Municipal Forestry Plan

Parks, Recreation & Facilities

Village of Glendale Heights

Revised 2013

Municipal Forestry Administration

The Village Board shall establish an Urban Forestry Board which shall select a Village Arborist. The Village Arborist shall be an officer, agent or employee of the Village designated by the Board for the purpose of carrying out certain duties and enforcing all regulations contained in the Urban Forestry Plan.

Municipal Forestry Worker 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. Contractors are required to follow the safety requirements for tree care operations as presented in the most current version of American National Standards Institute ANSI Z133.1 and Best Manufacturing Practices of the International Society of Arboriculture.

Municipal Forestry Objectives

Municipal Forestry is a comprehensive parkway/public tree management program. It is the responsibility of the Village to ensure that a parkway tree program enhances the quality of life and makes the Village a more desirable place to live and work.

The goal of this plan is to perpetuate tree plantings in public areas, make parkway trees available to residents and to manage, protect and maintain the "Municipal Forest" (parkway and park trees) thereby meeting the residents needs and expectations including public safety and increasing the value of not only the trees but also of real estate.

The Municipal Forestry Plan is divided into four main objectives:

1. Expansion/Reforestation of the Municipal Forest
2. Protection of the Municipal Forest
3. Maintenance of the Municipal Forest
4. Tree Removals

Expansion of Municipal Forest

Planting of Trees – New Subdivisions

Trees are required to be planted in public parkways. Each subdivider shall either deposit in cash only an amount sufficient to cover the estimated cost of planting trees in the public parkways or require planting under the guidance of the Village Arborist or his/her designated representative.

A minimum of one tree per lot shall be planted in the parkway strips along both sides of all streets where public parkways exist. If there is no parkway or the parkway is less than 4', the tree will be planted in the front yard of each lot. All planting requirements (as listed below) must be met. Trees shall be indicated on construction drawings by appropriate note.

Reforestation of Municipal Forest

The Village of Glendale Heights parkway tree replacement program is designed to replace parkway trees which have been removed. Trees are replaced as funding becomes available on a first removed/first replaced basis. The Village of Glendale Heights plants new or replacement

parkway trees in the spring and/or fall seasons. Refer to planting locations for eligibility of tree replacement.

Plant Materials

1. All trees shall be grown in a nursery located in the northern half of Illinois or the southern half of Wisconsin and licensed by the respective State.
2. All trees shall conform to the American Standard for Nursery Stock as approved by the American National Standards institute, Inc. and issued as the most recent version of ANSI Z60.1.
3. Trees shall have a minimum trunk diameter, measured six inches (6") above the root flare, of two inches (2") unless specific written permission is granted otherwise by the Village Arborist or his/her appointed designee.
4. Trees selected for planting in the Village shall be healthy, free of insects and diseases, bark bruises, and scrapes on the trunk or limbs before and after planting. Trees shall be single-stemmed (unless otherwise approved by the Village Arborist) and have a central leader that can be pruned so the lowest limb is at least 6' above ground, with the exception of small growing trees such as crabapples. All trees shall have a balanced crown and a well developed root system.
5. Unless a tree is to be transplanted by mechanized tree spade, all tree roots shall be balled and burlapped, or containerized. Nylon twine shall not be used for balling. Minimum ball size must conform to the most recent edition of ANSI Z60.1. 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 Arborist or his/her designee.
6. The root flare of balled and burlapped trees shall be within the top one-half inch (1/2") of the root ball. See Figure 1.

