quad

Promenade

Courtyard

Plaza

Special Purpose Landscape

KEY MAP

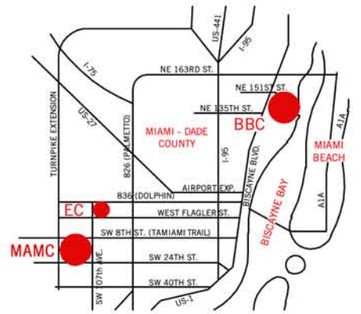


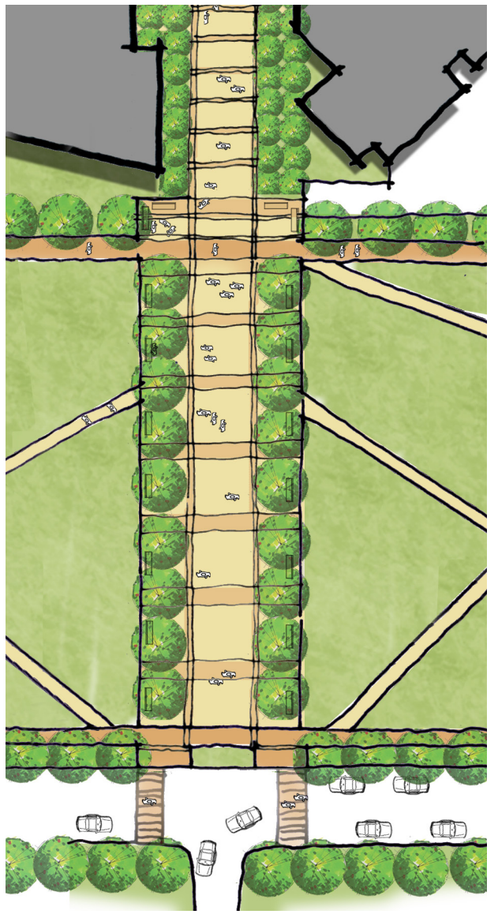
FIGURE: 16.0 A3
Landscape Framework
Courtyard

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

PERKINS +WILL

Plazas are special gathering spaces often characterized with unique hardscape materials and focal points



north

Proposed plaza at Modesto A. Maidique Campus (Health & Life Sciences)

Description:

Plazas occur at points of entry or gateways to the campus, various districts and key buildings throughout the Campus. The specific qualities of each may vary but all will be primarily characterized by hardscape elements and architectural character with canopy trees reinforcing the spatial geometry of the space. Plazas should incorporate signficant spaces shaded by and protected from the rain by structures.

Elements:

Hardscape: Hardscape elements will incorporate University standards yet celebrate the unique qualities of the surrounding uses. Expressing the academic mission, research agenda and sustainability through the landscape design by utilizing appropriate plantings and hardscape materials, interpretive signage, and interactive elements.

Plant Materials: Trees and palms are to be planted in configurations that reinforce the spatial geometry of the plaza and provide shade along seating and pedestrian movement areas. The use of shrubs is minimal or absent and ground covers, where present, are massed in groupings of single species to define circulation patterns.

Special Features: The use of art installations and or water features can provide a focal or gathering point within the space. Outdoor seating areas and architectural canopies can further provide opportunities for outdoor gatherings and interaction. Educational signage that addresses both man-made and natural systems as well as university history can become focal points within a plaza.

Campus Spaces

Quad

Promenade

Courtyard

Plaza

Special Purpose Landscape

KEY MAP

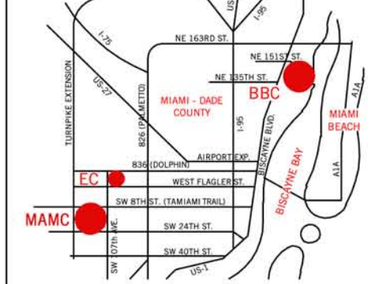


FIGURE: 16.0 A4

Landscape Framework
Plaza

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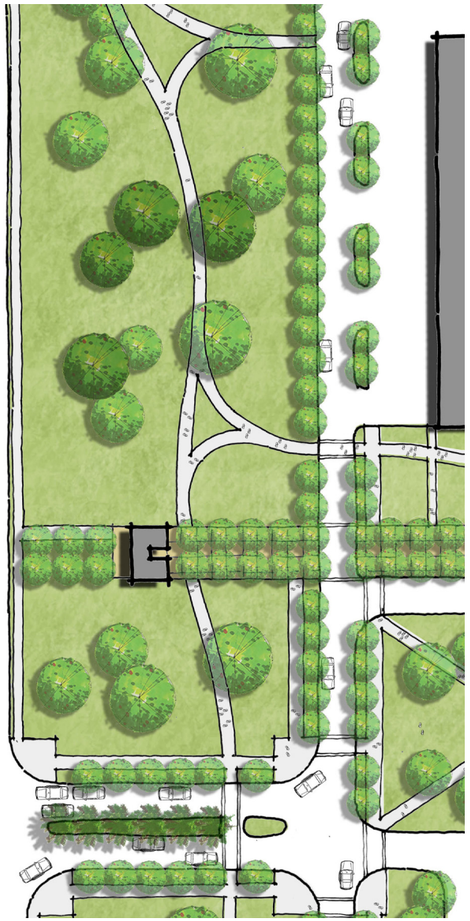
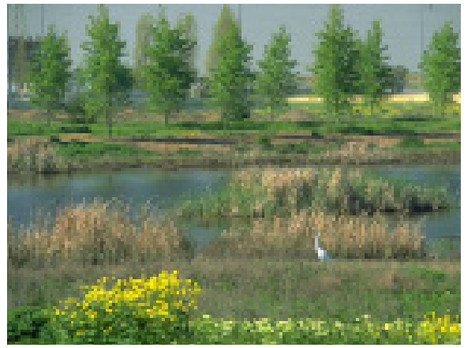
Special Purpose Landscapes offer opportunities for teaching and research as well as passive recreation



Proposed Special Purpose Landscape at Engineering Center Campus



Description:
Special Purpose Landscapes provide opportunities for teaching and research or passive and active recreation opportunities. The type of space is determined by the landscape materials, structure and use. Areas may include a vast ground plane of lawn that promote active and passive recreation. They might also include wetlands or woodlands that lend themselves to educational opportunities. A third type of landscape is a garden, characterized by clearly defined edges, variety in plant and hardscape material bound together to create a space with a common element or intent. and Special landscape areas are different than quads in that they are larger spaces and their edges are not necessarily defined by buildings. They also provide a picturesque, natural backdrop to the more urban texture of the campus

Elements:

Hardscape: Hardscape materials and location are determined based on the type of space. Existing wetlands and woodland should use pervious material or raised boardwalks to allow for pedestrian movement with the space. Sidewalks are generally limited to the edges of the of larger open spaces or to create direct connections between heavy pedestrian traffic routes. Gardens allow for a variety of pervious and impervious materials.

Plant Materials: Plant materials and location are determined based on the type of space.

