

9.0 GENERAL INFRASTRUCTURE ELEMENT

The purpose of this element is to ensure adequate provision of public facilities and services required to meet the future needs of the University, including the following:

- a) Ensure provision of adequate Stormwater management capacity to protect the welfare of both the University's and host community's residents.
- b) Ensure provision of sufficient potable water to meet anticipated University needs and to reuse water for irrigation purposes.
- c) Ensure provision of adequate sanitary sewer and treatment capacity to meet anticipated University needs.
- d) Ensure provision of adequate solid waste handling and disposal capacity to meet anticipated University needs.

STORMWATER MANAGEMENT: The current management and storage of surface waters (MSSW) and individual environmental resource (ERP) permits should be maintained and modified as required during the planning phase to provide the best benefit to the University of North Florida (UNF). Prior to initiation of any new campus core improvements, a revised permit will be required to be submitted and approved by the St. Johns River Water Management District (SJRWMD). The revised permit application should include all scheduled program elements. Future development beyond the campus core will require modifications to current (ERP) permits or issuance of a collective or multiple new permits. It is recommended that UNF perform a master stormwater analysis and prepare a master stormwater management plan and obtain master permits that allow the largest flexibility for development of the program elements and related options while minimizing the number of permit submittals and approvals required by the SJRWMD.

WATER: The UNF water distribution system consists of ductile iron and PVC water main pipes ranging in size from four inches to twelve inches. The layout of the water distribution provides for three main loops. Osprey Hall is supplied from a ten-inch water main extending to the southeast of the campus core and an eight-inch water main extending to the southwest corner of the campus core. The athletic complex is supplied from a twelve-inch water main. Student housing is supplied from a six-inch water main extending to the southwest of the campus core. Small booster pumps are provided to improve fire flow volumes for Buildings 39 and 42.

SEWER: All of the wastewater from the campus core buildings is collected through two gravity sanitary sewer systems. The sanitary piping varies from heavy cast iron with lead and oakum joints to PVC (SDR.35 pipe). There are several buildings located around the perimeter of the campus core which are served through small grinder pump stations, which pump sewage to the main campus gravity sewer collection system. Remote lift stations are presently located at Osprey Hall, Osprey Village, the Tennis Clubhouse and Harmon Stadium. These lift stations all pump to the campus core main sewage collection system. The University Center, Building 43, has a sewage lift station with piping routed to a JEA manhole located in the Kernan Boulevard right-of-way. The Golf Management and Learning Center and Phase V Housing flows, will be routed through this lift station when placed in service. An additional remote lift station will be installed at the soccer stadium. One large master sewer lift station, located southwest of Building 11, pumps all sewage, excluding the flow from the University Center, to the JEA's sewer collection system (near Beachwood Subdivision). The master sewer lift station is below ground and includes a bar-screen inlet pit, a 32,000 gallon capacity sewer wet well (storage volume) and a large dry well (pump room). The lift station also includes two, 40 horsepower centrifugal pumps rated at nine hundred (900) gallons per minute each. The sewer force main is routed from the master lift station to east of Building 5 then north to the northeast corner of the campus then north along Huffman Boulevard right-of-way and then connects to JEA's sewer collection system.

9.0 GENERAL INFRASTRUCTURE ELEMENT

Stormwater Management Sub-Element

GOAL 1: The University of North Florida (UNF) shall provide adequate stormwater management facilities to provide the drainage capacity for existing and future campus development to protect the welfare of both the University and the City and Jacksonville residents.

Objective 1.1 UNF shall maintain a Master Drainage Study and Management and Storage of Surface Waters (MSSW) permit which identifies: existing and future program elements, corrective actions to redress existing deficiencies, stormwater improvements required to meet all local and state stormwater regulations, and a means to protect the natural stormwater management system.

Policy 1.1.1 UNF shall establish and adopt a level of service standard for stormwater management and drainage which meets and is consistent with the State of Florida water quality regulations, as stated in Chapter 17-25 FAC and other applicable local, state and federal regulations. The level of service standard for water quality and quantity at UNF shall meet and be consistent with City of Jacksonville levels of service for drainage and stormwater management. UNF shall further establish and adopt a level-of-service standard for stormwater quantity which meets and is consistent with those regulations as stated in Chapter 40C-4, FAC and those additionally specified within the present MSSW and individual ERP permits.

Policy 1.1.2 UNF shall continue to modify and update their MSSW Permit Number 4-031-0359AGM3 to reflect the core campus program elements of this Master Plan Update, as defined in Table 14.1 of the Capital Improvement Element, and shall submit same to the St. John's River Water Management District (SJRWMD) for review and approval.

Policy 1.1.3 UNF shall maintain a "Master Stormwater Management Study." This study shall address the data and analysis requirements contained in Rules 6C-21.207(1) and (2), FAC and shall also:

- Establish priorities for replacement, correcting stormwater management facility deficiencies and providing for future facility needs; and
- Establish the timing and phasing requirements and identify the projected funding sources for stormwater management facility improvements to meet future UNF needs.

Upon completion of the Master Stormwater Management Study, UNF shall amend the adopted campus master plan as needed to incorporate the results of the Master Stormwater Management Study.

Policy 1.1.4 UNF shall require that stormwater management/drainage components associated with new construction projects be constructed in accordance with the SJRWMD permitting requirements and adopted level-of-service standards established by Policy 1.1.1, immediately preceding, prior to issuance of a certificate of occupancy, or its functional equivalent for any new or expanded facility.

