

POLICIES & PROGRAMS

ESSENTIAL FOR SUSTAINABILITY

CHAPTER TEN



Presentation of the new Tree City USA flag is a highlight at the annual Arbor Day ceremony in Moscow, Idaho. As in communities throughout the country, meeting the four standards for a Tree City USA award launched this small community into a long range program that bodes well for the city's trees.

Moscow, Idaho, is a community that could be Anywhere, USA. With a population of 21,000 it is smaller than some cities, and larger than others. But it struggles with the same problems as all – limited financial resources; residents who generally like trees but know virtually nothing about their care; some businesses that support trees while others would be happy if all were removed to expose signs, stores or parking lots; and a handful of citizens who care passionately about the future of the city's trees.

In 1990 Moscow's elm trees were threatened by the arrival of Dutch Elm Disease. The result was that within the next three years, a comprehensive tree ordinance was created, a tree committee was formed, the celebration of Arbor Day was resurrected, and application was made

for Tree City USA designation. Since then, the city has won the award annually, received the Growth Award several times for exceeding the basic four standards, and is striving to evolve its tree program into a more sustainable basis. There have been setbacks, including a vote by city council to over-ride the tree committee on matters of tree management in the local mall, but there have also been efforts to follow an inventory-based plan of action, cooperate with other organizations in land and water use within the city, remove hazard trees, promote the planting of the right trees in the right places, find a more stable funding base, educate its citizens about tree care and generally try to have urban trees contribute to the welfare of the entire community and at the lowest cost possible.

Sustainability requires a combination of important factors, many of which have been presented in previous chapters. Taken together, consideration of these factors can guide your community toward sustainable tree care that will, as the definition of sustainability calls for, “minimize negative impact on the environment and maximize the value received for the dollars expended in the long term.”

Many of the nearly 3,000 municipalities that fly the flag of Tree City USA have been helped in taking their first steps toward sustainability through the Tree City USA application process (See p.22). Certainly, this award does not guarantee that a city’s tree program is sustainable, but it is a start in that direction. It helps assure that a tree program is systematic and continuous. These are essential starting points for sustainability. Other important components of sustainability are planning, social inclusiveness, ecological sensitivity, public support, and a solid financial base.

This wrap-up chapter lists more factors to consider. These policy- and program-related matters have been suggested by members of the National Urban and Community Forestry Advisory Council as particularly important.

Tree Ordinances

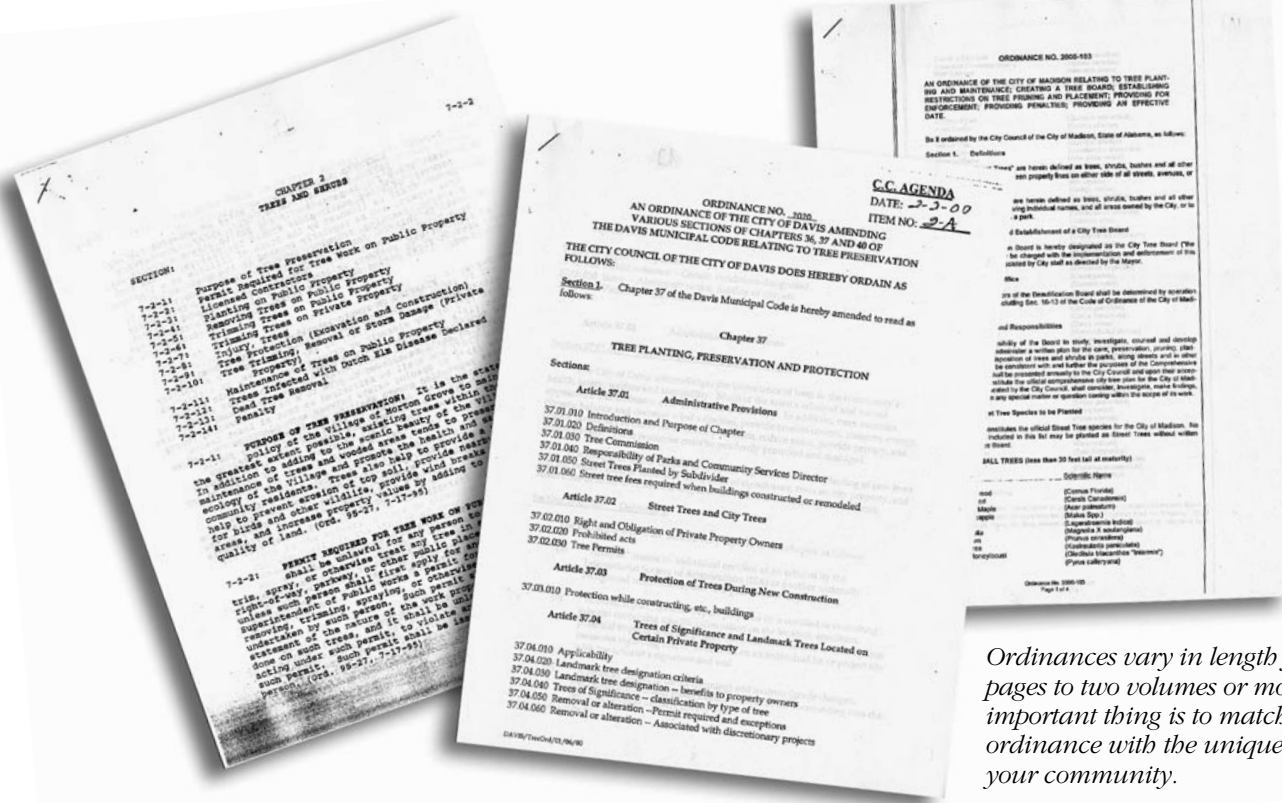
Quite simply, a good tree ordinance shows that a community is serious about its trees. Considerations within tree ordinances generally fall within three categories:

