SECTION 1 LANDSCAPE, TREE AND BUFFER SUBMITTAL PLANS AND PLANTING STANDARDS

Should any standard conflict with the Development Code, the Development Code shall govern.

A. Canopy Cover Requirements

1. Coverage area of site is based on calculation of trees to remain and trees to be planted to be no less than the allowances listed in the Tree Conservation Ordinance, most current version.

2. Canopy cover requirements shall be established for the protection of all existing Protected Trees.

3. Canopy can be determined by actual measurement or by general assignment.

    a. Actual measurement is the measured square footage of the canopy of a tree.

    b. General assignment attributes square footage base on the potential canopy size of a species (small, medium, or large) as indicated in the Recommended Species List (See Section 1.L).

4. Trees planted to meet canopy cover standards must be maintained in healthy condition for a minimum of three (3) full growing seasons. See Figure 1 for sample canopy calculations.

B. Landscape Strips on Private Property

1. The width of landscape strips must, as a minimum, conform to the requirements of the conditions of zoning or the requirements of the Development Code.

2. The width is measured from the newly dedicated right-of-way or from the property lines of contiguous parcels, as applicable.

3. No permanent structures are permitted within landscape strips. This includes retaining walls, curbing, dumpsters, detention facilities, etc. Monument signs, drainage structures, transformer, and sidewalks may be allowed only with pre-approval.

4. Curb stops must be used to prevent vehicle overhang into required landscape strips and parking lot landscape islands. One curb stop per parking stall is required.

5. Signs within required landscape strips are subject to the approval of the Department of Community Development. These signs may only be located in areas of turf or groundcover and must not conflict with the growth potential of trees and shrubs. Signs are not permitted within required undisturbed buffers.

6. The deposition of storm water runoff into drainage swales through landscape strips is generally not permitted. Exceptions will be considered only if the design complies with BMPs described by standards of the Georgia Storm Water Management Manual. Under no circumstances may the width of a drainage easement through a landscape strip exceed the width of the strip. The size and configuration of the landscape strip may be altered to accommodate the drainage swale.

Figure 1 - Sample Canopy Calculations

This example is a single family residential lot. Please see Development Code for specific requirements of property. All trees 18" caliper and above must be identified on the site plan. Additional calculations are required for the Tree Fund, if applicable according to Development Code.

CANOPY REQUIREMENT

Example Site = 34,189 sf Coverage requirement: Site Area (sq. ft.) x 35%

34,189 x 0.35 = 11,966 sf Required Canopy Coverage (RCC)

PROTECTED TREES *Show tree save areas and tree protection fencing.*

(3) 18" Oak
(1) 18" Sweetgum
(2) 20" Oak
(1) 22" Sweetgum
(1) 24" Magnolia
(1) 36" Oak

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(9) Total x 1,000 sf = 9,000 sf Existing Canopy to remain (EC)

LANDMARK REPLACEMENT *Landmark trees are 18" and larger.*

Landmark canopy to be removed:

(1) 48" Oak
(1) 30" Oak

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(2) Total x 1,000 sf x 1.5 = 3,000 sf to be replaced (LR)

CANOPY REPLACEMENT (CR)

RCC - EC + LR = CR

11,966 - 9,000 + 3,000 = 5,966 sf Canopy Replacement required

REPLACEMENT TREES Show proposed planted trees on site plan.

(4) 3" Oak
(2) 4" Magnolia

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(6)Total x 1,000 sf = 6,000 sf Replaced

Site Canopy Replacement Requirement Satisfied

7. All species within required landscape strips must be ecologically compatible with the intended growing site. If non-native ornamental trees are used to satisfy landscape strip requirements, they will not count for satisfying canopy requirements.
8. A mix of species of trees is preferred when 6 or more trees are required.
9. All plant materials are subject to approval by the City of Sandy Springs.
10. All trees must be planted in a suitable soil volume. In a normal surface planting environment with average soil depths greater than or equal to 3 feet, soil volume calculations may be based on surface areas as follows:
    a. Small canopy tree = 25 square feet
    b. Medium canopy tree = 150 square feet
    c. Large canopy tree = 300 square feet
11. Required trees shall be planted between mid-October and the end of February. The survival of trees planted outside of that time period shall be guaranteed by placing funds in escrow with the Department of Community Development. Funds may be placed in escrow in lieu of planting pending the desirable planting season. The total amount deposited shall include the purchase, transport and installation of plant materials.
12. Trees planted to meet the landscape strip standards must be maintained in good health for a minimum of 3 full growing seasons.
13. Sub-surface soil cells or structural soils must be used to obtain a 3 foot minimum depth and soil volume where tree planting is to occur with limited surface areas or within built structures such as parking lots and sidewalks. Use is subject to approval by City of Sandy Springs.
14. Spacing and species selection is subject to Sandy Springs Director or designee approval. Compensation may be granted for the protection of existing trees.

C. Planting within Rights-of-Way

1. Approval from the Department of Community Development, Department of Public Works and the Georgia Department of Transportation (D.O.T), where applicable, is required, as planting is generally not permitted in the rights-of-way other than is required, as planting is generally not permitted in the rights-of-way other than required street trees. When trees are planted in the rights-of-way the following conditions shall be met:
    a. A minimum of three inch (3") caliper trees shall be planted.
    b. A minimum soil volume per these Administrative Standards.
    c. Ideal spacing of large trees is 30 to 50 feet on center.
    d. Underground utilities shall be installed prior to planting.
2. Where approval is received, the following conditions must be met:
    a. Indemnification and Maintenance agreements must be recorded with the City prior to permitting irrigation or planting within City rights-of-way.
    b. Agreements must be recorded in the name of a Homeowner's Association (along with documentation attesting to that association's existence), for subdivisions.
    c. These agreements must be recorded in the property owner's name for all other types of projects.
    d. Trees planted within rights-of-way cannot be counted toward the tree canopy or landscape strip requirements for a site.

e. Prior to planting trees in rights-of-way, a shoulder cross-section must be provided indicating the placement of the trees in relation to the curb, and underground utilities. Placement and species are subject to the approval of the Sandy Springs Arborist and the Director.

f. Drawings for irrigation system within rights-of-way must indicate the location of lines, meter, heads, spray radius, shut off valves, timers and a 24 hour emergency contact phone number.

