

TOWN OF
VIENNA
since 1890

Tree Preservation and Planting Guide

*Questions about the guidelines in this manual?
Contact Gary Lawrence, Town Arborist, at 703-255-6309
or glawrence@viennava.gov*

Town of Vienna

Tree Protection, Preservation & Planting Guide

The Town of Vienna has a proud history as a Tree City USA. This distinction, presented annually by the Arbor Day Foundation, acknowledges the Town's commitment to urban forestry. Vienna's commitment to our community's urban forest is solidified and strengthened through protection of residential tree canopy.

This publication is designed to serve as a guide to residential builders and homeowners on meeting Town of Vienna requirements to preserve the tree canopy. Created in partnership with the Town's Conservation and Sustainability Commission, these guidelines are supported by sections 18-251 and 18-252 of the Town Code. The minimum tree canopy on residential properties in Vienna is 20% at a maturity of 20 years.

Please contact Town Arborist Gary Lawrence with questions and concerns: glawrence@viennava.gov or 703-255-6309.



Landscape Plan/Tree Protection Checklist

Landscape plans are required by all homeowners or developers who are building or redeveloping a home or residential units in the Town of Vienna. The following checklist indicates the items that must be included in all landscape and tree preservation plans, which will be reviewed by the Town's urban arborist to verify canopy coverage calculations.

1. Project title listing project name, owner name, and name of firm or individual preparing the plan.
2. Scaled rendering, using current information from the site development plan, that depicts existing and proposed grades.
3. North arrow.
4. Graphic and written scale.
5. Graphic legend depicting existing vegetation and proposed conditions.
6. Location of all improvements shown on the site development plan.
7. Location of all existing and proposed utilities and sewers.
8. Location of all proposed sediment control devices.
9. Graphic depiction of all existing trees including location, types, and size. All deciduous and evergreen trees of 4" diameter at breast height and greater and all multi-stemmed trees 8' in height or taller must be shown. All Town/public right-of-way trees of 1.5" caliper and greater must be shown.
10. Accurate graphic depiction of the drip line canopy of all existing trees and graphic depiction showing the extent of the critical root zone.
11. Clear designation and tabulation of all existing trees to be saved or preserved, removed, or impacted as well as any additional tree plantings required to meet the 20% lot coverage requirement.*
12. Proposed tree protection and preservation measures for all saved and impacted trees depicting, if necessary, root-pruning lines, protective devices, and procedures, including but not limited to fencing, boring, aeration, temporary special paving areas, retaining walls, etc.
13. All invasive plants and vines within tree-save areas shall be controlled and removed from trees. This shall be noted on a tree preservation sheet.
14. Tree protection practices and new plantings shall be in compliance with Town of Vienna standards. (See next page.)
15. Certification (signed and sealed by a landscape architect licensed in the Commonwealth of Virginia or ISA-certified arborist).
16. All trees 4" dbh and above shall be numerically tagged in the field to correspond with preservation legend numeration.

**25% canopy coverage credit is awarded for preserving existing canopy or installing an approved rain garden. (I.e., a 200 sq. ft. rain garden contributes 50 sq. ft. toward canopy coverage.)*

Tree Protection Standards

The following tree protection practices are to be followed.