- **Tree care*** – The focus is on tree planting and maintenance such as establishing planting and pruning rules, protecting trees from disease or insect epidemics, protecting people from hazards, and establishing tree boards or other administrative structures within the community.
- **Landscaping** – These provisions can assure that trees will be part of new developments. But planted vegetation can be an asset or a liability – depending on what is planted and how it is done. This part of the ordinance can define a process for having new landscape plans reviewed and approved by the city forester or tree board, with the issuance of building permits only after such a review. Examples include buffers between land uses such as parking lots, or trees, shrubs and

(*An ordinance with tree care provisions is required to meet Tree City USA Standards)



Participation in Tree City USA helps assure that a tree program is systematic and continuous.



Ordinances vary in length from two pages to two volumes or more. The important thing is to match the ordinance with the unique needs of your community.

flowers required around the base of pole signs to blunt their impact on the surroundings.

- **Tree conservation, protection or preservation** – Protecting existing trees is a major challenge. Therefore, more and more progressive communities are developing ordinances to protect trees on both public and private property from damage during development and construction. Increasingly, another use of this section is to identify and protect trees of historic value or unusual qualities (called landmark trees). Requiring

permits and a review process for all tree removal is one way to achieve these goals. Penalties may be established requiring violators to pay a fine in the amount of the tree's appraised value. Ideally, such funds will be designated solely for planting more trees.

For this brief discussion, all of the above are lumped together. In fact, some communities have found this a good procedure in its own right. That is, scattered references in the body of ordinances are simply brought together into a single tree ordinance. This results in clearer communication and less accidental violation of ordinances related to trees.

Ordinances vary in length from two pages to two volumes or more. The important thing is to match the ordinance with the unique needs of your community. There is no "ideal" or "model" ordinance that can simply be adapted everywhere. However, here is a checklist of provisions that should be considered:

- ❑ **Purpose** Briefly explains why the ordinance is necessary; what is to be achieved in the broadest sense.
- ❑ **Authority and Power** Establishes a tree board or otherwise makes it clear who is responsible for carrying out the provisions of the ordinance.



Landscaping provisions can assure that trees will be part of new developments.

Tree Protection Ordinances in Action

Lake Forest, Illinois

- Permits are required for the removal of trees 12 inches in diameter and larger within 35 feet of the road right-of-way.
- If a removal permit is granted, the homeowner may be required to replace the tree with another one not less than 4 inches in diameter.
- Mass removal of trees on construction sites is limited to a defined “building envelope,” driveways and utility routes.

Hilton Head Island, South Carolina

- Homeowners are required to maintain the trees on their lot and replace any that die.
- Developers on previously cleared land are required to plant trees to meet a minimum number of square inches of tree trunk per acre.
- On wooded land, developers must count all trees and record the species. This becomes the basis for preserving a given number of trees per acre (totaling 900 inches of diameter). In addition, to preserve diversity, the mix of species must be essentially the same as in the original forest.

