

Broward County, Florida
Landscape Codes Going Green

Buck Abbey, ASLA
Robert Reich
School of Landscape Architecture
Louisiana State University
Green Laws Research Project

*“Local Government shall used these standards when developing
landscape irrigation and Florida Friendly ordinances”*
Florida Statutes 373.228(4), 2006.

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Landscape Codes Going Green

Recently we have written several stories about green parking lots and the use of the ASLA-SITES™ sustainability program. For SITES or LEED standards to be effective it is important that the content of these programs be incorporated into community landscape regulations. Current landscape codes currently set prescriptive standards for selected areas of the development site used for buffers, screens, and general planting. They do not set performance benchmarks for ecological urbanism.

Incorporating sustainability metrics into community landscape codes will do two important things. It will change the way landscape architects design to a more design criteria oriented way that incorporates science and ecology in addition to art. Second, landscape architecture designs will become less costly to the client, save energy, reduce the carbon footprint of the development and will ensure less impact to the environment.

In many ways, traditional landscape design is very consumptive, wasteful and energy inefficient. For instance in **Broward County, Florida** 50% of potable water consumption is for irrigation of lawns and landscape beds. Irrigation water runoff is also a major contributor to water pollution problems in the county by carrying yard chemicals toward the sea. Lawn mowing on a regular basis with conventional gasoline and oil powered engines over a very long growing period leaves its impact in the air of the city. *Naturescape Broward* is an environmental program that has been created to help find better ways to develop landscapes in this city located between “sawgrass and seagrass” in South Florida.

Landscape Code with History

Broward County landscape codes (some 27 different codes in the county) are among the oldest in the nation dating back to the 1970's. These codes along with creative landscape architects and artificial irrigation are largely responsible for creating the look of the natural environment seen from West Palm Beach to Miami. Florida was an area of sand and scrubby coastal vegetation when first seen by the Spanish in 1513. So the work of landscape architects in this area over time has transformed Florida into a magical botanical kingdom somewhat in the vision of Walt Disney.

The existing Broward County Landscape Code *Section 39-81 of Article VIII, Functional Landscaping, in Chapter 39, Zoning, of the Broward County Code of Ordinances, Ord. 93-43*, dates back to November 1993. At that time it acted as a model for other communities in Broward. This code was amended in 1999 to increase attention on water conservation. New Xeriscape® standards were incorporated as well as an expanded list of drought tolerant native landscape materials.

Over the last ten years there have been many changes that have had an effect upon local landscape practices including the landscape code itself. These include expansive growth in the county, new research from the **University of Florida** and even legislative action effecting land use and water use planning. To some extent this has caused a green growth movement to develop in the county and the establishment of *Naturescape Broward* and a *Grow Green Program* in the Environmental Protection and Growth Management Department of County Government. Broward is serious about the ecological consequences of community landscaping.

Most central to changes in the landscape codes of Florida was creation of the *Florida-Friendly Landscaping Program*™ of the University of Florida, Institute of Food and Agricultural Sciences, Florida Cooperative Extension Service (<http://fyn.ifas.ufl.edu/>). This program has developed a nine principal sustainable landscape program involving the use of native plants, regional design, water conservation, storm water management, irrigation, mulching, recycling, agriculture chemical use and yard creatures. Taken together, these principles constitute **landscape best management practices** (LBMP's) that mirror the use of LEED and SITES in protecting the environment. The FFL program can be used to measure sustainability of landscape plans. In 2006 the state legislature mandated that FFL be included in community landscape standards in Florida. In 2009, model landscape ordinance language incorporating FFL standards was created by the **Leven College of Law** at the University of Florida.

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The *Guidance Manual* prepared by Leven includes standards for to promote Florida-Friendly Landscape principles in local government Land Development Regulations and model restrictive covenants for developments that require Florida-Friendly Landscaping.

All of these actions over the last decade have resulted in a new draft landscape code for Broward County. But what is most interesting, this new code is based based upon sustainable landscape principles.

Draft Landscape Code for Broward County

Traditional landscape codes in South Florida have primarily set aside prescribed areas on each development site for specific landscape purposes such as screening, buffering, environmental control or architectural design. Typical design components of these codes from the beginning including standards for *street yard buffers, side and rear yard buffers, parking lot screens, parking lot interiors, street wall planting areas* and *general site open space planting areas* with a minimum canopy standard of 12-15 trees per site acre.

The codes from the 1970's through the next forty years were drafted primarily for site design. In the 1990's new standards were added in regard to irrigation efficient landscapes with the purpose of cutting down the use of potable water supplies. Late in this era, new provisions were being added in some communities to affect on-site storm water management and increased habitat protection standards.

