

**CITY OF MEQUON POLICY MANUAL
FOR TREE PROTECTION AND PRESERVATION**



Administrative Guidelines

Approved by Common Council February 19, 2007

Administrative Guidelines
CITY OF MEQUON POLICY MANUAL
FOR TREE PROTECTION AND PRESERVATION
&
STREET TREE REQUIREMENTS

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(1) PURPOSE AND INTENT

- (a) Trees and woodlands help to reduce storm water runoff and erosion, replenish ground water supplies, preserve and enhance nesting areas for birds and other wildlife which in turn assist in the control of insects, provide wildlife habitats, ameliorate air pollution, enhance and preserve air quality, assist in maintaining symbiotic relationships between plants and animals, moderate climate, reduce noise and glare, protect and increase property values and provide people with the opportunities for scientific, educational and recreational pursuits;
- (b) A substantial part of pre-settlement Mequon consisted of Southern Mesic Forest ("Old Growth Forest"). Most Old Growth Forest has been destroyed and the portions of Old Growth Forest which remain are now part of a disappearing ecosystem. Preservation is essential, because regeneration of forest of this caliber can take 150 years, provided that conditions exist within which the forest was originally formed;
- (c) It is declared a matter of public policy that preservation of intact remnants of Old Growth Forest and preservation and/or replacement of trees during the land development/building construction process in the City of Mequon is a public benefit and is desired in the interest of preserving the health, safety, welfare and prosperity of the people;
- (d) While allowing for the reasonable improvement of land within the City of Mequon, it is the intent of this ordinance to provide for the preservation of Old Growth Forest and to provide standards for the preservation/replacement of other trees and woodlands in the City of Mequon, as an important public resource enhancing the quality of life and the general welfare of the City, in furtherance of this policy.

(2) DEFINITIONS

All words in this ordinance shall have their customary dictionary definition except as specifically defined herein. The words "shall" and "must" are mandatory, and the words "may" and "should" are permissive.

Building Activity Area: The buildable area of a lot in where construction and building activities are limited to the smallest possible area on a lot or parcel. The building activity area includes the entire area affected by building and grading activities related to the proposed construction (including driveway and lateral construction) and shall be determined with maximum regard for existing mature trees. Lands designated floodplain, wetland, conservancy or similarly identified as unbuildable shall be excluded from this definition.

Caliper: The American Association of Nurserymen standard for trunk measurement of nursery stock. Caliper of the trunk shall be taken six (6) inches above the ground for up to and including four (4) inch caliper size, and twelve (12) inches above ground for larger sizes.

Canopy Drip Line: A vertical line extending from the outer surface of a tree's branch tips down to the ground.

City Forester: A recognized and qualified professional in the field of forestry, botany, horticulture or arboriculture retained by the City of Mequon and operating under the direction of the Tree Board for the purpose of administration and enforcement of the Tree Preservation Ordinance.

Diameter at Breast Height (DBH): A standard measure of tree size. A tree trunk diameter measured in inches at a height of four and one-half (4½) feet above the ground. If a tree splits into multiple trunks below the 4½-foot mark, then the trunk is measured at its most narrow point beneath the split.

Land Disturbance Activity: Any manmade change of the land surface including removal of a tree(s) or vegetative cover, excavating, filling, and grading, but not including agricultural land uses such as planting, growing, cultivating and harvesting of crops.

Lot, Platted: Any plot of land for residential, commercial, park or industrial use that has been subdivided through a subdivision plat, condominium plat or certified survey map.

Lot, Unplatted: Any plot of land that has yet to be subdivided through a subdivision plat, condominium plat or certified survey map.

Natural Areas: Any area found on a parcel of land that includes but may not necessarily be limited to one of the following: wooded areas (trees, shrubs, etc.), undisturbed areas, prairie grasses, wetlands and natural ecosystems.

Protected Zone: All lands in the City of Mequon that fall outside of the Building Activity Area of a lot, all areas of the lot required to remain in open space and all areas required to remain as landscaping strips according to provisions of the City of Mequon Zoning Code, or conditions of site plan approval. The protected zone shall include the required offset, setback and other designated unbuildable areas such as wetlands, woodlands, floodplain and conservancy areas within the City of Mequon.

Specimen Tree(s) or Stand: Any tree or grouping of trees which has been determined to be of a high value by the City Forester or his associate because of its species, size, age, historic significance or other professional criteria and has been so designated in the Tree Preservation Guidelines and Administrative Standards.

Tree: Any self supporting woody plant having a well-defined stem, a well-defined crown and has attained a height of at least eight (8) feet with a trunk of not less than three (3) inches diameter at breast height (DBH). Or, a cluster of main stems having an aggregate diameter of not less than three (3) inches DBH. (Note: Containerized trees and nursery stock trees kept for resale in licensed commercial nurseries are exempt from the provisions of this policy.)

Tree Preservation Guidelines and Administrative Standards: Tree Preservation and Protection Standards and Guidelines that shall be established by the Mequon Tree Board and published by the Department of Community Development that shall be used by the City Forester or his associate, developers and residents of Mequon in identifying, preserving and protecting specimen and other trees. The guidelines shall also identify street tree planting requirements and policies along with tree planting specifications.

(3) AUTHORITY AND APPLICABILITY

Standards for tree preservation are established under the authority of the City of Mequon Tree Preservation Ordinance, adopted August 3, 1993, and revised May 15, 2003. This policy manual constitutes the administrative guidelines of said ordinance. Except as otherwise noted herein, the terms of this policy shall apply to all proposed land disturbance activity associated with subdivision, land division, residential, commercial, industrial and park development. All land disturbance activity, regardless of whether building permits and/or erosion control permits are required pursuant to Chapter 38-674 of the Zoning Code, shall be subject to this policy.

No building permit and/or erosion control permit shall be granted by the Engineering and/or Inspection Departments without prior consent from the Department of Community Development and/or City Forester or his associate that the proposed land disturbance/development project is in conformance with the provisions of this policy.

Provisions of this policy shall not apply to the following:

1. Platted lots, except with regard to removal and protection of specimen trees;
2. Projects initiated by the City, as determined by the Common Council on a case-by-case basis, where the public good and/or health and welfare are at stake (i.e., installation of sanitary sewer, public roads and/or drainage improvements).