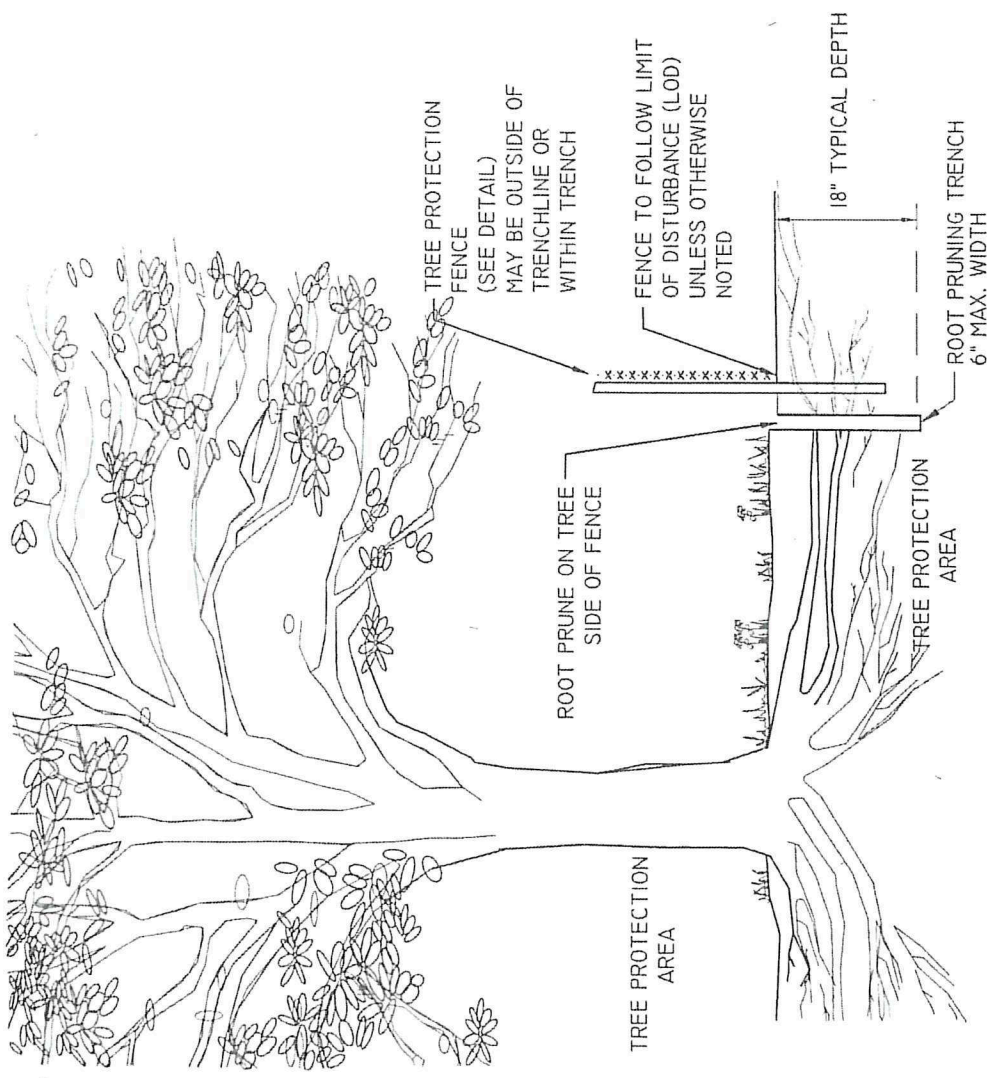
1. A pre-construction meeting with the Town of Vienna's urban arborist shall be held onsite prior to establishing perimeter controls so that the arborist can explain protection measures to operators, construction supervisors, and/or contractor's representatives.
2. Contractor shall stake clearing limits onsite in order to facilitate location for trenching and fencing installation for tree protection.
3. Newly planted trees shall be staked using two-three 2"x 2"x4' wood stakes and hose covered wire or canvas strapping.
4. No clearing or grading shall begin in areas where tree preservation measures have not been completed.
5. The use of heavy equipment is strictly prohibited within tree preservation areas, including for the purpose of removing unwanted trees, structures, pads, grading, sodding, etc. Any structure within the tree preservation area shall be removed by hand.
6. The sequence for tree preservation measures, if required, shall be in this order: root pruning, tree protection fencing, tree pruning and chemical treatment, aeration systems installed. These measures shall be directed in the field by the construction supervisor.
7. Tree protection fencing shall be maintained by the contractor through duration of construction. No alteration shall occur without prior approval by a Town representative.
8. Critical root zone shall be defined as 1.5' radius per 1" of DBH (diameter at breast height), which shall be measured at a height of 4.5' from highest point of ground at base of trunk.
9. For a tree to count for canopy coverage credits, no more than 30% of the respective tree's critical root zone shall be impacted by construction activities, including but not limited to: trenching, grading, digging, cutting, filling, etc.
10. Protection provided shall consist of fencing around the tree to the drip line, and enclosed areas shall be kept free of all soil, equipment, and construction material storage, which includes final grading and landscaping efforts.
11. Root Pruning Requirements: Unless otherwise instructed by the Town's arborists, root pruning MUST be performed when limits of disturbance fall within critical root zone of trees to be saved. Roots shall be pruned to a minimum depth of 12" at or before the limits of disturbance by using a root pruning machine or vibratory plow.
12. When applicable, trenchless silt fence shall be used for erosion and sediment control in order to better protect and preserve adjacent-neighboring trees that may be impacted by construction activities.
13. Trees that are determined by the Town arborist to be in "poor" condition shall not count toward canopy coverage calculations.
14. All pruning shall be done in accordance with current American National Standards Institute (ANSI) A300 pruning standards. Spikes shall not be used to climb live trees unless the tree is being removed.

