



Conservation, Open Space & Groundwater Recharge Element

GOAL 1

ESTABLISH AND MAINTAIN AN INTEGRATED AND URBAN-DEFINING OPEN SPACE NETWORK THAT PROTECTS AND CONSERVES KEY ENVIRONMENTAL FEATURES.

Objective 1.1 The City shall protect significant environmental lands and resources identified in the Environmentally Significant Land and Resources Series within the Future Land Use Map Series. The City shall identify environmentally significant open space and recreation sites for acquisition.

Policy 1.1.1 The following minimum standards shall be used to protect environmentally sensitive resources identified in the Geographic Information Systems (GIS) Map Library located on the City's Planning and Development Services Department website. The Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series shall be updated as annexations occur and when additional resources are identified; however, the GIS Map Library shall be the reference source for land use decisions and in applying land development regulations because it contains the most up-to-date, best available information. The City shall develop and adopt land development regulations that, at a minimum, meet the standards addressed below.

- a. Creeks: Between 35 and 150 feet from the break in slope at the top of the bank, there is a rebuttable presumption that development is detrimental to the regulated creek. Development must conform to applicable provisions of the land development regulations that prohibit



development within a minimum of 35 feet of the break in slope at the top of the bank of any regulated creek.

- b. Wetlands: Developments containing wetlands must avoid loss of function or degradation of wetland habitat and/or wetland hydrology as the highest priority. Where impact is unavoidable, degradation or loss of function shall be minimized, and the applicant must demonstrate that the project is clearly in the public interest. The City shall develop and implement land development regulations that at a minimum:
 1. Establish criteria that are at least consistent with the relevant criteria of Section 373.414(1), F.S., for determining whether the project is clearly in the public interest.
 2. Require the use of the most current functional assessment methodology that is in use by regulatory agencies in Florida for determining mitigation requirements for impacts on wetlands.
 3. Specify wetland creation as a mitigation strategy that shall be considered only after substantial evidence, based on the functional assessment referenced in Policy 1.1.1.b.2., indicates that the preservation, enhancement, or restoration of existing wetlands is less desirable or effective as an option.
 4. Establish bonding, long-term monitoring and enforceable long-term maintenance requirements for wetland mitigation projects to ensure that the negative impacts have been mitigated. Monitoring reports shall be reviewed by the City of Gainesville or other appropriate monitoring agency or reviewing entity to ensure that mitigation criteria are met, with regulatory fees paid by the permitted applicant. The mitigation plan must be approved prior to the approval and initiation of the project.
 5. Require off-site mitigation to be performed within the same basin and sub-basin (the basins are depicted on the map entitled Wetland Mitigation Basins that is on file with the Planning & Development Services Department) in which the impact occurred, unless it is shown that mitigation within the basin is not feasible or that mitigation outside the basin is more appropriate. The order of preference for the location of the mitigated area(s) in relation to the impacted areas will be established in the land development regulations (LDRs).
 6. Require that development shall not cause indirect or secondary wetland impacts off-site.



7. Require a minimum buffer distance of 35 ft. and an average buffer distance of 50 feet between the landward extent of any wetland and the developed area. Larger buffers may be warranted. The criteria for buffer expansion will be developed in the land development regulations.
 8. Specify that the protections for wetlands shall be extended to all wetlands delineated in accordance with Chapter 62-340, F.A.C., regardless of whether they are currently mapped by the City of Gainesville.
 9. Require review and approval of wetland mitigation projects by qualified professionals.
 10. Require protection of listed species in wetlands.
 11. Require that wetlands impacted as a result of noncompliance or unauthorized excavation, filling, drainage, mechanical land clearing or other development activity on or subsequent to the effective date of this policy be, at the owner's expense, either restored to their original function and condition prior to such damage, or mitigated for pursuant to the mitigation requirements of this Comprehensive Plan or the Land Development Code.
- c. Lakes: Developments containing or adjacent to a natural lake (or lakes) must not adversely impact the condition of the lake. Dredge and fill shall be discouraged and other alternatives considered. Development shall be prohibited within 75 feet of the landward extent of a lake.
 - d. Wellfields: Development must be consistent with Policies 2.3.2 and 2.3.3 of this Element.
 - e. Floridan Aquifer High Recharge Areas: Development within this area must be consistent with Policies 2.3.3, 2.3.6, 2.3.7, and 2.3.8 of this Element.
 - f. Natural and Archaeological Resource Areas: Developments within or including an upland area identified as a significant natural community, listed species habitat, strategic ecosystem, significant geological resource feature, or a significant archaeological resource must submit a resource inventory and assessment for the parcel. Based on the inventory and any required verification of the extent of the resource area, land development regulations shall provide for the set-aside of identified resource areas for conservation and resource protection.