D. Buffers on Private Property

1. Definitions of different buffers are found in the Development Code.
2. When land use of a property changes, the minimum requirements for the new use shall be met.
3. Required undisturbed buffers must remain undisturbed and actively protected in perpetuity under the auspices of the Tree Conservation section of the Development Code.
4. Buffers must be replanted where disturbed for approved access and utility crossings.
5. All buffer plant materials are subject to approval by the City of Sandy Springs.
6. The buffers shall be replanted to meet the following standards:
   a. To accomplish screening, the plant materials must be evergreen and a minimum 5 feet in height at time of planting, with branching full to the ground.
   b. The number of planting rows for tree replacement in buffers is determined by buffer width as provided in Development Code Sec. 8.2.
7. Encroachment into buffers for the construction of retaining walls, footing, or wall supports is not permitted unless otherwise specified in the conditions of rezoning. Encroachments into undisturbed buffers shall be requested through rezoning or variance, as applicable. Drainage within or through buffers may require additional width to compensate for drainage area, and is subject to the approval of the City.
8. No grading is allowed in buffers unless permission is obtained through City Arborist review and Director approval.

E. State Water Buffers — See Development Code

Mitigation plans shall be required to meet the submittal criteria prepared by the Department.

F. Chattahochee River Corridor Tributary Protection Area — See Development Code

G. Off-Street Parking

Storm water runoff into parking lot landscape islands may be permitted upon approval by the Sandy Springs Arborist and Chief Engineer, provided design complies with standards established by the Georgia Storm Water Manual, most current edition. See Div. 8.2 of the Development Code for other landscaping requirements in off-street parking.

H. Tree Conservation and Protection Plan (TCPP) Preparation Guidelines

1. Evaluate the conservation potential of all trees on site based on their species, health, structural condition, and location in relation to site modifications and proposed structures and utilities.
2. Diagram the approximate location of the trees' critical root zones (CRZ), based on 1.25 feet of radius for every inch of diameter at breast height (dbh), or drip-line.
3. Evaluate trees on adjacent properties for a full range of potential impacts, and negotiate mitigating actions with the adjacent property owners.

4. Either modify the site plan or identify trees that cannot be protected to be removed. Generally, trees that suffer disturbance to 25% of the CRZ are considered destroyed. Variables include the nature of disturbance, the potential to mitigate damage, the species of tree, its condition, and vigor.
5. Disturbance to the CRZ includes changing the finish elevation of the soil 3" or greater by cutting or filling, compaction by activity or storage of materials, or any cutting or trenching.
6. The protection of clumps or groupings of trees is more effective than individual trees.
7. Plan for how the full range of site activities could potentially impact the trees. Identify staging areas for parking, material storage, construction debris, and concrete washout.
8. Identify way to insure sub-contractor understanding and compliance with the Tree Protection Plan.

I. TCPP Implementation

1. Conduct pre-construction tree maintenance - fertilization, and pruning remove structural defects, deadwood, or to improve clearance for equipment and structures. Educate all workers on site about tree protection techniques and requirements.
2. Requirements shall be noted on landscape and tree plan.
3. Establish a tree protection zone equal to the trees' critical root zone, (1.25' × 1"cal dbh), or as a minimum along the limits of disturbance.
4. Install tree protection fencing prior to any land disturbance.
5. Acceptable Tree Fencing includes the following (See Figure 2):
    a. A minimum 4 feet high barrier, constructed in a post and rail configuration. A 2-inch × 4-inch post and a double 1-inch × 4-inch rail are recommended.
    b. Four foot orange polyethylene laminar safety fencing with posts set at 6 foot on center maximum.
    c. Any deviation from the two acceptable tree fencing methods listed above must be authorized by the Sandy Springs Arborist.
6. Construction offices, vehicular parking, worker break sites, and material storage and debris area are to be place outside of the tree protection zones.
7. Underground and overhead utility lines that would require trenching or severe pruning of protected trees shall be re-routed. Tunneling or boring can be used to install underground utilities within a tree protection zone. Boring shall be at least 24 inches beneath the surface. (See Figure 3).
8. Where tree roots must be cut, make only sharp, clean cuts to promote root regeneration.
9. When clearing and grading is planned in close proximity to a tree protection zone, the limit of disturbance shall be defined by a clean trench cut to a depth of 36 inches, to prevent the shredding and tearing of protected roots.
10. Grade change in the Critical Root Zones of trees will destroy roots. Retaining walls shall be used to minimize the impact grade changes near or within the Critical Root Zones of Protected Trees to minimize damage and to count for canopy requirements (See Figure 4).
11. Monitor compliance with tree protection requirements and tree health regularly during construction.

12. Fencing may be removed at the end of the project for the installation of landscaping.

J. TCPP Follow up Maintenance

1. Complete post-construction tree maintenance, including pruning, mulching, fertilization, irrigation, and soil aeration where necessary.
2. Apply at least 1 inch of water per week by deep watering in the absence of adequate rainfall.
3. Fertilize trees with phosphorus, potassium, calcium, magnesium, and other macro- and micronutrients as indicated by a soil test, but wait at least one year to apply any nitrogen. Fertilize lightly with nitrogen after 1 year.
4. Inspect trees annually for at least 3 and up to 5 years after construction to look for changes in condition and signs of insects or disease, and to determine maintenance needs. Maintenance of plantings visible to the public streets is required and subject to Code Enforcement measures.

