

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

VILLAGE OF DEERFIELD

TREE PRESERVATION

ADMINISTRATIVE MANUAL

Approved by Ordinance No. O-21-10

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

PURPOSE

THIS MANUAL HAS BEEN PREPARED AT THE DIRECTON OF THE VILLAGE BOARD OF TRUSTEES AS PROVIDED IN ORDINANCE O-21-10. THESE REQUIREMENTS AND PROCEDURES ESTABLISH A COMPREHENSIVE PROCESS FOR THE COMMUNITY DEVELOPMENT DEPARTMENT AND THE PUBLIC WORKS DEPARTMENT TO FOLLOW IN THE FULFILLMENT OF ITS ROLE IN THE ADMINISTRATION OF THE ORDINANCES OF THE VILLAGE OF DEERFIELD.

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I. Tree Preservation Standards

A. Purpose

The protection and preservation of trees in the Village of Deerfield will only be successful if specific standards are implemented in order to guide the tree preservation process. The standards will provide applicants for tree removal permits with a clear understanding of the key elements of tree preservation. These key elements include identifying trees that are the best species, trees that are the healthiest, and trees that can truly be saved during the construction process. Species groups that are recognized as being suited to the Chicago region have been identified. Trees will be evaluated for their health and form. Specific criteria have been developed to help determine the survivability of trees in construction situations.

B. Species Groups

Appendix E contains a Species Group Guide based on the Tree and Landscape Appraisal Council's Guide for Plant Appraisal, 10th edition. The guide is divided into three groups: Heritage Trees, A, B, and C.

The species groups are defined as:

Heritage Trees – Any Tree, including all genera, species, varieties, cultivars, and sizes of trees, that:

1. Represents the very best specimens of Trees, either predates or corresponds with the incorporation of the Village in the beginning of the 20th Century, and (iii) are determined by the Village Manager, or his or her designee, to be in good health and structurally sound;
2. Heritage Trees shall include all Trees listed below, with a DBH as indicated:
 - All Oaks (*quercus*) with a DBH equal or greater than 25”;
 - All Hickory (*carya*) with a DBH equal or greater than 16”;
 - All Ironwoods (*ostrya virginiana*) with a DBH equal or greater than 8”;
 - All Sugar Maples (*acer saccharum*) with a DBH equal or greater than 20”;
 - All White Pines (*pinus strobus*) with a DBH equal or greater than 20”.

Species Group A – Species that are best suited for the climate, soils and environmental conditions found in northeast Illinois. These are typically slower growing, longer lived, strong wooded and better structured species that are considered higher quality trees. This includes trees such as bur oak, shagbark hickory, sugar maple, and hackberry.

Species Group B – Species that are of average quality in terms of wood strength, insect and disease resistant and longevity. This includes trees such as silver maple, black walnut, and Austrian pine.

Species Group C – Species that are of lower quality. These species may be more prone to storm damage, insect or disease issues and/or have invasive tendencies. This includes trees such as boxelder maple, slippery elm, and Scotch pine.

Species that are not specifically listed in the Species Groups will be evaluated by the Village Forester and valued accordingly.

The Species Group Guide is intended to provide applicants for a tree removal permit to gain an understanding of the general quality of the species of tree or trees that are to be removed. This is particularly important for applicants that are proposing lot redevelopment or that are applying for a lot improvement so that the effort can be made to preserve the best species of trees.

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C. Inventory

All applicants for a tree removal permit, especially those proposing lot redevelopment or lot improvement, should make special effort to preserve trees that are protected under Ordinance No. . All applicants for a tree removal permit are required to provide information on the species, size, condition, form, observed problems, and location of the protected tree or trees to be removed. Appendix D includes a Tree Condition and Form Rating Guide to assist all applicants in determining the condition and form of the trees to be included in the inventory.

For applicants who are proposing lot redevelopment or lot improvement, the inventory of public trees and protected trees on a site is a fundamental step in assessing the opportunities for development and tree preservation. All public trees adjacent to the subject site or that could be impacted by the proposed construction and all protected trees on the subject property and all protected trees on adjacent properties that are within 10' of the subject property line or whose critical root zone extends into the subject property shall be included. All trees equal to or greater than six inches (6") in diameter at breast height (DBH), measured at four and one-half feet (4.5') above ground line shall be included. Data collected shall include species, size (D.B.H.), condition, form and any observed problems and shall be listed in the Action Plan (see III below). The protected trees shall be numbered in the field and located on the Lot redevelopment Plan.

For applicants who are applying for an ad hoc tree removal permit and that are not proposing lot redevelopment or lot improvement the inventory shall include all public trees that are proposed for removal and all protected trees that are proposed for removal on their property. All protected trees equal to or greater than eight inches (8") in diameter at breast height (DBH), measured at four and one-half feet (4.5') above ground line shall be included. Data collected shall include species, size (D.B.H.), condition and form and shall be listed on the Permit Application Form (see Appendix A). The protected trees shall be numbered in the field and located on a sketch of the property that will be submitted with the application.

For applicants who are applying for a demolition permit, the inventory shall include all public trees adjacent to the subject site and all protected trees on the subject site. Data collected shall include species, size (D.B.H.), condition and form.

D. Tree Survey

A tree survey showing the location of all trees inventoried by tag number shall be submitted on the lot plan with all applications for lot redevelopment, lot improvement or demolition.

E. Preservation Criteria

These criteria pertain only to applicants for a tree removal permit that are proposing lot redevelopment or lot improvement. In order for a tree to be considered preserved, all of the following criteria must be met:

Table 1: Preservation Criteria

	Undisturbed		Undisturbed
	Critical Root Zone	AND	Critical Root Zone
	Area		Circumference
Species Group A	85%		75%
Species Group B	75%		60%
Species Group C	75%		60%

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The *critical root zone* (CRZ) is defined as a circle around a tree with one foot of radius for every one inch of tree diameter at breast height (DBH).

The *undisturbed critical root zone area* is equal to the percentage of the area of the critical root zone in which there is no alteration of the natural grade (including, but not limited to, filling, excavation, trenching.)

The *undisturbed circumference* is equal to the distance along the critical root zone circumference between the disturbed critical root zone areas (including, but not limited to filling, excavation, and trenching) which intersect the circumference. The distance shall exclude all of the disturbed area at the circumference.

In addition, to the undisturbed critical root zone area and circumference, in order to qualify as a preserved tree, the critical root zone must be free of any influences outside it that may affect the health of the tree (including, but not limited to, site drainage alteration). The developer must comply with any maintenance and preparation requirements (including, but not limited to, watering, mulching, root pruning, limb pruning, fertilizing, fencing, etc.) as determined by the Village at the time of any approvals. This may include additional requirements at the time of plan approval, if applicable. The Village shall have the right to request notification of upcoming maintenance, as well as records detailing performed maintenance, to confirm that maintenance is being performed properly.

