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Figure 30
Thriving Dwarf Asian Jasmine

Figure 31
Struggling Jasmine

The above pictures show the same plant (dwarf asian jasmine) planted at the same time and on the same street on medians next to each other. Yet the jasmine is thriving on one median (figure 30) and quite sparse on the other (figure 31). Something about the preparation or the establishment of the plant fell through for the median on the right.

Soils

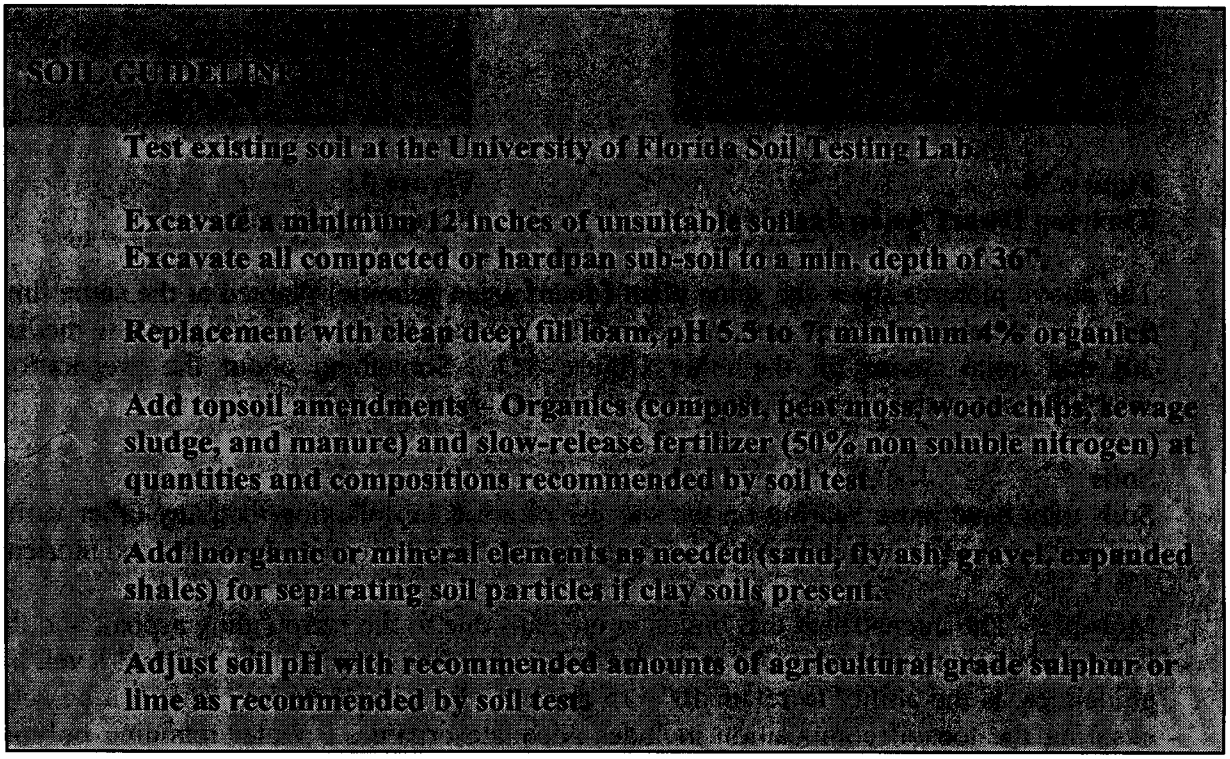
Soils may have more bearing on the success of a median planting than any other variable. The soil must provide acceptable water holding capabilities, subsurface drainage, and nutrient levels.

Moisture - The intense heat that builds in medians due to the surrounding asphalt and the typical lack of irrigation make adequate water holding capabilities crucial. An optimal level, per FDOT guidelines, is the ability to retain 10 – 15 percent of available water. This can be achieved by ensuring the topsoil composition includes adequate organics. Water retaining polymers, e.g., Terra Sorb, have sometimes been used successfully to enhance the water retaining capability of soils.

Drainage - Due to compaction during road construction, inadequate subdrainage is a problem in many medians during heavy rains. Infiltration or percolation of one inch per hour is optimal (FDOT). This can be achieved by the removal of any impervious or hardpan layer 30-48 inches below grade. If the problem is caused by clay soils, amendments of compost and/or mineral soils can be utilized to separate the clay soil particles and improve drainage. Where soils are highly compacted, each hole in which a tree will be planted should have six channels or mini-trenches extending out. These should be filled with friable organic soil mixed with existing material. Roots will grow out into these trenches giving the trees greater stability.

