

VILLAGE OF GLEN ELLYN

ARBORICULTURAL SPECIFICATIONS MANUAL

ORDINANCE NO. _____

Adopted September 26, 2011

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SECTION I

INTRODUCTION / AUTHORITY

The following Arboricultural Specifications Manual is designed to supplement and support the Village of Glen Ellyn's Comprehensive Forestry Ordinance. The objective of this manual is to present the best tree planting, maintenance, protection, and removal techniques based on accepted arboricultural standards. The guidelines and standards presented in this section apply only to public trees as defined by the Comprehensive Forestry Ordinance. The Village Forester, or his/her designee, has the authority to maintain and make recommendations regarding modifications to the manual, which must be amended by ordinance, except that the trees identified on the Parkway Tree Planting Recommendations list may be modified by the Village Forester, who shall report the modifications in writing to the Village Board.

The definition of terms section for this manual is consistent with and may be found in the definitions section of the Village of Glen Ellyn's Comprehensive Forestry Ordinance.

SECTION II

POLICY

Tree Species, Cultivars, or Varieties

Location and Spacing

This is a list which may be modified from time-to-time by the Village Forester. Table I is provided as a guide to the most appropriate species for parkways in urban situations. There is no single perfect tree. It is important to match the planting site limitations with the right tree for that spot. Each site must be evaluated and possible restriction of tree species taken into consideration. These restrictions include rooting space, soil texture, soil pH, drainage, exposure, overhead wires, surrounding building surfaces, neighboring trees, and underground utilities.

The trees appearing on this listing have different requirements and tolerances. If properly sited, all these species should do well in the urban forest environment of the Village. Before selecting any particular species or variety, further research should be done to insure that the site will satisfy the specific requirements of the plant. Not all cultivars and varieties of the following tree species are suitable for parkway planting.

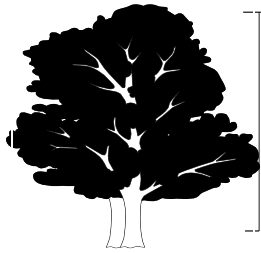


TABLE 1
Height
50' min

LARGE TREES

SPACING: 50' minimum

Scientific Name	Common Name	Cultivars
<i>Acer x freemani</i> (1)	Freeman Maple	
<i>Acer nigrum</i> (1)	Black Maple	
<i>Acer platanoides</i> (1)	Norway Maple	
<i>Acer saccharum</i> (1)	Sugar Maple	
<i>Aesculus octrandra</i>	Yellow Buckeye	
<i>Alnus glutinosa</i>	European Black Alder	
<i>Carya</i> sp. (S)	Hickory	
<i>Catalpa speciosa</i>	Northern Catalpa	
<i>Celtis occidentalis</i>	Hackberry	
<i>Celtis laevigata</i>	Sugar Hackberry	
<i>Eucommia ulmoides</i>	Hardy rubber tree	
<i>Fagus grandifolia</i> (S)	American Beech	
<i>Fagus sylvatica</i> (S)	European Beech	
<i>Ginkgo biloba</i>	Ginkgo (male)	
<i>Gymnocladus dioicus</i>	Kentucky Coffee (male)	
<i>Julgans cinerea</i>	Butternut	
<i>Juglans nigra</i>	Black Walnut	
<i>Larix decidua</i>	European Larch	
<i>Larix laricina</i>	Eastern or American larch (Tamarack)	
<i>Liquidamber styraciflua</i> (S)	American Sweetgum	
<i>Liriodendron tulipifera</i> (S)	Tuliptree	
<i>Metasequoia glyptostroboides</i>	Dawn redwood	
<i>Platanus acerifolia</i>	London Plane	
<i>Quercus acutissima</i> (S)	Sawtooth Oak	
<i>Quercus alba</i> (S)	White Oak	
<i>Quercus bicolor</i> (S)	Swamp White Oak	
<i>Quercus coccinea</i> (S)	Scarlet Oak	
<i>Quercus imbricaria</i> (S)	Shingle Oak	
<i>Quercus macrocarpa</i> (S)	Bur Oak	
<i>Quercus muehlenbergii</i> (S)	Chinquapin Oak	
<i>Quercus robur</i> (S)	English Oak	
<i>Quercus rubra</i> (S)	Northern Red Oak	
<i>Quercus shumardii</i> (S)	Shumard Oak	
<i>Sassafras albidum</i>	Sassafras	
<i>Taxodium distichum</i>	Bald Cypress	
<i>Tilia americana</i>	Basswood	
<i>Tilia heterophylla</i>	Beetree Linden	
<i>Tilia cordata</i>	Littleleaf Linden	
<i>Tilia euchlora</i>	Crimean Linden	
<i>Tilia platyphyllos</i>	Bigleaf Linden	
<i>Tilia tomentosa</i>	Silver Linden	

Ulmus genus
Ulmus
Ulmus parvifolia

Hybrid Elm
Hybrid Japanese Elm
Lacebark Elm

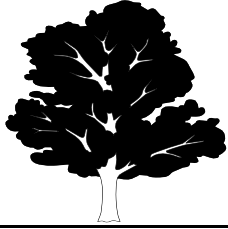


TABLE 2
Height
30'-50'

