

**Part 7 – Integrated Vegetation Management a. Utility Rights-of-way Revision**

**BSR A300 (Part 7) – 20xx Revision Draft 2 Version 1**

For Tree Care Operations –

Tree, Shrub, and Other Woody Plant Management

Standard Practices

*(Integrated Vegetation Management a. Utility Rights-of-way)*

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Foreword (This foreword will not be part of the revised American National Standard A300 Part 7-20xx)

ANSI A300 Standards are divided into multiple parts, each focusing on a specific aspect of woody plant management (e.g. Pruning, Soil Management, Supplemental Support Systems, etc).

These standards are used to develop written specifications for work assignments. They are not intended to be used as specifications in and of themselves. Management objectives may differ considerably and therefore must be specifically defined by the user. Specifications are then written to meet the established objectives and must include measurable criteria.

ANSI A300 standards apply to professionals who provide for, or supervise the management of, trees, shrubs, and other woody landscape plants. Intended users include businesses, government agencies, property owners, property managers, and utilities. The standard does not apply to agriculture, horticultural production, or silviculture, except where explicitly noted otherwise.

This standard has been developed by the Tree Care Industry Association (TCIA), an ANSI-accredited Standards Developing Organization (SDO). TCIA is secretariat of the ANSI A300 standards, and develops standards using procedures accredited by the American National Standards Institute (ANSI).

Consensus for standards writing was developed by the Accredited Standards Committee on Tree, Shrub, and Other Woody Plant Management Operations – Standard Practices, A300 (ASC A300).

Prior to 1991, various industry associations and practitioners developed their own standards and recommendations for tree care practices. Recognizing the need for a standardized, scientific approach, green industry associations, government agencies and tree care companies agreed to develop consensus for an official American National Standard.

The results – ANSI A300 standards – unify and take authoritative precedence over all previously existing tree care industry standards. ANSI requires that approved standards be developed according to accepted principles, and that they be reviewed and, if necessary, revised every five years.

TCIA was accredited as a standards developing organization with ASC A300 as the consensus body on June 28, 1991. ASC A300 meets regularly to write new, and review and revise existing, ANSI A300 standards. The committee includes industry representatives with broad knowledge and technical expertise from residential and commercial tree care, utility, municipal and federal sectors, landscape and nursery industries, and other interested organizations.

When approved, the revised ANSI A300 Part 7 – *Integrated Vegetation Management a. Utility Rights-of-way* standard will be used in conjunction with the rest of the A300 standards when writing specifications for tree care operations.

This is a revision draft approved for public review. The full, 45-day public review period begins on January 6, 2012 and ends on February 20, 2012, at which time, the ASC A300 may submit to ANSI for approval as a revised American National Standard. This draft is not approved for trial use. Committee approval of the standard will not necessarily imply that all committee members voted for its approval. At the time it distributed this draft, the ASC A300 had the following members:

Dane Beull, Chair (pending ballot close)  
(SavATree, Inc.)

Bob Rouse, Secretary  
(Tree Care Industry Association, Inc.)

#### **Organizations Represented**

*Alliance for Community Trees*

*American Forests (pending ballot close)*

#### **Name of Representative**

*Michael Galvin*

*Carrie Gallagher (Alt.)*

*Guy Meilleur*

*Joseph Murray (Alt)*

*American Nursery and Landscape Association*

*American Society of Consulting Arborists*

*American Society of Landscape Architects  
Asplundh Tree Expert Company*

*Bartlett Tree Expert Company*

*Davey Tree Expert Company*

*International Society of Arboriculture*

*Professional Grounds Management Society  
Professional Land Care Network  
Society of Municipal Arborists*

