CITY OF CHARLES TOWN

CHARLES TOWN TREE BOARD

AGENDA • DECEMBER 5, 2024

Commission/Board Meeting **COUNCIL CHAMBERS** **7:00 PM**

101 E Washington Street, Charles Town, WV 25414

1. CALL TO ORDER

2. APPROVAL OF MINUTES

: **2024-1228:** Charles Town Tree Board Meeting Minutes - November 7, 2024
Tree Board Meeting Minutes - Nov. 7.pdf

3. UNFINISHED BUSINESS

: **2024-1207:** Tree Canopy/Inventory Update

: **2024-1208:** Grant Funds Extension Request to End December 2024

: **2024-1209:** Pollinator Garden

: **2024-1210:** Tree Planting of Bare Root Seedlings for WV Water-Ways

: **2024-1211:** Discussion of Potential Future Nursery Located at Maintenance Yard or Other Location

: **2024-1212:** New Grant Funds Available and Consideration of Tree Related Projects

: **2024-1213:** Identification of Invasive Species and Project Discussion of Reclaiming Native Environment for Skate Park and Evitts Run

: **2024-1214:** Creation of Tree Board Brochure and Public Outreach Ideas
Tree Brochure.pdf

: **2024-1215:** Earth Grounds Street Festival November 9, 2024

: **2024-1216:** Chestnut Tree Society Discussion

: **2024-1217:** Skate Park Hillside Below Utility Lines

: **2024-1218:** Trout Unlimited Program, Ryan Cooper

: **2024-1219:** Evitts Run Planting Buffer Along Liberty Street

: **2024-1220:** Completion of Clearing Brush and Invasive Species Along Evitts Run

: **2024-1221:** Completion of Brush Hogging at Willingham Knolls Park

: **2024-1222:** Status of Meeting with School Board Members: Re: City Tree Plantings/Education Program

: **2024-1223:** Development of Watering, Care and Maintenance Plan for New Trees and Assessment of Equipment Needed

: **2024-1224:** Cacapon Best Practice Management Tree Sale

: **2024-1225:** Spring at Craig Hill Estates

: **2024-1227:** Identification of Open Planting Areas for Trees Installations in the City

4. NEW BUSINESS

: **2024-1226:** Discussion of Revisions to Tree Ordinance
treecity009-summary.pdf
treecity031-summary.pdf

5. ADJOURNMENT

6. NOTICE: The Public May View the Meeting Live by Clicking:

https://us02web.zoom.us/j/81846354913?

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1228: Charles Town Tree Board Meeting Minutes - November 7, 2024

ATTACHMENTS:

- Tree Board Meeting Minutes - Nov. 7.pdf

CITY OF CHARLES TOWN
Tree Board
November 7, 2024

Regular Meeting **Zoom Meeting** 7:00 PM

101 East Washington Street, Charles Town, WV 25414

CALL TO ORDER

Attendee Name	Status
Aaron Amore	Present
Katie Coon	Present
Jane King	Present
Carlo Olivares	Absent
Scott Updike	Present
Elizabeth Ricketts	Present
John Nissel	Present

1. APPROVAL OF MINUTES

COMMENTS: none
RESULT: approved
MOVER: Katie Coon
SECONDER: Scott Updike
AYES: all

2. UNFINISHED BUSINESS

2024-1102: Tree Canopy/Inventory Update

- Aaron will set up a meeting with Colton Aaron from Bartlett Tree Experts out of Shepherdstown next week.
- Will see if we can work it into a grant proposal or some other way to get it done.

2024-1103: Grant Funds Extension Request to End December 2024

- Aaron confirmed that the funds are still available until the end of the year.
- We have used the funds.
  - Viking came and took down Bradford pears ($5,700).
  - Bought 5 big replacement trees.
  - We have about $6,000 worth of volunteer hours (not including maintenance hours).

2024-1104: Pollinator Garden

-

2024-1105: Tree Planting of Bare Root Seedlings for WV Water-Ways

- We are going to let them winter over and plant next year.

2024-1106: Discussion of Potential Future Nursery Located at Maintenance Yard or Other Location

-

2024-1018: New Grant Funds Available and Consideration of Tree Related Projects

- Aaron has a draft and we can apply in the next round.
- Waiting on the tree inventory.

2024-1108: Identification of Open Planting Areas for Tree Installations in the City

- Morphs in with our tree inventory.

2024-1109: Identification of Invasive Species and Project Discussion of Reclaiming Native Environment for Skate Park and Evitts Run

- Trying to clear invasives out of Evitt's Run.
- Community outreach event and only had 1 volunteer.
- 20-25% of what we need to do there.
  - Brush needs to be cleared.
- We still need to do more. Maybe another outreach.
- 1 person had chain cutters.

2024-1110: Creation of Tree Board Brochure and Public Outreach Ideas

- Earth grounds festival is coming up on Saturday, Aaron will make a simple flyer to have at our table along with our arts/crafts.

2024-1111: Earth Grounds Street Festival November 9, 2024

- Janie and Katie plan on being there.
- Aaron and Scott can be there for a little bit.

2024-1112: Meeting with Colton Aaron of Bartlett Tree

- Aaron is working on getting an estimate, meeting next week.

2024-1113: Meeting with Travis Kable on Plan of Action for Tree Care, Trimming, Maintenance, and Planting

- Travis is still waiting to take his 2nd test.
- Committee to try and gather info to get a maintenance schedule together for a master plan.
- Maintenance is overburdened and very busy.
- We need a plan for mulching, trimming and watering.

- Suggestion of having a volunteer core of people to help with tasks.
- Maybe get a rain barrel at Willingham Knolls.

2024-1115: Chestnut Tree Society and Membership Update

- The city posted we're now official members.
- We get a sticker and newsletter.
- 30-40 saplings, winter over and plant in the spring.
- Educational component of this.

2024-1116: Skate Park Hillside Below Utility Lines

- Utility contingent on maintenance but they're busy.

2024-1117: Trout Unlimited Program, Ryan Cooper

- Riparian Tree Planting.
- Last email from Ryan was that the estimate from their contractor came in higher than anticipated so they are re-biding it.
  - Waiting to hear back.

3. NEW BUSINESS

2024-1118: Evitts Run Planting Buffer Along Liberty Street

-

2024-1119: Completion of Clearing Brush and Invasive Species Along Evitts Run

-

2024-1120: Completion of Brush Hogging at Willingham Knolls Park

- John will ask Jim.

2024-1121: Status of Meeting with School Board Members: Re: City Tree Plantings/Education Program

- Want to get on their agenda.
- We will have a lot of trees and need big stretches to put them.

2024-1122: Development of Watering, Care and Maintenance Plan for New Trees and Assessment of Equipment Needed

-

2024-1123: Cacapon Best Practice Management Tree Sale

-

2024-1124: Spring at Craig Hill Estates

- The path/trail that goes back beyond the subdivision is all city park land.
  - There are a lot of gaps back there.
  - Good place for spring planting.

- We can order shrubs too.
- The bridge is planned by the grave site to Happy Retreat.
- Connectivity to disconnected parks.
- CTUB doesn't have to re-plant trees.

2024-1125: Charles Town Tree Master Plan - 2024 Master Tree Board Plan Final Draft 12.27.24.pdf

- Katie is working on the Tree City USA.

4. ADJOURNMENT
MOTION: Motion to adjourn at 7:50PM
MOVER: Katie Coon
SECOND: Scott Updike
AYES: All

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1207: Tree Canopy/Inventory Update

Review of goals, software data, etc. Meeting with Colton Aaron from Bartlett Tree Service about inventory and tree removal projects.

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1208: Grant Funds Extension Request to End December 2024

Trees have been removed with five (5) replacement trees ordered and to be delivered in early November for 200 block of W. Washington Street. Use of grant funds to pay and off-set with volunteer time.

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1209: Pollinator Garden

Finish planting spaces with wildflower seeds and purchase of topsoil. Community outreach for weeding, prep and seeding. Possibly November?

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1210: Tree Planting of Bare Root Seedlings for WV Water-Ways

Trees have been delivered and need plan for temporary location. Coordinate with Parks and Recreation for next steps.

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1211: Discussion of Potential Future Nursery Located at Maintenance Yard or Other Location

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1212: New Grant Funds Available and Consideration of Tree Related Projects

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1213: Identification of Invasive Species and Project Discussion of Reclaiming Native Environment for Skate Park and Evitts Run

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
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SCHEDULED

AGENDA ITEM (ID #)

2024-1214: Creation of Tree Board Brochure and Public Outreach Ideas

ATTACHMENTS:

- Tree Brochure.pdf



Arbor Day Tree Commemoration
April 2024

Charles Town Tree Board
101 E. Washington St
Charles Town, WV 25414
304-725-2311
cttreeboard@gmail.com

THE American Chestnut FOUNDATION MEMBER

TREE CITY USA
Arbor Day Foundation

Arboreally Hip

CHARLES TOWN TREE BOARD

The Charles Town Tree Board is charged with the care, preservation, pruning, planting, replanting, removal, or disposition of trees on public lands; such plan shall consider existing and future utility locations and environmental factors in relation to existing and future tree species on public or private lands, as provided in this article or other ordinances.