West Bloomfield Township, Michigan

- Woodlands are designated on official maps and identified by ecological sensitivity. This determines a “tolerance point” that is linked to a number of trees that can be removed by a developer without destroying the site’s woodland character. For example, in areas of good growth, 50 percent of the trees may be removed; in more delicate areas, removal may be limited to only 10 percent.
- Developers must post a bond equal to \$50 per tree to guarantee that the required number of trees will be left standing.

- ❑ **Terms of Office** States how long members will serve on a board or committee. Five members, with staggered lengths of service, is a common example.
- ❑ **Applicability** Explains to what property the ordinance applies; i.e. rights-of-way only, or at the other extreme, all land within the city, public and private.
- ❑ **Definitions** A list of technical words used in the ordinance, or words that might not be clear to a lay person. Examples include: arborist, tree lawn, easement, etc.
- ❑ **Licensing** Rules that apply to commercial operators working within the city.
- ❑ **Insurance** Similarly, what is required of commercial operators to protect workers and property?
- ❑ **Landscaping** Those provisions that relate to planting required around parking lots, signs or in



Gerreald Pulsipher

Tree ordinance provisions can protect trees from being topped, especially on rights-of-way. On private property, few city governments want to impose restrictions on what landowners can do with their trees. However, most topping could still be prevented by prohibiting commercial arborists from topping any tree in the city.



The use of bid specifications helps assure that quality nursery stock will be obtained for tree planting projects.

new subdivisions, and a process for approving plans.

❑ **Tree Planting, Maintenance, and Removal**

Good tree care and management is possible only if people have specific information about practices that result in safe, healthy trees that contribute to a quality environment rather than to creating problems. The purpose of this section is to provide that information in the form of requirements. In many ways, it is the heart of a good ordinance. Actually, the material in this section is best included in a separate standards and specifications chapter; but placing it directly in the ordinance is an option. Either way, all specifications should be reviewed at least every five years, and should include such specifics as trees that are prohibited from being planted, distance from corners or other requirements for “line of sight,” pruning rules including a prohibition of topping, hazard tree removals, and similar practices that assure safe, healthy trees that contribute positively to the community without creating problems or negative impacts.

❑ **Tree Protection** These provisions protect existing trees whether they are historic, have heritage value, or just represent a certain density of canopy cover that is desirable to maintain despite construction or development.

❑ **Private Trees** It is wise to include authorization for a city forester to enter private property to inspect a tree that is suspected of harboring a contagious disease or otherwise

posing a hazard to other trees or public safety, and to require correction of such problems.

❑ **Permits** This section makes it clear who needs to have a permit to do tree work of any kind (for example, planting, pruning or removing trees on a right-of-way) and any fees involved. (Note: Free permits provide a way to assure contact between a forester and someone planning to do tree work. This, in turn, is a means for providing information about proper tree care or planting the right tree in the right place.)

❑ **Enforcement** An ordinance without enforcement provisions is worthless, so this section lays out who is responsible for enforcement and provides that office or individual with the power to do so.

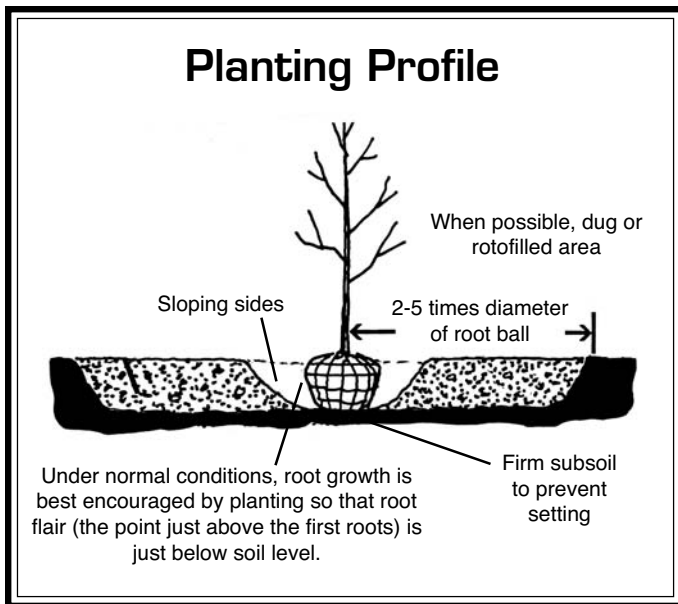
❑ **Penalties, Claims and Appeals** These provide the backup and follow-up to enforcement. They generally are the same as in other city ordinances.