- Policy 1.1.2 Minimum buffer and/or setback distances for creeks, lakes, and wetlands designated as Outstanding Florida Waters, as listed in Rule 62-302.700, F.A.C., shall be established. The buffer and/or setback distances shall at a minimum meet the respective minimum buffer and/or setback distances established by Policy 1.1.1.
- Policy 1.1.3 The City shall keep in force land development regulations that require new developments to dedicate land and easements, within federal constitutional guidelines, particularly for the creation of buffers along and around surface waters and natural reservations and to facilitate the development of greenways and other open space.
- Policy 1.1.4 The City shall allocate a minimum of \$300,000 per year for the purchase and/or management of environmentally significant open space and of active and passive recreation sites.
- Policy 1.1.5 The City shall collaborate with local, regional and state environmental agencies (including Alachua County and the St. Johns and Suwannee River Water Management Districts) to develop basin management plans, which shall identify wetlands of special concern, disturbed wetlands, and appropriate sites for mitigation. The plans shall also consider those factors affecting the structure and functions of wetlands.
- Policy 1.1.6 The City shall incorporate by reference the General Soil Map – Alachua County Florida, that is in the Soil Survey of Alachua County (1985, United States Department of Agriculture, Soil Conservation Service).
- Objective 1.2 The City shall coordinate with Alachua County on the Alachua County Forever program, and with other potential funding sources for land acquisition for environmental and open space protection.**
- Policy 1.2.1 The City shall seek to maximize the protection of environmentally sensitive lands through the nomination of properties for acquisition with Alachua County Forever and other relevant funds.
- Policy 1.2.2 The City shall maintain a registry of real properties owned by the City of Gainesville that are acquired or used for conservation, recreation or cultural purposes, and that are deemed by the City Commission to be worthy of the highest level of protection.

GOAL 2

MITIGATE THE EFFECTS OF GROWTH AND DEVELOPMENT ON ENVIRONMENTAL RESOURCES.



Objective 2.1 Wetland acreage and functions within the listed basins (shown on the map entitled Wetland Mitigation Basins that is on file with the Planning & Development Services Department) shall be maintained to the extent feasible through the planning period.

Policy 2.1.1 The City shall implement and update land development regulations designed to conserve wetland acreage and preserve natural functions within the listed basins (shown on the map entitled Wetland Mitigation Basins that is on file with the Planning & Development Services Department). When wetlands are unavoidably lost to development, mandatory mitigation shall be required to ensure no net loss of acreage and functions occurs. Mitigation location protocol shall follow Policy 1.1.1 b.5.

Policy 2.1.2 Each basin management plan shall include, if technically and scientifically justifiable, the creation of one or more local mitigation banks or offsite regional mitigation areas in accordance with Section 373.4135, F.S.

Objective 2.2 The City shall improve the quality of stormwater entering surface waters by requiring development and redevelopment to meet the adopted water quality standards of this Element and the Stormwater Management Element.

Policy 2.2.1 The City shall require stormwater quality treatment facilities for redevelopment.

Policy 2.2.2 The City's land development regulations shall include provisions to reduce the amount of impervious parking surface allowed.