Business Owner & helper marking location for replacement tree on W. Washington St.

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Events:

-Spring and Fall Tree Planting with Cacapon Institute

-Arbor Day Tree Planting

-Pollinator Garden Installations

-Private Tree Sale Program for City Residents

-Community Outreach to clear invasive species

-Educate Community as to benefits of trees

-Apply for grants to further tree planting & removal of invasive species

-Cooperate with Federal, State and Local agencies

-Tree Canopy Review

Benefits: Trees reduce the urban heat island effect through evaporative cooling and reducing the amount of sunlight that reaches parking lots and buildings.

Trees improve our air quality by filtering harmful dust and pollutants such as ozone, carbon monoxide, and sulfur dioxide from the air we breathe.

Trees give off oxygen that we need to breathe.

Trees reduce the amount of storm water runoff, which reduces erosion and pollution in our waterways and may reduce the effects of flooding.

Many species of wildlife depend on trees for habitat. Trees provide food, protection, and homes for many birds and mammals.

-Arbor Day Foundation
Tree City USA 12 years
- Member American Chestnut Society

Volunteers Wanted!
Email cttreeboard@gmail.com to find out how you can help beautify your City



Charles Town Tree Board
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Charles Town, WV 25414

Meeting: 12/05/24
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SCHEDULED

AGENDA ITEM (ID #)

2024-1215: Earth Grounds Street Festival November 9, 2024

The festival runs from 2:00-7:00PM. The Tree Board has a booth/table and will need to come up with Tree Board related fun. Thoughts on staffing, comments, and suggestions needed.

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1216: Chestnut Tree Society Discussion

Discuss receipt of saplings, PR outreach and community investment and placement/location.

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1217: Skate Park Hillside Below Utility Lines

Consideration of a large-scale planting of sunflowers, Indian Grass (Sorghastrum Nutans) and/or other flowers as means of ground cover, pollinator site and beatification of area. Coordination with maintenance to scrape down brush to prep for Fall planting. Steps toward completion.

https://www.wildflower.org/plants/result.php?id_plant=sonu2

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

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Category: Report
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AGENDA ITEM (ID #)

2024-1218: Trout Unlimited Program, Ryan Cooper

Trout Unlimited is working in conjunction with the Potomac Conservancy which has a grant to plant riparian buffers in Berkeley and Jefferson Counties along various waterways. Looking at November planting. Need to clear stream in October using community and hired firms.

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Charles Town, WV 25414

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Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1219: Evitts Run Planting Buffer Along Liberty Street

Design ideas, plants, and estimate for costs.

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1220: Completion of Clearing Brush and Invasive Species Along Evitts Run

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1221: Completion of Brush Hogging at Willingham Knolls Park

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

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SCHEDULED

AGENDA ITEM (ID #)

2024-1222: Status of Meeting with School Board Members: Re: City Tree Plantings/Education Program

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
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AGENDA ITEM (ID #)

2024-1223: Development of Watering, Care and Maintenance Plan for New Trees and Assessment of Equipment Needed

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1224: Cacapon Best Practice Management Tree Sale

The Tree Board has been approved for a 50% reduction in the cost of trees ordered through this program. Schedule application for Spring 2025.

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Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1225: Spring at Craig Hill Estates

Discussion about site options. Schedule application deadline.

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1227: Identification of Open Planting Areas for Trees Installations in the City

ATTACHMENTS:

Charles Town Tree Board
101 East Washington Street
Charles Town, WV 25414

Meeting: 12/05/24
Department: Charles Town Tree Board
Category: Report
Initiator:

SCHEDULED

AGENDA ITEM (ID #)

2024-1226: Discussion of Revisions to Tree Ordinance

See attached Tree City USA brochures. Also see link to assessment tools for what we have, what we want and considerations to be made.

https://wwv.isa-arbor.com/education/resources/educ_TreeOrdinanceGuidelines.pdf

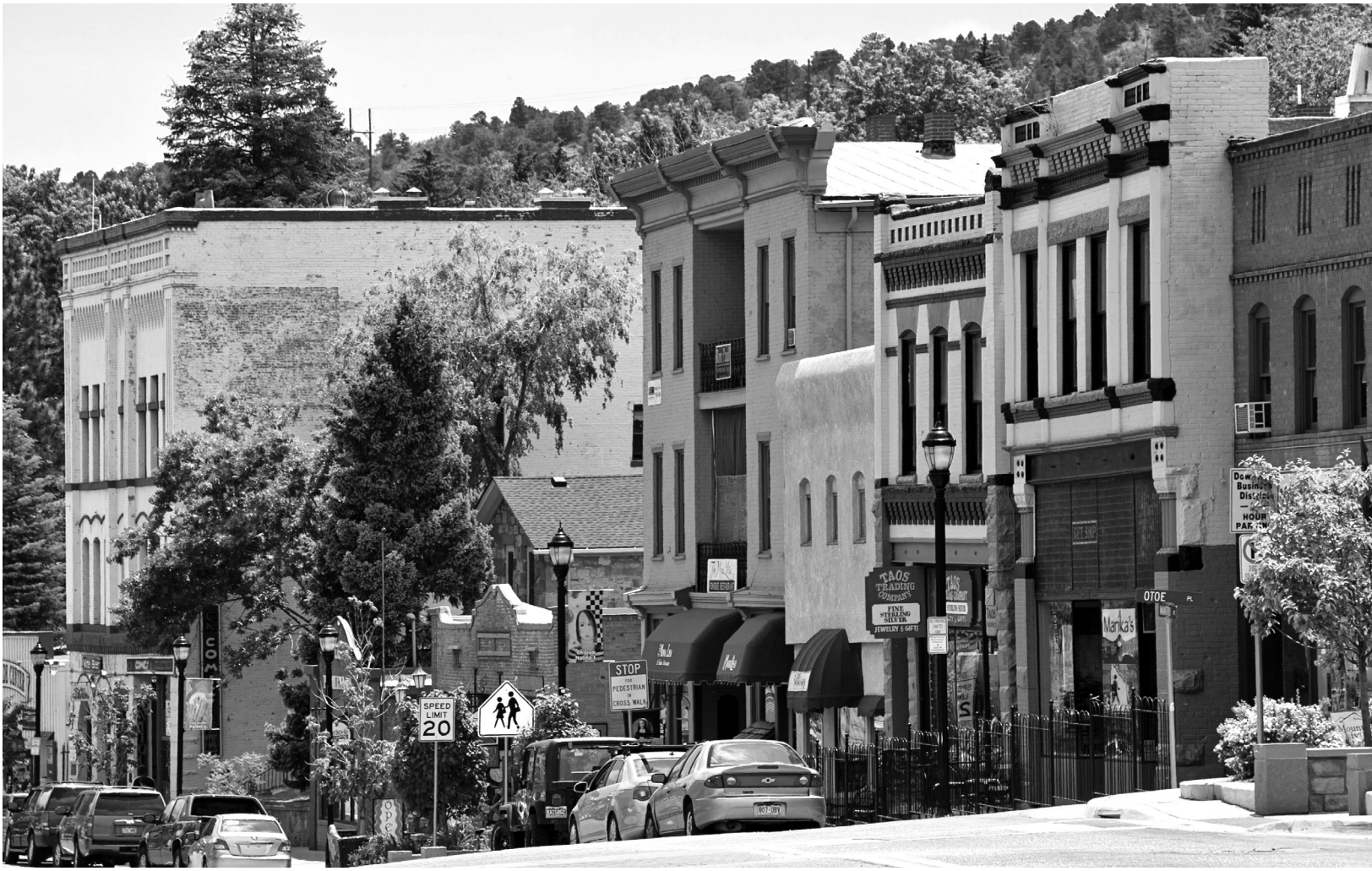
Atlanta Tree Protection Ordinance as an example:

https://www.atlantaga.gov/home/showdocument?id=60907&t=638393527872413292

ATTACHMENTS:
- treecity009-summary.pdf
- treecity031-summary.pdf

TREE CITY USA®
BULLETIN
No. 9
Editor: Dr. James R. Fazio • $3.00

How to Write a Municipal Tree Ordinance



Tree City USA is a powerful force for the promotion of tree care and urban forestry. It is a program that has caught the imagination of citizens, elected officials, and urban tree professionals. More than 3,400 communities now fly the flag of accomplishment, a composite area that is home to some 137 million Americans.

