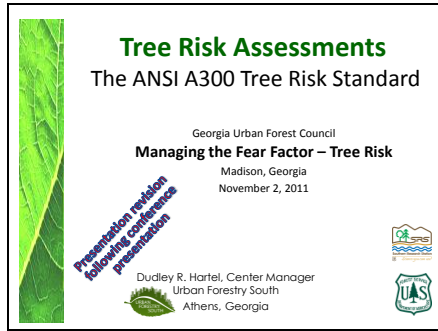


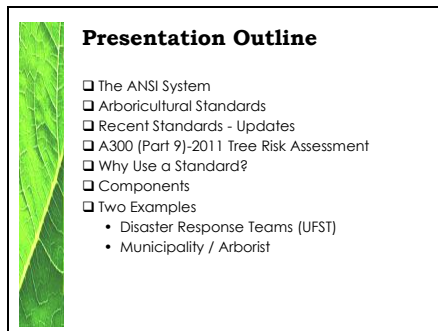
Slide 1



This discussion of the latest ANSI A300 standard for tree risk assessment will help arborists (consulting, city) develop specifications for their urban tree management program or type of business...

Urban Forestry South is the Southern Region's urban & community forestry Technology Transfer Center which supports U&CF programs through state agencies and municipalities.

Slide 2



In this presentation I will review the ANSI system briefly and then discuss in detail the development of a tree risk specification that meets the newest ANSI standard for tree risk.

How many of you have developed written tree care specifications based on any of the ANSI A300 standards?

Written specifications, based on an industry standard, should provide better contract compliance and reduce the chance for misinterpretation of results (i.e. the written reports).

Slide 3



ANSI (American National Standards Institute) accredits organizations to develop voluntary standards for their industry or profession.

TCIA is the accrediting organization for arboriculture and organizes the (ANSI Standards Committee) ASC A300 committee with representatives from a broad and diverse group of industrial and governmental organizations.

Slide 4

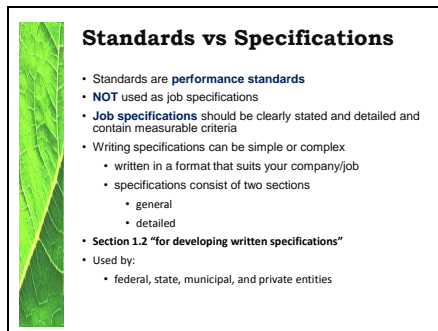


**Arboriculture Standards**

- Part 1: Pruning (2008)
- Part 2: Soil Management (2011)
- Part 3: Supplemental Support Systems
- Part 4: Lightening Protection Systems
- Part 5: Management
- Part 6: Transplanting
- Part 7: Integrated Vegetation Management
- Part 8: Root & Root Zone Management
- Part 9: Tree Risk Management (2011)
- Part 10: Integrated Pest Management
- Part 11: Urban Forest Products

Developed, under development and planned.

Slide 5



**Standards vs Specifications**

- Standards are **performance standards**
- **NOT** used as job specifications
- **Job specifications** should be clearly stated and detailed and contain measurable criteria
- Writing specifications can be simple or complex
  - written in a format that suits your company/job
  - specifications consist of two sections
    - general
    - detailed
- Section 1.2 "for developing written specifications"
- Used by:
  - federal, state, municipal, and private entities

The "standard" clearly identifies the performance standards used to develop arboricultural specifications specific to your job or contract and appropriate for all levels of ownership and consulting.

You cannot say "Perform a tree risk assessment to the **ANSI A300 (Part 9)-2011 Tree Risk standard.**"

See section 1.2 "for developing written specifications."