*Tree Care Industry Association*

*USDA Forest Service*

*Utility Arborist Association*

*Warren Quinn*

*Craig J. Regelbrugge (Alt.)*

*Jerry Pulley*

*Stephen Miller (Alt.)*

*Ron Leighton*

*Geoff Kempter*

*Peter Fengler (Alt.)*

*Peter Becker*

*Dr. Thomas Smiley (Alt.)*

*Chris Klimas*

*Grant Jones (Alt.)*

*Bruce Hagen*

*Sharon Lilly (Alt.)*

*Thomas Shaner*

*Alice Carter*

*Gordon Mann*

*Nolan Rundquist (Alt.)*

*Mark Stennes*

*Steve Mays Jr. (Alt.)*

*Keith Cline*

*Ed Macie (Alt.)*

*Matthew Simons*

*William T. Rees (Alt.)*

**Additional organizations and individuals:**

*Peter Gerstenberger (Observer)*

*Sabeena Hickman (Observer)*

*Andy Hillman (Observer)*

*Myron Laible (Observer)*

*National Park Service (Observer)*

*Beth Palys (Observer)*

*Richard Rathjens (Observer)*

*Mary Reynolds (Observer)*

*Richard Roux (NFPA-780 Liaison)*

*Don Zimar (Observer)*

**Clause 1 excerpted from ANSI A300 (Part 1)-2008 Pruning****1 ANSI A300 standards****1.1 Scope**

ANSI A300 standards present performance standards for the care and management of trees, shrubs, and other woody plants.

**1.2 Purpose**

ANSI A300 performance standards are intended for use by federal, state, municipal and private entities including arborists, property owners, property managers, and utilities for developing written specifications.

**1.3 Application**

ANSI A300 performance standards shall apply to any person or entity engaged in the management of trees, shrubs, or other woody plants.

**70 Part 7 – Integrated Vegetation Management (IVM) standards****70.1 Purpose**

The purpose of this document is to provide standards for developing specifications to implement an integrated approach to management of vegetation on utility rights of way.

**70.2 Reasons for Integrated Vegetation Management (IVM)**

The reason for Integrated Vegetation Management is to promote sustainable plant communities that are compatible with the intended use of the site, and discourage incompatible plants that may pose concerns, including safety, security, access, fire hazard, utility service reliability, emergency restoration, visibility, line-of-sight requirements, regulatory compliance, and environmental, or other specific concerns.

**70.3 Implementation**

**70.3.1** Specifications for integrated vegetation management should be written and administered by a vegetation manager.

**70.3.2** IVM specifications shall be adhered to.

**70.4 Safety**

**70.4.1** IVM shall be implemented by a qualified vegetation manager, familiar with the practices and hazards of vegetation management and the equipment used in such operations.

**70.4.2** This standard shall not take precedence over applicable industry safe work practices.

**70.4.3** Operations shall comply with applicable Federal and State Occupational Safety and Health standards, ANSI Z133, as well as federal, state and local laws and regulations.

**71 Normative references**

ANSI A300 *for Tree Care Operations – Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices*

ANSI Z133 *Arboricultural Safety Requirements*

29 CFR 1910, *General Industry*

29 CFR 1910.268, *Telecommunications*

29 CFR 1910.269, *Electric Power Generation & Distribution*

29 CFR 1910.331-335, *Electrical Safety*

*FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act)*

*NERC Standard FAC-003-1, Transmission Vegetation Management Program*

## **72 Definitions (The definitions subclause is part of the ANSI A300 Part 7 IVM standard)**

**72.1 action threshold:** The maximum acceptable levels of plant density, height, location, or condition that initiates implementation of a control method.

**72.2 biological control methods:** Management of vegetation using plant competition, allelopathy, animals, insects, or pathogens.

**72.3 chemical control methods:** Management of incompatible vegetation through the use of herbicides or growth regulators.

**72.4 cultural control methods:** Management of vegetation through the establishment of compatible stable plant communities or the use of crops, pastures, parks, or other managed landscapes.

**72.5 integrated vegetation management (IVM):** A system of managing plant communities in which compatible and incompatible vegetation is identified, action thresholds are considered, control methods are evaluated, and selected control(s) are implemented to achieve a specific objective. Choice of control methods is based on effectiveness, environmental impact, site characteristics, safety, security and economics.