K. Planting Standards

Transplanting procedures shall follow standards established by the International Society of Arboriculture in the "Trees and Shrub Transplanting Manual," latest edition. The following is a summary of several key practices.

1. *Pre-Planting Considerations*
   i. Only healthy trees with a well-developed root system and a well formed top, characteristic of the species, shall be planted. Standards for selecting quality stock may be provided by the City Arborist.
   ii. Trees selected for planting must be compatible with the specific site conditions. A site specific tree list is provided in subsection M, further below.
   iii. Make certain there is adequate planting area and soil volume for the tree and the potential size of the tree is appropriate for the site, including potential conflicts with sight distance, traffic and pedestrian clearance, and overhead utilities. (Utilities Protection Center 1-800-282-7411).
   iv. Contractors must call (811) for utility location of underground utilities prior to digging.
   v. Deciduous and evergreen trees shall be planted between the end of October and the end of February.

Figure 2 - Tree Protection Fencing (not to scale)

NOTES:

1. Tree protection fencing to be installed prior to any land disturbance on site.
2. Locate fencing at edge of CRZ, or against pavement edges, as per approved site plans.
3. Fencing must remain through the duration of all construction activities. Removal or relocation of fencing for temporary access must be replaced daily and immediately upon completion of work requiring access. Temporary access must be approved in advance by the COSS Arborist.
4. Activities within tree protection area are not permitted, including staging of materials, parking, pedestrian access, etc.
5. Where tree protection is adjacent to erosion control fencing, tree fence must be visible and at full 4' height min. on the inside of tree save area.
6. Where tree protection fencing encroaches on CRZ of existing trees to remain, of any size, in areas of cutting grade, tree roots are to be cut below grade to depth of 12" with clean sharpened implements.

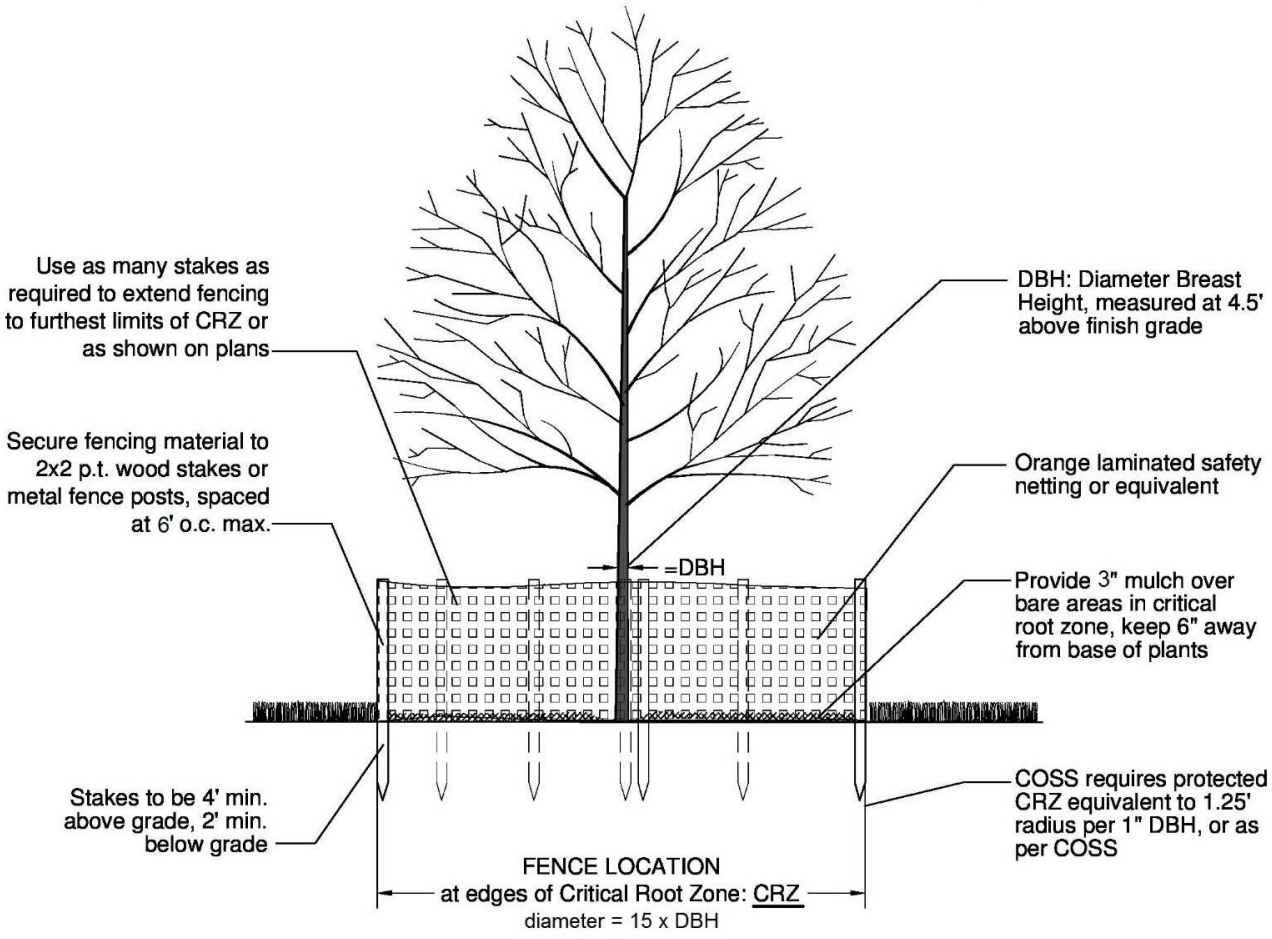
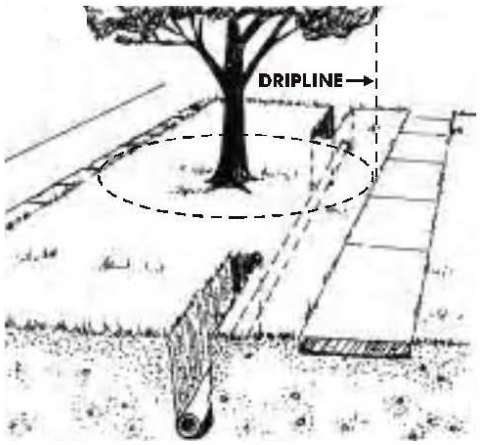
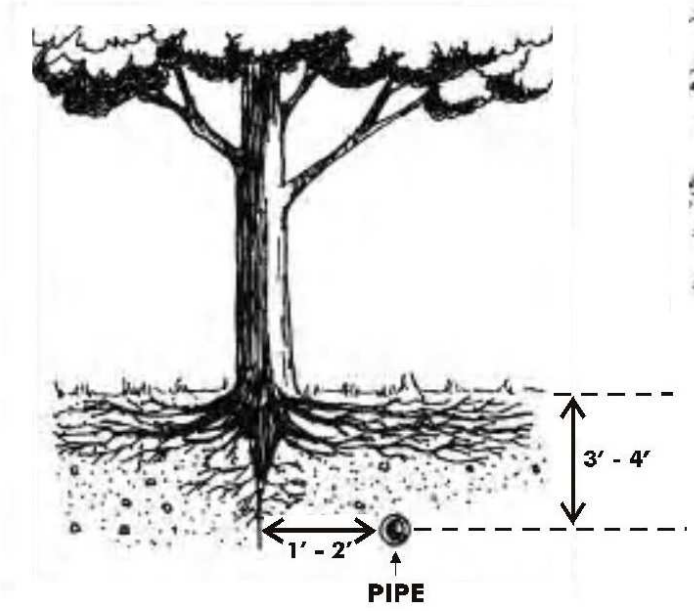