At the heart of the Tree City USA program are four basic requirements:

The community must have (1) a tree board or department, (2) an annual community forestry program backed by the expenditure of at least $2 per capita for trees and tree care, (3) an annual Arbor Day proclamation and observance, and (4) a tree care ordinance.

In this issue of Tree City USA Bulletin, sections of a model ordinance are presented, explained, and illustrated with actual examples. Not every section will be appropriate to all communities, and there are others in use that are not included in this general coverage of the topic.

The purpose of this issue is to encourage all citizens to support their town having an appropriate, current tree ordinance and to provide a starting point for thousands of communities to create or enhance an existing ordinance. Although an ordinance is only as good as the administrative program that backs it up — including support for education and, when necessary, enforcement — a municipal tree ordinance and involvement in the Tree City USA program are giant strides in the direction of healthier urban trees and a quality environment.

Why a Tree Ordinance?

Ordinances reflect the values of a community — the values its residents believe are worth protecting to maintain their quality of life and an environment that is both safe and pleasant. A community's trees, often called the urban forest, are very much the kind of community asset that deserves to be protected and managed for the common good.

A tree ordinance encourages beautification, air cooling and purification, noise abatement, property value enhancement, and the other attributes of trees within a city. It also enables citizens to prevent and control the spread of diseases, to preserve trees in the path of development, and to avoid unnecessary costs associated with sewer clogging, sidewalk replacement, and tree-related accidents. An ordinance may also give force and direction to professional tree care within the municipality's workforce and helps control unscrupulous or careless operators.

Ordinances vary in length and complexity, but the key to effectiveness is to write the ordinance simply, clearly, and tailored to the needs of your community. In the end, a tree ordinance is just another tool for proper tree care. Like any tool, it needs to be of high quality, matched properly to the job, and used with skill and care.



Friends of Trees organized a tree planting along a multiple-use corridor in Portland, Oregon. These trees will provide a forested buffer between the local neighborhood and the interstate, decreasing road noise and adding significant beautification to the area.

THE SEARCH FOR AN IDEAL ORDINANCE

For several decades, citizens who have wanted better tree protection in their communities have searched for model ordinances to guide the way. The ordinance sections and their descriptions found in this bulletin are based largely on just such a model ordinance developed by Philip J. Hoefer of the Colorado State Forest Service. They are condensed from *Municipal Tree Ordinance Manual*, a publication of the International Society of Arboriculture and currently out of print.

An important point made by Hoefer is that in addition to an ordinance, there should be an appended standards and specifications document. This presents detailed guidelines for arboricultural practices such as planting and pruning, tree care, removal, landscaping, contracting, and similar activities that are important in any community forestry program.

It is recommended that the standards and specifications section be a separate but companion part of a municipal ordinance. This is because including such a large amount of detail directly in the ordinance itself is cumbersome and difficult to change. For greater flexibility, it is better to keep the ordinance brief, but to authorize the designated forestry body (board, commission, or department) to publicize rules, regulations, standards, and specifications. These can be published separately and revised as necessary, but still be subject to final approval by the city council or other elected officials.

Importantly, each community has different circumstances that need to be addressed in an ordinance and its accompanying standards and specifications. Use the model ordinance sections in this bulletin and the ordinances of other communities as starting points for developing your own ordinance or to revise one that is not working well, but add or delete sections to match the unique needs and circumstances of your community. Be sure to search your own city codes for any references to trees that may already exist. Finally, use the services of an attorney to review or help write all drafts to ensure that your final product is legally sound as well as beneficial to the future of your community's trees.

To locate sample ordinance provisions, search online for "sample tree ordinances," or search for "ordinances" on the following sites:

- www.isa-arbor.com/home.aspx
- www.actrees.org

IN ADDITION TO AN ORDINANCE, THERE SHOULD BE AN APPENDED **STANDARDS AND SPECIFICATIONS DOCUMENT.**

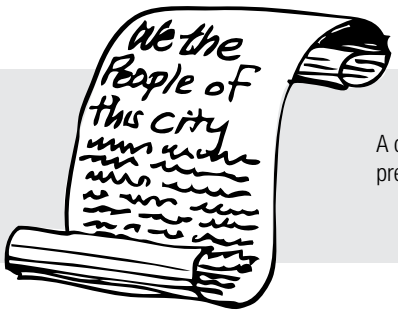
Suggested Sections for a Tree Ordinance

Although no two tree ordinances will be exactly alike, there are some basic elements that will help ensure that the document is workable and effective. These elements are called sections, and they are presented here with examples and principles that illustrate why each one is necessary.

I. PURPOSE

PRINCIPLE: An opening statement that clearly sets forth the purpose of the ordinance will help avoid ambiguity in interpretation. This initial section is usually capitalized and in bold print.

EXAMPLE: It is the purpose of this ordinance to promote and protect the public health, safety, and general welfare by providing for the regulation of the planting, maintenance, and removal of trees, shrubs, and other plants within the city of _____.



A clearly stated purpose prevents misinterpretation.

II. AUTHORITY AND POWER

PRINCIPLE: Someone within city government must have the clearly designated authority to administer the provisions of the ordinance. This section defines, designates, or creates a department, board, commission, or person responsible for the planting, care, and protection of the city's trees.

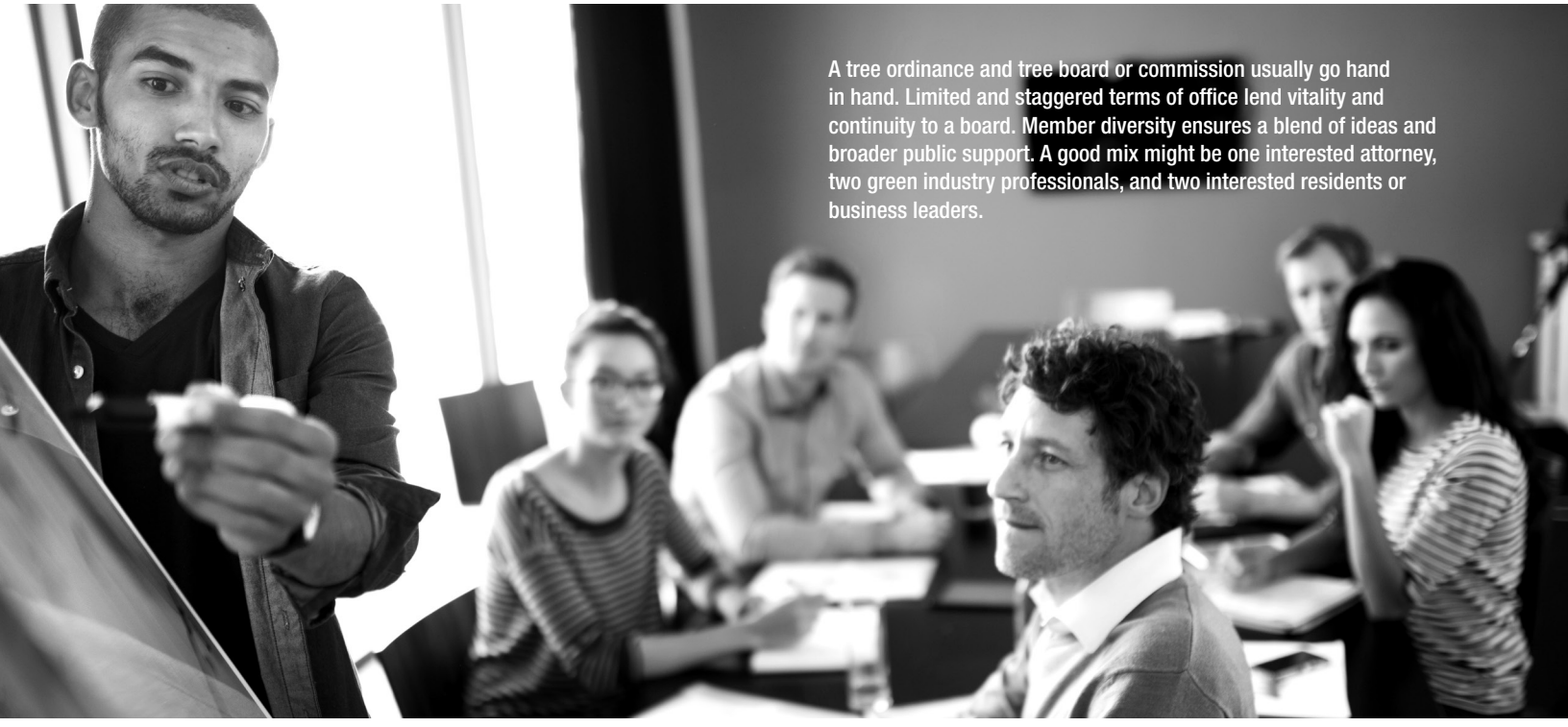
EXAMPLE: There is hereby created and established a City Tree Board for the City of _____, which shall consist of five members, citizens, and residents of this city, who shall be appointed by the mayor with the approval of the city council. Members of the board shall serve without compensation.