MEDIUM TREES
SPACING: 40' minimum

Scientific Name	Common Name	Cultivars
<i>Acer miyabei</i>	Miyabe Maple	
<i>Acer rubrum</i> (2)	Red Maple	
<i>Aesculus x carnea</i>	Red Horsechestnut	
<i>Aesculus glabra</i>	Ohio Buckeye	
<i>Alnus glutinosa</i>	European Black Alder	
<i>Betula nigra</i>	River Birch	
<i>Carpinus betulus</i> (S)	European Hornbeam	
<i>Carpinus caroliniana</i> (S)	Blue Beech	
<i>Cercidiphyllum japonicum</i> (S)	Katsura Tree	
<i>Cladrastis lutea</i> (S)	American Yellowwood	
<i>Corylus colurna</i>	Turkish Filbert	
<i>Eucommia ulmoides</i>	Hardy Rubber Tree	
<i>Gleditsia triacanthos</i>	Honeylocust	
<i>Halesia carolina</i>	Carolina silverbell	
<i>Maackia amurensis</i>	Amur Maackia	
<i>Nyssa sylvatica</i>	Black Gum	
<i>Ostrya virginiana</i> (S)	Hophornbeam	
<i>Phellodendron amurense</i>	Amur Cork Tree	
<i>Prunus sargentii</i>	Sargent Cherry	
<i>Pyrus</i>		
<i>Sophora japonica</i> (S)	Pagoda Tree	
<i>Zelkova serrata</i>	Japanese Zelkova	

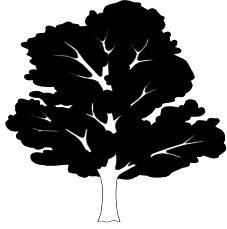


TABLE 3
Height
30' max.
or Columnar

SMALL OR NARROW TREES
SPACING: 15'-20' minimum

Scientific Name	Common Name	Cultivars
<i>Acer campestre</i>	Hedge Maple	
<i>Acer ginnala</i>	Amur Maple (tree form)	
<i>Acer pensylvanicum</i>	Striped Maple	
<i>Acer platanoides</i> +	Columnar Norway Maple ‘Columnare’	
<i>Acer tartaricum</i>	Tartarian Maple	
<i>Amelanchier canadensis</i>	Shadblow Serviceberry	
<i>Amelanchier grandiflora</i>	Apple Serviceberry	
<i>Amelanchier laevis</i>	Allegheny Serviceberry	
<i>Aesculus pavia</i>	Red buckeye	
<i>Carpinus</i> sp. +	Hornbeam ‘Columnaris’ ‘Fastigiata’	
<i>Corylus avellan</i>	European filbert ‘Contorta’	
<i>Cornus alternifolia</i>	Pagoda Dogwood	
<i>Cornus mas</i>	Cornelian Cherry Dogwood	
<i>Cornus kousa</i>	Japanese Dogwood	
<i>Cotinus obovatus</i>	American Smoketree	
<i>Crataegus crusgalli</i> var. <i>intermis</i>	Cockspur Hawthorn (Thornless)	
<i>Hamamelis virginiana</i>	Common witchhazel	
<i>Syringa pekinensis</i>	Pekin lilac	
<i>Syringa reticulata</i>	Tree lilac	
<i>Magnolia</i> spp.	Magnolia	
<i>Malus</i> sp.	Flowering Crab	
<i>Prunus cerasifera</i>	Cherry plum	
<i>Prunus virginiana</i>	Chokecherry	
<i>Quercus robur</i> +	Columnar English Oak ‘Fastigiata’	
<i>Syringa japonica</i>	Japanese Tree Lilac	

Small trees are appropriate in parkway locations where due to space limitations larger trees cannot be properly utilized without creating spacing conflicts with existing trees. Height limitations imposed by overhead utilities also necessitate the use of appropriate small trees in order to avoid line conflicts and the necessity of excessive utility trimming that results in disfigured trees. On the whole, small trees which tend to be more ornamental than their larger counterparts can create an added aesthetic dimension of the streetscape. Narrow trees identified on this list which grow taller than 25' cannot be planted under utility lines, but can be used in situations where there is limited planting space. Only small-growing trees shall be planted under overhead power lines. Trees planted to the side of power lines shall be carefully selected for mature habit to minimize future conflicts.

TABLE 4

The following is a listing of trees more or less common to our area that are not suitable as street or parkway trees. Their lack of suitability is based on undesirable growth habits, fruiting habits, form, susceptibility to serious diseases, propensity to storm damage, and a host of other limitations too numerous to mention. The limitations listed for each tree or species group are not all-inclusive, and lists only the more serious problems encountered locally. In essence, there are far too many superior street or parkway trees listed in Table I to warrant the new planting of any of the trees listed in Table II except under special circumstances.

Though many of the trees listed in Table 4 are presently growing on our parkways as the result of previously unrestricted plantings, they may constitute a maintenance liability to the Village. When condition mandates, and approval is granted by the Village Forester, they should be replaced with species listed in Table 1-3.