(4) PERMITTING PROCEDURES

A. For development on existing residential platted lots

1. At the time in which an applicant applies for Architectural Board approval, the City Forester or his associate shall conduct a site inspection to determine if the proposed development on the lot will destroy and/or encroach upon any trees.
2. The City Forester or his associate must make an onsite inspection if any trees exceeding 5" DBH are present, no building permit shall be issued until the City Forester or his associate identifies those specimen trees located in the area of construction and 10' from the proposed construction. The City Forester or his associate shall also identify those specimen trees whose root zone would be damaged by proposed construction. Subsequently, the City Forester or his associate may suggest a modification and/or alternate location for site development in order to protect specimen trees wherever possible.
3. No specimen trees shall be removed from any lot, unless approved by the Planning Commission and with the City Forester's knowledge or his associate in accordance with Chapter 60 of the Tree Preservation Ordinance.
4. To protect the specimen trees, as identified by the City Forester or his associate, the developer/owner shall install snow fences no closer than ten (10) feet outside from the dripline of the specimen. Additionally, signs shall be posted informing the public and site workers that the area fence is a protected zone and the zone shall not be changed in the protected zone unless approved by the City Forester or his associate and Engineer.

5. There shall be no storage/parking of vehicles or equipment allowed in the protected zone, and it shall be the responsibility of the developer/owner/contractor to ensure compliance.
6. Drainage of the site shall be designed so that after construction is completed the same amount of water and rate of discharge will reach the trees as it did prior to construction.
7. After stipulations 1 thru 6 have been completed, the owner/developer/contractor shall contact the Building Inspector to arrange an inspection for site compliance. A building permit shall be issued only after the owner/developer has completed these requirements and the City Forester or his associate has inspected the site.
8. After the building permit is issued, the City Forester and/or his associate shall inspect the site periodically to make sure the aforementioned guidelines are being followed. If the site is found to be in violation, the City Forester or his associate will stop project work immediately, until the violations are corrected. If the developer/owner/contractor fails to correct the violations, the City Forester or his associate may issue a municipal citation.

B. For Existing Commercial, Industrial or Park Platted Lots

1. At the time in which an applicant applies for any Planning Commission or Park Board approval, it will be necessary to inform staff if there are any trees on the parcel. The City Forester or his associate shall be requested by City staff to inspect the designated site for specimen and/or other trees for the purpose of preservation if any trees exceeding 5" DBH are present. The City Forester or his associate shall also identify those specimen trees whose root zone would be damaged by proposed construction. Based upon the City Forester's or his associate inspection of a platted lot, the City Forester or his associate and Planning Commission, in the case of non-parkland, or the City Forester or his associate and Park Board, in the case of parkland, may require a plan modification and/or alternate location for site development if, in their opinion, it may preserve specimen trees in accordance with the Tree Preservation Ordinance. This recommendation shall be stated in writing.
2. No specimen trees shall be removed, unless approved by the Planning Commission and with the City Forester's or his associate's knowledge in accordance with Chapter 60 of the Tree Preservation Ordinance.
3. To protect the specimen trees, as identified by the City Forester or his associate, the developer/owner/contractor shall install snow fences no closer than ten (10) feet outside the dripline of the specimen. Additionally, signs shall be posted informing the public and site workers that the area fenced is a protected zone and the zone shall be left undisturbed. The grade shall not be changed in the protected zone unless approved by the City Forester or his associate and Engineer.
4. There shall be no storage/parking of vehicles or equipment allowed in the protected zone, and it shall be the responsibility of the developer/owner/contractor to ensure compliance.

5. Drainage of the site shall be designed so that after construction is completed the same amount of water and rate of discharge will reach the trees as it did prior to construction.
6. A building permit shall be issued only after the owner/developer/contractor has completed the aforementioned requirements and the City Forester or his associate has inspected the site.
7. After the building permit is issued, the City Forester or his associate shall inspect the site periodically to make sure the aforementioned guidelines are being followed. If the site is found to be in violation, the City Forester or his associate will stop project work immediately, until the violations are corrected. If the developer/owner/contractor fails to correct the violations, the City Forester or his associate may issue a municipal citation.

C. For Proposed Subdivisions, Condominiums and Land Divisions

1. The City Forester or his associate shall be requested by City staff to inspect the designated site for specimen and/or other trees for the purpose of preservation if any trees exceeding 5" DBH are present.

Based upon staff's inspection and review of development plans, the City Forester or his associate and Planning Commission, in the case of non-parkland, or the City Forester or his associate and Park Board, in the case of parkland, as applicable, may suggest a development modification and/or alternate location for site development if, in their opinion, it may preserve trees in accordance with the Tree Preservation Ordinance. This recommendation shall be in writing.

2. Prior to preliminary plat or land division approval, the developer must submit a landscape plan (see Exhibit I for an example). The location of all specimen trees shall be exactly indicated on the plan, and the plan shall further identify all natural areas and wetlands within the proposed subdivision, condominium and land division. With the plan, the following additional information shall be provided:
 - (a) A list of species, including trees and shrubs, shall be identified that are present in each natural area;
 - (b) Tree sizes shall be identified in each natural area by indicating the approximate average DBH and the range of DBH sizes found in each natural area;
 - (c) If the species existing within the different natural areas throughout the proposed subdivision and land division are found to differ from one another substantially, a separate species list and DBH measurements shall be provided for each natural area.
3. No specimen trees or other substantial trees, as identified by the City Forester or his associate or Planning Commission, shall be removed in accordance with Chapter 60 of the Tree Preservation Ordinance unless specifically approved by the Planning Commission.

4. To protect and preserve the trees, as identified on the landscape plan or by the Planning Commission, the owner/developer/contractor shall install snow fences no closer than ten (10) feet outside the outer dripline of the tree. Additionally, signs shall be posted informing the public and site workers that the area fenced is a protected zone and the zone shall be left undisturbed. The grade shall not be changed in the protected zone unless approved by the City Forester or his associate and Engineer.
5. There shall be no storage/parking of vehicles or equipment allowed in the protected zone, and it shall be the responsibility of the developers/owner to ensure compliance.
6. Drainage of the site shall be designed so that after construction, the same amount of water and rate of discharge will reach the trees as it did prior to construction.
7. A building permit/erosion control permit shall be issued only after the owner/developer/contractor has completed the aforementioned requirements and the City Forester or his associate has inspected the site.
8. After the building permit/erosion control permit is issued, the City Forester or his associate shall inspect the site periodically to make sure the aforementioned guidelines are being followed. If the site is found to be in violation, the City Forester or his associate will stop project work immediately, until the violations are corrected. If the developer/owner/contractor fails to correct the violations, the City Forester or his associate may issue a municipal citation.

