



Using Standards and Best Management Practices

**TREE CITY USA®
BULLETIN**

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The use of ANSI A300 standards and the series of accompanying best management practice publications is a sign of professionalism and a sure way to elevate tree practices in any community.

Imagine trying to buy a ceiling or lamp lightbulb if every socket were a different size and thread configuration. Or trying to order a new pair of work boots if each store had a different way of describing how they fit. Standards have been created to help people communicate effectively and to facilitate compatible operations and relationships.

In the tree care industry, attempts at standardization began decades ago. However, according to Bob Rouse of the Tree Care Industry Association, different organizations had different ideas about what the standards should be, and they set them accordingly. "They were all created by well-meaning people, but in 1991 we were able to get everyone together at the table and unify," Bob said. This was done under the auspices of the American National Standards Institute (ANSI), the administrator and coordinator of a voluntary private sector system that has essentially brought order to chaos. Representatives of nearly 1,000 companies and agencies form committees that meet and come to a consensus over definitions and science-based procedures within their professional areas of interest.

Of interest to arborists and urban foresters are the standards assigned the designation A300 under the title *Tree, Shrub, and Other Woody Plant Management — Standard Practices*. These are broken down into 10 parts, each developed by a wide range of

representatives and coordinated by a permanent committee known as the Accredited Standards Committee. Bob Rouse is the committee secretary, and TCIA is the organization accredited by ANSI to do this important work. The committee meets twice a year to review and revise standards as necessary and always invites input from others in the green industry.

In this issue of the Bulletin, the 10 ANSI A300 standards are listed. For each, the International Society of Arboriculture has produced a best management practices publication that provides how-to information that serves as guidance in implementing the standard in the field. These sets of documents should be part of the library of every tree board, arborist, urban forester, grounds manager, and — in short — anyone who works with trees.



The combination of ANSI A300 standards and accompanying best management practices are intended to raise the level of professionalism and public confidence in the field of tree care.



What You Should Know About the A300 Standards

Standards are a beginning, not an end product. They are like a foundation and by themselves would not serve their highest purpose. However, when used properly and in combination with best management practices (BMPs), they are essential to urban forestry.

What Standards Represent

Standards are not some loathsome creation that adds a regulatory burden on practitioners. Instead, their development is through a transparent, democratic procedure built around these rules:

- Consensus must be reached by representatives from affected parties, i.e., tree care companies, utilities, municipal arborists, grounds managers, etc.
- Public reviews are required and anyone may submit comments.
- All comments from committee members or the public must be responded to in good faith.
- An appeals process is required.
- A review of each standard is conducted every five years.

In short, ANSI A300 standards reflect the best thinking of specialists in each field and the latest in research findings.

How They Can Be Used

Importantly, use of standards is voluntary. But the TCIA has expressed it well:

ANSI A300 and ISA's BMPs, as guidelines, do not require compliance. How do we reconcile this? If you are a professional, there is no contradiction. As professional arborists, we have an obligation to perform work that meets industry standards.

Definitions found within each standard provide the basis for clear and concise communication. "Woundwood" will mean the same to all arborists, as will the practice of "thinning" or the malpractice of "lion's tailing." And although standards are not specifications, per se, they should be used when developing bids and work orders or agreements with clients. TCIA's Bob Rouse explained, "Standards provide the perimeters within which tree work should take place. They are a minimum." Actual work plans will use and build upon the standards and apply best management practices, but always be based on specific, well-expressed objectives for any particular job.



Standards help prevent misunderstandings about how work on trees will be performed.

