Chapter 10

Above: Grey Squirrel in a Sycamore Tree
(photo: Rolf Nussbaumer)

Above Right: Historic Schiller Park, German Village, Columbus Ohio.
(photo:Brian Hoffsis)

TREE AND WOODLAND PROTECTION

Background

What is Tree and Woodland Protection?

Tree and woodland protection refers to regulations which some communities adopt to ensure that the potential for tree survival is maximized during development. Tree protection must be addressed in four stages: pre-design; design development; during construction; and post-construction. A good regulation will accommodate all four stages, and will also include a cost-effective method for assessing priorities in tree preservation – ensuring that the highest value tree assets on a site are preserved, and identifying lower value areas where development's impact will not be as important. Tree protection regulations are especially useful in communities where significant tree resources exist, and where conservation development provides the opportunity for design of development in harmony with open space areas.

How does Tree and Woodland Protection relate to Balanced Growth?

The protection of trees and woodlands in developing areas is a critical issue from an environmental quality and community character standpoint. Woodland areas perform important water management services by absorbing and filtering runoff before it can impact local waterways. They provide valuable climate control functions by cooling surfaces and water bodies and processing pollutants in the air. They provide habitat for a variety of wildlife and shade to critical creek habitats. And, they enhance property values significantly when

"Trees improve home values. Tree cover provides up to $20,000 or 10% in value to residential homes in urban settings. ."

(Dimke 2008)

Trees are a significant asset to any community. Neighborhood Street in Medina, Ohio
(photo: Kirby Date)

compared to open, non-wooded sites. Once successfully incorporated into a development landscape, trees and woodland areas continue to provide shade, habitat, and property value benefits.

In spite of these benefits, it is a significant challenge to maintain wooded areas throughout the development process, and so most woodlands are lost to suburbanization. First, our typical spread out pattern of development breaks up blocks of woodland, leaving only a few scattered trees. Trees which were once part of a woodland community fare very poorly once exposed, and can be expected to die within a few years; so even when a developer of a standard subdivision attempts to protect trees, he or she often fails. Standalone trees in the midst of development are subject to drainage pattern alteration, soil and root compaction, and damage during construction, yielding a very low long-term survival rate. And even when subdivisions are well designed to reserve blocks of wooded areas, little attention is given to evaluating the trees prior to design in order to prioritize areas of varying woodland and habitat value.

This document provides some background information on the different types of woodland and tree protection regulations and recommendations on their use. Please also refer to the Natural Areas Management section for information on establishing new woodland through controlled natural succession.

Issues

• **Tree Protection During Development**: There are four stages of the development process at which tree/woodland protection provisions can be applied:

1. Preliminary (concept plan) design – identifying woodland areas on a site or in a community which are of high value for preservation, and of low value due to species, health, or sensitivity to disturbance.

2. Specific site design – identifying specific trees on the site which will be preserved and those which will be removed, and specifying methods for protection of those to remain.

3. Construction protection – implementation of the specifications for protection of trees during the construction process.

4. Post construction monitoring – ongoing evaluation of tree health after construction and implementation of recommendations for remedial care if necessary.

Oak Leaf Wallpaper
(by Fabrics & Papers)

Most regulations only address the second stage. These regulations often make no distinction between trees of good health and high quality, and those of lower quality. Minimum size is used instead as a blanket requirement for identification of trees on the site. This can lead to extensive documentation of every tree with no evaluation or professional judgment of relative importance of various stands of trees, leaving a review board and the designer/developer with little information on which to base decisions.

Identification and evaluation of valuable tree stands at the preliminary stage assists the community in setting priorities for later development decision-making. This evaluation is best done generally as part of a comprehensive plan. At the site plan level, it can be done by a general review by a qualified professional. Size alone should not be used to determine the value of a tree for preservation. Other factors to consider, at a minimum, should include species, apparent general health, and tolerance for disturbance.

The most important step in the design process is the identification of areas of development, and areas of protection, at the concept plan stage. Trees within blocks of protected land stand a much better chance of survival, and are easier to protect throughout the construction process. Trees remaining within the development area are difficult to preserve successfully, and often changes in the field can affect the outcome of which trees can be preserved. Pairing a tree protection regulation with conservation development, which allows for protection of blocks of open space, is the most successful approach to tree protection in new subdivisions, particularly when there are high priority trees targeted for protection.

- **Professional expertise**: Most regulations require the development of a tree protection plan by a qualified professional. Professionals qualified to make tree protection recommendations include certified arborists and urban foresters. See example codes for specific qualifications.

- **Enforcement and Monitoring**: Enforcement and monitoring are critical elements of a well-written tree protection code and provide for protection at stages three and four.

- **Beyond the Right-of-Way**: Many communities have tree protection regulations which apply only to the protection of public trees in road rights of way. This is adequate for older areas, but more must be done in developing areas. It is especially appropriate in the design of subdivisions to ensure that existing tree resources are protected for the long term.

- **Trees and Stream Corridors**: Woodland protection along active stream areas is often provided by stream setback regulations. See the section on Stream, Floodplain and Wetland Protection for more information.