New Planting Standards

1. Newly planted trees shall be healthy and vigorous and meet all ANSI standards. All newly installed trees, as are required by the Tree Conservation Plan, which in the opinion of the Town arborist are dead or are not healthy, shall be replaced by the contractor.
2. New plantings shall be a minimum of 2-2.5" caliper for deciduous trees and 6'-8' in height for evergreens.
3. Deer protection fencing shall be installed around newly planted trees.
4. A minimum of **TWO** different tree species is required when planting 3-5 new trees on site. A minimum of **THREE** different tree species is required for 6-9 new trees installed on site. A minimum of **FOUR** different tree species is required for 10+ new tree plantings.
5. Large shade trees shall be installed no closer than 30' on center. Medium shade trees and medium evergreen trees shall be installed no closer than 20' on center. Small ornamental and small evergreen trees shall be installed no closer than 15' on center.
6. Plantings shall be installed only within the following listed planting seasons.
 - **Spring Planting Season:** March 15-May 30
 - **Fall Planting Season:** September 15-November 30Any tree planted outside of these dates will be rejected by the Town arborist upon inspection.
7. A **planting season waiver** is required for trees/shrubs that must be installed outside of the accepted planting seasons to meet canopy coverage or other requirements as specified in the approved plans for final occupancy. Consideration and approval of a planting season waiver shall be at the discretion of the Town arborist or his/her designee.
8. If a **planting season waiver** is granted, the applicant shall post a bond (cash or surety) that covers any tree plantings required for canopy coverage on the site.
 - Applicant shall use the current *Town of Vienna Tree Preservation and Planting Specifications Manual* to compute the cost for proposed trees for canopy coverage.
 - If required tree plantings are not provided within the following planting season, the owner/applicant will be notified and the entire bond will be forfeited to the Town of Vienna. The Town will use the bond money to complete required tree plantings. Any additional charges for completing the plantings shall be borne by the applicant.
 - Bond will be released upon a passing inspection by the Town arborist.

Tree Bonds

1. The Town of Vienna may collect Tree Protection Bonds in accordance with §§ 17-15T and 18-252E of the Town of Vienna Code
2. Attach one (1) copy of the site drawing with Tree Removal / Replacement location(s) shown.
3. A tree bond must be submitted prior to receiving a final demolition letter.
4. A tree bond must be submitted for any Town owned trees that could be immediately impacted by construction activities.
5. The Town of Vienna's tree bond term length is 1 year after the final Certificate of Occupancy is approved and released.



NOTES

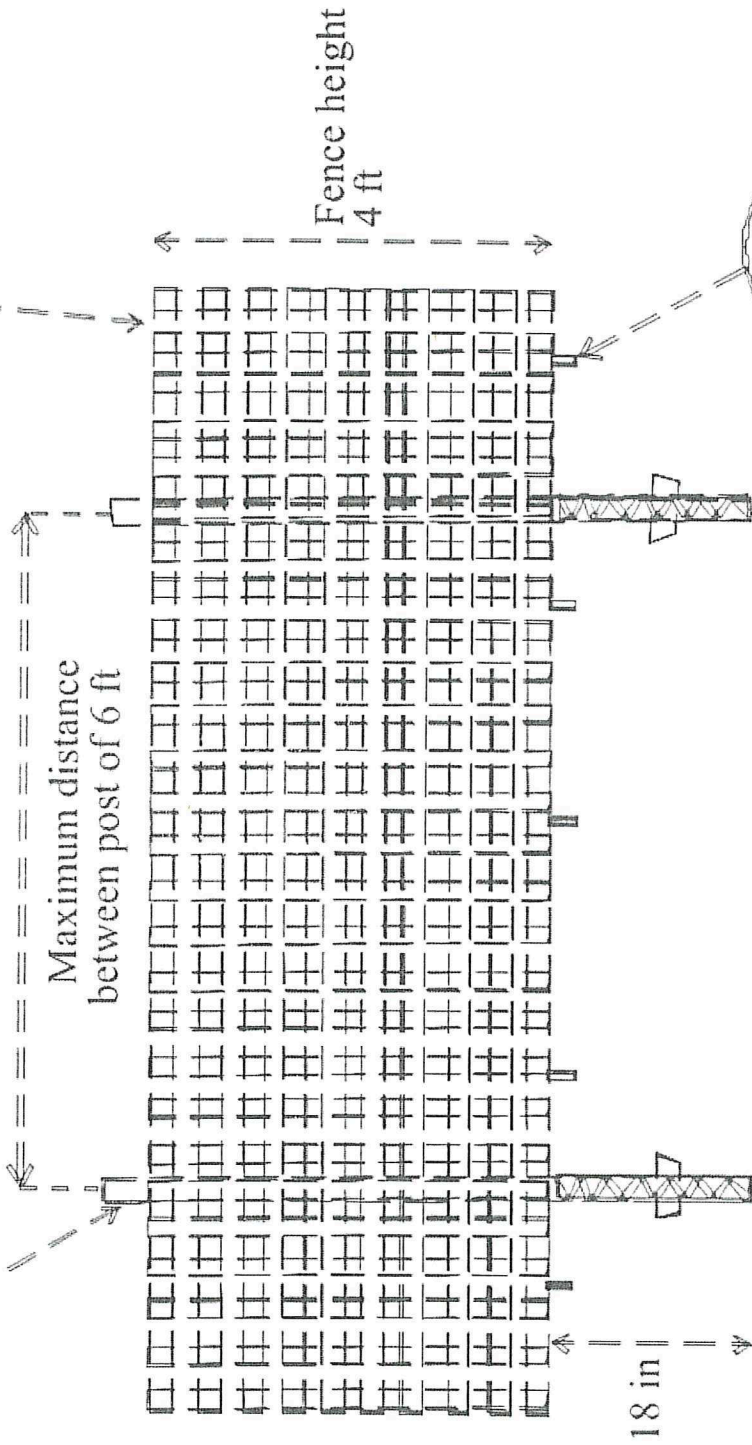
1. ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18". ROOTS OVER 1.5" IN DIAMETER SHALL HAVE A CLEAN CUT MADE BY A CLEAN SAW ON THE SURFACE OF THE ROOT, WHICH IS STILL ATTACHED TO THE TREE. DO NOT PAINT THE CUT ROOT END. IF EXCAVATION IS FOR INSTALLATION OF UNDERGROUND UTILITIES, LEAVE THE ROOT INTACT AND THREAD THE LINES UNDERNEATH.
2. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
3. ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF A CERTIFIED ARBORIST.
4. BACKFILL THE ROOT-PRUNING TRENCH WITH EXCAVATED SOIL AND MULCH AND MARK LOCATION FOR FUTURE REFERENCE. SILT FENCE MAY BE INSTALLED IN TRENCH PRIOR TO BACKFILLING AS LONG AS THE TRENCH IS NOT OPEN FOR LONGER THAN 48 HOURS WITHOUT WATERING.
5. ROOT PRUNING WORK WILL NOT BE DONE WHEN MORE THAN THE TOP 1 INCH OF SOIL IS FROZEN. ROOT PRUNING WILL NOT BE UNDERTAKEN WHEN THE SOIL IS WET AND CONDITIONS ARE MUDDY.