HOME RULE AUTHORITY: In order to avoid conflicts with state laws governing trees, a statement transferring regulations to the city may be necessary. State, county, and city laws will explain this process. If needed, the statement should be added as a section.

III. TERM OF OFFICE

PRINCIPLE: Reasonable and clearly stated terms of office for volunteer boards or commissions will help infuse the program with new ideas on a periodic basis and will help avoid the problems created by obstructionists with life or long-term tenure. This section defines length of service, a method for filling vacancies, and the number of consecutive terms (if any) that can be served. Staggering terms can help ensure continuity and stability.

EXAMPLE: The term of the five persons to be appointed by the mayor shall be three years, except that the term of two of the members appointed to the first board shall be for only one year and the term of two members of the first board shall be for two years. In the event that a vacancy shall occur during the term of any member, his or her successor shall be appointed for the unexpired portion of the term.



A tree ordinance and tree board or commission usually go hand in hand. Limited and staggered terms of office lend vitality and continuity to a board. Member diversity ensures a blend of ideas and broader public support. A good mix might be one interested attorney, two green industry professionals, and two interested residents or business leaders.

IV. APPLICABILITY

PRINCIPLE: This section is needed to clarify which property is covered by the ordinance. This usually includes trees on rights-of-way, public parks, cemeteries, and other public grounds. Private property is also sometimes included.

EXAMPLE: This ordinance provides full power and authority over all trees, plants, and shrubs located within street rights-of-way, parks, and public places of the city and over trees, plants, and shrubs located on private property that constitute a hazard or threat as described herein.



An ordinance must specify which property it covers, such as rights-of-way, public parks, and cemeteries.

V. DEFINITIONS

PRINCIPLE: To prevent misunderstanding, words that may be unfamiliar to lay citizens should be defined. If a standards and specifications appendix accompanies the ordinance, many arboricultural terms can be placed there instead of in this section.

EXAMPLES OF WORDS OR TERMS TO DEFINE: arborist, contractor, city forester or city arborist, tree, public tree, private tree, tree lawn, parkway, right-of-way, easement, etc.

VI. LICENSING

PRINCIPLE: One way to protect trees and citizens from irresponsible companies or individuals who pose as arborists is to require practitioners to have a license. Conditions for obtaining the license may even require that the person be a certified arborist. (See Bulletin No. 6.) This section provides licensing authority and includes details such as fees, frequency of renewal, testing procedures, types of licenses, suspensions and appeals, surety bonds, showing identification on equipment, etc.

EXAMPLE: It shall be unlawful for any person to engage in the business of planting, cutting, trimming, pruning, removing, spraying, or otherwise treating trees, shrubs, or vines within the City without first producing evidence of certification/license before the City. (An explanation of requirements and fees is then presented.)

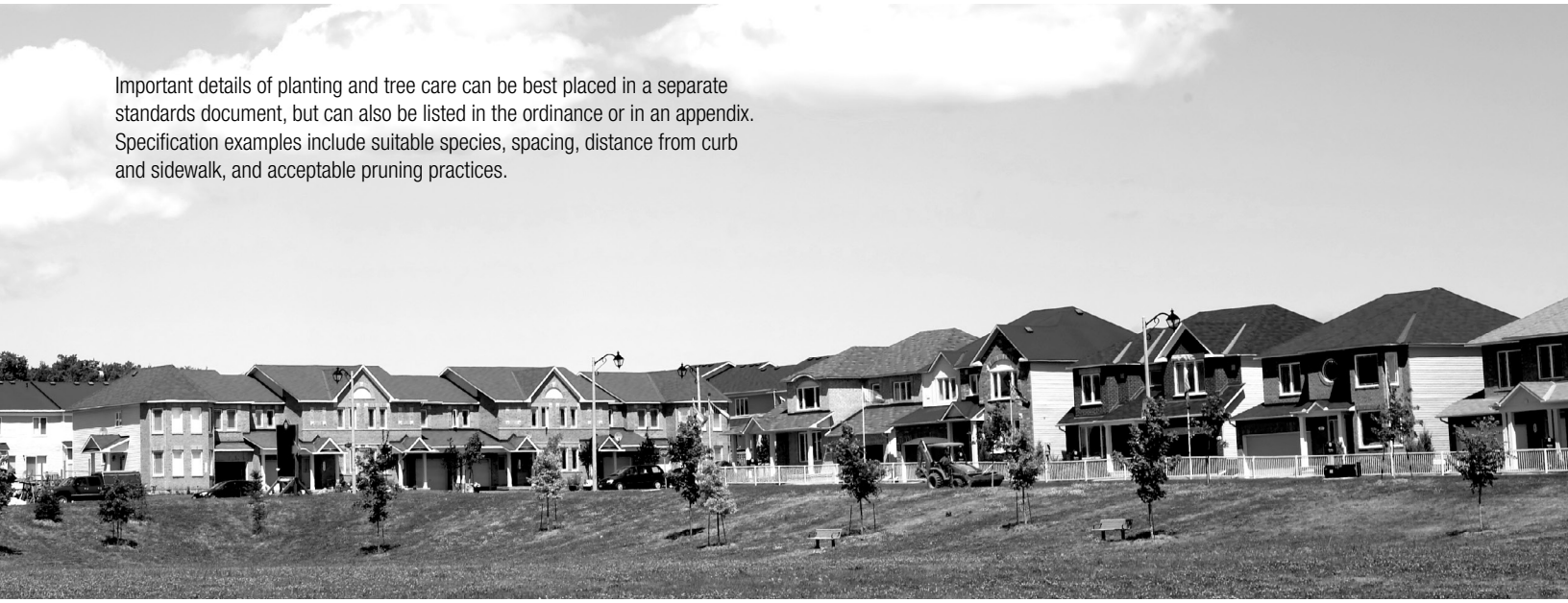
VII. INSURANCE

PRINCIPLE: Arborists work under dangerous circumstances and around high–value property. Since it is often difficult for homeowners to ascertain whether property and tree workers are adequately covered, or to insist on such coverage, a provision in the tree ordinance can easily correct the situation.

EXAMPLE: Before any license shall be issued, each applicant shall first file evidence of possession of worker compensation and liability insurance in the minimum amounts of $1,000,000 for bodily injury or death and $100,000 property damage indemnifying the City or any person injured or damaged resulting from the pursuit of such endeavor as herein described.

A license requirement protects both trees and property owners.





Important details of planting and tree care can be best placed in a separate standards document, but can also be listed in the ordinance or in an appendix. Specification examples include suitable species, spacing, distance from curb and sidewalk, and acceptable pruning practices.

VIII. LANDSCAPING

PRINCIPLE: This section can ensure that trees will be a 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.

EXAMPLE: In new subdivisions or when the development of commercial property occurs, the city forester shall review landscaping plans and may require street trees to be planted in any of the streets, parking lots, parks, and other public places abutting lands henceforth developed and/or subdivided.

IX. TREE PLANTING, MAINTENANCE, AND REMOVAL

PRINCIPLE: 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 desirable and undesirable tree species, spacing, pruning techniques, high-risk trees, sight obstruction, and vandalism.

A good way to clearly specify pruning and other tree work standards is to use the terms and definitions as contained in ANSI A300 standards. For nursery stock, use ANSI Z60.1, available online at the site of AmericanHort.

EXAMPLES:

TREE SPECIES — The Town Tree Board develops and maintains a list of desirable trees for planting along streets in three size classes: small, medium, and large.

SPACING — The spacing of street trees will be in accordance with the three species size classes listed in this ordinance. No trees may be planted closer together than the following, except in special plantings designed or approved by a landscape architect: small trees, 30 feet; medium trees, 40 feet; and large trees, 50 feet.

UTILITIES — No street trees other than those species listed herein as small trees may be planted under or within 10 lateral feet of any overhead utility wire, or over or within 5 lateral feet of any underground water line, sewer line, transmission line, or other utility.

DISTANCE FROM CURB AND SIDEWALK — The distance trees may be planted from curbs or curblines and sidewalks will be in accordance with the three species size classes listed in Section ___ of this ordinance, and no trees may be planted closer to any curb or sidewalk than the following: small trees, 2 feet; medium trees, 3 feet; and large trees, 4 feet.

TOPPING — It shall be unlawful as a normal practice for any person, firm, or city department to top any street tree, park tree, or other tree on public property. Topping is defined by the International Society of Arboriculture as an inappropriate technique to reduce tree size that cuts through a stem more than two years old at an indiscriminate location. (Such a point is usually between branches, leaving a stub.)