Figure 3 - Tunneling for Underground Utilities

Use tunneling for underground utilities such as cable, electric, and natural gas instead of cutting an open trench. This method will help preserve existing trees or smaller tree save areas.





Why Tunneling Saves Trees

Trenching near a tree can kill as much as 40 to 50 percent of the tree's roots. This will almost certainly lead to stress, poor health, lack of firmness against wind, or outright death. A tunnel in the same place will do virtually no damage to the tree.

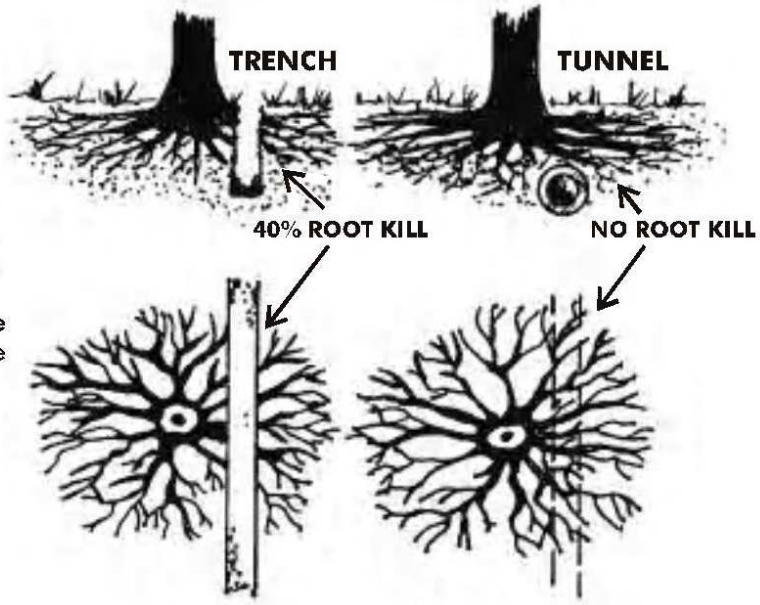
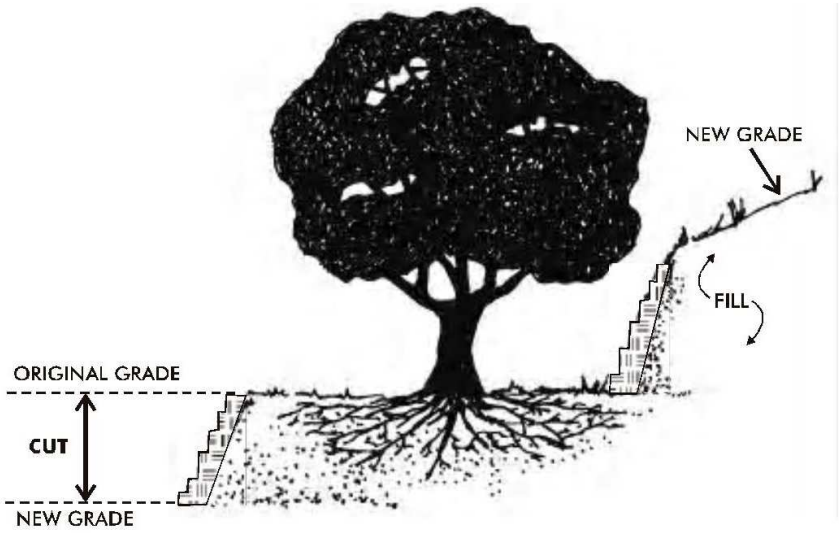
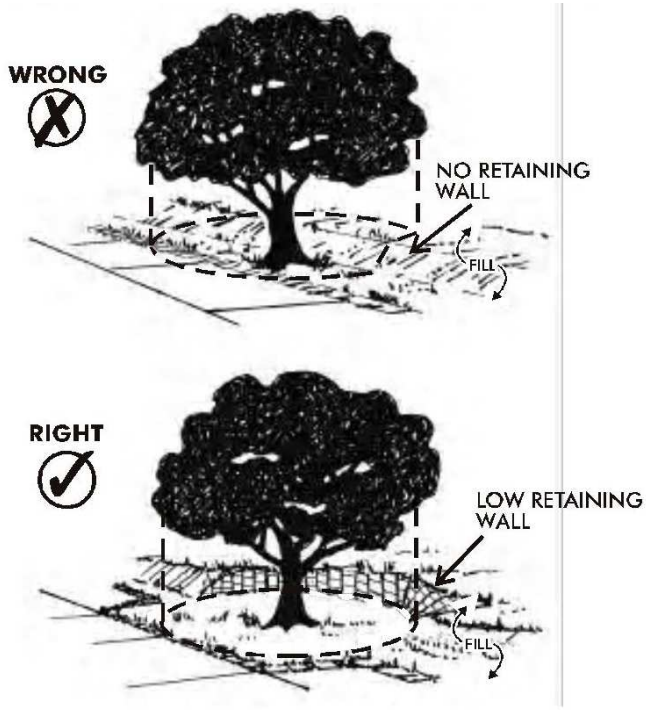