Emerald Ash Tree in Clinton, Ohio
(photo: used with permission from Wayne White, Board Certified Master Arborist, Emerald Tree Care LLC)

- **Pest Threats:** In recent years Emerald Ash Borer and Asian Long-Horned Beetle have become a real threat to woodland longevity in many parts of Ohio. On development sites, the presence of trees susceptible to these pests should be considered during the preliminary design stage by a qualified arborist or forester, and recommendations made for tree removal and/or future tree species to be used to minimize the effects of devastation on the project design.

Recommendations

1. Communities with developing areas should protect woodlands through policies in the comprehensive plan, and controls during and after the development process. In the comprehensive plan, areas of woodland of likely high value to the community should be identified for further attention at the site design level.

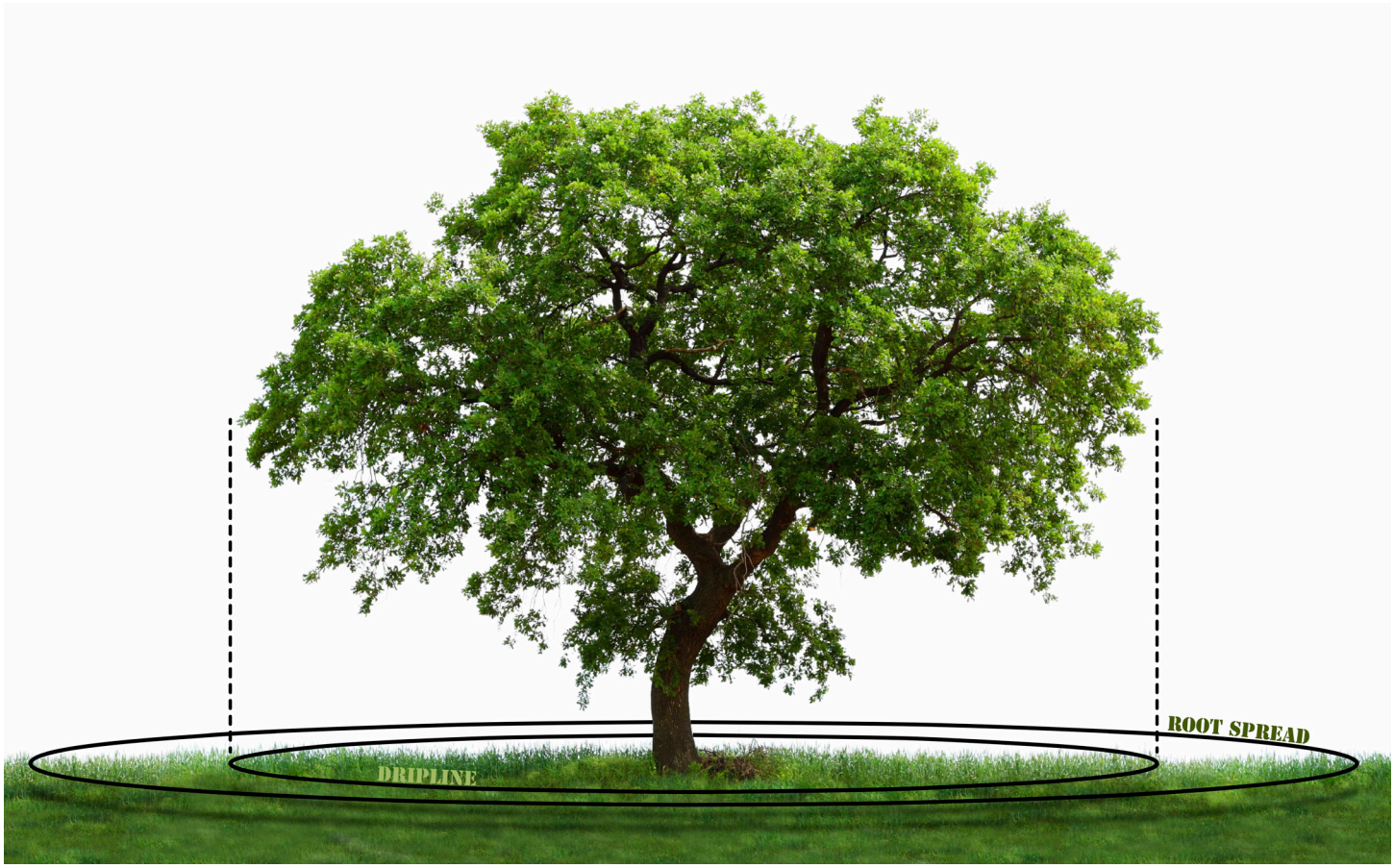
2. A zoning code should be developed which avoids the requirement for every tree on a site to be identified but which requires professional evaluation of blocks of woodland at the preliminary design stage. Then, the code should require a tree protection plan and its approval prior to permit, and assure that the plan is implemented and monitored during construction. Provisions for monitoring for at least a year after construction should be included.