Scientific Name	Common Name	Problem or Limitation
<i>Abies</i> sp.	Fir	Form; visibility hazard
<i>Acer negundo</i>	Boxelder	Fast growing; weak wooded
<i>Acer saccharinum</i>	Silver Maple	Weak wooded; storm damage
<i>Ailanthus altissima</i>	Tree of Heaven	Weak wooded; aggressive
<i>Elaeagnus angustifolia</i>	Russian Olive	Form; disease
<i>Juniperus</i> sp.	Juniper	Form; visibility hazard
<i>Malus</i> sp.	Common Apple	Littering fruit; disease prone
<i>Morus</i> sp.	Mulberry	Littering fruit
<i>Picea</i> sp.	Spruce	Form; visibility hazard
<i>Pinus</i> sp.	Pine	Form; visibility hazard
<i>Platanus occidentalis</i>	Sycamore	Disease; twig blight
<i>Populus</i> sp.	Poplar / Cottonwood	Fast growing; weak wooded
<i>Prunus</i> sp.	Cherry and Plum	Littering fruit; disease prone
<i>Pyrus</i> sp.	Common Pear	Littering fruit
<i>Quercus palustris</i>	Pin Oak	Iron chlorosis
<i>Robinia</i> sp.	Black Locust	; thorns
<i>Salix</i> sp.	Willow	Weak wooded; storm damage
<i>Thuja</i> sp.	Arborvitae	Form; visibility hazard
<i>Ulmus Americana</i>	American Elm	Dutch Elm Disease
<i>Ulmus pumila</i>	Siberian Elm	Weak wooded

Other tree species or their varieties not listed in the foregoing Tables, or species such as evergreens may be planted on Village-owned property, but only in specific circumstances.

SECTION III

1. PLANTING SITE REQUIREMENTS:

Planting locations of trees shall be subject to the following regulations:

- a. Unless otherwise determined by the Village Forester, trees of large-sized varieties shall be planted no closer than fifty feet (50') from any other large-sized variety of parkway tree. Trees of medium-sized varieties shall be planted no closer than forty feet (40') from any other medium-sized variety of parkway tree. Trees of small varieties shall be planted no closer than fifteen to twenty feet (15'-20') from any other small-sized variety of parkway tree.

When planting a new tree next to an existing variety of a different size class, minimum spacing shall be calculated by averaging the spacing requirements for the two size classes. The Village Forester can take into consideration existing, health and condition of trees to determine the future planting site and species choice.

- b. The above minimum spacing standards may be modified by the Village Forester, or his/her designee, for new plantings in the Central Business District, particularly where openings in pavement are required to establish planting sites. In these areas, trees may be placed on a closer spacing recognizing the limited availability of planting spaces and the advantages of allowing trees greater access to larger volumes of soil through cluster plantings.

In areas where openings in pavement are required to establish planting sites, or where above ground planters are to be used, the most restrictive space limitation is usually associated with the volume of acceptable rooting habitat as opposed to limitations of crown space. For this reason, minimum planting spacing in these areas is determined by available soil volume.

Minimum soil volumes are intended to reflect acceptable rooting habitat. This eliminates most urban soils that currently reside under sidewalks and roads because of the compaction necessary to support pavement, and the absence of oxygen and moisture exchange. In many cases, minimum soil volumes can only be achieved by excavating existing compacted soils and replacing them with suitable natural or engineered soils. (Engineered soils are mixtures of organic and mineral soils with coarse gravel. The gravel can be compacted to the densities necessary to support pavement, and the soil suitable for root growth fills the large pores between the gravel elements.)

For single tree planting in pavement cut-outs where no modification is made to soil beyond the planting pit, the following minimum soil volumes are required:

- ◆ Small growing trees - 200 cubic feet (for example, a two foot deep pit must be accompanied by a 10 foot by 10 foot or equivalent opening). The

smallest surface dimension must be at least four feet.

- ◆ Medium growing trees - 400 cubic feet (for example, a two foot deep pit must be accompanied by 10 foot by 20 foot or equivalent opening). The smallest surface dimension must be at least five feet.
- ◆ Large growing trees - 600 cubic feet (for example, a two foot deep pit must be accompanied by a 10 foot by 30 foot or equivalent opening). The smallest surface dimension must be at least seven feet.
- ◆ Soil must be at least two feet deep. Soil may be deeper than four feet, but four feet is the maximum dimension that may be used in the calculation of minimum soil volume. (For example, a 10 foot by 10 foot opening can yield a maximum of 400 cubic feet of soil volume.)
- ◆ Above ground minimum spacing for small trees is 10 feet, for medium trees is 20 feet, and for large trees is 30 feet. These requirements may be modified by approval of the Village Forester, or her designee.

Two trees that share soil volume may be planted in a single planting pit without increasing the minimum soil volume required for one tree if they are suitably placed. For example, a single large-growing tree is required to have a minimum of 600 cubic feet of soil. If the planting site is two feet deep, a 7 foot by 43 foot concrete cut out yields the minimum soil volume. Two large trees may be planted 30 feet apart in the same soil volume. If desired, paving bricks or other permeable surfacing material can be used to cover the central portion of the planting space between the two trees, providing they allow adequate penetration of air and water.