Figure 4 - Correct Methods for Grade Changes

How to preserve existing trees with the use of retaining walls when grade changes are necessary



Grade Change Examples - Methods of preventing root suffocation from fill dirt when changing grade



2. *Planting Procedures*

   i. Planting holes shall be no less than two (2) times the width of the root ball or bare roots of the tree being planted. A planting hole 3 to 5 times the width of the root ball is recommended. Figure 5 is the Tree Planting Standard Detail.

   ii. Trees shall not be planted deeper than they were in their former location or container, and shall be 1-4" higher than the surrounding finish grade.

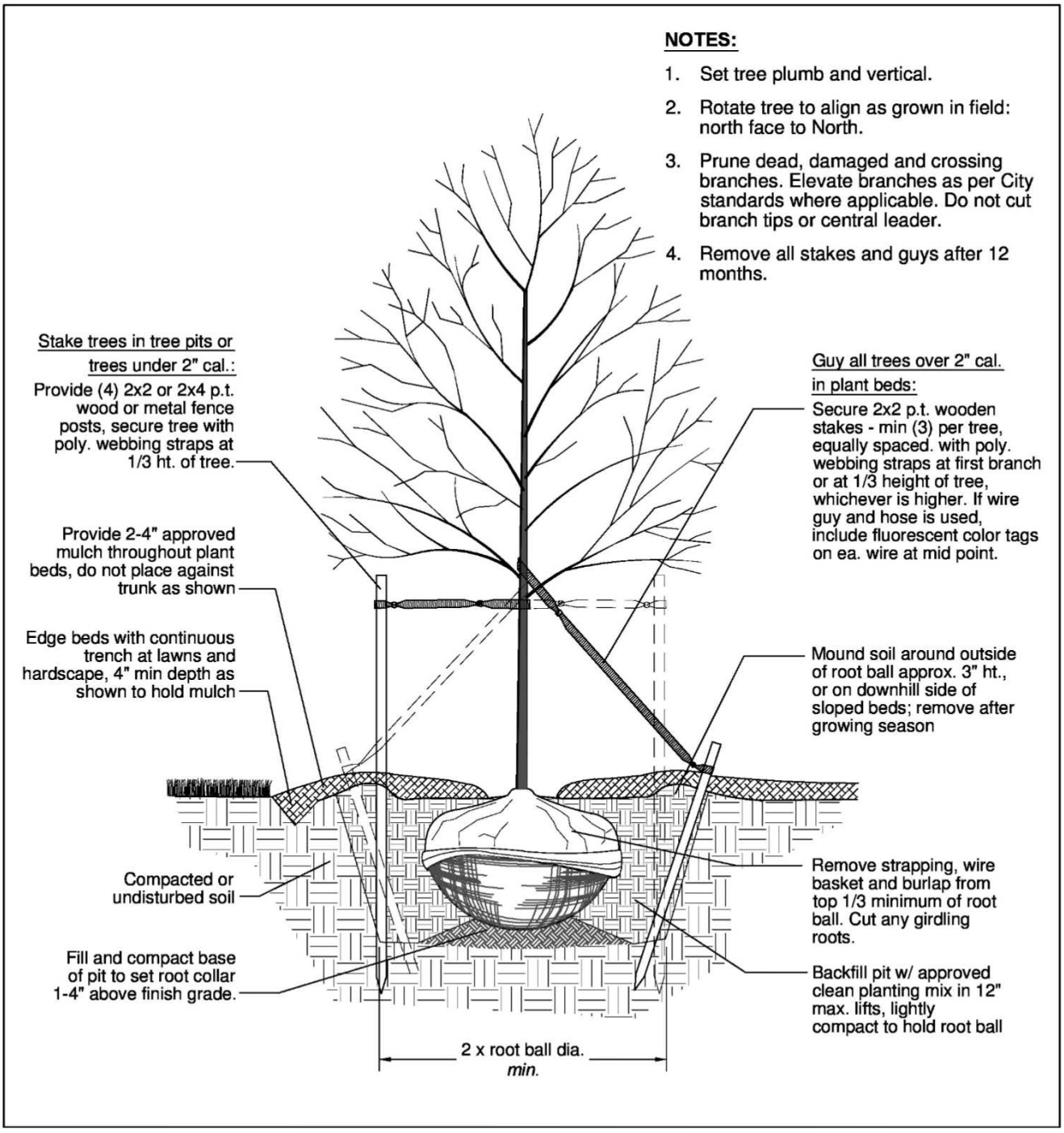
   iii. Spade compacted bottom and sides of the planting hole shall be roughed or scarified to allow the penetration of developing roots.