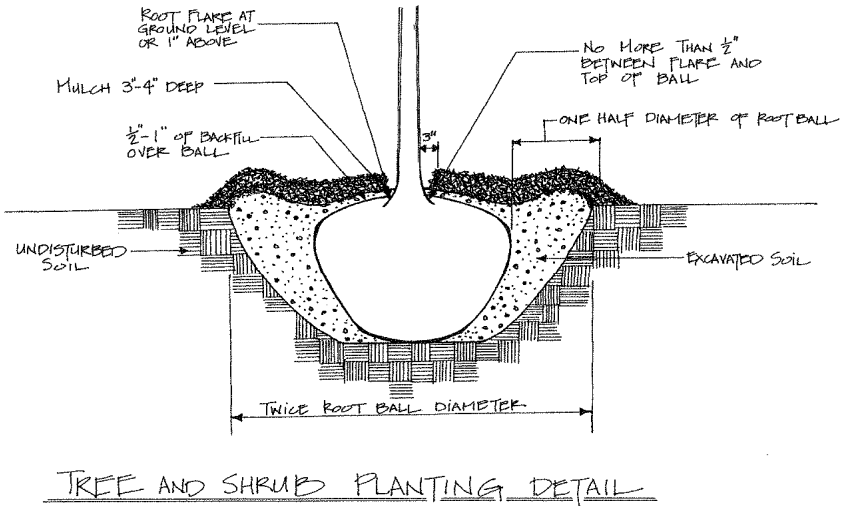

Figure 1

Transportation & Handling

1. Trees shall be covered during transport to the planting site.
2. Plant material shall be handled in a manner as to cause the least amount of damage during the planting process.
3. 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.
4. 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.
5. 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.

Planting Techniques

1. The spring planting season shall begin when the ground has sufficiently thawed and end approximately one week before buds begin to break. 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, or as designated by Village Arborist, from deciduous trees and end when the ground has frozen.
2. Tree holes may be machine dug only with written approval of the Village Arborist or his/her designee. All other tree planting holes will be manually dug. If the existing lawn is damaged, it shall be the responsibility of the applicant or contractor to restore the lawn to its original condition. The applicant or contractor shall also secure all necessary underground utility locations prior to planting.
3. The planting hole shall be a minimum of twice the diameter of the ball, with sides sloping inward toward the bottom of the root ball (see Figure 1 above). 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 resulting hole shall place the root flare of the tree at or not more than one inch (1”) above the grade of the surrounding soil.
4. 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.
5. The tree shall be planted so that the root collar is at or slightly (no more than 1 inch) above grade.
6. The tree shall be placed plumb and in the center of the planting hole.
7. 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.
8. 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.
9. When approximately two-thirds to three-fourths of the planting pit have 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.

10. A shallow berm of soil, approximately 3-4" high shall be formed just inside the edge of each planting hole to serve as a water reservoir.
11. After planting, planting contractors shall apply a three to four inch layer of wood chips or other approved organic mulch to the top of the planting hole to within approximately 3-4" of the trunk. No mulch shall be placed in direct contact with the trunk of the tree.
12. Any excess soil, debris or trimming shall be removed from the planting site immediately upon completion of planting.
13. The trunk of the tree shall not be wrapped. Any existing trunk wrapping materials shall be removed and disposed of.
14. All tags, wires and plastic ties shall be removed from each tree unless otherwise specified.
15. All trees will be watered thoroughly after planting, and at least 2 additional times following, as weather dictates.

Planting Locations

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

1. Trees of large-sized varieties shall be planted no closer than forty feet (40') from any other large sized variety of parkway trees. Trees of medium-sized varieties shall be planted no closer than thirty feet (30') from any other medium-sized variety of parkway trees. Trees of smaller varieties shall be planted no closer than twenty feet (20') from any other small sized variety of parkway trees. New tree plantings of all sizes can be as close as twenty feet (20') to existing conifer trees.
   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. For example, a new medium-sized variety may be planted 35' from a large variety, or 25' from a small variety. (See Figure 2, Figure 3 and Figure 4 at the end of this section).

2. The above minimum spacing standards may be modified by the Village Arborist for new plantings within Village areas, 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 course 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:

a) 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.
b) Medium growing trees – 400 cubic feet (for example, two foot deep pit must be accompanied by a 10 foot by 20 foot or equivalent opening). The smallest surface dimension must be at least 5 feet.
c) 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.
d) 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).
e) 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 Arborist or his/her designee.
    i. 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.
    ii. 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 size 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.
    iii. Exceptions to the above soil volume requirements may be made by the Village Arborist or his/her designee when one, or few trees are being replaced in existing pits and there are no immediate plans or funds available to reconstruct the surrounding sidewalk area.
f) Trees shall be planted no closer than six feet (6') from driveways and twenty feet (20') from intersections. No trees are to be planted within six feet (6') on either side of a fire hydrant or buffalo box.
g) Trees shall normally be planted on the centerline of the parkways, unless in the opinion of the Village Arborist, there is sufficient reason to plant the tree off center.
h) No trees shall be planted on parkways less than four feet (4') in width unless, in the opinion of the Village Arborist, the planting and the species of the tree approved will not endanger sidewalk, curbs and gutters, sewers, water lines or other physical property.