Campus Spaces

Quad

Promenade

Courtyard + Square

Plaza

Special Purpose Landscape

KEY MAP

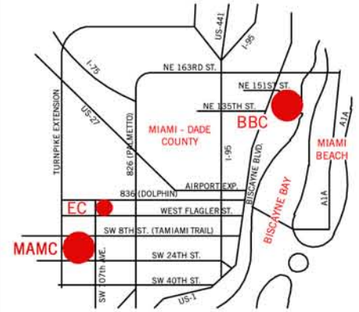


FIGURE: 16.0 A5
Landscape Framework
Special Purpose Landscape

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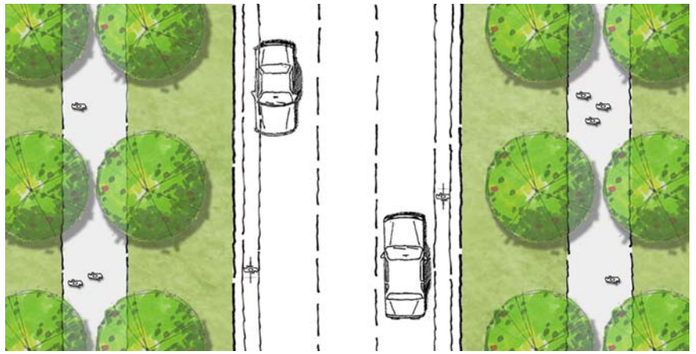
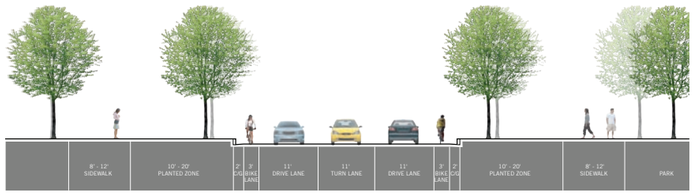
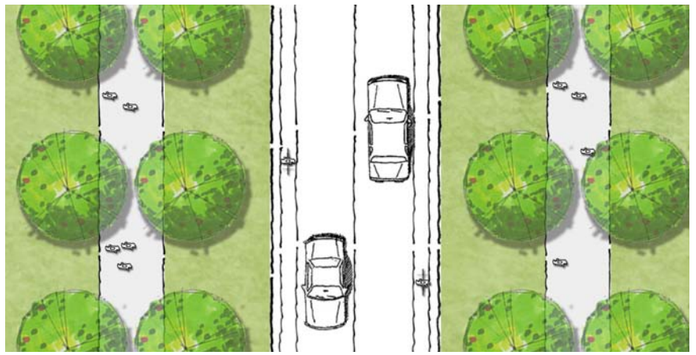


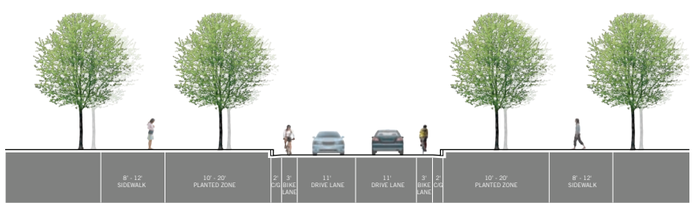
Plan of Proposed Typical Three-Lane Campus Greenbelt at Modesto A. Maidique Campus



Section of Proposed Typical Three-Lane Campus Greenbelt at Modesto A. Maidique Campus



Plan of Proposed Typical Two-Lane Campus Greenbelt at Modesto A. Maidique Campus



Section of Proposed Typical Two-Lane Campus Greenbelt at Modesto A. Maidique Campus

Descriptions:

The Modesto A. Maidique Campus loop road provides an opportunity to create a continuous, “greenbelt” that incorporates both pedestrian and vehicular movement. This proposed Greenbelt defines the limits of inner campus core while binding important existing and proposed open spaces, that are adjacent to the loop, together.

The design leads to a separation of vehicle from pedestrian traffic by wide planting zone. The Greenbelt takes on the character of a parkway with wide sidewalks, bike lanes and canopy trees varying in areas from a more open and green identity to that of a specific urban form. Special Purpose Landscapes such as the teaching and research area east of the baseball stadium and the President’s Garden north of 16th St entrance are key spaces that will be connected to the Greenbelt. Currently the loop is partially planted with Live Oaks creating some areas with pleasant zones that serve as a green relief from the existing surface parking lots, garages and university buildings.

Elements:

Hardscape: Wide sidewalks on both sides of the street are necessary to bind the Greenbelt together as a circulation as well as recreation corridor within the campus. Materials to follow University standards

Plant Materials: Linear rows of canopy trees will continue to be planted parallel to the loop road to define the corridor and provided a ‘safe zone’ for pedestrians to access other parts of campus.

Bike Lanes: Bike lanes are recommended on both sides of the loop road. Bike racks should be installed close to building entrances along the bike path. Design and materials should follow University Standards.

Campus Streets

Campus Greenbelt
(Modesto A. Maidique Campus)

Main Street
(Modesto A. Maidique Campus)

Green Spine
(Biscayne Bay Campus)

Entry Drive

Service Street
(Modesto A. Maidique Campus)

KEY MAP

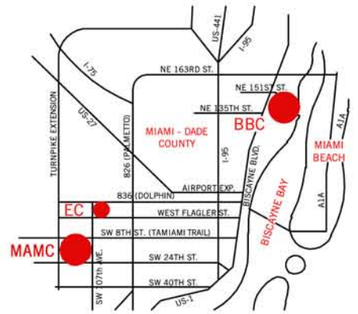


FIGURE: **16.0 B1**
Landscape Framework
Campus Greenbelt

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Plan of Proposed Main Street at Modesto A. Maidique Campus

north

Section of Proposed Main Street at Modesto A. Maidique Campus

Description:

Main Street is historically a place for gatherings, interaction and commerce. The concept provides the University community with ground floor retail & student services with dense housing above to create a more viable urban environment. Main Streets generally provide easy parking for retailers with on-street parking, gracious sidewalks which allow for outdoor displays and dining opportunities as well as rich hard-scape and landscape materials. Arcades are provided to allow for covered circulation from store to store.

Elements:

Hardscape: Sidewalks are generally wide, a minimum of 12 ft in width. The use of specialty pavers may be used at intersections to delineate pedestrian crossings or for plazas that are separate from the side-walk zone.

Plant Materials: Canopy trees are to be used to provide consistent shade for circulation and outdoor eating opportunities. Groundcovers are encouraged within the planting zone provided easy access to the on-street parking spaces can be maintained.

Special Features: The area has been identified to develop a Cuban Memorial plaza as well as a pro-posed Alumni Hall. Both could greatly increase the “draw” of the street creating a cultural node that will bring visitors to the campus to further enhance and support the retail component of the street.

Campus Streets

Campus Greenbelt
(Modesto A. Maidique Campus)

Main Street
(Modesto A. Maidique Campus)

Green Spine
(Biscayne Bay Campus)

Entry Drive

Service Street
(Modesto A. Maidique Campus)

KEY MAP

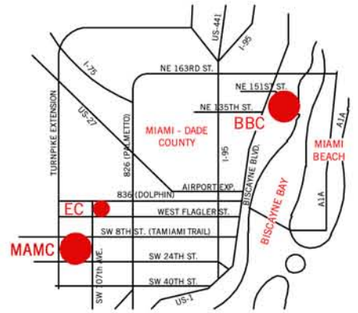

FIGURE: 16.0 B2
Landscape Framework
Main Street

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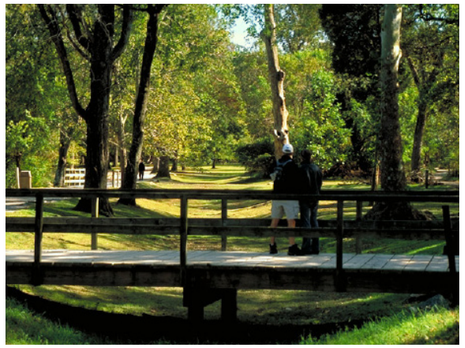
Plan of Proposed Green Spine at Biscayne Bay Campus

north

Section of Proposed Green Spine at Biscayne Bay Campus



Description:

The Green Spine provides an opportunity to connect the academic campus to the conference center through the expansion and preservation of the existing mangrove stands. This connection will increase the connectivity on campus with proposed sidewalks and drive lanes. Pedestrian connections through the mangrove stands will allow for increased pedestrian connectivity within the campus while enhancing view corridors to the Bay. The mangrove stands provide a opportunity for teaching and research while reinforcing the sustainably imitative of the campus.

Elements:

Hardscape: Sidewalks shall be placed on both sides of the mangrove stands. The eastern sidewalk will define the edge of the space. Materials should follow University standards.

Plant Materials: A linear row of canopy trees should be planted to define the eastern edge of the spine. Canopy trees should be placed randomly within the space to provide shade. Outside of the mangrove stands, lawn should be the predominate ground plane vegetation.