For each additional tree over two per planting area, the minimum soil volume requirement increases by 65% of the minimum requirement for one tree. For example, two medium-sized trees can be planted in 400 cubic feet of soil. If a third tree were to be added, 65% of the minimum requirement for a single medium-sized tree (260 cubic feet) would need to be added. The three trees would also need to be planted at least 20 feet from each other. Therefore, an excavated planting site 2 feet deep, 6 feet wide and 55 feet long would accept three medium-sized trees.

Exceptions to the above soil volume requirements may be made by the Village Forester, or his/her designee, when one, or a few trees, are being replaced in existing pits and there are no immediate plans or funds available to reconstruct the surrounding sidewalk area.

- c. Based on height at maturity, no tree classified as large on Table 1 shall be planted in a parkway less than six feet in width, or where overhead lines present a special problem. Where a parkway is less than six feet in width, steps should be taken to plant inside the sidewalk on private property, , or at Village row line in case there

is no sidewalk, depending on the size of the tree at maturity.

In locating parkway trees, the following dimensions should be observed and no trees should be planted closer to existing installations than indicated. (space will be determined by future size of tree). Exceptions to this rule may be made by the Village forester when circumstances warrant and public safety is not threatened.

1. Buffalo box	8 feet
2. Driveway	5 feet
3. Utility pole	10 feet
4. Street light	15 feet
5. Stop sign	25 feet for small trees
6. Stop sign	20 feet for medium to large trees
7. Sidewalk	5 feet
9. Fire hydrants, manholes, catch basins	5 - 10 feet

Spacing requirements for trees planted in parkways do not apply to trees planted in parks or other sites, such as parking lots, where clustering of trees may be desirable for aesthetics, screening, windbreaks, or wildlife habitat purposes.

SECTION IV

1. PLANTING STOCK REQUIREMENTS:

- a. All trees shall be grown in climate Zone 4 but preferably the northern half of Illinois or the southern half of Wisconsin and licensed by the respective State.
- b. **Type:** All trees planted in parkways must be either true balled and burlapped or approved grow bags. Soil balls should be of firm earth, from the original soil in which the tree grew in the nursery. Balled and burlapped trees should be securely wrapped with burlap and tightly bound with decomposable twine or wire. Trees with broken, loose, or dry balls are not acceptable. The roots shall be protected against freezing.
- c. **Size:** All trees shall be at least two inches in diameter measured six (6) inches above the ground. (In some cases, such as native trees, it may be necessary to plant smaller sizes. .) Minimum DBH shall be 1 1/2" measured six-inches (6") above ground level. Minimum ball size must conform to the most recent edition of ANSI Z60.1 (See Appendix). Root balls shall be intact at the time of planting. Bare root plantings are discouraged but may be approved in special cases by the Village Forester, or her designee. The root flare of balled and burlapped trees shall be within the top one-half inch (1/2") of the root ball.
- d. **Grade:** All trees shall conform to the most recent version of the ANSI Z60.1 . All trees shall have straight trunks, well-developed leaders and tops, and roots shall be characteristic of the species or cutlivars, and exhibit evidence of proper

nursery pruning practices. They shall have acceptable balance between top and root, must be healthy, free of mechanical injury, free of insects and diseases, bark bruises, and scrapes on the trunk or limbs, and any other objectable features that may affect the future form and beauty of the tree.

- e. Planting stock requirements in regard to type and size may be modified to address unusual planting situations or availability if it is determined to be in the best interest of the Village. These situations will be examined on a case by case basis and require prior approval of the Village Forester, or his/her designee.
- f. Plant material shall be planted the day it is taken to the planting site or it shall be watered and/or covered and placed in a shady area to prevent drying out or freezing.

SECTION V

1. PLANTING TREES

- a. **Season to Plant:** The spring planting season shall begin when the ground has sufficiently thawed and end approximated one week before buds begin to break, generally late March through May. The spring planting season may be extended through the end of May as long as the trees have been dug at the nursery before bud break, and stored properly until planting. The fall planting season will begin after the leaves have fallen from deciduous trees and end when the ground has frozen, generally mid-October through late November. Summer planting is also possible if a judicious watering program is followed, particularly if the plants were dug from the nursery in spring or grown in containers. Some species do not transplant well in the fall; these are indicated in Tables 1-3 following the species name. Bare root stock should only be planted in the spring.
- b. Tree holes may be machine dug only with the written approval of the Village Forester, or his/her designee. All other tree planting holes will be manually dug. If the surrounding parkway (lawn, plants) is damaged, it shall be the responsibility of the applicant or contractor to restore it to its original condition. The applicant or contractor shall also secure all necessary underground utility locations prior to planting.
- c. The planting hole shall be a minimum of 12" greater than the diameter of the ball, with sides sloping inward toward the bottom of the root ball (see Diagram 1). The planting hole shall not be dug to a depth deeper than the depth of the root ball. The root ball will be placed on undisturbed subgrade. The root flare of the tree shall be placed at or not more than one inch (1") above the grade of the surrounding soil.
- d. **Drainage:** For sites with poorly drained soils it is usually best to select species tolerant of wet conditions. If species intolerant of wet sites are planted, drainage should be provided. More urban trees die from root drowning than from drying out. For this reason, sprinklers are not allowed in parkways, except under the

permission of the Village Forester, or his/her designee. If soil is of a clay material, it may be necessary to test the drainage of the planting hole by pouring a few gallons of water in the bottom. If the water has not soaked in after an hour, there probably is a drainage problem. On level ground, planting the tree on a slight mound may be necessary to get the root system out of the saturated soil (Diagram 2). Near a slope, small drains may be able to run water to some lower point (Diagram 3).