ANSI A300 Standards and Accompanying BMPs

ANSI A300 (Part 1) Pruning

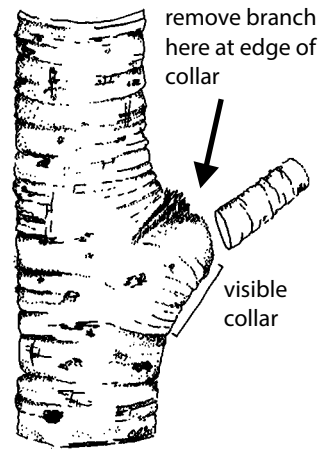
The purpose of this standard is to develop specifications for tree pruning, including but not limited to reducing risk, maintaining or improving tree health and structure, improving aesthetics, or satisfying a specific need.

Example: A pruning cut that removes a branch at its point of origin shall be made close to the trunk or parent limb, without cutting into the branch bark ridge or collar, or leaving a stub.

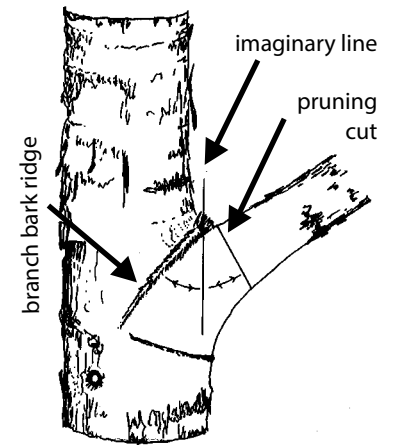
BMP: There are two accompanying booklets on pruning. *Tree Pruning* is directed at anyone who prunes trees. It illustrates pruning types and proper pruning techniques, discusses when to prune, and contains a list of trees that often drip sap after early season pruning. Also included are a sample request for bids and a sample work order. The other publication, *Utility Pruning of Trees*, is intended for professionals in that industry.

ISA's BMP booklet provides well-illustrated guidance for a wide range of pruning situations and practices.

A. Visible collar



B. No visible collar



ANSI A300 (Part 2) Soil Management

This standard covers three important aspects of soil management: modification, fertilization, and drainage.

Example: Sand should not be used as a soil amendment for clayey soils unless it will exceed 50 percent of the soil volume.

BMP: Two very helpful booklets are associated with this standard. *Soil Management for Urban Trees* provides comprehensive coverage of soil issues such as sampling, analysis, the use of amendments, tillage, vertical mulching, irrigation, and drainage. The other, as the name implies, focuses in on the important topic of *Tree and Shrub Fertilization*.

Soil management is often overlooked in arboriculture and urban forestry. This standard and its two accompanying best management practices provide valuable insights that can move practitioners and property owners to a higher level of understanding.



ANSI A300 Standards and Accompanying BMPs (continued)

ANSI A300 (Part 3) *Supplemental Support Systems*

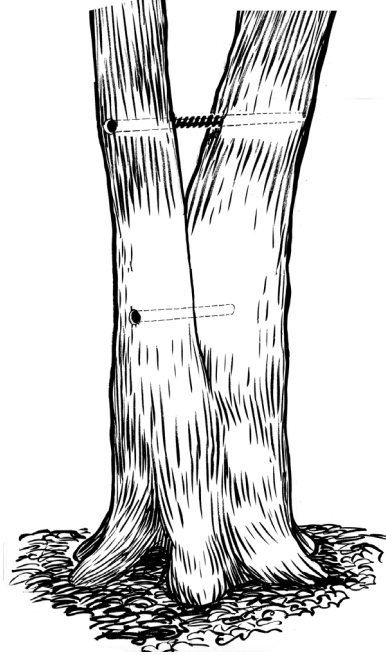
Part 3 covers cabling, bracing, propping, and guying, with excellent illustrations of both hardware used and its installation.

Examples: *Structural integrity and potential changes in tree movement and loading (dynamics) shall be considered prior to installing a tree supplemental support system.*

Ground anchor(s) should be placed no closer to the trunk than two-thirds the distance from the ground to the height of the lowest point of attachment to the tree, adjusted for slope and site conditions.

NOTE: "Shall" is used when a condition of the standard is mandatory; "should" indicates an advisory recommendation.