X. ADJACENT LANDOWNER RESPONSIBILITY

PRINCIPLE: Quite naturally, homeowners often want to plant trees or do work on trees that abut their property but are on a public right-of-way. This section describes a process by which the homeowner can do the work, but only in accordance with the sound principles of urban forestry management and arboriculture.

EXAMPLE: No person shall plant, remove, cut above the ground, or disturb any tree on any street, park, or other public place without first filing an application and procuring a permit from the city forester. The person receiving the permit shall abide by the standards set forth in this ordinance.



An ordinance may provide authority to investigate privately owned trees that may pose a threat to the public and require removal or mitigation, such as pruning.

XI. TREE PROTECTION

PRINCIPLE: Protecting existing trees is a major challenge. Therefore, more and more progressive communities are using this section not only to prevent insect and disease epidemics, but also to protect trees on both public and private property from damage during construction. Increasingly, another use of this section is to identify and protect trees of historic value or unusual qualities (called heritage trees). Requiring permits 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.

EXAMPLE 1: Upon the discovery of any destructive or communicable disease or other pestilence that endangers the growth or health of trees or threatens to spread disease or insect infestations, the city forester may at once cause written notice to be served upon the owner of the property upon which such diseased or infested tree is situated, and the notice shall require such property owner to eradicate, remove, or otherwise control such condition within reasonable time to be specified in such notice.

EXAMPLE 2: The following guidelines and standards shall apply to trees proposed in a developer's tree protection plan to be retained. (Rules are then specified such as not grading or locating utilities within the tree's drip line, placing protective barriers around trees, preventing siltation, etc. Or, developers may be required to preserve a percent of forested tracts, plant trees in open space, or pay into a county tree-planting fund so that there is no net loss of tree cover.)

EXAMPLE 3: The city forester shall have as one of his/her duties the location, selection, and identification of any trees that qualify as heritage trees. A tree may qualify as a heritage tree if it meets one or more of the following criteria: (Criteria may include species rarity, old age, association with a historical event or person, abnormality, scenic enhancement, etc.)

XII. PRIVATE TREES

PRINCIPLE: Since trees on private property often affect the safety and welfare of other trees and people other than the owner, a provision is needed to allow community action in such cases. This section provides authority to inspect private trees, designate them as public nuisances, and demand their removal or mitigation, such as pruning, when necessary.

EXAMPLE: The city forester or his/her official designee has the authority to enter onto private property whereon there is located a tree, shrub, plant, or plant part that is suspected to be a public nuisance and to order its removal if necessary. (Note: An appropriate legal definition of a public nuisance is needed here, such as any tree with an infectious disease or insect problem that poses a significant threat to the community's tree population; dead or dying trees; a tree or limb(s) that obstruct street lights, traffic signs, the free passage of pedestrians or vehicles; a tree that poses a threat to safety, etc. Also needed is a description of the legal process for notifying property owners and causing abatement of the nuisance, including removal and billing for costs by the city if action is not taken by the owner.)

XIII. PERMITS

PRINCIPLE: Permits provide a way to make certain that anyone who plants, works on, or removes public trees (and sometimes private trees) is knowledgeable and capable of doing the job right. Permits are also a means to ensure compliance with standards and specifications, allow for follow-up inspections, and generally serve as a tool for enabling a community to control the future of its urban forest.

EXAMPLE: No person except the city arborist, his/her agent, or a contractor hired by the city arborist may perform any of the following acts without first obtaining from the city arborist a permit for which no fee shall be charged: (treatments and actions are listed, each one specifying whether it applies to trees on public land or to any tree, public or private).

XIV. ENFORCEMENT

PRINCIPLE: For an ordinance to be more than a piece of paper, authority must be given to the city forester or other official to enforce the provisions. This includes the right to issue notices of violation, notices to perform work, and the ability to stop work.

EXAMPLE: The city forester shall have the authority to publicize and enforce rules, regulations, and specifications concerning the trimming, spraying, removal, planting, pruning, and protection of trees, shrubs, vines, hedges, and other plants upon the right-of-way of any street, alley, sidewalk, or other public place in the city. (Details about the process of rule-making, review, and approval by the governing body and enforcement need to be included.)

XV. PENALTIES, CLAIMS, AND APPEALS

PRINCIPLE: Enforceable, meaningful ordinances must contain provisions for penalties and violations. Most cities have standard statements that will work in a tree ordinance, or one may be written specifically related to trees. There needs to be a process for the city to do needed work if a landowner fails to comply with an order, and there should also be an appeal process.

EXAMPLES:

VIOLATIONS — Any person who violates any provision of this ordinance or who fails to comply with any notice issued pursuant to provision of the ordinance, upon being found guilty of violation, shall be subject to a fine not to exceed $500 for each separate offense. Each day during which any violation of the provisions of this ordinance shall occur or continue shall be a separate offense. If, as the result of the violation of any provision of this ordinance, the injury, mutilation, or death of a tree, shrub, or other plant located on city-owned property is caused, the cost of repair or replacement, or the appraised dollar value of such tree, shrub, or other plant, shall be borne by the party in violation. The value of trees and shrubs shall be determined in accordance with the latest revision of *A Guide to the Professional Evaluation of Landscape Trees, Specimen Shrubs, and Evergreens*, as published by the International Society of Arboriculture.



Each community's ordinance must be written to serve that community's unique needs and circumstances.

ASSESSMENT OF CLAIM — In the event that a nuisance is not abated by the date specified in the notice, the city arborist is authorized to cause the abatement of said nuisance. The reasonable cost of such abatement shall be filed as a lien against the property on which the nuisance was located. In addition, the owner of the property upon which the nuisance was located shall be subject to prosecution.

APPEALS — (Include your municipality's standard appeals process.)

XVI. OTHER

Because circumstances vary so widely between municipalities, there may be other sections necessary to fashion an ordinance to the needs of your community. These range from sections that local government may require in all its ordinances (such as a severability clause that states that if any section of the ordinance is found to be invalid or unconstitutional, it does not affect the validity of remaining sections) to how the urban forestry program is to be financed. The ordinance must fit your town's needs.

Don't Overlook Evaluating and Revising

The basic steps toward protecting and managing the trees in any community are (1) determining what you have (an inventory), (2) deciding what you want, i.e., what is right for your community (safety, a certain percent crown cover, diversity, etc.), and (3) establishing goals and an implementation strategy (a plan). Tree ordinances are part of the latter. They are one of the ways of attaining the desires of residents to have the kind of community forest they deserve for a quality lifestyle.

No tree ordinance is static. As communities grow and change, it is essential to review your ordinance and make certain it keeps pace with the changing needs and challenges. Review what works and what doesn't work. For example, if homeowners in new suburbs are encouraged to plant street trees but this is being ignored by non-resident owners of duplexes or apartments, what might be changed in the ordinance to solve the problem?

Monitoring is often the overlooked step in urban forestry. It is made easier when a tree board or department sets management goals annually and reviews the city's vision statement regularly. It also helps to stay current on what is being done in other cities with similar growth patterns and challenges. The bottom line is that ordinances are not one-time documents. They are a tool, and they need to be updated or replaced like any other tool in order to serve best.



Tree ordinances are important for large cities, small towns, and developing suburban areas.

FOR MORE INFORMATION …

For more information and references, please visit **arborday.org/bulletins**. Explore the Foundation's website for other helpful pages on trees, sale items, the Tree City USA program, public education, the management of community forests, and much more.

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Arbor Day Foundation in cooperation with the U.S. Forest Service and National Association of State Foresters. To achieve the national recognition of being named as a Tree City USA, a town or city must meet four standards:

Standard 1: A tree board or department
Standard 2: A tree care ordinance
Standard 3: A community forestry program with an annual budget of at least $2 per capita
Standard 4: An Arbor Day observance and proclamation

Each recognized community receives a Tree City USA flag, plaque, and community entrance signs. Towns and cities of every size can qualify. Tree City USA application forms are available from your state forester, the Arbor Day Foundation at **arborday.org/treecity**, or your state forestry agency.

PHOTO COURTESY OF: Friends of Trees (page 2).