**72.6 maintenance cycle:** Planned interval between vegetation management activities.

**72.7 manual control method:** Control of vegetation using hand-operated tools.

**72.8 mechanical control methods:** Control of vegetation using equipment-mounted saws, mowers, or other devices.

**72.9 non-selective management:** Methods used to control vegetation within a prescribed area without regard to retaining compatible vegetation.

**72.10 right-of-way reclamation:** Reestablishing IVM on a right-of-way that is not currently managed to the full extent of its easement or ownership rights and intended purpose. Conditions on a right-of-way in need of reclaiming include tall, dense amounts of undesirable vegetation, and utility facilities that are inaccessible. Reclamation usually involves initial non-selective methods of mowing or hand-cutting, or broadcast application of herbicides.

**72.11 selective management:** Methods used to control specific vegetation within a prescribed area while retaining compatible vegetation.

**72.12 shall:** As used in this standard denotes a mandatory requirement.

**72.13 should:** As used in this standard denotes an advisory recommendation.

**72.14 specifications:** A detailed, measurable plan or proposal for performing a work activity or providing a product, usually a written document.

**72.15 standard, ANSI A300:** The performance parameters established by industry consensus as a rule for the

measure of extent, quality, quantity, value or weight used to write specifications.

**72.16 utility facilities:** Any privately, publicly, or cooperatively owned line, structure, or system for producing, transmitting, or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, or storm water, which directly or indirectly serves the public.

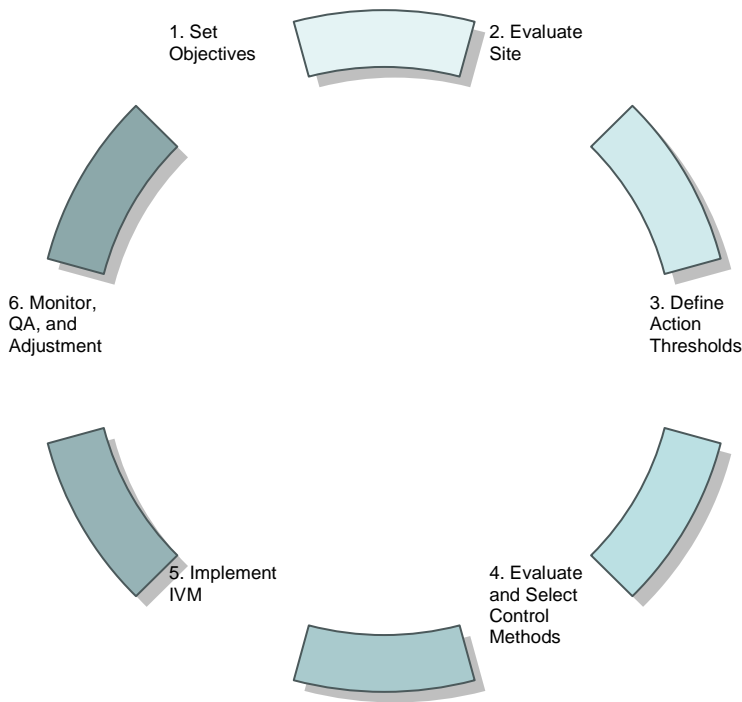
**72.17 utility right-of-way:** A corridor of land over or through which utility facilities are located. The utility may own the land in fee, own an easement, or have certain franchise, prescription, or license rights to construct and maintain utility facilities.

**72.18 vegetation, compatible:** Vegetation that is desirable and/or suitable to the intended use of the site.

**72.19 vegetation, incompatible:** Vegetation that is undesirable, presents a safety hazard, or is unsuitable to the intended use of the site.

**72.20 vegetation manager:** An individual engaged in the profession of vegetation management who, through appropriate experience, education, and related training, possesses the competence to provide for or supervise an integrated vegetation management program.