ROOT PRUNING
SECTION

NOT TO SCALE

Fence material shall be
14-gauge welded wire

Anchor posts should be a minimum
2 in steel 'U' channel, 6 ft in length



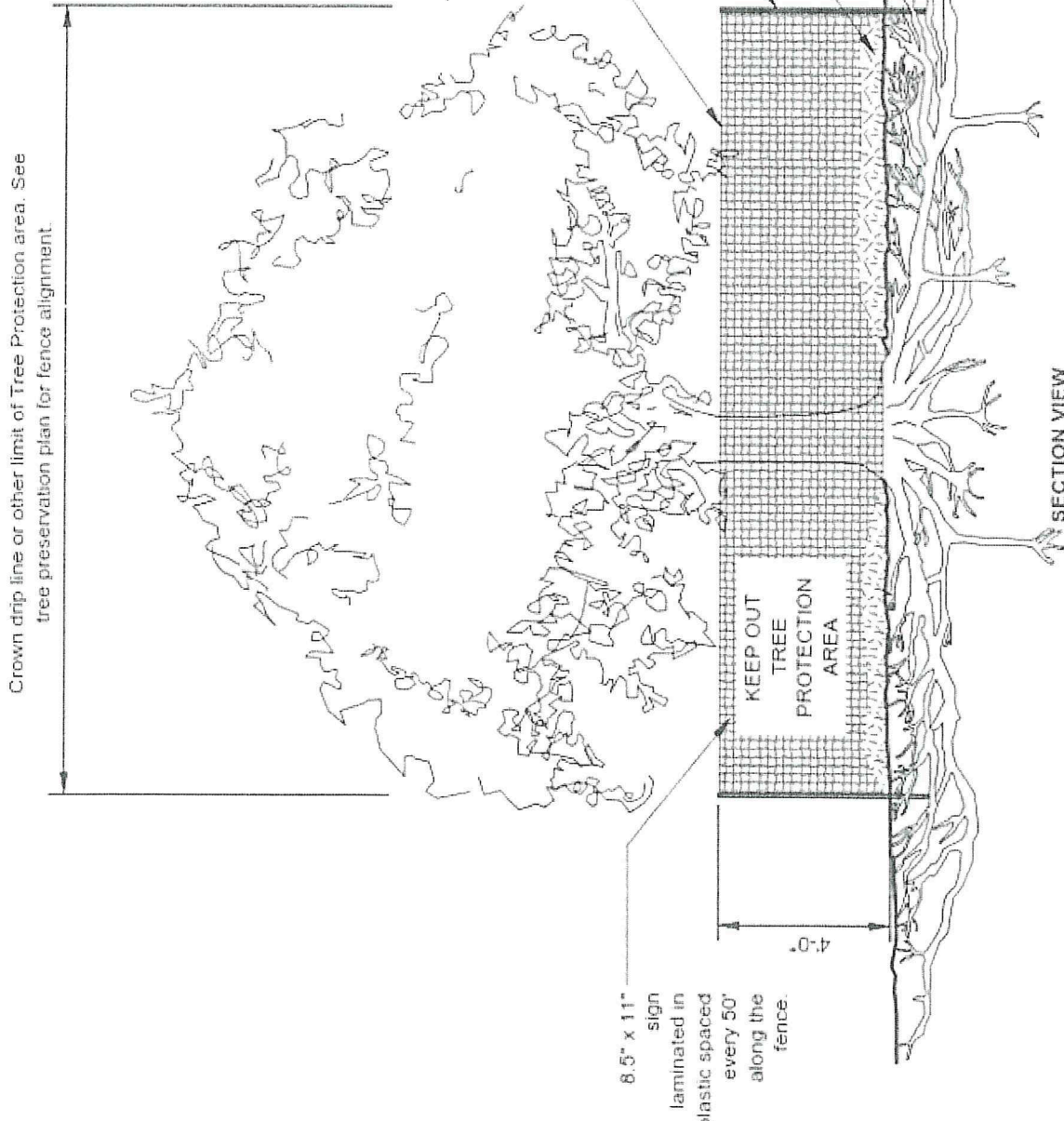
**Note: Tree protection fencing should be maintained
throughout construction**