- e. Excavated planting pits that are open when work is not in progress pose a hazard to pedestrian traffic and shall be adequately barricaded with approved warning devices. No planting pit may remain open in excess of 24 hours without proper protection. The tree shall be placed plumb and in the center of the planting hole.
- f. All ropes, strings, nails, burlap wrapping, and wire baskets shall be removed from the upper one-half of the root ball after the tree has been placed in the planting hole.
- g. In most instances, the backfill around the ball shall be the same soil as that which was removed from the hole; however, in cases where rocks, stones, etc., are encountered, top soil shall be used.
- h. When approximately two-thirds to three-fourths of the planting pit has been backfilled, the hole shall be watered so as to settle the soil around the roots. After the water has been absorbed, the planting pit shall be filled with the planting soil, tamped lightly to grade, and watered thoroughly again. Any further settlement shall be brought to grade with additional planting soil.
- i. A shallow berm of soil, approximately 3-4" high shall be formed 6" outside the edge of each planting hole to serve as a water reservoir.
- j. After planting, if directed by the Village Forester, or his/her designee, a three to four inch layer of wood chips or other approved organic mulch shall be placed from and including the berm of soil to within approximately 3" of the trunk. No mulch shall be placed in direct contact with the trunk of the tree.
- k. Any excess soil, debris, or trimming shall be removed from the planting site immediately upon completion of planting.
- l. **Staking:** When stability is a problem, trees should be staked for one (1 year until growth of new roots has stabilized the tree. Care should be taken to avoid staking trees too rigidly or allowing guy wires to damage the bark. Remove the stake, wire, hose, or straps after roots are established. Trees shall be staked only if absolutely necessary since movement of the tree helps to build trunk taper and strength making it more resistant to wind breakage. It is also important to root system development (See Diagram 4.).
- m. **Trunk Protection:** Young trees with thin bark can be damaged by the warm

winter sun (sunscald) and should be protected at times. Standard paper tree wrap should be applied from the bottom up so that it overlaps like shingles. Wrap the trunk in the late fall and remove the wrap each spring as directed by the Village Forester, or his/her designee.

- n. **Pruning:** Newly planted trees will be pruned only to remove broken or crossing branches. This will be the responsibility of the Village.

SECTION VI

1. OBTAINING TREES

Trees can be obtained from nurseries in several different forms. Each has advantages, and no single type is appropriate for all situations.

- a. **Bare Root:** No soil is moved with bare-root plants, and so roots must be kept moist at all times. Many of the large roots are undamaged, but most of the fine roots are lost. Bare-root trees are usually less than two (2) inch caliper and should be planted when dormant in the early Spring. This type of planting will only be allowed in extreme circumstances with permission for the Village Forester, or her designee.
- b. **Balled and Burlapped Stock:** A ball of soil, containing the roots, is wrapped in burlap and moved with the tree. This is the most common method of transplanting field-grown trees. Sometimes decomposable nylon twine, treated burlap, and wire baskets are used. At planting, these materials should be removed as they have the potential to cause damage to or restrict new root growth. Nylon twine, if not removed, will often girdle the trunk as the new tree begins to grow. In addition, natural burlap left above the soil surface after planting acts as a moisture wick which will dry out the root ball.
- c. **Tree spaded material:** Tree spades are machines used by landscape contractors to dig the root ball, and then transport and replant the tree into similar holes previously dug by the machine. Tree spaded material should be root pruned one year prior to transport and relocation, when possible, to encourage the development of a dense, fibrous root ball. Care must be taken to close air gaps around the root ball. Cultivating a doughnut-like circle of soil eight (8) to twelve (12) inches deep and two (2) to three (3) feet wide around the root ball will provide loose soil for new growth.

2. TRANSPORTATION AND HANDLING

- a. Trees shall be covered during transport to the planting site.
- b. Plant material shall be handled in a manner as to cause the least amount of damage during the planting process.
- c. Balled and burlapped plants shall always be handled by the soil ball. Under no

circumstances shall they be dragged, lifted, or pulled by the trunk or foliage parts.

- d. Plants shall be handled, secured, or covered so as to prevent damage from wind and vibration. Plants shall never be allowed to drop, but shall always be lowered in a controlled manner.
- e. Plant material shall be planted the day it is taken to the planting site, or it shall be watered and/or covered and placed in a shady area to prevent drying out or freezing.