Trees that meet the criteria of this section shall be considered preserved. Trees that do not meet the criteria of this Section shall not be considered preserved and shall be mitigated.

(1) Criteria for Retention

The Village may consider a variety of criteria in determining the individual trees that are to be retained for preservation. Preserved trees must meet the standards listed above. In addition, the Village may consider the condition of individual trees, tree groupings, appearance, the overall diversity of tree species and sizes on the parcel, and the long term viability of the trees on the site in determining the specific trees to be retained. Final plans for tree retention shall be included in the lot redevelopment plan approvals as appropriate.

(2) Tree Preservation Plan

Tree retention and mitigation shall be considered as part of the development review process. A tree preservation plan shall be submitted at a scale consistent with the engineering plans. The plan shall include the location and tag number of all existing trees required to be inventoried, existing and proposed structures, grading, all utilities, and the location of the tree protection fence and silt fence. The plan shall also contain an action plan that indicates the percent of critical root zone saved, the trees to be removed, preserved, root pruned, crown pruned, fertilized, mulched, and any other proposed horticultural activities. The plan shall also include the location of all construction fencing, tree preservation fencing and silt fencing.

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II. Tree Preservation/Removal

A tree removal permit is required for the removal of ANY public tree or protected tree in the Village of Deerfield. A tree removal permit (Appendix B) will be issued only upon the completion and approval of a Tree Removal Permit Application Form (Appendix A).

The following outline is a general description of the order in which the applicant should proceed:

As a precondition to the issuance of a demolition or tree removal permit, an applicant is required to submit a demolition plan, a lot redevelopment plan, or a lot improvement plan as appropriate. The plan shall be as specified below:

A. LOT REDEVELOPMENT AND LOT IMPROVEMENT PLANS

I. INVENTORY

Complete the tree inventory and tree survey as noted above.

II. PLAN FORMAT

The tree inventory will be superimposed on the engineering plan done in accordance with Engineering Department Specifications.

III. REQUIREMENTS OF THE PLANS FOR LOT REDEVELOPMENT AND LOT IMPROVEMENT

NOTE: All plans must include:

- 1. General Plan Notes (Appendix C-3)**
- 2. Certification/Plan Approval/Pre-Construction Form (Appendix C-4)**
- 3. Action Plan (Appendix C-5)**
- 4. Plan Details (Appendix C-6)**

A. Tree Preservation: The following items must be on the plan that is submitted for staff review. The Village may provide that the tree survey exclude those portions of the site that it determines will not be affected by development activity.

1. For each tree six inches (6") diameter breast height (DBH) or larger, the Plan shall show:
 - (a) location
 - (b) species
 - (c) trunk diameter DBH (diameter at 4.5' above ground level)
 - (d) condition
 - (e) critical root zone
2. The plan shall include an action plan (See Appendix C-5). If any trees are to be removed, then a tree removal permit application must be completed and submitted with the lot redevelopment or lot improvement plan (See Appendix A).

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3. Identify locations of the required tree protection/construction envelope and erosion control fencing on the plan.
 - (a) The tree protection/construction envelope fencing must run continuously along the frontage from property line to property line to completely separate the construction area and the vegetation that remains close to the construction site. Such fencing may be wood slat fencing at least four (4) feet in height and shall be secured to metal posts driven into the ground and spaced five (5) to seven (7) feet apart.
 - (b) Separate fencing may be required for protecting certain individual trees. This fencing must connect to the construction envelope fencing, a property line, or completely enclose the sensitive area.

NOTE: All fencing will remain in place until the time of finish grading and landscaping and can only be removed upon review and approval by the Village Forester.

4. Indicate specific pre-construction measures, including but not limited to auguring, root pruning, crown reduction and mulching that are to be taken to minimize construction impact on those trees remaining on the site.
5. Indicate areas for the storage of spoil or materials on the plan.

B. Erosion Control Requirements

1. The plan must show conformance to all erosion and water management regulations.
2. The plan shall include provisions and a time schedule for restoring grass and lawns or for other erosion control measures.
3. A site visit by the Village Engineer and the Village Forester is required to inspect the following items in order to determine if appropriate measures have been taken to preserve the maximum number of trees.
 - (a) The following items must be staked out and marked with existing and proposed grades prior to the site visit:
 - (1) All corners of structures
 - (2) Center line of proposed utilities
 - (3) Proposed driveways and walkways
 - (4) Retaining walls
 - (b) Trees for removal must be clearly identified and tagged.

NOTE:

- (1) Item 1 in Appendix C must be submitted with the Lot redevelopment Plan.
- (2) Items 3, 4 & 5 must be shown on the face of the plan.

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B. REQUIREMENTS OF THE DEMOLITION PLANS

- A. Tree Preservation: The following items must be on the plan that is submitted for staff review. The Village may provide that the tree survey exclude those portions of the site that it determines will not be affected by building activity.
1. For each tree six inches (6") diameter breast height (DBH) or larger, the Plan shall show:
 - (a) location
 - (b) species
 - (c) trunk diameter DBH (diameter at 4.5' above ground level)
 - (d) condition
 - (e) critical root zone
 2. The plan shall include an action plan (See Appendix C-5). If any trees are to be removed, then a tree removal permit application must be completed and submitted with the lot redevelopment or lot improvement plan (See Appendix A).
 3. Identify locations of the required tree protection and erosion control fencing on the plan.
 - (a) The tree protection fencing must run continuously along the frontage from property line to property line to completely separate the demolition access and work area and the vegetation that remains close to the demolition site or access. Such fencing may be wood slat at least four (4) feet in height and shall be secured to metal posts driven into the ground and spaced five (5) to seven (7) feet apart.
 - (b) Separate fencing may be required for protecting certain individual trees.
NOTE: All fencing will remain in place until the time that demolition is complete and all debris is removed and can only be removed upon review and approval by the Village Forester.
 4. If the proposed demolition is part of a lot redevelopment or lot improvement plan for which a plan and building permit application has been submitted, then the demolition plan can be an integral part of those plan submittals.

SITE PREPARATION – PRECONSTRUCTION FOR LOT REDEVELOPMENT AND LOT IMPROVEMENT

I. TREE REMOVAL/PROTECTION

- A. Obtain building permit approval and tree removal permit approval.
- B. Clear site of trees indicated for removal on the approved Lot redevelopment Plan and perform root pruning, crown reduction, auguring and all other measures as required on the approved plan.
- C. Erect tree protection, construction envelope and conservancy area fencing according to the following requirements:

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- (1) No attachments, fences or wires, other than approved materials for bracing, guying or wrapping, shall be attached to any vegetation during the construction period.
- (2) All fencing must be secured to metal posts driven into the ground spaced no further than five (5) to eight (8) feet apart.
- (3) All fencing must remain in place during the entire construction period.
- (4) All fencing must run continuously from property line to property line, completely enclose an area, or adjoin other fencing in order to protect the vegetation that is to remain on the site.
- (5) Erect erosion control measures per approved plan requirements.