Use 8 in wire U staples
to secure fence bottom

TREE PROTECTION FENCE INSTALLATION

(SCALE: N.T.S.)

(SOURCE: PFM 6-12)



- Notes:
- 1- See specifications for additional tree protection requirements.
 - 2- If there is no existing irrigation, see specifications for watering requirements.
 - 3- No pruning shall be performed except by approved arborist.
 - 4- No equipment shall operate inside the protective fencing including during fence installation and removal.
 - 5- See site preparation plan for any modifications with the Tree Protection area.

Tree Protection fence: See Tree protection fence detail

2" x 6" steel posts or approved equal.

5" thick layer of mulch.

Maintain existing grade with the tree protection fence unless otherwise indicated on the plans.

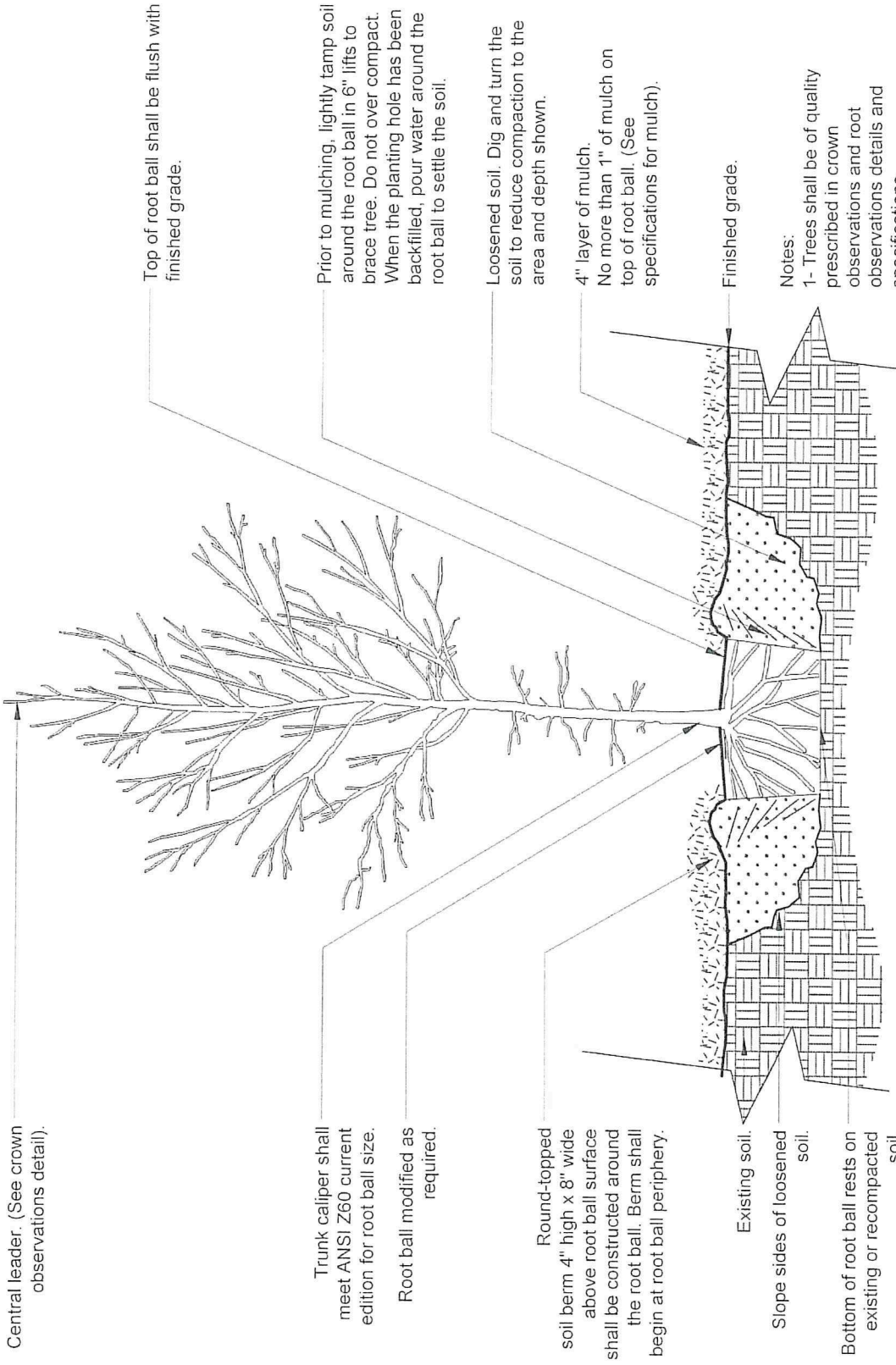
8.5" x 11" sign laminated in plastic spaced every 50' along the fence.