But what has been largely overlooked in most landscape code were design standards based upon science, ecology, maintenance and construction control leading to sustainable site landscapes. The *Draft Broward County Landscape Code, Ordinance no. 2010, 05-24-10* based upon the Leven Ordinance Guide is a good example of how landscape codes are going green. This code bring emphasis to water conservation, water quality, vegetation protection and reestablishment of native plant communities.

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The draft code is different from the one about to be replaced in that it implements standards of the *Florida Friendly Landscaping* principles and the *Broward Naturescape* standards into the body of the code. Standards are provided to establish sustainable landscapes that among other things preserve or reestablish native plant communities, promote water conservation, make water quality improvements and protect vegetation. In addition, the code sets standards for soil, vegetation, fertilization, pesticide

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use, mulching, irrigation design and landscape maintenance that reduces the use of fertilizer, pesticides, and yard waste.

But what is of real interest in this draft code are technical requirements based upon pretty simple math that set benchmarks for the design of major aspects of landscape design including standards for minimum canopy, percentage of building screening, and permeability ratios to limit impervious cover. Standards for maintenance and installation practices are increased and the code acquaints users with the relatively new concept of landscape best management practices (LBMP's). Some of the baseline standards in this code as seen in Fig 1.0 below provide a picture of why it is a new paradigm in landscape code writing to meet ecological objectives.

Technical Requirement	Standard
Minimum Canopy Coverage	13 Trees per acre of open space
Maximum Canopy Coverage	22 Trees per acre of open space
Minimum Ecological Community	2 ½ percent of site on 5 acres or more
Minimum Tree Height at Planting	10'
Tree Species Composition	2, 3, 4, & 5 species per total number
Plant Material Standard	Florida Grade 1 or better
Hedge Standard	24 inches at Two Feet OC at planting
Buffer Hedge Standard	Minimum 36 inches in one year
Native Vegetation Standard	50 percent of trees, shrubs, ornamentals
Use of Palms	Maximum 20% of required trees
Ground Cover Standard	50% coverage, 100% one year
High Water Use Landscape Zones	20% of landscape bed area
Reclaimed or Non-potable Water Use	Suggested
Maximum use of turf grass	60% of landscape area
Minimum use of turf grass	50% of landscape area
Turf Grass Areas Standard	Sodded
Minimum use of drought tolerant landscaping	40% of non grass areas within landscape
Maximum use of drought tolerant landscaping	50% of non grass areas within landscape
Minimum Ground Cover coverage	50% upon planting, 100% in six months
Low maintenance zone along ponds, streams	10' width non-mandatory
Impervious material use	Maximum 10% of landscape areas
Minimum ecological community	2.5% of sites larger than five acres
Maximum high water use zones	20% of landscape area
Equipment Screens	30 inches in height
Sign Plantings	5' ground cover beds with shrubs 2' OC

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Parking Lot Screen	5' in depth
VUA Interior landscape space	15%
VUA Interior planting	360 SF per 10 parking spaces
Parking Lot Filters	no standard given
Water Edge Buffers/Littoral Zone Plantings	10' width, non regulatory
Parking Lot Bio-retention, Vegetative Channels	no standard given
Buffer Width Standard	10, 15, 20, 25 F in depth
Yard Waste Compost Sites	no standard given
Ornamental vegetation on public lands	80% native vegetation

Figure 1.0 Landscape Design Criteria-Broward County, Florida

It is interesting to note that new design components have been added to this code that will result in better on-site storm water management with the use of bioretention/swale area and storm water filter areas. These standards will help make parking green.

Changing Codes

Comparing this draft code to the present code reveals some interesting comparisons. The new code is more ecologically based while the former places more emphasis on design content for development sites. The present code, like many others in the country, slight maintenance, installation, landscape management practices and landscape materials quality specifications but places most emphasis on the work of the landscape architect. Both codes are poorly illustrated with design details and the design manual indicated in the existing code has never been produced. That is at least in digital copy where it is available for public use.

The current code, strongly based upon the authority of Florida law, adds much content to the delivery of sustainable designed landscapes. Both require that all plans, specifications, details and construction documents shall be sealed by a registered landscape architect. The proposed code is very well written and crafted. It is easy to understand, cites references and not overly technical.

The fact that landscape codes in Florida are evolving toward sustainable landscape design is a positive sign for the profession of landscape architecture. Changing codes is proof the profession is maturing to a higher level of technical excellence.

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