**Figure 1:** The following IVM flow chart illustrates the IVM process as represented in the ANSI A300 Part 7 standard. Each element is explained in this standard. **Note: Clockwise arrows to be added in final version.**



**73 IVM a. Utility Rights-of-way practices**

**73.4 Communication**

**73.4.1** Communication with various stakeholders such as underlying or adjacent property owners, customers, and regulators regarding IVM activities should be proactive; and shall be in compliance with federal, state, and local regulations.

## **73.2 Set IVM objectives**

**73.2.1** The vegetation manager (VM) shall define the objectives based on the intended purpose and use of the site.

## **73.3 Evaluate site**

**73.3.1** 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.

**73.3.2** Pre-control evaluations should consider right-of-way use, type of utility facility, general conditions, ownership, intended uses of the site, adjacent land use, existing vegetation, topography, soils, fire risk, sensitive or protected areas, water resources, sensitive or protected species, and regulations.

**73.3.3** Vegetation that is compatible or incompatible with the objectives should be identified.

**73.3.4** Post-control evaluations should monitor efficacy and appropriateness of methods used, general site conditions, other impacts of treatments, and provide recommendations for future actions.

**73.3.5** The results of site evaluation should be documented.

## **73.4 Determine action thresholds**

**73.4.1** The vegetation manager shall define action thresholds.

## **73.5 Evaluate and select control methods**

**73.5.1** Efficacy of IVM control methods should be considered when scheduling implementation.

**73.5.2** Control methods should promote compatible vegetation.

**73.5.3** The vegetation manager shall choose from available management/control methods and specify appropriate management/methods.

**73.5.3.1** Control method selection should be based on pre-control evaluations, expected growth rates, utility facility priority, economics, regulations, and specified objectives.

### **73.5.4 Selective management**

**73.5.4.1** The vegetation manager should employ selective management of vegetation whenever there is sufficient compatible vegetation actively growing on the right-of-way.

**73.5.4.2** Where rights-of-way cross surface water resources, selective management should be utilized to create a buffer, retaining as much compatible vegetation as possible.

**73.5.4.3** When incompatible vegetation with the potential for re-sprouting is manually-cleared, herbicide should be applied to the remaining stump.

### **73.5.5 Non-selective management**

**73.5.5.1** Right-of-way reclamation utilizing non-selective methods should be implemented as an initial step toward developing selective management on the site as conditions allow.

### **73.5.6 Mechanical control methods**

**73.5.6.1** When performing non-selective management, including right-of-way reclamation, mechanical clearing methods should be considered.

**73.5.6.2** Where rights-of-way cross surface water resources, selective management should be utilized to create a buffer, retaining as much compatible vegetation as possible.

### **73.5.7 Chemical control methods**

#### **73.5.7.1 Materials**

**73.5.7.2** Materials shall be used in accordance with federal, state, and local laws and regulations.

**73.5.7.3** Materials shall be applied according to manufacturers' labels.

**73.5.7.4** Consideration should be given to utilizing products that minimize the risk to humans and the environment.

**73.5.7.5** Consideration should be given to minimizing the amount of materials utilized over time to minimize the risk to humans and the environment.

**73.5.7.6** Materials and methods should be selected to reduce the chance of target vegetation (or organism) developing resistance.

### **73.5.8 Cultural control methods**

**73.5.8.1** Cultural control methods should be implemented as incompatible vegetation is controlled, and as conditions allow.

### **73.5.9 Biological control methods**

**73.5.9.1** Biological control methods should be implemented as site conditions allow.

## **73.6 IVM implementation**

**73.6.1** All local, state, and Federal laws and regulations regarding public and worker safety shall be followed.

**73.6.2** Specifications developed for IVM shall be adhered to.

**73.6.3** Maintenance cycles should be based on existing vegetation, expected growth rates, and action thresholds.

## **73.7 Monitoring, Quality Assurance, and Adjustment**

**73.7.1** An IVM program should include monitoring and quality assurance to ensure that best practices are followed, objectives of IVM are met, and that all specifications are adhered to.