i) Only small-growing trees shall be planted under overhead power lines. Trees planted to the side of power lines shall be carefully selected as to crown form so as to minimize future conflicts.
j) No tree shall be planted in a location where it will obstruct a sign or street light.

Small Species

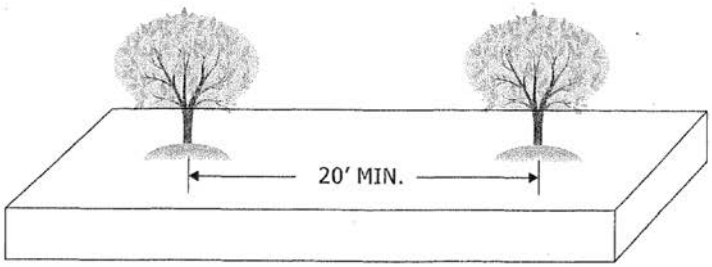

Figure 2

Medium Species

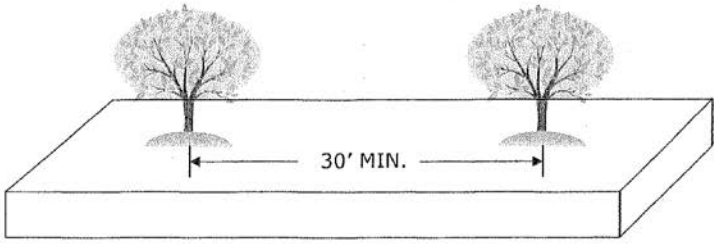

Figure 3

Large Species

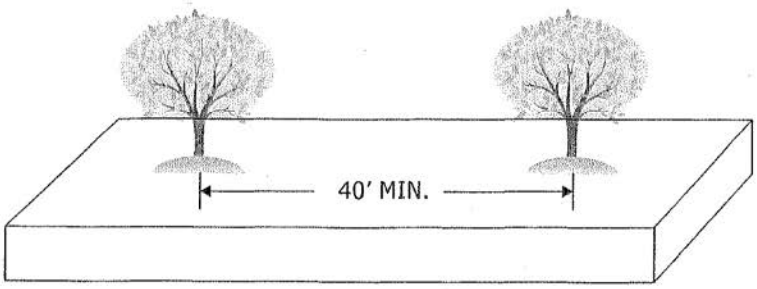

Figure 4

Tree Species

Only the following species of trees shall be planted unless specific permission is granted otherwise by the Village Arborist.

This list 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 restrictions of tree species noted. These restrictions include rooting space, soil texture, soil pH, drainage, exposure, overhead wires, and surrounding building surfaces.

The trees appearing on this listing have different requirements and tolerances. If properly sited, these species all 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 cultivators and varieties of the following tree species are suitable for parkway planting. Varieties and cultivars must be approved by the Village Arborist. If a tree that is not on the following list, and is proposed to be planted, it must be approved by the Village Arborist.

SMALL TREE SPECIES - APPROVED (minimum parkway size 4')
Acer campestre – Hedge Maple [*2, 3]
Acer ginnala – Amur Maple [*2, 3]
Acer tartaricum – Tatarian Maple [*2, 3]
Amelanchier arborea – Shadblow Serviceberry [1, 3]
Amelanchier laevis – Allegheny Serviceberry [1, 3]
Amelanchier x grandiflora – Apple Serviceberry [3]
Carpinus betulus – European Hornbeam (columnar varieties)
Carpinus caroliniana – American Hornbeam [1, 3]
Cornus mas – Cornelian Cherry Dogwood [2, 3]
Cotinus obovatus – American Smoketree [3]
Crataegus crus-galli var. inermis – Thornless Cockspur Hawthorn [1, 2, 3]
Crataegus punctata – Ohio Pioneer Hawthorn [1, 2, 3]
Maackia amurensis – Amur Maackia [3]
Malus spp. - select Crabapple cultivars [3]
Pyrus calleryana [2] – (selected narrow cultivars eg. Capital, Chanticleer, Whitehouse)
Syringa reticulate – Japanese Tree Lilac [3]
Tilia cordata 'Halka" – 'Summer Sprite' Linden
Ulmusapx wilsonia "Morton" - Accolade Elm