❑ **Other** Requirements to meet the special needs of a community and not included in any of the above.

Mulch Is a Tree's Best Friend

Mulch

- Protects trunk from mowers and weed cutters
- Retains soil moisture
- Helps modify changes in soil temperature
- Reduce weed and sod competition



- All tree planters will receive training, including how to properly prepare the planting hole.
- In wildfire-prone areas, selection, placement, and spacing recommendations of the National Fire Protection Association will be followed (NFPA 299, Standard for Protection of Life and Property from Wildfire).

Maintenance

- Specific volunteers or employees will be identified and trained in the care of young trees.
- In dry climates, water-conserving irrigation systems will be installed at the time of planting or a means and schedule for watering will be developed.
- Mulch (or plastic tree guards) will be installed as part of the planting project and mowing and

Policies – Knowing What You Want

Dictionary definitions of policy include “prudence or wisdom in the management of affairs,” “a definite course of action selected from among alternatives,” and “a high level overall plan.” The right policies must be in place in order for a community to enjoy sustainable urban forestry. These policies are expressed most clearly in the language of ordinances, but they can also take the form of attitudes among professional managers or leaders of volunteer organizations. Some policies that are fundamental to sustainable urban forestry are listed below. Others depend on local circumstances and should be consciously considered and expressed in planning documents or other written means.

Planting

- Planting projects will take place only when a means for follow-up care has been identified. The two should go hand-in-hand.
- All tree selection will be done based on suitability of the species or cultivar for the site.
- Quality planting stock will be used (See section that follows on specifications.)
- A size will be planted that is suitable for the site. In heavily-used areas, large caliper trees (1 1/2” or larger) will be specified to reduce vandalism.
- A goal for planting will be to encourage species diversity not only within the community, but also within specific planting sites (street, park, parking lots, etc.).

Principles of Plant Health Care (PHC)

1. Prevent problems by planting the right tree in the right place, and planting it properly.
2. Learn to tolerate some insects; avoid annual or widespread chemical applications (except under some circumstances of epidemics).
3. Monitor regularly using a professional who knows insects and diseases.
4. Discuss alternative treatments.
5. Treat problems by using the method of control with the least adverse impacts on the environment (pruning infected branches, biocontrols, low-toxicity spot spraying, etc.).

For more information, contact the Bio-Integral Resource Center, P. O. Box 7414, Berkeley, CA 94707 or write to The National Arbor Day Foundation and request Tree City USA Bulletin No. 37, “PHC – What it Means to You” (\$3.00).

weed control personnel will be instructed in protecting the base of the trees.

- When stakes are used during planting, they will be removed after one or two growing seasons.
- Inspections to identify hazards will be conducted annually for mature trees and corrective measures taken promptly.
- Routine pruning of mature trees will be scheduled on a rotational basis so that all trees are pruned as needed approximately every 3 – 5 years.
- Pruning practices will be in compliance with ANSI A300.
- Maintenance of mature trees will be done under the care of a certified arborist. When volunteers assist in any pruning, they will be trained or supervised by a certified arborist.

- The concepts of Plant Health Care will be used.
- In wildfire-prone areas, landscape maintenance for fire protection will be followed.
- Techniques for enhancing wildlife habitat will be considered.

Removals

- Removals are an action of last resort.
- When contracting for removals, selected companies must show proof of adequate liability and property damage insurance.
- When trees are removed, stumps will also be ground.
- For each tree or inch of dbh (diameter breast high) removed, at least one new tree will be planted at

Prevent Waste — Utilize Municipal Trees

Value-added use is the best form of recycling. Items sent to a landfill are at the opposite extreme on the recycling spectrum! Trees can be found at both ends depending on the community, but an important step in sustainable urban forestry is to make sure removed trees are put to good use. Below are just a few of the ways trees are being used. For more suggestions, obtain a copy of *Utilizing Municipal Trees: Ideas From Across the Country* by Stephen M. Bratkovich (USDA Forest Service, Northeastern Area State and Private Forestry, 1992 Folwell Ave., St. Paul, MN 55108).

- ✓ Sale or giveaway to local crafts people for conversion into furniture, jewelry boxes, musical instruments, bowls and other artistic products.
- ✓ Sale or giveaway for lumber, pulpwood or firewood.
- ✓ Conversion to chips for mulch or trails.
- ✓ Creation of benches placed in parks with plaques as memorial donations.
- ✓ Creation of play structures in parks.