Slide 6

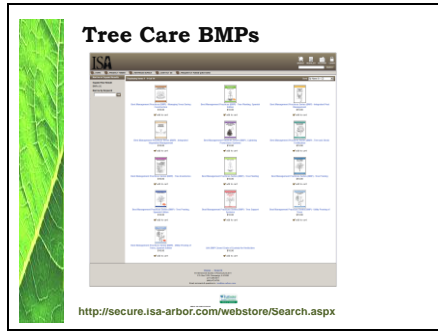


**TCIA: Tree Risk Standard**

www.treecareindustry.org/code/gov\_standards\_a300.htm

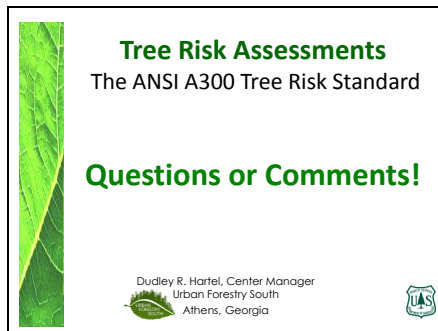
Visit the TCIA website ([http://www.treecareindustry.org/code/gov\\_standards\\_a300.htm](http://www.treecareindustry.org/code/gov_standards_a300.htm)) to view summaries of all current arboricultural standards and links to specification guides.

Slide 7



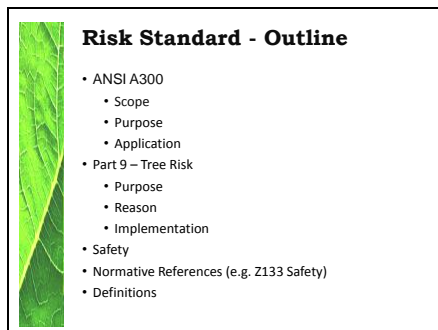
The International Society of Arboriculture (ISA) has prepared Best Management Practices (BMPs) that correspond to most ANSI A300 standards for arboriculture.

Slide 8



Any questions or comments from this quick introduction to ANSI and arboricultural standards ?

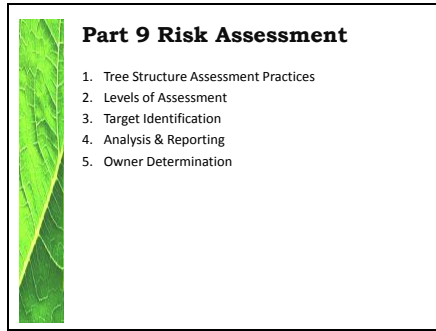
Slide 9



The “standard” reviews the ANSI system and introduces the tree risk standard (Part 9).

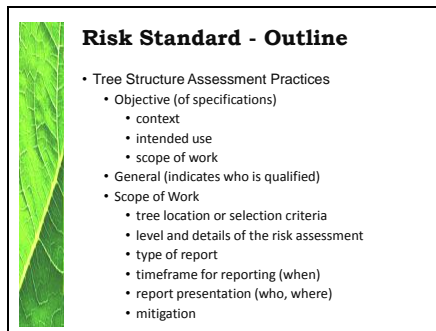
Safety, other standards that apply, and definitions are presented.

Slide 10



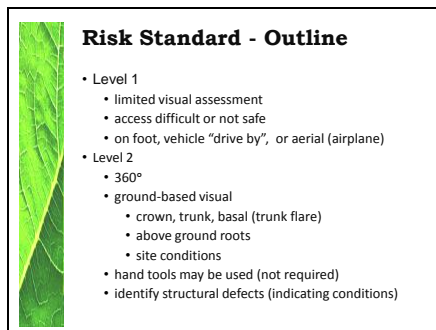
The basic format for a specification.

Slide 11



The “standard” then outlines the specific requirements for the risk assessment specification.


Slide 12



The standard defines three distinct levels of assessment that may be used by a qualified arborist.

The increasing levels (1 to 3) require closer and more detailed assessments.

Slide 13



**Risk Standard - Outline**

- Level 3
  - includes all Level 2 requirements
  - use of advanced methodologies
  - shall include at least 1 of the following
    - aerial (bucket truck or climbing) inspections
    - drilling
    - **lean assessment (possibly over time?)**
    - **evaluation of target risk**
    - probing
    - pull testing
    - radiation assessment
    - resistance drilling
    - sounding
      - sub-surface root examination
    - avoid damage beyond normal work practices

Level 3 requires the most advanced techniques (possibly multiple) and should result in the most accurate of assessments (i.e. lower chance of missing significant defects and their associated risk).

