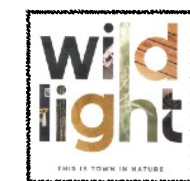
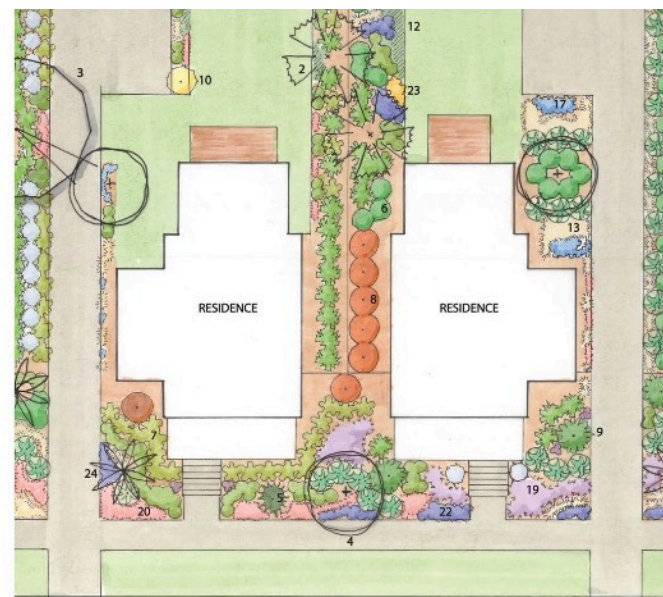
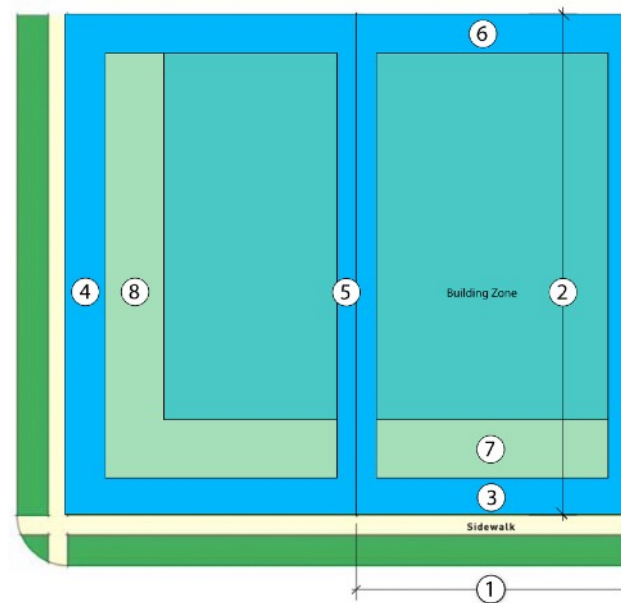


Standards for High Performing Landscapes

A Blueprint for Writing Community Landscape Standards



A Case Study for the Wildlight Residential Community, Yulee, Florida



Introduction: Landscape Standards and High Performance Landscapes

Linking Landscape Standards with Performance

The Wildlight Residential Community

The landscape vision for the Wildlight community is to create a feeling of being immersed in the Lowcountry landscape of north Florida, with neighborhoods surrounded by natural lands and yards with ecologically sound landscapes. To help achieve the vision, the Phase I landscape pattern book articulates the design goals, the desired plant palette, diagrams for planting zones and a well-defined landscape philosophy. If followed correctly, one could expect the finished landscapes to be visually pleasing and environmentally healthy. However, an assessment of the neighborhood landscapes indicated there were challenges with implementing the recommended planting zones and plants. And more importantly, the site visits also exposed maintenance and management issues, not related to the landscape pattern book recommendations, that were having a profound impact on the health and visual quality of the landscape.

Addressing these health and aesthetic concerns with revisions to the pattern book proved difficult as the issues are more complex than simply changing the “pattern” of plant material. The solutions to these complex issues required a new set recommendations written as landscape standards based on functional measures of sustainable landscapes. These measures (characteristics) of the landscape are referred to as landscape performance metrics when used for design and assessment of landscapes. The criteria for high performance landscapes is a useful framework for structuring standards because they are based on measurable and enforceable performance metrics and they meet the need for a broad approach to regulation as they are flexible and practical. Standards based on metrics can be expressed in various forms including goals, principles, action items, strategies, policies, and management and maintenance plans. Environmental and social metrics, in the form of functional measures, are used to create sustainable landscape designs and are also useful for monitoring the ecological, social, and economic performance of the landscape over time to determine if goals are being met.

Part I of this document articulates a variety of design, management, and maintenance standards and Part II describes the recommended revisions to the Wildlight pattern book that also serve as a case study for the application of the landscape standards. There are references and images of Wildlight throughout this document to illustrate the use of landscape standards for high performing landscapes. This document is organized with each standard described on a single page so they can be reproduced and used as separate fact sheets for builders, landscape architects, landscape contractors, and others involved in creating and managing landscapes.

A valued and desirable community:



Starts with a landscape vision and goals,



Is designed using landscape metrics,



and is regulated by management plans

High Performance Landscapes

The Landscape Architecture Foundation defines high performance landscapes (HPLs) as a measure of the effectiveness with which landscape solutions fulfill their intended purpose and contribute to sustainability. Integrating landscape characteristics associated with HPLs in residential designs can create more sustainable and desirable communities. The functional metrics and characteristics of high performing landscapes are described below and linked to the *landscape standards* (in italics) presented in this document.

Functional and sustainable: HPLs are productive landscapes that respond to site context with an understanding of the historic use and natural importance of the site. They embrace *ecological principles* and *conservation* for sustainable landscapes and preserve the natural landscape to create a *sense of place* and provide quantifiable *ecosystem services*.

Supportive: HPLs support a high level of species *diversity*, called *biodiversity*, and they support humans well-being with *healthy, active neighborhoods* that are desirable and visually pleasing.

Socially grounded: HPLs embrace *sustainable design principles* and consider *social and cultural norms* to create landscapes of *high visual quality* that meet user needs. *Placemaking principles* provide measurable criteria for making a space a place, with meaning and value to residents.

Resilient: HPLs maximize the benefits of *ecosystem services* to create resiliency with *construction and maintenance* practices that protect and improve soil, water and vegetation. They also use *best design practices* for ecologically strong landscapes that can withstand disease and climate stressors.

Ecological and diverse: HPLs preserve the complex relationships between soil, water, vegetation and fauna on the site and strengthen the ecological functioning by increasing the *diversity of vegetation* and habitat.

Economical: HPLs maximize economic efficiency with low cost, low maintenance landscapes that protect property value and the environment. They include *land management* and *maintenance considerations* for communities to assure that landscapes will thrive without extensive inputs. An economic and ecological goal is to significantly reduce any inputs such as irrigation, fertilization, and the use of herbicides and pesticides.

Functional Measures	
Biodiversity	
Low Maintenance	
Wildlife & Conservation	
Water Conservation	
Resilient to Stressors	
Human Habitat	
Useful & Productive	
High Visual Quality	
Ecosystem Services	

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How to use this Landscape Standards Handbook

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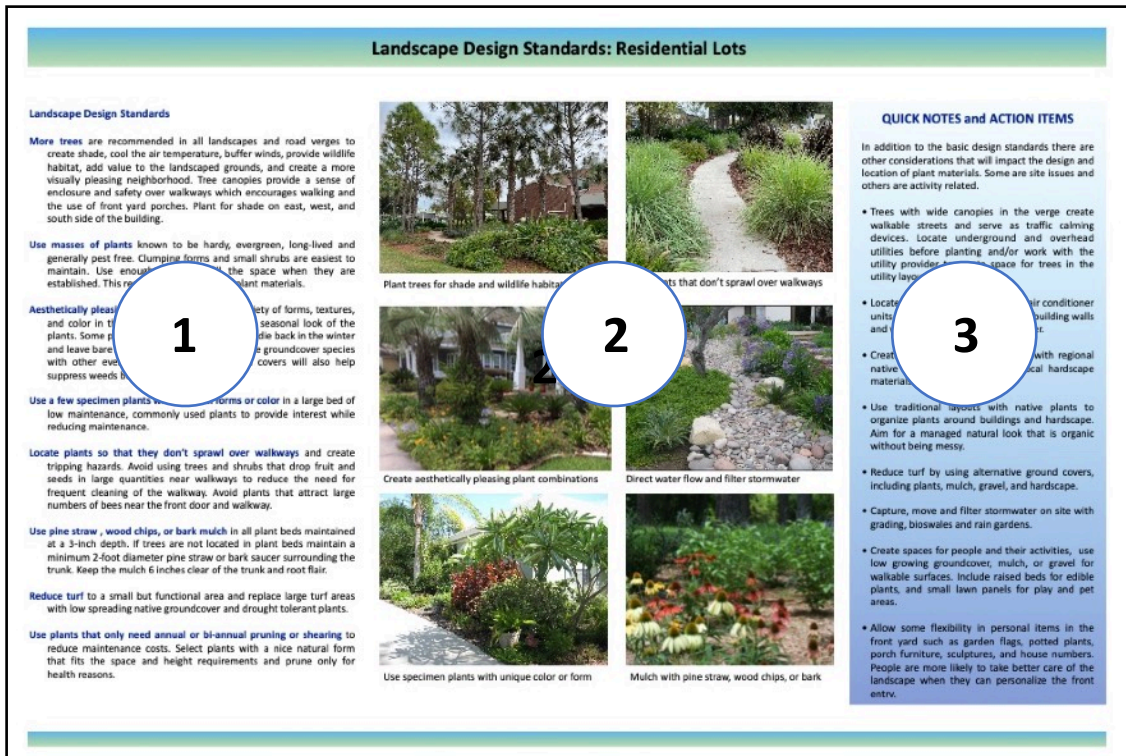
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PART I- Landscape Standards



PART II- Case Study For WILDLIGHT Community



Part I - Landscape Standards

Pages 2 thru 20 in Part I present several environmental and design concepts that guide the development of landscape standards for residential communities. Each page has three columns as follows:

Column 1 describes specific concepts, such as ecological communities, codes and placemaking, sustainable neighborhoods and landscapes, and performance metrics and functional measures. Part I also addresses residential landscape design concepts such as aesthetics, layers and massing, and standards for spaces, such as the front yard, and bioswales and verges.

Column 2 illustrates the concepts with images, diagrams, and tables that help both interpret the intent of the concept and establish an expected look of a landscape based on the conceptual idea. For example, a photo might illustrate what a particular ecological principle could look like when translated into a landscape, including the type and arrangement of plant material.

Column 3 summarizes the concepts in Columns 1 and 2 with quick notes and action items. The quick notes are for easy reference and the action items describe a specific action to create or install a landscape based on a specific principle. For example, one action item encourages the use of repetition of plants in the landscape for a cohesive look.

Part II - Case Study for Wildlight Community

Pages 21 to 38 in Part II applies the landscape concepts in Part I to landscape plans for Wildlight lots.

Each page describes a different aspect of the neighborhoods, such as yard fences and alley verges, or backyards on conservation zones, and includes photos with action items. The action items generally suggest improvements to existing landscapes that also apply to future landscapes, such as using native plants only in yards that back up to the conservation zone.

Page 39 describes the University of Florida urban landscape programs in the Institute for Food and Agricultural Sciences (IFAS) and the UF College of Design, Construction and Planning (DCP)

Page 40 lists resources used in this book and additional recommended readings.

Community Design: Nature for People

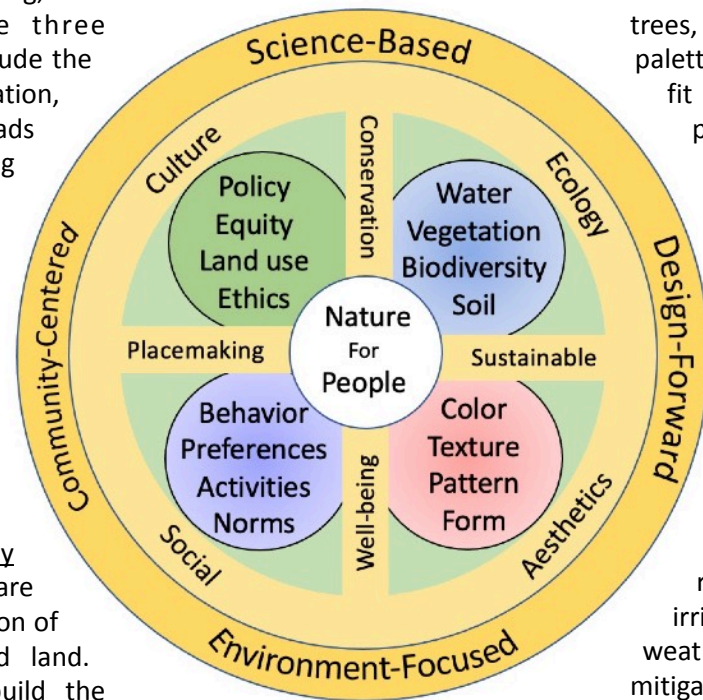
Community-Centered

Creating a community that meets the needs of people and nature is challenging. As urban areas expand into natural spaces there is a need to redefine and reimagine nature in spaces that are dominated by humans and their activities. Nature for people recognizes the importance of nature for the health and well-being of people and the health and well-being of this planet. Striking the ideal balance where both can flourish and grow will require the collective will and knowledge of the people responsible for creating liveable communities. The fate of ecology in urban areas is dependent on people and their decisions and actions when designing, planning, and building communities in natural areas. The three interconnected systems that create a community include the natural environment, such as soils, water, vegetation, wildlife, and climate; the built environment, with roads and buildings; and the social environment, including people and their activities. People dominate in the built community, which is why social, cultural, and aesthetic concerns including placemaking, well-being, sustainability, and conservation are highlighted in the *Nature for People* diagram.

Science-Based: Ecology of Urban Areas

The complexity of a man-made environment demands a science-based approach. In the urban context nature is not only for people, but also by people. Our parks, yards, gardens, and green spaces are largely designed and built by people, with the exception of a few scattered natural remnants of undisturbed land. Science not only informs how we create and build the community, it is also the basis for our laws, ordinances, codes and policies that govern the design, use, and care of neighborhood green spaces. This document presents the present and future landscapes of urban communities as unique and promising green spaces to help mitigate present and future environmental issues through codes and policies. The circle diagram represents the social, cultural, ecological and environmental concepts for landscapes and people in urban communities. The landscape standards presented in this document link to the nature-for-people diagram and are presented as measurable action items essential for creating high performing landscapes that contribute to sustainability.

When you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole; and the thing which you make takes it place in the web of nature. Christopher Alexander A Pattern Language, 1977



HOMEOWNERS
COMMUNICATION
DEVELOPMENTS
PLANTS
DESIGN
WATER
SCIENCE
SOIL
IRRIGATION
NUTRIENTS
EDUCATION

Environment-Focused

In the Wildlight community preserving the Low Country landscape that dominates the region is the key to staying focused on the environment. The saltmarshes and woodlands of the low country inform the landscape character and essence of conservation areas and common green spaces. Character and essence is primarily in the function, biodiversity, and the aesthetic interpretation of form, color, and textures in plant materials. Preserving the character in the built landscapes is a worthy goal, but much will depend on the availability of certain plant materials, the availability of water and the condition of the soil to create these novel landscapes. Native trees, grasses and perennials will be key species in the plant palette, however, many adapted ornamental plants will also fit the criteria and should not be discounted as potential plants for functional and aesthetic goals.

Design-Forward

Today's designers must consider the future, including climate change impacts, habitat loss, water shortages, and new housing and work needs. While habitat loss, water shortages and climate impacts can be predicted, mitigated, and planned for, the way we will work and live in the future is less predictable. Designers have the difficult task of designing for today while anticipating future environmental stressors. Forward-thinking design revolves around plant choices, land manipulation, irrigation restrictions, and preventing harm from severe weather. Many communities are using natural features to mitigate flooding and urban heat islands- two conditions that are already common in many communities. The Center for Land Use Efficiency (CLUE), at the University of Florida, convened a group of designers, educators, and environmental and social scientists to answer the question- what will Florida's urban landscapes look like, and how will they function, in 2050? The group agreed that community landscapes are in need of a re-set with more water conserving plants, smarter irrigation, more biodiversity, and more ecological design but the social barriers to acceptance are high and a marketing approach that considers social and cultural issues is needed. The word cloud represents key areas of concern identified by the group for high performing landscapes.

QUICK NOTES and ACTION ITEMS

- The design process should consider how interconnected systems create a community; including the natural environment, such as soil, water, vegetation, wildlife, and climate; the built environment, with roads and buildings, and the social environment, including people and their activities.
- Create liveable communities for nature and people by considering placemaking, well-being, conservation and sustainability.
- Embrace socio-environmental science to create and build a community and write the laws, ordinances, codes and policies that govern the design, use and care of neighborhood green spaces, including yards.
- Seek to understand the cultural and social norms that drive environmental behavior and perceptions and preferences for urban green spaces.
- Develop landscape standards that will create future landscapes as unique green spaces designed to mitigate present and future environmental issues and meet the recreational and social needs of the users.
- Reference indigenous landscape character and essence when considering the function, biodiversity and aesthetics of the plant material and urban ecosystems.
- Use native trees, shrubs, grasses and perennials as key species in a plant palette, and work to increase availability of natives in the nursery trade, where access remains a barrier to use.
- In the absence of natives use adapted plants that are well-suited to the area and can play key roles in landscape function and aesthetic goals.
- Create future-focused designs. When creating spaces for today anticipate new climate stressors that will impact landscapes and the environment in urban areas and consider how people will work/live in the future.

Community Goals for Green Spaces

Ecological Goals

- Biodiversity:** consider trait-based biodiversity, use plants with traits that increase the ability to support a number of other species.
- Conservation:** limit or control use of green spaces that have remnants of the original or native ecosystem intact.
- Natural Area Protection:** protect natural areas and native ecosystems from uses that will impair function. Restrict use to nature-based, low-impact activities.
- Plant Communities:** replicate the function, not the look, of natural plant communities for more ecological landscapes.
- Science and Evidence-based:** science is based on research from trusted sources, evidence is produced through post-occupancy evaluations, performance data, and case studies. Use project metrics to measure the impact and efficacy of the project.
- Support Wildlife:** place features throughout the yard for shelter, food, and nesting. Create passageways throughout the community to encourage wildlife movement.

Environmental Goals

- Reduce or Eliminate Turf:** create small but functional area and replace large turf areas with low spreading groundcover or drought tolerant plants.
- Plant Trees:** increase shade on east, west, and south side of the building.
- Reduce Maintenance Inputs:** reduce or eliminate the amount of fertilizer, herbicides, and pesticides to reduce the chemical load in planted areas.
- Conserve Water:** reduce or eliminate irrigation. Use drip irrigation when possible in the yard and use plants to catch and filter rainwater before it flows into waterbodies or the stormwater system.
- Collaboration and Partnerships:** work with science experts, local experts, stakeholders, funding agencies, government agencies, and citizens to leverage all knowledges.
- Policies and Codes:** proactively engage to creating landscape policies and codes to set standards and actions items before site preparation and construction and the installation of plant materials.

Economic Goals

- Property and Community Value:** create enduring landscapes that age well and improve the ecological function and property value. Landscapes with healthy plants increase property values and environmental health.
- Best Development Practices:** developments that ensure environmental integrity and suit changing demographics needs will hold their value. Future-think landscape uses and important details, materials and craftsmanship.
- Contribute to Regional and Community Value:** high landscape standards contribute to the economy, stability, and longevity of the region and attract like-minded businesses and neighborhoods.

Social Goals

- Placemaking:** focus on place-making principles and sense of place to create a community that people want to live in.
- Income/Status Equality:** consider landscape knowledge, education levels, social standing, and demographics that are related to environmental behaviors. Be aware of how “status ecology” and “income ecology” can negatively impact landscapes.
- Social/Cultural Norms:** pro-environmental behavior, positive landscape meaning, pride-of-ownership and place-attachment can promote individual responsibility for the environment. Social norms often influence pressure to conform and mimicry- use this as a positive force to meet ecological and environmental goals.
- Home Owner/User Needs:** consider private property ownership, private property rights, social responsibilities for safety, security, and maintenance, and concerns for maintaining property values.
- Develop and Builder needs:** investors, such as developers and builders, have a vested interest in making sustainable and livable communities. In addition to creating places for people to live they must consider profit margins, market-driven sales, risk management, name recognition (reputation and leadership in the industry), and leadership in environmental trends.
- Mental and Physical Health:** research has proven a strong connection between nature and health. Consider the role of plants and landscapes in nature-based recreation opportunities and ability to connect with nature. Enhance ecosystem services that contribute to human well-being and environmental health.
- Cultural and Historic values:** connect with past generations of people who have inhabited the land. Be aware of historic use and legacy landscapes that have impacted the quality of the land and vegetation before planning a community.

Aesthetic Goals

- Preference and Perceptions:** social science supports the concept of preferences for certain landscape characteristics and has shown that perceptions of landscapes can influence environmental behavior.
- Visual quality of plants and landscapes:** when people lack ecological knowledge they judge the ecological value of landscapes on the visual quality of the plants and level of maintenance.
- Landscape details:** architectural details such as fences, gates, trellis, and containers can enhance the aesthetic value of the landscape.
- Design Themes:** design themes are useful to guide plant, hardscape and feature choices and create a cohesive look.
- Building structure and architectural style:** architectural styles can inform the landscape style or theme and are often targeted to a certain demographic.

QUICK NOTES and ACTION ITEMS

- Ecology is important in urban areas, while most of the planted areas are human-made, they continue to hold value as natural areas that support people and wildlife.
- Set aside and protect conservation areas and natural areas. Develop community standards for protection, mitigation, and improvement of these areas. Include protection for plants and animals.
- Use biodiversity and plant community principles to create novel landscapes that can replicate some functions of natural areas.
- Develop community landscape standards that specify reduced or no turf, more trees per unit, limited irrigation, and reduced or no use of chemicals.
- Plan for the future in design details, materials and craftsmanship to ensure environmental integrity, longevity, stability, economic vitality, and stable property values.
- Use place-making principles to create a place where people want to live. Encourage social norms and behaviors that promote positive environmental behavior and pride of ownership.
- Develop a nature-based recreation plan for natural and conservation areas. Include opportunities for walking, biking and wildlife observation. Use structures, such as boardwalks and paved trails for accessibility and safety.
- Develop a management plan to preserve natural and built historic features and legacy landscapes that are locally and regionally important.
- Design landscapes that people like and want. Consider perceptions and preferences for visual quality that also supports other community goals.
- Use landscape design themes that enhance the architectural standards for the community.

Ecological Principles for Sustainable Landscapes

Seven Ecological Principles for Sustainable Landscapes

Sustainable landscapes reduce or eliminate the need for water, fertilizer, pesticides, herbicides and labor for easier maintenance. The type of plant material installed in the landscape determines maintenance practices, however, controlling pests and plants that are not intentionally installed is often the primary maintenance task.

Focus on native and adapted plants from the region such as grasses, shrubs, groundcover, and wildflowers. If natives are not available in sufficient quantities and varieties, use ornamental plants that are known to have been used in the region for decades (adapted plants) with little disruption to natural areas.

Newer cultivars that have been researched and tested for hardiness and drought tolerance (Florida-Friendly plants) can be used to fill out plant beds that lack variety when using natives only. Availability of natives can limit plant choices when few native plant nurseries are nearby. Hybrid planting may also be necessary to meet visual quality standards required by HOA landscape codes.