(5) REMOVAL OF TREES AND REPLACEMENT LANDSCAPING

- A. It shall be unlawful to remove, injure, destroy, or undertake any procedure that may cause the death or substantial destruction of any specimen tree located anywhere on **any land in the City of Mequon** without the express written permission of the City Planning Commission.
- B. The Planning Commission may require the owner/developer to additionally landscape with trees and/or plant materials within the protected zone, in accordance with the Zoning Code.
- C. No trees shall be removed in the protected zone of an **unplatted lot** except as provided in Section (5) of this policy. Documentation requesting removal shall be submitted to the Planning Commission in the case of non-parkland, or the Park Board in the case of parkland, as applicable, as part of a landscape plan, in accordance with these Tree Preservation Guidelines prior to preliminary plat or land division approval.
- D. If a specimen tree is proposed to be removed in the buildable area on **any land in the City of Mequon**, the City Forester or his associate shall review the site for any alternative located for driveway, building and/or other construction in order to preserve the specimen trees.
 1. If it is found that construction cannot occur on the **existing platted lot** without removal of the specimen tree, the City Planning Commission, with City Forester's or his associate's knowledge in the case of non-parkland, or City Forester or his associate and Park Board, in the case of parkland, as applicable, may allow the

tree(s) to be removed, in accordance with the purpose and intent of the Tree Preservation Ordinance and this policy that permits reasonable improvement of land. If necessary, the City Forester or his associate may recommend the homeowner/developer seek setback and/or offset variances at the Board of Appeals in order to preserve specimen trees.

2. If it is found that construction cannot occur on **the unplatted lot**, without removal of specimen or any other tree(s), the Planning Commission **may** require reconfiguration of the proposed lot lines of a proposed subdivision/condominium plat or certified survey map in an effort to preserve trees. The Planning Commission and City Forester or his associate may authorize the removal of specimen and other trees on **unplatted lands**. When authorization is granted a landscape plan shall provide for tree removal, tree replacement and additional tree planting that results in an overall improvement in the environmental condition and aesthetic character of the proposed subdivision/land.
- E. Authorization for the removal of any specimen tree located on **any land in the City of Mequon** may be granted for the following reasons:
1. The tree is dead or dying; or
 2. The tree has a disease which may spread and threaten other trees; or
 3. The tree is damaged or injured to the extent that it is likely to die or become diseased; or
 4. Where removal will avoid or alleviate unreasonable difficulty or hardship. However, tree removal requested for the purpose of allowing greater building density shall not constitute unreasonable difficulty or hardship; or
 5. As determined by the Planning Commission with the Forester's knowledge in the case of non-parkland or City Forester or his associate and Park Board in the case of parkland, as applicable, in accordance with Chapter 60.
- F. The owner/developer shall replace any specimen tree removed in each of the following instances, as directed by the City Forester or his associate and Planning Commission in the case of non-parkland or City Forester or his associate and Park Board in the case of parkland or Board of Appeals, as applicable:
1. In the event the removal of the tree is authorized by the Planning Commission to avoid or alleviate a practical difficulty or unnecessary hardship;
 2. In the event the tree is damaged or injured by other than natural causes to the extent that it is likely to die or become diseased, or it constitutes a hazard to persons or property;
 3. In the event the tree is unlawfully removed in violation with this policy.
- G. Where replacement is required, the City Forester or his associate will direct the size and type of tree to be planted. The total DBH of all replacement trees shall be 75% of the total DBH of the removed specimen trees. The City Forester or his associate shall select replacement species after considering the species removed and those present on the lot. Strong preference shall be given to Wisconsin native species. For example, if a tree measuring 20" in DBH is removed, then eight (8), 2" caliper

trees might be required to replace it. If space is not available for replacement trees on the lot, the City Forester or his associate and Planning Commission may direct the planting at a City park, or in lieu of planting, a payment equal to the calculated value from the ISA Guide for Plant Appraisal may be placed in a non lapsing account for future street tree and urban forest projects.

(6) SPECIMEN TREE LIST

A. The following trees (or grouping of trees) have been determined to be of a high value by the City Forester or his associate because of species, size, age, historic significance or other professional criteria. Any tree in fair or better condition which equals or exceeds the following diameter sizes at breast height (DBH):

<u>*Acer rubrum – Red Maple 10"</u>	<u>*Celtis occidentalis – Common Hackberry 16"</u>
<u>*Acer saccharum – Sugar Maple 12"</u>	<u>*Fagus grandifolia – American Beech 12"</u>
<u>*Alnus species Alders 10"</u>	<u>*Quercus species – All Oaks 12"</u>
<u>*Amelanchier species – Amelanchiers 6"</u>	<u>*Pinus strobus – White Pine 12"</u>
<u>*Carpinus caroliniana – Musclewood 6"</u>	<u>*Juglans cinerea – Butternut 12"</u>
<u>*Carya species – All Hickories 12"</u>	<u>*Prunus serotina – Black Cherry 12"</u>
<u>*Juglans nigra – Black Walnut 12"</u>	<u>*Ostrya virginiana – Ironwood 6"</u>
<u>*Juniperus virginiana – E. Red Cedar 8"</u>	<u>*Thuja occidentalis – White Cedar – 12"</u>
<u>*Larix Laricina – Tamarack 12"</u>	<u>*Tilia americana – Basswood/American Linden 20"</u>
<u>*Gymnocladus dioicus – Kentucky Coffeetree 12"</u>	

* = native tree

Note: A lesser-sized tree can be considered a specimen if it is a rare or unusual species, of exceptional quality, or is of historical significance.

B. Standards used in determining whether a tree is in fair or better condition must meet the following minimum criteria:

1. The tree must have a life expectancy of greater than fifteen (15) years.
2. The tree must have a relatively sound and solid trunk with no extensive decay or cavity, and less than 20% radial trunk die-back.
3. The tree must not have more than one (1) major and several minor dead limbs (deciduous only).
4. The tree must not have any major insect or pathological problems.