MEDIUM TREE SPECIES - APPROVED (minimum parkway size 5')
Acer miyabei – Miyabe Maple [*]
Acer miyabei - State Street Maple
Acer platanoides 'Columnars' – Columnar Norway Maple [*2]
Acer rubrum - Sunset Maple
Acer truncatum x platanoides – Shantung Maple [*]
Alnus glutinosa – European Black Adler
Betula nigra – River Birch [1]
Carpinus betulus – European Hornbeam

Cercidiphyllum japonicum – Katsura Tree
Cladrastis kentukeea (lutea) – Yellowwood [1]
Corylus colurna – Turkish Filbert [2]
Ginkgo biloba – Ginkkgo (male only) (selected narrow cultivars eg. Princeton Sentry)
Ostrya virginiana – Hophornbeam[1]
Pyrus calleryana – Callery Pear[2] (selected narrow cultivars eg Aristocrat, Autumn Blaze, Bradford, Redspire)
Quercus robur – English Oak (Columnar Cultivars)
Tilia cordata – Littleleaf Linden

LARGE TREE SPECIES - APPROVED (minimum parkway size of 6')
Acer miyabei - State Street Maple
Acer nigrum – Black Maple [*1]
Acer platanoides – Norway Maple [*2] (selected cultivars)
Acer rubrum – Red Maple [*1]
Acer saccharum – Sugar Maple [*]
Acer x freeman – Freemna Autumn Flame Maple [*]
Aesculus hippocatanum – Horse Chestnut [2]
Aesculus x carnea – Rubyred Horse Chestnut [2]
Catalpa speciosa - Catalupa
Celtis occidentalis – Hackberry [1, 2]
Eucommia ulmoides – Hardy Rubber Tree
Ginkgo biloba – Ginkgo (male only) (wide cultivars eg. Autumn Gold)
Gleditsia triacanthos inermis – Thornless Honeylocust [*1, 2]
Gymnocladus dioica – Kentucky coffeetree [1]
Liriodendron tulipifera – Tuliptree [1]
Magnolia acuminate – Cucumbertree Magnolia [1]
Phellodendron amurense – Amur Corktree (male cultivars)
Platanus x acerifolia – London Plane [2]
Quercus acutissima – Sawtooth Oak
Quercus alba – White Oak[1]
Quercus bicolor – Swqamp White Oak[1]
Quercus ellipsoidalis – Northern Pin Oak[1]
Quercus imbricaria – Shingle Oak1
Quercus macrocarpa – Bur Oak [1, 2]
Quercus muehlenbergii – Chinkapin Oak[1]
Quercus robur – English Oak
Quercus rubra – Northern Red Oak[1]
Quercus shumardii – Shumard Oak[1]
Taxodium distichum – Baldcypress[1]
Tilia Americana – American Linden[1]
Tilia euchlora – Crimean linden
Tilia platphyllos – Bigleaf Linden
Tilia tomentosa – Silver Linden[2]
Tilia x europaea – European Linden
Ulmus parvifolia – Lacebark Elm[2]

* Limit use/ over-planted genus
[1] Native to Illinois
[2] Tolerant of urban conditions
[3] Generally suitable for planting beneath power lines, depending on wire height

The above permitted list is not inclusive and is subject to change.