Choose low water use plants. Low water use plants require a temporary irrigation system to get established, typically 3 months for groundcover and 6 months or more for shrubs and trees (woody plants), depending on the season and the type of plant. However, after the establishment period no irrigation is needed, except in the case of a prolonged drought, which should require hand watering only.

Choose the right plant for the right place. Base the selection primarily on site conditions such as soil nutrients and compaction, sun and shade areas (microclimates), space limitations, and USDA hardiness zones.

Test the soil. Measure the soil chemistry and organic content to determine the need for improvements before planting. This is a crucial step in the install process and requires the use of a professional testing agency (such as UF Soils Lab). Amend the soil if necessary to increase organic matter and improve water retention.

Diversity of functional traits of the plant material is an important consideration. Traits such as leaf size, height, flowering time, and whether a plant is woody or herbaceous, evergreen or deciduous, and resistance to pathogens are important to overall diversity of the landscape. Different traits will attract and support other species, increasing overall diversity. Functional diversity and species richness are good indicators of ecosystem function.

Five Important Components of a Landscape

Soil management - protect and improve soil



SOIL

Maintenance BMPs- best management practices



MAINTENANCE



Social & cultural -
needs and
preferences

PEOPLE

PLANTS



Biodiversity - a variety of native and adapted plants

WATER



Low water use - drought tolerant plants and low flow irrigation

QUICK NOTES and ACTION ITEMS

- Perform a soil test and apply amendments as needed before planting.
- Solarize soil and/or use a pre-emergent before planting to suppress weeds.
- Grade site to drain water away from building.
- Conduct a site inventory and analysis before selecting plants. Follow the right plant/right place principle.
- Select plants and design the landscape to use less water, fertilizer, pesticides and herbicides.
- Use a temporary irrigation system for the first 3 to 6 months to establish plants.
- Use native plants when available. List adapted plant substitutes for each native plant in the plant tables.
- Reduce maintenance time by using plants with a nice natural form and a mature size that fits the space.
- Diversity of plant material is important, use a variety of species and sizes of plants.
- Create wildlife habitat by using vertical layers with groundcover, shrubs, and trees.
- Have a plan for weed control. Use mulch 3 to 5 inches deep to suppress weeds and retain moisture.
- Use plants that also meet visual quality standards; mix textures, form, size, and color.
- Add color and personalize the yard with furniture and art to reduce reliance on annuals.

Codes and Placemaking for Green Spaces

The Role of Standards and Codes

Landscape standards or codes can influence every aspect of landscapes in a community, such as the expected “look” of the community, the microclimates that make spaces comfortable, the functional ecosystem services, and the economic vitality of neighborhoods and commercial areas. Standards can help create a place when activities such as the design of yards and common spaces, selection of plants, and maintenance activities are included and regulated. The best codes clearly define the expectations with straightforward descriptions and examples, and statements of expected behaviors. For example, Form-based codes are prescriptive standards that, as the name implies, create the form and look of a community by regulating features in the street corridor. While typically used for creating walkable urban streets that are attractive and comfortable, they are also used to create identity and memorable places that make a community desirable and liveable.

Placemaking

Placemaking is essentially the act of taking a *space* and creating a *place* with meaning and value to people based on tangible and intangible qualities. The planning process takes into account the common heritage and cultural values of the region that have shared meanings to create a strong theme and identity. Familiarity and community significance are important, which is why landscape standards for Wildlight embrace the low country natural aesthetic and character. Using native and adapted plants in landscapes are an example of reinforcing the identity of place. Meaning and identity link an individual with the physical environment, creating an individual’s love for a place, or place-attachment. This is important because place attachment can make people feel more responsible for the environment and lead to pro-environment stewardship activities to actively protect and care for the landscape. The project for Public Spaces (PPS) is an organization that provides guidelines for placemaking and helps communities create a vision for their community (Hansen, G. & Macedo, J. 2021. Urban Ecology for Citizens and Planners. University of Florida Press).

Preferences and Perceptions

An important concept in place-making is to recognize the landscape characteristics that play a role in people’s perceptions and preferences for landscapes. For example, research shows several shared landscape preferences, such as wide tree canopies, healthy green plants (no dead or diseased plants), colorful flowers, organized plant beds (but not too formal), repetition of plants, and neatly maintained plant material. The practical aspect of this research is that selection of plants that elicit a positive emotional response is a way to change people’s behavior toward, and acceptance of, certain types of landscapes. The key for landscape standards is to match emotionally preferred plant characteristics with plants of high ecological value to create landscapes that contribute to ecology and preferred places. It’s also important to keep in mind that most people judge a landscape by its visual quality, as they don’t have the ecological knowledge to determine the ecological quality of most landscape.

Enforceable Codes

Codes must be measurable to be enforced. Landscapes can be measured in a variety of ways, including requiring plant types, plant numbers, and adherence to plant location specifications. For example, focus group studies have revealed that weeds in turf and inappropriately located plants (in utility easements) are two of the primary causes for warning letters from HOA landscape boards. However, measurable codes can have unintended consequences, regulating too many aspects of a landscape can result in repetitive, uninspired front yards, defeating the purpose of the code to create attractive communities. Codes can be flexible and should not limit ecological landscapes that can fit the desired aesthetic standards with nicely designed landscapes. Other enforceable landscape characteristics include requiring a certain percent of the plants to be native, requiring a fixed percent to be turf and/or plant beds, having a minimum number of trees in the front and back yard, restricting plants in easements and setbacks, and requiring weed free, green turf year-around.



Unique structures to support vines are one identifying feature for a walkable street in Livermore, California



Historic districts often have architecture and landscape standards to preserve neighborhood charm



Tropical plants are identifying features in Florida yards

QUICK NOTES and ACTION ITEMS

- Well written codes define expectations, use clear measurable and enforceable descriptions, and state expected behaviors.
- Principles of placemaking create a place from a space by giving meaning and value to a space.
- Placemaking embraces tangible and intangible qualities, identify these qualities through community meetings to help create a theme and identity.
- Identify cultural values through conversations with generational families in the community. Their perspective can provide a community with meaning and significance.
- Identify familiar landmarks and features in the area to inspire design, for example, using native plants that are common to the region to reinforce identity.
- Familiarity also links people to the physical environment, creating love of place or place attachment, which leads to care and environmental stewardship.
- Select plant material with characteristics that elicit a positive emotion, which will influence and change peoples behavior and acceptance of ecological landscapes.
- Write codes that can be measured and accurately described so they can be enforced fairly and evenly.
- Use the landscape standards and metrics that encourage ecological landscapes to write HOA landscape codes and covenants.

Management Plans and BMP's For Construction

Management to Mitigate Human Impact

Management, or lack of it, can mean the difference between a healthy landscape that contributes to ecosystem services, or an unhealthy landscape that contributes to maintenance and environmental problems. Best management practices for construction to consider in large developments include Soil Management Plans, Construction Management Plans and Vegetation Protection Standards.

Soil Management Plans

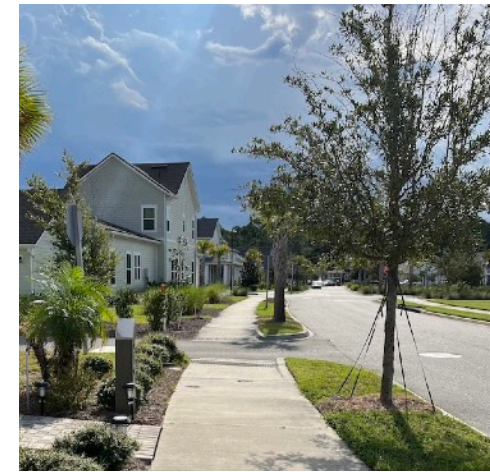
Most housing developments in Florida are built on fill dirt to elevate roads and homes and create a stormwater system with ponds for flood control. Although many Florida counties do not require a soil management plan be submitted before construction, having a plan is a BMP for preventing drainage and landscape problems. Establishing Vegetation and Soil Protection Zones (VSPZ) before construction is the primary consideration for management of soil and plant communities. The modification to soil structure during construction destroys soil layers and composition, decreasing the porosity of the soil and impairing function. The change is usually permanent unless there is a long-term restoration plan to help the soil regenerate and reorganize naturally. Soil properties most highly modified by humans are erosion, compaction, nutrients, temperature, and pH. Compaction is the most problematic for plants because it hardens or seals the soil surface and eliminates the small air pockets that roots and soil biota depend on for oxygen and water. Soil Management Plans typically include a soil survey, a Soil Resource Plan (SRP) that shows location and type of topsoil and subsoil to be imported or stripped, standards for stripping native top soil and designated haul routes to limit compaction. Most also include standards for use of tracked equipment to reduce compaction, silt fences to mitigate erosion, best practices for storing top soil, and standards for soil mixes for fill dirt. Recommendations are also given for preparing the soil for landscapes such as techniques for bonding (zipping) the anthropogenic soil (a term for the topsoil after it is scraped and stored), to the subsoil, and best practices for enhancing or amending the soil with compost or added nutrients. New approaches to protecting and restoring include emerging engineering and construction technologies and protection strategies focused on maintaining and improving the soil microbiology and nematology for improved soil health.

Construction Management Plans

Waste management during demolition and construction is critical for soil protection and site safety. Construction debris is often left on site and sometimes purposely buried. Excess concrete and slurry from a pour is often buried on site and construction materials such as paint, solvents, grout slurry, and adhesives, are often dumped around the house perimeter during construction, creating a contaminated area where foundation plants are installed. Many adhesives, sealants, and cleaners contain hazardous chemicals that remain in the soil or percolate into the groundwater. Material selection should consider the material safety data sheets (MSDSs), environmental product declarations (EPD) and third-party certifications for environmental and human health impacts. Waste management during construction and demolition includes separating waste streams for recycling or disposal, storing waste in appropriate containers for removal, prohibit the dumping of excess construction materials and daily clearing of waste materials to keep soil clean. The construction management plan generally sets standards for disposal and removal of debris, and prohibits any materials that can be absorbed by the soil from being dumped. Management plans also require removal of nails, screws, and any other hardware from the soil and removal of extra boards, insulation, wires, pipes, conduits and drywall or other structural materials. Plans will also set standards for hazardous waste disposal, such as oil, gasoline, solvents, flammable materials, and other potentially dangerous chemicals used in construction treatments.

Vegetation and Conservation Area Protection Standards

Protecting existing vegetation from construction impacts requires a layered approach. Vegetation can be damaged by grading, trenching and compaction of soil. Moving and storing materials and equipment also risks pollutant contamination and site grading often changes existing water flow and seeping patterns. Protection zones should be clearly marked with non-moveable barriers around fragile habitat, such as wetlands, and existing natural plant communities. Threatened, endangered or protected, and rare species often require identification and signage for extra protection. Mature trees are susceptible to root damage that causes the slow decline and death of the tree. Tree barriers should extend beyond the canopy drip line to prevent compaction from parked vehicles and stored materials. Invasive plants should be removed before construction and equipment should be sanitized so site grading and construction doesn't spread plants throughout the site.



Tip dieback on street trees possibly due to compacted soils and roadbed material



Fill dirt above the natural grade for roads and houses



Stormwater swales and ponds replace natural hydrology

QUICK NOTES and ACTION ITEMS

- Manage soil. Develop a pre-construction soil management plan to prevent soil related health problems for plants. The plan should include standards for fill dirt composition, acceptable sources for fill dirt, and the use of silt fences and barriers to prevent erosion.
- Reduce soil compaction. Strategies to reduce compaction include designated travel routes, tracked tires on heavy equipment and using soil amendments such as compost before planting.
- Manage construction waste. Develop protocol for site clean-up during construction. Collection and removal of materials includes the use of a magnet or metal detector to find small hardware such as nails and screws.
- Prohibit the dumping or burying of excess solvents, paints and chemicals. Don't allow the burial or dumping of excess concrete from pours or extra materials such as boards, insulation, wires, pipes, or drywall. Develop protocol for the removal of construction waste, either for recycling or disposal.
- Protect existing vegetation. A plant protection plan should include strategies for all stages of construction. Pre-construction includes identification of areas to be barricaded to protect natural areas, trees, and specimen plants. Post-construction includes protection and stabilization for new trees.
- Designate zones. Active construction requires designated areas and rules for parking, driving, materials storage, and waste disposal. All personnel should be educated about protective measures and rules for use. Construction documents should include consequences to the contractor if barriers are removed or displaced.

Standards and BMP's For Maintenance

Standards to Mitigate Human Impact

Best practices and standards for maintenance should be developed for both landscape maintenance companies and homeowners to keep landscapes healthy. For example, providing educational materials to homeowners can help prevent the spread of invasives if they recognize the plants and act quickly to remove them. Standards to consider in large developments include Invasive Plant and Weed Management, Irrigation Management Standards and Stormwater Management Standards for Yards.

Invasive Plant and Weed Management Standards

Plant choices and management practices are a factor in the spread of non-native plants from urban areas to surrounding natural areas where they can become invasive and disrupt native plant communities. Invasive plants are habitat generalists with high adaptability to new habitats that reproduce easily and outcompete other plants. Integrated Pest Management (IPM) is a science-based decision-making process to identify and reduce risk from pests with the goal of providing an effective, comprehensive, low-risk approach to protect resources and people from pests (IPM 2019). Integrated Vegetation Management (IVM) use biological, cultural, mechanical, and chemical control to manage unwanted vegetation, both invasives and weeds. Right plant, right place is a Florida-Friendly management principle that reduces pests.

The main concept of IPM and IVM is using strategies that target the pest, create unfavorable conditions for it, and limit impact on the environment. IVM also includes planning and promoting the use of desired plant communities (natives and adapted plants) that are stable and resist invasive plants. Recommendations for control include herbicides in a selective manner, particularly for invasives that are hard to control mechanically, biological controls to reduce plant populations, and cultural controls to create conditions to introduce favorable species. Prevention, including eradicating invasives using early detection and rapid response (EDRR) on small populations is a key aspect of invasive plant management. Planning best management practices include (1) adopting an official policy to prevent invasive introduction and spread; (2) integrating invasive plant BMP's into design and construction planning documents; (3) coordinating prevention efforts with adjacent property owners, and (4) developing a monitoring plan (Hansen and Macedo 2021).

Irrigation Management Standards

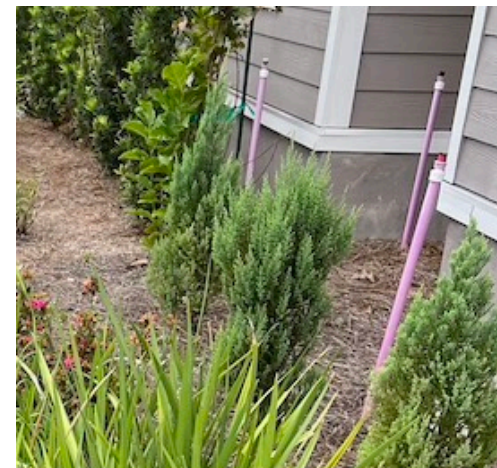
Although one goal is to eliminate irrigation entirely, where irrigation is needed standards are used to specify the type of irrigation system to be installed and the use of the system. A temporary irrigation system is recommended for establishment of plant material. Drip irrigation is effective for groundcover and shrubs and bubblers are often used for trees. Small patches of turf can be irrigated with a permanent system of targeted, low flow sprays. Standards should clearly specify the type of system, zones and layout for installation and the type of controllers to manage the system. An integrated system includes soil moisture sensors, or weather-based controllers and an automatic shut-off device. The standards also set forth the use of the system; such as who controls the system, who sets the irrigation schedule and the duration of the establishment period. If homeowners will control the system a training and education program is needed for correct use of the controller. Homeowners should also be given instructions for how often (days per week), and how to calculate the time needed to apply 1/2" to 3/4" of water. The establishment period is also included in the standards with information on the variables that can effect establishment and health of the plants. Various methods to determine establishment include the presence of new growth, buds and flowering, and healthy appearance. Signs that the plants are not established and/or are not receiving adequate water include lack of growth, discoloration, loss of foliage, and weak habit or form such as drooping.

Stormwater Management Standards for Yards

Community-wide urban stormwater systems are designed as part of the site engineering and parcel and road layout. However, on-site stormwater management on individual lots is typically left to the homeowner. Typical problems include poorly located downspouts, moving the water away from the house, soil erosion, and wet soil that leads to poor plant health. Strategies for controlling stormwater include downspout extenders, small catchment basins under downspouts, rain barrels and cisterns for storage and slow release, and swales and runnels to direct water to the main storm system. Rain gardens, sumps, dry wells, permeable pavers, and French drains allow more absorption, and channel drains and pipe drains with pop-offs move water quickly off site. More serious flooding issues often require stormwater planters for bio-retention, and bioswales with weirs or check-dams to slow velocity and absorb more water.



Torpedo grass invading a plant bed and Pythium Root Rot in the turf due to wet conditions



Use drip irrigation rather than Overhead irrigation sprays on risers



In effective weed management with cardboard layers

QUICK NOTES and ACTION ITEMS

- Integrated pest management (IPM) and integrated vegetation management (IVM) standards should include decision-making processes and action items for identification, removal, control and prevention for invasive plants and common weeds.
- Management practices should also be available to homeowners to help them identify and eradicate unwanted plants in their yards and help reduce the spread of weeds, invasives, and pests.
- Management standards for irrigation should include two components; the type of irrigation system to be used and the protocol for using the system.
- Select an irrigation system with a variety of delivery methods such as drip, bubblers and sprays. Include a user-friendly controller and other devices to determine water needs based on rain and soil moisture.
- Set the irrigation schedule based on the type of plant material, the soil type and drainage, the time of year the plants are installed and dry periods during the year.
- If soil has clay layers or is compacted and doesn't drain use methods to improve drainage, such as tilling and composting to improve drainage.
- Manage stormwater on site. Control stormwater with proper grading of the soil around the building for positive drainage from the building foundation.
- Use a variety of methods to encourage water retention and percolation on site if soil is well drained, including dry wells, sumps, rain gardens, and bio-swales.
- If necessary, use methods to move water off site and into the storm water system, such as channels, runnels, cisterns and rain barrels, and pipe drains.

Landscape Standards : Supporting Community Visions and Goals

Sustainable Landscapes: Concepts to Address in Standards

The landscape standards focus on the first seven columns of the table below. The green cells designate the important landscape considerations addressed in this book. Including the ecology and sustainable goals, plant qualities, aesthetic preferences and place-making principles, and codes and policy and maintenance goals. The gradation of color represents priority goals, for example, light green is top priority, medium green second priority and dark green is the lowest priority.

The orange cells include community influences such as user needs, norms, and performance metrics, and and the blue cells represent developer goals such as economic goals, and builder needs. The needs, goals, and metrics in the orange and blue cells influence the landscape standards that will help meet the community and developer goals.

Landscape Considerations							Community Influences				Developer Goals	
Ecology Goals	Sustainable Goals	Plant Characteristics	Aesthetic Preferences	Place-Making	Codes and Policy	Maintenance Plans	User Needs	Social Norms	Cultural Norms	Performance Metrics	Economic Goals	Developer/ Builder Needs
Biodiversity	Resilient environment	Native/Adapted	Landscape perceptions	Desired community	Enforceable codes	Right Plant- Right Place	Plant Costs/ budget	Mimicry/ conformity	Cultural values	Water use/ conservation	Reduced water costs/use	ROI- Profit Margins
Mimics regional ecology	Healthy environment	Drought tolerant	Landscape preferences	Place- attachment	Measurable codes	Improve Plant/ environment health	Plant availability	Neighborhood landscape norms	Place identity	Chemical inputs/ outputs	Reduced maintenance costs/use	Landscape costs/ budget
Water conservation	Mitigate environmental stressors	Trait based- Supports other species	Emotions/ feelings	Landscape meaning	Future-oriented	Reduce Fertilizer/water use	Improve Property value	Environmental ethic	Landscape meaning	Maintenance costs	Increase property value	Property/ community value
Pollinator/ wildlife habitat	Mitigate habitat loss	Appropriate hardiness zone	Plant choices/ plant palette	Health and well-being	Environmental Protection- oriented	Reduce Pesticide/ herbicide use	Reduce Maintenance costs/tasks	Environmental behavior	Regional landscape influence	Climate metrics- air quality/temp	Mitigate storm damage	Regional economic stability
Novel plant communities	Mitigate Climate change	Plant availability	Perception of healthy plants	Regional identity	Environmental enhancement- oriented	Community Environmental Health	Increase Enjoyment/ aesthetics	Quality of life measures	Historical influence	Wildlife metrics- abundance	Mitigate environmental stressors	Development codes
Right plant- Right Place	Key biodiversity species- trees	High functional value	Color/contrast/ texture	Sense of Place	Landscape codes/standards	Aesthetics and preferences	Functional/ provisions (edibles)	Restrictions and standards	Legacy landscapes	Evidence-based	Regional economic stability	Maintenance Costs
Plant availability	Science-based	High ecological value	Repetition/ pattern/variety	Conservation ethic	Water use/ irrigation restrictions	Weed control/ weeds in turf	Privacy/property rights	Turf vs No turf	Status ecology	Science-based	ROI- return on investment	Best development practices
Soil Chemistry and health	Influence environmental behaviors	Plant materials budget	Plant organization	Outdoor recreation activities	Development codes and standards	Social/ neighborhood norms	Educational Resources	Native vs. Non- native plants	Income ecology	Use patterns	Improved ecosystem services	Plant availability
No Turf vs. Turf	Ecosystem conservation	Seasonal attributes	Native vs. Non- native plants	Outdoor social activities	Maintenance companies	Maintenance companies	Maintenance companies	Nature-based activities	Turf vs No turf	Future-oriented	Revenue/ jobs/ workers	Maintenance companies

Landscape Performance Metrics and Functional Measures

Performance Metrics for Landscapes

Data and performance metrics provide numerical values for the performance benefits of certain types of landscapes and make the case for more sustainable development.

Planting trees to create more microclimates and mitigate the urban heat island effect is a common strategy in urban areas. Data on the effectiveness of tree canopies to reduce temperatures can be measured by comparing utility records for summer months before and after trees are planted.

Improving water conservation and stormwater management can be shown with data from irrigation water use before and after installation of a smart irrigation system. Stormwater management is measured through reduced flood events.

Improved habitat value of adjacent conservation areas can be measured through improved water quality in low wet areas and increased wildlife sitings. An increase in birds and pollinators in neighborhood yards is also an indicator of improved environmental health.

Improved soil health can be measured by noticeable improvements in the health and vigor of plant materials which enables them to withstand environmental stressors. Soil samples can also show improved health after application of compost or other organic matter to plant beds over time.

Greater Economic benefits are measured by increases in property value, savings on landscape maintenance, reduced water use costs, and increases in tax revenue and economic development in and around the community.

Use patterns and user preferences are often collected for common green spaces and nature-based recreation opportunities. Number of users, signs of wear or use, and repeated maintenance activities often indicate high use areas.