**73.7.2** The results of IVM treatments and of the quality assurance program shall be clearly documented.

**73.7.3** Results and findings from monitoring and quality assurance should be used to adjust and improve the IVM program.

## **74 IVM application**

### **74.1 Initial clearing of rights-of-way**

**74.1.1** When planning, designing, and constructing new rights-of-way, consideration should be given to future vegetation management needs.

**74.1.2** When rights-of-way are being initially established, written easements should be secured defining rights to implement IVM methods as necessary to meet objectives.

### **74.2 Tools and equipment**

**74.2.1** IVM equipment used to implement the program shall be in proper working condition.

**74.2.2** Equipment shall be used according to manufacturers' instructions.

## **75 Tree pruning and tree removal**

**75.1** Tree pruning shall comply with the *Utility Pruning* subclause in the ANSI A300 Part 1 - *Pruning* standard.

**75.2** Trees and tree branches with the potential to affect utility facilities should be monitored for risk, and pruned or removed as appropriate (refer to ANSI A300 Part 9, *Tree Risk Assessment*). Monitoring intervals, action thresholds, and methods for mitigation shall be determined by the type of facility, regulatory requirements, and available resources.

## Annex A: Wire Zone – Border Zone Concept (This annex is not part of the ANSI A300 Part 7 IVM standard)

The wire zone – border zone concept is a proven IVM method that ensures the reliability of electric supply lines while promoting stable, compatible plant communities and improved wildlife habitat on suitable electric utility rights-of-way. This method delineates the portion of the right-of-way beneath the conductors (wire zone) from the portion on either side (border zone), and prescribes different management strategies for each area. Annex A provides supplemental information about this method.

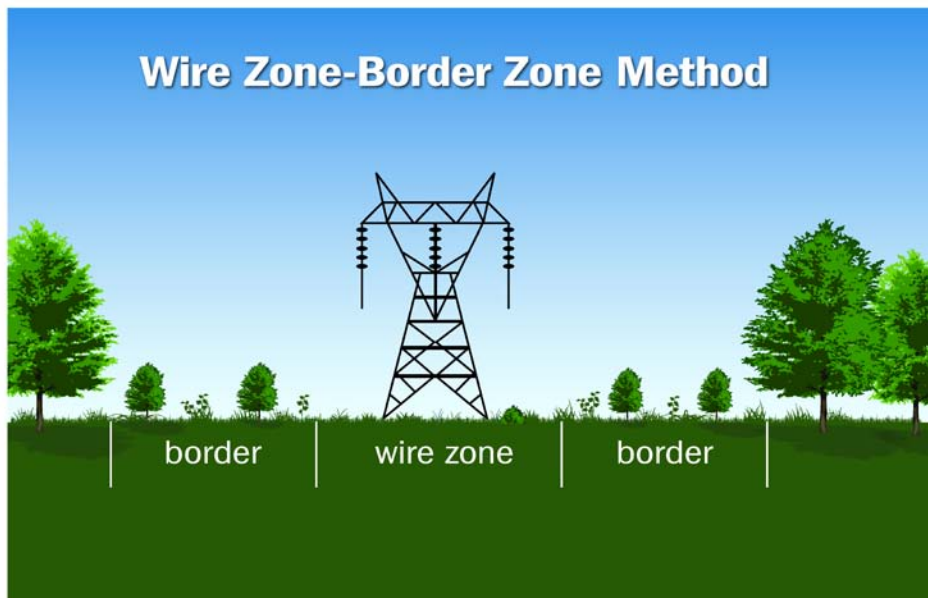
### A-1 Annex A Glossary

**A-1.1 Border zone:** Portion of electric utility right-of-way on either side of the wire zone and extending to the outer edge of the established right-of-way, selectively managed to include a mix of compatible herbaceous and woody vegetation below a specified height.

**A-1.2 Wire zone:** Portion of electric utility right-of-way directly beneath electric supply lines and extending outward to a utility-specified distance, managed to promote only low-growing, primarily herbaceous vegetation.