Policy 2.2.3 The City's land development regulations shall include provisions that meet or exceed best management practices for stormwater management.

Policy 2.2.4 The City's land development regulations shall require the handling of hazardous materials in such a way as to prevent degradation of the natural environment. At a minimum, this shall be achieved by complying with the Alachua County Hazardous Materials Management Code and the Alachua County Murphree Wellfield Protection Code, which:

- a. Prohibit certain new hazardous materials facilities and underground storage tank systems from siting within the unconfined zone of the Floridan aquifer;
- b. Prohibit new hazardous materials facilities from siting within the primary and secondary wellfield protection zones of the Murphree wellfield, and establish requirements for siting of hazardous materials facilities within the tertiary protection zones of the Murphree wellfield.



Within the secondary zone, vehicular fuel storage subject to Section 376.317, F.S., may be allowed;

- c. Require new Class C and D hazardous materials facilities, as identified in the Alachua County Hazardous Materials Management Code, to maintain large setbacks from surface waters, wells, and floodplains; and
- d. Require stringent hazardous materials storage and containment designs, periodic monitoring, inspections, a management plan, fees, and penalties for non-compliance.

Policy 2.2.5 The City's land development regulations shall supplement the standards of the applicable Water Management District to promote the maintenance of water quality in surface waters. Such standards include:

- a. Protecting the surface water resource by prohibiting excavation, filling, channelization, mechanized land clearing, and other development activities, except as may be authorized by the Land Development Code;
- b. Requiring sedimentation controls during and after construction;
- c. Protecting creek banks and vegetation;
- d. Requiring treatment of the first "one inch" of stormwater runoff; and
- e. Restoring previously channelized creeks identified for restoration by the City, when feasible.

Policy 2.2.6 The City shall maintain an inventory of altered creek segments suitable for restoration to a more natural condition.

Objective 2.3 The City shall conserve and protect the quality and quantity of current and projected water sources through the planning period.

Policy 2.3.1 The City shall coordinate with the Alachua County Environmental Protection Department, the Florida Department of Environmental Protection (FDEP), the Water Management Districts, and the Environmental Protection Agency (EPA) and shall support the appropriate agencies with efforts to:

- a. Identify areas of pollution to surface waters and groundwater;
- b. Provide on-going monitoring programs that include periodic reports that describe environmental conditions and cleanup status; and



- c. Identify parties responsible for polluted areas, and require such parties to mitigate pollution problems.

Policy 2.3.2 The City shall allow land uses and facility design within wellfield protection zones (and other “community water system” cones of influence as defined by Rule 62-550.200, F.A.C.) as identified in the Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series, and that are in compliance with the Murphree Wellfield Protection Code.

Policy 2.3.3 The City shall allow new development in commercial, institutional, and industrial districts to only place septic tanks:

- a. In compliance with the Wellfield Protection Special Use Permit process of the City’s Land Development Code, and if the development is in compliance with the Alachua County Hazardous Materials Management Code; and
- b. In areas not identified as regulated surface waters and wetland areas in the Environmentally Significant Land and Resources Map Series of the Future Land Use Map Series.

Policy 2.3.4 The City shall maintain water conservation programs that are consistent with the Water Management Districts’ plans (Sections 373.175 & 373.246, F.S., and Chapters 40B-21 & 40C-21, F.A.C.). These programs shall include strategies to: deal with emergency conditions; implement public education campaigns regarding the nature of groundwater resources and the need to protect and conserve them; provide the public with information on water reuse systems; and employ potable water rate structures to encourage water conservation.

Policy 2.3.5 The City shall cooperate with the water management districts during declared water shortage emergencies by conserving water resources and by assisting with the implementation of water shortage emergency declarations, orders, and plans.