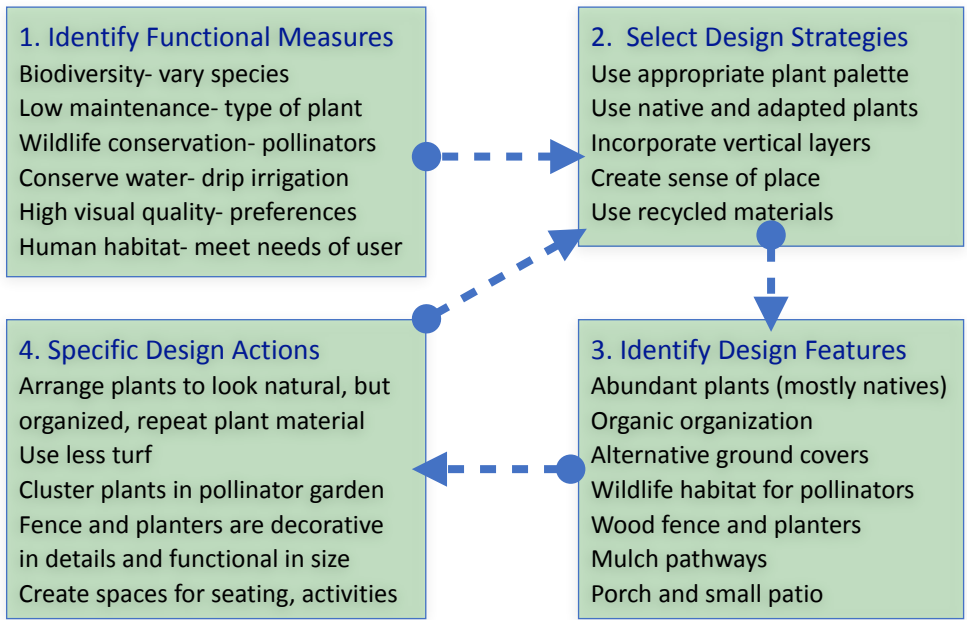
Post-occupancy evaluations (POEs) are useful for measuring social and cultural metrics such as quality of life as quantified by increased time spent outdoors walking or using community parks. User surveys are often used to measure improved mental health and stress levels, and to document various health markers such as blood pressure, cholesterol levels, strength gains and endurance gains.

Design Strategies and Functional Measures

Functional measures describe the way the landscape is intended to function or preform. Well-designed landscapes that use various design strategies are typically synergistic and serve multiple purposes. For example: **Planting in vertical layers** will result in improved human habitat with shade trees and privacy buffers, increased ecosystem services, high visual quality, and useful and productive landscapes for wildlife.

Design Strategies for High Functioning Landscapes									
Use appropriate plant palette									
Plant in vertical Layers									
Use sustainable hardscape									
Use native and adapted plants									
Incorporate landform									
Manage water on site									
Create Sense of Place									
Use Recycled Materials									
Use best irrigation design									
Functional Measures									
Biodiversity									
Low Maintenance									
Wildlife & Conservation									
Water Conservation									
Resilient to Stressors									
Human Habitat									
Useful & Productive									
High Visual Quality									
Ecosystem Services									

The design process/action items using strategies and functional measures



QUICK NOTES and ACTION ITEMS

- Functional measures are features or events in the landscape that can be measured pre-and-post planting or by comparison to a different landscape of similar size and conditions.
- The purpose of collecting pre-and-post data or comparison data is to determine if the ecological principles and design strategies used in the landscapes have produced the desired community goals.
- Strategies and principles must be stated in measurable terms to provide valid data. Performance metrics should be established before landscapes are installed to enable pre-and-post installation data collection.
- Post-occupancy evaluations can identify unsuccessful strategies which can be re-set before applying to future neighborhoods in the same development.

Action Items for Measuring Metrics include:

- Biodiversity- establish biodiversity level before site is cleared and after planting using ecological biodiversity measures, such as variety and abundance of plant species. One can use the iNaturalist app (www.inaturalist.org) to identify plants and animals.
- Low Maintenance- compare maintenance hours and tasks of a typical yard to an ecological yard.
- Wildlife/Conservation- count species variety and number observed in the area before and after installation.
- Water Conservation- compare irrigation water use after installation to a typical turf dominated landscape of the same size.
- High Visual Quality- compare number of units sold/month to a similar neighborhood with a turf dominated landscape.
- Human Habitat- compare number of walkers observed in neighborhood to a similar neighborhood with more or less tree canopy.

Scoring Rubric for Landscape Design/Development BMP's

Scoring Rubric

The purpose of this scoring rubric is to target adoption of landscape development best management practices. Practices adopted in development and design should improve the long-term maintenance of properties, which can include reductions in water, fertilizers, and pesticides. As a result, the total cumulative impacts should have improved water conservation, pollinator habitats, and decreased impacts on water quality, as compared to a typical planned unit development. **All properties/parcels must meet the listed requirements and score a total of 30 points on the scoring rubric.**

Requirements		
Landscape complies with all codes, laws, ordinances, and HOA rules (if applicable)		
Landscape does not contain any plants found on the current UF/IFAS Assessment “Prohibited, Invasive, Invasive (No Uses), or High Invasion Risk” list.		
Plants are placed in landscape locations that match their requirements for water, light, soil condition, wind tolerance, salt tolerance, mature size, etc.		
Mulch is specified to be applied at a 2” – 3” depth and is either pine bark, pine straw, eucalyptus, or melaleuca.		
Turfgrass and ornamental beds <u>are not</u> within the same irrigation zones.		
Irrigation zones shall be designed not to exceed thirteen (13) gpm. Pressure fluctuations have been factored into flowrate.		
There shall be no sprinkler/high flow irrigation in ornamental beds		
Scoring Rubric		
Site Preparation		
Soil Preparation – Soil preparation strategies improve soil structure, minimizes nutrient need requirements, especially during the first few years. Select the most appropriate BMP utilized.		Point Value
No Preparation		0
Removal of all construction debris prior to final grading/landscaping, tilling soil (12”) to alleviate soil compaction after final grading prior to landscape installation.		3
Removal of all construction debris prior to final grading/landscaping, tilling soil (12”) to alleviate soil compaction and include compost amendments after final grading and prior to landscape installation.		5
Invasive Species Mitigation – During construction, equipment shall be cleaned to minimize the spread of invasive species between lots.		
Equipment <u>was not</u> cleaned before moving to different lots.		0
Equipment <u>was</u> cleaned before moving to different lots.		3
Equipment <u>was</u> cleaned before moving to different lots, invasive species to be removed following UF/IFAS Extension recommendations prior to construction,		5

Landscape Design and Plant Selection		
Turf/Ornamental Ratios – Increasing ornamental landscape beds increases irrigation efficiency, encourages plant species diversity, and improves species richness.		Point Value
Landscape is less than 25% ornamental landscape beds		0
Landscape is at least 50% ornamental landscape beds		3
Landscape is 75% or more landscape beds		5
Landscape is 100% landscape beds		10
Native Plant Species – Native plant species can improve irrigation efficiency and improves species richness		
Landscape is less than 25% native plant species		0
Landscape is 25% - 50% native plant species		3
Landscape is 51% - 99% native plant species		5
Landscape is 100% native plant species		10
Plant Diversity – Encouraging plant diversity improves the resiliency of landscapes and reduces threats of pests/pathogens. Points within parentheses is for landscaped areas equal to or less than 5000 sqft.		
Landscape contains less than 10 plant species		0
Landscape contains 10 – 14 plant species		3 (5)
Landscape contains 15 – 19 plant species		5 (10)
Landscape contains 20 or more plant species		10 (10)
Irrigation Design Standards		
Temporary Irrigation System – An irrigation system designed to be temporary without underground lines, etc., to aid in the establishment of landscape plant material.		Point Value
If approved, a temporary irrigation system is provided for establishment in lieu of permanent in-ground system. If so, disregard additional irrigation scoring items.		10
Smart Controllers – Controller selection can significantly improve irrigation efficiency within the landscape.		
Irrigation timer is controlled by a rain sensor		0
Irrigation timer is controlled by a soil moisture sensor, evapotranspiration sensor, or weather-based controller.		5
Irrigation Efficiency – Adopting general irrigation efficiency standards in a landscape will greatly improve overall irrigation efficiency.		
Drip-irrigation/low flow irrigation present in all ornamental beds		0
Drip-irrigation/low flow irrigation present in all ornamental beds; turfgrass areas irrigated with pressure regulated irrigation heads.		3
Drip-irrigation/low flow irrigation present in all ornamental beds; turfgrass areas irrigated with pressure regulated irrigation heads; Multi-Steam/Multi-Trajectory (MSMT) heads utilized, when possible, in turfgrass areas.		5

Standards and Site Metrics for Planting Plans

Metrics for Planting Plans

Native or adapted. 100% of the plants should be native or adapted plants with a history of good performance in the region and available at local nurseries. Aim for at least 50% native plants. When possible use eco-sourced plant material to conserve local genetic diversity by using plants and seeds from the local area.

Desirable characteristics or traits. Base the selection of plants on their desirable characteristics, such as support for other animal species, functional qualities (shade), low maintenance, water conserving, and readily available.

Drought tolerant. 90% of the plants should be naturally drought tolerant, the other 10% should be somewhat drought-tolerant and grouped together for small space watering.

Evergreen plants. 80% of the plants should be evergreen to provide continuous ground cover and habitat for birds and insects.

Tree canopies should cover 40% or more of the yard to achieve maximum cooling effect. Minimum 1 canopy or accent tree in the front yard and 1 canopy plus 1 accent tree in the back yard.

Groundcover should be a mix of 2 species minimum on yards less than 300 sq. ft. and 3 species minimum on yards greater than 300 sq. ft. Include grasses and flowering perennials to support pollinators.

Shrubs should be a mix of 2 species minimum on yards less than 300 sq. ft. and 3 species minimum on yards greater than 300 sq. ft. Include flowering shrubs to support pollinators.

Vertical layers- Create 3 different vertical height layers with trees, shrubs, and groundcover. 50% of the site should be 3 layers, 25% of the site should have at least 2 layers, and 25% of the site can be low groundcover only or groundcover with trees and no middle layer of shrubs.

Locate plants on-center at the diameter of the plant's mature spread. For example, plants with a 3' spread should be spaced 3' on center so that plants cover the mulch surface of the bed.

Plant trees for wildlife habitat. Mix understory, mid-story and tall trees for a variety of vertical heights for animals that move from the ground to canopies. Canopy trees are to be 4" Cal. minimum and 14' height and accent trees to be 3" Cal. minimum and 8' height at maturity. Street trees count in the vertical layers.



Use native and adapted plants



Tree canopies to cover 40% or more of the site



Groundcover- a mix of 3 species minimum on large sites and 2 species minimum on small sites



Shrubs- a mix of 3 species minimum on large sites and 2 species minimum on small sites



Groundcover and trees with no middle layer (FFL Photo Archives)



Mixed vertical heights with trees, shrubs, and groundcover

QUICK NOTES and ACTION ITEMS

- Use as many **native plants** as possible. Most common landscape trees available in nurseries are native trees and they provide the highest ecosystem services by supporting many other animal and insect species and providing shade for temperature mitigation.
- **Adapted plants** are well established and have longevity in a region. They are a good substitute for natives when the supply is limited.
- Use **drought tolerant** plants in well drained high areas. Native water-tolerant plants must be used in low-lying wet areas, especially if they connect to natural wetlands where plants are likely to migrate.
- **Evergreen** plants are preferred, however, there are many natives that continue to provide food and cover in the winter when they have shed their leaves. The seasonal changes benefit different species in different seasons.
- **Trees** with narrow trunks and wide, arching canopies provide the best shade coverage and are the preferred tree shape for most people.
- **Groundcover** supports many non-flying insects and protects the soil. Soil is the ecological foundation of the urban bio-network, supporting a huge bio-mass of soil organisms that create the highest biodiversity in earths ecosystems.
- **Shrubs** should vary in overall size, and shape and size of the foliage. Different leaf sizes and shapes support different insect species.
- **Trees** are one of the best investments. They support a variety of wildlife and provide environmental benefits (ecosystem services), such as shade to mitigate the urban heat island effect.
- **Street Trees-** include one canopy tree in the verge per lot or include a tree at least every 60' on center.

Landscape Visual Standards: Aesthetic Characteristics and Preferences

Aesthetic Characteristics

Aesthetics or visual quality describes the features of plants such as texture, form, color, and size. When people lack knowledge about the ecological value of a plant they judge the value of the plant by its appearance. Humans receive about 85% of their information about their surroundings through sight, which makes the visual appearance of objects very important to understanding the environment. Most people will also judge a landscape by how neat, well maintained and healthy it looks, rather than the types of plants used. Keeping native plants well maintained and organized is key to acceptance and use of natives.

Aesthetic Preferences

Green plants with dense foliage, large leaves and bold form are often preferred and regarded as healthy, while plants that are brownish, with thin stems, small leaves and sparse foliage are usually deemed as unhealthy and therefore unattractive. Many native plants fall in the latter category and are often described as scraggly, messy, and weak. This characterization is important to note for several reasons: 1) maintaining green plants with dense foliage is perceived as being pro-environmental behavior by many homeowners, as they believe they are helping the environment by making their plants healthy with fertilizer and pesticides; 2) there is an expectation in some neighborhoods to maintain a “look” that fits the value of the homes. This is called status ecology or income ecology, and it is often the force behind mimicry- keeping up with the neighbors by copying their landscapes; 3) mimicry is a type of social norm prevalent in front yards and home facades because the look and perceived care of the landscape is seen as a reflection of the character of the people who live there. All of these issues point to the importance of social and cultural norms in changing the urban landscape paradigm. Of note, residents who are more ecologically literate are more likely to accept “messy” landscapes.

The Importance of Trees

Street trees are a fundamental element of desirable neighborhoods. Home prices, proximity to a school, and green spaces with trees are the top three characteristics people look for when purchasing a house. The presence of street trees has also been proven to slow vehicular traffic on neighborhood streets by an average of eight miles per hour. Drivers perceive the road to be narrower and the trees are a signal to motorists that pedestrians are likely in the area. Taller trees provide a “ceiling” that helps to minimize the height of tall buildings and makes the sidewalk more inviting with a feeling of enclosure with tree branches. Wide canopies also provide shade to encourage walking for exercise and transportation, a key concept for community wellness. Trees with narrow trunks can be used to highlight interesting architectural features along building facades, such as framing front porches, or unusual entry doors.

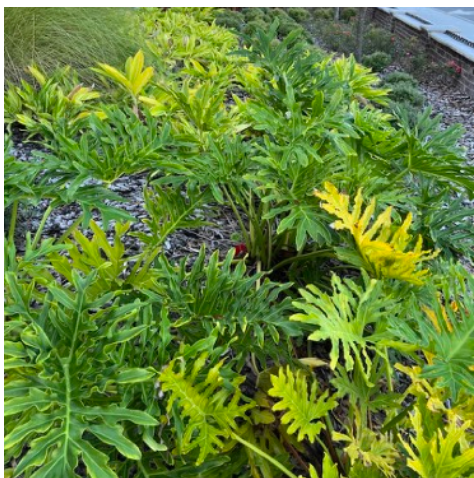
1.



2.



3.



4.



5.



6.



QUICK NOTES and ACTION ITEMS

Use form, texture and color to create a distinct look that gives a sense of place and “fits” with the region or neighborhood. Numbered photos on the left illustrate aesthetic characteristics listed below.

Photo1. Arching loose habit mimics a typical form of shrubs in natural areas. Slightly different shrub heights, with one arching over the other also mimics the dense planting in natural areas.

Photo 2. Palms and palm-like fronds are iconic to Florida landscapes. Use dwarf varieties in front of buildings and porches.

Photo 3. Large, irregular shaped foliage provides the coarse texture typical of tropical plants found in south Florida.

Photo 4. Clump grasses with stiff upright blades and small flowers are similar to the native plants found in many natural areas of central and north Florida.

Photo 5. Small flowering trees with open branching and small leaves give the look and feel of understory trees in woodlands.

Photo 6. Balance a few plants with bold coarse textures with large masses of soft grasses and fine textures.

Balance open spaces of mulch or gravel between plantings with clusters of dense plant material.

Use sprawling plants in open areas where groundcover is desired with scattered groups of shrubs or tall perennials.

Use native or adapted perennials with colorful flowers that bloom at different seasons for year-around color. Hydro-zone them to conserve water and limit annuals to containers.

Landscape Design Standards: Residential Lots

Landscape Design Standards

More trees are recommended in all landscapes and road verges to create shade, cool the air temperature, buffer winds, provide wildlife habitat, add value to the landscaped grounds, and create a more visually pleasing neighborhood. Tree canopies provide a sense of enclosure and safety over walkways which encourages walking and the use of front yard porches. Plant for shade on east, west, and south side of the building.

Use masses of plants known to be hardy, evergreen, long-lived and generally pest free. Clumping forms in groundcover and small shrubs are easiest to maintain. Use enough plants to fill the space when they are established to discourage weed growth, but don't crowd plants, which can promote disease spread.

Aesthetically pleasing compositions include a variety of forms, textures, and color in the plant material. Consider the seasonal look of the plants. Some popular native ground covers will die back in the winter and leave bare spots. To remedy this, mix native groundcover species with other evergreen plants. Mixed ground covers will also help suppress weeds better.

Use a few specimen plants with unusual forms or color in a large bed of low maintenance, native and commonly used adapted plants to provide interest while reducing maintenance.

Locate plants so they don't cover walkways and create tripping hazards. Avoid using trees and shrubs that drop fruit and seeds in large quantities near walkways to reduce the need for frequent cleaning. Avoid plants that attract large numbers of bees near the front door, the porch and the walkway or patio. The bottom of tree canopies should be minimum 8 feet clearance above walkways.

Use pine straw, wood chips, or bark mulch in all plant beds maintained at a 3-inch depth. If trees are not located in plant beds maintain a minimum 2-foot diameter pine straw or bark saucer surrounding the trunk. Keep the mulch 6 inches clear of the trunk and root flair.

Eliminate or reduce turf to a small but functional area and replace large turf areas with low spreading native groundcover and drought tolerant plants. Locate spreading groundcover in areas with room to sprawl and grow. Plants such as Sunshine Mimosa can spread up to 20 feet.

Use plants that only need annual or bi-annual pruning or shearing to reduce maintenance costs. Select plants with a nice natural form that fits the space and height requirements and prune only for health reasons.



Plant trees for shade and wildlife habitat



Use soft plant clusters on the edge of walks



Create aesthetically pleasing plant combinations



Direct water flow and filter stormwater



Use specimen plants with unique color or form (FFL Photo Archives)



Mulch with pine straw, wood chips, or bark

QUICK NOTES and ACTION ITEMS

In addition to the basic design standards there are other considerations that will impact the design and location of plant materials. Some are site issues and others are activity related.

- Trees with wide canopies in the verge create walkable streets and serve as traffic calming devices. Locate underground and overhead utilities before planting and/or work with the utility provider to create space for trees in the utility layout plan.
- Locate trees to provide shade over air conditioner units and to block solar radiation on building walls and windows to keep the house cooler.
- Create a sense of place or identity with regional native and adapted plants and local hardscape materials.
- Use traditional arrangements with native plants to organize plants around buildings and hardscape. Aim for a managed natural look that is organic without being messy.
- Reduce turf by using alternative ground covers, including plants, mulch, gravel, and hardscape.
- Capture, move and filter stormwater on site with grading, bioswales and rain gardens.
- Create spaces for people and their activities, use low growing groundcover, mulch, or gravel for walkable surfaces. Include raised beds for edible plants, and small lawn panels for play and pet areas.
- Allow some flexibility in personal items in the front yard such as garden flags, potted plants, porch furniture, sculptures, and house numbers. People are more likely to take better care of the landscape when they can personalize their front entry.

Landscape Design Standards: Front Yards

Front Yards

Curb Appeal

Curb appeal refers to the beauty and visual quality of the landscape between the front facade of the house and the curb. The term is often used in real estate to describe the aesthetics of a landscape and the importance of first impressions to attract potential buyers. According to several studies good curb appeal can increase the value of a home by 5 to 14% and it will sell as much as six weeks faster when put on the market.

Curb appeal is also linked to social norms and cultural values in a neighborhood. Most homeowners desire to “fit in” with their neighbors and studies have shown their primary source of landscape advice and information is their neighbors. HOA landscape codes also reinforce the social norms by providing a list of acceptable plant material and expectations for maintenance, such as regulating the height of plants and no weeds in the turf. The intent of the codes is to maintain property values in the development and promote a cohesive look as a community aesthetic that fits the development brand.

Layers and Massing

Historically front yards had traditional foundation landscapes with layers of small shrubs and perennials in masses at varying heights circling the porch and facade. Typically the flowering plants would line the walkway with one or two small trees framing the front door. However, the shape and size of lots are much smaller in relation to the house footprint in most new developments, leaving little room for the traditional masses of plants.

In today’s developments the compact front yards rely on a few small shrubs and small clusters of perennials and groundcover. The traditional method of layering the lowest groundcover at the sidewalk or curb and gradually increasing the height toward the porch or walls is still used, but with fewer plants. Although this is not helpful in creating biodiversity, using a large variety of plants in a small area can make maintenance challenging unless all the plants have the same maintenance requirements.

Plant selection is more critical in a small area. The site conditions are virtually the same so all the plants must be suited to those conditions, yet there should be enough variety so that all plants are not down for the winter or in need deadheading at the same time.

Existing



Large shrubs block the view of front porch and entry.



Colorful plants help define the walkway but larger green plants are needed for contrast.



Repeating the same shrubs with limited space will result in a dense, solid mass of vegetation that is difficult to maintain and lacks visual appeal.

Proposed



Small plants allow view of the porch, while tall plants cover the blank wall.



Trees frame the front door and colorful plants along walkway create interest.



A variety of plants provide more interest, create a more bio-diverse and natural looking landscape.

QUICK NOTES and ACTION ITEMS

Existing and proposed conditions in each row

Row 1

- Existing plants are too tall, especially around the porch. Use smaller perennials around the porch to show off furniture and colorful potted plants.
- Proposed plants- Use medium shrubs and small trees to cover blank walls where there are no windows.
- Different shades of green shrubs create interest and contrast without needing color and it is high contrast with the most common house colors such as beige, grey, and white.

Row 2

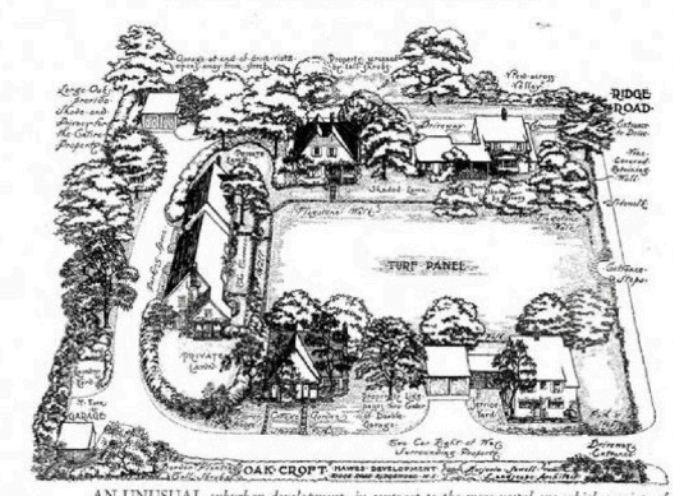
- Existing plants are spaced too widely and are all the same size. However, there is good use of colorful flowering shrubs along the walkway.
- The proposed image shows a greater variety of plants with different heights, sizes and form flanking the walkway.
- Trees with coarse bark texture such as palms or structural branching patterns add interest at eye level on both sides of the walkway.