SECTION VII

1. MAINTENANCE OF NEWLY PLANTED TREES

- a. **General:** Newly planted trees, shrubs, and other plants require special care for three growing seasons following planting to ensure their survival.
- b. **Watering:** Proper watering is the single most important aspect of maintenance of transplanted trees. The reduced root system of the newly transplanted tree is concentrated in a small soil volume with very little water available to it. In the first few months after a tree is planted, a tree draws most of its moisture from roots within the root ball. The root ball can dry out in a few days, though surrounding soil remains moist. Regular watering will be necessary. In most cases this will be handled by the resident whose property abuts the new plant. It is also easy to over water, especially if the planting site is poorly drained.

With consideration given for natural rainfall, trees should have the equivalent of water saturating the soil to a depth of six (6) inches every seven (7) days. The complete planting area from the base of the tree to several feet beyond the dripline should be watered. It is important to check the moisture conditions before watering.

- c. **Fertilization:** Fertilization is not recommended the first two years after planting.
- d. **Insect and Disease Control:** Periodic inspections should be made to allow for early detection of insects or diseases which may pose a health threat. Newly transplanted trees are in a weakened condition which makes them more susceptible to attack than vigorously growing established trees. When attempting to manage pests, it is important to distinguish serious problems that justify chemical treatment from cosmetic ones for which chemical applications are unnecessary or even harmful. Wood borers would be considered a serious problem, whereas most late-season leaf diseases would not.

SECTION VIII

1. GENERAL MAINTENANCE

- a. **Safety Requirements:** In all operations related to public tree planting, maintenance and removal, safety of workers, citizens, and the general public shall be of primary importance. Anyone working on municipally owned trees shall follow the safety requirements for tree care operations as presented in the American National Standards Institute (ANSI Z133.1 2006 or most current publication).
- b. **Cabling and Bracing:** Cables and braces are installed in trees to provide support for weak limbs, branch junctions with included wood, or inherently weak-wooded trees. All work shall conform to the ANSI A300 (Part 3) – 2000 Standards or most current publication.
- c. **Pruning:** Pruning is a common practice used to improve tree structure, remove limbs that are dead, diseased, damaged, weakly attached, or creating an obstruction, and, to raise for pedestrian and vehicular traffic. Improper pruning can result in permanent damage to the tree that may lead to structural defects and failure. The Village has a five-year winter pruning program at which time parkway trees are appropriately pruned. All pruning on parkway trees shall conform to the ANSI A300 (Part 1)– 2001 Standards or most current publication.

Detailed specifications for the classes and types of pruning are contained in the Standard Practices for Tree Care Operations (ANSI A300-2001, or most current publication). ANSI A300 standards are to be used in all pruning activities to be performed on Village trees.

All pruning on parkway trees shall be done by certified arborists or other properly trained tree health care professionals.

Tree topping or dehorning shall not be permitted. This practice can result in damage and decay wounds to the tree and lead to serious structural attachment defects of the new limbs and create a potentially hazardous situation.

All large, established trees shall be pruned to the following height to allow free passage of pedestrians and vehicular traffic: A guideline of eight (8) feet over sidewalks and a minimum clearance of fourteen (14) feet over all streets should be used. This height may be adjusted depending on the width of parkway and sidewalk configurations with approval from the Village Forester, or his/her designee.

SECTION IX

1. REMOVAL POLICY

Vision Glen Ellyn 2010 Committee has established the theme, “Village in a Park” which indicates the value that is placed on our community trees. It is our objective to provide the citizens of our community with an aesthetically pleasing, safe, and healthy urban forest. Healthy trees are an important component of the Village, and contribute significantly to the quality of the local environment. It is the policy of the Village to maintain public trees as long as they remain assets to the community, and to remove public trees when they become a liability.

There are many factors that contribute to transforming a tree from an asset to a liability. Since trees are living organisms, they eventually die; therefore age and species can be a factor that produces a liability. Disease, decay, and mechanical damage can cause a tree to be structurally unsound, and therefore a liability. The location of a tree may also cause it to be a liability in the form of interfering with traffic visibility.

There are factors that occasionally cause a tree to be an inconvenience, but not necessarily a liability. Deciduous trees drop leaves/seeds which may cause an inconvenience without causing a liability. The decision to remove a publicly maintained tree frequently is influenced by a number of considerations. It is the policy of the Village to base tree removals on criteria of community forest health and safety (and therefore liability) and consider criteria of inconvenience to a lesser extent.

All work shall conform to the ANSI Z133.1-2000 Standards (or most current publication)

The decision to remove or not to remove a tree is based on consideration of several criteria including:

- ◆ The overall health of the tree.
- ◆ The tree species and its desirability for parkway use and its potential to cause future maintenance problems.
- ◆ The size and appearance of the tree, and the contribution it is making towards our goal of aesthetically pleasing streets.
- ◆ The potential for the tree to damage hardscape features such as driveways, sidewalks, buffalo boxes, etc.
- ◆ The number of other trees growing under the same conditions, and the precedent that would be set by removing the tree in question.
- ◆ The degree of hardship and/or safety hazards the tree is causing.
- ◆ The feasibility of alternative measures which may alleviate the hardship/hazard.
- ◆ Suitability of the tree for its present location.
- ◆ Expected long-term maintenance costs for the tree compared to other trees of same age/size.