PROHIBITED FOR PARKWAY PLANTING:	**COMMENTS:**
Acer negundo – Boxelder	Aggressive, Shallow roots, Weak wood
Acer saccharinum – Silver Maple	Aggressive, Shallow roots, Weak wood
Ailanthus altissima – Tree of Heaven	Seeds, Suckers, Weak wood
Elaeagnus angustifolia – Russian Olive	Form, Disease
Fraxinus velutina glabra – Modesto Ash	Sidewalk problems, insects
Ginkgo biloba (Female) – Female Gingko	Fruits
Morus species – Mulberry	Fruits, Shallow roots
Pine/Evergreen	
Populus alba – White Poplar	Suckers, Shallow roots, Weak wood
Populus deltoids – Cottonwood	Weak wood, Shallow roots, Seeds
Populus nigra 'Italica' – Lombardy Poplar	Insects, Disease, Short-lived
Salix species – Willow	Weak wood, Shallow roots
Sorbus species – Mountain Ash	Short-lived
Ulmus Americana – American Elm	Insects, Disease
Ulmus pumila – Siberian Elm	

The above prohibited list is not inclusive and is subject to change.

Protection of Municipal Forest

Damaging Trees

No person shall without the written permission of the Director of Urban Forestry or his/her designated representative, remove, destroy, break, cut deface or in any way injure or interfere with any tree that is on or may hereafter be growing in any public parkway or public grounds of the Village.

Protection of Trees During Construction

During the erection, alteration, demolition or repair of any building or structure, the owner or owners shall place highly visible physical barriers (i.e. snow fencing) or such guards around all trees in the parkways or other Village property so it effectively prevents injury to the tree and the tree's root system.

a. Generally a radius of 1' for 1" D.B.H., or within the limits of the drip line of the tree.
b. No construction debris or materials shall be stock piled or stored within the tree root protection zone.
c. No construction vehicles or equipment shall be permitted to park or operate within the tree root protection zone without prior written approval of the Director of the Urban Forestry or his/her designated representative.

The Village Forester will conduct a preliminary inspection of construction sites. This inspection will inventory trees to determine their size, species, relative health, pruning needs, those requiring protection, those to be considered for removal and other special concerns.

If construction is to occur within the root zone of existing trees, root pruning and special care shall be required. All root pruning, top pruning and fertilization shall be done by qualified, approved personnel, experienced in horticulture practices and operations. Physical barriers and trunk protection may be installed by the general contractor. All required tree root zone and trunk protection, root pruning and top pruning shall be completed prior to delivery of any material or beginning of construction. All protection measures shall be the responsibility of the contractor and implemented in the following manner:

Tree Root Protection Zone

An approved, highly visible, root barrier (e.g. snow fencing) shall be temporarily constructed at drip line of trees to be protected, with a minimum radius of 1' per 1" D.B.H.; or at the limit of construction when within the drip line. Construction debris, material, fitting, etc. shall not be stockpiled within the tree root protection zone. No construction vehicles or equipment shall be permitted to park or operate within the tree root protection zone without prior written approval of the Director of Urban Forestry or his/her designated representative.

Root zone: The root zone is the area around the tree extending at least as far as the longest horizontal branches.

Trunk Protection

Contractor shall provide 2" by 6" by 8' foot boards banded continuously around each trunk to adequately prevent scarring of trees as marked on plans or designated by the Director of Urban Forestry or his/her designated representative.

For multi-stem trees, or trees under 6" in diameter, temporary fencing or at the drip line will serve as trunk protection.

Critical Root Zone

To prevent unnecessary damage to existing public trees during construction, proper tree protection guidelines must be followed, particularly in the root zone where major support roots securely hold the tree in the soil. This Critical Root Zone (CRZ) is defined as the entire ground area within the vertical projection of the crown of a tree. This is also commonly referred to as the area within the drip line of a tree.

Power equipment may not be used to excavate soil or dig trenches in the Critical Root Zone (CRZ), for example, during road, curb or sewer excavations when repairs or reconstruction is necessary. All soil excavation done within the Critical Root Zone must be done by hand. Exceptions to the above shall be granted only with permission from the Village Arborist or his/her designee.