Lighting: Materials should follow University standards.

Special Features: “Pedestrian bridges” will create connectivity between the academic core and the proposed residential districts. The bridges will allow the mangrove stands to continue while permitting views corridors to be established. These bridges may also serve as observation platform for teaching purpose. Materials are subject to University Standards.

Campus Streets

Campus Greenbelt
(Modesto A. Maidique Campus)

Main Street
(Modesto A. Maidique Campus)

Green Spine
(Biscayne Bay Campus)

Entry Drive

Service Street
(Modesto A. Maidique Campus)

KEY MAP

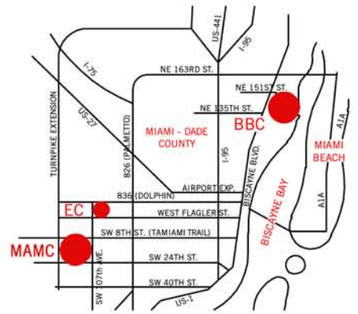


FIGURE: 16.0 B3

Landscape Framework
Green Spine

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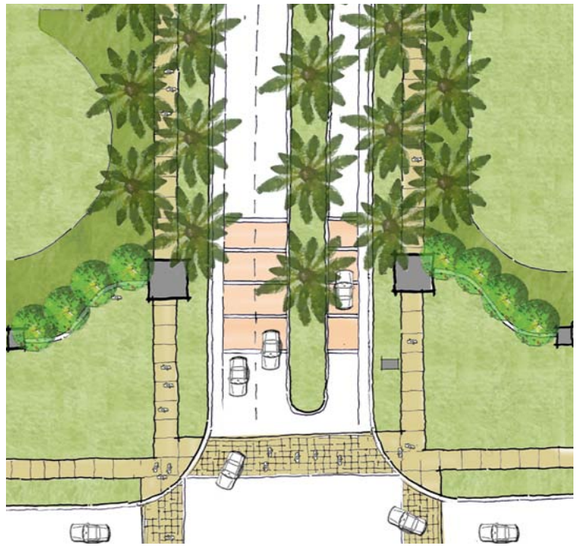


Plan of Proposed Entry Drive at Modesto A. Maidique Campus

Plan of Proposed Entry Drive at Modesto A. Maidique Campus

Description:

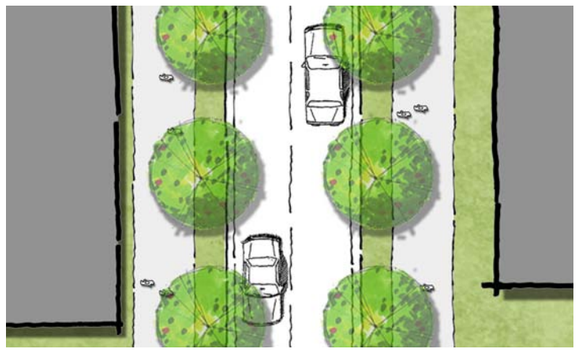
Entry Drives set the stage for the campus. They are used for traffic calming, sense of arrival and circulation. While some entry drives have been enhanced there is no consistency between them and some campuses have not been properly identified. Entry drives should convey a sense of arrival from the existing urban fabric to an institution higher learning a through a strong visual and functional connection.

Elements:

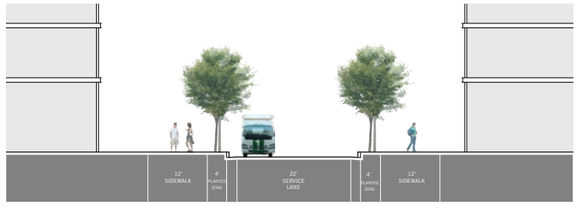
Hardscape: Generally minimal, but it should provide a pedestrian connection to the community from the campus.

Plant Materials: Should be architectural in form. The consistant use of Royal Palms are recommended at primary entry drives with minimal understory plantings.

Special Features: Campus signage and wayfinding should be installed at all entries. Architectural features are consistent at existing primary entry drives at University Park campus but not required at Engineering Center or Biscayne Bay campus nor at secondary entries. The design should be consistent and follow the University Standards.



Plan of Proposed Service Street at Modesto A. Maidique Campus



Section of Proposed Service Street at Modesto A. Maidique Campus

Description:

The existing service street located south of Charles Perry Hall and Recreation Center on the University Park campus is a three lane road that divides the main residential housing district from the academic core. As the campus grows it is likely that this street will become a secured drive with limited access for servicing buildings and Health Services. The drive should be reconfigured to minimize the drive lanes and enhance the pedestrian condition of the drive. This corridor would provide a much needed east-west pedestrian connection between the Blue & Gold parking decks and west campus.

Elements:

Hardscape: Sidewalks on both sides of the street are necessary to redefine the street as a pedestrian friendly corridor. Sidewalk should be similar in width to the Greenbelt with the existing service lans reduced in width. Materials to follow University standards.

Plant Materials: Linear rows of canopy trees to be planted parallel to the street to define the corridor and provided a ‘safe zone’ for pedestrians. Lawn shall be the primary ground plane material but startegic locations of groundcovers is encouraged to further define the seperation between pedestrian and vehicular movements and enhance the space.

Campus Streets

Campus Greenbelt
(Modesto A. Maidique Campus)

Main Street
(Modesto A. Maidique Campus)

Green Spine
(Biscayne Bay Campus)

Entry Drive

Service Street
(Modesto A. Maidique Campus)

KEY MAP

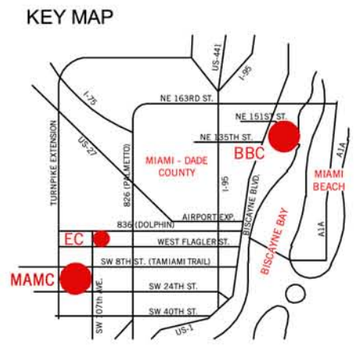


FIGURE: 16.0 B4

Landscape Framework
Entry Drive
Service Street

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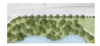
Landscape Type	Campus Space					Campus Street						Campus Edge				Other
Sample Plant Selection:																
Scientific Name Common Name	Quad	Promenade	Plaza	Courtyard	Special Purpose Landscape	Greenbelt	Mainstreet	Service Street	Entry Drive (Primary)	Entry Drive (Secondary)	Green Spine (Biscayne Bay)	Park Edge	Urban Edge	Landscape Edge	Baywalk	Parking Lot
TREES																
*Bursera simaruba** Gumbo Limbo																
Coccoloba diversifolia Pigeon Plum																
*Coccoloba uvifera** Seagrape																
*Conocarpus erectus** Buttonwood																
Lysiloma latisiliqua Wild Tamarind																
Pinus elliottii var. densa S. Florida Slash Pine																
*Quercus virginiana** Live Oak																
Simarouba glauca Paradise Tree																
*Swietenia mahogani** Mahogany																
FLOWERING TREES																
Bombax ceiba Red Silk-Cotton																
Bulnesia arborea Vera Wood																
Caesalpinia granadillo Bridalveil																
Jacaranda acutifolia Jacaranda																
Tabebuia caraiba Silver Trumpet																
Cordia boissieri White Geiger																
Cordia sebestena Orange Geiger																
Peltophorum pterocarpum Yellow Poinciana																
PALMS																
*Acoelorrhaphe wrightii** Paurotis Palm																
*Bismarckia nobilis** Bismarck Palm																
*Cocos nucifera*** Coconut Palm																
Ptychosperma elegans Alexander Palm																
Roystonea elata Royal Palm																
*Thrinax radiata** Thrinax Palm																
*Thrinax morrisii** Key Thatch Palm																
Veitchia montgomeryana Montgomery Palm																
SHRUBS																
Callicarpa americana Beauty Bush																
Capparis cynophallophora Jamaica Caper																
*Chrysobalanus icaco** Cocoplum																
Galphemia gracilis Thryallis																
Ilex cassine Dahoon Holly																
Ilex vomitoria Yaupon Holly																
Myrcianthes fragrans var.simpsonii Simpson Stopper																
Myrsine guianensis Myrsine																