Decisions on tree removals will always try to balance the needs of the individual property owner and of the Village and its citizens in general. The following section lists a limited

number of reasons for tree removals. This is not an exhaustive list; however, it is provided as a practical guide when considering tree removal.

a. **Conditions Which Automatically Warrant Removal**

1. Tree is dead.
2. In the opinion of Village Forester, or his/her designee, there is a substantial and/or reasonable risk of failure which could cause injury or property damage, and corrective measures are not feasible.
3. Contagious and fatal disease present (e.g. Dutch Elm Disease, EAB, Asian Longhorned Beetle or Oak Wilt).
4. Tree damaged beyond repair (e.g. construction injury, lightening, vandalism, auto accident).
5. Extremely poor shape due to utility pruning, die back or storm damage (e.g. 50% or more of crown missing or dying and unlikely to regenerate).
6. Tree is in the way of Village-authorized construction project designed to benefit the community in general; rerouting of construction or alternative tree protection measures are not feasible (e.g. road widening, main break repair).
7. Tree is almost totally obstructing growth of an adjacent tree specimen that is clearly superior (based on species, condition, and location).
8. Tree was recently planted and does not meet requirements of Arboricultural Specifications Manual due to species, spacing, or location.
9. Tree is causing serious site obstruction which cannot be alleviated by pruning.
10. Tree trunk is growing into and damaging a buffalo box, utility pole, or fire hydrant.

SECTION X

TREE PROTECTION REQUIREMENTS

It is the responsibility of the permit holder, or any person working near public trees, to protect all public trees located on the adjacent public right-of-way that may reasonably be expected to be affected or damaged by construction activities. Existing trees subject to construction shall be fenced BEFORE any work is started. The trees to be protected, the method of protection, and the dimensions involved shall be determined by using the specifications in this guideline with final approval of the Village Forester, or his/her designee. Once assembled, no fencing or other

protection device shall be removed without prior approval of the Village Forester, or his/her designee, and there will be no construction activity or material within the enclosure.

1. **Tree protection:** Trees are an integral part of the urban infrastructure. Every importance is placed on protecting trees to the greatest extent possible. This section provides information regarding tree protection measures.
2. **Critical Root Zone (CRZ):** This is the area defined as the entire ground area that lies within and out to the end of the dripline of the tree, and in some cases may extend beyond the dripline. (See Diagram 6)
3. **Protective fencing:** When possible, the entire dripline or Critical Root Zone of the tree must be fenced. The fence shall run parallel to the curb line (1' inside the curb) perpendicular to the curb to the join the sidewalk, parallel to the sidewalk and then back to the curb, to encompass the dripline of the tree(s). All fence will be installed with metal posts located no more than 10' apart. Fence should be made of plastic-type mesh or wood slats. (See Diagram7). In some cases, the dripline of trees may overlap. It will be necessary to fence the multiple drip lines as one. (See Diagram 8).
4. **Trenching Trees:** Open trenching in the critical root zone area of a public tree is prohibited. In some instances, exceptions may be allowed if in the opinion of the Village Forester, or his/her designee, the impact of trenching upon the tree will be negligible.
5. **Utility installations (underground):** All installations of underground utilities upon the public right-of-way are subject to approval by the Village. Any and all installations that will have impact on public trees in relation to underground utilities are specifically subject to the review and approval of the Village Forester, or his/her designee, before the project starts. A plan showing the path of the underground utility in relationship to surrounding trees shall be submitted to the Village Forester, or his/her designee, a minimum of two (2) weeks before any work begins for approval of utility placement and technique.
6. **Augering / boring requirements and procedures:** Trenching operations, when allowed to be used in the critical root zone of a tree, causes damage to that tree's root system. Trenching through the tree's critical root zone can cause any or all of the following damage to occur to the tree: Slowing of growth rate, die-back and decline of the tree's crown and or root system, deadwood formation, wind throw, invasion of wood-decaying fungi and/or insects, or total tree mortality. Where there is insufficient space for trenching to bypass the Critical Root Zone of trees, when possible augering must be used in place of trenching. To minimize damage to parkway tree roots, the following augering specification has been developed to provide adequate protection for the roots of parkway trees. (Table 5, Diagram 9)

Table 5
Critical Root Zone Augering / Specifications

Tree Diameter (DBH)	Distance of Tunnel from Face of Tree Trunk - Each Side
2" - 9"	6'
10" - 14"	10'
15" - 19"	12'
20" or more	15'

It is recognized that there may be situations where utilities must be installed or repaired within a tree's Critical Root Zone, and trenchless excavation is not possible. Examples could include exceptionally rocky conditions, or cases where a pit must be excavated within the Critical Root Zone to receive tunneling equipment. The Village Forester, or his/her designee, shall have the authority to determine whether trenchless excavation is impossible, in which case permission to proceed may be granted under the following conditions:

- ◆ The Village Forester, or his/her designee, will determine the location and size of the pit or trench.
- ◆ Pre-construction root pruning may be required as in Section 6.
- ◆ Any roots encountered during construction must be cleanly cut as described in Section 6.
- ◆ If it is to be left open for more than two days, all trenches/excavations shall be backfilled as soon as possible to prevent roots from drying out.