Root Pruning

Pre- construction root pruning

During construction activities there may be times when in the opinion of the Village Arborist, it is not possible to entirely avoid trenching or excavation within the Critical Root Zone. In such instances the Village Arborist may require the permittee to perform pre-construction root pruning. This procedure results in root removal, 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:

- Roots shall be cut off cleanly by hand, or using power equipment specifically designed to cleanly cut roots (shredding or ripping damages roots and hinders regeneration).
- Depth of pruning shall be at least 15" but ideally 24", except that the pruning shall be no deeper than the depth of the planned excavation.
- Roots shall be pruned during the dormant season whenever possible.
- Roots shall be pruned no more than 6" closer to the tree than the limits of excavation.
- Trenches shall be immediately backfilled to prevent drying out of roots.

Root Pruning During Construction

All tree roots greater than two inches (2") in diameter that are encountered in any construction process shall be cut cleanly with an appropriate saw or pruning shear or other tool specifically designed for cutting wood. Axes or other such chopping tools shall not be used. Shovels or other tools designed for digging shall not be used.

Tree Protection in Construction Areas

It is the responsibility of the person or organization who holds a construction permit, as a condition of permit, 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. All unpaved ground on public property within the Critical Root Zones of existing trees subject to construction damage shall be protected with snow fence before any work is started. If pavement such as sidewalk is within the Critical Root Zone, unpaved public property on both sides of the pavement shall be protected with snow fencing without blocking the right-of-way. The trees to be protected, the method of protection, and the dimensions involved shall be determined by the Village Arborist. Once assembled, no snow fencing or other protection device shall be removed without prior approval of the Village Arborist, and there will be no construction activity or material including storage, stockpiling, and equipment access within the enclosure.

Curb Installation

The installation of new or replacement curbs requires the excavation of soil. When soil excavation occurs inside the Critical Root Zone of a tree, the following guidelines shall be used:

- Excavation shall not disturb the soil beyond 12 inches from the back side of the curb to be installed. This allows sufficient room for a 12 inch bucket to be used on a backhoe, for a back form to be installed, and for curb installation equipment to operate.
- All tree roots greater than two inches (2") in diameter that are encountered in the excavation process shall be cut cleanly as described in the Section "Root Pruning" above.
- Pre-construction root pruning may be required as specified also in Section "Root Pruning" above.

When appropriate, curbs in need of replacement can be installed without the use of a typical wood back form. Metal angle irons can be placed on top of the adjacent undisturbed ground and can serve as a back form. A front form may be used in those instances when conventional curb installation techniques might cause unacceptable damage to a tree's root system, and the tree is determined to be sufficient size, quality or location value to make removal unacceptable.

The Village Arborist and Village Engineer shall have the authority to determine the placement and form of new curbs and the need for replacement curbs. The Village Parks and Grounds Foreman shall have the authority to provide advice on tree protection during curb replacement.

Sidewalk, Carriage Walk 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. Sidewalk grinding could be another option if the Director of Public works believes grinding the uneven sections of the sidewalk is feasible.

It may not always be necessary to replace a damaged sidewalk at the same grade or in the same position that the original sidewalk occupied. 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 the straight pathway, the additional space will allow for future root growth without resulting in future pavement heaving.

Smaller panels of concrete with expansion joints might be an alternative. It may be possible to narrow the width of the sidewalk pavement in the area of the root crown. Pavement only needs to be of sufficient width to accommodate two wheelchairs side by side.

Whenever possible, installation of new driveways and carriage walks or widening of existing driveways should not be performed within 6' of a tree. Shorter distances must be approved by the Village Arborist.

Whenever possible, replacement or installation off pavement that requires cutting of tree roots should be conducted in early spring and concluded by midsummer to allow maximum root recovery before dormancy.

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 on cuts or wells in fills. This will minimize root cutting and keep the base of the trunk at the original ground level.

Installation or Repair of Underground Cables & Pipes

All underground installations or repairs of utility or communication cables or pipes including sprinkler or irrigation systems upon the public right-of-way are subject to approval by the Village. Any and all installations or repairs that may affect public trees due to underground conflicts (roots) are specifically subject to the review and approval of the Village Arborist, Construction Engineer or Public Services Director before the project starts.