Row 3

- Existing shrubs are spaced too closely and all appear to be similar in type, form and size.
- A monoculture of the same plant has a higher probability of many of the plants dying from disease or poor site conditions.
- Plants in the proposed landscape are also the same size however they differ in type, form and texture, which is more typical of a natural landscape.
- Variety creates greater biodiversity which makes the landscape more resilient to disease or pest problems.
- A variety of plants will also create better wildlife habitat and reduces the probability of all the plants being stressed by poor site conditions such as poor drainage or lack of soil nutrients.

Front Yard Plant Layout: Linear Parks - The “Front Line”

GROUP OF HOUSES PLANNED AND PLANTED AS A UNIT
MARJORIE SEWELL CAUTLEY, LANDSCAPE ARCHITECT



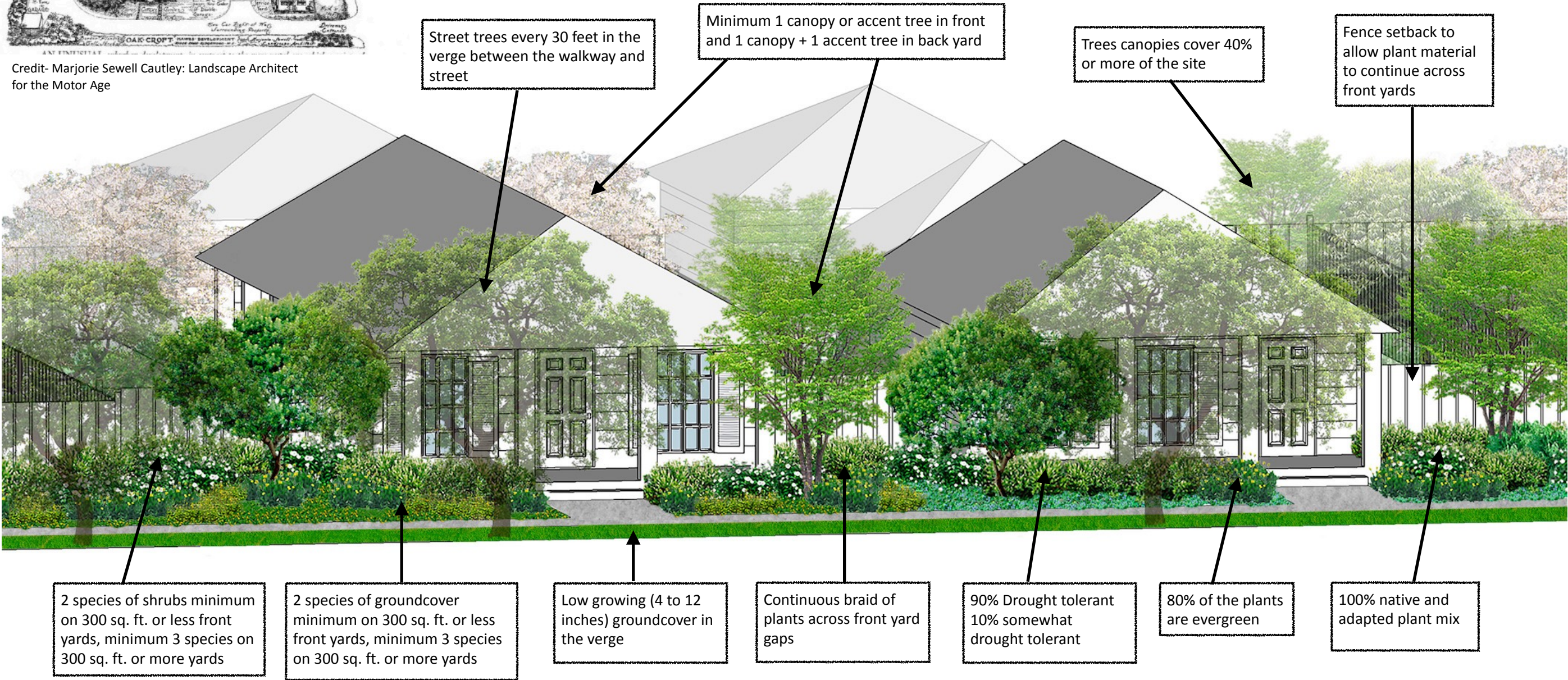
Credit- Marjorie Sewell Cautley: Landscape Architect
for the Motor Age

Yards as Linear Parks: Planned and Planted as a Unit

Using gardens, parks, and green spaces to create healthy and livable neighborhoods is not a new concept. Marjorie Sewell Cautley, a female landscape architect in the early 1900’s, is largely credited with being the first LA to design neighborhoods with yards connected by shared gardens in front and back yards.

Her designs show inward facing front yards forming a shared central lawn and foundation plants, and a narrow road flanked by trees and plants to form a long, linear park in the back yards. Neighborhood units were designed to optimize shared green space around homes, as opposed to individual yards with no connection. Typical developments today have the opportunity create long linear parks by planting continuous beds that flow from one front yard to the adjacent yard

Small front yards are bound by the front facade of the homes and the sidewalk, forming defined boundaries the length of the street, however, when the narrow space between houses are bridged with continuous plants it creates a linear park along the street, a concept that mimics the linear High-Line park in New York City or the Underline in Miami. Linear front-line parks along front facades of homes have the added bonus of seating areas in the front porch of each house overlooking the “park” to encourage social connections.



Designing with Plant Blocks: Repeating Plant Layouts

Using Plant Blocks

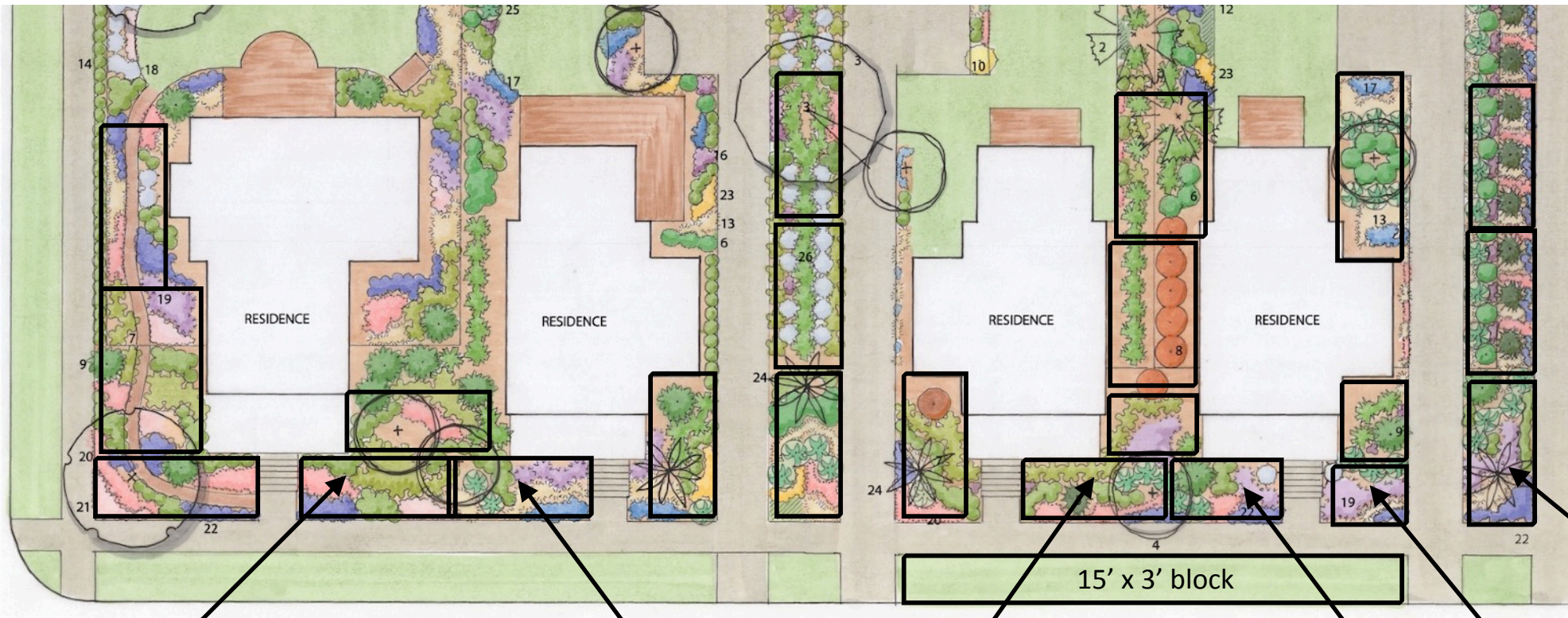
Plant blocks are a defined segment (by depth and width) of a planted area. The blocks contain a prescribed number of four different plant types, including groundcover (spread- 2' diameter), small shrubs (spread - 3' diameter), medium shrubs (spread- 4' diameter), and trees (10 to 15' diameter canopy).

Three different sizes of plant blocks can be repeated and connected along the street based on the length of the plantable spaces. All blocks can be flipped and/or rotated and connected for slight variations without changing the continuity and flow of plant types.

The examples below show three different lengths used in the front yards and the side yards, 10' x 20', 10' x 15', and 10' x 10'. Front yards and side yards of typical lots are 10' deep, but the widths vary so block chains are used along the front.

Blocks can be slightly modified for non-standard lengths by adding additional plants on the ends for longer blocks or another row of groundcover in the width for wider blocks. Blocks can also be modified by removing plants or spacing plants closer together.

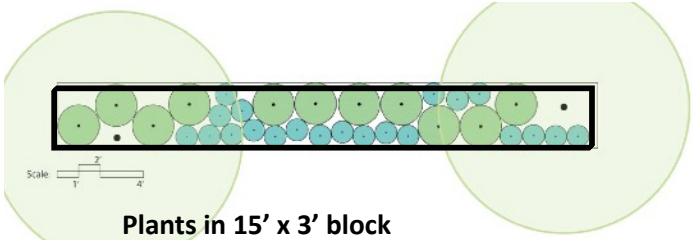
Designers: Gabriella Gilliam, Megan Laffey, Andrew Pinsky



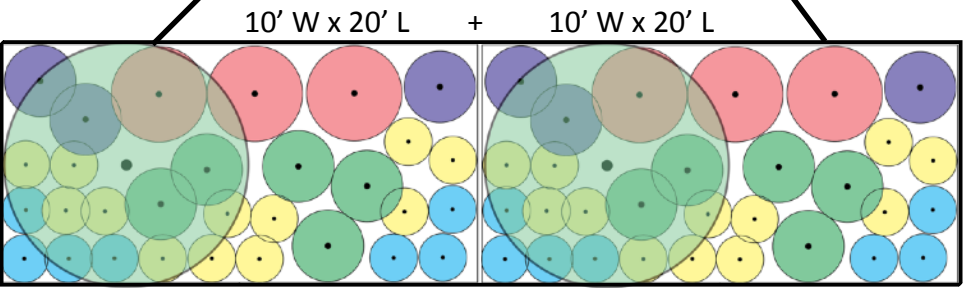
Elevation- typical 10' x 15' block



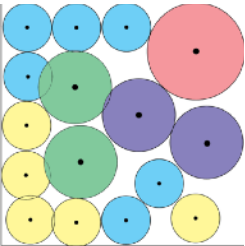
Section- typical 10' x 15' block



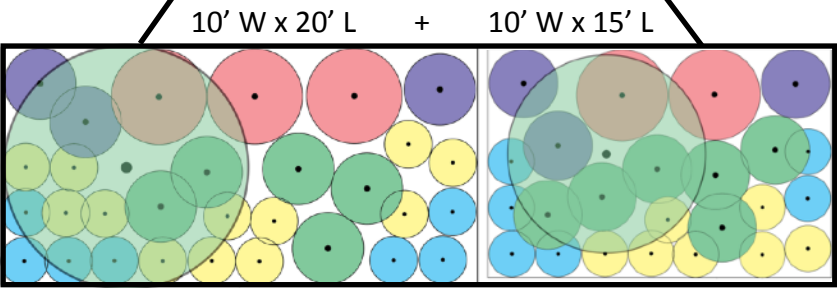
Plants in 15' x 3' block
31 groundcover (2 species), 2 trees (2 species)



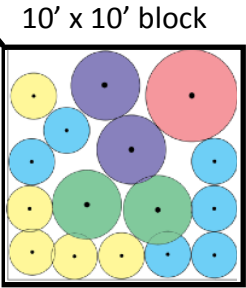
Plants in 10' x 40' strip
38 groundcover- 2 species
16 small shrubs- 2 species
6 medium shrubs- 1 species
2 trees- 2 species
62 plants total
7 different species total



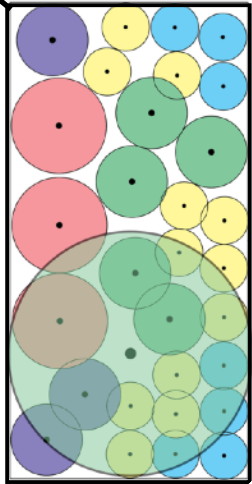
Plant Key
Yellow and Blue- groundcover (2'o.c.)
Purple and Green- small shrubs (3'o.c.)
Pink- medium shrubs (4' o.c.)
Light Green- small trees or palms (10 to 15' canopy spread, 20 to 30' height)
1 per plant block or 1 per front yard



Plants in 10' x 35' strip
32 groundcover- 2 species
17 small shrubs- 2 species
5 medium shrubs- 1 species
2 trees- 2 species
56 plants total
7 different species total



Plants in 10' x 10' block
11 groundcover- 2 species
4 small shrubs- 2 species
1 medium shrub- 1 species
16 plants total
5 different species total



Plants in 10' W x 20' L strip 1 block
19 groundcover- 2 species
8 small shrubs- 2 species
3 medium shrubs- 1 species
1 tree- 1 species
31 plants total
6 different species total
3 blocks repeated
57 groundcover- 2 species
24 small shrubs- 2 species
9 medium shrubs- 1 species
3 trees- 3 species
93 plants total
8 different species total

Landscape Design Standards: Healthy Neighborhoods, Walkable Streets and Active

Healthy Neighborhoods

A healthy neighborhood provides green spaces and streets for homeowners to enjoy and recreate, plus green spaces to support pollinator species and other wildlife. Green spaces can be parks, trails, road verges, and recreation fields where people can be active and meet daily exercise recommendations. Streets and trails are the most common and well-used recreation areas in most developments. Streets are not simply transportation, they also provide places to walk and run, ride bikes and skateboards, and socialize with neighbors. The mental and physical benefits of being connected to neighbors and in nature are well-documented. Nature is known to calm people, reducing anxiety and improving feelings of well-being. The most convenient exercise for people is walking in their neighborhood. When designed to be walkable, residents feel safe and comfortable and embrace the social connection with other walkers and porch sitters.

Social Benefits of Walkable Streets and Active Parks

Opportunities for outdoor activity create welcoming neighborhoods and provide many social benefits. Public health professionals encourage “social prescriptions” from doctors to promote exercise and arts for wellness. The social benefits of walkable places include active living for better health and social interaction for reduced loneliness and crime. Walkable places and active parks also enhance the sense of place, community identity, and livability of a community. Walkability also broadens universal accessibility, encourages inclusiveness, and supports other cultural initiatives such as festivals and celebrations in the parks which promote a more vibrant urban experience that makes communities more desirable.

Walkable Streets

A new type of zoning regulation called Form-based codes, have been shown to be an effective planning tool for creating pedestrian-oriented urban environments. Form-based codes regulate the visual quality and spatial dimensions of the street corridor to make walking safer, more comfortable, and more interesting. The codes include public space standards for elements such as sidewalk width, street trees, lighting and street furniture. Five urban design qualities have been identified as important for walkability including 1) enclosure: elements that define the street such as tree canopies, building walls, and sidewalk width, 2) human scale: building proportions that match human size, 3) transparency: visible windows and doors, 4) complexity: variety in building colors, architectural features and landscapes, and 5) imageability: a memorable space that feels inviting and distinct. Codes also include narratives that describe the desired experience of the user.



Porches with chairs are welcoming



Hanging baskets show care and pride



Plants, trees and decorative features along walkways provide interest for walking



Street trees provide character and shade



Architectural details add aesthetic appeal



A variety of textures, forms and sizes in plants create visually pleasing views

QUICK NOTES and ACTION ITEMS

Characteristics of Walkable Streets

- **Buildings with embellished facades.** Architectural features such as front porches, columns with simple classical capitals and bases, decorative porch railings, and gable and eave details add interest and variety.
- **Porches.** Porches with a minimum 8 feet depth allow space for chairs and decorative elements to personalize the front yard. Signs that the home is occupied and cared for make a neighborhood feel more secure and safe. Opportunities for chance meetings with neighbors sitting on porches make a street more inviting.
- **Windows and doors.** Windows and doors with glass panels allow a view of the street that supports the “eyes on the street” theory that is promoted for safe neighborhoods. People feel more welcome and secure when they know neighbors are able to see what is happening on the street. Doors in contrasting colors that are easy to locate and identify also provide a measure of safety.
- **Hardscape.** Well-maintained walkways, driveways, patios, and courtyards signal pride-of-ownership and concern for safety. A clear, safe path to the front door is particularly important with increased home deliveries.
- **Lighting.** Front porch lights, walkway lights, and pedestrian lights on streets provide a feeling of safety at night and provide an additional decorative element on the street.
- **Street trees.** Rows of street trees in the verge provide shade on hot days and a feeling of enclosure with overhead canopies.
- **Plant material.** Colorful, well maintained plants send a message that the homes are lived in and the owners are invested in the welfare and appearances of their neighborhood. Well-maintained landscapes and homes have been shown to deter crime, especially illegal entry of homes and theft.

Landscape Design Standards: Common Area Bioswales, Basins and Verges

LID - Low Impact Site Design Practices

LID is a site design strategy to maintain pre-development hydrologic function through infiltration, filtering, and detention in shallow areas. The key concept is to use a treatment train, a system using various treatments with vegetation, to allow water to percolate close to where it falls. Bioswales and bioretention basins are two important components of the train. Soil conditions and water table depth can be limiting factors for LID practices. Natural or man-made topography may also limit the use of LID which relies on slopes for water conveyance.

Bioswale and Bioretention Basin Design

Bioswales are sloped shallow vegetated depressions used to collect, clean and temporarily hold stormwater as it is conveyed to larger bioretention basins. A key element of bioswales is sufficient slope and a selection of native plants that can withstand temporary inundation and help uptake and clean the water. Bio-basins are shallow planted depressions designed to retain or detain water for slow filtration and additional time for plants uptake and filter pollutants. Plants in basins are native wetland plants and the shoreline plants are a mix of trees, shrubs, grasses and native perennials. Shoreline plants need to tolerate both flooding and dry periods as the water level fluctuates.



A parking lot bioretention basin demonstrates the potential for biodiversity with dense plantings for pollinators.

Road Verges

Road verges are typically in the rights-of-way in most streets and are often used for utility easements. Although this sometimes limits the use of street trees, most municipalities have ordinances that require street trees and mandate the location and type of each utility line, such as water, electrical, and cable in relation to the tree. Developments coordinate with utility districts to meet both ordinances. Verges are often segmented by driveways so visibility when backing out is a consideration- keep groundcover at 2 feet high or less. Street trees in narrow spaces between the sidewalk and curb often buckle walkways with spreading tree roots and prevent optimum growth of trees.

Verges could present opportunities to create wildlife corridors, however, roads are often considered barriers for wildlife movement and there is a lack of understanding how traffic intensity impacts diversity of plants and insect movement. A study on habitat quality and vehicle intensity showed insect movement along the verge but movement across the road was less frequent than movement within the verge, and the road itself was the barrier and not the traffic intensity. The study indicated road verges can act as movement corridors if they are high quality verges with greater plant diversity and higher number of flowering plants.



Lack of diversity in verge planting reduces function as a wildlife corridor.



A wide verge with several layers of plants and trees creates a unifying effect and supports wildlife.



Road verges are often a missed opportunity to increase biodiversity with a variety of groundcover and trees. Use low growing groundcover for pedestrian/car visibility in the area that extends 10’ down the road from the driveway corner and 10’ up the driveway to form a triangle. The clear vision triangle also requires an open gap between 3’ high to 7’ high for a clear view of approaching traffic.



Wide verges with a central walkway down the middle should be treated like a linear park with trees lining both sides to improve shade for walkability. Perennial Peanut, Capeweed, Sunshine Mimosa and other low-growing native groundcover are appropriate for the clear vision area.

Plants for Bioswale and Basin Shorelines

Common Name	Scientific Name
Trees	
Red Maple	Acer rubrum
Wax Myrtle	Myrica cerifera
Shrubs	
Buttonbush	Cephalanthus occidentalis
Sweet Pepperbush	Clethra alnifolia
Virginia willow	Itea virginica
Perennials	
Swamp Milkweed	Asclepias incarnata
Purple Coneflower	Echinacea purpurea
Button Rattlesnake Master	Eryngium yuccifolium
Tampa Vervain	Glandularia tampensis
Scorpion Tail	Heliotropium angiospermum
Blue Flag Iris	Iris virginica
Pineland Lantana	Lantana depressa
Shortleaf Blazing Star	Liatris tenuifolia
Shunshine Mimosa	Mimosa strigillosa
Blue Porterweed	Stachytarpheta jamaicensis
Grasses	
Muhly Grass	Muhlenbergia capillaris
Florida Gama Grass	Tripsacum floridana



Flowering plants, such as perennial peanut improves soil and attracts pollinators.



Planting Plans for Wildlight Residential Landscapes



Planting Plans

Action items for specific lot conditions are listed by page number

- 24 - Revised Planting Zones and Yard Borders
- 25 - Planting Plans: Alternative Layouts for Shrubs
- 26 - Planting Plans: Alternatives to Turf
- 27 - Lot Types: Front and Back Yards
- 28 - Neighborhoods: Eastside Lagoon
- 29 - Neighborhoods: Cottage Greens
- 30 - Neighborhoods: Crescent Marsh
- 31 - Front Yards with Driveways
- 32 - Alley Driveways
- 33 - Corner Lots and Side Yards
- 34 - Yard Fences and Alley Verges
- 35 - Front Yards on Public Greens
- 36 - Backyards on Conservation Zones
- 37 - Front Yards on Stormwater Greens
- 38 - Mid-Block Passages and Shared Paths
- 39- University of Florida Landscape Programs and Resources
- 40- General Resources

Meeting Community Vision, Mission, and Goals with Landscapes

Focus on Wildlight Community Vision and Goals - what we strive for:

- Think Big, Act Small-** Pursue grand ideas with small powerful steps.
- Simplify and Clarify-** Because the best places have a clear, reductive sensibility.
- Listen-** Give people what they want, even if they can't articulate it.
- Think Timeless-** Create resilient places that get better over time.
- Be Organic-** Be part of the regions natural evolution and ecosystem.
- Be Forward Leaning-** Provoke convention. Break through to the new and now.
- Stay Balanced-** Vision and action, Art and science, Magic and logic.

- Commit to Comfort-** Rather than status, design for comfort and connection.
- Embrace "Plus"-** Never stop asking,: how can we make it better?
- Build on Trust-** Be honest. Keep our promises. Don't forget our purpose.
- Start with a Purpose-** To improve lives, the landscape and the larger community.
- Be People Centered-** Design for Human Scale to inspire the human heart.