* *(Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)*

** *(Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)*

KEY MAP

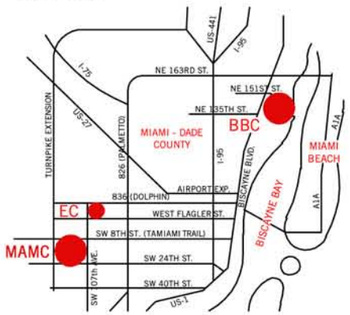


FIGURE: 16.0 C1

Landscape Framework
Plants Palette Matrix

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Landscape Type	Campus Space					Campus Street						Campus Edge				Other
Sample Plant Selection: *Scientific Name* Common Name	 Quad	 Promenade	 Plaza	 Courtyard	 Special Purpose Landscape	 Greenbelt	 Mainstreet	 Service Street	 Entry Drive (Primary)	 Entry Drive (Secondary)	 Green Spine (Biscayne Bay)	 Park Edge	 Urban Edge	 Landscape Edge	 Baywalk	 Parking Lot
SHRUBS																
Myrica cerifera Wax Myrtle																
Muhlenbergia capillaris Pink Muhly Grass																
Pennisetum setaceum 'Rubrum' Purple Fountain Grass																
Psychotria undata Wild Coffee																
Raphiolepsis indica Indian Hawthorne																
Rosemarinus offcinalis Rosemary																
*Scaevola pumieri** Inkberry																
Strelitzia reginae Bird of Paradise																
Tripsacum dactyloides Fakahatchee Grass																
GROUNDCOVERS																
*Borrichia frutescens*** Sea Oxeye Daisy																
*Ernodea littoralis var. littoralis*** Beach Golden Creeper																
Evolvulus glomerata Blue Daze																
Hemerocallis spp. Daylily																
*Hymenocallis latifolia** Spider Lily																
Lantana depressa Pineland Lantana																
Lantana montevidensis Weeping Lantana																
Liriope spp. Lily Turf																
Stenotaphrum secundatum St. Augustine Turf																
Tulbaghia violacea Society Garlic																
Vinca minor Periwinkle																
Zamia pumila Coontie																
VINES																
*Bougainvillea spp.** Bougainvillea																
Ficus pumila Creeping Fig																
*Ipomoea spp.*** Beach Morning Glory																
Trachelospermum jasminoides Confederate Jasmine																
LAKE EDGE LITTORAL PLANTS																
TO BE DEVELOPED																

* *(Plant Species is suitable for coastal environments - can be used at Biscayne Bay Campus)*

** *(Plant Species is specific to coastal environments - should only be used at Biscayne Bay Campus)*

KEY MAP

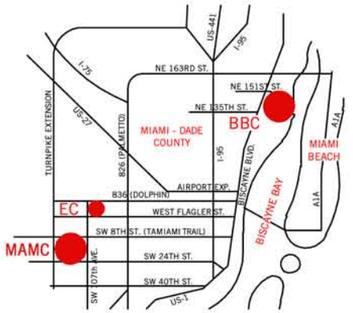

FIGURE: 16.0 C2

Landscape Framework
Plants Palette Matrix

FIU FLORIDA INTERNATIONAL UNIVERSITY

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CANOPY TREE

FLOWERING TREE

PALMS

1. Live Oak **2.** Gumbo Limbo **3.** Wild Tamarind **4.** Swietenia mahogany
9. Royal Palm **10.** Montgomery Palm **11.**Thrinax Palm **12.** Alexander Palm

5. Jacaranda **6.** White Geiger **7.** Vera Wood **8.** Peltophorum

Selected Plants Imagery

Canopy Tree

Flowering Tree

Palms

Shrubs

Groundcovers

Vines

KEY MAP

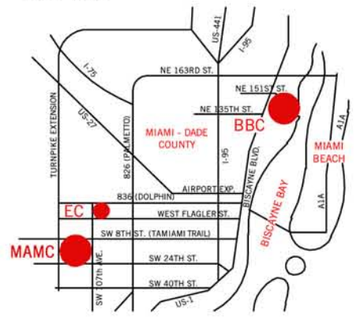

FIGURE: 16.0 C3

Landscape Framework Imagery Plants

FIU FLORIDA INTERNATIONAL UNIVERSITY

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SHRUBS


1

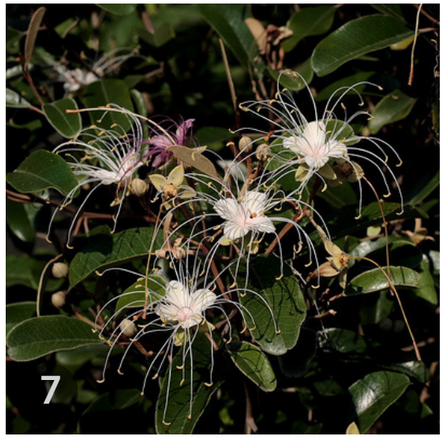

2


3


4


5


6

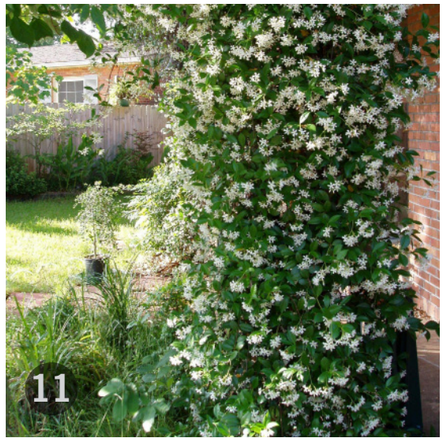

7


8

GROUNDCOVER & VINES


9


10


11


12

1. Fakahatchee Grass **2.** Pink Muhly Grass **3.** Indian Hawthorne **4.** Bird of Paradise **5.** Thryallis **6.** Inkberry **7.** Jamaica Caper **8.** Wild Coffee
9. Society Garlic **10.** Periwinkle **11.** Confederate Jasmine **12.** Bougainvillea

Selected Plants Imagery

Canopy Tree

Flowering Tree

Palms

Shrubs

Groundcovers

Vines

KEY MAP

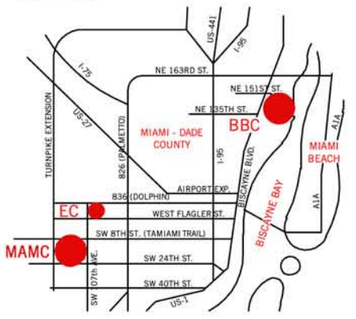


FIGURE: **16.0 C4**

Landscape Framework Imagery Plants

FIU FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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Landscape Type	Campus Space					Campus Street					Campus Edge				Other
Elements	Quad	Promenade (EC)	Plaza	Courtyard	Special Purpose Landscape	Greenbelt (MAMC)	Mainstreet (MAMC)	Service Street	Entry Drive (Primary)	Entry Drive (Secondary)	Park Edge	Urban Edge	Landscape Edge	Baywalk (BB)	Parking Lot
Hardscape															
Concrete						Both Sides	Both Sides		Both Sides	Both Sides					
Colored Concrete															
Concrete Paver															
Stone															
Gravel															
Special Paver															
Site Furnishings															
Bench															
Trash Receptacle															
Wayfinding															
Bicycle Racks	On the Perimeter														
Railing															
Lighting															
Pedestrian															
Path Light															
Wall Light															
Globe Light															
Vehicle															
Art	President's Garden Only														
Special Features															