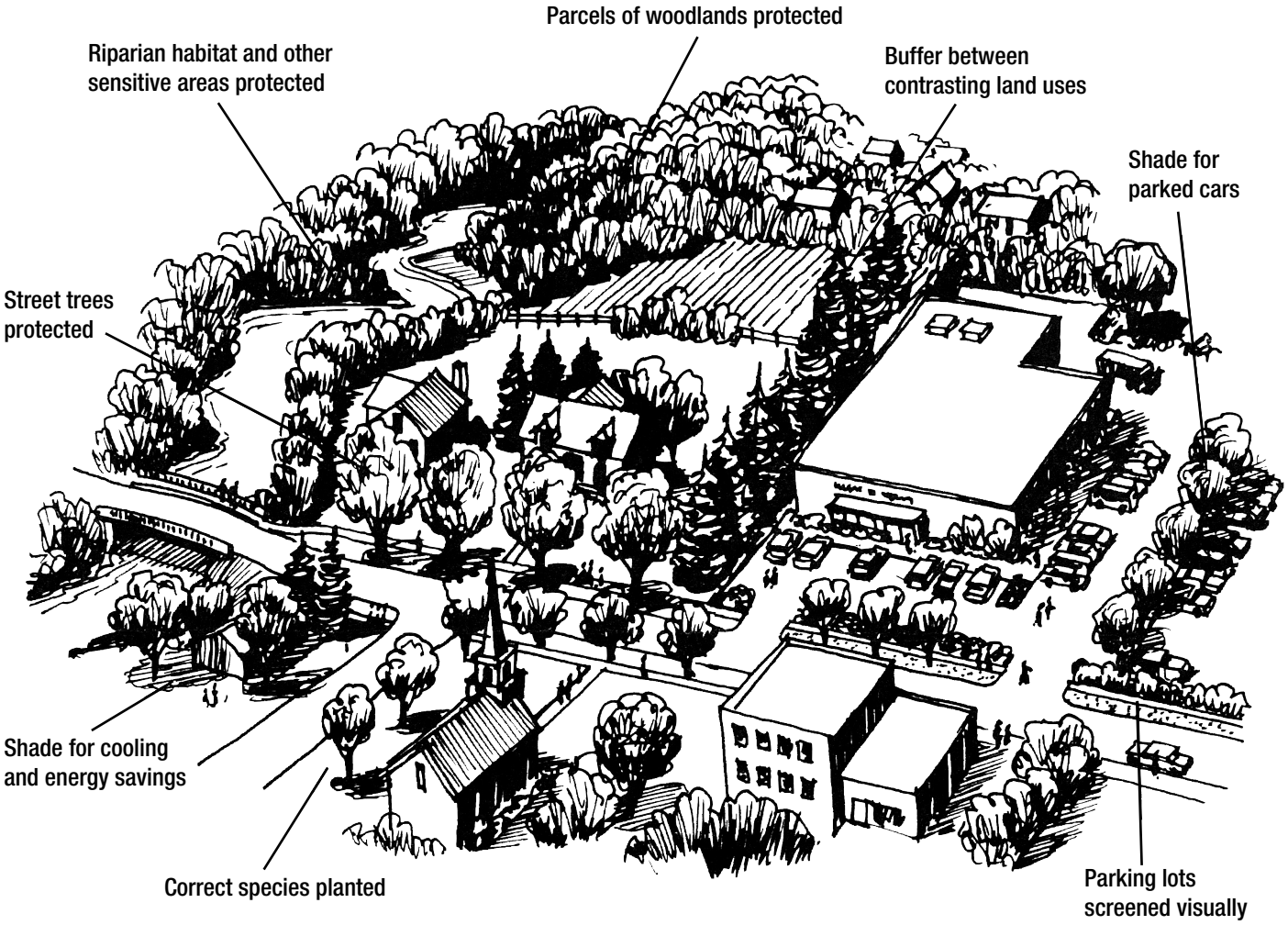
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Tree Protection Ordinances

TREE CITY USA® BULLETIN

No. 31 Editor: Dr. James R. Fazio • $3.00

Ordinances are the strongest means available to a community for protecting its trees. Ordinances can safeguard street trees, ensure beautiful landscaping in commercial areas, and prevent woodlands from disappearing as shopping malls and housing tracts spread across the land. Used correctly, ordinances can help provide a high-quality environment — without causing undue hardships on developers.



Tree protection ordinances and landscape ordinances can provide a community with both practical and aesthetic benefits.

Why Protection Ordinances?

"Legions of belly-dumping earthmovers wheeled at speeds akin to tanks on flank attack. An antebellum-style house disappeared one night; all that was left were the surrounding trees.Dust clouds as if from brigades on maneuver rose to the sky. Wetlands were banked. Chain saws roared."

— Joel Garreau
Edge City



Land development need not mean the end of trees! Tree protection ordinances provide a guide so that development is compatible with the area's natural vegetation and may include tree replacement when removal is unavoidable.

A community forestry specialist for the U.S. Forest Service recently noted that nine out of 10 public inquiries he receives are questions about how a community can save its trees in the face of land development. "There is a distinct increase in interest," he said, "in protecting urban trees on private land, not just along streets and in public parks."

Why this growing interest? Probably because citizens are alarmed at the disappearance of wooded sites at the edges of their cities. The conservation group Trees Atlanta reported not long ago that the Atlanta region was losing up to 50 acres of woodlands each day during the prime building season. The suburbs surrounding Washington, D.C., have lost up to half their woodlands over the past 30 years. From Florida to Seattle, the sciences of destruction are repeated, and citizens are seeking a stronger way to say, "Stop!"

Tree ordinances are not new. Perhaps the first came in 1807 when a Detroit ordinance specified the planting of trees along the city's streets. Eventually, sections were added to ordinances prohibiting the intentional damage or removal of street or park trees, and more recently, landscaping provisions were added to require the installation of trees and shrubs to screen new parking lots or separate land use zones. Finally, there were ordinances to protect (or preserve as is commonly used in these laws) some percentage of tree cover in wooded areas on private land slated for development.

Regulating the fate of trees on private land is a controversial concept. To some, it is an onerous intrusion of government on the rights of individuals. To others, it is a duty of government, justifiable on the grounds of safeguarding the general health and welfare of society. There is considerable legal precedence for the action, usually based on the principle that the needs of society come before the rights of individual landowners. In recent years, the legal defense of tree protection ordinances has been broadened even more. Proponents argue that the regulations are justifiable based on the potential impact of development on a community and its environment. According to this line of reasoning, actions such as assessing fees or requiring tree replacement are similar to assessing fees for impacting the community's infrastructure in creating a demand for new schools and fire stations. In fact, by allowing ordinances that require developers to retain or provide trees, the law places trees on par with other services and amenities that citizens expect as part of a high standard of living.

The Many Forms of Protection

THE IMPORTANCE OF PUBLIC INPUT

In the Seattle area, as in communities throughout the United States that are experiencing growth, officials are pleading with residents to get involved in the planning process. Few heed the call — until too late. Here is how one local professional explains the effect:

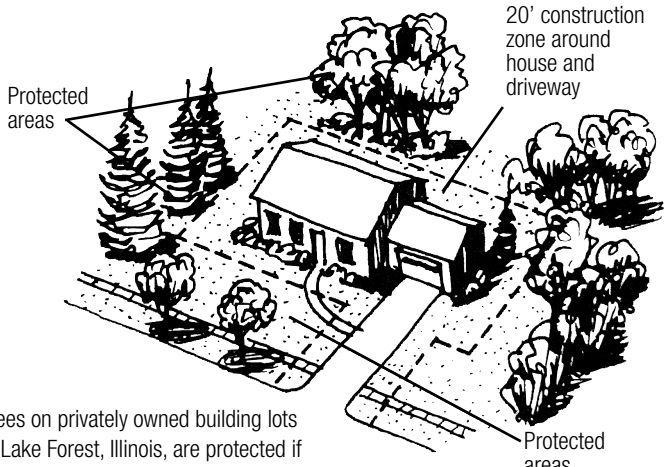
"The public doesn't always get actively involved in the planning process and attend hearings that define city policy. But the developers do. They show up in force and speak up to weaken proposed ordinances. Then the community rises up and gets angry when building takes place and trees are destroyed. At that point it is too late."

-Dan DeWald
NATURAL RESOURCE MANAGER, BELLEVUE PARKS & COMMUNITY SERVICES, *BELLEVUE, WASHINGTON*

Tree protection ordinances vary widely, as well they should. Because trees, individual needs, and the will of citizens vary from place to place, ordinances should be designed to fit the social and biological structure of a community. In general, however, the purpose of tree protection ordinances is to ensure that residents are not deprived of the many benefits of urban trees, including the practical aspects of wind protection and shade for energy savings, higher property values, less soil erosion, and the prevention of wetland siltation. Here are some examples that illustrate the range of tree protection ordinances currently in use. They are borrowed from an issue of the American Planning Association's *Zoning News*.

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.



Trees on privately owned building lots in Lake Forest, Illinois, are protected if outside a defined area of construction.

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 (totaling 900 inches in diameter) per acre. In addition, to preserve diversity, the mix of trees must be essentially the same as in the original forest.