QUICK NOTES and ACTION ITEMS A summary of action items proposed for the Wildlight Community Planting Standards

- **Simplify planting zones.** Eliminate existing shrub and groundcover zones and maximum and minimum percent for all zones. Use number of species and percentages for plant characteristics only. Eliminate the use of hedges for front yard borders.
- **Use the front yard linear park concept (the Front Line).** Allow plant material to flow from one front yard to another, filling the gaps between houses with continuous plantings.
- **Plant blocks.** Arrange plant material using a set number of various plant types in a defined space such as a 10' x 20' block. Arrange blocks in various configurations in plantable areas.
- **Matting Groundcover/Turf strips.** Locate strips adjacent to the sidewalk on large lots only.
- **Front yard trees.** Add more small trees in front yard and locate some in the front yard gaps between the houses to create more sidewalk shade and increase green biomass.
- **Mimic nature.** Use the texture, form and color of plants found in the natural areas when selecting plants for yards to create a visual connection to the Low Country aesthetic.
- **Furniture and garden ornaments.** Allow the use of features made from natural materials to personalize front yards. Wood furniture, stone walkways, and clay pots are appropriate.
- **Stormwater marshes.** Use similar plants in front yards of homes fronting the marsh for a visual link and add other low-growing native plants with different textures and forms for a natural look. Use natural stone for riprap and erosion control when needed.
- **Conservation zone.** Use a minimum 10 foot wide buffer of low-maintenance native plants in houses that back up to conservation areas.
- **Side yards.** Use small canopy trees, small shrubs, and groundcover. Avoid narrow turf strips.
- **Backyard fences.** Use low growing groundcover with decorative fences (no hedges).
- **Public greens.** Add more trees and clump grasses on the perimeter and provide seating for play supervision and nature-based wellness and educational activities.
- **Ally yards and verges.** Increase plant varieties for biodiversity and wildlife corridors.
- **Mid-block passages.** Connect neighborhoods by adding more plants and seating for a pleasant walking experience between lots.
- **Shared paths.** Narrow spaces between houses create an opportunity for shared paths.

Goals for Landscape Standards						
Color Key- gradient from light to dark green represents high, medium and low priority						
1. Ecology Goals	2. Sustainable Goals	3. Plant Qualities	4. Aesthetic Preferences	5. Place-Making	6. Codes and Policy	7. Maintenance Goals
Biodiversity	Resilient environment	Native/Adapted	Landscape perceptions	Desired community	Enforceable codes	Right Plant- Right Place
Mimics regional ecology	Healthy environment	Drought tolerant	Landscape preferences	Place-attachment	Measurable codes	Improve Plant/ environment health
Water conservation	Mitigate environmental stressors	Trait based- Supports other species	Emotions/ feelings	Landscape meaning	Future-oriented	Reduce Fertilizer/ water use
Pollinator/ wildlife habitat	Mitigate habitat loss	Appropriate hardiness zone	Plant choices/ plant palette	Health and well-being	Environmental Protection-oriented	Reduce Pesticide/ herbicide use
Novel plant communities	Mitigate Climate change	Plant availability	Perception of healthy plants	Regional identity	Environmental enhancement-oriented	Community Environmental Health
Right plant- Right Place	Key biodiversity species- trees	High functional value	Color/contrast/ texture	Sense of Place	Landscape codes/ standards	Aesthetics and preferences
Plant availability	Science-based	High ecological value	Repetition/ pattern/variety	Conservation ethic	Water use/ irrigation restrictions	Weed control/ weeds in turf
Soil Chemistry and health	Influence environmental behaviors	Plant materials budget	Plant organization	Outdoor recreation activities	Development codes and standards	Social/ neighborhood norms
No Turf vs. Turf	Ecosystem conservation	Seasonal attributes	Native vs. Non-native plants	Outdoor social activities	Maintenance companies	Maintenance companies

Wildlight Neighborhoods and Lot Dimensions

Founder's Park Neighborhoods & Lot Types

- A** Crescent Marsh - Attached and Cottage
- B** Cottage Greens - Village, Garden and Cottage
- C** Eastside Lagoon - Village and Manor

LOT TYPE KEY

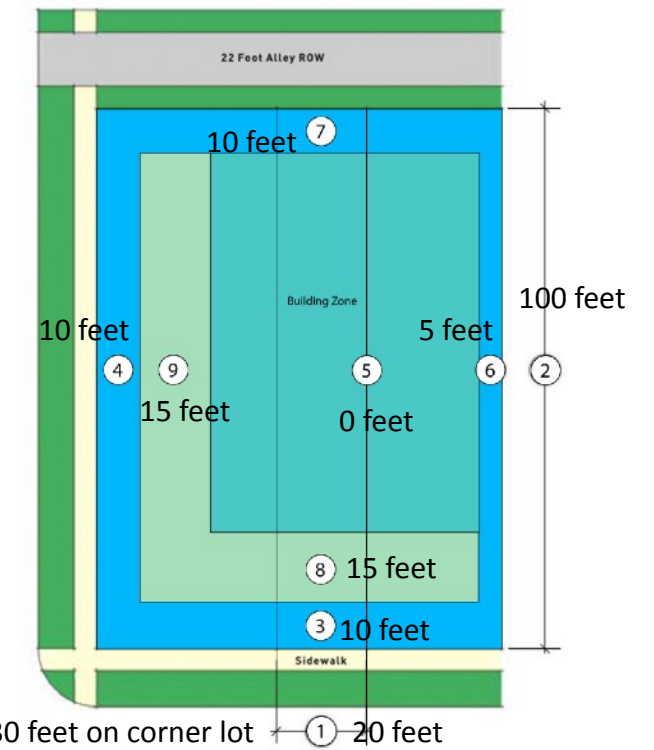
- ATTACHED
- GARDEN
- COTTAGE
- VILLAGE
- MANOR



Minimum Setbacks

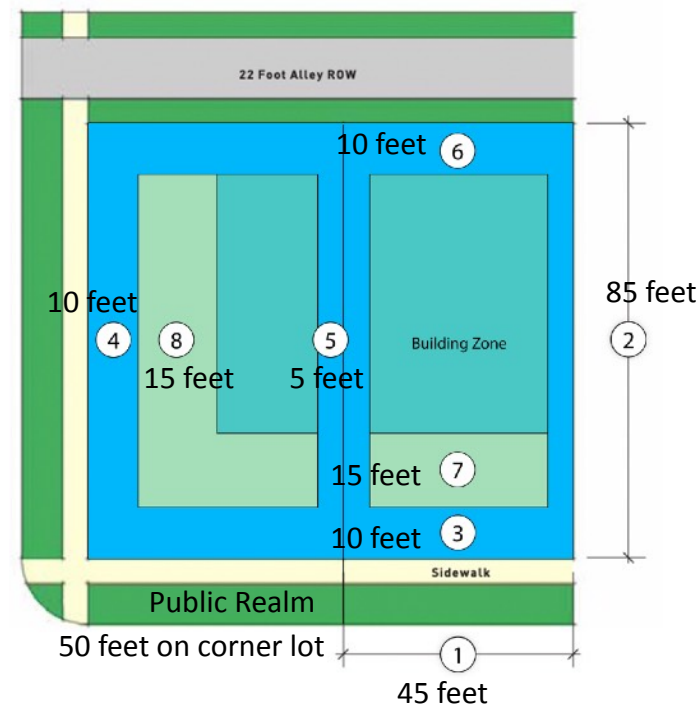
- 3. Front yard: 10 feet
 - 4. Side Street Yard: 10 feet
 - 5. Side Yard: 5 feet
 - 6. Rear Yard: 10 feet
- Facade Zones**
- 7. Front: 15 feet
 - 8. Side Street: 15 feet

Attached Lots



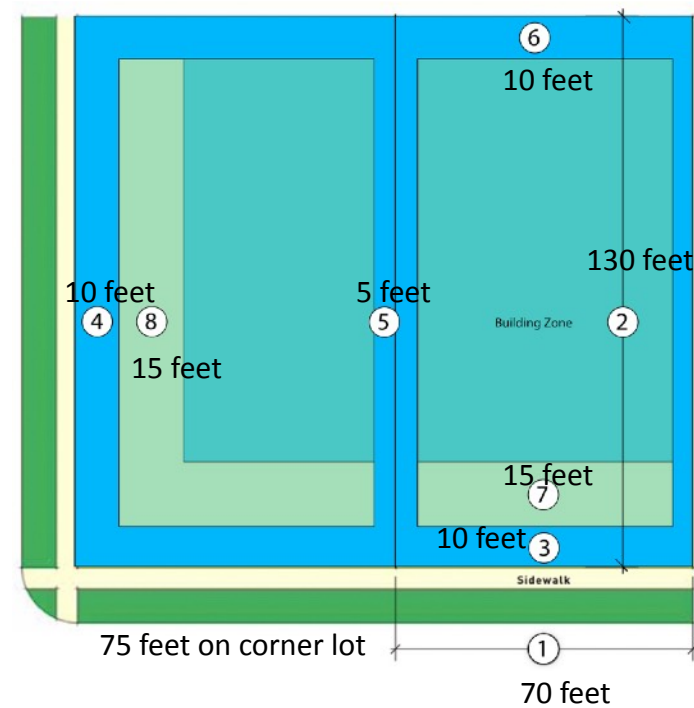
- Attached lots are alley loaded

Garden Lots



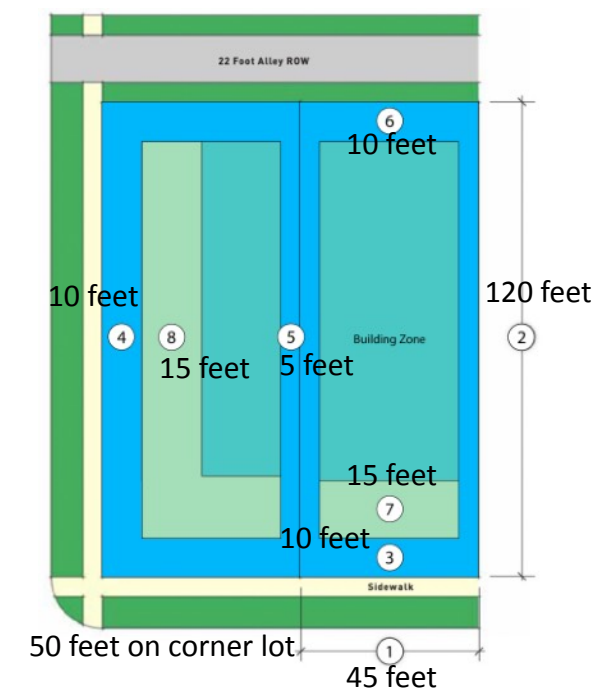
- Garden lots are alley loaded

Manor Lots



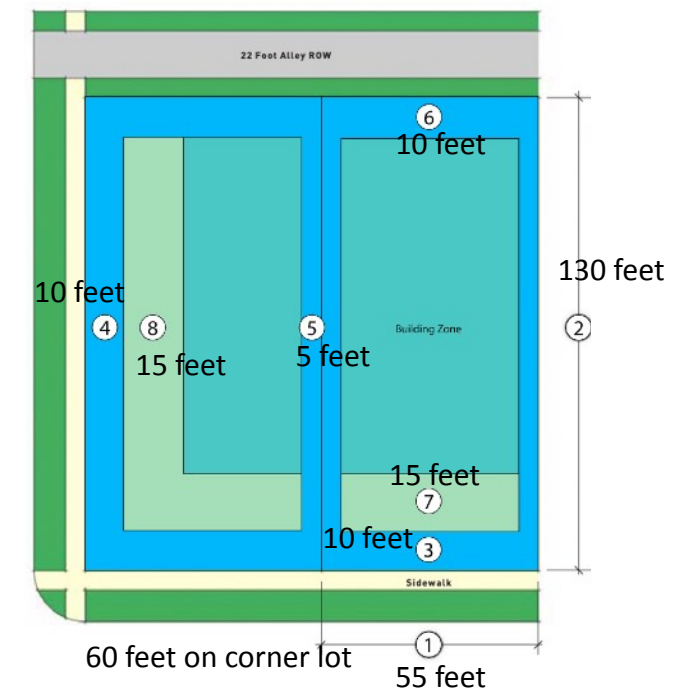
- Manor lots are street loaded
- Garage setback 18' from front of house

Cottage Lots



- Cottage lots are alley loaded

Village Lots

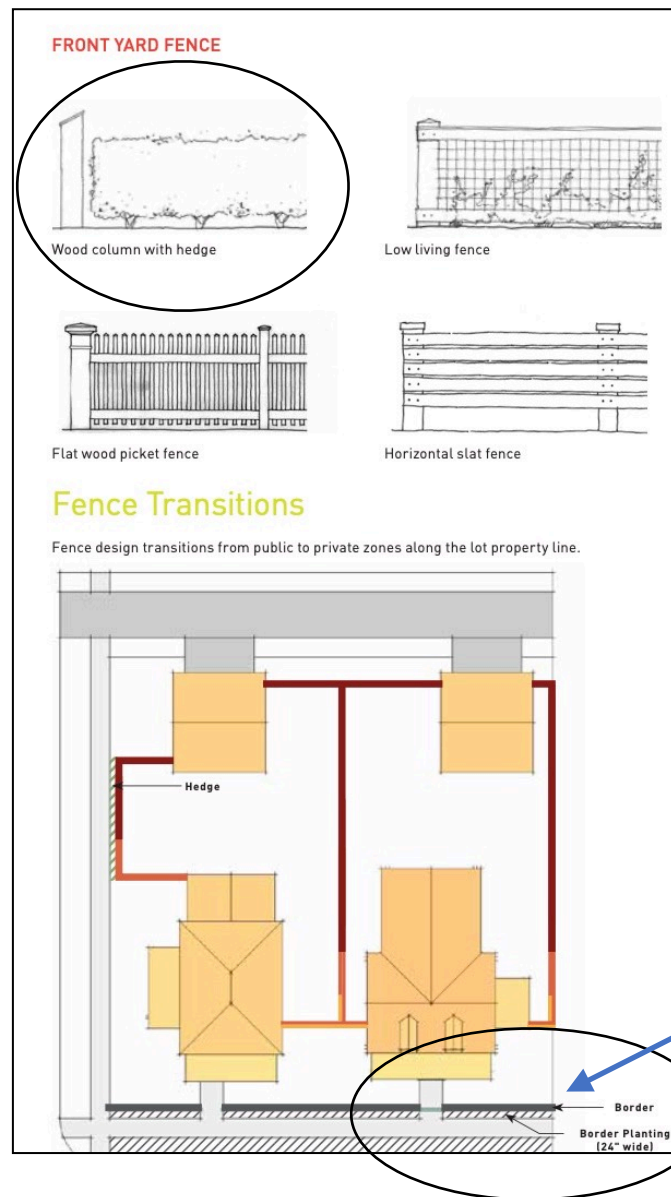


- Village lots are street loaded or alley loaded
- Garages facing the street setback 18' from front of house

Revised Planting Zones and Yard Borders

Recommended Front Yard Borders

The image below is the current front yard fence (border) recommendations for Wildlight. The most commonly used is the circled "Wood column with hedge". Too function properly and maintain the desired height (2 to 3') and width (2') in the front yard requires constant maintenance. To meet the sustainability goals of the community, plants that naturally fit the size and shape of the space they occupy are recommended. Trimming and pruning are to maintain plant health, not size or shape. If a border is desired the photos on the left illustrate three options, 2 for fences and one without a defined border



Flat wood picket fence with low plants in front of a single lot.



Continue wood fences at the same height across lots for a unified street front.



Eliminate the border hedge and 24" wide planting (circled), and use low growing groundcover as the edge treatment. Avoid the use of strips of turf as a border along the sidewalk in small lots.

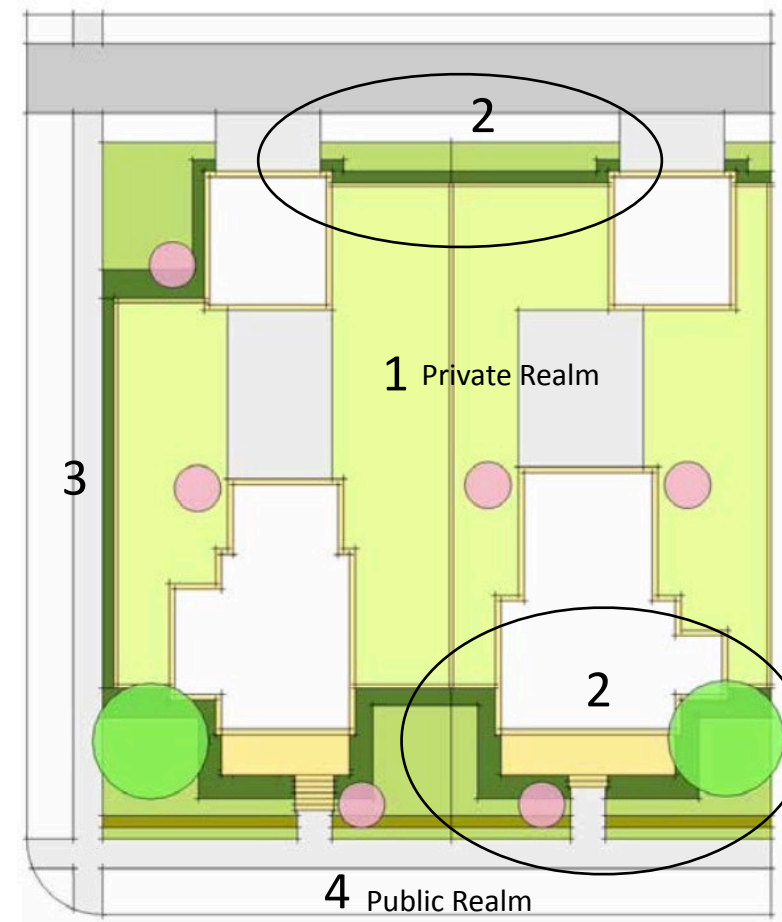
Existing Plant Zones

The existing planting zones are very restrictive and result in non-functional plant layouts where the front yards are very narrow. Images on the following page illustrate some of the problematic configurations and some possible alternatives when the three front yard zones are merged into one space.

Private Realm (1)- currently there is no maximum turf recommended in the rear yard. However, a small area of turf is functional for play and pets. Maximum 50% or less will conserve irrigation water and allow for more biodiversity with larger plant beds.

Semi-Public Realm (2&3)- the narrow front and side yards (10' deep) have zones for foundation shrubs (dark green), the border hedge or fence (olive green), and groundcover (medium green) between the border and foundation shrubs. This forces plants to be arranged in narrow rows and doesn't allow flexibility in location of plant types.

Public Realm (4)- includes continuous turf or low growing groundcover alternative and irregular spaced street trees and/or palms.



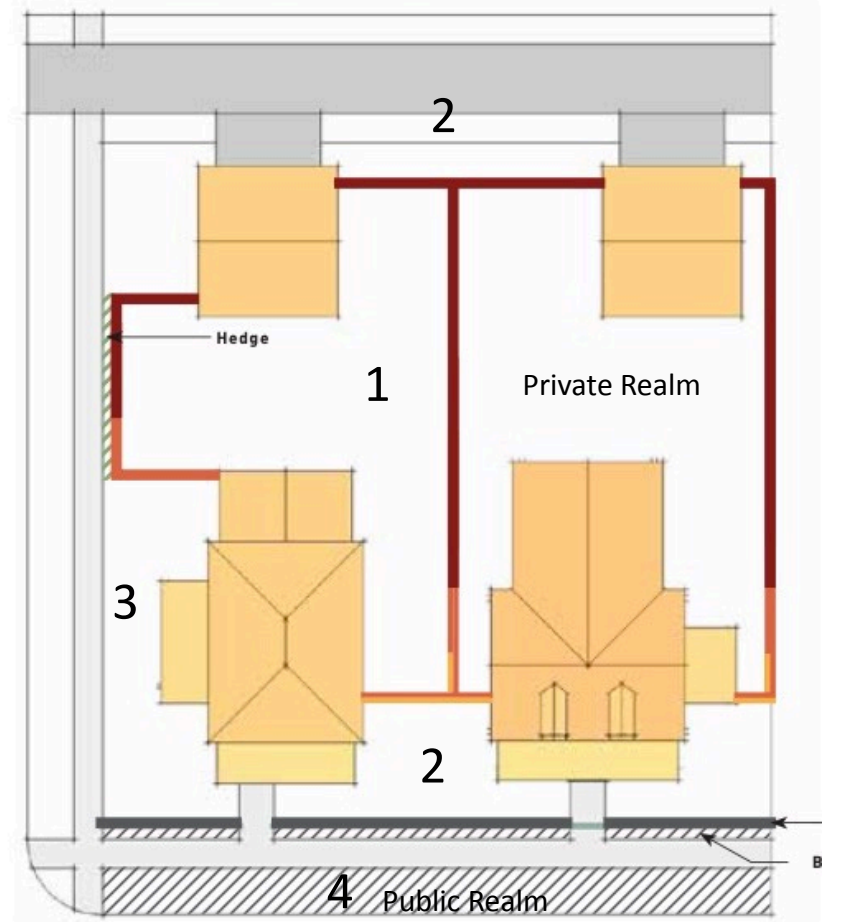
Revised Plant Zones

Simplify the planting zones by eliminating the existing shrub and groundcover zones and the minimum and maximum percent for each zone and for turf. This allows for more flexibility in the location of plants in the yards.

Private Realm (1)- the rear yard has no minimum or maximum requirements for shrubs or groundcover. Turf is allowed, preferably 50% or less for play and pets. Include a minimum of 1 canopy and 2 accent trees in the back yard or private side yards.

Semi-Public Realm (2&3)- the number, type and arrangement of plants in the front yard are based on layers in plant blocks rather than zones. There is no minimum or maximum percent of plant types. Turf is allowed in the front yard of the Manor Lots and the back and side yard, however, turf should not be used in the front yard of the Village, Cottage, and Garden lots. Increase the number of trees in both the front and side yard to include minimum 1 canopy tree and 2 accent trees.

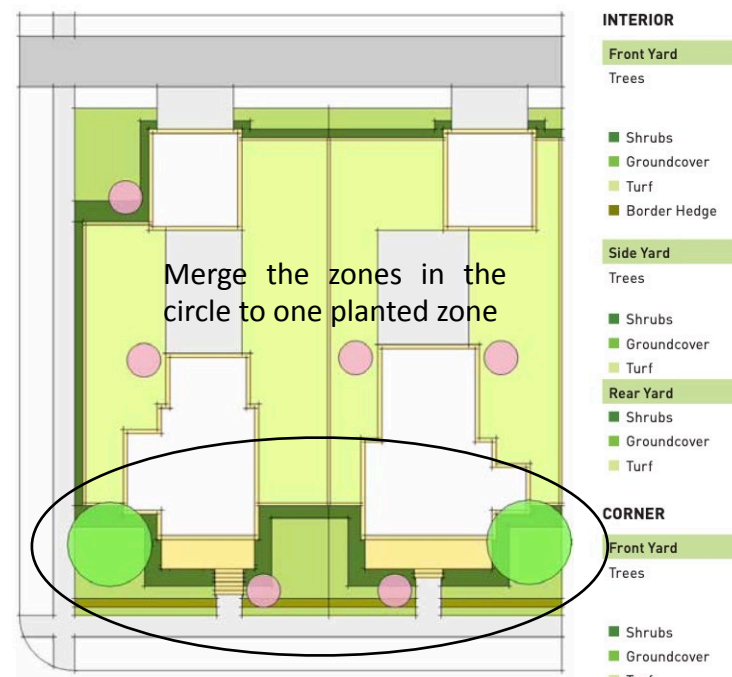
Public Realm (4)- the street verge includes street trees and a mix of low-growing ground cover. The height of the plant material should not block the view of traffic when backing out of the driveway.