Nutrients - Proper nutrient levels and an acceptable pH range are a third concern in evaluating soils. A soil test through the University of Florida's Soil Testing Lab is highly recommended. Based on the soil test, a determination can be made whether to amend the existing soil or to excavate the poor urban soil and replace it with quality topsoil. Excavation and import of topsoil is an added expense, but it is a one-time expense will pay dividends over the life of the planting.

Current Practices – Alachua County and the City of Gainesville typically excavate and incorporate 6-8 inches of topsoil prior to planting. Mixing improved soil with existing soil in the medians is important because plant roots don't cross extreme disjunct soil interfaces. By mixing the improved growing medium with what exists, roots are better able to grow from the enhanced soil into the poorer existing soil, providing better anchoring.



Irrigation

Within the city, the majority of medians do not currently have irrigation. Other than the medians classified as High Design, irrigation with potable water should not be a permanent part of most medians. There is sufficient rainfall in North Central Florida to sustain drought tolerant plantings after establishment. Establishment of plantings by a water truck is the most viable means for medians. The added cost of a watering truck is necessary for the plants to establish an adequate root structure. A more developed root structure will result in a higher percentage of plants surviving dry periods.

If irrigation is provided to a median, a low flow system should be designed utilizing the latest irrigation technology. Drip irrigation components and sub-grade systems can provide the most efficient application of water with the least waste. The biggest drawback is the need for a higher level of observation by maintenance personnel. It is not always readily apparent when a component is clogged or broken until the plant material declines. Treegator bags (portable drip irrigation bags) have proven successful in providing a slow application of water to hand watered trees. The use of reclaimed water where available is another acceptable irrigation option.

IRRIGATION GUIDELINES

Establishment – Provide supplemental watering for 90 days for shrubs and ground covers. Provide supplemental watering for 6 months for trees. The City of Gainesville provides water to trees for three years after planting, but during the second and third year, only during droughts.

Permanent irrigation with potable water to be used with High Design Medians or special situations only. Water conservation efforts shall be supported on the majority of medians within the City of Gainesville.

Permanent irrigation with reclaimed water acceptable based on availability.