BMP: *Tree Support Systems* expands on each of the topics, adds more illustrations, and provides helpful charts, including sizes of hardware needed under various circumstances.



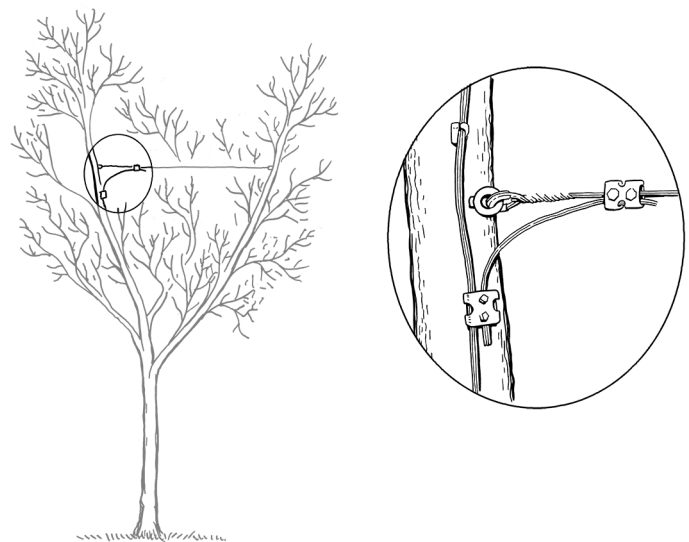
Integrated management of utility corridors can benefit wildlife and the environment as well as utility owners and operators.

ANSI A300 (Part 4) *Tree Lightning Protection Systems*

Not for everyone! Installation of lightning protection systems requires specialized knowledge. This standard is essential for those who have it — or are learning. The inspection of struck trees is also discussed.

Example: *Conductors shall extend away from the tree at a minimum depth of 8 inches (20 cm), except when impenetrable conditions do not allow. Maximum contact with the earth shall be achieved.*

BMP: *Tree Lightning Protection Systems* provides a comprehensive look at the physics of lightning, trees that are particularly susceptible to lightning damage, hardware and installation procedures, and how to test a system once it is installed. Like all the BMP booklets, the authors were selected for their expertise in this subject.



The 61 pages in this thorough booklet even cover how to bond a lightning protection conductor to a support cable when one is found in the tree or is installed at the same time.

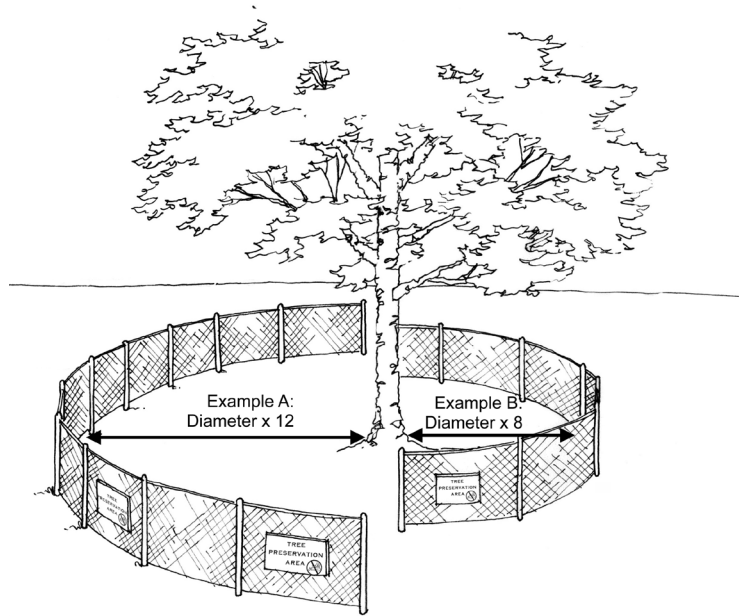
ANSI A300 (Part 5) Management of Trees and Shrubs During Site Planning, Site Development, and Construction

The stated reason for this standard is to conserve and integrate existing and future trees and shrubs that are appropriate for the owner's, owner's agent, or controlling authority's intended use and development of the site.

