Successful street tree plantings are the result of high level technical expertise that involves horticulture and arboriculture, engineering of utilities and infrastructure, and people management and communication skills. In Greenville, SC the teams who conspire to create green infrastructure on Main Street and downtown make this look easy. First there’s the Parks and Recreation Department who manage the green aspect to the infrastructure. They work in tandem with the Economic Development Department, Public Works, Engineering, Special Events, and the Downtown Construction Inspection Department. Jimmy Walters, Interim Program Coordinator in Urban and Community Forestry for SC Forestry Commission has worked with the City of Greenville over the years and he acknowledges Greenville’s success with the extremely complex coordination inherent to urban and community forestry work. “The City of Greenville understands that trees are green infrastructure, and like other infrastructure, planning, installation, maintenance and replacement require lots of cooperation between the various departments and agencies” reports Walters.

Downtown Greenville includes 30 square blocks and is expanding to include another 12 square blocks in the historic West End. There are currently 192 trees on Main Street. Willow oaks, claims Westermeier, are most impressive in this urban setting; and crapemyrtles (Lagerstroemia) prosper in areas with restricted vertical space, such as under power lines. He is watching Chinese pistache (Pistacia chinensis), black gum (Nyssa sylvatica), nuttall oaks (Quercus nuttallii), and shumard oaks (Quercus shumardii) on the side streets adjoining Main Street and sees their potential to perform well in the urban environment. The downtown tree plantings are maintained by the same crew that cares for Falls Park (see “Falls Park on the Reedy” in South Carolina Nurseryman magazine, 2008, Jan/Feb, pp.35-39). Parks and Grounds staff includes individuals with horticulture, forestry, and engineering degrees
The trees in decline are slated for removal because of their original planting area includes vertical mulching, air spading, and sometimes bed enlargement by removing portions of the nearby sidewalk. Vertical mulching allows columns of organic matter to be injected into the soil while the air spade blows air into the soil to reduce the effect of compaction. Girdling roots are cut whenever possible. A light layer (1-2 inches) of hardwood mulch is added to the top of the soil, but does not touch the bark of the tree. Westermeier prefers the double ground hardwood mulch because its stays put and is less of a fire hazard than some other vegetative mulch. Mature trees do not receive supplemental watering.

The trees in decline are slated for removal and are being replaced with 2-3" caliper Allee elm (Ulmus parviflora Allee8). This Chinese elm, also known as lacebark elm, is fast growing and highly resistant to Dutch elm disease and elm leaf beetle. All replacement trees are receiving new planting beds designed according to the new Silva Cell system. Silva Cell technology allows soils to remain uncompacted under pavement which thereby reduces storm water runoff potential during normal rain events. Silva Cell is a modular system where each poly steel reinforced unit or cell is placed either next to one another or stacked up to three high in the hole. Then the area is lined with a permeable fabric that contains the soil. The system contains root barriers to protect surrounding infrastructure. Silva Cell meets the American Association of State Highway and Transportation H-20 standards for highway loading, so the system can be used on most paved surfaces, from parking lots to plazas and streetscapes (http://www.buildinggreen.com/auth/article.cfm/2009/12/1/BuildingGreen-Anounces-2009-Top-10-Green-Products)/BuildingGreen, LLC, publisher of the GreenSpec Directory and Environmental Building News announced Silva Cell as one of the top green products for 2009. Most of the planting beds in downtown Greenville are using 5-6 Silva Cell units per tree and contain soil made of 90% screened topsoil and 10% pine fines (finely ground pine bark).

The downtown restoration requires diligent communication between city workers and merchants. The vibrant business atmosphere is honored by a commitment of workers to minimal impact on commerce. “We couldn’t proceed street by street if block as block would involve closing sections to traffic and pedestrians-and that would negatively impact businesses,” claims Westermeier. Instead, the work is completed in small sections, with the trees in most stress receiving restoration or replacement first. Merchants are notified of the upcoming work through door hangers, letters, and perhaps a personal visit. “We let people know what’s going on—any elimination nates 99% of the negative experience”, explains Westermeier. Some work is scheduled for the wee hours of the morning while others remain available to merchants and patrons during the day, rather than being blocked by work vehicles. Scheduling is also sensitive to the needs of businesses with outdoor dining facilities.

Awards

Greenville’s downtown street trees serve many purposes according to Westermeier. They provide shade for outdoor dining, are aesthetically pleasing, and serve to provide a quality of life that fuels economic development. Mayor White sums this up in a press release where he claims that the Great Streets award is useful for attracting out of town developers interested in Greenville, new businesses, and economic development in general. “This award is like a Good Housekeeping Seal of Approval recognized across the country… And as a Tree City, Greenville is recognized across the country and across the world as a good arbiter of what we should be doing in terms of planning,” (http://www.youtubecom/watch?v=NA3pHnw3oc).

Westermeier’s advice to other communities engaging in street tree installation is to create larger growing spaces. The competition between healthy tree roots and sidewalks and irrigation systems is ongoing and larger planting spaces saves time and money repairing infrastructure down the road, plus ensures the trees a longer life span. He claims Greenville has a 95% success rate for new plantings and over the past 10 years only five trees have been removed due to decline. The second piece of advice is to be a proactive communicator. Greenville is home to passionate tree owners and any activity involving the trees is observed and sometimes dramatically responded to. “When people know what it happening they tend to be very supportive”, he explains.

Westermeier knows that when the trees are healthy, people (and business) will come. In addition to implementing the downtown revitalization plan, Westermeier’s 65/70 person crew maintains over 600 city sites on over 400 acres. Westermeier not only knows the value of talking to merchants and residents, co-departments and Council; he never ceases to praise the people who work for and with him on a daily basis. It is because of their abilities, talents, and commitment to Greenville that the work gets done and everyone benefits. Jimmy Walters, of the SC Forestry Commission perhaps says it best, “Greenville’s downtown business district is a shining example of what an urban forest can and should be.”

Continued from page 5