Planting Plans: Alternative Layouts for Shrubs

Shrub Planting Zones

Photos in the top row show a common planting pattern of shrubs in many of the Founder's Park neighborhood lots. This pattern is consistent with the recommended planting zones and yard borders below in the original pattern book. The border hedge location in photo 1 creates the high/low plant arrangement with low plants sandwiched between two rows of taller plants. Eliminating all the planting zones allows for lower plants along the walkway and a gradual increase in height from front to back or the use of all low plants (groundcover) in front of low porches. Low decorative fences can still be used with a groundcover strip in front. The front yard in photos 3 and 4 are too narrow to allow both the foundation shrubs and the border hedge or fence. A less formal layout with a mix of groundcover is recommended in narrow yards



1. Avoid locating tall shrubs along the sidewalk and the house with a row of short plants between them.



2. Tall, overgrown plants cover the architectural features of the house and block the view from the porch.



3. Use at least two types of plant material in layers of different heights to fill the plant bed. Grasses and shrubs pair well together.



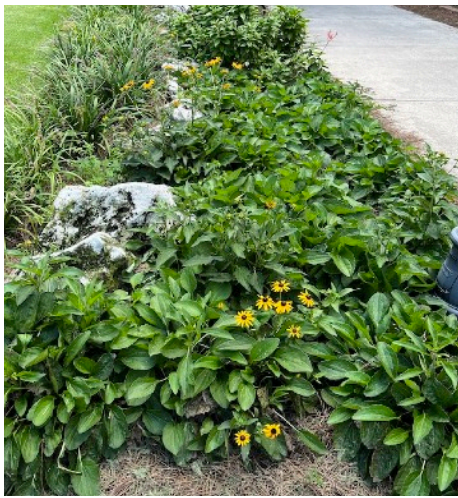
4. Straight rows of shrubs are boring and don't look natural. When they reach mature size they will form two parallel hedges.



Stagger the plants low to high from the sidewalk and mix textures, color, form and size for more interest and variety.



Use low growing shrubs around the porch that are no higher than the porch railing and tall shrubs and trees on the corners.



Clusters of different groundcover fill a narrow strip that looks healthy and visually pleasing.



The natural areas are good examples of plant organization. Note the layers of different heights and clusters of plants.



Alternatives for Hedge and Foundation Zones

A mix of shrubs, grasses and trees with a border fence looks lush and natural. Plants enclosed by the fence border and the house have a defined space that creates a sense of organization in the plant material which is semi-random. The repetition of just three species provides some pattern to the layout. Including a small amount of color along the front walkway helps define the walk and the tree keeps the plants from looking flat with vertical height.

Selecting Shrubs

Shrubs are typically low maintenance and generally slower growing and longer lived than groundcovers. If it's the right plant for the place, most shrubs will only need pruning for health once or twice a year. Use shrubs that will fit the size of the planting space and have a nice, pleasing natural form when mature. Typical shrub forms include rounded or mounding with arching branches and most people prefer flowering shrubs with dense foliage and larger leaves.

A naturally good form reduces the need to prune for size and shape, saving maintenance time. Frequent pruning to reduce the size shortens the life of the plant and makes it more susceptible to disease. Many shrubs are drought tolerant and tend to be more cold tolerant and pest tolerant. Most shrubs are also evergreen and don't shed leaves so they add color year-around and reduce the need to rake leaves.

Planting Plans: Alternatives to Turf

Planting Zones with Turf

The color-coded front yard planting zones do not include turf in the original Wildlight pattern book. However, the photos in the top row show turf being used in a variety of layouts in the front and side yards. The turf strip in photo 1 was likely used as a barrier to keep the mulch in the yard. The small panel of turf in photo 2 may be an attempt to follow the illustration below in the original pattern book that suggests creating a Front Yard Garden Room. The Garden Room is described as having defined edges of plant material. The layout of the garden room works for large front yards but limited space in small yards force oddly shaped lawn panels.



1. Narrow strips of turf are difficult to irrigate and maintain. Use pine straw for mulch to prevent spreading to the sidewalk.



2. Turf in the middle of the plant bed creates a void and has irregular edges that are difficult to maintain.



3. Narrow turf strips between house are non-functional. Fill the space with clump grasses or small shrubs and mulch.



4. Avoid butting the turf up to the foundation. Irrigation and mowing can cause water and trimmer damage.



Planting Zones without Turf

Possible alternatives to turf and low groundcover is the use of pervious pavers in the front yard. Pathways from the front to back yards can be used to create an open void with a defined shape that helps with plant arrangement.



The front walkway can be expanded and reconfigured with pervious pavers to create a welcoming entry and define small plant beds with a hard edge. Small beds make plant selection and arrangement easier and they tend to be low maintenance with fewer plants. In small front yards pavers extend to the walkway to create a seamless hardscape transition.



Planting dense, low growing, non-spreading ground cover against the walkway creates a nice barrier to keep mulch in the plant bed.



Fill the entire bed with clusters of plants to create masses with a naturally organized look. Use flowering plants at least 3 foot in diameter to attract more pollinators as they are easier to see. Cluster smaller plants less than 3' diameter to create a larger mass of color.



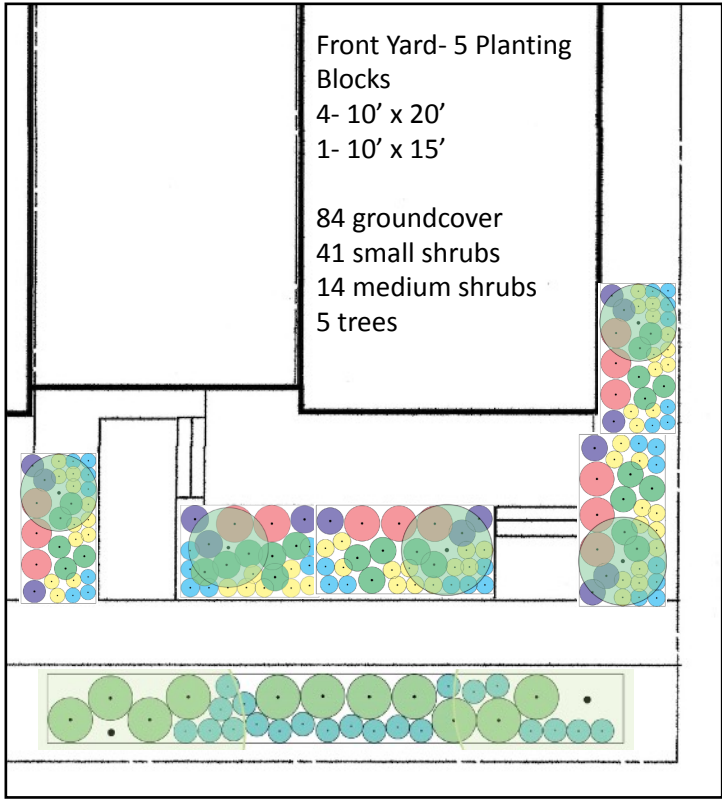
Use mulch and simple pathways bordered by plants rather than turf strips between houses for easy maintenance.



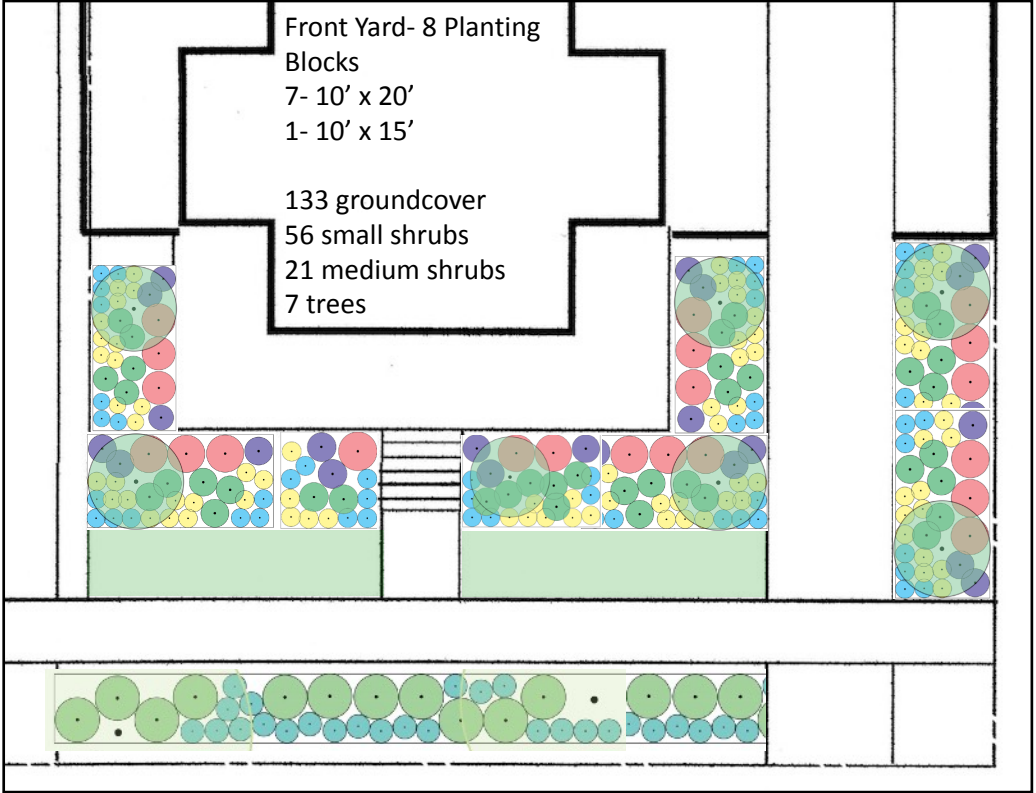
Leave a two foot gap between the foundation and the plants to allow for air circulation and access for maintenance. When installing the plants the distance from the wall should be half the mature width plus 2 feet.

Lot Types: Front and Back Yards with Block Plantings

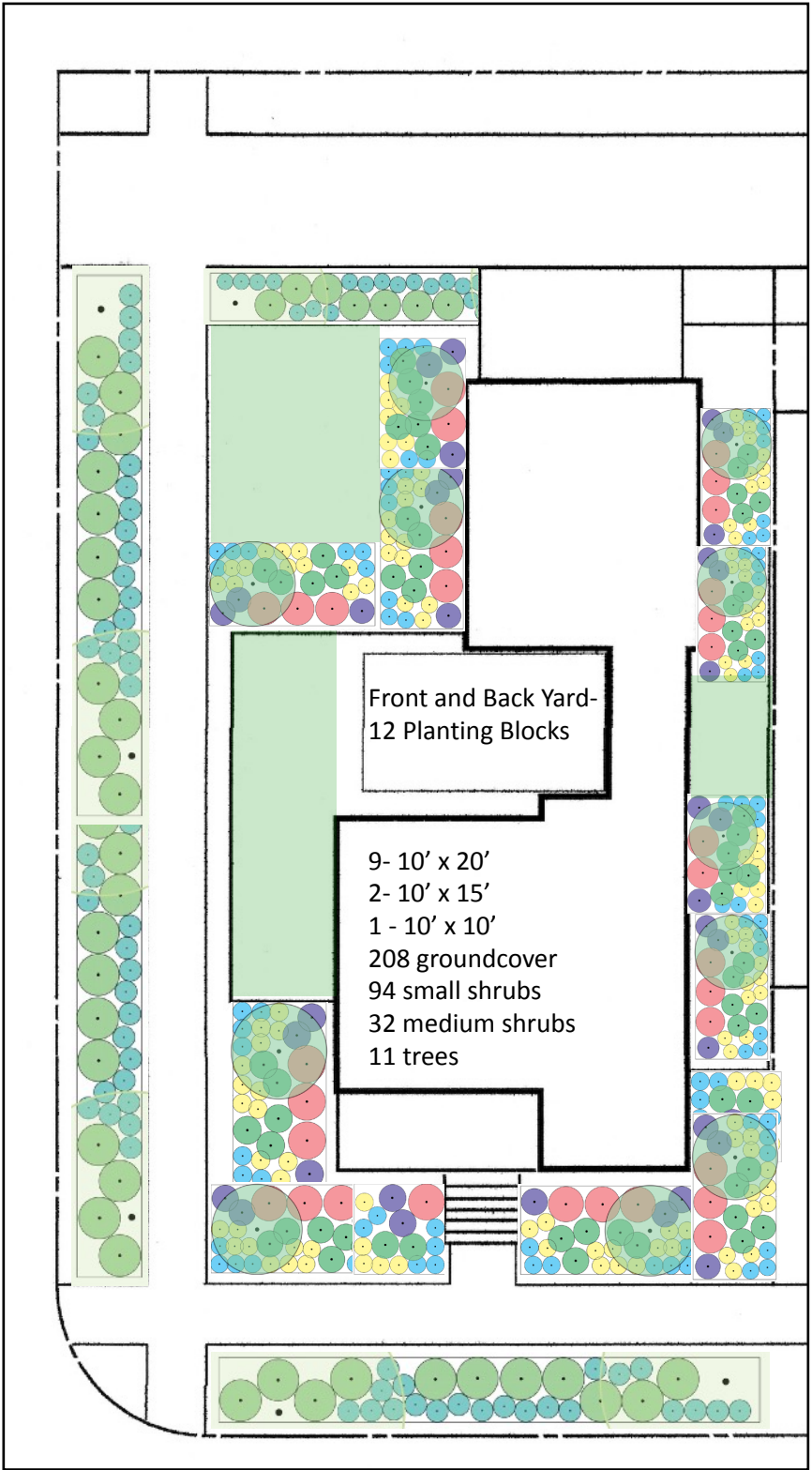
Attached Lots



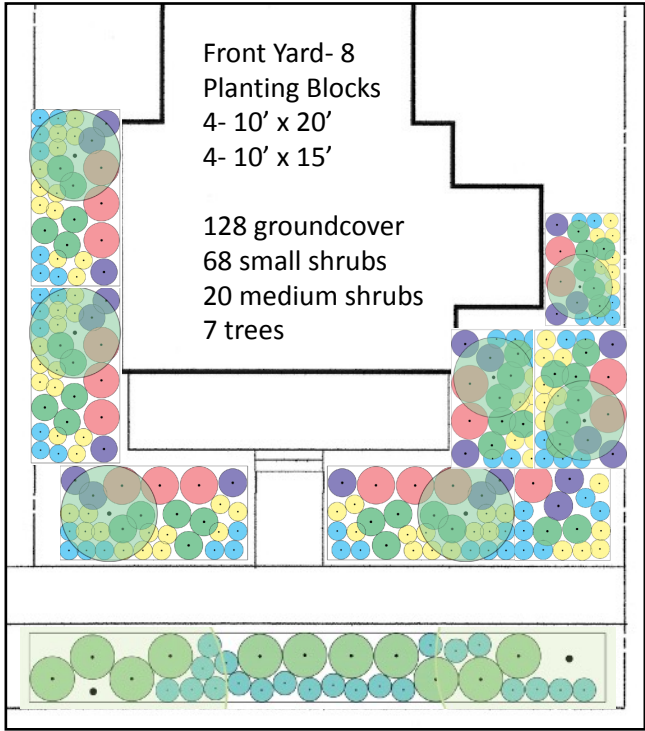
Manor Lots



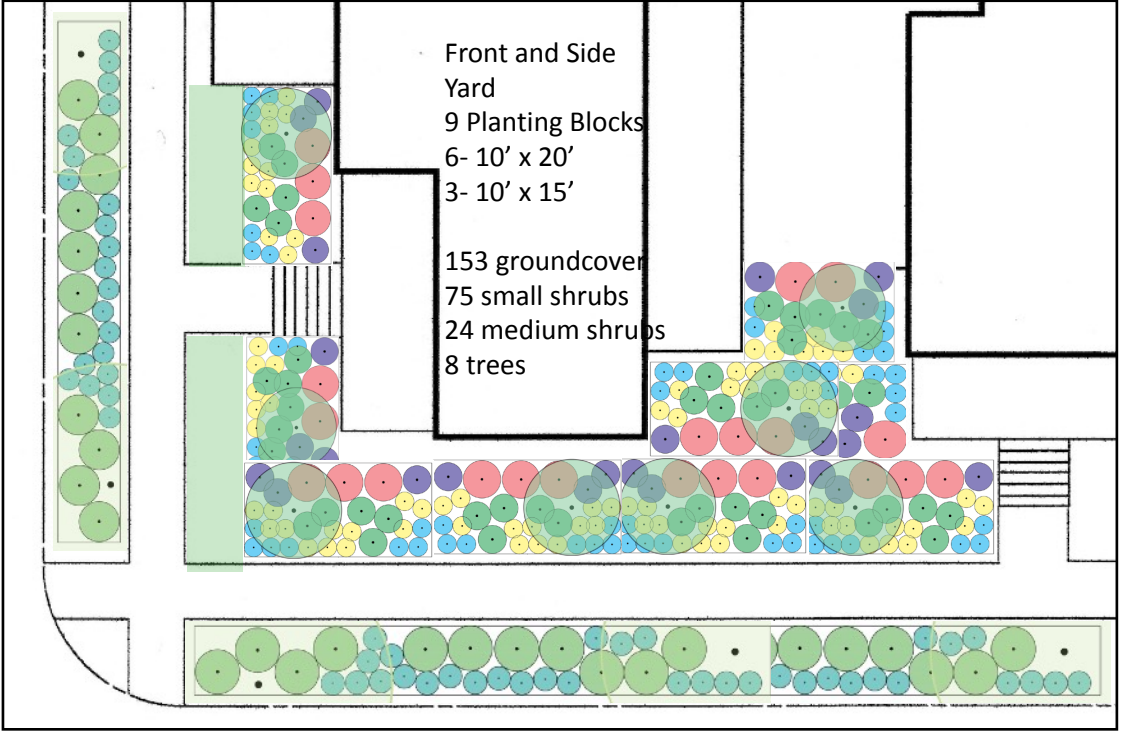
Garden Lots



Village Lots



Cottage Lots



Neighborhoods: Eastside Lagoon



Ponder Park-Eastside Lagoon Neighborhood

Village and Manor lots in the Eastside Lagoon are located in a naturalistic setting within the Market District. Manor lots front the lagoon and the Village lots provide smaller homes close to the lagoon. Both are within easy walking distance to the village center core with shopping and dining. The larger manor lots place fewer homes with larger yards along the natural conservation area, providing a deeper green space as a buffer transition to the conservation area. The neighborhood connects directly to a community-wide biking and walking trail that connects to Coin Toss Park, other neighborhoods and the Wildlight trail network through the nature preserve. The trail terminates at the shore of the lagoon where a public overlook provides seating for gathering and enjoying the view with friends and neighbors.

Neighborhood Landscape Aesthetic

The deep front yards of the Manor homes expand the green space between the houses and the waters edge, providing a larger green buffer to filter stormwater before it enters the lagoon and creates more space for a landscape setting around the lagoon. Front driveways to setback garages help diminish the size of the facade of the house and hides the blank space of garage doors. Setback garages also increase the sense of a connected green space along the neighborhood street.



The artists rendering from the original landscape pattern book demonstrates the desired look that will require more trees in the front yard and around the lagoon.



Elevation of the street view shows how staggered heights of trees, shrubs and groundcover anchor the house.

Graphics: Andres Molina



Action item: Add trees to front yard

Locate a minimum of two trees in the front yard. Tall trees make the building 'sit' better in the landscape and reduce the scale of the building. They also shade the building for energy efficiency, and blend and extend to the natural areas around the homes. Coordinate the location of the front yard trees with the location of the street trees to provide continuous shade along the sidewalk, at the same time, avoid blocking the view from windows.



Action item: Use a variety of plants in front yard

Single rows of similar shrubs will grow into a "block" of plants if not annually pruned. The Podocarpus macrophyllus shrub in the middle row can grow as much as 40 feet tall (but can be pruned to 8 to 10 feet tall), which will block the view of the house. The dwarf variety, Podocarpus macrophyllus "Pringles" grows about 3 feet tall and wide which is appropriate for a foundation or porch plant. For a more natural look, stagger the heights, low to high from the walkway to the house with groundcover, perennials, and small shrubs by the foundation. Avoid putting plants in straight lines, cluster and mix plants for a more organic look. To retrofit this landscape strategically remove some of the plants and add other plants with varying appropriate heights.

Neighborhoods: Cottage Greens



The Cottage Greens Neighborhood

Cottage Greens consist of Village, Garden and Cottage Lots. Homes in the Cottage Greens neighborhood border the northern conservation boundary where a boardwalk through the natural area connects to a nearby neighborhood. Three community greens are designed to provide a village experience with flexible lawn spaces where adults and children can gather to socialize and play lawn games. Each of the three greens are surrounded by homes and have a distinct character. The multi-functional center green is for stormwater management but also includes a deck and benches for relaxing in the natural setting of pines and grasses that mimic the conservation area plants.

Neighborhood Landscape Aesthetic

The garages in the neighborhood are front, alley, and street loaded to provide front porch access to the greens where scattered toys and tricycles give a friendly neighborhood feel. The greens are distinguished by unique plant and tree palettes around the perimeter.



The artists rendering from original pattern book shows a typical community green space



An elevation of the street view shows the landscape plants flowing across the lot lines. A variety of colorful front yard trees reduce the scale of the buildings

Graphics: Andres Molina



Action item: Mimic the texture, form, and color of the natural areas. Grasses, groundcover and low growing shrubs in the front yard mimic the natural landscape in the nearby conservation area pictured on the right. The fine texture of the grasses mixed with coarse texture shrubs provide contrast with enough variety for interest, but also repetition for a cohesive landscape.



Action item: Use Furniture and Garden Ornaments. Natural wood decks and simple benches painted grass-green enhance the welcoming village feel of the neighborhood and provide residents with opportunities to be outdoors. Allow homeowners to personalize their yards with limited and select garden ornaments. Describe acceptable materials that enhance the desired aesthetics in the HOA landscape codes, such as stone, pottery, metal and wood with natural colors. Also note unacceptable materials.



Neighborhoods: Crescent Marsh



Crescent Marsh Neighborhood

Cottage and Attached lots in the Crescent Marsh neighborhood are a mix of townhouses and cottages in the heart of the Market District. The “marsh” is a crescent shaped bio-swale planted with native grasses and palms to create a linear green space lined with houses on either side (parallel to the center street). The front yards face the marsh, connecting the green spaces to create a park setting the length of the neighborhood. The crescent marsh connects to green spaces around the village center lake and the East Lagoon providing a pleasant walking park between the Crescent Marsh and Eastside Lagoon neighborhoods.

Neighborhood Landscape Aesthetic

The crescent shaped bioswale is planted with native grasses and Sabal Palms to resemble the adjacent conservation areas that surround the Market district. The alley loaded garages minimize driveway breaks allowing vegetation in front yards to flow together and visually connect with the marsh.



The artists rendering from the original pattern book depicting the Crescent Marsh stormwater swale.



Street view shows the landscape plants flowing across the lot lines. Trees between houses hide the fence and visually fill the gap between houses

Graphics: Andres Molina



Crescent Marsh Plants

Action item: Using similar grasses and palms in the front yards of homes fronting the Crescent Marsh provides a visual link to the marsh, creates a connection to the conservation areas, and meets the goal of extending the marsh landscape to the cottages to widen the park corridor.