II. SITE VISIT

A site visit and sign-off by the Village Forester is again required after the above items have been completed and before construction begins.

C. Ad Hoc Tree Removal Not Related to Lot Redevelopment or Lot Improvement

The following outline is a general description of the order in which the applicant should proceed:

1. Complete the Tree Removal Permit application and submit it to the Village along with the sketch showing the location and identification number of the tree or trees to be removed.
2. The Village Forester will visit the property to review the application and determine if mitigation is required. The Village Forester will also determine what fees, if any, other than the application fee, are applicable.
3. The Village Forester will complete the applicable portions of the Permit Application Form indicating any additional fees or mitigation requirements. Once the applicant signs the Permit Application Form indicating acceptance of the terms of the permit and provides any additional fees that are required, then the Tree Removal Permit will be issued.

III. Tree Mitigation

The removal of healthy public trees or protected trees will require mitigation as determined by the Village Forester.

A. Calculations

Protected trees must be mitigated by planting replacement trees on the subject site, as determined by The Village Forester, at the rate listed below by species group (See Species Group Guide Appendix E) for each one inch of tree diameter (D.B.H.) of public trees or protected trees removed.

Heritage Trees must be mitigated by planting replacement trees on the subject site, as determined by the Village Forester, at a rate of one inch of replacement tree diameter per one inch of tree diameter of Heritage Tree removed.

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Table 2: Per Inch Replacement Rate by Species Group

Species Group	Replacement Rate	
	Diameter of Tree Removed	Rate
A	1"	1.0" caliper
B	1"	0.6" caliper
C	1"	0.3" caliper
HERITAGE TREE Group A, B, C	1"	1.0" caliper

Table 3 below provides mitigation factors based on tree condition ratings (See 'Tree Condition and Form Rating Guide' Appendix D).

Table 3: Per Inch Replacement Rate by Species Group

Condition Rating	Mitigation Factor
1 & 2	1.0
3	0.5
4, 5 & 6	0.0
HERITAGE TREE Condition 1, 2, 3	1.0
HERITAGE TREE Condition 4, 5, 6	0.0

Tree mitigation calculation example:

Tree to be Mitigated	Species Group	Rate	Mitigation Inches (tree species x rate)	Mitigation Factor	Total Mitigation Required (mitigated inches x cond. rating)
20" White Oak ; condition 1	A	1.0	20"	1.0	20"
25" Norway maple; condition 3	B	0.6	15"	0.5	8"
30" Bur Oak; condition 3 – HERITAGE TREE	A	1.0	30"	1.0	30"

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Applicants proposing lot redevelopment or applying for a lot improvement will also be required to mitigate public trees and protected trees on the site whose critical root zones are impacted to the point where the Preservation Criteria specified above are not met. When the Lot redevelopment Plan has been approved and/or the Lot improvement requirements have been met, then the Village Forester will complete the applicable portions of the Permit Application Form indicating any additional fees or mitigation requirements.

Once the applicant signs the Permit Application Form indicating acceptance of the terms of the permit and provides any additional fees that are required, Tree Removal Permit will be issued.

B. Tree Replacement

Required replacement trees shall be shown on a Tree Replacement Plan to be submitted by the owner to the Village. Under this plan, the owner becomes obligated to replace public trees or protected trees for which removal is sought. The plan shall be subject to the terms and conditions as provided under the Tree Preservation Ordinance and as agreed to on the Tree Removal Permit Application.

For lot redevelopment and lot improvement applicants, the plan shall be at the same scale and format as the approved lot redevelopment plan or the lot improvement plan. For applicants not proposing lot redevelopment or applying for a lot improvement, a sketch plan will be sufficient.

Replacement species shall be selected from Species Group A and will be approved by the Village Forester. The plan shall indicate the species, size and location of each plant to be planted. The plan shall contain a total plant list that includes common name, botanic name, tree caliper, the number of trees of each species, and any necessary descriptions such as balled and burlap, container, bare root, and form.

To prevent a monoculture within the Village, tree replacement plans are encouraged to utilize various plantings to help promote a more diverse urban forest with better longevity. If a Tree Replacement Plan calls for the planting of six or more replacement trees, no more than one third of the replacement trees shall be of a single species to prevent a monoculture.

The minimum size of replacement trees shall be not less than 2" caliper or eight feet (8') in height when deciduous ornamental trees in clump form or evergreens are used, unless previously approved by the Village Forester.

C. Fees

Fees will be as established in the annual Fee Ordinance. (See Appendix G)

A mitigation fee will be required for the replacement of healthy public trees and protected trees. This fee will be in the form of a cash deposit in an amount that is specified in the Annual Fee Ordinance for each one inch of healthy protected trees to be removed. The amount of this fee will be shown on the Tree Removal Permit Application form. The fee must be provided prior to the approval of a Tree Removal Permit. Upon the planting of the replacement trees and inspection by the Village Forester, the amount of the cash deposit equal to the number of caliper inches of replacement trees planted times the caliper inch amount that is specified in the annual fee ordinance for each one (1) inch of healthy protected trees or for each one (1) inch of healthy heritage trees to be removed shall be returned to the applicant.

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D. Invasive Species Mitigation Credit

An invasive species is a non-native species (including seeds, eggs, spores, or other propagules) whose introduction causes or is likely to cause economic harm, environmental harm, or harm to human health. The term "invasive" is used for the most aggressive species. These species grow and reproduce rapidly, causing major disturbance to the areas in which they are present. One such species of an invasive plant found within the Village is the European Buckthorn. This buckthorn invades forests, prairies, and savannas in the Midwestern United States and can form dense thickets crowding out native shrubs and understory plants. It is difficult to remove and can regenerate after cutting or burning.

In recognizing the many benefits of removing buckthorn, the Village will offer mitigation value credits to property owners who properly eliminate buckthorn within the property that received the mitigation fees. Mitigation credits will be given at a rate of 0.1" credit per one square foot of buckthorn removed, up to one half of the total mitigation required per permit. Buckthorn to be removed and credited must meet size requirements of twenty (20) square feet of area and must all be at least three (3) feet tall, or as approved by the Village Forester. In order for this mitigation credit to be applied or refunded, the permit applicant will be required to submit a letter authored by a certified arborist stating that the required square footage of buckthorn was removed from the property appropriately to ensure regrowth of the buckthorn does not occur. The area removed and the method of removal and/or treatment must be specifically listed in the letter and approved by the Village Forester.