Policy 2.3.6 Pursuant to Section 373.0397, F.S., Water Management Districts are to map “prime” groundwater recharge areas for the Floridan aquifer. Should such areas be identified within City limits, the areas will be mapped and included in the adopted Comprehensive Plan, and City land development regulations shall be amended to protect such areas if they are not already protected by existing regulations and programs. City land development regulations shall protect the Floridan aquifer groundwater resource through recognition of geographic areas of relative vulnerability and high aquifer recharge characteristics. Mapping of these high aquifer recharge areas shall include surface waters that convey flow directly to groundwater via sinkholes (stream-to-sink surface



water basins), and areas where the Floridan aquifer is otherwise vulnerable or highly vulnerable to degradation through recharge from land surfaces.

- Policy 2.3.7 Until such time as prime groundwater recharge areas for the Floridan aquifer are mapped, the City shall use the map entitled “Floridan Aquifer High Recharge Area” of the Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series, which is compiled from the Alachua County Floridan Aquifer High Recharge Area Map (Alachua County Environmental Protection Department, March 27, 2009) and modified for coverage of the Gainesville Urban Reserve Area. This map may be updated in the Geographic Information System (GIS) Map Library located on the City’s Planning and Development Services Department website for reference in land use decisions and in applying land development regulations for areas of relative vulnerability and high aquifer recharge.
- Policy 2.3.8 The City shall require effective groundwater recharge in accordance with the Gainesville Comprehensive Plan’s Stormwater Management Element, Objective 1.8 and Policy 1.8.1.
- Policy 2.3.9 Final development orders shall require compliance with State, County and City septic tank rules.
- Policy 2.3.10 The City shall inform the public of the requirements of Section 373.62, F.S., regarding automatic lawn sprinkler systems.
- Policy 2.3.11 The City shall conserve potable water supplies by using the methods shown in the Gainesville Comprehensive Plan’s Potable Water & Wastewater Element, Objective 1.5 and Policies 1.5.1 through 1.5.9.
- Objective 2.4 The City shall amend its land development regulations as necessary to conserve natural systems of surface waters and wetlands; areas subject to high rates of Floridan aquifer recharge; listed species of plants and animals; significant natural communities, and other significant natural and archaeological resource areas, including strategic ecosystems and significant geological resource features; and minimize the spread of invasive vegetation. The adopted regulations shall be designed to maintain these characteristics and resources, and the functions and values which they provide, and allow development activities which are compatible with the conservation of these resource areas as identified in the Comprehensive Plan or by provisions of the Land Development Code.**
- Policy 2.4.1 The City shall maintain an updated inventory of identified environmentally significant resources in the Geographic Information System (GIS) Map Library located on the City's Planning and Development Services Department website. If additional resources are identified or as annexations occur, these properties shall be subject to regulations keyed to the resource present at the



site. The Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series shall be updated as annexations occur and when additional resources are identified; however, the GIS Map Library shall be the reference source for land use decisions and in applying land development regulations because it contains the most up-to-date, best available information.

- Policy 2.4.2 The City shall maintain land development regulations that protect listed species of plants and animals, significant natural communities, significant geological resource features, and strategic ecosystems based on areas identified and described in the KBN/Golder Associates Report, "Alachua County Ecological Inventory Project" (1996). These regulations shall require that applications for development on parcels within the environmentally significant areas shall include an ecological inventory of the parcel that meets requirements specified in the Land Development Code.
- Policy 2.4.3 The City shall maintain guidelines for the design of stormwater basins that require the use of native vegetation and basin slopes suitable for stormwater treatment that promote highly diverse plant and animal habitats, particularly within stream-to-sink basins, and that enhance the hydrological and ecological functions of related wetland areas.
- Policy 2.4.4 Future road alignments shall minimize their impact on environmentally significant natural communities, wildlife corridors, and listed species habitats.
- Policy 2.4.5 The City shall require construction design consistent with existing terrain by discouraging contouring, cut and fill, or other practices that cause soil erosion.
- Policy 2.4.6 The City shall maintain land development regulations for regulated surface waters and wetlands that require:
- a. Buffers and/or setbacks from regulated surface waters and wetlands;
 - b. Development to minimize erosion and sediment pollution to regulated surface waters and wetlands;
 - c. No net increase in the rate of runoff from development sites adjacent to regulated surface waters and wetlands;
 - d. Retention or detention of runoff from developments adjacent to regulated surface waters and wetlands, through on-site filtration in accordance with the Public Works Design Manual;
 - e. Retention of vegetation integral to the ecological value of regulated surface waters and wetlands;