KEY MAP

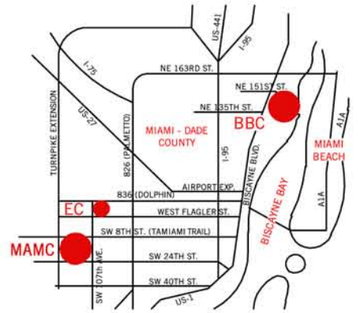

FIGURE: 16.0 C5

Landscape Framework
Design Elements Matrix

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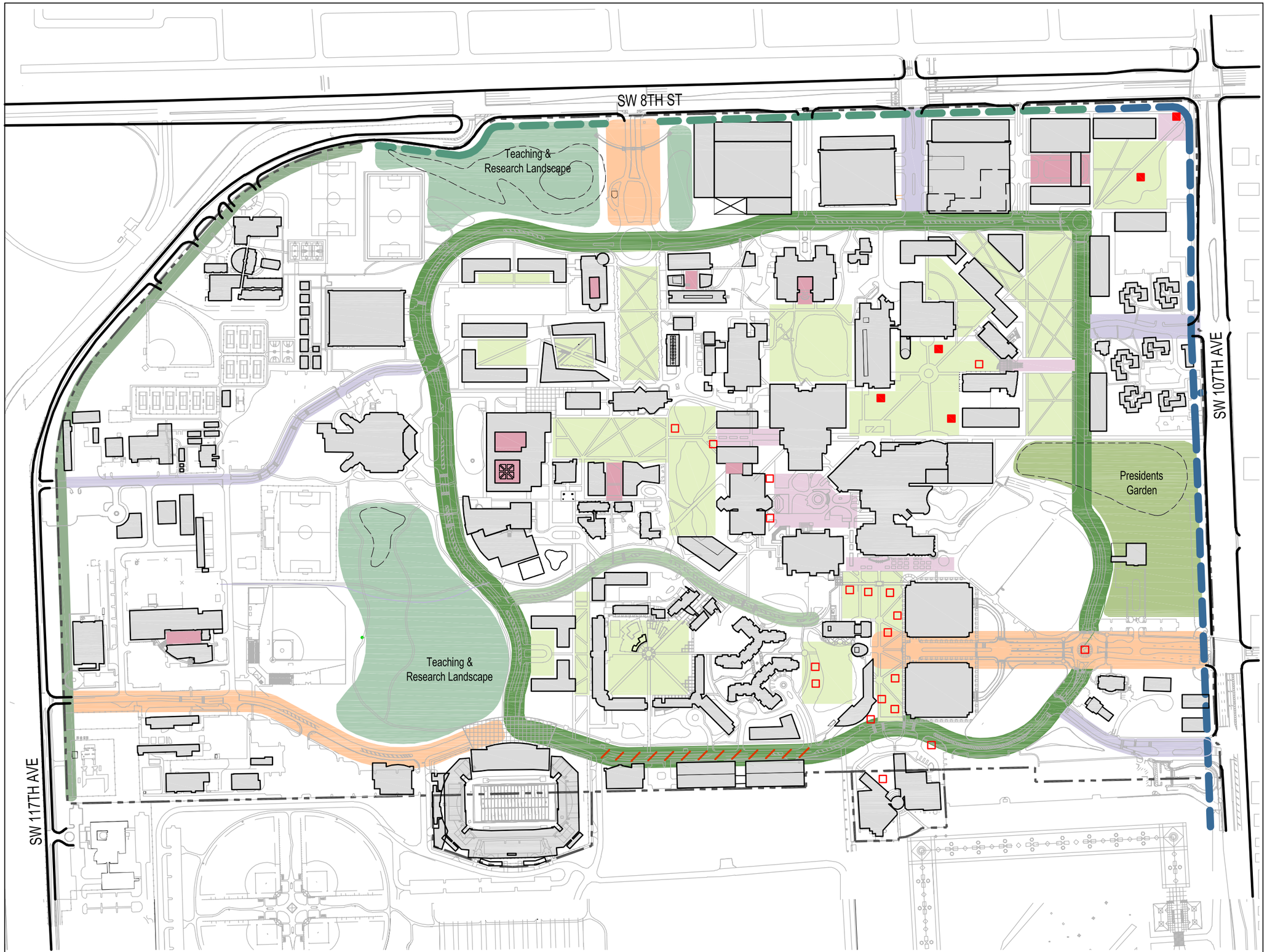

LEGEND

Campus Spaces

- Quads
- Plazas
- Courtyards
- Gardens
- Teaching & Research Landscape

Campus Streets

- Primary Entry Landscape
- Secondary Entry Landscape
- Service Drive
- Main Street
- Campus Greenbelt

Campus Edges

- Park Edge
- Urban Edge
- Landscape Edge

Arts

- Existing Arts
- Purposed Future Arts

KEY MAP

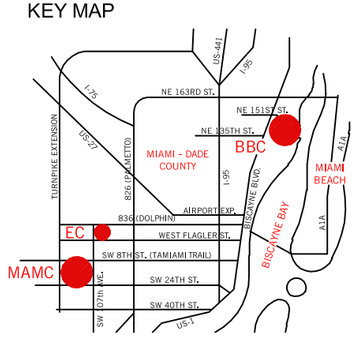

FIGURE: 16.1
Modesto A. Maidique Campus
2015 Landscape Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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LEGEND

Campus Space

- Quads
- Promenade
- Teaching & Research Landscape

Campus Streets

- Primary Entry Drive
- Secondary Entry Drive

Campus Edges

- Buffer
- Landscape Edge
- Screening
- Park Edge

KEY MAP

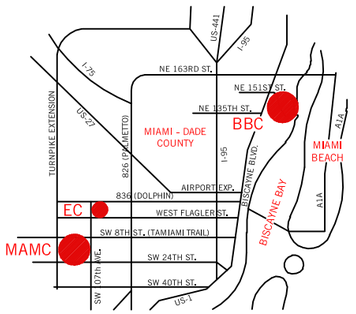

FIGURE: 16.2
Engineering Center
2015 Landscape Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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LEGEND

Campus Space

- Quads
- Teaching & Research Landscape

Campus Streets

- Primary Entry Drive
- Secondary Entry Drive
- Green Spine

Campus Edges

- Bay Walk
- Landscape Edge

KEY MAP

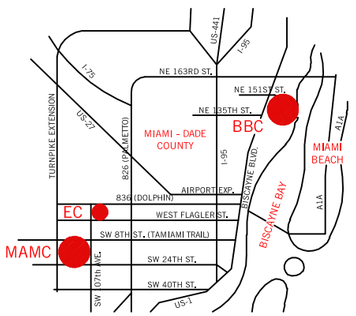

FIGURE: 16.3
Biscayne Bay
2015 Landscape Design Concept Plan

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

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17.0 FACILITIES MAINTENANCE ELEMENT

For the first time in its history, each of the FIU campuses boast both an historic core of buildings from the early 1970's and new "signature" buildings. These architecturally significant components of the physical fabric of the FIU campuses should receive equal attention for maintenance and special review for any modifications including repainting, window and door replacements and infrastructure changes.

Florida International University presently is working toward the integrated Facility Maintenance Program. At present, priorities are assigned to address facility deficiencies based on explicit criteria and standards, with implementation limited by funding availability. The Goals, Objectives and Policies below are aimed at documenting present procedures, while mandating an expansion of the facility maintenance program with an emphasis on long term scheduling of routine, preventive and deferred maintenance.

GOAL 1: **Provide for the timely and cost effective maintenance of campus facilities and plan future facilities having high levels of efficiency and limited maintenance requirements.**

Objective 1.1 **Building Element Performances:**
Utilize building materials, finishes and systems which are durable, reliable and which require limited maintenance in accordance with Association of Physical Plant Administrators Guidelines.

Policy 1.1.1 On future facilities apply the following guidelines for exterior building elements.

-Ground Level - Utilize durable, weather-resistant, climate-appropriate materials including unpainted concrete masonry, natural stone (keystone) and like materials which require only periodic pressure cleaning. Use of stucco, wood and other materials in active pedestrian areas which require high levels of maintenance, frequent painting or which are subject to deterioration is discouraged.

-Upper Levels - Exposed concrete masonry, masonry panels are preferred. Smooth finish stucco requiring painting no more often than every five years is acceptable.

Policy 1.1.2 Provide interior building materials which have a level of durability, security and sound attenuation appropriate to projected levels of use and wear, using commonly accepted maintenance practices as follows:

-High Use Areas
Utilize hard surface, impervious surfaces such as ceramic tile and

pavers on floors and base walls.