**A-2** The wire zone – border zone method requires the use of separate management strategies for the wire zone and border zone, which may not be optimum for all sites. The method is especially useful in areas where ecological concerns, such as visual impact and wildlife diversity, are a consideration. When properly implemented, use of the wire zone – border zone method will not affect the reliability of utility facilities. The vegetation manager must determine the suitability of a particular site or right-of-way for management using the wire zone – border zone method, taking into account topography, fire risk, and other factors.

During initial establishment of the wire zone – border zone method, especially on rights-of-way that have not been regularly maintained, or contain minimal or no compatible vegetation, non-selective methods may be used; however, the effect of these methods on surrounding land owners and other stakeholders must be carefully considered when a control method is chosen.



**Figure A-2: Wire Zone – Border Zone Method:** This diagram is provided for informational purposes only and is not drawn to scale or intended for use as a specification detail.

**A-3** In the border zone, incompatible vegetation is selectively controlled, and compatible vegetation that will not grow above a specified height is conserved. By retaining a greater variety of vegetation types, wildlife habitat is improved, and the visual impact of the right-of-way is softened.

**A-4** In the wire zone, woody stems, climbing vines or other vegetation that could impair access or harbor young trees may be controlled using selective or non-selective methods. Maintaining low-growing, primarily herbaceous cover in this area allows access to utility infrastructure for inspection, repair, and maintenance, and to inspect vegetation on and off the right-of-way. In addition, the wire zone is often ideal for wildlife species that prefer a meadow-like habitat.

**A-5** When wire height is adequate, selected woody vegetation may be incorporated into the wire zone as facilities cross deep valleys, canyons, mountainsides or other similar terrain. Additionally, such vegetation may be retained as buffers for bodies of water, visual screening, or for other specified reasons, as long as vegetation management objectives are met.

**A-6** Over the long term, the wire zone – border zone method increasingly makes use of cultural and biological control methods to develop relatively stable plant communities in each zone, thus minimizing the need for other IVM control methods. These plant communities attract and aid in the establishment of stable wildlife populations, which in turn may further enhance biological controls. The wire zone – border zone method can be implemented in most areas; however, the need for additional control methods, as well as the species of flora and fauna present, will vary depending on local climate and site conditions.

## **Annex B: Applicable ANSI A300 Part 7 interpretations (This annex is not part of the ANSI A300 Part 7 IVM standard)**

The following interpretations apply to the ANSI A300 Part 7 IVM standard.

### **B-1 Interpretation of “shall.”**

“A mandatory requirement” is the common definition of “shall” used in the standards development community and the common definition of “shall” used in ANSI standards. A mandatory requirement is not optional and must be followed for ANSI A300 compliance.

### **B-2 Interpretation of “should.”**

“An advisory recommendation” is the common definition of “should” used in the standards development community and the common definition of “should” used in ANSI standards. An advisory notice is not a mandatory requirement. Advisory recommendations may not be followed when defensible reasons for non-compliance exist.

### **B-3 Use of the terms “hazard tree” and “danger tree”**

**B-3.1** In electric utility vegetation management, the terms “hazard tree” and “danger tree” are frequently used to describe trees that pose discernable risk to utility facilities.

#### **B-3.2 Annex B Glossary**

**B-3.2.1 Hazard tree:** A structurally unsound tree that could strike a target when it fails. As used here, the target of concern is electrical supply lines.

**B-3.2.2 Danger tree:** a tree on or off the right-of-way that could come into contact with electric supply lines by growing into, falling into, swaying into, or sagging.

**B-3.3** While this glossary reflects industry consensus, there remain regional differences in interpreting the meaning of “hazard tree” and “danger tree”. ANSI A300 standards promote tree risk management and discourage the use of the term “hazard,” preferring instead to refer to specific levels of risk posed (see ANSI A300 Part 9 *Tree Risk Assessment*) following general risk assessment concepts outlined in international standards (ISO).

**B-3.4** Trees identified as hazard or danger trees may be pruned or removed as appropriate.