Policy 1.1.5 UNF shall continue to coordinate on-campus stormwater management facilities with the St. Johns River Water Management District (SJRWMD), and off-campus

drainage stormwater management facilities with the St. Johns River Water Management District and with the City of Jacksonville Department of Public Works Drainage Engineering Section, during the stormwater facilities permitting process.

Policy 1.1.6 UNF shall continue to maintain the quality of on-campus jurisdictional wetland resources, natural stormwater management and hydrological areas by requiring that on-campus stormwater run-off, meet and be consistent with the water quality level-of-service standards adopted for stormwater by this plan.

Policy 1.1.7 Following implementation of any system improvement or expansion project, UNF shall reprioritize the remaining projects in its 14.0 Capital Improvement Element and shall subsequently amend this Master Plan Update to reflect same.

Potable Water Sub-Element

GOAL 2: UNF shall ensure the adequate provision of potable water supply and distribution for domestic and fire protection use which will meet the current and projected needs of the University.

Objective 2.1 UNF shall continue to expand and upgrade the University's water distribution system to meet and maintain adopted level of service standards for water supply and system working pressures.

Policy 2.1.1: UNF shall continue to establish and adopt a level of service standard for water demand for the entire campus of 25 gallons per day (GPD) per FTE [full-time equivalent (FTE) student]. This standard shall meet and be consistent with City of Jacksonville standards for level of service for potable water.

Policy 2.1.2 UNF shall establish and adopt a level of service standard for fire pressure flows of 2,000 gallons per minute (GPM) at a working pressure of 20 pounds per square inch (PSI). This standard shall meet and be consistent with City of Jacksonville standards for level of service and concurrency for fire pressure flows.

Objective 2.2 UNF shall continue to ensure the adequate provision of potable water service in support of projected facilities growth in accordance with the University's adopted level of service standards.

Policy 2.2.1 UNF shall plan, design and construct water main stub-outs and water main extensions within the water distribution system which will ensure adequate water supply and pressure are provided for the long-range (satellite) program improvement areas prior to the initiation of new construction within these areas. The timing and phasing requirements and priorities for these improvements are established in the 14.0 Capital Improvements Element (Table 14.1).

Policy 2.2.2 Following implementation of any system improvement or expansion project, UNF shall reprioritize the remaining projects in its 14.0 Capital Improvement Element and shall subsequently amend this Comprehensive Master Plan to reflect same.

Objective 2.3 UNF shall continue to establish practices to protect and conserve potable water sources.

Policy 2.3.1 UNF shall continue to encourage water conservation habits by the students and employees through informational literature and periodic conservation emphases.

Policy 2.3.2 UNF shall maintain the practice of using non-potable water for irrigation purposes.

Policy 2.3.3 UNF shall comply with all other policies established in the 13.0 Conservation Element of this Master Plan Update.

Sanitary Sewer Sub-Element

GOAL 3: UNF shall continue to ensure the adequate provision of sanitary sewer collection and disposal services to meet the current and projected needs of the University.

Objective 3.1 UNF shall continue to upgrade and expand the University's sanitary sewer collection and disposal system to meet and maintain its adopted level of service standards.

Policy 3.1.1 UNF shall continue a level of service standard for sanitary sewer collection capability of 22 GPD per FTE. This standard shall meet and be consistent with City of Jacksonville standards for level of service and concurrency for sanitary sewer collection and disposal.

Objective 3.2 UNF shall continue to provide adequate sanitary sewer collection and treatment service in support of projected facilities growth and in accordance with the University's adopted level of service standards.

Policy 3.2.1 UNF shall coordinate JEA for the planning or construction of any new city sewer distribution lines providing service to the University. The mitigation of off-campus impacts and those arising from the implementation of Policy 3.2.3, shall be addressed through the review of the revisions to the campus development agreement with the City of Jacksonville and JEA.

Policy 3.2.2 UNF shall utilize JEA's sanitary sewer transmission and treatment system.

Policy 3.2.3 UNF shall plan, design, remodel and upgrade existing lift stations within the campus sanitary sewer distribution system which will ensure adequate service as required.

Policy 3.2.4 Following implementation of any system improvement or expansion project, UNF shall reprioritize the remaining projects in its 14.0 Capital Improvement Element and shall subsequently amend this Comprehensive Master Plan to reflect same.

Solid Waste Sub-Element

GOAL 4: UNF shall continue to ensure the adequate provision of solid waste handling and disposal capacity to meet current and projected University needs.

Objective 4.1 UNF shall maintain the practice of negotiating with private companies to provide solid waste handling and disposal services to meet the University's adopted level of service standards for current and future needs of the University.

Policy 4.1.1 UNF shall establish and adopt a level of service standard of 8.4 pounds of solid waste per capita per day. Capita shall be defined as those persons residing on campus.

Policy 4.1.2 UNF shall continue to execute service contracts with private companies to provide solid waste handling and transporting services.

Policy 4.1.3 UNF shall continue to rely upon the City of Jacksonville for acceptable disposal facilities. The mitigation of off-campus impacts relating to the provision of acceptable city-provided disposal facilities and specification of on-campus improvements to meet future University needs shall be addressed through the review of the revisions to the campus development agreement with the City of Jacksonville. There are no solid waste collection and/or disposal facility improvements called for by this Master Plan Update.

Objective 4.2 UNF shall reduce the solid waste stream from the University operations to the greatest practical extent.

Policy 4.2.1 UNF shall continue to promote recycling through periodic educational emphases for the student and employee bodies.

Policy 4.2.2 UNF shall maintain existing and secure additional recycling containers from the private vendor serving the University and place these strategically throughout the University's facilities for ease of use.