I think “lean assessment” and “evaluation of target” are components of Level 1 and 2 (i.e. not unique here at Level 3). Lean assessment as discussed at the presentation (A. Saunders, A-CC) may be referring to repetitive inspections over time to assess **change** in lean.

Sounding and drilling (i.e. small diameter bits) may be a common techniques for Level 2. Remember, Level 2 does not preclude use of any of these techniques.

The standard outline includes the method for determining the target and details on data analysis and reporting.

Slide 14




**Risk Standard - Outline**

- Target Identification
  - arborist should consult with owner
  - striking distance or tree or part of tree
- Risk Analysis and Reporting
  - include all appropriate data (in detail)
    - species
    - defects
    - site
    - history
    - Mitigation
  - type report required (written, oral)
  - written report content
    - risk advisory section (on non-removal mitigation)
    - residual risk (after mitigation)
    - monitoring and follow-up

This includes a requirement “risk advisory” when mitigation does NOT call for removal, and “residual risk” for all mitigation recommendations.

Slide 15

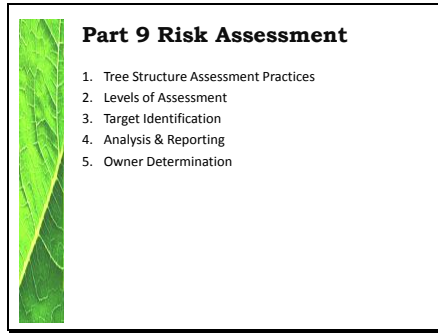


**Risk Standard - Outline**

- Owner Determination (i.e. responsibilities)
  - repeat or make advanced assessments
  - determine actions (i.e. schedule)
  - implement
    - follow-up recommendations
    - monitoring
    - mitigation
      - prune
      - remove
      - move target

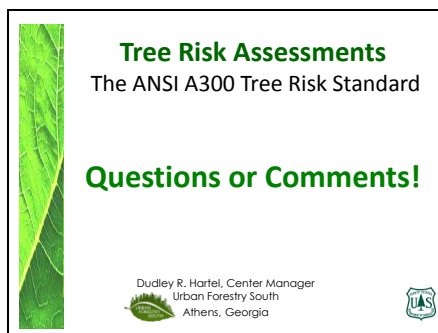
The final element of the standard is the statement of owner responsibilities (i.e. determination).

Slide 16



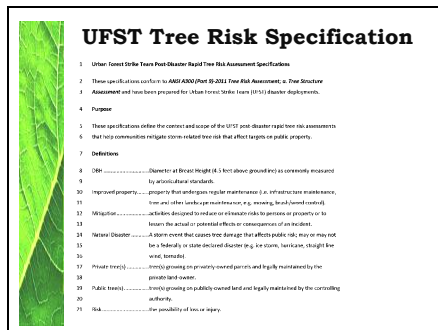
Basic structure reviewed.

Slide 17



Any questions or comments from your introduction to the “standard’s” components ?

Slide 18



Now we will look at a specific tree risk specification developed to the “standard” for the Urban Forest Strike Teams (UFST). UFST is a program of the Southern Group of State Foresters (SGSF) in the southern region (USDA FS Region 8).

UFST are qualified, experienced, and trained Certified Arborists that make tree risk assessments on trees damaged by storms (i.e. hurricanes, ice storms).

General section with:

- Title/Intent (line 1)
- Statement of applicability (lines 2-3)
- Purpose (lines 4-6)
- Definitions (lines 7-21)

Note: In the slide, document line numbers are on the left.

Slide 19

**UFST Tree Risk Specification**

22 **Organizational context** [09.1.1]

23 Urban Forest Strike Teams (UFST) are self-contained, professionally trained certified arborists or urban  
 24 foresters from the state forestry agencies, municipal agencies, consulting and commercial  
 25 arboricultural firms, and the USDA Forest Service that are specifically trained to assess risk on storm  
 26 damaged trees. These teams are deployed to assist communities with (public) risk mitigation of storm  
 27 damaged trees, under an on-call (24/7) basis as available, and document trees that meet FEMA  
 28 debris management criteria for Public Assistance reimbursement.  
 29 The municipality (i.e. controlling authority) will request UFST assistance with the disaster  
 30 response through the state forester and will identify (and guarantee) public property for tree  
 31 risk assessments.