C. Specimen tree stands shall be identified as a contiguous grouping of trees which contain 25% specimen trees and which have been determined to be of high value based upon the following criteria:

1. A relatively mature native stand which is in process of regeneration.
2. A stand with diversity of native species of a rare or unusual nature.
3. A stand of historical significance.
4. A stand with exceptional aesthetic quality.

5. A stand with endangered wildlife or vegetation.
- D. General information regarding the Specimen Trees identified previously in this document:
1. It has been found that all Oaks, all Hickories, and the American Beech are large trees, very durable, some have excellent fall color, and are hard to replace (not sold in nurseries).
 2. It has been found that the Black Cherry, Sugar Maple, White Ash, Hackberry, Kentucky Coffeetree, Butternut, and Black Walnut are large trees, durable in woodland settings, have interesting bark and fall color, and some are rare in woodland settings.
 3. It has been found that the White Pine, White Cedar, Red Cedar, and Tamarack have native needle-shaped leaves, most are evergreen, and have high wildlife value.
 4. It has been found that the Basswood, Alder, and Red Maple are large bottomland trees suitable for wetland areas and have high wildlife value.
 5. It has been found that the Ironwood, Musclewood, and Amelanchier are small, understory or located at the edge of woodland trees, are very durable, have interesting bark features and have high wildlife value.

SECTION (7)

EXHIBIT #1 – EXAMPLE LANDSCAPE PLAN

Landscape Plan for Outskirt Ridge

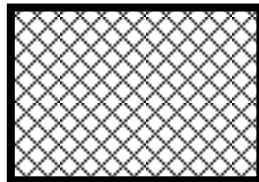
The attached plan give a general outline of the location of trees and shrubs on the Outskirt Ridge development. The following color key will give you a general guideline as to the type and more importantly the size of the trees on the development.

Natural Area #1



Areas of thick brush and trees along north exterior lot line and interior sections. The trees range in size from three (3) inches and smaller to old growth specimen trees of sizes greater than twenty-four (24) inches in diameter. The average DBH is twelve (12) inches. Species include Sugar Maples, Crimson Maples, Summit Ash and White Pine.

Natural Area #2



Areas along north exterior lot line and south east exterior lot line in which a variety of trees are planted in four (4) rows between ten (10) and fifteen (15) feet apart. The trees range in size between seven (7) and ten (10) inches in diameter. The average DBH is eight (8) inches. Species include Black Walnuts, Patmore Ash and Sugar Maples.

Marked Xs:

Either large specimen trees or trees transplanted to interior portion of field in mid-1980s. Specimens are specifically identified and include: Sugar Maple, Black Walnut, White Pine.

SECTION (8)
APPENDIX A

STREET TREE APPROVAL PROCESS
AND STREET TREE LIST

STREET TREE
APPROVAL PROCESS FOR
RESIDENTIAL SUBDIVISIONS

1. Before final plat approval, the developer shall contact the City Forester or his associate prior to selecting trees.
 - a.) The City Forester or his associate will then direct the developer as to street tree requirements and procedures and supply an appropriate list of street trees.
 - b.) The developer shall choose a minimum of three (3) tree species from the recommended list of trees to plant in the subdivision.

2. The developer shall have a professional landscape architect, landscape designer or horticulturist prepare a scaled street tree/landscape plan, having each tree labeled as to its specific location and species type; this will be submitted to the Tree Board for recommendations and review. Thereafter, the developer may proceed to the Planning Commission for final approval.

The Tree Board requires developers follow the standardized agenda listed below when submitting street tree plans to the Tree Board. The agenda would include:

- a) Six copies of plans.
- b) 1" – 30' scaled drawings.
- c) Street tree keys, botanical and common names, including numbers and sizes.
- d) Number of lineal feet of road.
- e) Location of property (map).
- f) Plan submitted two weeks prior to meeting date.
- g) All plans must meet City specifications.
- h) Trees are selected from the approved Street Tree List.
- i) Road right of way and centerline included on plan.
- j) Arrow on plan indicating north (direction).
- k) Incorporate all information on one page, if possible.

[Note: Six copies of all plans must be submitted to the Department of Community Development at least two (2) weeks prior to the Tree Board meeting.]

[Note: The City Forester or his associate will provide specification sheets for the developer/contractor at the time of approval so they are aware of the City's planting, burlapping and staking requirements.]

- a.) Prior to installation, the developer shall contact the City Forester or his associate to go out and inspect the quality of stock and proper installation procedures. The City Forester or his associate will also be called out upon completion of the planting to ensure installation and staking is correct. The developer will be charged a minimal fee for these inspections.

GUIDELINES TO FOLLOW:

- The landscape plan shall be a scaled drawing.
- The developer shall install street trees with an average trunk diameter of three (3) inches at a point six (6) inches above the grade. To ensure proper planting and growth, the tree shall be balled, burlapped and staked when installed, according to City specifications. (*Section 58-564 and 58-637.*)
- Trees shall be provided at a rate of not less than one (1) for every thirty (30) feet of new and private subdivision roadway frontage and located within the road right-of-way at a point two (2) feet from the right-of-way line unless otherwise allowed by the Planning Commission. However, the Tree Board has adopted a more flexible spacing scheme allowing low growth trees to be spaced 20 feet apart, medium growth trees to be spaced 30 feet apart and tall growth trees to be spaced 40 feet apart. The Planning Commission has allowed the Tree Board to suggest the spacing of the trees and make that recommendation to the developer and Planning Commission. (*Section 58-564 and 58-637 .*) Tree planting outside road right of way on adjacent lots will be allowed in accordance with the approved plan, provided a street tree preservation and maintenance easement document is submitted. (Inserted)
- Any tree that has died or is damaged beyond repair within three (3) years of planting shall be promptly replaced by the developer. The replacement planting shall be of the same size and quality as the approved landscaping plan. (*Section 3.16(7)(b)4.*)
- In seeking diversity, preventing disease and promoting appropriate street tree and landscape aesthetics, the following guidelines shall pertain:
 1. A minimum of three (3) different street tree species shall be planted throughout the subdivision;
 2. No less than 15% and no more than 40% of one specific street tree species shall be planted throughout the subdivision;
 3. If more than three (3) street tree species are planted within the subdivision, those trees may be planted in a quantity less than the 15% generally required throughout the entire subdivision planting.
 4. City Forester or his associate may approve additional tree species from other groups.
 5. The Tree Board may use their discretion in using smaller size trees of unusual varieties in the interest of diversification of the urban forest.