Marsh grasses are repeated in adjacent front yard.



An example of mixed native plants in a front yard planting.

Planting Plans: Front Yard with Driveways



Lots: Manor and Village
The manor homes surround the Eastside Lagoon with a view of an attractive shoreline with aquatic and upland littoral plantings from the front porch. The front yards are deeper than most lots, which allows for beds with multiple layers of perennials and small shrubs. Small canopy trees provide shade and frame the front porch, creating an inviting neighborhood for walking and social connections.



Action item: The narrow planted strip in the driveway is an opportunity to plant low groundcover that can be mowed, such as perennial peanut. Using permeable pavement for the driveway will also help filter more stormwater runoff.



Tire Track Driveways

Action item: Move the strip of shrubs to the house foundation and extend along the driveway (see plans below). Use shrubs for foundation plants close to the house rather than a strip along the sidewalk. The turf should be located against the walkway instead of the shrubs. Large shrubs by the walkway create maintenance and security problems and eventually block the view of the house. Small shrubs or grasses that don't block the view from a chair on the porch (no more than 3' tall) are appropriate around the porch.

Action item: The front yards are open across the property boundaries. This allows for plant material to flow from one yard to another, stopping only at the driveways and walkways. The designs below illustrate foundation plants across the front that wrap to the side and "jump" driveways, crossing property lines to continue along each house facade. Foundation plants also continue along the side of the houses and into the back yards.

Plant list for planting plan

#	Name	S	#	Name	S
Trees			Grasses		
8	American Holly	Y	21	Mondo Grass	N
2	Chickasaw Plum	Y	10	Muhly Grass	Y
6	Flatwoods Plum	Y	Groundcover		
3	Crape Myrtle	N	18	Black-eyed Susans	Y
5	Eastern Redbud	Y	13	Blue Daze	N
1	Florida Maple	Y	17	Pentas	N
7	Cabbage Palm	Y	12	Society Garlic	N
4	Wax Myrtle	Y			
Shrubs					
22	Lily of the Nile	N	Key		
24	Beautyberry	Y		# - The number on the plan	
9	Butterfly Ginger	N		Name - Common name	
19	Braken Fern	Y		S - Native Status	
11	Calamint	Y		N = no	
27	Coontie Palm	Y		Y = yes	
14	Crinum Lily	Y			
16	False Rosemary	Y			
20	Simpson stopper	Y			
23	Star Anise	Y			
15	Sweet Pepperbush	Y			



Plan view of the Manor lots show plants flowing from front to back yard with small areas of turf for recreation and pets.

Designers: William Marshall, Hayden Bertone, and Holly Lohman



Example Planting: Manor lots are deep enough to include strips of low-growing groundcover or turf in the front yard. The plant beds along the foundation are defined by gently curving bed lines that maintain the organic feel of the plantings.

Planting Plans: Alley Driveways

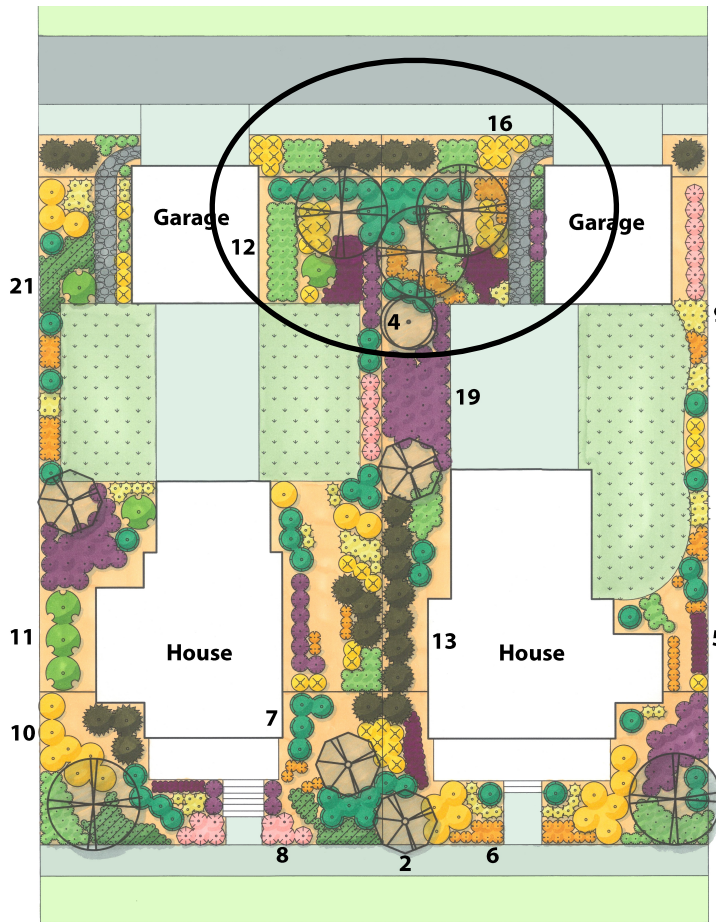


Lots: Cottage, Attached, Village, and Garden

Action item: Alley driveways create deeper back yards. Use the area between garages (circle on plan), to plant more trees that act like street trees in the alley and provide shade for play areas in back yards. Use some of the same plants from the front yard for more continuity in the landscape.

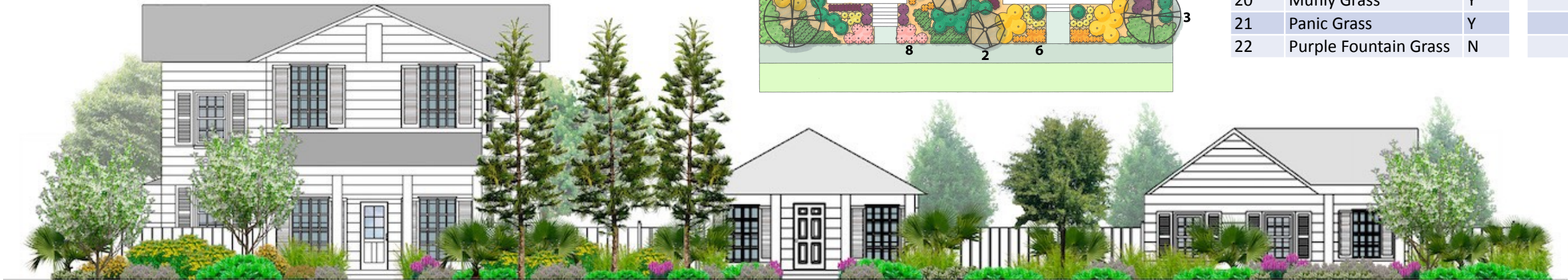


Side yards in large lots at the end of the block extend to the conservation area.



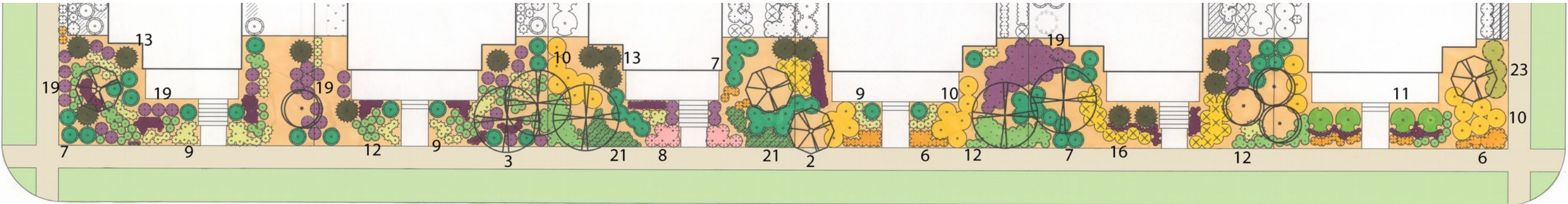
Plant list for planting plan

#	Name	S	#	Name	S
Trees			Groundcover		
1	Black Ironwood	Y	5	Blazing Star	Y
2	Fringetree	Y	6	Bulbine	N
3	Sand Pine	Y	9	False Rosemary	Y
4	Weeping Yaupon	Y	10	Pineland Lantana	Y
Shrubs			11	Royal Fern	Y
7	Coontie	Y	12	Scorpion Tail	Y
8	Dwarf Azalea	N	16	Tickseed	Y
13	Scrub Palmetto	Y	23	Shore Juniper	N
5	Simpsons Stopper	Y	24	Twin flower	Y
6	Sweet pepper Bush	Y	Key		
7	Thyrallis	Y	# - The number on the plan		
8	Virginia Willow	Y	Name - Common name		
9	Vines	Y			
10	Downy Jasmine	N	S - Native Status		
Grasses			N = no		
19	Lemon grass	N	Y = yes		
20	Muhly Grass	Y			
21	Panic Grass	Y			
22	Purple Fountain Grass	N			



Trees and medium size shrubs in the front yards fill the space between houses and reduce the mass and scale of two story houses

Graphics: Andres Molina



Repetition of plants along the front yards create a linear park the length of the street and provide a cohesive look to the block

Designers: Austin Stella, Audrey Morgan, Nicholas Motl

Planting Plans: Corner Lots and Side Yards



Side yards with fences

Graphics: Andres Molina



Corner Side Yard Planting Plan

Designers: Erick Gomez and Sky Henderson

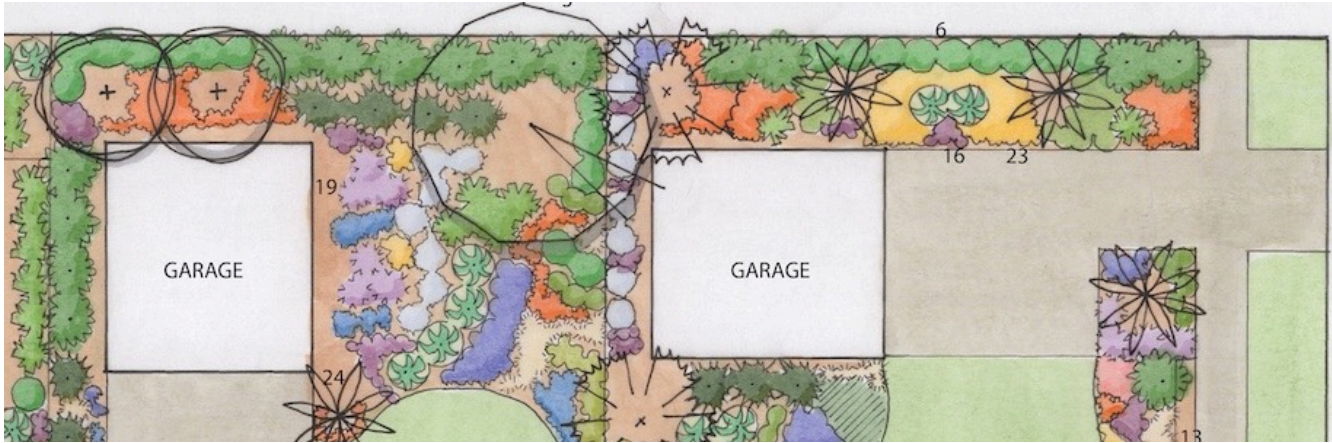
Side Yards

Action item: Most side yards are fronted by a road, however the side yard on some lots are fronted by the protected conservation zone (right). At minimum, a 10 to 15 foot wide buffer planting of low-maintenance native and adapted plants, including grasses and shrubs, is recommended along the edge of the conservation zone. The best strategy is to plant the entire yard with natives and adapted plants that are pest tolerant and do not need fertilizer or other chemicals. However, if some turf is used a dense buffer will also help prevent yard chemicals from flowing directly into the protected area.



Corner Lots with Side Yards

Action item: Side yards on corner lots have additional public realm planted areas to consider. Side yards are typically wide enough to add small canopy trees and larger plant beds. Leave a 2 to 3 foot gap between the shrubs and the side of the house for air circulation and maintenance. Plant material should follow the same pattern as the front yard from low to high beginning at the sidewalk to the house. Taller shrubs can be used between the windows to fill the blank wall, however plants under windows should be no higher than the bottom sill. Corner lots that merge side yards and front yards (top image) have a corner space that is suitable for a larger canopy tree. Locate the tree trunk inside the vision triangle for cars at the road intersection. Use the same plant palette in the front and side yard. Continue with the same plantings along privacy fences and garage walls for a cohesive look. Lower plants may be needed along the fence depending on the height and style of the fence.



Side Yard Planting Plan

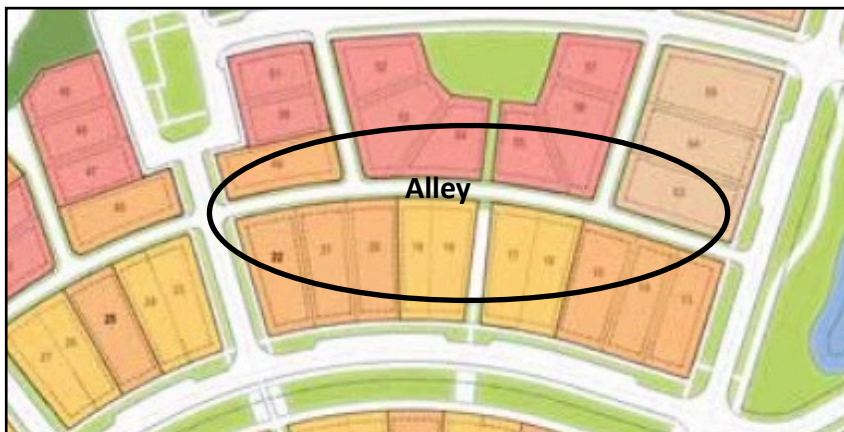
Designers: Gabriella Gilliam, Megan Laffey, Andrew Pinsky



Action item: Use low growing groundcovers, such as perennial peanut or other native plants in the verge to create a wildlife corridor and reduce water use.

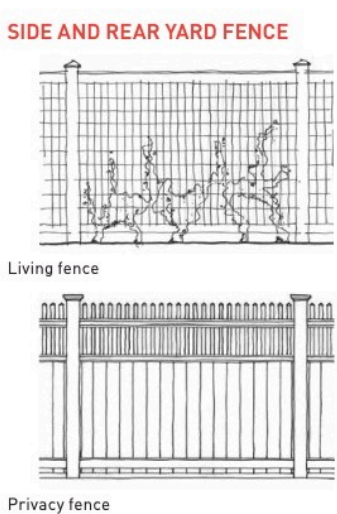
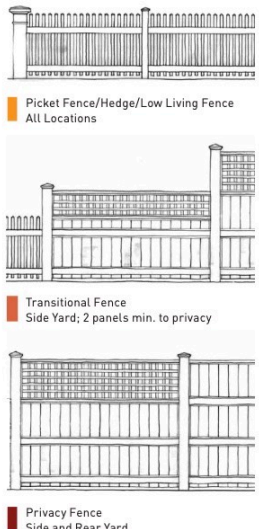
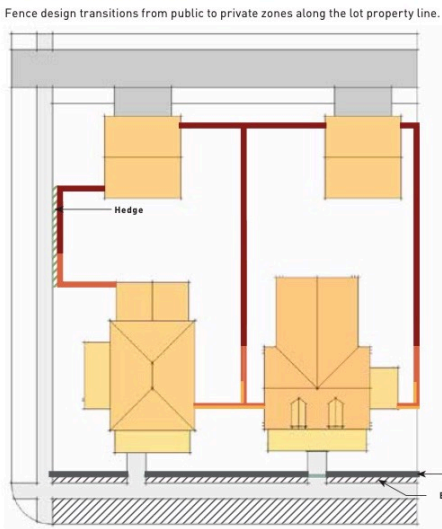
Graphics:
Andres Molina

Planting Plans: Yard Fences and Alley Verges



Alley Fences

A variety of different fences are visible from the alley.



Example of a decorative fence integrated into a plant bed to provide a unifying and organizing element.



Action item: Fill the verge between the fence and alley with plants about half the height of the fence.



Action item: Alley yards and verges are an opportunity to help increase biodiversity and conserve water by replacing turf with low maintenance native trees, shrubs and groundcover.



Tall plants such as the sunflowers in the left photo will cover a tall privacy fence.

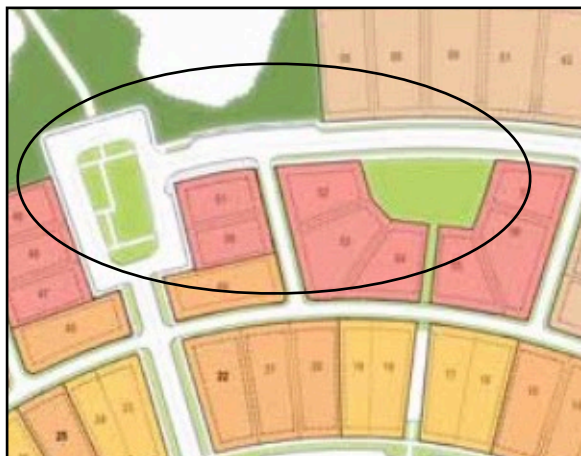
Corner Lots with Back Yards

Back yards on corner lots are typically on the alley corner. The space provides opportunities for play areas and private back yards. The fence options for Wildlight offer different levels of privacy depending on the height and style.

Action item: Avoid using plants, such as the shrubs pictured on the right, that are the same height of the fence. The fence is decorative and should be visible, it's pointless to have both a fence and a shrub hedge. Replace the turf with low groundcover and perennials in front of the fence to add visual appeal and reduce the maintenance and water required for turf. Narrow strips of plantable area around fences are opportunities for expanding the wildlife corridors created by front yards and in the rights-of-way of the primary streets. Small trees can usually fit in narrow strips and can be planted on either side of the fence.



Planting Plans: Front Yards on Public Greens



Lots: Garden, Cottage, and Manor



Seating with view of play area



Seating with view of stormwater pond

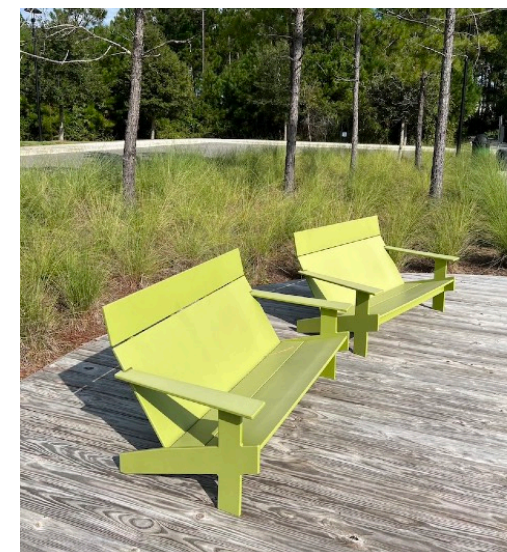


Front yard facing the public green

Designer: Cassidy Zyllis

Public Greens

Action item: Public greens present an opportunity to add more trees for perimeter shade for parents and others seated on the sidelines of play areas. The perimeter can also be planted with a few narrow clumps of soft grass along the walkway to increase plant diversity. Avoid pollinator plants that will attract bees as these areas are for active play. Use a durable turf, such as St. Augustinegrass (recommended cultivars are CitraBlue, Raleigh, Bitterblue, and Palmetto), for the play area and aerate often as the surfaced will be regularly trampled and compacted during games. Durable and colorful outdoor chairs shows that the neighborhood is active and social, with places to sit and create connections with neighbors.



Elevated deck seating in public green that also temporarily retains stormwater

Plant list for planting plan

#	Name	S	#	Name	S
Trees			Groundcover		
1	Bay Oak	Y	13	Southern Shield Fern	Y
2	Flatwoods Plum	Y	14	Blue Daze	N
3	Oklahoma Redbud	Y	15	Shore Juniper	N
Shrubs					
4	Sweet pepperbush	Y			
5	Beauty Berry	Y			
6	Indian Hawthorne	N			
Grasses					
19	Little Blue Stem Grass	Y			
Groundcover					
7	Shell Ginger	N			
8	Butterfly Weed	N			
9	Purple Coneflower	Y			
11	Blazing Star	Y			
12	Leopard Plant	N			

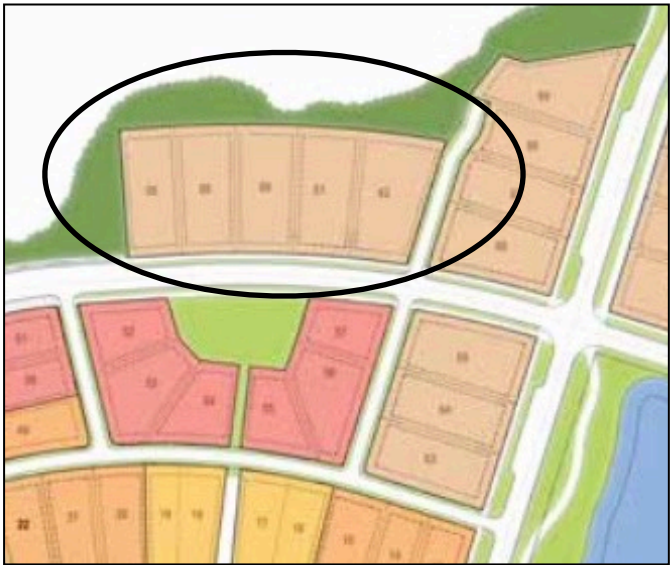
Public Greens as Conservation Areas

Action item: Public greens also serve as wellness spaces where people can reconnect with nature and enjoy watching wildlife. Green spaces that are also designed for natural functions, such as wetlands for stormwater recharge, provide an opportunity for education about sustainable landscapes. Informative signage and comfortable places to sit that are made from simple natural materials that fit with the surroundings can enhance the experience.



Educational sign about stormwater

Planting Plans: Backyards on Conservation Zones



Lots: Manor and Village

Back Yards and Conservation Zones

Action item: Careful plant selection is needed in yards that back up to conservation areas. All plants should be natives and blend with the existing plants in form and texture. If possible use the same or similar plants found in the conservation area, such as the grasses in the bottom photo, so that as plants naturally spread they will not disrupt the natural areas. Avoid some native plants that can be aggressive spreaders, such as Sunshine mimosa, which may take over existing natural areas. Assess the condition and type of plants in the conservation area and follow the guidelines for protecting conservation areas during construction on Page 8.



Designers: Gabriella Gilliam, Megan Laffey, Andrew Pinsky

Plant list for planting plan

#	Name	S	#	Name	S
Trees			Groundcover		
1	American Hop-hornbeam	Y	12	Shore Juniper	N
2	Hawthorn	Y	25	Coontie	Y
3	Swamp Bay	Y	16	Blazing Star	Y
4	Yaupon Holly	Y	17	Blue Daze	N
Palms			18	Button Rattlesnake Master	Y
24	Cabbage Palm	Y	11	False Rosemary	Y
26	Dwarf Palmetto	Y	15	Penstemon	Y
Shrubs			22	Stokes Aster	Y
5	Adam’s Needle	Y	23	Tickseed	Y
6	Dwarf Simpson’s Stopper	Y	Key		
7	Small Anise Bananappel	Y	# - The number on the plan		
8	Rusty Lyonia	Y	Name - Common name		
9	Sweet Pepperbush	Y	S - Native Status		
10	Thryallis	N	N = no		
Grasses			Y = yes		
13	Splitbeard Bluestem	Y			
14	Wiregrass	Y			



Trees for Two-Story Buildings

Action item: The tall trees in the conservation area help scale down the height of the building and visually fill the gaps between the buildings. Adding tall trees such as cabbage palms and more pines in the front and side yards will connect the conservation area to the yard and anchor the building in the space. Using tall trees in the front is also a good strategy to break up a large facade. Two additional palm trees for height flanking the center walkway in the front yard of this home will soften the architectural mass while still allowing the details to show.