Invasive Species Mitigation Credit Example:

Total Mitigation Required	Max Invasive Species Mitigation Credit.	Measured Area of Buckthorn	Potential invasive species Credit (0.1"/SF)	Approved Invasive Species Mitigation Credit
20"	10"	50 SF	5.0"	5.0"
20"	10"	150 SF	15.0"	10.0"
20"	10"	100 SF	10.0"	10.0"

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IV. Appendix

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Appendix A. Tree Removal Permit Application and Instruction

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RE: Tree Removal Permit Application

Dear Resident:

Village Ordinance requires that all residents who want to remove **any** trees in the Village of Deerfield must complete a Tree Removal Permit Application.

The Applicant must completely fill in all shaded areas on the Tree Removal Information side of the Tree Removal Application Form – Sections **A** and **B** – and return the completed form to the Village Hall.

The Village Forester will review the application and the specified trees.

- If the trees are dead, dangerous, or diseased, then a permit for their removal will be issued by the Village. No permit fee will be paid by the Applicant.
- If the Applicant is removing trees that are not protected by Village Ordinance, then no permit fee will be paid by the Applicant.
- If the Applicant is removing live, healthy trees that are protected by Village Ordinance (Protected trees are **all** trees 8” in diameter and larger as measured 4.5 feet above the soil line), permit fee will be required and then a permit will be issued.

Mitigation Required

All live, healthy protected trees that are removed **MUST** be mitigated as determined by the Village Forester. The Village Forester will determine the number of replacement trees to be planted on the property. The applicant is required to submit a tree replacement plan that shows the species, size (caliper) and location of the replacement trees as specified in Ordinance O-21-10. If the plan is approved by the Village Forester, then the Village Forester will complete the mitigation portion of the tree removal permit application form. The calculation of the required replacement fee items a and b, including the listing of the replacement trees and items a and b of the approvals section will also be completed by the Village Forester.

Upon the completion of the plantings, the Village Forester will inspect the plantings and calculate the amount of refund, if any, due to the applicant, and authorize the refund by completing item c of the approvals section.

Permit Issued

Before the permit is issued, the Applicant must agree to plant the specified trees and sign Section **C** of the Tree Removal Permit Application, attach the required fee, and return the completed application and fee to the Village Hall.

Sincerely,
The Village of Deerfield

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Appendix B. Tree Removal Permit

Village of Deerfield

TREE REMOVAL PERMIT

Name _____

Address _____

Date Issued _____
(permit valid for 90 days from date issued)

Description

Permit No. _____

**TO BE DISPLAYED PROMINENTLY IN WINDOW VISIBLE
FROM STREET.**

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Appendix C. Lot redevelopment/Lot improvements

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Approved Approved with Conditions Rejected

Before completing this form, be sure to read and understand all aspects of the Village Ordinances and Permit Application Instructions

Village of Deerfield

Plan Submittal Checklist

Contact _____ Phone & Fax No. () _____

Owner _____ Phone & Fax No. () _____

Address, Zip Code _____ Project Location _____

Submittal No. (circle one) 1 2 3 4 5 Date _____

Applications **will not** be considered for review unless applicable portions of the following checklist is completed in full and all required information (3 copies of the plans) is included.

1. What type of plan are you submitting (check all that apply)
- Site Plan - New House
 - Site Plan - Addition
 - Demolition
 - Deck
 - Patio
 - Other describe _____

2. Complete the section(s) below which correspond to the type of plan you are submitting. If any specific items are not applicable, note as N/A. (Your engineer, arborist or contractor may have to provide most of this information.)

A. SPECIFIC TREE PRESERVATION PLAN DETAILS (Private Property Protected Trees)	Yes	N/A
1. Are 3 copies of the plan (drawn to scale) showing all Public and Protected trees included with the submittal?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is preservation work according to the Administrative Manual?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the completed tree removal application form included?	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the Tree Survey and/or Plan show the following:		
a. location, condition, species, trunk diameter and critical root zones of all Public and Protected Trees (8" DBH or greater <i>and</i> Protected trees on adjacent properties with critical root zones on the subject property?	<input type="checkbox"/>	<input type="checkbox"/>
b. location of protective fencing and silt fencing to be placed on the lot?	<input type="checkbox"/>	<input type="checkbox"/>
c. completed action plan?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does tree preservation plan show location, shape, and spatial arrangement of all permanent driveways and parking areas and temporary material storage sites and access ways ?	<input type="checkbox"/>	<input type="checkbox"/>
6. Does Tree Preservation Plan show any new Utility services including water, sanitary sewer, storm sewer, gas, electric, telephone, and cable TV and any existing Utility services which will be Removed or modified?	<input type="checkbox"/>	<input type="checkbox"/>
7. Does Tree Preservation Plan show existing and proposed conditions as specified in the Administrative Manual?	<input type="checkbox"/>	<input type="checkbox"/>
8. Is tree replacement plan included?	<input type="checkbox"/>	<input type="checkbox"/>

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Approved Approved with Conditions Rejected

Before completing this form, be sure to read and understand all aspects of the Village Ordinances and Permit Application Instructions

B. SPECIFIC TREE PRESERVATION PLAN DETAILS (On or Around Public Trees)	Yes	N/A
1. Is work to be performed on or around public trees and if so are they shown on the plan and included in the action plan?	<input type="checkbox"/>	<input type="checkbox"/>
2. Does Tree Preservation Plan show any new or modification to existing utility services including water, sanitary sewer, storm sewer, gas, electric, telephone, and cable TV which will impact Public trees?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is any excavation part of this project which affects Public Trees adjacent to the site or elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>
If so, have all attempts been made, such as tunneling to avoid the critical root zones of affected trees?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are any Public Trees proposed for removal due to access problems or because of construction issues?	<input type="checkbox"/>	<input type="checkbox"/>
5. If parkway trees are to be planted, are they shown on the tree replanting plan?	<input type="checkbox"/>	<input type="checkbox"/>
6. Are all Public Trees which may be impacted by work on private property properly addressed?	<input type="checkbox"/>	<input type="checkbox"/>

3. Statement of Compliance

I have read and understand the above form and verify that it is completed in its entirety.

Owner's Signature _____ **Date** _____

Plan Preparer's Signature _____ **Date** _____

Reviewed by Village of Deerfield:

By _____ **Date** _____

Comments:

Copies To:

Village of Deerfield

**Tree Preservation Plan Review
Transmittal Letter**

TO: Contact _____ **Date** _____

Address _____

Project Location _____

Plan Type: (check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Site Plan – New house | <input type="checkbox"/> Deck |
| <input type="checkbox"/> Site Plan – Addition | <input type="checkbox"/> Patio |
| <input type="checkbox"/> Demolition | <input type="checkbox"/> Other describe _____ |

Your Plan has been:

Approved

- (1) After fencing has been installed per plan, call for inspection.
- (2) Make sure any necessary deposits are posted.
- (3) Permit will not be issued until items (1) and (2) are completed.