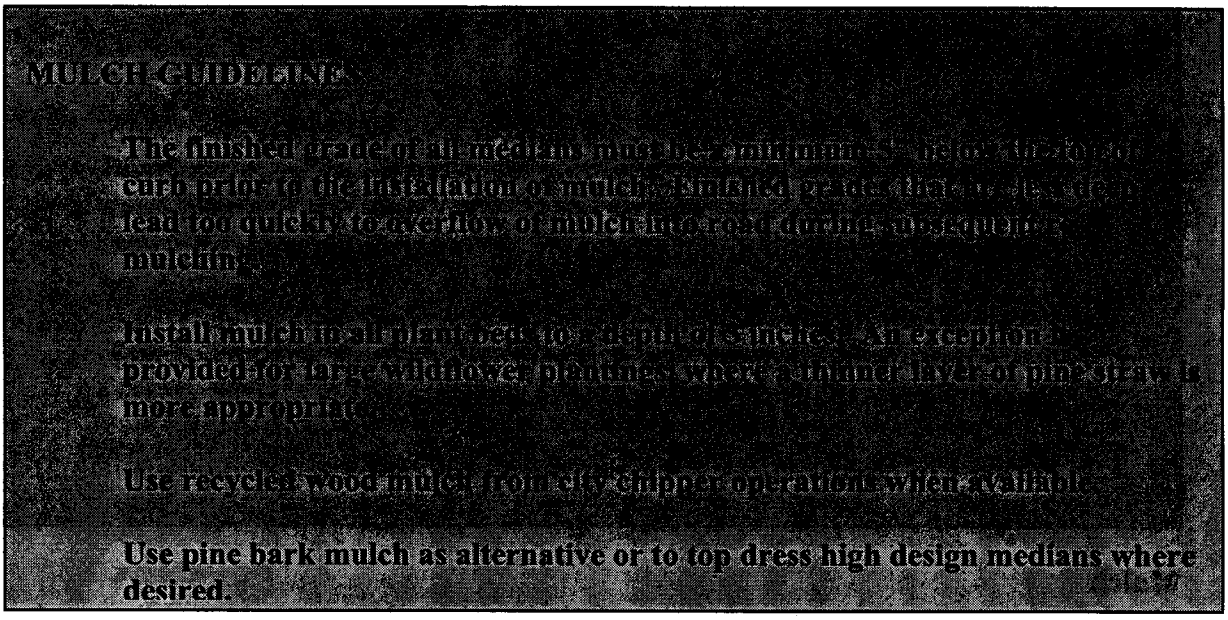
Mulch

Mulch is one of the important principles of Xeriscaping. It helps hold moisture in the soil, moderates soil temperature, reduces weed growth, and slows erosion. Popular choices are pine bark, pine straw (needles), and shredded or chipped wood products. The City of Gainesville produces good quality mulch by chipping trees and branches from its maintenance operations. More recycled products are also becoming available. Two such examples are chipped pallets and dyed shredded tires.

Maintaining proper mulch coverage is a challenge. Mulch has a tendency to wash out of plant beds in a heavy storm. It is imperative that medians be graded a minimum of three inches below the top of curb and not crowned. An annual replenishment of most mulch areas is recommended due to natural degrading, wash outs, and other disturbances (see examples in figures 32 and 33). This is an area that needs improvement; note the current frequency for remulching in the "Current Frequency of Maintenance Tasks" table that follows under "Maintenance."

Figure 32
Median graded too high on 43rd Street

Figure 33
Mulch in need of replenishment on 13th St.



MAINTENANCE

Maintenance is a major contributor to a successful and attractive median program. It is required to ensure the medians remain attractive and do not become safety hazards by becoming overgrown. The primary functions with medians are mowing, weed control, edging, pruning, mulching, applying fertilizers and pesticides, providing water for plant establishment, maintaining irrigation systems where present, and litter collection. As mentioned earlier, through the replacement of turf grass with ground covers and proper plant selection, the time and resources devoted to maintenance can be significantly reduced. See figure 34.

Figure 34
200 Block of NE 2nd Avenue

Replacing this 24 inch strip of grass with ground covers and shrubs would reduce maintenance time in the areas of edging, weed eating, hand mowing, fertilizing, and spraying.

Below is a table of the general maintenance frequencies currently provided by the City of Gainesville on city roads, Alachua County on county roads, and West Farms on state road medians participating in the Adopt-A-Median program. Recommended frequencies are given in the Maintenance Guidelines to follow.

Current Frequency of Maintenance Tasks

Maintenance Item	**City of Gainesville** (a)	**Alachua County**	**West Farms for FDOT** (b)
Mowing	1 wk (high maint. medians)	goal of 3 mos	2 wks
Weed Control	2 mos (Round Up)	1 mo (Round Up)	2 wks (hand weed) 3 mos (Round Up)
Pre-emergent Herbicides	yes	yes	no
Edging	2 wks	1 mo	3 mos
Pruning, Trimming	6 mos	1 mo	3 mos
Remulching	No Schedule (chipped wood)	No Schedule (chipped wood)	2 yrs (pine nuggets)
Fertilization	6 mos	As needed	4 mos
Pesticides	As needed	As needed	As needed

(a) City Landscape Sponsors are under contract to collect litter and remove weeds monthly.
(b) Adopt-A-Median Sponsors pay a fee to West Farms to provide all required maintenance.

MAINTENANCE GUIDELINES – RECOMMENDED FREQUENCIES

Proper service levels have a significant impact on the success and attractiveness of any median program. Frequencies are the key to ensuring that proper service levels are maintained.

Mowing:	2 to 4 weeks, depending on seasonal growing patterns
Weed Control:	1 month for High Design Medians 2 months all others Use pre-emergent herbicide prior to spring
Edging:	1 month for High Design Medians 2 months all others
Pruning, Trimming:	6 months
Remulching:	1 year or as needed, whichever sooner
Fertilization:	6 months
Pesticides:	As needed
Litter Collection:	1 week for High Design Medians 2 weeks all others

Plant Replacement

Even under ideal conditions, it is common to have to replace a small percentage of plants in most landscape installations. With median plantings, plant mortality is significantly higher due to the harsh conditions and the loss of plants from wayward vehicles. The budget for median landscape designs should include a contingency for the future replacement of plant material. Maintenance is often blamed for the poor aesthetics of a median when often it is due to holes in the design from lost plants.

PLANT REPLACEMENT GUIDELINE

Median sponsors must provide funding for replacement plant material for as long as the sponsorship exists.