

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

**STORMWATER MANAGEMENT**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### **POTABLE WATER SUB-ELEMENT**

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

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

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

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

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

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

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

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

3. Category demands according to the following:

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

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

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

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

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

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

**SOLID WASTE SUB-ELEMENT**

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

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

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

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

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

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

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

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

## **SANITARY SEWER SUB-ELEMENT**

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

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

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