MEQUON TREE BOARD SUGGESTED STREET TREE GROUPS

The Mequon Tree Board recommends the suggested tree groups for the following reasons:

1. The trees will provide a planned procedure of diversification throughout the City.
2. The trees will meet the City's soil type needs.
3. The variety of heights will allow the developer/City to better cope with various site conditions (i.e. power lines, telephone lines, cable lines, existing trees).
4. The trees will offer a specific continuity throughout each proposed subdivision.
5. The trees are tolerant of salt, fumes, and other city stresses.
6. Many of the trees are native Wisconsin trees or cultivars of native trees. The cultivars are improvements of original natives. The remaining trees have been proven hearty and long-lasting in our climate.
7. The Tree Board and City Forester or his associate may consider other trees not provided on the street tree list with justification.

STREET TREE PLANTINGS FOR RESIDENTIAL SUBDIVISIONS - Street Tree List

	Tall (40-100')	Medium (30-40')	Low (15-30')
<u>GROUP 1</u>	<ul style="list-style-type: none"> ▪ *Acer platanoides 'Cleveland' – Cleveland Maple ▪ Tilia x euchlora 'Redmond' – Redmond Linden ▪ Ulmus parvifolia – Lacebark Elm or disease resistant cultivars 	<ul style="list-style-type: none"> ▪ Pyrus calleryana 'Autumn Brilliance' –Autumn Brilliance Callery Pear ▪ Prunus virginiana 'Schubert' – Canada Select, Common Chokecherry 	<ul style="list-style-type: none"> ▪ Malus disease resistant cultivars ▪ Acer tatarian 'Rubrum' – Tatarian Maple ▪ Cercis Canadensis – Eastern Redbird
<u>GROUP 2</u>	<ul style="list-style-type: none"> ▪ *Acer platanoides 'Emerald Queen' – Emerald Queen Maple ▪ Quercus robur – English Oak ▪ Aesculus hippocastanum 'Baumannii' – European Horsechestnut 	<ul style="list-style-type: none"> ▪ Phellodendron amurense 'Macho' – Macho Amur Corktree ▪ Gleiditsia triacanthos 'Imperial' – Thornless Common Honeylocust 	<ul style="list-style-type: none"> ▪ Syringa reticulata 'Ivory Silk' – Ivory Silk Japanese Tree Lilac ▪ Acer truncatum 'Pacific Sunset' – Purpleblow Maple, Shantung Maple
<u>GROUP 3</u>	<ul style="list-style-type: none"> ▪ Celtis occidentalis 'Prairie Pride' – Prairie Pride Hackberry ▪ Tilia cordata 'Glenleven' – Glenleven Littleleaf Linden ▪ Gingko biloba 'Autumn Gold' – Autumn Gold Gingko 	<ul style="list-style-type: none"> ▪ *Acer platanoides 'Crimson King' – Crimson King Maple ▪ Alnus glutinosa – European Alder 	<ul style="list-style-type: none"> ▪ Crataegus crus-galli inermis – Thornless Cockspur Hawthorn ▪ Malus disease resistant cultivars
<u>GROUP 4</u>	<ul style="list-style-type: none"> ▪ Quercus robur 'Skymaster' – Skymaster English Oak ▪ Quercus macrocarpa – Bur Oak 	<ul style="list-style-type: none"> ▪ Corylus colurna - Turkish Filbert 	<ul style="list-style-type: none"> ▪ Disease resistant flowering Crab ▪ Acer ginnala 'Flame' – Amur Maple
<u>GROUP 5</u>	<ul style="list-style-type: none"> ▪ *Acer platanoides 'Deborah' – Deborah Norway Maple ▪ Gleiditsia triacanthos 'Skyline' – Skyline Honeylocust ▪ Ulmus 'Regal' Regal Elm disease resistant cultivars ▪ Tilia cordata 'Chancellor' – Little Leaf Linden 	<ul style="list-style-type: none"> ▪ Gleiditsia triacanthos 'Imperial' – Thornless Common Honeylocust 	<ul style="list-style-type: none"> ▪ Crataegus x viridis 'Winter King' – Winter King Hawthorn ▪ Disease resistant Flowering Crab

*Asterisk species may not exceed 15% of the trees planted within the subdivision. (Note: This refers to the species, not the cultivar. Cultivars are shown in ' '.)

STREET TREE PLANTINGS FOR RESIDENTIAL SUBDIVISIONS - Street Tree List

	Tall (40-100')	Medium (30-40')	Low (15-30')
<u>GROUP 6</u>	<ul style="list-style-type: none"> ▪ Gymnocladus dioicus – Kentucky Coffeetree ▪ Gleditsia triacanthos ‘Shademaster’ – Shademaster Honeylocust ▪ Freeman Maple ▪ Quercus rubra Red Oak 	<ul style="list-style-type: none"> ▪ Cercidiphyllum japonicum - Katsuratree 	<ul style="list-style-type: none"> ▪ Acer truncatum ‘Norwegian Sunset’ – Purpleblow Maple/Shantung Maple
<u>GROUP 7</u>	<ul style="list-style-type: none"> ▪ Acer saccharum ‘Legacy’ – Sugar Maple ▪ Quercus bicolor – Swamp White Oak ▪ Tilia americana ‘Legend’ – American Linden ▪ Tilia tomentosa ‘Whitnal’ or ‘Sterling’ – Silver Linden 	<ul style="list-style-type: none"> ▪ Ostrya virginiana – ‘Ironwood’ – Ironwood/American Hophornbeam ▪ Betula nigra ‘Heritage’ – Heritage River Birch 	<ul style="list-style-type: none"> ▪ Carpinus caroliniana – Musclewood ▪ Amelanchier grandiflora ‘Autumn Brilliance’ - Serviceberry

NOTE: Other cultivars may be acceptable with justification.

*Asterisk species may not exceed 15% of the trees planted within the subdivision. (Note: This refers to the species, not the cultivar. Cultivars are shown in ‘ ‘.)