Additional information on trenching and tunneling near trees is contained in Diagram 9 and 10.

7. Root Pruning

- a. **Pre-construction root pruning:** During construction activities there may be times when in the opinion of the Village Forester, or his/her designee, it is not possible to entirely avoid trenching or excavation within the Critical Root Zone. In such instances, the Village Forester, or his/her designee, may require the permittee to perform pre-construction root pruning. This procedure results in root cutting, but if done properly it will minimize damage to the tree and afford the pruned roots an opportunity to quickly regenerate. This shall be accomplished according to the following standards:

When the cutting of roots is unavoidable in a trenching operation, a root pruning saw shall be used to make a clean cut of the roots six (6) inches to the inside of the trench prior to the trench being dug. All trenches shall be backfilled immediately or the roots kept moist by watering procedures.

Note: Trenching machines are not allowed in root pruning operations

The minimum depth of auger within the root zone, as described above, shall be as deep as the depth of excavation, or at least 24" below the soil surface. No trenching within the root zone of the tree, as described, shall be permitted.

8. **Sidewalk and driveway installation and replacement:** When conflicts arise between tree roots and existing pavement, it is advisable to look for solutions that minimize damage to tree roots while providing a smooth walking surface for pedestrians. Removal of large support roots should be avoided. Without adequate support from structural roots, trees become increasingly at risk of falling, particularly during heavy winds. Removal of large roots may also severely stress an otherwise healthy tree, increasing the risk of disease or pest infestation. The mitigation of uneven sidewalks in a manner that produces additional hazards in the form of structurally unsound trees is not acceptable.

It may not always be necessary to replace a damaged sidewalk at the same grade or in the same position that the original sidewalk occupies. If possible, replacement sidewalks may be routed farther away from the root collar of the tree than the original sidewalk. While this may deviate from a straight pathway, the additional space will allow for future root growth without resulting in future pavement heaving. Occasionally, re-routing sidewalks may require obtaining an easement from the adjacent landowner.

When large roots are present at the surface, it may be possible to raise the grade in the location of the replacement sidewalk. Caution must be used to add a ramp of soil along the edges of the replacement sidewalk that slopes to the grade of adjacent turf. This will prevent tripping on or falling off of the new sidewalk that is at a higher grade than the original pavement.

Smaller panels of concrete with expansion joints might also be an alternative. It may be possible to narrow the width of the sidewalk pavement in the area of the root crown. When installing sidewalks, the sidewalk edge must be at least 1' away from the trunk of the tree.

Whenever possible, installation of new driveways or widening of existing driveways should not be performed within a tree's Critical Root Zone. The pavement should be installed no closer to the tree than the minimum distances shown in Table 5- Augering Specifications. For example, the pavement should be no closer than 15 feet from the trunk of a 20" tree. Distances less than those shown on the diagram will be permitted only with written permission of the Village Forester, or his/her designee.

Whenever possible, replacement or installation of pavement that requires cutting of tree roots should be conducted in early spring and concluded by mid-summer to allow

maximum root recovery during dormancy.

9. **Posting of Tree Preservation Plans:** In some cases Tree Preservation Plans must be posted at the site of development as it relates to ordinance - VC before a building permit is issued. In those cases, the sign must be laminated and installed on 4' posts directly behind the sidewalk in the front of the property (unless the Village Forester, or his/her designee, requests another location).

10. **Changes to existing grade:** No changes to original grade should be allowed inside the Critical Root Zone. If such changes are unavoidable, consideration should be given to installation of retaining walls or tree wells, depending on grade change. This will minimize root cutting and keep the base of the trunk at the original ground level.

General requirements: Any time access is needed across the parkway an ingress and egress point will be established. If it is not on an existing driveway, and access is needed within the boundary of the dripline, a bridging structure will be made of grade 8 gravel or plywood will be required to be set in the parkway to protect the tree root system from tearing and compaction from heavy equipment. This will be required throughout the construction project.

11. **Amendments:** The Village Forester, or his/her designee, shall have the authority to recommend changes to the manual, except those specifically authorized to be amended by the Village Forester herein, and such changes shall be considered by the Village Board, which shall have the power to amend the manual by ordinance.

APPENDIX

1. **ANSI 260.1**, The American Standard for Nursing Stock as approved by The American National Standard Institute, Inc.

2. **ANSI Z133.1 – current edition** The American National Standard for Tree Care Operations -

Pruning, Trimming, Repairing, Maintaining and Removing Trees, and Cutting Brush - Safety Requirements.

By:

The American National Standards Institute, Inc.

11 West 42nd Street

New York, New York 10036

3. **ANSI A300** –(Part 1, Tree Care Operations for Pruning), and (Part 3 – Support systems a. Cabling, Bracing and Guying) for Trees, Shrub, and Other Woody Plant Maintenances- Standard Practices.