- f. Compliance with the City's adopted criteria for controlling sediment and erosion;
- g. Allowance of transfer of development intensity and density from lower to higher elevations of a site; and
- h. Prohibition on the installation of all septic tanks.

Policy 2.4.7 The City shall periodically inventory environmentally significant plants, animals, and habitats within City-owned parks or open space parcels; update on an on-going basis a list of plants, animals, and habitats that are to be protected; and maintain and monitor the viability of populations of these plants and animals.

Policy 2.4.8 The City shall coordinate with Alachua County, the U.S. Fish & Wildlife Service, the Florida Fish & Wildlife Conservation Commission, and the Florida Natural Areas Inventory to conserve environmentally significant natural communities. Such coordination may include the submittal of relevant land development proposals to these entities for comment and recommendation.

Policy 2.4.9 The City shall protect floodplains and flood channels through land development regulations that at a minimum meet all applicable State and federal requirements and regulations.

Policy 2.4.10 The City's land development regulations shall protect environmentally significant lands and resources by:

- a. Providing opportunities for alternative and innovative site development;
- b. Providing setback and parking standards;
- c. Providing mandatory mitigation to ensure no net loss of functions and values when wetlands are unavoidably lost;
- d. Allowing for, or requiring the clustering of development away from environmentally significant resources;
- e. Restricting on-site waste disposal systems; and,
- f. Allowing transfer of land use density and/or intensity to retain development potential from set-aside areas that are required to meet the goals, policies, and regulations of this Element and the Land Development Code.



Policy 2.4.11 Conservation strategies for significant natural communities, listed species habitats, and strategic ecosystem resources shall include, at a minimum:

- a. Conservation of natural resource of uplands, including areas of significant natural communities, listed species habitats, significant geological resources features and strategic ecosystem resource areas, through set-aside, management, and buffering requirements;
- b. Installation of native vegetation landscaping and removal of invasive trees and shrubs; and
- c. Setbacks.

Objective 2.5 The City shall develop and maintain programs as necessary to ensure air quality levels comply with state and national ambient air quality standards through the planning period.

Policy 2.5.1 The City shall develop new programs and strategies as may be needed, and continue existing policies that encourage public transit use, bicycling, walking, and higher urban development densities.

Policy 2.5.2 Except for designated incinerators and landfills, the City shall continue to prohibit the burning of refuse, trash or garbage, in accord with applicable provisions of Chapters 10 and 27, Gainesville Code of Ordinances.

Objective 2.6 The City shall promote and practice natural resource conservation and pollution prevention in order to reduce negative impacts on the environment. To accomplish this, the City shall implement policies that encourage the conservation and protection of natural resources, energy conservation, and pollution prevention in this Element and other elements of the Comprehensive Plan (such as Solid Waste, Potable Water & Wastewater, Future Land Use, and Transportation Mobility).

Policy 2.6.1 The City and GRU shall provide customers with education and incentive programs to encourage natural resource conservation, energy conservation, and pollution prevention.

Policy 2.6.2 The City shall maintain a Green Building Program that encourages environmentally friendly and energy-efficient construction.

GOAL 3

IMPROVE URBAN SPACES THROUGH PRESERVATION AND ENHANCEMENT OF THE URBAN FOREST. MAINTAIN THE CITY'S COMMITMENT TO PRESERVATION OF THE URBAN FOREST AND STREET TREES AS A DEFINING FEATURE OF OUR COMMUNITY.