-Low-Moderate Use Areas
Utilize vinyl tile coupled with appropriate acoustical ceiling treatments in moderate use areas such as classrooms, labs and hallways. Limit use of durable commercial grade carpet to low use areas such as offices, faculty lounges and conference rooms.

-Walls should be high grade durable semi-gloss paint on drywall or plaster partitions. All trim should be color-integrated materials.

Policy 1.1.3 Provide durable, easily accessible, low maintenance and high energy efficiency mechanical and electrical systems, appropriate to local climatic (high humidity) conditions. Special standards shall apply to the control of moisture related facility deterioration problems. Provide high output, low energy lighting systems with appropriate color renditions. Maximize system and component standardization to facilitate ease of operations, maintenance and replacement.

Policy 1.1.4 The University shall make every effort to incorporate sustainable/green elements in the planning and systematic upgrade of its facilities to conserve energy and reduce overall operation costs.

Objective 1.2 Facility Use and Capacity:
Manage facility utilization efficiency so as to minimize use conflicts, overcrowding and retrofit costs.

Policy 1.2.1 Apply SREF Guideline 6A-2 to all proposed facility use modifications to ensure optimum facility utilization.

Policy 1.2.2 Limit facility use changes which involve uses with significantly different operational, spatial or mechanical requirements (e.g. conversion of classrooms to laboratories, etc.)

Objective 1.3 Facility Maintenance Program:
Establish a Comprehensive Facility Maintenance Program, building on the current Facility Deficiency Report and related surveys of facility conditions, capacities and code compliance.

Policy 1.3.1 Continue present facility maintenance procedures consisting of annual application of criteria for prioritization contained in this document to the deficiencies identified in the data sources identified below for annual inclusion in the five year CIP based on available resources.

-Building Deficiency Survey

-Housing Deficiency Survey
-Life Safety (Fire Marshall) Reports
-Handicapped Accessibility (ADA) Reports
-Hazardous Materials Reports (Law Engineering)
-Roof Management Reports (Garland)

Policy 1.3.2 Expand and annually update the facility deficiency reporting system, including the data sources to include:
-ADA Compliance
-Conformance with Guideline 6A-2
-Potential for adaptive re-use
-Hazardous materials inventory
-Auxiliary and student services buildings
-Grounds maintenance needs (based on xeriscape principles)
-Short and long range cost projections.

Policy 1.3.3 Priorities for the remediation of facility deficiencies shall be assigned based on the following criteria in descending order of importance.

-Emergency life-safety or plant-safety items
-Previously initiated uncompleted projects
-Threatening life-safety items.
-Handicapped access corrections required by state law or ADA
-Threatening plant-safety items
-Critical needs for maintaining operations
-Expansion needs critical to University objectives
-New program or operations improvements

Policy 1.3.4 Utilize and expand upon the facility deficiency reporting system database composed of the following elements:

-Standards for the assessment of facility utilization and conditions.
-Priorities for maintenance and improvement projects which emphasize factors of safety, handicapped accessibility, operational efficiency and long term cost effectiveness.
-Process for the periodic review of facility utilization capacity and the identification of re-use potentials.
-Schedule and budget for routine and deferred maintenance and elimination of deficiencies among all facilities with annual maintenance cost projections.

Policy 1.3.5 Establish a deferred preventative and maintenance schedule, consistent with projected funding, incorporated in the Facility Maintenance Program.

Policy 1.3.6 The review process for the use and capacity of buildings shall consist

of the following elements:

(a) Classroom-Laboratory utilization reports shall be prepared annually for use by Institutional Research and Space and Scheduling units of Academic Affairs in preparing class assignments.
(b) The FIU Space Committee shall meet, at minimum, monthly to review and act upon space and change in use requests submitted by department heads.

Objective 1.4 **Maintenance Funding:**
Ensure the availability of sufficient funding and other resources to support projected facility maintenance requirements. Funding calculations for building maintenance should include the necessary levels of support for achieving LEED Silver certification for Existing Buildings.

Policy 1.4.1 Incorporate within building construction programs and funding requests projected life cycle maintenance expenses to be held in a maintenance endowment account.

Policy 1.4.2 Establish a maintenance endowment account for existing buildings through an amount to be determined as part of the Facilities Maintenance Program.

Policy 1.4.3 Based on the Facilities Maintenance Program analysis and application of the Texas Higher Education Coordinating Board Model, re-evaluate and revise maintenance cost formulas to reflect actual resources necessary to prevent building condition deterioration

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18.0 COASTAL MANAGEMENT ELEMENT

Few university campuses nationwide are located in the type of sub-tropical, coastal setting in which Biscayne Bay Campus of Florida International University is found. The coastal environment, however, offers many challenges to the Master Planning process. The challenges include determining how one may take advantage of the amenities offered by the coastal setting, while limiting the vulnerability of the campus to hurricanes, tropical storms and flooding, and at the same time protecting and enhancing important natural resources (see 13.0 Conservation Element Figures 13.1, 13.2 and 13.3).

Legislative changes, however, require the State University System to assess existing facilities to identify the extent to which each campus has public shelter space adequate to house those students, faculty, and employees expected to seek public shelter prior to or during a disaster and those persons for which the campus has agreed with the local emergency management agency or other voluntary organization to provide shelter space. The State University System is also required to survey existing University facilities to determine those that are appropriately designed and located to serve as shelters. The goals, objectives and policies contained in this element are designed to establish the framework for meeting these requirements.
Coordination with DERM is recommended for all aspects of this element. At the Biscayne Bay Campus this coordination is highly recommended, in particular to shoreline and coastal wetlands existing on site. A DERM Class II permit is necessary to construct any outfall that will discharge to any surface in Miami-Dade County and a DERM Class I permit is required for any work in, on, over or upon tidal waters or coastal wetland in Miami-Dade County.

GOAL 1: **The University shall manage its development activities so as to protect, conserve and maintain coastal and estuarine resources on the University property at Biscayne Bay Campus.**

Objective 1.1 **Implementation and Management of Coastal and Estuarine Resource Policies: Implement and manage coastal and estuarine resource policies through the use of appropriate University faculty and staff.**

Policy 1.1.1 The University shall endeavor to develop a resource of knowable FIU experts to oversee the implementation of the coastal resource management policies defined in the Conservation and Coastal Management Elements of this Master Plan. It shall also be the task of these individuals to review these policies and, if necessary, prepare any necessary additional policies, guidelines, procedures and implementation schedules within one year of the adoption of the Master Plan. The adopted Master Plan shall be amended as necessary to incorporate those guidelines, procedures and implementation schedules. The University shall provide a staff

person to serve as Environmental Coordinator to manage the activities. The Environmental Coordinator shall periodically review proposed University improvements and activities to ensure University compliance with the policies defined in the Conservation and Coastal Management Elements of this Master Plan. The Environmental Coordinator shall also periodically review host community, state and federal conservation and coastal management policies to ensure University compliance with these policies.

Objective 1.2 **Protection and Maintenance of Coastal and Estuarine Resources: Maintain and protect coastal and estuarine resources on the University property.**

Policy 1.2.1 The University shall undertake a binding jurisdictional determination of those areas identified as potentially jurisdictional wetlands in the Inventory and Analysis Document. Determination of jurisdictional wetlands status should be done prior to the commencement of any clearing or building activities in these areas. FIU will obtain and comply with all required local, state and federal permits prior to any work in wetlands or tidal waters, or prior to trimming or altering mangroves.

Policy 1.2.2 Protect and enhance shallow-water communities and sea grass beds in the waters of Biscayne Bay fronting Biscayne Bay Campus by reducing the impacts of stormwater runoff to these areas.

Policy 1.2.3 The Environmental Coordinator shall evaluate any proposed changes to the siting of buildings or other University improvements to determine whether such changes are in compliance with regulations governing jurisdictional wetlands. The adopted Master Plan shall be amended as necessary to incorporate the findings and recommendations of the Environmental Coordinator. FIU shall not site or plan any non-water dependent fixed or floating structures in coastal wetlands or tidal waters, such facilities will be located on upland areas.