Conditions:

Rejected

- See attached copy of Plan Submittal Checklist
- See comments on Plan
- Revise Plan per Ordinance requirements and review comments
- Resubmit revised Plan Submittal Checklist
- Resubmit revised Plan

Comments:

Village of Deerfield

Reviewed By

Date

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

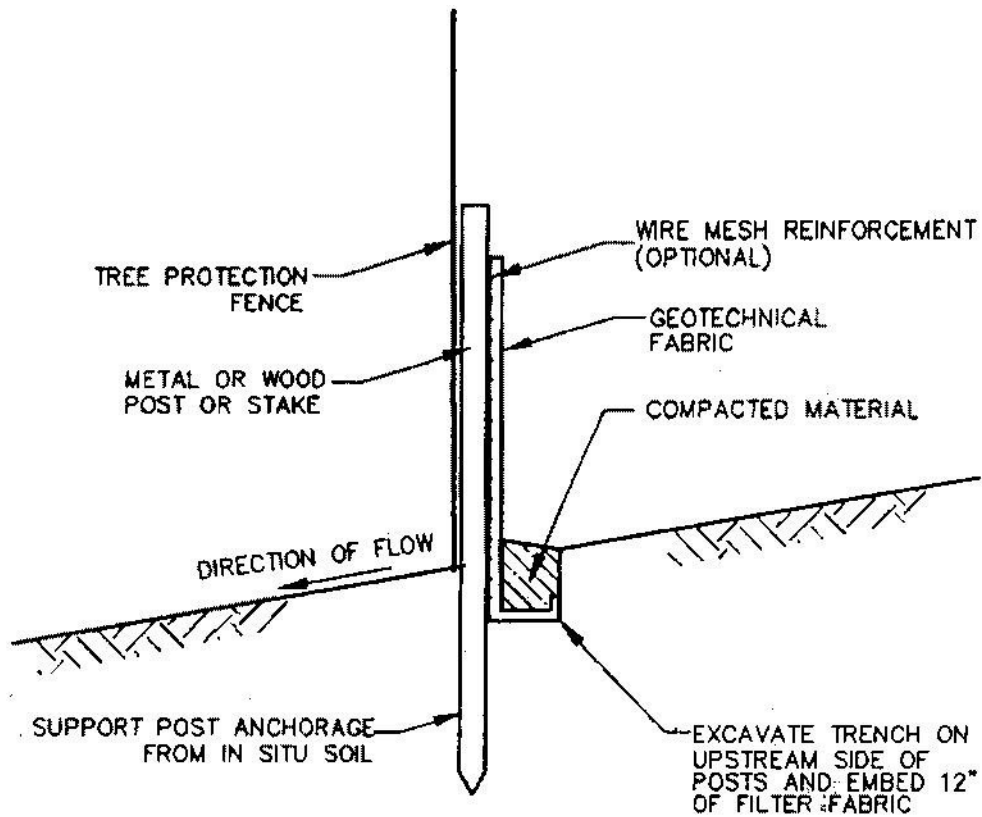
General Plan Notes

1. Prior to commencement of any construction work on this site, the protective fencing shall be installed and reviewed by the Village Forester.
2. All work must be performed according to the approved Lot Development/Tree Preservation plan.
3. An approved Lot redevelopment/Tree Preservation Plan must be available on the building site.
4. Stay within designated work access areas shown on the plan.
5. There shall be no grading or filling within the **protected critical root zones**.
6. All excess fill shall be either removed from the site or stored in a location approved by the Village Forester.
7. No equipment shall be driven over or material stored on the **protected critical root zones**.
8. Tree fence and silt fence for all protected trees must be properly maintained throughout the construction. Tree fence for protected trees should remain in place throughout construction.
9. All required tree protection fence and silt fencing shall remain in place until the time of finish grading and landscaping and can only be removed upon review and approval by the Village Forester.
10. Attachments (wires, etc.) other than those approved for guying, bracing or wrapping must not be attached to protected trees.
11. As noted in the Action Plan, all retained trees that are impacted by construction will be root pruned, crown pruned, mulched, etc. as required. For trees which are to be preserved but which could be negatively affected during the construction process, the crowns and roots of all such trees shall, unless otherwise determined by the Village Forester, be pruned by a qualified arborist, according to the tree pruning standards set by ANSI Z133.1 and A300. (See also note no. 13 below.)
12. Protective fencing shall be placed to maximize the protection of the critical root zone. Protective fencing shall be installed prior to any construction activities and shall be maintained until construction is complete. (See also note no. 13 below.)
13. In areas where cuts are to be made for the installation of utilities or retaining walls, the adjacent tagged trees will be root pruned. The location of the root pruning will be staked in the field and reviewed with the Village Forester. Once the root pruning is complete, the tree protection fencing will be installed in accordance with the tree protection plan. In some instances, it will be necessary to establish a work area that is between the edge of the cut and the tree protection fence. The roots in this work area will be protected during the construction with geotextile fabric placed on the existing ground and covered with 6" of wood chips. (See *Root Zone Protection* detail.); or other method as approved by the Village Forester.

14. Plan Legend:
- | | |
|------------------------------------|------------------|
| Construction/Tree Protection Fence | ----T-----T----- |
| Silt Fence A | ---SA----- |
| Silt Fence B | ---SB----- |
| Limits of Grading | ===== |
| Root Protection Zone | |

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Silt Fence Detail A



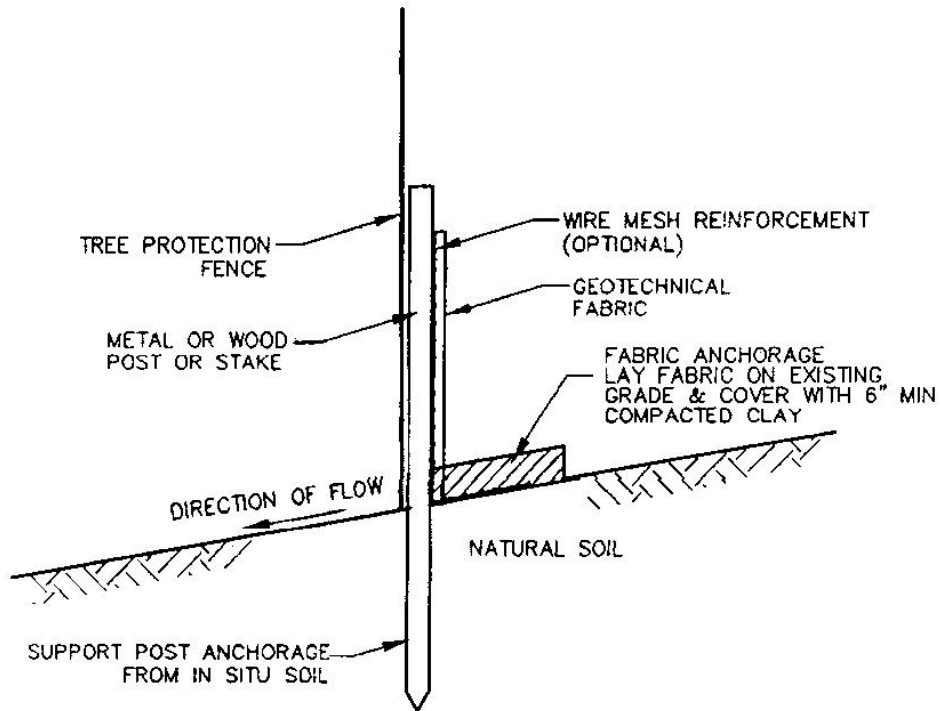
NOTE: DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH W/ HOG RINGS, STEEL POSTS W/ TIE WIRES, WOOD POSTS W/ NAILS.