   iv. Water drainage from the bottom of the planting hole essential for root establishment.

   v. Avoid the application of soil amendments or fertilizer at the time of planting.

   vi. All plants must be watered to saturation immediately upon planting. When planting trees, it is recommended that trees be set and the pit backfilled half way, then soaked to verify good drainage, then planting completed, and watered again to saturation.

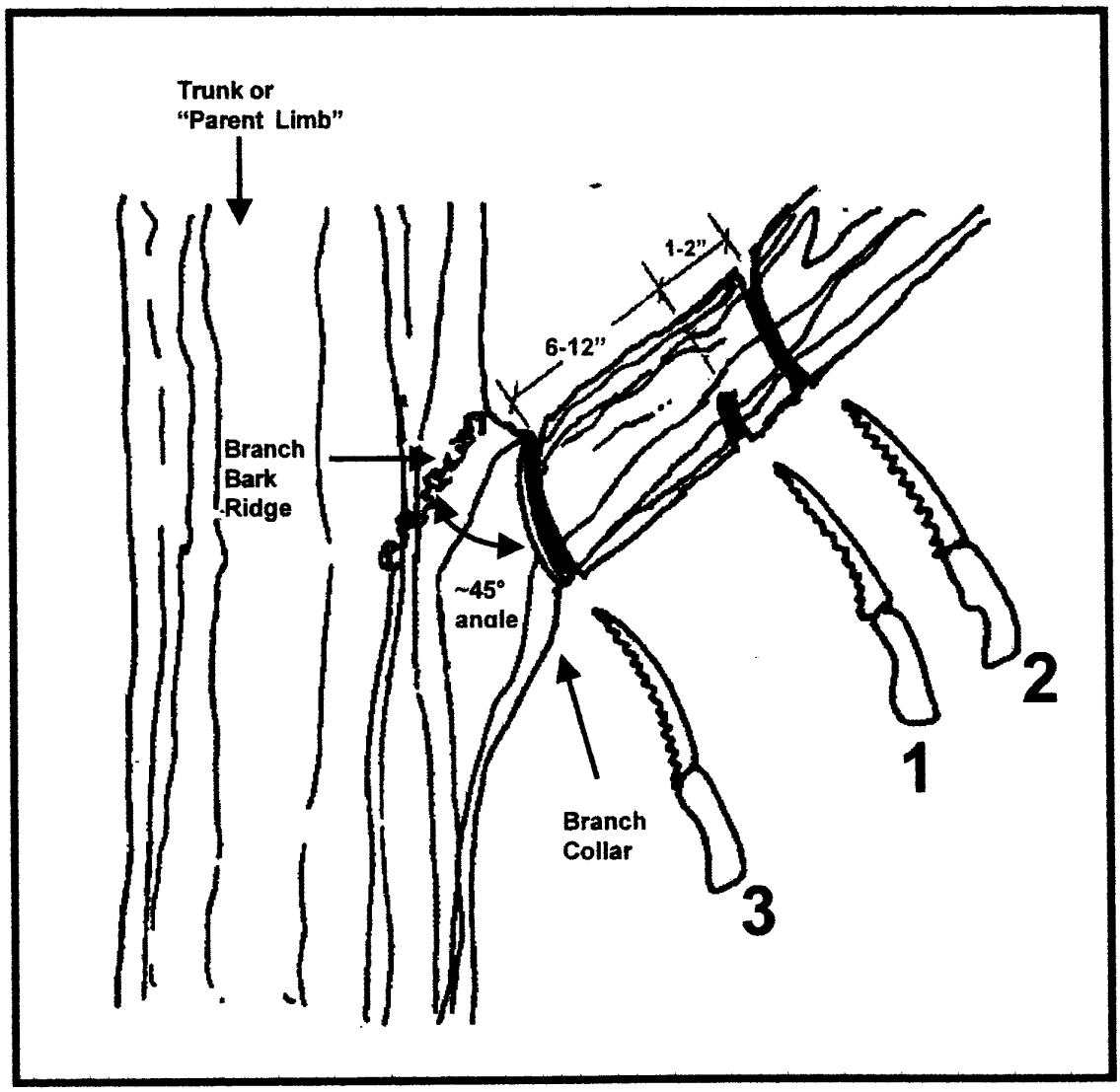
Figure 5 - Tree Planting Standard Detail (not to scale)