SECTION (9)
APPENDIX B

**SPECIFICATIONS FOR TREE PLANTING
AND PROTECTION**

(The City will inspect the stock and planting procedure used by the developer in conformance with the subsequent guidelines.)

TREE PLANTING GUIDELINES

1. BACKGROUND

The most important aspect of proper tree planting is matching individual tree species to planting sites. Major considerations include overhead utility wires, tree border/boulevard width, and vehicular traffic. Soil type is another factor to be considered. Most soils in Milwaukee are heavy clays. Clay soils hold moisture very well, which can be a problem during periods of high rainfall since root systems may be damaged. In areas where we know soil remains very wet, we plant tree species which are more tolerant of the conditions. Vandalism is also a consideration. In high vandalism areas, trees with stronger trunks and branches are selected.

The tree species list currently used in our planting program has been developed after many years of experience. Species diversity is a goal of the tree planting program. Dutch Elm Disease taught many communities a painful lesson about over-planting a single species of tree. The American Elm dominated urban tree planting programs in many cities resulting in the majority of their tree population made up of one tree species. Dutch Elm Disease has nearly eliminated American Elms from most cities. To prevent this from re-occurring, many cities are planting a variety of tree species with the goal of having a balanced tree population.

Once planting sites and tree species have been selected, the planting process begins. Proper planting techniques set the stage for a tree's overall health throughout its life cycle.

Most tree health problems are related to the condition of the root system. Planting trees too deep is a very common mistake which can pre-dispose the tree to an early death. Tree trunks were not meant to be buried with soil and/or mulch. When this occurs, basal rot, girdling roots, and trunk cankers may develop. The base of the trunk is similar to your neck. It doesn't take much damage to that area to seriously affect the overall health of the tree.

2. PLANTING PROCEDURE: TERMINOLOGY AND TECHNIQUE

Balled in burlap (B&B): The tree is dug with the original soil and placed in burlap for shipping. The root ball may or may not have a wire basket on the outside of the burlap for support. Avoid using the trunk of the tree to move the root ball since severe root damage may occur.

Barefoot (BR): The tree is dug and the soil removed from the roots in the nursery. The roots are immediately covered to reduce moisture loss. Root pruning may be necessary for excessively long roots. Make the cut perpendicular to the root and remove as little root tissue as possible.

Root flare (Fig. 15.1): The bell-shaped area at the base of the trunk where the root system begins. The root flare should be exposed at the soil surface if the tree was planted at the proper depth.

Bud/graft union (Fig. 15.1): Most trees today are produced by budding or grafting a particular variety onto a root system. Budding or grafting usually results in the trunk having a larger diameter above the root flare to the point where the bud/graft was performed. Do NOT mistake this area for the root flare when estimating the depth required for the planting hole (Fig. 15.2). B&B trees typically have excess soil on top of

the root ball making it impossible to positively identify the root flare. The top of the bud/graft union is roughly six (6) inches above the root flare and is usually visible on top of the root ball.

3. THE PLANTING HOLE

Whether using a stump puller, a preloader or a hand shovel to dig the planting hole, the following guidelines are to be followed:

- Dig the hole size twice as wide as the root ball (B&B) or root system (BR).
- Dig only as deep as needed to have the root flare level with the soil surface. To prevent settling, do NOT disturb the soil in the bottom of the hole.
- Slope the sides to the bottom of the hole. Rough up the sides of the hole to eliminate any smooth, shiny surfaces which may inhibit root penetration.
- For B&B trees, use the bud/graft union to estimate the depth of the root flare. Figure the root flare is six (6) inches below the bud/graft union. Dig the hole so the root flare is at the soil level.

4. TREE PLACEMENT

- B&B Trees: Center the tree in the border/planting location. Move the root ball with tools rather than the trunk. Adjust the root ball so the trunk is vertical and free standing. Staking should not be used to hold a tree in a vertical position. Remove the burlap and wire basket from the upper half of the root ball. Remove it entirely, if possible. Remove and dispose of the burlap and wire basket properly. Backfill the hole without placing soil on top of the root ball.
- Bareroot Trees: Center the tree in the border/planting location. Do NOT crush the root system into the bottom of the hole while backfilling.

5. PLANTING SITE RESTRICTIONS

- For trees with narrow borders, center the tree between the sidewalk and curb and in-line with other trees.
- Trees with wide borders do not have to be centered, but allow a minimum of four (4) feet from paved surfaces. Plant in-line with existing trees if they are over four (4) feet from paved surfaces.
- Avoid centering a tree directly beneath utility wires. Only plant low profile tree species under utility lines.

6. STAKING

Place the stakes outside the root ball (B&B) or root system (BR), with the flanges facing out. Stakes should be parallel to the sidewalk and street. The wire and straps should be placed as high as possible on the tree to prevent vandalism. Do NOT over-tighten the wires. The tree should be free to move. Wrap the wire ends around the stake and clip the excess to prevent injury to the public.

7. MULCHING & WATERING

Apply mulch no greater than six (6) inches deep and at least four (4) feet in diameter. The mulch should be no deeper than one (1) inch next to the trunk. Thoroughly water the entire mulched area.