32 **Tree risk assessment objectives** [09.1.2]

33 The objective of the Urban Forest Strike Team (UFST) post-disaster, rapid tree risk assessment is to  
 34 identify the risk that storm-damaged trees pose to people and property or publicly managed (i.e.  
 35 parks, rights of way, public buildings, etc.) in areas designated by the controlling authority (i.e. municipal  
 36 arborist, urban forester, etc.) and to make professional recommendations to mitigate that risk.

37 **Professional credentials** [09.1.3]

38 The UFST arborists assessing tree structure and failure potential shall have the title, Task Specialist  
 39 and/or Team Leader. They shall have management, post-disaster response training through a hands-on  
 40 UFST Task Specialist or Team Leader training workshop and periodic continuing education or webinars,  
 41 e-learning, and/or regional disaster training seminars. The UFST arborist shall be required to have  
 42 adequate tree risk assessment experience before participating in the UFST Task Specialist or Team  
 43 Leader training workshop. [09.2.1]

UFST (Urban Forest Strike Team, SGSF in the southern region).

General section (con't) with:

- Organizational context (who is involved and under what circumstances) (lines 22-31)
- Tree risk assessment objectives (lines 32-36)
- Professional credentials of the arborists (lines 37-43)

Note: In the slide, ANSI A300 (Part 9)-2011 Tree Risk Assessment paragraph numbers are on the right (in bold).

Slide 20

**UFST Tree Risk Specification**

44 **Scope of work** [09.3.1]

45 The UFST arborist shall perform tree risk assessments only on those trees specifically identified in this  
 46 scope of work.

47 Tree risk assessments shall be conducted on trees that: [09.3.1]

48 • are within the boundaries designated by the controlling authority;  
 49 • represent a risk to improved public property;  
 50 • and, that have been damaged by the current natural disaster.

51 The UFST arborist reserves the right to assess and report to the controlling authority any tree, whether  
 52 damaged by the recent storm or not, that poses an immediate risk to improved public property.

53 To help the controlling authority prioritize mitigation efforts, the UFST arborist shall use a modified tree  
 54 assessment protocol as described by Machinery and Clark (2006) that:  
 55 • identifies the likelihood of potential hazards as infrequent, occasional, frequent, and constant  
 56 • classifies into four size classes the size of the part of the tree that is likely to fall as 2 to 2.9  
 57 inches diameter, 3 to 5.9 inches diameter, 6 to 15.9 inches diameter, or greater than or equal  
 58 to 24 inches diameter  
 59 • estimates the probability of failure of that part as low, possible, likely, or imminent.  
 60 The UFST arborist shall make mitigation recommendations based on these observations. [09.3.2]

UFST (Urban Forest Strike Team, SGSF in the southern region).

Scope of work: (starting line 44)

- Identified trees (lines 45-46)
- Boundaries and conditions (lines 47-50)
- Special statement regarding “other trees” (lines 51-52)
- Assessment protocol (lines 53-59)
- Mitigation recommendations are required (line 60)

Slide 21

**UFST Tree Risk Specification**

61 **Levels of tree risk assessment** [09.4]

62 Tree levels of risk assessment will be quality by the UFST arborist, depending on the location of the storm  
 63 damaged tree.

64 **Level 1** [09.4.1.1]

65 See tree on public or private property that meets the correct criteria and is within the  
 66 local disaster client. Although a Level 1 assessment shall be done:  
 67 • only on the portion of the tree that is within the local disaster client boundary  
 68 • only on the portion that is within the local disaster client boundary  
 69 • to identify critical damage caused by the storm  
 70 • only for assessment and mitigation as a public or private property.