NOTE: INSTALL ON UPHILL SIDE OF TREE PROTECTION FENCE

SILT FENCE (OUTSIDE CRITICAL ROOT ZONES)
TYPE A

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Silt Fence Detail B



NOTE: DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH W/ HOG RINGS, STEEL POSTS W/ TIE WIRES, WOOD POSTS W/ NAILS.

NOTE: INSTALL ON UPHILL SIDE OF TREE PROTECTION FENCE

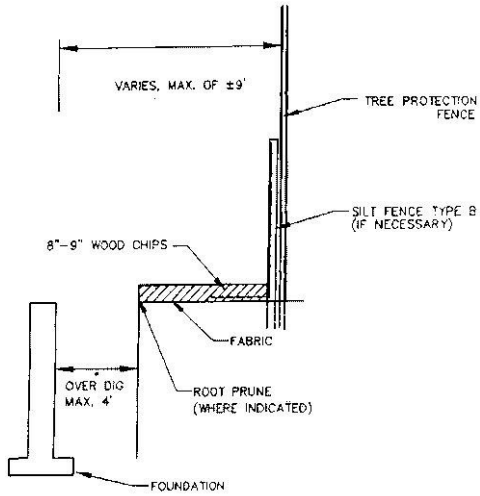
NOTE: TO BE USED IN AREAS THAT ARE ADJACENT TO TREE PROTECTION ZONES

SILT FENCE (CRITICAL ROOT ZONES)

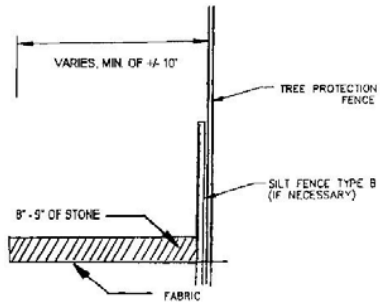
TYPE B

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Root Zone Protection Detail



Typical Foundation Root Zone Protection Detail



Typical Root Zone Protection Detail For Access

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

**Diameter at Breast Height (DBH) to Critical Root Zone Area (πr^2)
Conversion Table**

DBH (in.)	CRZ Area in ft.²	DBH (in.)	CRZ Area in ft.²	DBH (in.)	CRZ Area in ft.²
2	12.57	31	3019.07	61	11689.87
3	28.27	32	3216.99	62	12076.28
4	50.27	33	3421.19	63	12468.98
5	78.54	34	3631.68	64	12867.96
6	113.10	35	3848.45	65	13273.23
7	153.94	36	4071.50	66	13684.78
8	201.06	37	4300.84	67	14102.61
9	254.47	38	4536.46	68	14526.72
10	314.16	39	4778.36	69	14957.12
11	380.13	40	5026.55	70	15393.80
12	452.39	41	5281.02	71	15836.77
13	530.93	42	5541.77	72	16286.02
14	615.75	43	5808.80	73	16741.55
15	706.86	44	6082.12	74	17203.36
16	804.25	45	6361.73	75	17671.46
17	907.92	46	6647.61	76	18145.84
18	1017.88	47	6939.78	77	18626.50
19	1134.11	48	7238.23	78	19113.45
20	1256.64	49	7542.96	79	19606.68
21	1385.44	50	7853.98	80	20106.19
22	1520.53	51	8171.28	81	20611.99
23	1661.90	52	8494.87	82	21124.07
24	1809.56	53	8824.73	83	21642.43
25	1963.50	54	9160.88	84	22167.08
26	2123.72	55	9503.32	85	22698.01
27	2290.22	56	9852.03	86	23235.22
28	2463.01	57	10207.03	87	23778.71
29	2642.08	58	10568.32	88	24328.49
30	2827.43	59	10935.88	89	24884.56
		60	11309.73	90	25446.90

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

To Calculate Percent of Impacted Critical Root Zone:

Example:

$\% = \% \text{ impacted}$
$C = \text{circumference} = \pi d$
$A^\circ = \text{angle}$
$A = \text{area of circle} = \pi r^2$
$\text{Arc} = (\pi r A^\circ)/180$
$\Phi = A^\circ (\pi/180)$
$\text{Pi} = \Pi = 3.14$

27" Red Oak 3/3 where $A^\circ = 97^\circ$

1. Calculate A_1 (area of entire circle):

$$A_1 = \pi r^2$$
$$A_1 = \pi 27^2$$
$$A_1 = 2290.22$$

2. Calculate A_2 (area of slice):

$$A_2 = \frac{1}{2}r^2 \times (\Phi - \sin \Phi)$$
$$A_2 = \frac{1}{2}27^2 \times (1.69 - \sin 1.69)$$
$$A_2 = 254.09$$

3. Calculate percent of impacted area:

$$\% = A_2 / A_1$$
$$\% = 254.09 / 2290.22$$
$$\% = 11\% \text{ impacted area. (89\% undisturbed)}$$

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Appendix D. Tree Condition and Form Rating Guide

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL
Condition and Form Rating Guide

Condition Rating - The condition of the trees shall be based on a six (6) point scale and one (1) being the best and six (6) being the worst.

<u>Rating</u>	<u>Description</u>	<u>General Criteria</u>
1	Excellent	The tree is typical of the species, has less than 10% deadwood in the crown that is attributable to normal causes, has no other observed problems, and required no remedial action.
2	Good to Fair	The tree is typical of the species and/or has less than 20% deadwood in the crown, only one or two minor problems that are easily corrected with normal care.
3	Fair	The tree is typical of the species and/or has less than 30% deadwood in the crown, one or two minor problems that are not eminently lethal to the tree, and no significant decay or structural problems, but the tree must have remedial care above normal care in order to minimize the impact of future stress and to insure continued health.
4	Fair to Poor	The tree is not typical of the species and/or has significant problems such as 30-50% deadwood in the crown, serious decay or structural defect, insects, disease or other problems that can be eminently lethal to the tree or create a hazardous tree if not corrected in a short period of time or if the tree is subjected to additional stress.
5	Poor	The tree is not typical of the species and/or has over 50% deadwood in the crown, major decay or structural problems, is hazardous or is severely involved with insects, disease, or other problems that even if aggressively corrected would not result in the long term survival of the tree.
6	Dead	Less than 10% of the tree shows signs of life.