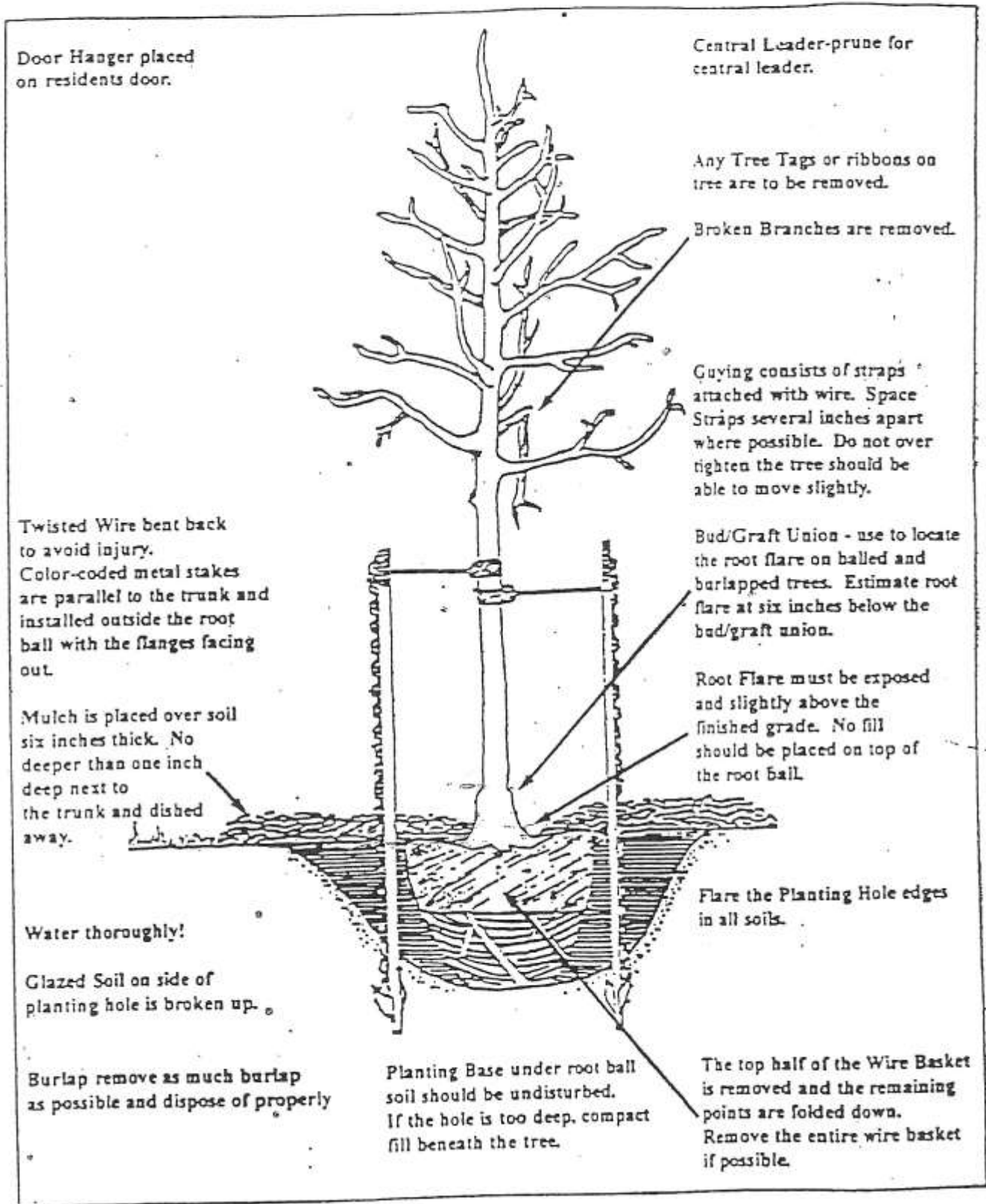
8. PRUNING

Remove broken or damaged branches. Make sure there is a central leader present. Do as little pruning as possible to create one before leaving. Remove any tags from the tree. Please place the information brochure on the property owner's door.

9. PLANTING PROBLEMS

- **Planting Too Deep:** Planting a tree too deep may result in either girdling roots or basal rot. When roots grow upward, they can damage the trunk as the tree's diameter increases. This may take years to develop. In addition, rotting of the trunk may occur if the trunk is buried in the soil, leading to overall tree decline. Trunk cracks may also appear due to the death of tissue at the base of the trunk.
- **Root Sprouts Above the Root Flare:** Root sprouts above the root flare develop due to planting too deep in the nursery. You may remove them, but only if a few are present and the main root system appears healthy (Fig. 15.5). You would then plant the tree at the original root flare. Do NOT remove root sprouts when an entirely new root system has formed above the old one (Fig. 15.5). In this case, you would plant at the new root flare.

Figure 15.1



Figures 15.2 & 15.3

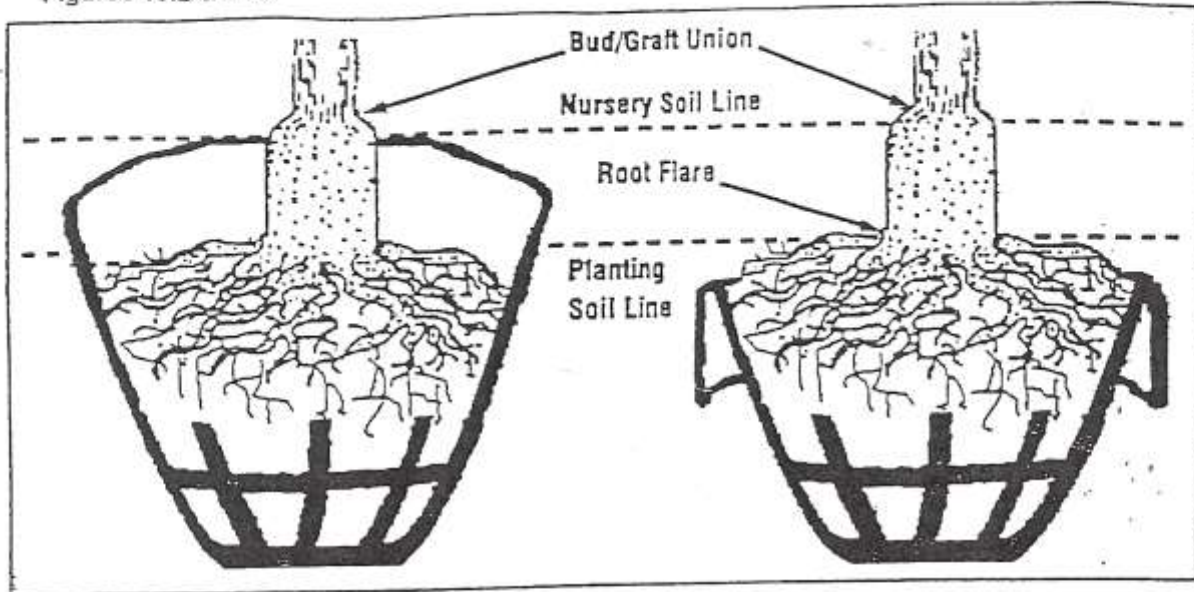


Fig. 15.2 Root ball of a tree planted too deep in Nursery.