71 Because of the limited ability to remove or portion of the damaged tree using most  
 72 assessment, the mitigation will not affect the tree but associated with the tree. [09.4.1.2]

73 **Level 2** [09.4.2]

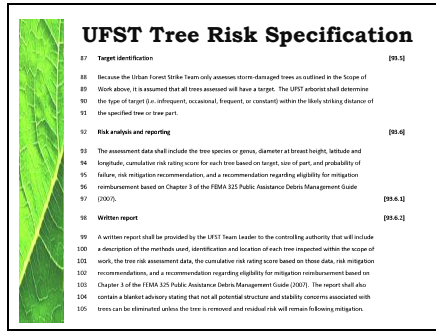
74 See trees on public or private property that meets correct criteria and safety, a Level 2  
 75 inspection shall be done that includes:  
 76 • Global level tree inspection  
 77 • A 30-degree inspection  
 78 • Inspection of the tree crown, trunk, limbs, and roots, along with the soil and the condition  
 79 of the tree to identify signs of decay, disease, or damage, split, or other damage.  
 80 and to identify any other tree safety concerns from storm damage.  
 81 • Inspecting the tree trunk and canopy to determine if there are any other safety  
 82 concerns, such as: structural damage, decay, disease, or other damage to public or private property.  
 83 • Only the assessment can be done as a public or private property.  
 84 • Only the assessment can be done as a public or private property.  
 85 The arborist shall be required to perform a higher level of assessment than when specified  
 86 in the assessment. [09.4.3]

UFST (Urban Forest Strike Team, SGSF in the southern region).

Levels of assessment: (starting line 61)

- Statement of applicability (lines 62-63)
- Level 1 (lines 64-72)
- Level 2 (lines 73-83)
- Tools required/permitted (lines 84-86)

Slide 22



UFST (Urban Forest Strike Team, SGSF in the southern region).

Standard components:

- Target identification (lines 87-91)
- Analysis & reporting (lines 92-97)
- Written report (lines 98-105)

**Notes:** The risk advisories required by the standard are shown here as embedded in the “Written report” , but may be better served if extracted to a separate block.

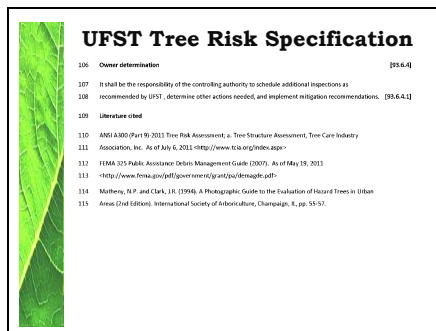
Also note that this risk advisory statement is NOT properly worded in the example.

Better wording may be:

**Risk advisories [93.6.2.1.1]**

Regardless of tree care action recommended or taken (except removal), some residual tree risk will remain following mitigation. Only when the tree is removed will all potential structure and stability concerns associated with the tree be eliminated.

Slide 23

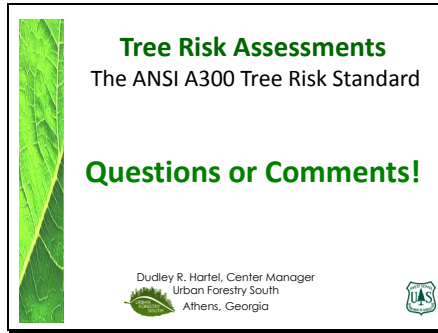


UFST (Urban Forest Strike Team, SGSF in the southern region).

Closing statements:

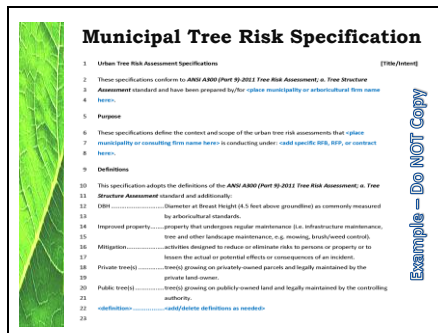
- Owner determination (responsibilities) (lines 106-108)
- Literature cited (lines 109-115)

Slide 24



Any questions or comments about this risk specification ?

Slide 25



A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications. Do NOT copy this example risk specification verbatim.

General section with:

- Title (line 1)
- Statement of applicability (lines 2-3)
- Purpose (lines 5-8)
- Definitions (lines 9-22) – add definitions as needed for your RFB or contract.