Trenching and Tunneling – Where there is insufficient space for trenching to bypass the Critical Root Zone of trees, tunneling must be used in place of trenching. In no case shall the top of the tunnel be less than two feet in depth. When the tunneling procedure is required, the distance of the tunnel from the center of the tree is determined by the diameter off the tree 4 ½ feet from the ground line (DBH). Unless otherwise specified, all dimensions apply as listed below in Table 1.

Tree Diameter (DBH)	Distance of tunnel from center of tree trunk
Less than 3 “	1 foot
3” to 4”	2 feet
5” to 9”	5 feet
10” to 14”	10 feet
15” to 19”	12 feet
Greater than 19”	15 feet

Table 1

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 CRZ to receive tunneling equipment. The Village Arborist shall have the authority t determine whether trenchless excavation is impossible, in which case permission to proceed may be granted under the following conditions:

- The Village Arborist will determine the location and size of the pit or trench.
- Pre-construction root pruning lay be required as in Section “Root Pruning” above.
- Any roots encountered during construction must be cleanly cut as described above.
- All trenches/excavations shall be backfilled as soon as possible to prevent roots from drying out.

Root Pruning

Where the root zones of existing trees are anticipated to be affected by construction in the form of root loss or compaction, tops of affected trees will be selectively thinned to remove an amount of crown proportional to root loss. Tops must be pruned within 1 week following root damage. Total crown reduction shall not exceed 25%. Where necessary, existing trees will be raised to allow equipment clearance at the direction of the Forester. This equipment clearance pruning may be

included in the crown reduction percentage. Limbs may also be tied back with an approved material used to tie back branches shall be the responsibility of the contractor. Top pruning must also be completed prior to beginning of construction or delivery of material. No top pruning will take place without written permission from the Director of Urban Forestry or his/her designated representative.

Tree Damage During Construction

If additional root zone damage occurs during construction, any necessary top pruning shall be completed within 1 week of damage at the direction of the Director of Urban Forestry or his/her designated representative. During the course of the project, inspections will be conducted by the Forester to determine if there is any damage (requiring corrective pruning or repair) has occurred as a result of construction activity. All damage which may occur as a result of construction activity must be corrected at the contractor's expense.

Sod Removal

Where sod is to be removed from the parkway as part of the construction process, sod within the drip line of parkway trees shall be removed by approved mechanical sod cutter. Sod removal by backhoe or Gradeall type equipment, will be permitted only outside the root protection zone with prior approval of the Director of Urban Forestry. When each parkway is restored, a ring minimum of 3' will be left unsodded at the base of each tree. This ring will be mulched by the contractor with a 3" layer of shredded hardwood mulch or approved equivalent.

Maintenance of Municipal Forest

Parkway Tree Pruning

Trees are pruned for beauty, health and safety. Pruning for beauty improves the structure and enhances the natural form. Pruning for tree health improves structure and removes limbs that are dead, diseased and damaged. Pruning for safety removes branches that interfere with the line of sight on streets and driveways. All tree pruning of any Village parkway tree or tree on public property will be performed by the Parks Division or by a contractor hired by the Village.

Residents may request pruning of a parkway tree on an as needed basis. Each request will result in a site inspection and, if warranted, pruning is scheduled. Certain tree species should not be pruned during the growing season except for emergency situations because the pruning cuts can attract damaging insects.

The Village of Glendale Heights undertakes a parkway tree pruning program during November through March.

Pruning by a Utility Company

Any utility company and/or their designated tree trimming contractors will schedule a meeting with the Director of Urban Forestry or his/her designated representative 90 days in advance of any work to be done within the Village. At that time the scope of work to done and the areas to be addressed, will be discussed. Other issues such as anticipated starting date and tentative completion dates and how many crews will be involved should be addressed.

During the length of this operation, a report of activities will be supplied by the utility company or their contractor to the Director of Urban Forestry or his/her designated representative by the end of each month so the report can be made available to the Village Board of Trustees. Included in the report will be the amount of work done and any complaints that arrive from the pruning or removal of trees.

Any utility company or their contractor will make every attempt possible to try and preserve the integrity of any tree trimmed using the standard practices for trees, shrubs and other woody plant maintenance ANSIA 300 written and supplied by the National Arborist Association.