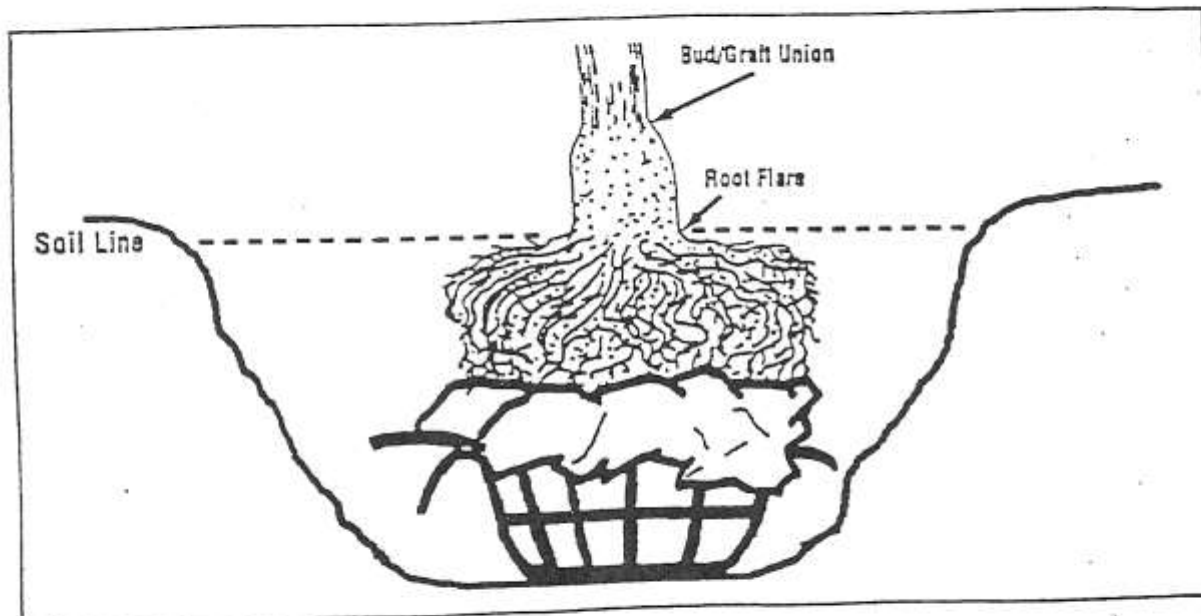


Fig. 15.3 Proper planting of a tree moved balled in burlap. 1. Root Flare level with soil line. 2. Excess soil removed from top of root ball. 3. Burlap and wire basket removed from as much of the root ball as possible and stuffed into bottom of hole or removed.

Figure 15.4

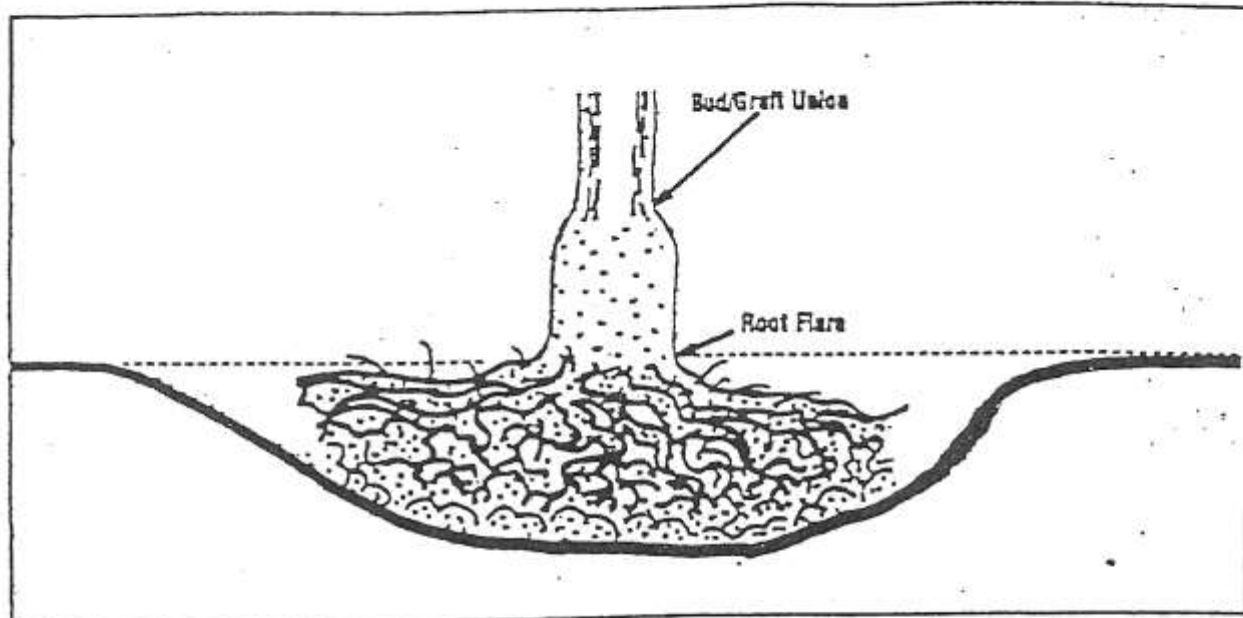


Fig. 15.4 Proper planting of a tree moved bare root. 1. Root Flare level with soil line. 2. Compact fill under root system if added. 3. Remove sprouts above Root Flare.

SECTION (10)
APPENDIX C

STREET TREE REPLACEMENT
PROGRAM

Street Tree Replacement Program

The City will remove any street tree that has died or is severely damaged or diseased. If requested by the adjacent property owner, the City will replace the tree provided the property owner agrees to defray the then-current cost of a species from the City-approved street tree list. Notification of the option for replanting will be sent to the owner in advance with the appropriate fee indicated. The City will bill the property owner after the tree is planted. If not promptly reimbursed to the City, the amount due will be added to the tax bill for the property as a special tax for current service, pursuant to Section 66.0627, Wisconsin Statutes. The fees collected shall be placed in a non-lapsing account for the future street trees and urban forest projects.

This policy shall not be applicable wherein the provisions of a development agreement or a street tree preservation easement or agreement require that the developer or homeowners association shall be responsible for the removal and replacement of dead, damaged or diseased street trees.