Example: Protection measures shall be in place before soil, construction materials, petroleum products, water, toxic building wastes, building refuse, equipment, and vehicles are stored adjacent to the tree protection zone.

BMP: Tree protection begins in the planning stage of any construction project and so does this booklet. It then provides valuable guidance during the design phase, pre-construction, active construction, and post-construction. An appendix lists more than 120 species and their relative tolerance to development impacts.

This BMP booklet includes methods for determining a tree's critical root zone and a protection zone beyond it. The kinds of fencing and signs are also important.



ANSI A300 (Part 6) Planting and Transplanting

This publication should be in the hands of anyone who plants or transplants trees. It discusses trees ranging from bare root to large, container stock. An appendix offers a sample procurement specification to help ensure getting quality nursery stock.

Example: Backfill should be similar to the soil at the planting site or amended to meet a specific objective.

BMP: A virtual handbook for anyone who plans to plant trees. Coverage begins with selection of nursery stock and includes all the essentials from handling to proper planting and maintenance during the establishment period.

This well-illustrated BMP booklet can serve as a how-to for tree planters at all levels of experience.



ANSI A300 Standards and Accompanying BMPs (continued)

ANSI A300 (Part 7) *Integrated Vegetation Management*

The subheading for this standard is “Utility Rights-of-Way.” Therefore, it is of interest primarily to professionals charged with managing the strip of land within transmission corridors. Its purpose is to manage sustainable plant communities within that area in a way that conserves wildlife habitat but discourages plants that are incompatible with safety and maintenance.

Example: *The site shall be inspected to evaluate existing conditions to determine what type of control method(s), if any, is appropriate to meet defined objectives.*

BMP: The needs and methods of vegetation control and management are discussed and illustrated. The material is presented in a way that may be of interest even outside the industry to anyone concerned with sustainable land use practices.

Integrated management of utility corridors can benefit wildlife and the environment as well as utility owners and operators.



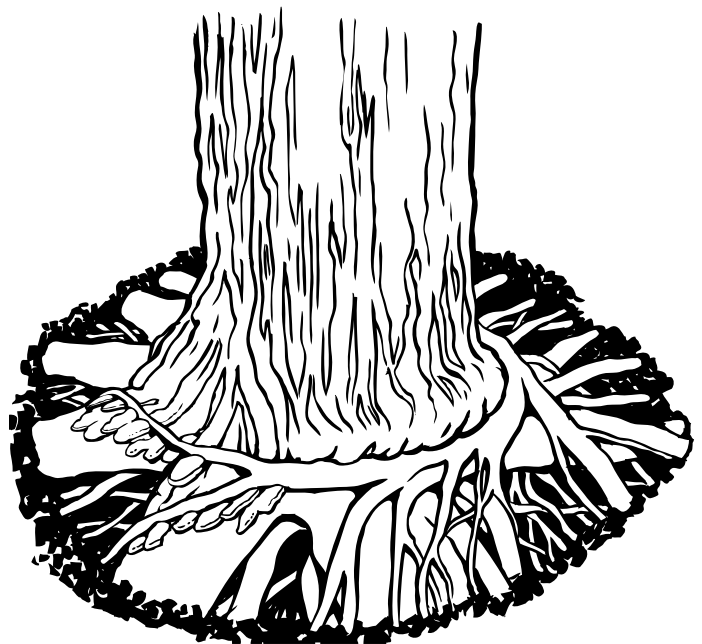
ANSI A300 (Part 8) *Root Management*

Roots are essential to the health and longevity of trees. This standard addresses the practices that can reduce damage regardless of any project that might affect nearby trees. Included is an appendix listing alternatives to root pruning and cutting.