SECTION VIEW

TREE PROTECTION



Central leader. (See crown observations detail).



Trunk caliper shall meet ANSI Z60 current edition for root ball size.

Root ball modified as required.

Round-topped soil berm 4" high x 8" wide above root ball surface shall be constructed around the root ball. Berm shall begin at root ball periphery.

Existing soil.
Slope sides of loosened soil.

Bottom of root ball rests on existing or recompacted soil.

Top of root ball shall be flush with finished grade.

Prior to mulching, lightly tamp soil around the root ball in 6" lifts to brace tree. Do not over compact. When the planting hole has been backfilled, pour water around the root ball to settle the soil.

Loosened soil. Dig and turn the soil to reduce compaction to the area and depth shown.

4" layer of mulch.
No more than 1" of mulch on top of root ball. (See specifications for mulch).

Finished grade.

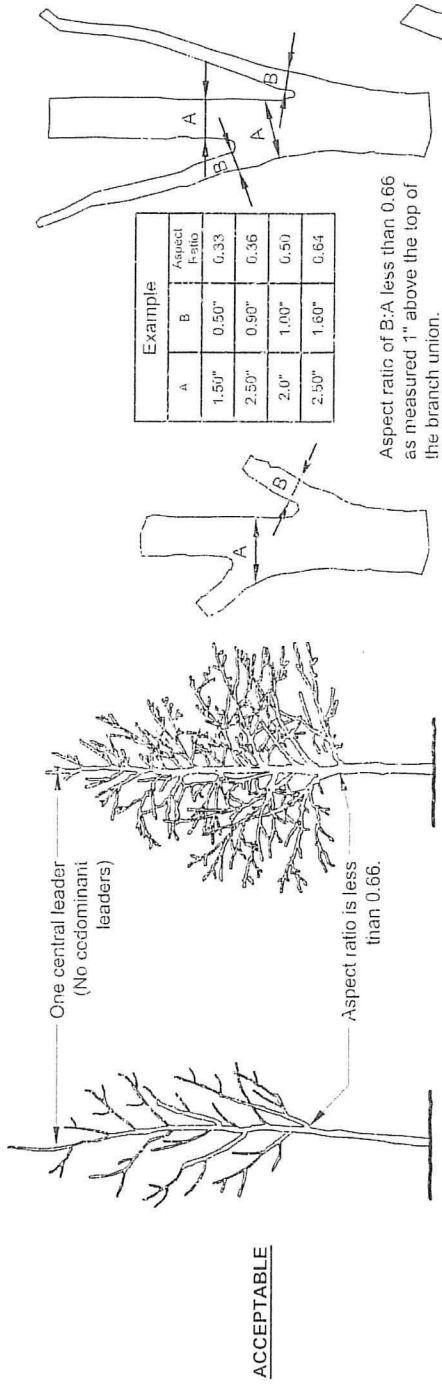
Notes:

1- Trees shall be of quality prescribed in crown observations and root observations details and specifications.

2- See specifications for further requirements related to this detail.

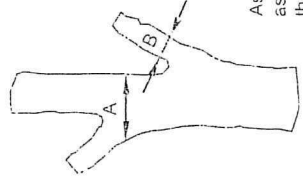
TREE W/ BERM (EXISTING SOIL NOT MODIFIED)