Mary Jackson

Make sure removed trees are put to good use!

the site, or nearby when site restrictions prevent replanting.

- Nearby residents or other affected individuals will always be given notice before a tree is marked or removed.
- Removed trees will be utilized to the greatest extent possible. Where markets exist, revenue will be generated for use by the community forestry program. This may be through direct sales or charging for permits (such as to cut firewood from log stockpiles).
- Removed trees will be handled as necessary to prevent spread of insects or disease.

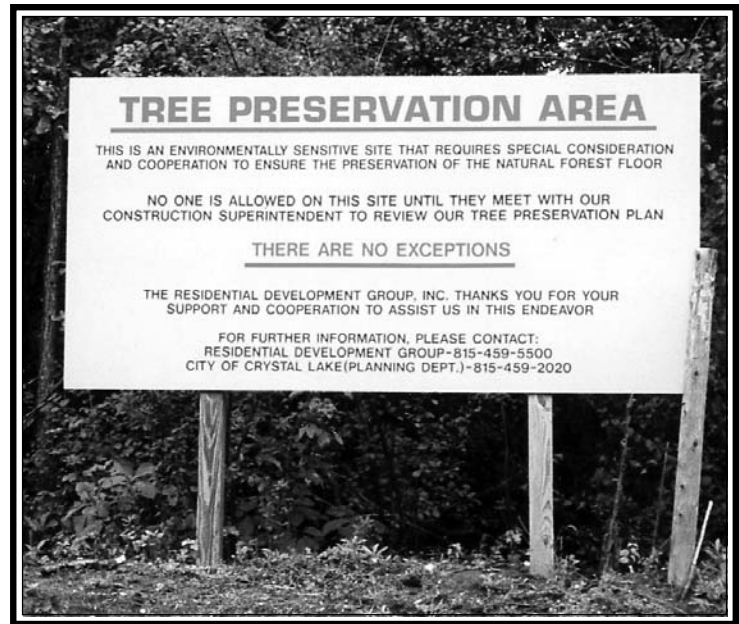
Tree Protection During Development

The number one cause of tree destruction is development. Putting an end to this waste of green resources is up to the community. Where the community attitude is to preserve at least some older trees during building activities, and when that attitude can be transformed into policy, the technical tools are available to do the job. It is quite possible to build and to protect trees. Even where policy reflecting this does not exist, some savvy builders make it company policy to protect trees anyway. Others do not.

- Trees are considered part of the community's infrastructure and are treated with all the seriousness in planning, protection or installation as other parts of the infrastructure.
- At least 40 percent of the original canopy in a development will be protected or restored for the



It is quite possible to build and to protect trees.



Residential Development Group

Signs are one of the important tools of tree protection. Sturdy, well-designed signs are important in helping workers understand the seriousness of these efforts.

future through planting – or through a combination of both.

- Developers are encouraged to learn about systems and techniques of tree protection being used elsewhere. (Sources of help include The National Arbor Day Foundation's Building *With* Trees workshops and Tree City USA Bulletin Numbers 7, 20 and 35.)
- Builders and developers that do exemplary work in tree protection are encouraged to apply for an award through The National Arbor Day Foundation's Building *With* Trees Recognition Program.

Specifying What You Want

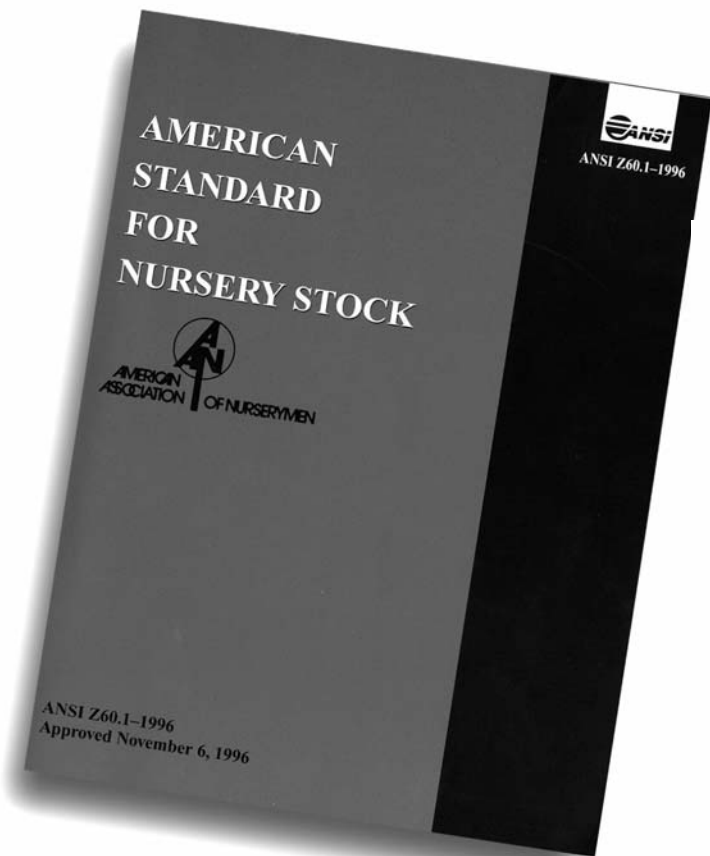
Ordinances are one way to officially express policy. Specifications are the way to do it when purchasing a good or service. Specifications make it clear exactly what you expect and provide a basis for rejecting anything that does not measure up. This is a way to raise standards and avoid such things as poor quality trees that die prematurely, or pruning jobs that waste money or damage trees. In short, the use of specifications maximizes the value received for the dollars expended – one of the components of sustainable urban forestry.