Planting Plans: Front Yards on Stormwater Greens



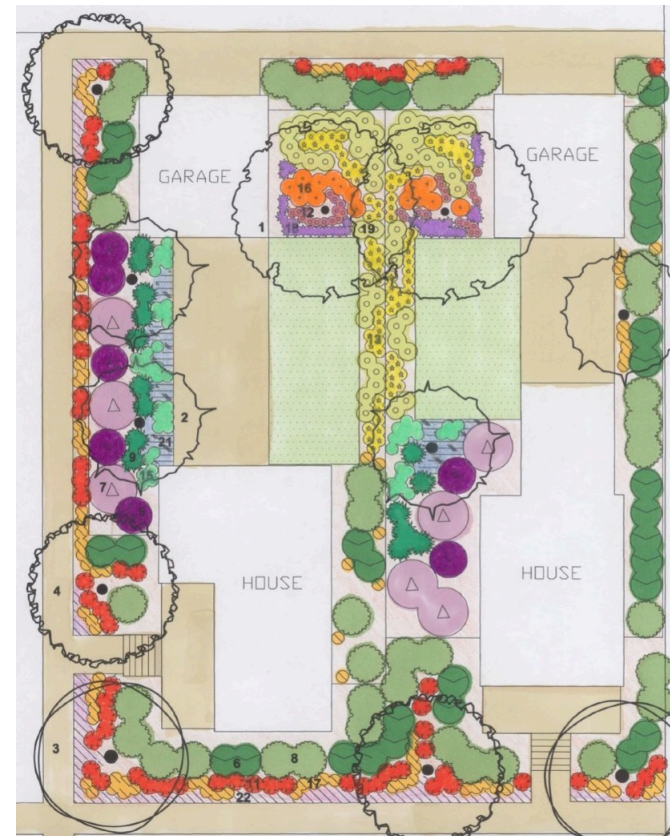
Lot types: Attached, Cottage, Manor, Garden and Village

Alley loaded houses in Crescent Marsh and a few in Cottage Greens are oriented toward stormwater greens. Some have a street that separates the front yard from the green, others have direct access to the green with only a pedestrian path between them.

Action item: The close relationship of the green to the front yard provides an opportunity to visually expand the green by using the same plants in the yard and the green. Extending the landscape character from the private lots to the public realm creates continuity in the landscape and makes the green space feel spatially larger. The lots separated from the public green by a street can provide a visual connection by repeating the large plants, particularly the trees and shrubs found in the green in their yard.



Trees between houses provide shade for both homes



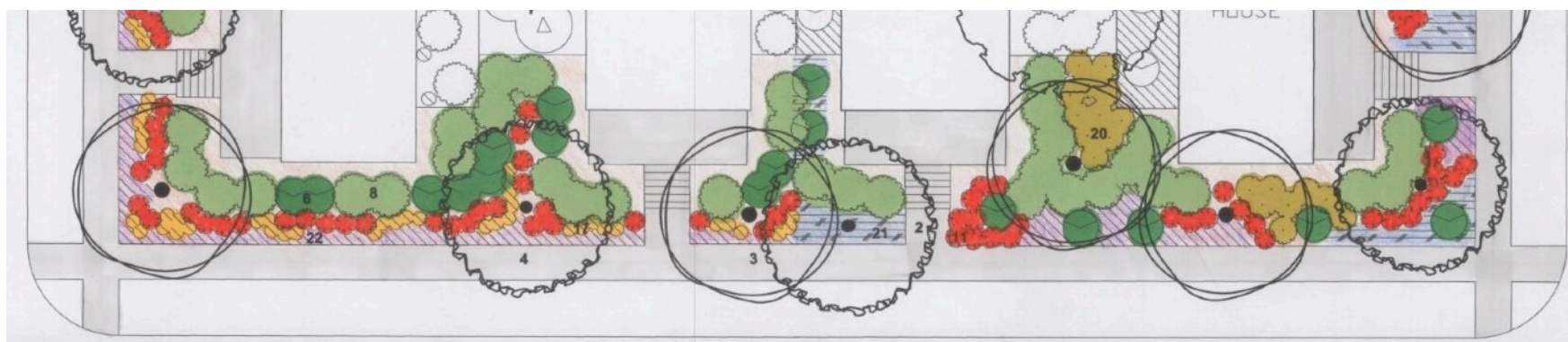
Plant list for planting plan

#	Name	S	#	Name	S
Trees			Groundcover		
1	American Hophornbeam	Y	14	Lily of the Nile	N
2	Chickasaw Plum	Y	15	Mint Scrub	N
3	Riverbirch	Y	16	Orange Coneflower	Y
4	Wax Myrtle	Y	17	Rosinweed	Y
Shrubs			18	Stokes Aster	Y
5	Beautyberry	Y	21	Blue Daze	N
6	Gardenia	N	22	Sunshine Mimosa	Y
7	Golden Dew Drop	N	Key		
8	Sweet Pepperbush	Y			
Grasses			# - The number on the plan		
19	Panic Grass	Y	Name - Common name		
20	River oats	Y	S - Native Status		
Groundcover			N = no		
9	Adam's Needle	Y	Y = yes		
10	Butterfly Ginger	N			
11	Canna Lily	Y			
12	Columbine	Y			
13	Goldenrod	Y			



Graphics: Andres Molina

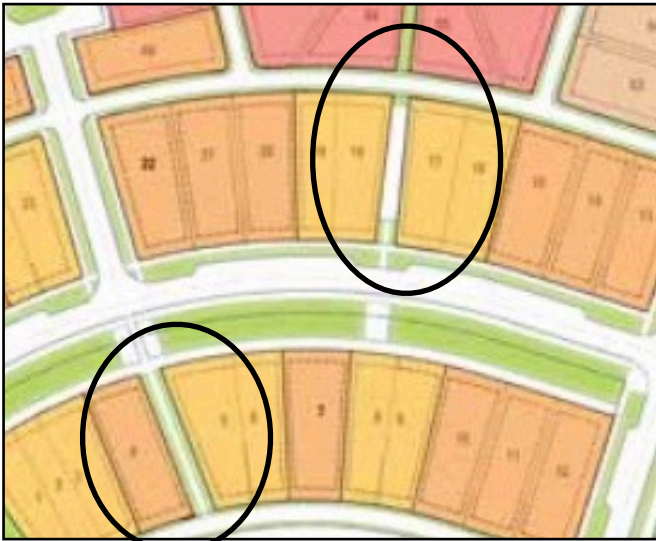
Action item: locate the front yard trees primarily in the gaps between the houses. The trees will provide a screen to hide fences and the canopy will fill the open gap with green mass giving the illusion of a heavily planted neighborhood. Stagger the street trees between the yard trees when possible. This will leave the front facade and porch open to pedestrians where the architectural details are more important, while buffering the front porch from traffic movement.



Front yard trees fill the gap between houses with green canopies

Designers: Erick Gomez and Sky Henderson

Planting Plans: Mid-Block Passages and Shared Paths



Lots: Attached, Garden and Cottage

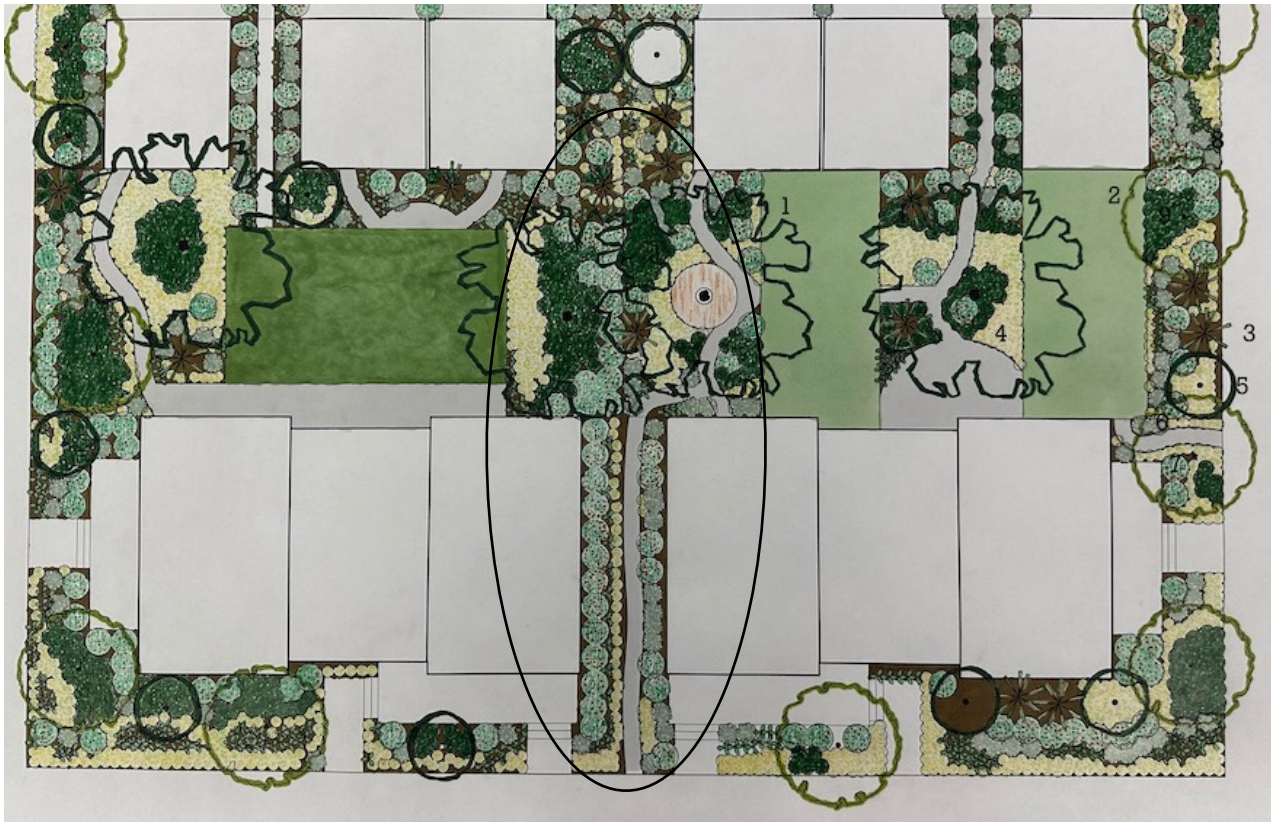


Blank Walls

Action item: Attached buildings often have large expanses of blank wall with few windows. Use large trees to add more green mass at the second story and small trees to fill spaces between windows at the first floor.



Photo 1. Existing mid-block passage



Pathway between attached homes and shared green space

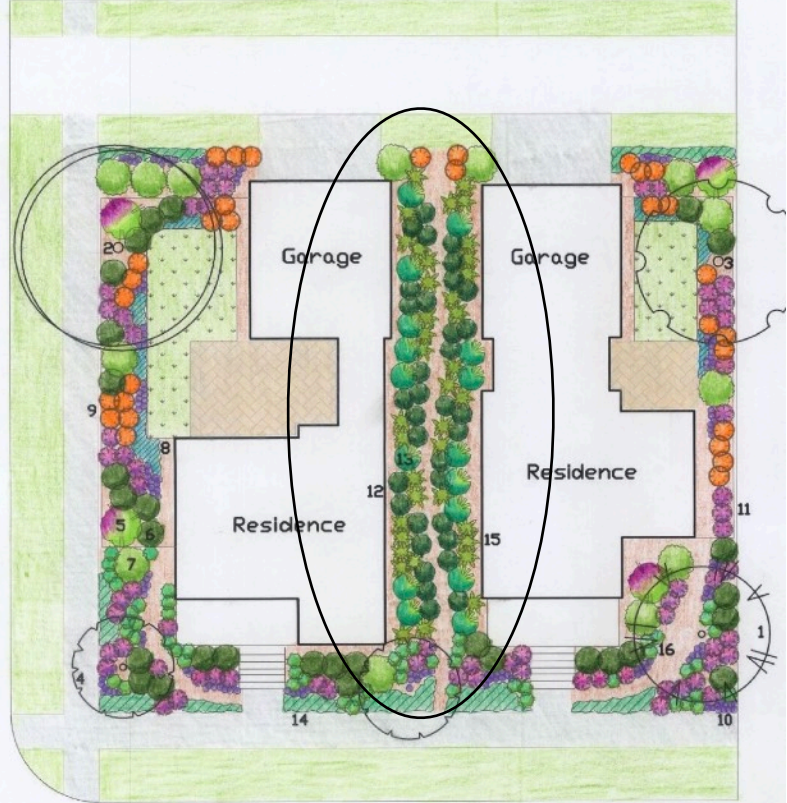
Designers: Lily Crawford and Ansel Sickler

Mid-Block Passages

Action item: Mid-block passages provide the opportunity to add more plants for a pleasant walking experience between lots. Entrances to mid-block passages should be designated with unusual plants to act as a way-finding system for walkers. Eliminate turf along the walls (Photo 1) and use small trees and taller shrubs to reduce the scale of the building. A variety of plants with different heights will add interest along the passage way (Photo 2). When planning walking routes, pedestrians usually look for loops of different lengths and for a variety of views. The mid-block passage creates shorter loops and a different experience from walking on a street. Benches along the path can provide a quiet space to sit and relax or take a short rest stop while walking. The passage also provides a safe space for families with young children and elderly people to walk without concern about traffic.



Photo 2. Additional plants in mid-block passage



Designer: Spenser Wishart

Shared Paths

Action item: narrow spaces between houses can be used for a shared path with foundation plants on each side. A mulch path eliminates the need for a narrow turf strip that is difficult to maintain.



University of Florida - Landscape Programs and Resources



Since 1993, Florida-Friendly Landscaping™ (FFL) has served as the state of Florida's premier Extension program that promotes sustainable alternatives to "conventional" landscaping, providing guidance on low impact, environmentally friendly, science-based landscape practices that use less water and reduce pollutant loading to Florida waters.

The FFL approach is based on the [9 FFL Principles](#): 1) [Right Plant, Right Place](#); 2) [Water Efficiently](#); 3) [Fertilize Appropriately](#); 4) [Mulch](#); 5) [Attract Wildlife](#); 6) [Manage Yard Pests Responsibly](#); 7) [Recycle](#); 8) [Reduce Storm Water Runoff](#); and 9) [Protect the Waterfront](#). The overall goal is to reduce nonpoint source pollution through proper fertilization, irrigation, and pesticide use on residential and commercial landscapes.

FFL promotes its nine principles through three main programs that target diverse audiences.

The **Florida Yards and Neighborhoods** (FYN) program works directly with [homeowners](#).

The **Florida-Friendly Communities** (FFC) program collaborates with [local governments](#), [builders and developers](#), [homeowners associations \(HOAs\)](#), and [community/property managers](#).

The **Green Industries Best Management Practices** ([GI-BMP](#)) program targets landscape professionals to deliver legislatively required training in fertilizer and pesticide application and landscape irrigation methods that save water.

Sources:
<https://ffl.ifas.ufl.edu/about-ffl/ffl-30th-anniversary/>

Florida-Friendly Landscaping™ Guide to Plant Selection and Landscape Design 2010



PREC
Program for Resource
Efficient Communities

PREC promotes the adoption of best design, construction and management practices that measurably reduce energy and water consumption and environmental degradation in residential communities. The focus extends from lot and home level through site development to surrounding lands and ecological systems.

Builder/Developer Collaboration: PREC services include model landscape designs, ordinance compliance assistance, Low Impact Development (LID) principles and practices support, review of CCRs and related documents for resource-efficient standards, residential plan reviews for energy and water efficiency and biodiversity conservation, and diagnostic testing for home energy performance.

Certification: We evaluate certification programs from the perspective of design, performance and management practices.

Local Government Training: PREC offers educational workshops on the implementation of resource efficiency strategies and best design practices at the house, lot and community levels.

Continuing Education: PREC develops and delivers over 35 continuing education courses and associated certifications for professionals in Florida involved in the design, construction and operation of residential community developments.

Research: PREC identifies and prioritizes applied research topics related to the resource efficient design, construction and operation of residential communities.

Teaching: PREC supports undergraduate and graduate students whose applied research addresses critical resource-efficiency issues and develops courses for the general public.

Source:
https://buildgreen.ifas.ufl.edu/2014_PREC_Overview.pdf



CLUE
Center for Land Use Efficiency

The Center for Land Use Efficiency promotes the adoption of science-based practices and policies that measurably support an environmentally and socially vibrant life for Florida's citizens. Research and Extension programs largely relate to water quality and quantity and various best management practices (BMPs) in the following areas: Agriculture, Urban and suburban landscapes, Large-scale developments.

Urban programs include the [Florida-Friendly Landscaping™ program](#) (FFL) and the [Florida Master Gardener Volunteer program](#). These programs focus on topics such as resource (e.g. water and nutrients) efficient landscape design, irrigation water conservation, nutrient recommendations, consumer preference, and invasives.

Source: <https://clue.ifas.ufl.edu/#>



Environmental Horticulture
Department

The mission of the Environmental Horticulture Department is to improve the human environment and protect the natural landscape through the use of plants. Departmental research provides landscape contractors, architects, government agencies, and consumers with solid recommendations for selecting, establishing and maintaining trees, shrubs, and other landscape plants in an environmentally sound manner. Extension programs focus on landscape design and management, plant breeding and biotechnology, restoration and conservation, and water issues related to production management of landscape ornamentals.

Source: <https://hort.ifas.ufl.edu/>



College of Design,
Construction and Planning (DCP)

Department of Landscape Architecture

Designing a Better World
Landscape architecture transforms our natural and built environments. It's local and global. It's art and science. It's communication and collaboration. It's development and sustainability. See link for more information about the department.

Source: <https://dcp.ufl.edu/landscape/>

CLCP - Center for Landscape Conservation Planning

The Center for Landscape Conservation Planning is an official forum within the University of Florida's College of Design, Construction and Planning for conducting applied research on the relationship between conservation and land use and bridging the disciplines of design, planning, and wildlife conservation. The activities of the center include research and planning related to protection of regional ecological networks, landscape and biodiversity conservation research and planning, green infrastructure research and planning in urban and rural environments, and resiliency and adaptation related to climate change and sea level rise,

Source: <https://conservation.dcp.ufl.edu/about-the-center/>

FIBER - Florida Institute for Built Environment Resilience

FIBER is committed to the design, planning, construction and management of resilient built environments, with a strong interest in the well-being of individuals and communities who inhabit them. FIBER is positioned to respond to the complex threats – ecological, economic and social – that Florida and many regions around the world experience. The Institute is home to scholarship spanning built environment disciplines and beyond, generating new knowledge and responding to these complex challenges through evidence-based research and practice. FIBER collaborates externally with researchers, institutions, communities, policy makers, and practitioners around the world.

Source: <https://dcp.ufl.edu/fiber/about/>

Resources

Journal Publications

Daniel-Ferreira, J., Berggren, A., Wissman, J. & Ockinger, E. 2022. Road verges are corridors and roads barriers for the movement of flower-visiting insects. *Ecography*. <https://doi.org/10.1111/ecog.05847>

Penniman, D, Hostetler, M. & Acomb, G. 2018. Conservation Subdivision: Construction Phase - Low Impact Development (LID) and Stormwater Treatment. WEC319 UF/IFAS Extension Department of Wildlife Ecology and Conservation. <http://edis.ifas.ufl.edu>

Books - Ecology, Planting Design, and Urban Areas

Beck, Travis. 2013. *Principles of Ecological Landscape Design*

Calkins, Meg. 2012. *The Sustainable Sites Handbook: A complete guide to the principles, strategies and best practices for sustainable landscapes*

Dunnett, Nigel and James Hitchmough. 2008. *The Dynamic Landscape*

Douglas, Ian and Philip James. 2015. *Urban Ecology: An Introduction*

Francis, Robert, Millington, and Michael Chadwick. 2016. *Urban Landscape Ecology, Science, Practice and Policy*.

Grabow, Steve. 2014. *Principles & Practice of Community Placemaking*. University of Wisconsin-Extension

Hansen, Gail and Joseli Macedo. 2021. *Urban Ecology for Citizens and Planners*

Oudolf, Piet and Noel Kingsbury. 2013. *Planting: A new perspective*

Rainer, Thomas and Claudia West. 2015. *Planting in a Post-Wild World, Designing plant communities for resilient landscapes*

Reed, Sue and Ginny Stibolt. 2018. *Climate-Wise Landscaping, Practical Actions for a Sustainable Future*

Seattle Public Utilities. 2007. *Resource-efficient Natural Landscaping: Design - Build - Maintain*

Weaner, Larry and Thomas Christopher. 2016. *Garden Revolution: How our landscapes can be a source of environmental change*

UF IFAS Extension Publications - Landscape Design and Conservation

Conservation Subdivision Series, EDIS, University of Florida https://edis.ifas.ufl.edu/collections/series_conservation_subdivisions

Florida-Friendly Landscaping Guide to Plant Selection & Landscape Design. 2022, University of Florida

Hansen, G. & Lewis, C. (2015) *Ten Strategies for Working with Your Home Owner Association to convert to a Florida-Friendly yard*. <http://edis.ifas.ufl.edu/ep513>

Hansen, G. (2011). *Twenty-Two Ideas for a Low-Care, Low-Cost Landscape*. <http://edis.ifas.ufl.edu/ep442>

Hansen, G. & Alvarez, E. (2010). *Landscape Design: Aesthetic Characteristics of Plants*. <http://edis.ifas.ufl.edu/ep433>

Hansen, G. & Alvarez, E. (2010). *Landscape Design: Analyzing Site Conditions*. <http://edis.ifas.ufl.edu/ep426>

Mark E. Hostetler, Gregg Klowden, Sarah Webb Miller, and Kara N. Youngentob. *Landscaping Backyards for Wildlife: Top Ten Tips for Success*, EDIS, University of Florida <https://edis.ifas.ufl.edu/publication/UW175>

Documents from Landscape Organizations

Canfield, J. Yang, B. and Heather Whitlow. Landscape Architecture Foundation. 2018. *Evaluating Landscape Performance, A Guidebook for Metrics and Methods Selection 2018*.

FGBC, Florida Green Building Coalition. 2012. *Florida Green Development Certification Standard, Reference Guide*.

McDonald, R., M'Lisa, C. Hamann, M. Simkin, R. and Brenna Walsh. 2018. The Nature Conservancy. *Nature in the Urban Century, A global assessment of where and how to conserve nature for biodiversity and human well-being*.

The Sustainable Sites Initiative, 2009. *The Sustainable Sites Initiative: Guidelines and Performance Benchmarks 2009*

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Documents form Government Agencies and Municipalities

Brown, Isaac. AECOM. 2013. *Landscape Biodiversity Planning & Design System, Technical report*.

Cal-IPC. 2012. *Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers (3rd ed.)* Cal-IPC Publication 2012-13. California Invasive Plant Council, Berkeley, CA.

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Dumitru, A. and Laura Wendling, Eds. European Commission. 2021. *Evaluating the Impact of Nature-Based Solutions, A Handbook for Practitioners*.

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Young, D. and Chris Morrison. 2012. *Soil Management Best Practices Guide for Urban Construction*. Trieca Conference, Mississauga, ON