As new areas are annexed to a community, some of the included woodlands may be enrolled in a working forest easement program or the Ohio Forest Tax Law (OAC 1501:3-10-01 to 1501:3-10-07) both of which may require forest management activities. Forest management activities play an important role in the health of forests, water quality, and wildlife habitat on all properties, whether or not they are enrolled in programs that require forest management. It is further recommended that forest management activities can take place while protecting or enhancing the other benefits derived from forests.

3. With the spreading prevalence of the Emerald Ash Borer and the Asian Longhorned Beetle, there should be a protocol for preparing for and handling infested trees within your community. A new code should be created that will supersede woodland protection ordinances to allow removal of infestations and proper disposal of the affected trees.

Protecting a Tree's Root Zone

The dripline of a tree, or the outline of the canopy, can be a useful "rule of thumb" in identifying the area of protection for the root zone. The actual area of protection (area of root spread) will vary depending on the tree species and growing site, and should be confirmed with a professional arborist or forester.



(diagram: Gregory SJ Soltis)

"Proximity to a forest preserve provides a price premium of up to 35% in Grand Rapids, Michigan."

(Thorsnes, 2002)

Example Regulations

The following example codes are outlined in the Example Regulations Matrix:http://www.balancedgrowth.ohio.gov/BestLocalLandUsePractices/BestLocalLandUsePractices2012.aspx *(Copy and paste this address into your web browser, then scroll down and under "**Matrices**" choose " **Tree and Woodland Protection**".)*

CSU Model, Tree Preservation Approach (In Progress)
http://www.balancedgrowth.ohio.gov/LinkClick.aspx?fileticket=WNdYVgnKjYU%3d&tabid=66 *(Copy and paste this address into your web browser)*

Olmsted Falls, Tree Preservation and Management Code (Chapter 1218)
http://www.conwaygreene.com *(Click on "**Databases**" at the top of the page and choose "**Municipal Codes**" from the drop down menu, then choose "**Olmsted Falls, Ohio**" in the list of municipalities. Click the "**Start Here**" button; then in the Olmsted Falls folder to the left, click on the folder entitled"**PART TWELVE - PLANNING AND ZONING**" and then choose chapter **1218** "**Tree Preservation and Management**" under "**TITLE TWO**".)*

Dublin, Tree Preservation (Section 153.140)
http://www.amlegal.com *(Scroll over "**services**" at the top left, and then choose "**Web Hosting**" . In the paragraph under the heading "Web Hosting," click on "**Online Library**" highlighted in blue. Click on the state of Ohio in the US map, and then click on "**Dublin**" from the list of municipalities. Click on the button entitled "**Frames**". Choose "**TITLE XV: LAND USAGE**" from the list to the left, then click on Chapter **153** "**ZONING REGULATIONS**". Scroll down and select Section **153.140** "**Tree preservation requirements**")*

Brecksville, Trees, Hedges and Shrubs
http://www.brecksville.oh.us/Depts/Horticulture/hort_pdfs/treeord.pdf

The code from Olmsted Falls is an example (stages 2-4) of a basic tree protection regulation for developing areas. A second example developed by the Community Planning Program at Cleveland State University addresses all four stages of the tree protection process.

Use of the Guidance and Example Regulations

This example guidance and/or regulations **should never be adopted without careful legal review** to assure that they are adapted to fit the authority and needs of the specific governmental body. They may need to be adapted for use by the specific type of local government and must be independently evaluated against potentially applicable federal or state law. **The law director/ solicitor, county prosecutor or other appropriate qualified legal counsel should always be consulted prior to adoption of any enforceable measures** based upon this guidance document to insure compliance and consistency with any applicable state and federal law, and to consider potential legal rami-

fications and liability in the implementation of the laws or rules to be adopted. Questions about the models and guidance can be directed to the Ohio Balanced Growth Program.

Resources

The Community Planning Program, Maxine Goodman Levin College of Urban Affairs, Cleveland State University; Tel. 216-687-5477, Web: http://urban.csuohio.edu/cpp

Shade Tree Commission, City of Olmsted Falls; Tel: 440-238-2691

International Society of Arboriculture, Web: http://www.isa-arbor.com

Society of American Foresters; Tel: 301-897-8720; Web: http://www.safnet.org

Ohio Department of Natural Resources, Forestry Division; *Canopy Preservation Ordinances* http://www.ohiodnr.com/Home/urban/UrbanForestryHome/tabid/21720/Default.aspx

Ohio Department of Natural Resources, Comprehensive Urban Forestry Elements http://ohiodnr.com/forestry/urban/elements/tabid/5439/Default.aspx

Ohio Department of Natural Resources, Forestry Division; Ash Removal and Canopy Restoration Grant Program http://ohiodnr.com/Default.aspx?tabid=23073

Ohio Department of Agriculture; Emerald Ash Borer Program http://www.agri.ohio.gov/eab/eabresponse.aspx

USDA/ODNR Urban Tree Canopy Project, provides information on economic value of trees as assessed in Hudson, Ohio http://www.midwestutc.org/hudsonintro.aspx

The Karl A Staley House in North Madison, Ohio; designed to fit into its site by Frank Lloyd Wright
(photo: ©Dave Freedman)