L. Tree Maintenance

1. *Tree Pruning*
   a. Only experienced professional arborists shall prune trees. Arborists certified by the International Society of Arboriculture have tested to insure a minimum level of arboricultural competency and maintain their certification with continuing education. Arborist shall follow ANSI A-300 Standards for Tree Care Operations.
   b. The objectives for tree pruning shall be established prior to commencement of pruning activity.
   c. Tree shall never be "topped". Topping a tree permanently damages a tree's structure, destroys its value, damages its health, and decreases the tree's safety.
   d. Climbing spikes shall never be used to prune a tree.
   e. Always prune branches back to parent branches or branches at least 1/3 the diameter of the branch being pruned.
   f. No more than 1/4 of the foliage of a mature tree shall be removed in any one growing season.
   g. Make proper pruning cuts, using the three cut method (See Figure 6).
   h. Avoid stub cuts, flush cuts and wounds to the remaining limbs and trunk.
   i. Pruning cuts shall be made just on the outside of the branch collar (See Figure 6).
   j. At the time of planting prune only dead, damaged, broken crossing, or rubbing branches.
   k. Do not remove more than 1/3 of the foliage from a young tree during any one growing season.
2. *Mulching*
   a. Tree mulching is very beneficial to trees because it help retain soil moisture, moderates soil temperature, suppresses weed growth, reduces soil compaction, and reduces the potential for mower and string trimmer damage to trees.
   b. Use organic materials such as pine straw, leaves, aged wood chips and compost. Avoid grass clippings, plastic, and rocks.
   c. Use the tree's own fallen leaves for mulch.
   d. Spread mulch in an even layer, 3—4 inches deep. Avoid mounding the mulch around the tree's trunk.
   e. Keep mulch at least 5 inches from the tree's trunk.
   f. For newly planted trees, mulch an area at least 5 feet in diameter.
   g. For older established trees, mulch out as far as practical, mulching to the drip line is most desirable.

Figure 6. Three Cut Pruning Method



3. *Soil Environment*
   a. Maintaining healthy soils reduces tree stress and improves tree the survival, growth, and longevity; improves root structure, and reduces the potential for tree failure.
   b. Adequate soil volume shall be maintained throughout the life time of tree. In a normal surface planting environment with average soil depths greater than or equal to 3 feet, soil volume calculations can be based on surface areas as follows:
      i. Small tree = 25 square feet
      ii. Medium tree = 150 square feet
      iii. Large tree = 300 square feet
   c. Soil organic matter content shall be maintained at 5 percent volume.

d. Mulching trees will increase soil nutrient levels, organic matter content and improve soil structure.

e. Root barriers shall be used to redirect root growth away from sidewalks, curbs and driveways.

f. Avoid soil compaction within the critical root zone of trees. Soil compaction results in an increase in soil bulk density, reduces soil pore space, decreases soil oxygen, and limits the availability of water.

g. Parking, driving, and the temporary storage of construction material within a tree's critical root zone will result in soil compaction.

4. *Fertilization*

a. Trees that are in an urban growing environment with limited natural nutrient cycling shall be fertilized on a regular basis.

b. If trees are exhibiting symptoms of nutrient deficiency, soils shall be tested prior to fertilization, and the fertilizer formulation shall be adjusted to address the specific deficiency.

c. Newly planted, drought stressed or severely damaged or injured trees shall not be fertilized.

d. Fertilizer shall be applied when roots are actively growing. The best times are late winter, early spring through early summer.

e. Nitrogen, phosphorus, and potassium (NPK) in a ratio of 3:1:1 is most desirable.

f. Slow release nitrogen shall be applied at a rate of 2 to 4 pounds (of elemental nitrogen) per 1,000 square feet of rooting area.

g. Fertilizer shall be applied within the entire root zone of trees. Sub-surface applications to a depth of 4 to 12 inches are ideal.

h. The use of trunk fertilizer injections or implants is not recommended.

5. *Irrigation*

a. Adequate soil moisture levels result in better tree growth, reduced stress, and reduced susceptibility to insect or disease problems.

b. Excessive soil moisture can result in anaerobic conditions, nutrient deficiencies, and tree decline.

c. Tree species shall be matched to anticipated soil conditions.

d. Mulching trees helps conserve water.

e. In the absence of adequate rainfall trees shall be irrigated at the rate of 1 inch of water every 5 to 7 days. Refer to Approximate Watering Time chart below for approximate water application times.

f. Water shall be applied evenly throughout the outer 75% of a tree's critical root zone; runoff shall be avoided.

Approximate Watering Time to Apply One Inch of Water Across Various Sized Critical Root Zones

Radius of CRZ(ft)	Volume of Water (gals) to Equal 1"	Total Application Time (minutes and hours) at a delivery Rate of 5 Gallons Per				
		5 Sec	15 Sec	30 Sec	45 Sec	60 Sec
5	37	1 min	2 min	4 min	6 min	7 min
10	147	3 min	7 min	15 min	22 min	30 min
15	330	6 min	17 min	33 min	50 min	1 hr
20	587	10 min	29 min	1 hr	1 hr 30 min	2 hrs
25	917	15 min	46 min	1 hr 30 min	2 hr 30 min	3 hrs
30	1,322	22 min	1 hr	2 hrs	3 hr 30 min	4 hrs 30 min
35	1,799	30 min	1 hr 30 min	3 hrs	4 hr 30 min	6 hrs
40	2,349	39 min	2 hrs	4 hrs	6 hrs	8 hrs
45	2,973	50 min	1 hr 30 min	5 hrs	7 hrs 30 min	10 hrs
50	3,670	1 hr	3 hrs	6 hrs	9 hrs	12 hrs

M. Recommended Species List

The **Sandy Springs Tree Species List** is intended to support site planning and design activities for tree conservation and establishment, and tree maintenance planning and decision-making. In the list, trees are arranged alphabetically by the tree's common name with the "genus" listed first. For example, red maple is listed as "Maple, Red" (maple is the genus name). The Latin name is also listed for more definitive species identification. In some cases, the commonly planted variety or cultivar of the species has also been included apart from the species.