P-X

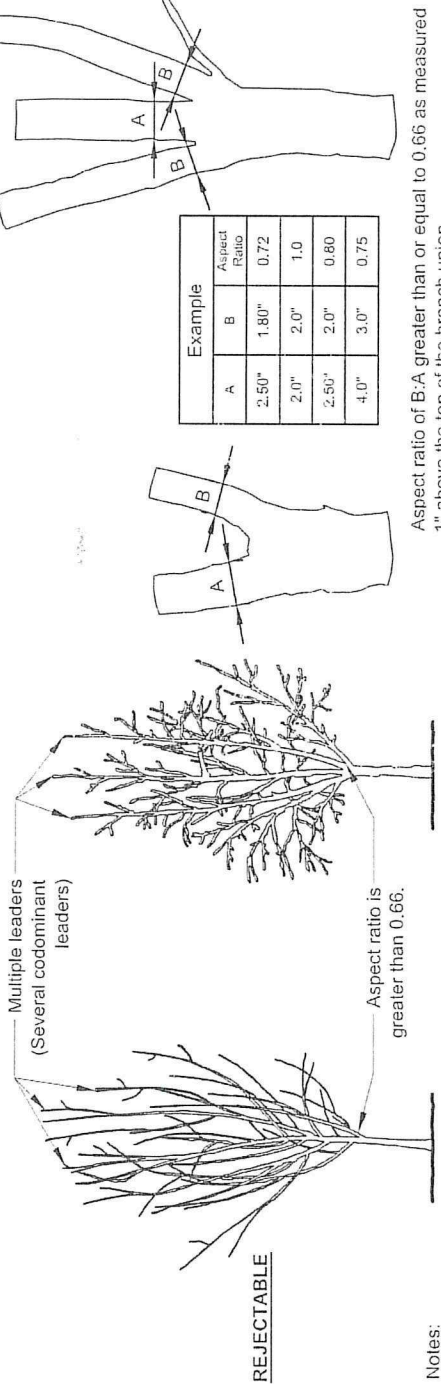


Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64

Aspect ratio of B:A less than 0.66 as measured 1" above the top of the branch union.



ACCEPTABLE



Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75

Aspect ratio of B:A greater than or equal to 0.66 as measured 1" above the top of the branch union.

REJECTABLE

Notes:

1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.



CROWN OBSERVATIONS - HIGH BRANCHED

TOWN OF VIENNA, VIRGINIA TREE PROTECTION BOND ESTIMATE

BOND #: B/E _____ DATE: _____

**TO BE COMPLETED BY DEVELOPER'S ENGINEER, LAND SURVEYOR OR ARBORIST.
BEFORE SUBMITTING, CONTACT THE TOWN ARBORIST AT 703-255-6309.**

Use the current Town of Vienna Tree Preservation Manual for pricing

The Town of Vienna may collect Tree Protection Bonds in accordance with §§ 17-15T and 18-252B of the Vienna Town Code

Attach one (1) copy of the site drawing with Tree Removal/Replacement location shown.

Project Name:	
Location:	
Developer:	
Developer Address:	
Telephone:	
Engineer or Surveyor (Firm):	
Address:	
Telephone:	
Prepared By:	
Date:	

ITEM	Qty.	Unit	Unit Cost	Total
A. PROTECTION COSTS:				
Fencing		LF		
Inspections		EA		
Deep Root Fertilizing		EA		
Pruning		EA		
Mulching		EA		
Watering		EA		
Other:		EA		
TOTAL PROTECTION COSTS:				

B. REMOVAL COSTS:				
ACTUAL TREES				
Tree removal 0-18"		EA		
Tree removal 18-24"		EA		
Tree removal 24"-36"		EA		
Tree removal 36"-42"		EA		
Tree removal 42"-48"		EA		
Tree removal - over 48"		EA		
Tree removal - over 48"		EA		
Stump grinding		EA		
Disposal & Dump Fees		EA		
Other:		EA		
TOTAL REMOVAL COSTS:				\$ -

C. REPLACEMENT COSTS:				
MATERIALS:				
		EA		
		EA		
		EA		
		EA		
		EA		
		EA		
Other:		EA		
TOTAL MATERIAL COSTS				\$ -
TOTAL LABOR COSTS: Labor = 60% of Materials Costs:				\$ -
REPLACEMENT COST TOTALS:				\$ -

TOTAL TREE BOND: \$ -

D: VIENNA PARKS & RECREATION - Reserved for Town Arborist Use
An inspection was performed on the site / / (Date) and I concur with tree counts and costs presented to establish this Bond.
Town Arborist's Signature: _____

E. FOR USE BY TOWN DPW STAFF ONLY
Part of Public Improvement Bond for Project? Yes ___ or No ___
Date Estimate Checked: _____
Comments: _____

The Permittee shall guarantee all Protection, Removal & Replacement work for a period of ONE Year after Occupancy and a minimum of 90% of all planting shall have survived for a ONE Year without need of further replanting or repair.

