UNDERSTANDING

Sustainable Landscaping & Tree Preservation Standards

PURPOSE

To promote landscaping around development that is compatible with the existing environment, and which reduces greenhouse gas emissions by requiring a minimal use of energy and natural resources for growth and maintenance. To mitigate climate change through the planting of new trees, preservation of undeveloped space, and protection of larger and special interest trees in new developments.

Ordinances that protect trees and encourage the planting of native, non-invasive vegetation help to reduce greenhouse gasses and mitigate climate change. Native vegetation requires fewer resources to grow because water and nutrient needs are already in line with that provided by the surrounding weather and climate. Mature trees require less maintenance which also makes them more energy efficient. Additionally, trees and vegetation absorb carbon dioxide and reduce the urban heat island effect.

climate & energy

Due to time and cost factors, the construction of new development often involves the clearing and grading of land rather than retention of native vegetation and trees. This large-scale clearing and grading has several negative effects, including increased stormwater runoff, reduced water quality, threatened wildlife habitat, and a decline in aesthetic appeal. Additionally, even when newly planted trees grow to maturity, they often do not provide the same level of structural diversity and other benefits to wildlife that the original tree canopy offered.

HOW IT WORKS

An ordinance can be implemented to control large-scale clearing and grading of vegetation, as well as encourage protection of the tree canopy during the development process. Effective implementation of these regulations consists of several elements:

- **Defining and enacting an ordinance regarding the protection and types of trees and vegetation**
- **Setting out a pre-development procedure for protecting trees and vegetation**
- **Providing a means for compensatory mitigation where trees and vegetation cannot be retained on-site**
- **Verifying and enforcing compliance with regulations after new developments are completed**

Municipalities should consult with their staff and residents to determine what specific requirements are to be enacted. The language in the bylaw should carry provisions for the types of vegetation and trees allowed, the maximum number or percentage of trees and vegetation that can be removed, and construction best practices that can help reduce damage to existing trees during development. Other protections may also be put in place targeting trees that are determined to have special significance because of their history, age, or size.

Pre-development requirements establish what a potential developer must submit prior to receiving approval from the municipality. These requirements can be incorporated into the building permit application directly, or as a required accompanying application document such as a landscape protection plan or forest preservation plan. The application or plan should include information about the location of trees and vegetation on site, their size and species, and what actions will be undertaken to ensure their protection. Requiring that this information be provided before development begins allows the municipality to strictly enforce its regulations.

In cases where it is deemed impossible or inappropriate to keep trees and tree cover intact, or when it is deemed acceptable by the municipality to limit the protection of individual trees or tree cover, regulations should provide for an alternative method of compliance. Once again, these alternative methods can be incorporated into the existing building permit application or landscape protection plan, as set forth in the tree ordinance. Alternative compliance methods include planting trees on site after construction has concluded, placement of cash value for trees lost in a municipal account for street tree planting, or addition of other green initiatives that closely match the benefits of keeping the tree cover on site such as green roofing, green walls, rain gardens, or bio swales.

Once the building permit application or landscape protection plan has been approved through either direct compliance or mitigation methods, development can occur. To ensure compliance, post-development monitoring is necessary. The monitoring can incorporate the information collected prior to development and compare it to the post-development conditions existing on-site. Depending on the language in the bylaw, enforcement might be the responsibility of the zoning inspector, building inspector, or a tree board.

EXAMPLES OF WHERE STRATEGY HAS BEEN ADOPTED:

Carroll County, Maryland

The Carroll County Forest Conservation Ordinance requires Forest Stand Delineations and Forest Protection Plans to accompany development applications. In addition, the ordinance requires reforestation activities to accompany any type of land development. Except in agricultural districts, the ordinance specifically requires one acre of forest to be planted for every acre removed. The ordinance also designates priority areas for reforestation, (i.e., stream buffers, wildlife corridors, steep slopes, etc.).

Chapel Hill, North Carolina

The Chapel Hill Tree Protection Ordinance requires applicants for a development permit to submit a Landscape Protection Plan that details how preservation of specimen and rare trees and significant tree stands will occur. In addition, as part of its carbon reduction strategy, the Town is considering revisions to the ordinance that will require no net loss of

the canopy cover and an increase in trees proportional to population growth.

Amesbury, Massachusetts

The Amesbury Tree Ordinance sets out regulations concerning trees along streets and public parks. The ordinance includes a list of approved tree species, regulations for how much pruning and cutting can be performed, and provisions for the establishment of a three-person Town Tree Board. The Tree Board is charged with administering a written plan for the care and maintenance of public trees. The ordinance also includes requirements for a minimum of twenty foot spacing between smaller trees and forty foot spacing between large trees.

Lexington, Massachusetts

Lexington passed a tree ordinance in 2001 which included the creation of a tree committee and provisions requiring the protection of trees during major construction. The ordinance was followed up by additional tree and landscaping protection efforts through a Tree Management Manual, created in 2003 and updated in 2009. The Tree Management Manual covers a variety of topics directed towards the preservation and cultivation of healthy trees, including guidelines for the protection of trees during site construction, priority locations for where trees should be planted so that they will grow successfully, and maintenance specifications.

LINKS TO MODEL BYLAWS OR MORE INFORMATION

CARROLL COUNTY:
http://townhall.townofchapelhill.org/agendas/2007/02/12/4c/4c-2_lumo_excerpts.htm

CHAPEL HILL:
http://ccgovernment.carr.org/ccg/resmgmt/forconsmanual.pdf

AMESBURY:
http://www.mass.gov/dcr/stewardship/forestry/urban/docs/ordames.pdf

LEXINGTON TREE MANAGEMENT MANUAL:
http://ci.lexington.ma.us/committees/tree/TreeManualRevised2009%20much%20smaller.pdf

PVPC HAS DEVELOPED MODEL BYLAW "GREEN DEVELOPMENT PERFORMANCE STANDARDS" WHICH ADDRESS THE CONCEPT OF SUSTAINABLE LANDSCAPING AND TREE PRESERVATION:
http://www.pvpc.org/val_vision/html/toolbox/index.html

FOR MORE INFORMATION, PLEASE CONTACT

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