Policy 1.2.4 The University shall monitor the water quality of the lakes, canals and mangrove areas on each campus on a quarterly basis. Should the water quality of the water in the water bodies fall below the standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency, an assessment of probable causes of pollution shall be performed and a plan developed and implemented to eliminate the point and

non-point sources of pollution

Policy 1.2.5 To reduce possible negative impacts on manatees and to limit the effects of wave action on the physical properties of the estuary, FIU will request the Florida Fish and Wildlife Conservation Commission require the current regulation be more restrictive to increase its level of enforcement.

Policy 1.2.6 Prior to construction of facilities that border the coastal and estuarine habitats, engineering and design analyses shall be performed to ensure that facilities will not contribute polluted run-off into those habitats.

Policy 1.2.7 To protect the mangroves, designate and post the mangrove-lined canals in the northern and southern portions of campus as restricted-access or no-access areas. FIU will avoid and minimize trimming or alteration of any mangroves and shall obtain required local, state and federal permits prior to trimming or altering mangroves.

Policy 1.2.8 Future development activity, except for pathways and landscape improvements, shall occur no closer than 100 feet from any Biscayne Bay shoreline.

Policy 1.2.9 The University shall not engage in water management practices that result in significant or permanent draw-down of the water table.

Policy 1.2.10 Structures, roadways and paths shall be designed so as not to interfere with the proper drainage of water to estuarine and coastal habitats. Where necessary, structures shall be used to maintain drainage into estuarine and coastal habitats.

Policy 1.2.11 FIU will comply with recommendations in the state-approved Miami-Dade County Protection Plan where feasible.

Objective 1.3 Protection and Restoration of Beach, Beach Strand and Dune Systems: Restore beaches, beach strand and dune systems and protect them from the impacts of development.

Policy 1.3.1 To ensure that the placement of buildings and infrastructure does not encroach on shoreline areas such as the beach strand, no future buildings or infrastructure shall be built within 100 feet of shoreline areas or beach strand vegetation.

Policy 1.3.2 Post signs instructing beach visitors not to remove or destroy the beach strand or other native vegetation.

Policy 1.3.3 The University shall only allow the use of designated areas for boat docking, and shall prohibit such use from the areas with beach strand vegetation.

Policy 1.3.4 FIU will encourage managed access to the shoreline that is compatible with protection of wetland and aquatic vegetation and sensitive marine resources.

Policy 1.3.5 Ensure that new construction and operation on campus facilities does not alter the hydrologic regime needed to maintain beaches, beach strand or dunes.

Policy 1.3.6 As an element of landscape and pedestrian access improvements to open spaces along the Biscayne Bay shoreline, existing native beach strand vegetation shall be protected and enhanced. Native beach strand vegetation shall be used in enhancement plantings in these areas.

Policy 1.3.7 Monitor existing shoreline stability. As necessary, take the appropriate steps to accomplish the needed stabilization. Native vegetation shall be used to stabilize beaches and dunes.

Policy 1.3.8 Protect the shoreline stabilization project carried out by Miami-Dade County Department of Environmental Resources Management (DERM) in 1989-1991.

Objective 1.4 Limiting Specific and Cumulative Impacts on Natural Resources: Restrict University activities so as to limit specific and cumulative impacts of development on natural resources.

Policy 1.4.1 In order to protect native vegetative communities, the University shall endeavor to provide for a development buffer of at least 25 feet between native vegetative and any future construction projects, including, but not limited to, the siting of buildings, roadways, pathways and recreation facilities. FIU will endeavor to use visible barriers during construction or maintenance operations to delineate the boundaries of native plant communities and wetlands, where feasible.

Policy 1.4.2 The University shall endeavor to maintain a 25-foot minimum buffer zone between future buildings, ancillary facilities and infrastructure and those areas determined to be jurisdictional wetlands (including, but not limited to, mangrove areas).

Policy 1.4.3 The surface water hydrology of on-campus areas determined to be

jurisdictional wetlands shall be monitored on a seasonal basis. Resultant hydrologic data will be used to produce a plan to maintain or improve surface water flow into and out of jurisdictional wetlands. Structures, including roadways and walkways, shall be designed so as not to change the surface water flow to wetland areas. FIU will endeavor to use visible barriers during construction or maintenance operations to delineate the boundaries of native plant communities and wetlands, where feasible.

Objective 1.5 **Restoration and Enhancement of Coastal Natural Resources: Restore and enhance the coastal natural resources on Biscayne Bay Campus property.**

Policy 1.5.1 The University shall remove invasive exotic plant species from natural vegetation associations and from landscaped areas. Priority shall be given to removing exotic species from those native vegetation associations indicated in Figure 13.3. Initially, efforts shall be focused on the removal of Brazilian pepper (Schinus terebinthifolius), melaleuca (Melaleuca quinquenervia) and Australian pine (Casuarina equisetifolia). Removal of exotic species shall be carried out in a manner that minimizes impacts to native vegetation associations. Where necessary, areas from which exotic plants have been removed shall be replanted with appropriate native plant species. Removal of exotic species from natural vegetation associations and from landscaped areas shall be carried out quarterly during the first year and yearly thereafter, unless monitoring activities indicate that more frequent removal is warranted.

Policy 1.5.2 To help curtail their further spread into mangrove areas and other natural vegetation associations on campus, the University shall remove large stands of Australian pines (see Figure 13.2 Exotic Vegetation to be cleared and replanted). Removal of Australian pines shall be carried out in a manner that minimizes impacts to native vegetation associations. Areas from which Australian pines have been removed shall be revegetated in a manner consistent with the Landscape Design Element of this Master Plan. The use of native plant species in the landscaping of these areas shall be encouraged. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the Modesto A. Maidique Campus, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Because the removal of Australian pines may result in soil disturbance and provide colonization opportunities for other invasive exotic plants, replanting of landscape vegetation shall immediately follow the

removal of Australian pines. A timetable for removal of Australian pines shall be determined by Facilities Management.

Policy 1.5.3 The environmental coordinator shall establish a protocol for monitoring the establishment and spread of invasive exotic plant species. If monitoring activities indicate that invasive exotic species are becoming re-established, exotic plants shall be removed using the methods outlined in 13.0 Conservation Element.

Policy 1.5.4 The University shall use native plant species in restoration and enhancement planting of native vegetative communities. The use of native plant species in general campus landscaping shall be encouraged. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the Modesto A. Maidique Campus, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to south Florida. Where restoration or enhancement planting is instituted, the species chosen shall be those that are naturally found in the particular vegetative community being restored or enhanced. FIU will not use controlled or invasive plant species in landscaping near wetlands or native plant communities.

Policy 1.5.5 The University shall use native plant species in the landscape buffer areas that occur within 25 feet of native vegetative communities. The choice of native plant species shall be consistent with those recommended by the Environmental Studies staff at the Modesto A. Maidique Campus, Fairchild Tropical Gardens staff, or other individuals or agencies competent in the selection, use and maintenance of vegetation native to South Florida.

Policy 1.5.6 Encourage DERM to complete the mangrove mitigation project that involves scraping 1.65 acres to an elevation of +1 foot above mean sea level, excavation of drainage channels to a height of 0 feet above mean sea level, and planting of red and black mangroves on 3-foot centers in the areas between the drainage channels. The University will contact DERM for status and follow-up on this mitigation project.

Objective 1.6 Maintain and Enhance Water Quality in Estuarine and Aquatic Areas: Maintain and enhance water quality in estuarine and aquatic areas on Biscayne Bay Campus. Also see 13.0 Conservation Element policies limiting the impacts of campus operational and maintenance activities on the natural environment.

Policy 1.6.1 To limit negative impacts of campus activities on soils, wetlands, hydrology and hydroperiod, the environmental coordinator shall review existing and proposed University activities for compliance with the surface water policies of the South Florida Water Management District.