Example: *Wound treatments shall not be used to cover wounds, except to manage dessication or pests, or for aesthetic purposes.*

BMP: This publication contains 41 pages of current information to help readers understand roots. Practices based on this understanding include root inspections, how to spot problems, root pruning, and conflicts with pipes or foundations. It includes a summary chart illustrating objectives, strategies, and recommended practices.

Stem-girdling roots are one of the many features explained, along with methods of excavation and treatment of a tree's underground support and life-giving structures.

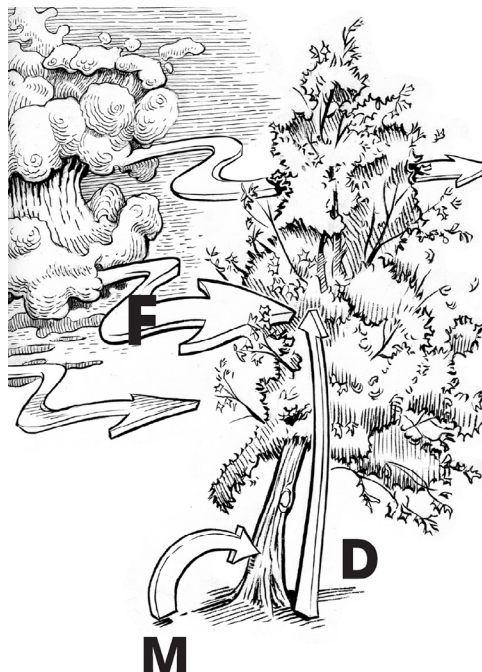


ANSI A300 (Part 9) *Tree Risk Assessment*

The subheading for this standard is “Tree Structure Assessment.” Appropriate training and experience is stressed and procedures are divided into three levels, or intensities, of assessment. A tree structure assessment checklist is appended.

Example: *Level 2 assessments shall include a 360-degree, ground-based visual inspection of the tree crown, trunk, trunk flare, above-ground roots, and site conditions around the tree in relation to targets.*

BMP: At 80 pages, this is the largest BMP publication. It discusses targets (what might be struck if the tree or part of it fails), assessment methods, risk categorization, mitigation, and reporting.



The thorough treatment of tree risk assessment in this BMP booklet includes a discussion of wind and gravity and how to estimate a tree's ability to withstand such stresses.

ANSI A300 (Part 10) *Integrated Pest Management (IPM)*

This standard should help all professionals — and lay people, for that matter — be more proficient in striving for a more sustainable approach to pest management. It addresses biological, cultural, physical, and chemical tools in a way that minimizes health, environmental, and economic risks.

Example: *A decision to treat shall be made by the arborist, IPM manager, or IPM specialist based on the results of monitoring and evaluation of the pest population and the action threshold (pest population or plant damage level that requires action to prevent irreversible or unacceptable harm).*

BMP: This booklet lays out the process that is at the heart of IPM: determining a level of tolerance (the action threshold), monitoring, the spectrum of control options, and record-keeping.



Regular monitoring is one of the first steps in an effective program of integrated pest management.

Additional Standards and BMPs

In addition to the A300 series, two other standards important to anyone in the fields of urban and community forestry are:

- ANSI Z60.1 *American Standard for Nursery Stock*
- ANSI Z133 *Safety Requirements for Arboricultural Operations*

Note: Standards are frequently updated as new information becomes available. In all cases, the latest year of issue is noted right after the standard's numerical identification. For example, ANSI A300 (Part 10) – 2016.

Three additional best management practices publications have been produced that do not directly expand on a specific standard. All are available from the International Society of Arboriculture.

- *Tree Injection*
- *Tree Inventories*
- *Field Guide to Closed Chain of Custody for Herbicides in the Utility Vegetation Management Industry*



The ultimate purpose of using standards and best management practices is consistency and professionalism in the green industry and safe, healthy community forests.

FOR MORE INFORMATION ...

To acquire any of the standards and best management publications listed in this bulletin, quick links have been provided for you in the Supplemental Resources Library at arborday.org/bulletins.

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