COMPLETION DATE: _____
Signature of Applicant: _____

F. BOND RELEASE APPROVALS:

Town Arborist's Signature:		Date:	
Planning & Zoning Signature:		Date:	
DPW Signature:		Date:	

TOWN OF VIENNA APPROVED TREE LIST

Large Shade and Evergreen Trees: Crown Coverage Allowance (CCA) = 300 square feet

Botanical Name	Common Name	Cultivar/Notes
<i>Acer rubrum</i>	Red Maple	October Glory, Red Sunset
<i>Acer saccharum</i>	Sugar Maple	Bonfire, Commemoration, Legacy
<i>Carya spp.</i>	Hickory species	Bitternut, Mockernut, Pignut, Shagbark
<i>Celtis occidentalis</i>	Hackberry	
<i>Fagus grandifolia</i>	American Beech	
<i>Juglans nigra</i>	Black Walnut	
<i>Liquidambar styraciflua</i>	Sweetgum	Rotundiflora
<i>Liriodendron tulipifera</i>	Tuliptree	
<i>Pinus echinata</i>	Shortleaf Pine	
<i>Pinus strobus</i>	Eastern White Pine	
<i>Platanus occidentalis</i>	Sycamore	
<i>Populus deltoides</i>	Eastern Cottonwood	
<i>Quercus alba</i>	White Oak	
<i>Q. rubra</i>	Northern Red Oak	
<i>Q. coccinea</i>	Scarlet Oak	
<i>Q. phellos</i>	Willow Oak	
<i>Tilia americana</i>	American Linden	
<i>Ulmus americana</i>	American Elm	Princeton, Liberty, Valley Forge, Delaware #2, New Harmony, Washington

Medium Shade and Evergreen Trees: Crown Coverage Allowance (CCA) = 200 square feet

Botanical Name	Common Name	Cultivar/Notes
<i>Betula nigra</i>	River Birch	Dura-heat, Heritage
<i>Carpinus caroliniana</i>	American Hornbeam	
<i>Castanea dentata</i>	American Chestnut	
<i>Castanea pumila</i>	Alleghany Chinkapin	
<i>Cladastrus kentukea</i>	American Yellowwood	
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	Espresso
<i>Ilex opaca</i>	American Holly	
<i>Juniperus virginiana</i>	Eastern Redcedar	
<i>Magnolia virginiana</i>	Sweetbay Magnolia	
<i>Nyssa sylvatica</i>	Black Gum	
<i>Ostrya virginiana</i>	Ironwood	
<i>Oxydendrum arboreum</i>	Sourwood	
<i>Pinus virginiana</i>	Virginia Pine	
<i>Quercus stellata</i>	Post Oak	
<i>Quercus marilandica</i>	Blackjack Oak	
<i>Sassafras albidum</i>	Sassafras	

Small Ornamental and Evergreen Trees: Crown Coverage Allowance (CCA) = 100 square feet

Botanical Name	Common Name	Cultivar/Notes
<i>Amelanchier arborea</i>	Downy Serviceberry	
<i>Amelanchier x grandiflora</i>	Hybrid Serviceberry	Autumn Brilliance, Majestic, Coles Select, Snowcloud
<i>Cercis canadensis</i>	Eastern Redbud	
<i>Chionanthus virginicus</i>	White Fringe Tree	
<i>Cornus florida</i>	Flowering Dogwood	
<i>Cotinus obovatus</i>	American Smoketree	
<i>Crataegus spp.</i>	Hawthorn	
<i>Hamamelis virginiana</i>	Witch Hazel	
<i>Halesia tetraptera</i>	Carolina Silverbell	
<i>Viburnum prunifolium</i>	Blackhaw	

Tree Purchase, Planting, Watering & One-Year Warranty Fees (2021-22)

These figures are provided to assist with completion of a tree bond application. The figures have been developed by the Virginia Nursery & Landscape Association in conjunction with Virginia Tech's Urban Forestry Department.

All landscape materials should be warranted by supplier for one-year from date of installation and include installation.

Trees-Deciduous

Size

1.0 to 1.5" caliper	\$ 336.99 EA
1.5 to 2.0" caliper	\$ 456.56 EA
2.0 to 2.5" caliper	\$ 558.10 EA
2.5 to 3.0" caliper	\$ 863.12 EA
3.0 to 3.5" caliper	\$1,126.19 EA

Evergreens

Size

5 to 6' in height	\$ 301.11 EA
6 to 8' in height	\$ 504.39 EA
8 to 10' in height	\$ 851.17 EA
10 to 12' in height	\$1,126.19 EA

Tree Pruning, Removal, Stump Grinding & Fencing Fees
(FY20-21, expires June 2021)

Tree Diameter	Pruning	Removal	Stump Grinding
12" > 18" dbh	\$ 228.60	\$ 596.39	\$ 203.20
18" > 24" dbh	\$ 310.90	\$ 758.95	\$ 223.52
24" > 30" dbh	\$ 344.42	\$ 1,066.80	\$ 355.60
30" > 36" dbh	\$ 451.11	\$ 1,524.00	\$ 431.80
36" > 42" dbh	\$ 558.80	\$ 1,524.00	\$ 482.60
42" > 48" dbh	\$ 584.20	\$ 1,524.00	\$ 482.60
48" & larger dbh	\$ 619.76	\$ 2,032.00	\$ 482.60