Form Rating – Subjective evaluation comparing tree with specimen tree of the same species. Form classes are the same as those listed above under condition, with the exception of number 6, which translates to ‘very poor form’. Typical form defects might include multiple leaders, no leader, lean, one sided crown, trunk crook, etc.

Mitigate conditions 1, 2, & 3 trees, but not conditions 4, 5 & 6 trees. The assignment of the condition and form ratings to specific trees are subject to the Village Forester’s review.

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Appendix E. Species Group Guide

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Species Group Guide

HERITAGE TREES

Scientific Name	Common Name	Size Requirements
<i>Quercus</i>	Oak	Equal or greater than 25"
<i>Carya</i>	Hickory	Equal or greater than 16"
<i>Ostrya Virginiana</i>	Ironwood	Equal or greater than 8"
<i>Acer Saccharum</i>	Sugar Maple	Equal or greater than 20"
<i>Pinus Strobus</i>	White Pine	Equal or greater than 20"

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL Species Group Guide

Species Category A

Scientific Name	Common Name	
<i>Acer nigrum</i>	Black Maple	
<i>Acer rubrum</i>	Red Maple	(improved cultivars)
<i>Acer saccharum</i>	Sugar Maple	(species) (improved cultivars)
<i>Aesculus Glabra</i>	Ohio Buckeye	
<i>Amelanchier</i>	Serviceberry	
<i>Betula nigra</i>	River Birch	
<i>Carya ovata</i>	Shagbark Hickory	
<i>Carpinus caroliniana</i>	American Hornbeam (blue beech)	
<i>Celtis occidentalis</i>	Common Hackberry	
<i>Cercis canadensis</i>	Redbud	
<i>Cornus alternifolia</i>	Pagoda Dogwood	
<i>Corylus colurna</i>	Turkish Filbert	
<i>Crataegus crus-galli</i>	Cockspur Hawthorn	
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	
<i>Fagus sylvatica</i>	European Beech	
<i>Ginkgo biloba</i>	Ginkgo	(improved cultivars)
<i>Gleditsia triacanthos f. inermis</i>	Thornless Honeylocust	
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	(male)
<i>Juniperus virginiana</i>	Eastern Red Cedar	
<i>Malus spp.</i>	Crabapple	(superior cultivars)
<i>Picea abies</i>	Norway Spruce	
<i>Picea glauca</i>	White Spruce	
<i>Picea pungens</i>	Colorado Blue Spruce	
<i>Pinus strobus</i>	Eastern White Pine	
<i>Pseudotsuga menziesii</i>	Douglas Fir	
<i>Quercus alba</i>	White Oak	
<i>Quercus bicolor</i>	Swamp White Oak	
<i>Quercus ellipsoidalis</i>	Hill's Oak	
<i>Quercus macrocarpa</i>	Bur Oak	
<i>Quercus muehlenbergii</i>	Chinquapin Oak	
<i>Quercus palustris</i>	Pin Oak	
<i>Quercus prinus</i>	Chestnut Oak	
<i>Quercus rubra</i>	Red Oak	
<i>Syringa pekinensis</i>	Peking Lilac	
<i>Syringa reticulata</i>	Japanese Tree Lilac	
<i>Taxodium distichum</i>	Baldcypress	
<i>Tilia americana</i>	American (basswood) Linden	
<i>Tilia cordata</i>	Littleleaf Linden	
<i>Tilia x euchlora 'Redmond'</i>	Redmond Linden	
<i>Ulmus</i>	Hybrid Elm	

**VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL
Species Group Guide (cont'd.)**

Species Category B

Scientific Name	Common Name	
<i>Acer rubrum</i>	Red Maple	(species)
<i>Acer saccharinum</i>	Silver Maple	(species) (improved cultivars)
<i>Aesculus hippocastanum</i>	Common Horsechestnut	
<i>Crataegus mollis</i>	Downy Hawthorn	
<i>Fagus grandifolia</i>	American Beech	
<i>Ginkgo biloba</i>	Ginkgo	(species)
<i>Gymnocladus dioica</i>	Kentucky Coffeetree	(female)
<i>Juglans nigra</i>	Black Walnut	
<i>Liquidambar styraciflua</i>	Sweetgum	
<i>Liriodendron tulipifera</i>	Tuliptree	
<i>Magnolia x soulangiana</i>	Saucer magnolia	
<i>Malus spp.</i>	Crabapple	(inferior cultivars)
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	
<i>Pinus resinosa</i>	Red Pine	
<i>Platanus x acerifolia</i>	London Planetree	
<i>Platanus occidentalis</i>	Sycamore	
<i>Populus deltoides</i>	Cottonwood	(male)
<i>Prunus maackii</i>	Amur Choke Cherry	
<i>Prunus serotina</i>	Black Cherry	
<i>Quercus robur</i>	English Oak	
<i>Thuja occidentalis</i>	White Cedar Arborviate	
<i>Ulmus parvifolia</i>	Chinese Elm	

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Species Group Guide (cont'd.)