It is not possible in this space to delineate all the ways to write specifications. Fortunately, there are good sources of help for the two situations when specifications are most needed.

Purchasing Trees

Many communities are plagued with trees that come with double tops, damaged limbs or dried-out or inadequate root balls. This would not happen if orders include specifications and an arborist or city forester inspects the shipment before accepting it. For help in describing the condition of trees, size of root balls and other important features you expect, obtain the publication:

American Standard for Nursery Stock
American Nursery & Landscape Association
1000 Vermont Ave., N.W. Suite 300
Washington, DC 20005-4914
(202/789-2900; www.anla.org/index.htm)



In addition to precise descriptions, some arborists add the following to their order or request for bids:

TERMS AND CONDITIONS: No substitutions of plants, sizes, quantities or root conditions will be accepted, except with permission of the landscape architect or horticulturist (or other, as your situation requires). Plant sizes, grading standards, and methods of measurement shall conform to those of the American Standard for Nursery Stock.

Another place to find an example of a useful model is “Specifications for Acceptance of Nursery Trees at the Time of Delivery,” an appendix in *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines* by Richard W. Harris, James R. Clark and Nelda P. Matheny.

Pruning

In recent years attempts have been made to ‘level the playing field’ when planning, conducting and evaluating pruning jobs. The idea is to assure that everyone who orders pruning or is doing it for someone else is speaking of the same thing. Since this is a service or procedure rather than the purchase of an item, it is more difficult to communicate clearly. The answer is found in a publication developed by the American National Standards Institute (ANSI). This and several other ANSI standards are listed below and are available for sale from the International Society of Arboriculture (P.O. Box 3129, Champaign, IL 61826-3129; 1/888/ISA-TREE or www.isa-arbor.com). Here again, the book by Harris et. al. described above, has an excellent appendix that provides a model for pruning specifications.



ANSI A300: American National Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Pruning)

ANSI A300: American National Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Support Systems for Cabling, Bracing and Guying)

ANSI A300: American National Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (Fertilization)

ANSI Z133.1: American National Standard for Tree Care Operations – Pruning, Repairing, Maintaining, and Removing Trees, and Cutting Brush – Safety Requirements

End Note

Aldo Leopold once wrote, “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” Leopold was a pioneer in ecology. He died in 1948 before the advent of modern urban forestry. If he were alive today, it is almost a certainty that he would embrace the tenants of sustainable urban forestry.

Although sustainability is not an easy concept to describe or for which to prescribe practices, it is an idea whose time has come. The purpose of this publication has been to present some of the things that can contribute to urban forestry. These include thinking in terms of urban ecosystems rather than only trees, and always making it a goal to minimize negative impacts while maximizing benefits. There is not a simple or single way to accomplish sustainability. It requires a viewpoint that urban forestry is an integrated practice involving a variety of resources – both natural and built – and many stakeholders, some of whom do not even recognize themselves as such. It also requires a knowledge of the practices briefly described in this publication, and others that could have been.

In the end, sustainable urban forestry can lead to a community where trees are abundant, healthy, and highly valued by all people. It can also build bridges between cultures and raise the quality of life for people living on the margins of prosperity. Like Leopold’s vision for the biotic communities he knew, sustainable urban forestry can preserve the integrity, stability and beauty of the communities in which we live.