Objective 3.1 Total tree canopy coverage within the City shall not fall below 50 percent, as estimated by the City Manager or designee, except in the event of natural catastrophe.

Policy 3.1.1 The City shall plant at least 400 trees (or 650 inch-diameters at chest height) within City limits annually, and encourage developers and citizens to plant at least 600 trees annually. At least 75 percent of the trees should be native to north Florida.

Policy 3.1.2 The City shall adopt land development regulations for new development that require the following:

- a. Use of “Florida-friendly landscaping” as defined in Section 373.185, F.S., and a reduction in allowable turf area;
- b. Energy conservation through tree and shrub canopy requirements in the Land Development Code that result in shade for buildings and pavement;
- c. Species diversity in new plantings in order to reduce the effect of tree species loss due to insect or disease outbreaks. No more than 50 percent of any one genus shall be allowed on any site plan, except within airport flight paths and street tree plantings. Although street tree diversity shall be attained citywide, a given street should be uniform with respect to genus, size, and shape; and
- d. A plan for the removal of invasive trees and shrubs, which shall be submitted at the time of development review.

Policy 3.1.3 The City shall require that removal of regulated trees that are not subject to development plan approval shall be mitigated by on or off-site tree planting (or an equivalent payment in lieu).

Policy 3.1.4 The City shall promote tree-lined streetscapes that preserve trees and are compatible with existing infrastructure. Strategies such as placing overhead utilities underground, using aerial (tree) cabling, planting trees compatible with overhead utilities and reserving street right-of-way for trees shall be implemented, when economically feasible. All trimming within the public right-of-way shall follow the standards of the American National Standards Institute (ANSI) A300 and Z133.1, in order to minimize the physical and aesthetic harm to trees that must be pruned.

Policy 3.1.5 The City shall remove invasive trees and shrubs from its rights-of-way and property, and shall inform private property owners of the benefits of removing invasive vegetation.



- Policy 3.1.6 The City shall exclude invasive vegetation from plant material permitted in landscape plans, and continue to encourage the use of native plants in landscape plans.
- Policy 3.1.7 The City shall maintain land development regulations that protect heritage, champion, and other regulated trees as an important community resource. The regulations at a minimum shall include provisions for:
- a. Modifications to land development regulations in order to protect and preserve regulated trees;
 - b. Levying of fines for the unlawful removal of trees as provided by the Code of Ordinances;
 - c. Setback requirements to protect trees before, during and after construction; and
 - d. Adequate underground space for root development of newly planted trees.

GOAL 4

PROVIDE ONGOING MONITORING OF ENVIRONMENTAL RESOURCES AND MITIGATE CURRENT POLLUTION PROBLEMS AND POTENTIAL POINT SOURCES OF POLLUTION.

- Objective 4.1 The City shall identify pollution problems and parties responsible, and establish strategies to mitigate, remediate, or assist in the mitigation or remediation of these problems in all watersheds within Gainesville’s city limits.**
- Policy 4.1.1 The City shall maintain its National Pollutant Discharge Elimination System (NPDES) permit from FDEP in order to improve surface water quality.
- Policy 4.1.2 The City shall explore projects for improving water quality in its watersheds.
- Policy 4.1.3 To enhance the quality of water entering Sweetwater Branch, the City shall complete the construction of a master stormwater basin to treat flow from downtown Gainesville.
- Policy 4.1.4 The City shall complete the Payne’s Prairie Sheet Flow Restoration project during the planning period.
- Policy 4.1.5 The City shall remain actively engaged as a stakeholder in the cleanup of the Cabot Carbon/Koppers Superfund Site.



Policy 4.1.6

The City shall coordinate with the Alachua County Environmental Protection Department and other governmental entities in identifying pollution problems and providing documentation and other relevant assistance as appropriate and feasible towards the mitigation and remediation of pollution problems, including assistance as necessary in cases where sanctions may be imposed for violations of applicable environmental regulations.