Species Category C

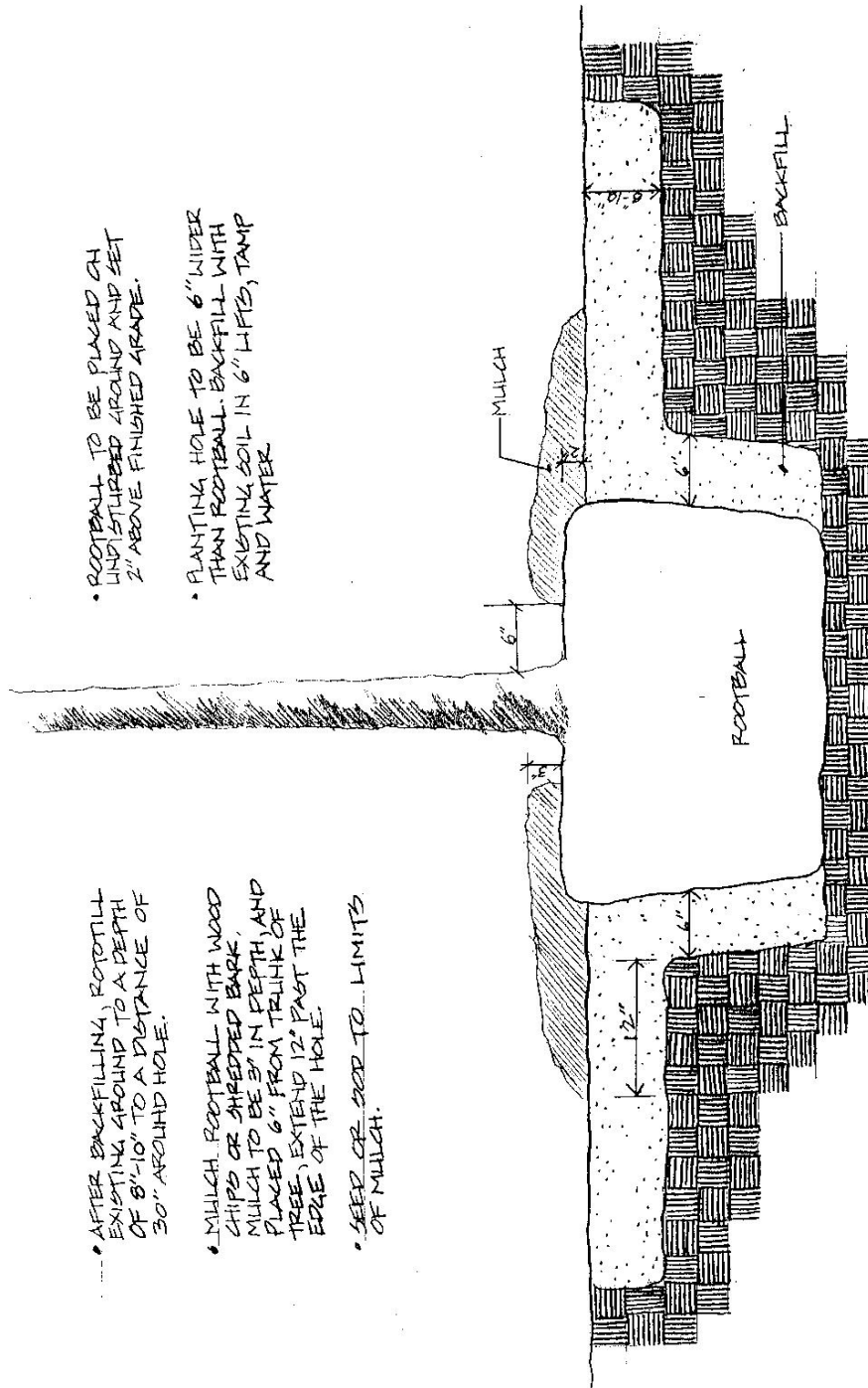
Scientific Name	Common Name	
<i>Acer campestre</i>	Hedge Maple	
<i>Acer ginnala</i>	Amur Maple	
<i>Acer negundo</i>	Boxelder Maple	(male) (female)
<i>Acer platanoides</i>	Norway Maple	(improved cultivars) (species)
<i>Ailanthus altissima</i>	Tree of Heaven	(male) (female)
<i>Betula papyrifera</i>	Paper Birch	
<i>Catalpa</i>	Catalpa speciosa	
<i>Crataegus laevigata</i>	English Hawthorn	
<i>Elaeagnus angustifolia</i>	Russian-olive	
<i>Fraxinus americana</i>	White Ash	(species) (improved cultivars)
<i>Fraxinus pennsylvanica</i>	Green Ash	(species) (improved cultivars)
<i>Fraxinus quadrangulata</i>	Blue Ash	
<i>Fraxinus excelsior</i>	European Ash	
<i>Gleditsia triacanthos</i>	Honeylocust	
<i>Morus alba</i>	White Mulberry	(female) (male)
<i>Morus rubra</i>	Red Mulberry	(female) (male)
<i>Pinus sylvestris</i>	Scotch Pine	
<i>Pinus nigra</i>	Austrian Pine	
<i>Populus alba</i>	White Poplar	
<i>Populus deltoids</i>	Cottonwood	(female)
<i>Populus nigra 'Italica'</i>	Lombardy Poplar	
<i>Prunus serrulata</i>	Japanese Flowering Cherry	
<i>Pyrus calleryana</i>	Callery Pear	(superior cultivars) (inferior cultivars)
<i>Robinia pseudoacacia</i>	Black Locust	
<i>Salix alba</i>	Weeping Willow	
<i>Salix matsudana 'Tortuosa'</i>	Corkscrew Willow	
<i>Sorbus americana</i>	American Mountainash	
<i>Ulmus americana</i>	American Elm	
<i>Ulmus pumila</i>	Siberian Elm	
<i>Ulmus rubra</i>	Silppery or Red Elm	
<i>Ulmus thomasii</i>	Rock Elm	
<i>Zelkova serrata</i>	Zelkova	

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Appendix F. Tree Planting Detail

- ROOTBALL TO BE PLACED ON UNDISTURBED GROUND AND SET 2" ABOVE FINISHED GRADE.
- PLANTING HOLE TO BE 6" WIDER THAN ROOTBALL. BACKFILL WITH EXISTING SOIL IN 6" LIFTS, TAMP AND WATER.

- AFTER BACKFILLING, ROOTBALL EXISTING GROUND TO A DEPTH OF 8"-10" TO A DISTANCE OF 30" AROUND HOLE.
- MULCH ROOTBALL WITH WOOD CHIPS OR SHREDED BARK. MULCH TO BE 3" IN DEPTH, AND PLACED 6" FROM TRUNK OF TREE, EXTEND 12" PAST THE EDGE OF THE HOLE.
- SEED OR SOB TO LIMITS OF MULCH.



TREE PLANTING DETAIL SECTION

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

Appendix G. Annual Fee Ordinance

VILLAGE OF DEERFIELD ADMINISTRATIVE MANUAL

<u>Description</u>	<u>Amount</u>	<u>Corresponding Section of the Municipal Code</u>
Protected Tree cash tree replacement fee	\$125 per caliper inch	21.34
Heritage Tree cash tree replacement fee	\$175 per caliper inch	21.34
Tree Preservation Plan Review:		21.29 (c)
i. Lot Redevelopment, without demolition	\$450	
ii. Lot redevelopment, with demolition	\$525	
iii. Demolition with no building permit	\$275	
iv. Lot Improvement (no demolition)		
(a) Room additions	\$275	
(b) Driveways	\$150	
(c) Pools and tennis courts	\$195	
(d) Fences, sheds and accessory structures	\$125	
(e) Decks and patios	\$140	
(f) Irrigation systems	\$125	
(g) Drainage & Utility Improvements	\$150	
Ad Hoc Tree Removal		
v. Permit Application	\$200	21.31 (c)
vi. Permit for dead, hazardous and nuisance trees	\$ 0	