Slide 26



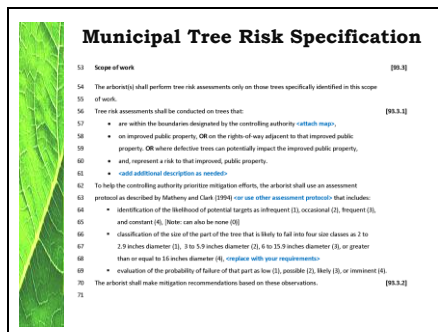
A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

General section (con’t) with:

- Organizational context (who is involved and under what circumstances) (lines 24-33)
- Tree risk assessment objectives (lines 34-38)
- Professional credentials of the arborists (lines 39-52)

Slide 27



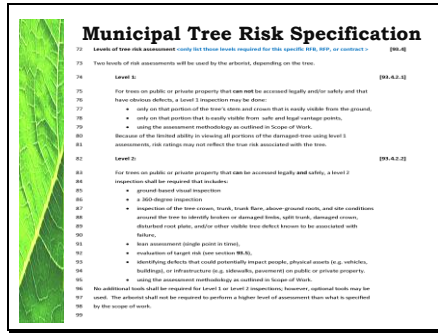
A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

Scope of work: (starting line 53)

- Identified trees (lines 54-55)
- Boundaries and conditions (lines 57-61)
- Assessment protocol (lines 62-69)
- Mitigation recommendations are required (line 70)

Slide 28



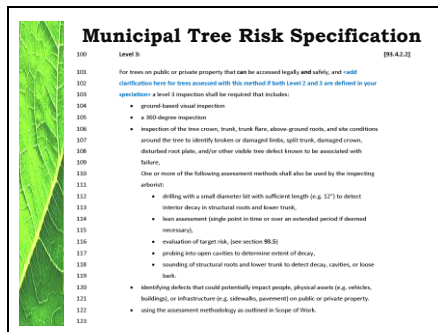
A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

Levels of assessment: (starting line 72)

- Statement of applicability (line 73)
- Level 1 (lines 74-81)
- Level 2 (lines 82-95)
- Tools required/permitted (lines 96-98)

Slide 29



A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

Levels of assessment: (starting line 72)

- Level 3 (lines 100-122)

Slide 30



A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

Standard components:

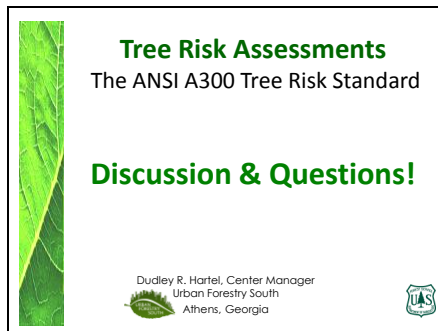
- Target identification (lines 124-127)
- Analysis & reporting (lines 128-131)
- Written report (lines 132-136)

Closing statements:

- Risk advisories (lines 137-140)
- Owner determination (lines 141-144)
- Literature cited (lines 145-49) [Note: Not required by Standard]

Also reference any applicable contracts, RFPs, RFBs, or required report templates.

Slide 31



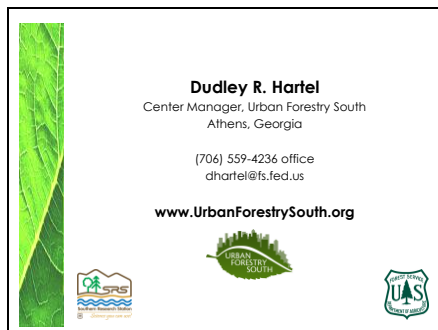
A “generic” tree risk assessment specification (NOT to be copied) for municipalities that are requesting bids and/or contracting for tree risk assessments, or for consulting arborists that are providing this professional service for clients.

Consult the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard and your legal counsel when developing risk specifications.

Do NOT copy this example risk specification verbatim.

Any questions or comments about this example risk specification or the ANSI A300 (Part 9)-2011 Tree Risk Assessment standard?

Slide 32



A PDF of this presentation will be at [www.UrbanForestrySouth.org](http://www.UrbanForestrySouth.org).

“Quick Search” with ‘ANSI Risk’ (no quotes).