Table 1-2. Canopy Credit: Unaccepted Species List

Trees <u>not acceptable</u> for planting/canopy credit:	
Boxelder	Acer negundo
Silver maple	Acer saccharinum
Ailanthus/Tree of Heaven	Ailanthus altissima
Mimosa	Albizia julibrissin
Catalpa	Catalpa bignonoides
Ginkgo - female	Ginkgo biloba - female
Ornamental Pear	Pyrus calleryana varieties
Princeton Elm	Ulmus Princeton

Cultivars and varieties may not qualify in the same manner as the species for canopy credits.

Large and medium-sized canopy species are considered shade trees; small-sized canopy species are considered understory or ornamental trees.

Table 1-3. Recommended Species List
(Species not listed may be considered for City Arborist approval)

Large Canopy Shade Trees (1,000 sf credit)

Common Name	Botanical Name	Height	Width	Native	EvGrn	Urban	Riparian	Utility
Maple, Sugar	*Acer saccharum*/*A. barbatum*	60	30	y			y	
Hickory, Bitternut	*Carya cordiformis*	50	50	y				
Hickory, Pignut	*Carya glabra*	60	40	y				
Hickory, Shagbark	*Carya ovata*	70	50	y				
Hickory, Mockernut	*Carya tomentosa*	60	40	y				
Chestnut, Chinese	*Castanea mollissima*	50	50			y		
Ash, White	*Fraxinus americana*	60	40	y			y	
Ash, Green	*Fraxinus pennsylvanica*	50	30	y			y	
Ginkgo (male only)	*Ginkgo biloba*	60	40			y		
Sweetgum	*Liquidambar styraciflua*	75	50	y			y	
Poplar, Tulip or Yellow	*Liriodendron tulipifera*	70	40	y			y	
Southern Magnolia	*Magnolia grandiflora*	70	40	y	y			
Dawn Redwood	*Metasequoia glyptostroboides*	75	25			y		
Blackgum or Tupelo	*Nyssa sylvatica*	50	30	y		y	y	
Pine, Shortleaf	*Pinus echinata*	60	20	y			y	
Pine, Slash	*Pinus elliotii*	60	20					
Pine, Longleaf	*Pinus palustris*	60	20					
Pine, Loblolly	*Pinus taeda*	80	20	y			y	
Sycamore	*Platanus occidentalis*	75	75	y			y	
Planetree, London	*Platanus x acerifolia*	75	60			y		
Oak, Swamp White	*Quercus bicolor*	60	50	y			y	
Oak, Scarlet	*Quercus coccinea*	60	40	y				
Oak, Overcup	*Quercus lyrata*	50	50	y			y	
Oak, Nuttall	*Quercus nuttalli*	50	40	y				
Oak, Willow	*Quercus phellos*	60	50	y		y	y	
Oak, Shumard	*Quercus shumardii*	50	40	y				

Common Name	Botanical Name	Height	Width	Native	EvGrn	Urban	Riparian	Utility
Elm, American	*Ulmus americana*	50	60	y			y	
Zelkova, Japanese	*Zelkova serrata*	50	40			y		

Medium Canopy Trees (500 sf credit)

Common Name	Botanical Name	Height	Width	Native	EvGrn	Urban	Riparian	Utility
Maple, Trident	*Acer buergerianum*	35	30			y		
Maple, Red	*Acer rubrum*	40	25	y			y	
Maple, Southern Sugar	*Acer barbatum*	40	25	y			y	
Hornbeam, European	*Carpinus betulus*	35	20			y		
Hornbeam, American	*Carpinus caroliniana*	30	30	y			y	
Cedar, Deodar	*Cedrus deodora*	50	25		y			
Honeylocust	*Gleditsia triacanthos*	70	20	y				
Silverbell, Carolina	*Halesia caroliniana*	35	25	y			y	
Holly, American	*Ilex opaca*	30	15	y	y	y		
Holly, Foster's	*Ilex x attenuata*	30	15		y	y		
Goldenrain Tree	*Koelreuteria paniculata*	35	35					
Magnolia, Sweetbay	*Magnolia virginiana*	35	15	y	y		y	
Pistache, Chinese	*Pistacia chinensis*	35	25			y		
Hophornbeam or Musclewood	*Ostrya virginiana*	30	20	y			y	y
Oak, Georgia	*Quercus georgiana*	30	30	y				
Oak, English	*Quercus robur*	45	12					
Sassafras	*Sassafras albidum*	30	20	y			y	
Cypress, Bald	*Taxodium distichum*	60	30	y		y	y	
Lacebark Elm	*Ulmus parvifolia*	50	40			y		

Small Canopy Trees (250 sf credit)

Common Name	Botanical Name	Height	Width	Native	EvGrn	Urban	Riparian	Utility
Maple, Amur	*Acer ginnala*	20	25					y
Alder, Hazel	*Alnus serrulata*	15	15	y		y	y	y
Serviceberry	*Amelanchier aroborea*	25	20	y				y
Redbud, Eastern	*Cercis canadensis*	20	15	y			y	y
Fringetree	*Chionanthus virginicus*	20	10	y				y
Dogwood, Kousa	*Cornus kousa*	15	15					y
Hawthorn, Washington	*Crataegus phaenopyrum*	20	20					y
Witchhazel	*Hamamelis virginiana*	20	20	y			y	y
Winterberry	*Ilex verticilata*	10	10	y			y	y
Holly, Yaupon	*Ilex vomitoria*	20	12	y		y		y
Crape Myrtle	*Lagerstroemia indica*	15	15			y		y
Orange, Osage	*Maclura pomifera*	30	25			y		
Saucer Magnolia	*Magnolia x soulangeana*	25	25					y
Star magnolia	*Magnolia stellata*	20	20		y			y
Ironwood, Persian	*Parrotia persica*	25	20		y			y
Oak, Turkey	*Quercus laevis*	25	25	y				
Sumac, Flameleaf or Shining	*Rhus copallina*	15	15			y		