All work will be done in a safe manner to protect against damage to the Village or resident's property. Any road closing or re-routing of traffic during tree pruning or removal operations must be approved by the Director of Urban Forestry or his/her designated representative.

Pruning

For tree pruning contracts issued by the Village, bid specifications will include minimum or maximum diameter branches to be removed. Pruning objectives will also be stated to provide a clear understanding of the results desired by the Village.

Pruning activities can be generally classified as:

- Pruning for hazard reduction
- Routine large tree pruning
- Horticultural training of small trees

Types of pruning for objectives other than hazard reduction include:

- Crown cleaning
- Crown thinning
- Crown raising
- Crown reduction or shaping
- Vista pruning
- Crown restoration

Detailed specifications for the classes and types of pruning are contained in the Standard practices for tree care Operations (ANSI A300, most current version) published by the American National Standards Institute, Inc. and the most current version of the "Tree-Pruning Guidelines" published by the international Society of Arboriculture. The above mentioned standards are to be used in all pruning activities to be performed on Village trees.

Removal of Trees

The actual removal of a tree by digging up or cutting down will only be performed by the Village of Glendale Heights or a qualified tree service contractor hired by the Village of Glendale Heights. The Village will also be responsible for the removal of any stump left from a tree removal.

No trees may be removed or replaced without the express authority of the Director of Urban Forestry or his/her designated representative.

Tree Removal Policy

The primary objective of the Village is to provide citizens with safe, prosperous and healthy community. Healthy trees are an important component of the Village, and contribute significantly to the quality of the local environment. Diseased or structurally unsound trees can be a liability. 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 can be a factor that produces a liability. Disease, decay and mechanical damage can also 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 other factors that occasionally cause a tree to be an inconvenience, but not necessarily a liability. Deciduous trees drop leaves each fall 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 safety (and therefore liability) and consider criteria of inconvenience to a lesser extent.

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

- If a tree is diseased, injured, judged to be structurally unsound, interferes with existing utility service or creates unsafe vision clearance, for pedestrian or vehicular traffic.
- If a tree is located in an area where a Village structure or improvement will be placed according to an improved plan, it unreasonably restricts the economic enjoyment of the property and the tree cannot be relocated on the site because of age, type, size or violates any existing Village ordinances.
- Any plantings that are considered to be detrimental to the Urban Forestry Plan. These may include prohibited species, improperly planted trees, any considered to be a hazard or potential hazard.

A final decision on a tree removal request will always try to balance the needs of the individual property owner and of the Village and its citizen's in general. The following section lists a limited number of reasons for tree removals that have been submitted to the Village for approval. This is not an exhaustive list, however it is provided as a practical guide to citizens who are considering submitting a tree removal request.

Conditions Which Can Warrant Removal at Village Cost:

- Tree is dead.
- In the opinion of the Village Arborist or his/her designee, there is a clear and reasonable risk of failure which could cause injury or property damage, and corrective measures are not feasible.
- Contagious and fatal disease or insect infestation (e.g. Dutch Elm Disease, Pine Wilt or Emerald Ash Borer).
- Tree damaged beyond repair (e.g. construction injury, lightening, vandalism, auto accidents).
- Extremely poor shape due to dieback or storm damage, (e.g. 50% or more of crown missing and unlikely to regenerate within 5 years).
- 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).
- Tree is almost totally obstructing growth of an adjacent tree specimen that is clearly superior (based on species, condition and location).
- Tree is causing serious sight obstruction which cannot be alleviated by pruning.
- Tree trunk is growing into and damaging a fence, buffalo box, utility pole or fire hydrant.
- Large-growing species under power lines cannot be pruned for adequate clearance without severely compromising the tree's appearance or long-term survival.
- Female gingko tree bears odiferous fruit.
- A serious chronic condition exists which will definitely result in tree death long before its normal lifespan (e.g. entire trunk is completely encircled with girdling roots).
- Tree trunk (not just roots) has grown into and is lifting a driveway apron or sidewalk creating a hazard condition. Procedures being undertaken to alleviate the hazard will kill the tree and alternate measures for alleviating the hazard are not possible.
- Tree produces large, dangerous thorns.