Policy 1.6.2 The University shall test storm water runoff for compliance with standards set by the State of Florida Department of Environmental Protection, the Miami-Dade County Department of Environmental Resources Management, the South Florida Water Management District, and the U.S. Environmental Protection Agency. Failure to meet relevant standards for stormwater runoff shall result in an assessment of probable causes and the production and implementation of a plan to improve the quality of runoff.

Policy 1.6.3 The University shall inventory herbicide, pesticide and fertilizer use and evaluate their impacts on-campus water quality. Modify or reduce herbicide, pesticide and fertilizer usage to minimize or eliminate negative impacts on water quality.

Objective 1.7 Consistencies with Host Communities' Coastal Policies:
The University's development activities and environmental protection and enhancement policies shall be consistent with the policies of the City of North Miami and Miami-Dade County (the "host communities"), and with all applicable regional, state and federal policies regarding development in the coastal zone.

Policy 1.7.1 The University's Environmental Coordinator shall, on regular basis, perform a review of the host communities' natural resources management plans. If necessary, the University shall amend its plans such that they are consistent with the host communities' natural resources management plans.

Policy 1.7.2 The University's Environmental Coordinator shall, on a regular basis, perform a review of all applicable rules, regulations and policies governing coastal zone development in the host communities during the planning and development of protection, conservation, restoration, enhancement and management activities so as to be in compliance with the host communities rules, regulations and policies governing coastal zone development.

Policy 1.7.3 All applicable rules, regulations and policies governing coastal zone development in the host communities shall be adhered to in University development activities.

Policy 1.7.4 Plant and animal species and habitats protected by the host communities or regional, state or federal agencies shall be protected on Biscayne Bay Campus (see policies in the 13.0 Conservation Element of this Master Plan).

Policy 1.7.5 Enhancement and restoration activities of coastal resources shall, at a minimum, be consistent with those activities found in the host communities.

Objective 1.8 Pedestrian and Visual Access to Beach/Shoreline:
Provide enhanced pedestrian and visual access to beach and shoreline areas for members of the University community.

Policy 1.8.1 Due to the availability of oceanfront parks and nearby beach areas at Oleta River State Recreation Area, public access to the beach and shoreline at Biscayne Bay Campus is discouraged.

Policy 1.8.2 Improve visual and pedestrian connections along the Biscayne Bay shoreline by constructing a continuous waterfront pedestrian promenade and preserving and enhancing the bayfront edge as open space. The waterfront pedestrian promenade shall be located primarily on uplands and shall be designated to avoid and minimize impacts to coastal wetlands, tidal waters and mangroves.

GOAL 2: Provide adequate hurricane evacuation procedures and facilities for both Modesto A. Maidique Campus and Biscayne Bay Campus.

Objective 2.1 Coastal High Hazard Areas:
Biscayne Bay Campus contains no Coastal high Hazard areas as defined by FEMA Area "V" zones. Consequently, no expenditures for development will be made in Coastal High Hazard Areas.

Objective 2.2 Hurricane Evacuation:
The University shall coordinate with Miami-Dade County, the NOAA National Hurricane Center and regional emergency management authorities to ensure that adequate hurricane evacuation times for residents of Biscayne Bay Campus are maintained or reduced.

Policy 2.2.1 The University shall order the evacuation of students and other residents of Biscayne Bay Campus upon issuance of a Category 1 or greater hurricane warning, or 24 hours prior to potential landfall

whichever is greater. The University shall provide transit vehicles as necessary to ensure that all residents are safely evacuated to Modesto A. Maidique Campus no less than 12 hours prior to expected landfall.

Policy 2.2.2 The University shall order the relocation of all residents of Modesto A. Maidique Campus to on-campus shelters upon issuance of a Category 2 or greater hurricane warning. The University shall provide transit vehicles as necessary to ensure that all residents are safely relocated to on-campus shelters no less than 12-18 hours prior to projected landfall.

Policy 2.2.3 In coordination with Miami-Dade County Emergency Management, Florida International University shall survey all students, faculty and staff residing off-campus in coastal or other areas susceptible to storm surge inundation, those residing in structures incapable of withstanding hurricane force winds and others needing to be evacuated. Based on survey results, modify the FIU "Procedures and Control Operations for Hurricanes" to provide evacuation assistance and on-campus shelter space, if necessary, and coordinate with the Miami-Dade Emergency Operations Plan.

Objective 2.3 Hurricane Shelter Space:
Expand public shelter space at Modesto A. Maidique Campus as necessary to accommodate all students, facility and staff needing evacuation and double the capacity for evacuating Monroe County residents.

Policy 2.3.1 Upon the adoption of the Master Plan, FIU will continue to follow construction standards for the construction of University facilities to serve as hurricane shelters.

Policy 2.3.2 Coordinate with Miami-Dade and Monroe County Emergency Operations to refine measures of demand for shelter space on-campus and to determine total additional square footage required, applying a standard of 40 square feet per person, or other acceptable standard, to include the following:

- Student residents of Biscayne Bay Campus and Modesto A. Maidique Campus.
- Students, faculty and staff requiring evacuation from off-campus areas, in areas appropriate for evacuation to the Modesto A. Maidique campus.
- Monroe County evacuees (expected to triple from 5,000 to 15,000 spaces).

Policy 2.3.3 FIU acknowledges the need to strive to provide additional on-campus public hurricane shelter space estimated in the following minimum amounts:

Additional Users	Est. Persons	Space Std.	Total S.F.
Additional on-campus students	**1,610**	**40 s.f**	**64,00 s.f**
Monroe County* evacuees	**10,000**	**40 s.f**	**400,000 s.f**
Est. Total Additional need at present			**464,400 s.f**

* In addition to 5,000 Monroe evacuees for which space is reserved.

Policy 2.3.4 Evaluate and measure the ability to expand shelter space within Primera Casa and the expanded Graham Center. Evaluate the ability to convert additional existing buildings for use as hurricane shelters. Evaluate the ability of projected and planned structures to be utilized as hurricane shelters, applying new construction standards.

Policy 2.3.5 In coordination with Miami-Dade County and Monroe County Emergency Management, develop a phased action plan to establish timing for the retrofitting of designated University facilities for use as public shelters during hurricanes. Preliminary priorities for gaining additional shelter space through retrofitting existing buildings are as follows:

Priority 1: Expansion of designated shelter areas within Primera Casa.
Priority 2: Expansion of designated shelter areas with Graham Center with necessary retrofit to protect or replace glass exterior walls.
Priority 3: Utilization and, if necessary, retrofit of hallway areas in Pharmed Arena.
Priority 4: Other existing or planned structures.

Policy 2.3.6 Coordinate with American Red Cross for the designation of specific portions of existing parking lots adjacent to the Graham Center and Primera Casa for use in staging emergency management personnel, equipment and resources. Establish a designated emergency helicopter landing pad in coordination with American Red Cross, Federal Aviation Administration and Miami-Dade Emergency Management.

Policy 2.3.7 Should emergency helicopter landing be needed at Biscayne Bay Campus, existing surface parking lots shall be utilized.

Policy 2.3.8 Calculate costs to provide expanded shelter space and negotiate a cost sharing formula with Miami-Dade County and Monroe County.

Policy 2.3.9 In conjunction with its host communities, FIU will continue to update a post-disaster plan to recover from the disruption of University activities.

LEGEND

- Lakes & Canals
- Mangrove Areas
- Wetland
- Beach Strand Vegetation
- Beach Rip-Rap Shoreline

KEY MAP

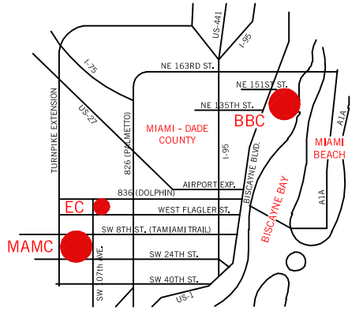

FIGURE 18.1
Biscayne Bay Campus
Coastal Management Plan

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