AGOURA HILLS, CALIFORNIA

- To protect native oaks, a permit is required to remove an oak or even to prune limbs larger than 2 inches in diameter.
- When an oak is removed, four must be planted where there is growing space.
- During construction, a 5-foot-high chain link fence must be placed around all oaks at least 15 feet beyond the trunk.

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 $60 per tree to guarantee that the required number of trees will be left standing.

***TWO VIEWS FROM THE DEVELOPMENT COMMUNITY** reveal the challenge — and the potential — of winning support for tree protection and landscape ordinances. Through flexibility based on site and conditions, communication that leads to understanding, and even-handed application of the law, it is possible to gain support and cooperation that make everyone a winner.*

"It would just input another layer of bureaucracy that is not needed. We have to deal with the building people, the planning people, the fire marshal, and the health department. And then to add this tree person, that's just ridiculous."
– Architect, *Overland Park, Kansas*

"At first blush, you would think once more it is government intervention on the developer. Let's take one more pound of flesh from them … (However,) in the past several years … we began to understand it was just plain good for business. In fact, it was not only good for our business as a developer, but it was good for our customers, our tenants."
– Developer, *Columbus, Ohio*

Lessons for Urbanizing Counties

Tree protection, or preservation, ordinances are primarily designed to protect existing trees during development. The reason is based largely on the societal benefits and ecoservices provided by trees. Fulton County is a rapidly urbanizing area surrounding Atlanta, Georgia, that adopted a strict tree protection ordinance in 1985. It is considered an ordinance with considerable strength while at the same time providing administrative flexibility and fairness. Today, much of the county has been incorporated as new cities such as Sandy Springs, Johns Creek, Milton, and others. These communities are adopting versions of the county ordinance, and it remains an excellent model for communities facing development and the disappearance of woods or farmland. The following is a general outline of the system provided by the ordinance and some thoughts on why it works.



REZONING AND PERMIT PROCEDURES

The county arborist is charged with conducting a preliminary review of all rezoning requests and special use permit applications. A field review may be made and conditions applied to the rezoning request in order to have the project conform to provisions of the tree preservation ordinance.

ADVANTAGES: First, the governing body must have a qualified, professional forester or arborist on staff in order to carry out the provisions of the ordinance. In addition, by including this person in the rezoning process, trees are considered at the very start of development.

A landscape/tree protection plan must be attached to applications for a land disturbance permit (required for all construction except individual single family homes and duplexes).

ADVANTAGES: This, too, requires that careful thought be given to saving trees early in the development process. It alerts developers early to what is expected, thereby not only protecting trees from intentional or inadvertent damage, but also protecting the developer from unexpected delays and expenses. It also ensures the participation of a forester in the approval hierarchy along with the engineers, hydrologists, and other city or county officials.

The county arborist or forester checks the plan for compliance with all provisions of the tree protection ordinance and can accept or deny the application.

ADVANTAGES: This gives the forestry professional more than a token role. He or she can actually stop a project if tree protection or replacement is inadequate.

VIOLATIONS AND PENALTIES

Violators are charged with a misdemeanor. Each day's continuance is considered a separate offense.

ADVANTAGES: By imposing the daily condition, even small fines associated with misdemeanors become significant. This helps ensure compliance and prompt mitigation work.

REMOVAL AND REPLACEMENT TREES

Trees are protected by zoning laws from mass removal without the approval of county officials.

ADVANTAGES: With this as a philosophical and legal base, it places the burden on developers to document why trees must be removed and to find ways to reduce or mitigate any loss.

When no trees are present on the development site (such as when farm fields are to be converted to housing), it becomes the responsibility of the owner or developer to landscape with trees.

ADVANTAGES: This provision deters land clearance in advance of applications for development and recognizes that trees help offset the environmental changes brought by urbanization. It also provides equal treatment for all developers, regardless of existing tree cover.

When grading is necessary outside the buildable area and/or the buildable area leaves no space for trees between the structure and the property line, minimum landscape areas are prescribed (with dimensions dependent on the type of zoning district) for front, side, and rear.

ADVANTAGES: Even in tight situations, this provision ensures some green amenities for the property and the community.

Specimen trees may not be removed without the express written permission of the county arborist. Administrative standards are established for the identification and protection of specimen trees.

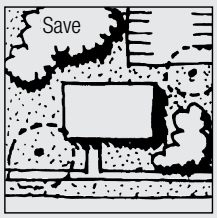
ADVANTAGES: Special attention is given to the truly important trees. By using administrative standards instead of language in the ordinance, flexibility is provided for the use of professional judgment and for making changes without going through the cumbersome process of amending the ordinance.

ADMINISTRATIVE GUIDELINES

The heart of Fulton County's ordinance is that details for implementing it are spelled out in a separate document, Tree Preservation Ordinance Administrative Guidelines. Included in this document are explanations of the reasons behind tree protection, as well as detailed drawings ranging from how a planting hole should look to how to install root aeration systems. The intent is to provide clear explanation of the rules and to also be as helpful as possible to the developer.

Protecting 'Save' Trees

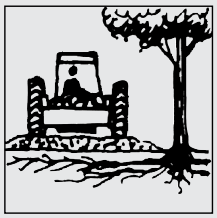
Rules for the construction area focus mostly on protecting the roots and trunks of trees that are to remain on site. These include:



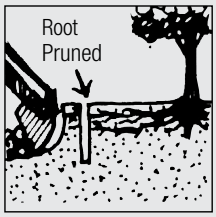
Requiring construction plans to delineate "save islands," entire stands of trees (the preferred option), or the drip lines of individual specimen trees.
REASON: This incorporates tree protection into engineering plans and ensures that construction activities are kept a safe distance from the selected trees.



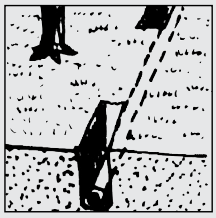
Specifying the construction of protective barriers around save areas and prohibiting construction activities in these protected zones.
REASON: Protection barriers prevent soil compaction over critical root zones, injuries to bark and limbs, and spills of oil, concrete, or other harmful materials.



Requiring a 4-inch layer of chip mulch or 6 inches of pine straw where machinery must cross through a protected zone.
REASON: This is a minimum layer of protection to displace the weight of machines and prevent loss of pores in the soil that allow passage of air and water to roots.



Suggesting (requiring, in the case of specimen trees) root pruning along the limits of land disturbance.
REASON: Careful cutting prevents torn roots. Cut roots will produce a flush of new root growth and reduce the chance of rot entering the root system.

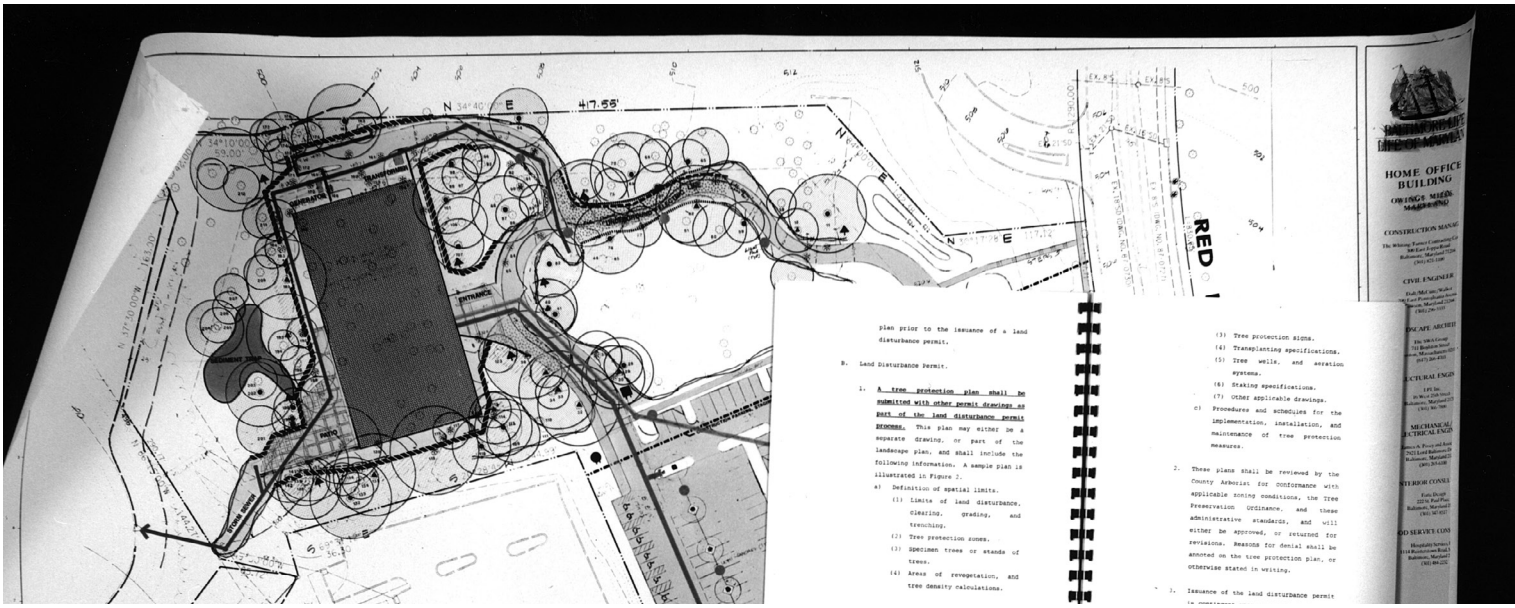


Recommending tunneling instead of trenching for the installation of utilities that cannot be routed around protected trees.
REASON: Tunneling 2 to 4 feet beneath the surface avoids cutting most roots. This enhances the tree's chance to stay healthy following construction.



Suggesting aeration systems over root zones that must be covered with fill; retaining walls when cuts are unavailable.
REASON: Providing air passages under fill or pavement prevents smothering roots; retaining walls help maintain original soil depth where the slope has been cut.

Importantly, to be effective, an arborist must have the authority to adjust the requirements or stiffen the suggestions based on the specific circumstances of the job site and the trees. This is the flexibility missing in many tree protection ordinances. Such a system is to the advantage of builders and in the best interests of trees — but to work effectively, it requires a knowledgeable and conscientious arborist or forester to make the hard decisions. This is no easy task in today's world of demands for "black or white" clarity.



Administrative Guidelines provides full details on how to comply with Fulton County's tree preservation ordinance. It also gives useful information to make tree planting and care a successful part of development.

TREE CITY USA®

AN IMPROVED ORDINANCE CAN HELP YOUR COMMUNITY QUALIFY FOR A TREE CITY USA GROWTH AWARD

Developing a new or improved tree protection ordinance can earn six of the 10 points required for a community to receive a Tree City USA Growth Award. The criteria fall under eligible activities in Category C – Planning and Management. Specifically:

A new or revised and significantly improved ordinance related to trees was adopted. The ordinance(s) must lead to the improved management and/or protection of trees and tree habitat and might include such measures as protecting historic or specimen trees, protecting trees and tree habitat during construction, conserving woodlands, ending tree topping, requiring new developments to preserve green spaces or plant trees, etc.



TECHNIQUES TO GUARANTEE COMPLIANCE

If compliance with tree protection is part of a process and tied to the granting of permits, there is rarely any need for fines or other penalties. If the rules are clear and developers want to move through the steps of development, compliance is expected. The goal should be education of developers, teamwork, and voluntary compliance. *(In some cases, astute developers regularly exceed minimums and actually try to outperform competitors, win awards, and gain public recognition.)* When enforcement is necessary, these techniques are available:

- ☑ Providing conditions for zoning changes or denying permits.
- ☑ Stopping work orders.
- ☑ Delaying occupancy permits.
- ☑ Holding funds in escrow.
- ☑ Posting of performance bonds (including the guaranteed survival of trees within a given period, such as 18 months).

Incentives can often be as powerful as enforcement methods. These might include:

- ☑ Tax breaks, including current use rates for wooded areas rather than taxation based on market value.
- ☑ Variances on minimum parking lot surface, grade specifications, road or sidewalk width, set back distances, and similar requirements when minor allowances will help save trees.
- ☑ Free attendance at continuing education programs.
- ☑ Credits against planting or landscaping when large, existing trees are left on-site and adequately protected.
- ☑ Awards and publicity for successful trans-planting, tree protection, wildlife habitat preservation, and other achievements.

There are many ways to require the replacement of trees that are removed during development, but planting stock quality, species comparability, and flexibility based on site conditions are important components of any method. Most important is clear communication of ordinance requirements.

Tree Replacement Formulas

Communities search for methods of tree replacement or planting that are fair to developers and builders, easy to understand and apply, and that ensure the benefits of tree cover for the future. Methods vary and change with experience, but a specified percentage of surface area covered by tree crowns is currently a favored requirement in many communities.

HOW MUCH CANOPY?

The conservation organization American Forests has been a leader in quantifying the relationship between tree canopy and its function as city infrastructure. In other words, tree canopy provides measurable services such as stormwater retention, carbon sequestration, air pollutant filtration, energy savings, and others.

Ordinances that require developments to retain or achieve a specified percentage of tree canopy base the measure either on percent of gross acreage of the site or lot within the zone or land use designation, or after excluding built features. A timeline is usually included, such as the expectation that the percentage will be achieved in 10 years, for example. If mature trees are retained, some communities will give credits to meet the requirement and will lower the overall canopy cover requirement accordingly. Some require that if space in the development does not allow for retaining or achieving the required percentage, mitigation be done by planting trees elsewhere in the community.

OTHER TREE REPLACEMENT METHODS

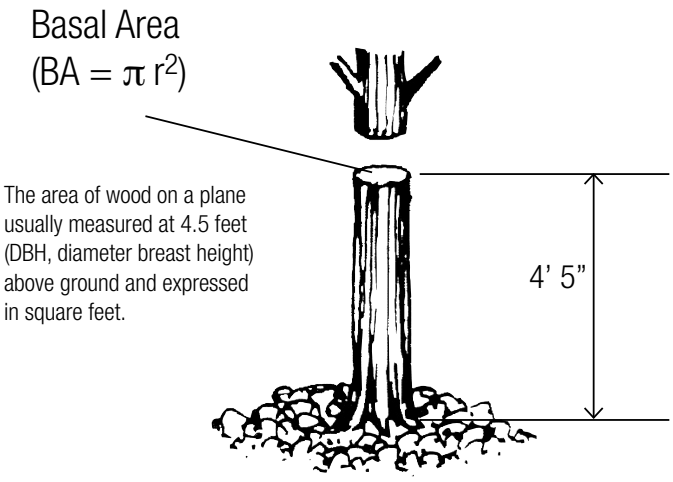
Density formulas: In this method, trees must be planted to make up the difference between the basal area of trees remaining after development in a wooded area and the basal area determined by experts to provide a satisfactory minimum amount of benefits that come from local natural forests. For example, this might be 66 percent of the basal area in a local forest under normal growing conditions.

Specified diameter: If a 12-inch-diameter tree is removed, a tree or trees totaling 12 inches must be planted.

Specified number of trees per acre: For a given area of land (exclusive of buildings, pavement, and water surface), a given number of trees must be planted.

Tree for tree replacement: If 20 trees are removed, 20 trees must be planted following construction. If there is not space in the development, mitigation efforts are negotiated with the developer, usually asking that trees be planted in other areas to make up the difference.

Parking lot specifications: With 30-40 percent of the surface of many downtown areas devoted to parking lots, it is important that this space be addressed in ordinances. Some provide specific requirements such as one tree per seven parking spaces. Others specify a percentage of shade after a certain period of time, e.g. "10 years after installation, the landscaping must provide shade for 50 percent of the parking lot paving at 2 p.m. in July and August." The latter assumes that trees will grow to be approximately half their mature size in 10 years, and summer shading will increase thereafter.



WHAT IS TREE CANOPY?

For simplicity in determining percentages of tree canopy, tree canopy (C) is considered to be the square-foot area beneath tree crowns. It is determined either through aerial or satellite photography or by measuring the area under the crown spread of a tree ($C=\pi r2$, where r is the radius of the crown spread in feet). Depending on species, trees have the following potential for canopy coverage:

Very small trees	150 sq. ft.	**Medium trees**	900 sq. ft.
Small trees	400 sq. ft.	**Large trees**	1,600 sq. ft.



The goal of tree replacement formulas is to ensure continued benefits of trees while at the same time being fair and equitable to developers.

Tree Protection Ordinances Need Public Support

Abraham Lincoln once said, "Public sentiment is everything. With public sentiment nothing can fail; without it, nothing can succeed." This wise insight applies well to the protection of urban tree resources. If residents support a strong tree ordinance and insist on it being enforced, it portends well for the community forest.

One way to gain public support is to highlight heritage trees. These are trees of particular importance due to their great size, historic value, or some unusual feature. Each has a story that can attract media attention and develop public support for the tree's protection. When mapped and publicized — often in the form of a booklet — heritage trees can be the foundation for broader support for a comprehensive urban forestry program.

Ordinances must reflect the will of the people. Awareness through heritage programs, Arbor Day celebrations, and other activities that draw attention to trees is the first step toward tree protection ordinances. This is the ongoing challenge of tree boards nationwide.



Heritage trees and other significant trees can be protected when a strong ordinance is in effect and is enforced.

FOR MORE INFORMATION

There is an abundance of information about ordinances in books, booklets, and online. For more sources, please visit **arborday.org/bulletins**.

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